GENOA CHARTER TOWNSHIP BOARD
Regular Meeting and Public Hearing
May 16, 2022
6:30 p.m.

AGENDA

Call to Order:

Pledge of Allegiance:

Call to the Public (Public comment will be limited to two minutes per person) *:

Consent Agenda:

1. Payment of Bills: May 2, 2022 and May 16, 2022

2. Request to approve Minutes: April 18, 2022

3. A. Request for approval of a proposal from Northern Plumbing for the purchase an installation of a drinking fountain/pet watering station at the Township Pavilion for $12,400.
B. Request to amend the FY 2022/2023 Building and Grounds Fund #249 Budget adding line item 249-265-981-006 in the amount of $12,400.

Regular Agenda:

4. Request for approval of a resolution adopting the Livingston County Hazard Mitigation Plan. (Roll Call)

5. Request for approval of a resolution to approve the Assessor's Affidavit of the 2022 Millage Levies for Genoa Township establishing the millage rate at 0.7774. (Roll Call)

6. Consideration of a recommendation for approval of the Westbury Phase 2 site plan and environmental impact assessment requesting 136 apartment units within 17 buildings located north of the intersection of Whitehorse Drive and Arundell Drive. The property is located within the Lorenzen Planned Unit Development and was previously approved for 137 apartment units. The request is petitioned by Elevate Property Partners, LLC.
   A. Disposition of Environmental Impact Assessment (1-17-22)
   B. Disposition of Site Plan (3-23-22)

7. Consideration of a recommendation for approval of two special use applications, environmental impact assessment and site plan for a proposed 19,843 sq. ft. church and sports field in the Low Density Residential (LDR) district with an additional special land use for encroachment into the wetland protection setback. The site is located at 3850 Golf Club Road, southwest corner of Golf Club Road and Latson Road. The request is petitioned by Bible Baptist Church.
   A. Disposition of Special Use Applications for a (1) church and (2) encroachment into the natural features setback
   B. Disposition of Environmental Impact Assessment (04-21-22)
   C. Disposition of Site Plan (04-21-22)

8. Request for approval of the 2022-2026 Amended and Restated Utility Service Agreement adding the Howell Township Sanitary Sewer System Operations. (Roll Call)

9. Request for approval of Resolution #1 (to proceed with the project and direct preparation of the plans and cost estimates) for the Timberview Private Drive Road Improvement Project. (Roll Call)

10. Request for approval of Resolution #2 (to approve the project, schedule the first hearing, and direct issuance of statutory notices) for the Timberview Private Drive Road Improvement Project. (Roll Call)

11. Discussion regarding proposed Township Hall entrance sign.

12. Request for reimbursement of the legal fee of $5,000 to the Township Clerk as a result of the not guilty verdict of April 25, 2022.

Correspondence
Member Discussion
Adjournment

*Citizen's Comments- In addition to providing the public with an opportunity to address the Township Board at the beginning of the meeting, opportunity to comment on individual agenda items may be offered by the Chairman as they are presented.

CHECK REGISTERS FOR TOWNSHIP BOARD MEETING

MEETING DATE: May 2, 2022

All information below through April 27, 2022

TOWNSHIP GENERAL EXPENSES		$	110,610.93
April 29, 2022 Bi Weekly Payroll		$	111,399.51
OPERATING EXPENSES DPW		$	322,457.94
OPERATING EXPENSES Oak Pointe		$	110,605.14
OPERATING EXPENSES Lake Edgewood		$	21,015.02
	TOTAL	$	676,088.54

CHECK REGISTER FOR GENOA TOWNSHIP

CHECK NUMBERS 37392 - 40000

Check Date	Check	Vendor Name	Amount
Bank FNBCK CHECKING ACCOUNT			
04/14/2022	37392	B S & A SOFTWARE, INC.	7,519.00
04/14/2022	37393	BRANDON VANMARTER	75.00
04/14/2022	37394	BRIGHTON ANALYTICAL LLC	35.00
04/14/2022	37395	CONSUMERS ENERGY	518.66
04/14/2022	37396	FEDERAL EXPRESS CORP	203.69
04/14/2022	37397	LINDHOUT ASSOCIATES ARCHITECTS INC	825.00
04/14/2022	37398	PACKERLAND RECORDS MANAGEMENT	60.00
04/14/2022	37399	SAFEBUILT STUDIO	4,420.62
04/14/2022	37400	SCHAFER CONSTRUCTION	3,950.00
04/14/2022	37401	SMART BUSINESS SOURCE	115.67
04/14/2022	37402	TETRA TECH INC	5,785.00
04/14/2022	37403	VERIZON WIRELESS	432.57
04/21/2022	37404	AMERICAN VIDEO TRANSFER INC	71.25
04/21/2022	37405	BLUE CROSS & BLUE SHIELD OF MI	40,778.31
04/21/2022	37406	CHASE CARD SERVICES	79.55
04/21/2022	37407	DELTA DENTAL	3,637.08
04/21/2022	37408	EHIM, INC	6,198.17
04/21/2022	37409	ETNA SUPPLY COMPANY	18,560.00
04/21/2022	37410	ICMA	2,026.64
04/21/2022	37411	LIVINGSTON COUNTY CLERK	10.00
04/21/2022	37412	LIVINGSTON COUNTY TREASURER ASSOC	10.00
04/21/2022	37413	MICHIGAN OFFICE SOLUTIONS	178.09
04/21/2022	37414	MUTUAL OF OMAHA	2,293.55
04/21/2022	37415	NETWORK SERVICES GROUP, L.L.C.	100.00
04/21/2022	37416	O'DONNELL ELECTRIC LLC	1,268.92
04/21/2022	37417	SEWARD HENDERSON PLLC	8,488.00
04/21/2022	37418	TERRY CROFT	65.52
04/26/2022	37419	AMERICAN AQUA	30.00
04/26/2022	37420	COMCAST	327.91
04/26/2022	37421	DYKEMA GOSSETT, PLLC	615.00
04/26/2022	37422	MARY KRENCICKI	24.57
04/26/2022	37423	LEO'S CUSTOM SPRINKLER SERVICE INC.	737.00
04/26/2022	37424	MICHIGAN OFFICE SOLUTIONS	100.39
04/26/2022	37425	QUADIENT INC.	1,005.78
04/26/2022	37426	STATE OF MICHIGAN	10.00
04/26/2022	37427	TERRY CROFT	54.99

FNBCK TOTALS:

Total of 36 Checks:	110,610.93
Less 0 Void Checks:	0.00
Total of 36 Disbursements:	110,610.93

Payroll ID: 208

Pay Period End Date: 04/22/2022 Check Post Date: 04/29/2022 Bank ID: FNBCK

* YTD values reflect values AS OF the check date based on all current adjustments, checks, void checks

VACATION NONTAX	0.00	0.00	0.00	0.00
VACATION PAY	153.00	0.00	5,308.38	36,423.57
VACATION PTIME	0.00	0.00	0.00	4,782.15
WELL IQ	0.00	0.00	0.00	2,476.07
ZBA CHAIR	1.00	0.00	205.30	791.86
ZBA MINUTES	1.00	0.00	173.00	667.28
ZBA PER DIEM	4.00	0.00	753.48	2,918.52

Gross Pay This Period	Deduction Refund	Ded. This Period	Net Pay This Period	Gross Pay YTD	Dir. Dep.
110,265.71	0.00	32,588.34	77,677.37	907,470.01	77,677.37

For Check Dates 04/29/2022 to 04/29/2022

Check Date	Bank	Check Number	Name	Check Gross	Physical Check Amount	Direct Deposit	Status
04/29/2022	FNBCK	EFT672	FLEX SPENDING (TASC)	807.30	807.30	0.00	Open
04/29/2022	FNBCK	EFT673	INTERNAL REVENUE SERVICE	26,839.91	26,839.91	0.00	Open
04/29/2022	FNBCK	EFT674	PRINCIPAL FINANCIAL	4,376.00	4,376.00	0.00	Open
04/29/2022	FNBCK	EFT675	PRINCIPAL FINANCIAL	1,698.93	1,698.93	0.00	Open
Totals:			Number of Checks: 004	33,722.14	33,722.14	0.00	

Total Physical Checks:

Total Check Stubs: 4

Net Pay This Period	$77,677.37
Physical Check Amount	$33,722.14
Total	$111,399.51

04/27/2022 02:53 PM
User: denise
DB: Genoa Township

CHECK REGISTER FOR GENOA TOWNSHIP
CHECK NUMBERS 5502 - 6000

Check Date	Check	Vendor Name	Amount
Bank 503FN DPW-UTILITIES #233			
04/13/2022	5502	CHASE CARD SERVICES	1,456.34
04/13/2022	5503	UNITED STATES POSTAL SERVICE	1,607.67
04/19/2022	5504	ADVANCE AUTO PARTS	455.20
04/19/2022	5505	AUTO-LAB OF LIVINGSTON	1,272.25
04/19/2022	5506	BLACKBURN MFG. CO	466.83
04/19/2022	5507	GIFFELS WEBSTER	2,310.00
04/19/2022	5508	JACK DOHENY COMPANIES, INC	33.64
04/19/2022	5509	MICHIGAN OFFICE SOLUTIONS	178.10
04/19/2022	5510	MWEA	160.00
04/19/2022	5511	NETWORK SERVICES GROUP, L.L.C.	99.00
04/19/2022	5512	NORTHWEST PIPE & SUPPLY CO.	9.60
04/19/2022	5513	PORT CITY COMMUNICATIONS, INC.	194.55
04/19/2022	5514	RANDY"S SERVICE STATION	24.00
04/19/2022	5515	RED WING BUSINESS ADVANTAGE ACCOUNT	225.00
04/19/2022	5516	SENSUS USA, INC	1,949.94
04/19/2022	5517	SIGN WORKS	495.00
04/19/2022	5518	TETRA TECH INC	7,172.50
04/19/2022	5519	VERIZON WIRELESS	702.48
04/19/2022	5520	VIC BOND SALES	165.98
04/19/2022	5521	VICTORY LANE QUICK OIL CHANGE	207.21
04/21/2022	5522	HOME DEPOT CREDIT SERVICES	3,272.65
04/25/2022	5523	GENOA TOWNSHIP	300,000.00
503FN TOTALS:			
Total of 22 Checks:			322,457.94
Less 0 Void Checks:			0.00
Total of 22 Disbursements:			322,457.94

04/27/2022 02:54 PM
User: denise
DB: Genoa Township

CHECK REGISTER FOR GENOA TOWNSHIP
CHECK NUMBERS 5508 - 6000

Check Date	Check	Vendor Name	Amount
Bank 592FN OAK POINTE OPERATING FUND #592			
04/14/2022	5508	AT&T	144.15
04/14/2022	5509	CONSUMERS ENERGY	364.58
04/19/2022	5510	ADVANCED REHABILITATION TECHNOLOGY	5,564.43
04/19/2022	5511	AMERICAN AQUA	443.05
04/19/2022	5512	BRIGHTON ANALYTICAL LLC	220.00
04/19/2022	5513	CONSUMERS ENERGY	457.65
04/19/2022	5514	LIVINGSTON PRESS & ARGUS	120.00
04/19/2022	5515	GENOA TOWNSHIP D.P.W. FUND	27,505.86
04/19/2022	5516	GENOA TOWNSHIP METER FUND	1,430.00
04/19/2022	5517	GENOA TOWNSHIP DPW FUND	23,322.07
04/19/2022	5518	GRAINGER	636.97
04/19/2022	5519	HYDROCORP	226.87
04/19/2022	5520	K & J ELECTRIC, INC.	342.00
04/19/2022	5521	NORTHERN PUMP & WELL	27,613.00
04/19/2022	5522	TLS CONSTRUCTION	2,125.00
04/19/2022	5523	UIS SCADA	19,115.00
04/19/2022	5524	USA BLUEBOOK	912.86
04/26/2022	5525	AT&T LONG DISTANCE	61.65
592FN TOTALS:			
Total of 18 Checks:			110,605.14
Less 0 Void Checks:			0.00
Total of 18 Disbursements:			110,605.14

04/27/2022 02:55 PM
User: denise
DB: Genoa Township

CHECK REGISTER FOR GENOA TOWNSHIP
CHECK NUMBERS 4119 - 6000

Check Date	Check	Vendor Name	Amount
Bank 593FN LAKE EDGEWOOD OPERATING FUND #590			
04/14/2022	4119	CONSUMERS ENERGY	15.00
04/19/2022	4120	ADVANCED REHABILITATION TECHNOLOGY	6,466.85
04/19/2022	4121	BRIGHTON ANALYTICAL LLC	201.00
04/19/2022	4122	LIVINGSTON PRESS & ARGUS	70.00
04/19/2022	4123	GENOA TOWNSHIP D.P.W. FUND	14,262.17
593FN TOTALS:			
Total of 5 Checks:			21,015.02
Less 0 Void Checks:			0.00
Total of 5 Disbursements:			21,015.02

503FN		$322,457.94
592FN		$110,605.14
593FN		$21, 015.02
	TOTAL	$454,078.10

ACCOUNT ACTIVITY

Date of Transaction	Merchant Name or Transaction Description	$ Amount
03/15	MI SECTION AWWA 517-2922912 MI DPW prof dev.	130.00
03/16	Amazon.com*1Z0OK1WR0 Amzn.com/bill WA DPW truck	56.52
03/17	STAPLES 00107730 BRIGHTON MI MHOG	178.95
04/06	AMZN Mktp US*1H9XS9LK2 Amzn.com/bill WA MHOG	83.16
	ALEX CHIMPOURAS	
	TRANSACTIONS THIS CYCLE (CARD 2501) $448.63	
03/09	AMZN Mktp US*1Z6UL0P21 Amzn.com/bill WA G.O	132.76
03/23	DOUBLETREE HOTELS HOLLAND MI DPW training	142.08
03/23	DOUBLETREE HOTELS HOLLAND MI DPW	142.08
03/30	STAPLES 00107730 BRIGHTON MI G.O	77.37
04/06	GRAND TRAV RESORT 2315346050 MI DPW-prof dev	184.00
	JAMES AULETTE	
	TRANSACTIONS THIS CYCLE (CARD 7653) $678.29	
03/16	Payment ThankYou Image Check	-3,738.11
03/10	GoTo GoToConnect goto.com MA MHOG	248.18
03/11	THE UPS STORE 3239 517-5529630 MI MHOG	11.91
03/21	MSU POLICE DEPT EAST LANSING MI DPW prof dev	4.00
04/04	RINGCENTRAL INC. 888-898-4591 CA DPW phone	65.33
	GREG TATARA	
	TRANSACTIONS THIS CYCLE (CARD 9747) $3408.69-	
	INCLUDING PAYMENTS RECEIVED	

2022 Totals Year-to-Date	
Total fees charged in 2022	$0.00
Total interest charged in 2022	$0.00

Year-to-date totals do not reflect any fee or interest refunds you may have received.

INTEREST CHARGES

Your **Annual Percentage Rate (APR)** is the annual interest rate on your account.

Balance Type	Annual Percentage Rate (APR)	Balance Subject To Interest Rate	Interest Charges
PURCHASES			
Purchases	13.49%(v)(d)	- 0 -	- 0 -
CASH ADVANCES			
Cash Advances	25.24%(v)(d)	- 0 -	- 0 -
BALANCE TRANSFERS			
Balance Transfer	13.49%(v)(d)	- 0 -	- 0 -

31 Days In Billing Period

(v) = Variable Rate
(d) = Daily Balance Method (including new transactions)
(a) = Average Daily Balance Method (including new transactions)
Please see Information About Your Account section for the Calculation of Balance Subject to Interest Rate, Annual Renewal Notice, How to Avoid Interest on Purchases, and other important information, as applicable.

IMPORTANT NEWS

Your account is a business account,
to be used only for business transactions.
It is not intended for personal, family
or household purposes.

GREG TATARA

0000001 FIS33339 C 1

N Z 07 22/04/07

Page 2 of 2

05686 MA DA 30758

Statement Date: 04/07/22

[redacted]

0971004020041087110002000000000

To contact us regarding your account:

Call Customer Service:
In U.S. 1-800-945-2028
Spanish 1-888-795-0574
Pay by phone 1-800-436-7958
International 1-480-350-7099
We accept operator relay calls

Send Inquiries to:
P.O. Box 15298
Wilmington, DE 19850-5298

Mail Payments to:
P.O. Box 6294
Carol Stream, IL 60197-6294

Visit Our Website:
www.chase.com/cardhelp

Information About Your Account

Making Your Payments: The amount of your payment should be at least your minimum payment due, payable in U.S. dollars and drawn on or payable through a U.S. financial institution or the U.S. branch of a foreign financial institution. You can pay down balances faster by paying more than the minimum payment or the total unpaid balance on your account.

You may make payments electronically through our website or by one of our customer service phone numbers above. In using any of these channels, you are authorizing us to withdraw funds as a one-time electronic funds transfer from your bank account. In our automated phone system, this authorization is provided via entry of a personal identification number. You may revoke this authorization by cancelling your payment through our website or customer service telephone numbers prior to the payment processing. If we receive your completed payment request through one of these channels by 11:59 p.m. Eastern Time, we will credit your payment as of that day. If we receive your request after 11:59 p.m. Eastern Time, we will credit your payment as of the next calendar day. If you specify a future date in your request we will credit your payment as of that day.

If you pay by regular U.S. mail to the Payments address shown on this statement, write your account number on your check or money order and include the payment coupon in the envelope. Do not send more than one payment or coupon per envelope. Do not staple, clip or tape the documents. Do not include correspondence. Do not send cash. If we receive your properly prepared payment on any day by 5 p.m. local time at our Payments address on this statement, we will credit to your account that day. If your payment is received after 5 p.m. local time at our Payments address on this statement, we will credit it to your account as of the next calendar day.

For all other payments or for any payment type above for which you do not follow our payment instructions, crediting of your payments may be delayed for up to 5 days.

Account Information Reported To Credit Bureau: We may report information about your Account to credit bureaus. Late payments, missed payments or other defaults on your Account may be reflected in your credit report. If you think we have reported inaccurate information to a credit bureau, please write to us at Chase Card Services P.O. Box 15369, Wilmington, DE 19850-5369.

To Service And Manage Any Of Your Account(s): By providing my mobile phone number, I am giving permission to be contacted at that number about all of my accounts by JPMorgan Chase and companies working on its behalf. My consent allows the use of text messages, artificial or prerecorded voice messages and automatic dialing technology for informational and account servicing, but not for sales or telemarketing. Message and data rates may apply.

Authorization To Convert Your Check To An Electronic Transfer Debit: When you provide a check as payment, you authorize us either to use information from your check to make a one-time electronic fund transfer from your account or to process the payment as a check. Your bank account may be debited as soon as the same day we receive your payment. You will not receive your check back from your institution.

Conditional Payments: Any payment check or other form of payment that you send us for less than the full balance due that is marked "paid in full" or contains a similar notation, or that you otherwise tender in full satisfaction of a disputed amount, must be sent to Card Services, P.O. Box 15049, Wilmington, DE 19850-5049. We reserve all our rights regarding these payments (e.g., if it is determined there is no valid dispute or if any such check is received at any other address, we may accept the check and you will still owe any remaining balance). We may refuse to accept any such payment by returning it to you, not cashing it or destroying it. All other payments that you make should be sent to the regular Payment address shown on this statement.

Annual Renewal Notice: If your Account Agreement has an annual membership fee, you are responsible for it every year your Account is open. We will add your annual membership fee to your monthly billing statement once a year, whether or not you use your account. Your annual membership fee will be added to your purchase balance and may incur interest. The annual membership fee is non-refundable unless you notify us that you wish to close your account within 30 days or one billing cycle (whichever is less) after we provide the statement on which the annual membership fee is billed. Your payment of the annual membership fee does not affect our rights to close your Account and to limit your right to make transactions on your Account. If your Account is closed by you or us, the annual membership fee will no longer be billed to your Account.

Calculation Of Balance Subject To Interest Rate: To figure your periodic interest charges for each billing cycle when a daily periodic rate(s) applies, we use the daily balance method (including new transactions). To figure your periodic interest charges for each billing cycle when a monthly periodic rate(s) applies, we use the average daily balance method (including new transactions). For an explanation of either method, or questions about a particular interest charge calculation on your statement, please call us at the toll free customer service phone number listed above.

We calculate periodic interest charges separately for each feature (for example, purchases, balance transfers, cash advances or overdraft advances). These calculations may combine different categories with the same periodic rates. Variable rates will vary with the market based on the Prime Rate or such index described in your Account Agreement. There is a transaction fee for each balance transfer, cash advance, or check transaction in the amount stated in your Account Agreement. There is a foreign transaction fee of 3% of the U.S. dollar amount of any foreign transaction for some accounts. Please see your Account Agreement for information about these fees.

Interest Accrual: We accrue periodic interest charges on a transaction, fee or interest charge from the date it is added to your daily balance until payment in full is received on your account.

Credit Limit: If you want to inquire about your options to help prevent your account from exceeding your credit limit, please call the number on the back of your card.

Payment Allocation: When you make a payment, generally, we first apply your minimum payment to the balance on your monthly statement with the lowest APR. Any payment above your minimum payment would generally then be applied to the balance on your monthly statement with the highest APR first. If you do not pay your balance in full each month, you may not be able to avoid interest charges on new purchases.

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ink.

May 2022						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4
5	6	7	8	9	10	11

New Balance
$1,456.34
Minimum Payment Due
$40.00
Payment Due Date
05/01/22

INK CASH(SM) POINT SUMMARY

Previous points balance	23,634
+ 1 Point per $1 earned on all purchases	1,457
+ 2Pts/$1 gas stns, rstnts, ofc sply, hm impr	513
Total points available for redemption	**25,604**

ate Payment Warning: If we do not receive your minimum payment / the due date, you may have to pay a late fee, and existing and new alances may become subject to the Default APR.

inimum Payment Warning: Enroll in Auto-Pay and avoid missing payment. To enroll, go to www.chase.com

ACCOUNT SUMMARY

ccount Number: [redacted]

revious Balance	$3,738.11
ayment, Credits	-$3,738.11
urchases	+$1,456.34
ash Advances	$0.00
alance Transfers	$0.00
ees Charged	$0.00
terest Charged	$0.00
ew Balance	**$1,456.34**
pening/Closing Date	03/08/22 - 04/07/22
redit Limit	$36,500
vailable Credit	$35,043
ash Access Line	$1,825
vailable for Cash	$1,825
Past Due Amount	**$0.00**
Balance over the Credit Limit	**$0.00**

AllSys - 233 - 000 - 084 - 990
UTILITY DEPT.
APR 12 2022
4-13-22
RECEIVED

ACCOUNT ACTIVITY

Date of Transaction	Merchant Name or Transaction Description	$ Amount
03/23	Payment ThankYou Image Check	-1,074.70
03/27	AMZN Mktp US*169NZ76M1 Amzn.com/bill WA	39.56
04/05	Amazon.com*1H70R9IT1 Amzn.com/bill WA	39.99

MICHAEL C ARCHINAL
TRANSACTIONS THIS CYCLE (CARD 3223) $995.15-
INCLUDING PAYMENTS RECEIVED

2022 Totals Year-to-Date	
Total fees charged in 2022	$0.00
Total interest charged in 2022	$0.00

Year-to-date totals do not reflect any fee or interest refunds you may have received.

INTEREST CHARGES

Your **Annual Percentage Rate (APR)** is the annual interest rate on your account.

Balance Type	Annual Percentage Rate (APR)	Balance Subject To Interest Rate	Interest Charges
PURCHASES			
Purchases	13.49%(v)(d)	- 0 -	- 0 -
CASH ADVANCES			
Cash Advances	19.49%(v)(d)	- 0 -	- 0 -
BALANCE TRANSFERS			
Balance Transfer	13.49%(v)(d)	- 0 -	- 0 -

31 Days In Billing Period

(v) = Variable Rate
(d) = Daily Balance Method (including new transactions)
(a) = Average Daily Balance Method (including new transactions)
Please see Information About Your Account section for the Calculation of Balance Subject to Interest Rate, Annual Renewal Notice, How to Avoid Interest on Purchases, and other important information, as applicable.

IMPORTANT NEWS

Your account is a business account,
to be used only for business transactions.
It is not intended for personal, family
or household purposes.

May 2022						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4
5	6	7	8	9	10	11

New Balance
$79.55
Minimum Payment Due
$15.00
Payment Due Date
05/10/22

Late Payment Warning: If we do not receive your minimum payment by the due date, you may have to pay a late fee, and existing and new balances may become subject to the Default APR.

Minimum Payment Warning: Enroll in Auto-Pay and avoid missing a payment. To enroll, go to www.chase.com

ACCOUNT SUMMARY

Account Number: [redacted]	
Previous Balance	$1,074.70
Payment, Credits	-$1,074.70
Purchases	+$79.55
Cash Advances	$0.00
Balance Transfers	$0.00
Fees Charged	$0.00
Interest Charged	$0.00
New Balance	**$79.55**
Opening/Closing Date	03/17/22 - 04/16/22
Credit Limit	$20,000
Available Credit	$19,920
Cash Access Line	$1,000
Available for Cash	$1,000
Past Due Amount	**$0.00**
Balance over the Credit Limit	**$0.00**

R+M 101-265-934-060 $79.55

OK
4/20/2022

CHECK REGISTERS FOR TOWNSHIP BOARD MEETING

MEETING DATE: May 16, 2022

All information below through May 11, 2022

TOWNSHIP GENERAL EXPENSES		$	128,641.46
May 13, 2022 Bi Weekly Payroll		$	109,425.43
OPERATING EXPENSES DPW		$	3,952.36
OPERATING EXPENSES Oak Pointe		$	59,258.20
OPERATING EXPENSES Lake Edgewood		$	4,326.04
	TOTAL	$	305,603.49

CHECK REGISTER FOR GENOA TOWNSHIP
CHECK NUMBERS 37428 - 40000

Check Date	Check	Vendor Name	Amount	
Bank FNBCK CHECKING ACCOUNT				
04/29/2022	37428	CAPITAL ONE	501.38	
04/29/2022	37429	DTE ENERGY	27.36	
04/29/2022	37430	LIVINGSTON COUNTY TREASURER	3,309.21	
04/29/2022	37431	OFFICE EXPRESS INC.	116.14	V
		Void Reason: POST RIPPED UP CHECK- REPLACING		
04/29/2022	37432	WILLIAM ROGERS	68.24	
04/29/2022	37433	TERRY CROFT	652.45	
05/02/2022	37434	GORDON FOOD SERVICE	70.77	
05/02/2022	37435	JEAN LEDFORD	150.00	V
		Void Reason: SHOULD BE PAYROLL NOT A/P		
05/02/2022	37436	DIANA LOWE	150.00	V
		Void Reason: SHOULD BE PAYROLL CHECK NOT A/P		
05/02/2022	37437	PERFECT MAINTENANCE CLEANING	565.00	
05/02/2022	37438	DEBRA ROJEWSKI	32.28	
04/29/2022	37439	JEFFREY DHAENENS	178.93	
05/11/2022	37440	AMERICAN AQUA	25.00	
05/11/2022	37441	BRANDON VANMARTER	75.00	
05/11/2022	37442	COMCAST	1,489.07	
05/11/2022	37443	CONTINENTAL LINEN SERVICE	129.54	
05/11/2022	37444	DTE ENERGY	210.76	
05/11/2022	37445	DTE ENERGY	949.77	
05/11/2022	37446	EHIM, INC	3,600.47	
05/11/2022	37447	FEDERAL EXPRESS CORP	46.61	
05/11/2022	37448	LIVINGSTON PRESS & ARGUS	410.00	
05/11/2022	37449	DIANA LOWE	528.69	
05/11/2022	37450	MICHIGAN ASSOC. OF PLANNING	725.00	
05/11/2022	37451	NETWORK SERVICES GROUP, L.L.C.	50.00	
05/11/2022	37452	OFFICE EXPRESS INC.	116.14	
05/11/2022	37453	PACKERLAND RECORDS MANAGEMENT	60.00	
05/11/2022	37454	WASTE MANAGEMENT CORP, SERVICES	114,670.79	
05/11/2022	37455	COOPER'S TURF MANAGEMENT LLC	149.00	

FNBCK TOTALS:

Total of 28 Checks:	129,057.60
Less 3 Void Checks:	416.14
Total of 25 Disbursements:	128,641.46

05/09/2022 02:02 PM

Check Register Report For Genoa Charter Township

For Check Dates 05/13/2022 to 05/13/2022

Check Date	Bank	Check Number	Name	Check Gross	Physical Check Amount	Direct Deposit	Status
05/13/2022	FNBCK	13523	DHAENENS, JEFFREY K	193.76	178.94	0.00	Open
05/13/2022	FNBCK	EFT676	FLEX SPENDING (TASC)	807.30	807.30	0.00	Open
05/13/2022	FNBCK	EFT677	INTERNAL REVENUE SERVICE	26,329.26	26,329.26	0.00	Open
05/13/2022	FNBCK	EFT678	PRINCIPAL FINANCIAL	3,576.00	3,576.00	0.00	Open
05/13/2022	FNBCK	EFT679	PRINCIPAL FINANCIAL	1,698.93	1,698.93	0.00	Open
Totals:			Number of Checks: 005	32,605.25	32,590.43	0.00	

Total Physical Checks: 1

Total Check Stubs: 4

05/09/2022 02:04 PM

PAYROLL REGISTER REPORT FOR GENOA CHARTER TOWNSHIP

Payroll ID: 209

Pay Period End Date: 05/06/2022 Check Post Date: 05/13/2022 Bank ID: FNBCK

* YTD values reflect values AS OF the check date based on all current adjustments, checks, void checks

VACATION PTIME	0.00	0.00	0.00	4,782.15
WELL IQ	0.00	0.00	0.00	2,476.07
ZBA CHAIR	0.00	0.00	0.00	0.00
ZBA MINUTES	0.00	0.00	0.00	667.28
ZBA PER DIEM	0.00	0.00	0.00	2,171.17

Gross Pay This Period	Deduction Refund	Ded. This Period	Net Pay This Period	Gross Pay YTD	Dir. Dep.
108,209.81	0.00	31,374.81	76,835.00	1,015,072.49	76,656.06

Physical Check Amount	$32,590.43
Net Pay This Period	$76,835.00
TOTAL	$109, 425.43

05/11/2022 09:14 AM
User: denise
DB: Genoa Township

CHECK REGISTER FOR GENOA TOWNSHIP
CHECK NUMBERS 5524 - 6500

Page: 1/1

Check Date	Check	Vendor Name	Amount
Bank 503FN DPW-UTILITIES #233			
05/10/2022	5524	ASCENSION MI. EMPLOYER SOLUTIONS	130.00
05/10/2022	5525	ASCENSION MI. EMPLOYER SOLUTION	30.00
05/10/2022	5526	TRACTOR SUPPLY CO.	3,792.36
503FN TOTALS:			
Total of 3 Checks:			3,952.36
Less 0 Void Checks:			0.00
Total of 3 Disbursements:			3,952.36

05/11/2022 09:25 AM
User: denise
DB: Genoa Township

CHECK REGISTER FOR GENOA TOWNSHIP
CHECK NUMBERS 5526 - 6500

Page: 1/1

Check Date	Check	Vendor Name	Amount
Bank 592FN OAK POINTE OPERATING FUND #592			
05/10/2022	5526	AT&T LONG DISTANCE	56.51
05/10/2022	5527	DTE ENERGY	2,796.07
05/10/2022	5528	DTE ENERGY	1,086.50
05/10/2022	5529	MHOG UTILITIES	39,419.12
05/10/2022	5530	GENOA TOWNSHIP G/O NEW USER FUND	15,900.00
592FN TOTALS:			
Total of 5 Checks:			59,258.20
Less 0 Void Checks:			0.00
Total of 5 Disbursements:			59,258.20

05/11/2022 09:38 AM
User: denise
DB: Genoa Township

CHECK REGISTER FOR GENOA TOWNSHIP
CHECK NUMBERS 4124 - 4500

Page: 1/1

Check Date	Check	Vendor Name	Amount
Bank 593FN LAKE EDGEWOOD OPERATING FUND #590			
05/10/2022	4124	CONSUMERS ENERGY	615.36
05/10/2022	4125	DTE ENERGY	3,690.68
05/10/2022	4126	MHOG UTILITIES	20.00
593FN TOTALS:			
Total of 3 Checks:			4,326.04
Less 0 Void Checks:			0.00
Total of 3 Disbursements:			4,326.04

503FN	$3,952.36
592FN	$59,258.20
593FN	$4,326.04
TOTAL	$67,536.60

draft

GENOA CHARTER TOWNSHIP BOARD
Regular Meeting and Public Hearing
April 18, 2022

MINUTES

Supervisor Rogers called the Regular Meeting of the Genoa Charter Township Board to order at 6:30 p.m. at the Township Hall with the Pledge of Allegiance. The following members were present constituting a quorum for the transaction of business: Bill Rogers, Paulette Skolarus, Robin Hunt, Jean Ledford, Terry Croft, Jim Mortensen and Diana Lowe. Also present were Township Manager Michael Archinal; Township Attorney Joe Seward and four persons in the audience.

A Call to the Public was made with the following response: John Palmer – With regard to Pathway, is there anything the residents could be doing to assist the Township? Rogers – Just continue to give us information.

Consent Agenda:

Moved by Lowe and supported by Croft to approve the Consent Agenda, moving Items 1 and 2 to the Regular Agenda for discussion. The motion carried unanimously.

3. Request for approval of a Design Phase Services Proposal from Tetra Tech for the installation of sidewalks at various Grand River locations in the amount of $18,000.

4. A. Request for approval of a proposal from Tri-County and O'Donnell Electric for the purchase and installation of LED lighting for the Township Hall at a cost not to exceed $14,587.66.

B. Request to amend the FY 2022/2023 Building and Grounds (Fund #249) adding line item 249-265-981-006 in the amount of $14,587.66.

Regular Agenda:

Moved by Hunt and supported by Mortensen to approve for action all items listed under the Regular Agenda with the addition of Items 1 and 2. The motion carried unanimously.

1. Payment of Bills: April 18, 2022

Mortensen asked for clarification of three items on the payment of bills. His concerns were answered by Hunt. Moved by Mortensen and supported by Lowe to approve the payment of bills as requested. The motion carried unanimously.

2.Request for approval of a high-speed voting tabulator in the amount of $97,020, service and maintenance agreement for five years beginning in year 2027-2032 at $40,550.00 and a high-speed automatic envelope opener at $2,920.99 with FORMAX using federal and state grant funding under ARPA at the recommendation of County Clerk Elizabeth Hundley and Township Clerk Polly Skolarus.

Moved by Skolarus and supported by Lowe to approve the purchase of a high-speed tabulator at a cost of $97,020.00, a maintenance agreement for years 6 through 10 at a cost of $40,550.00 (with a 10% discount), and an automatic electric envelope opener at a cost of $2,920.99. The motion carried unanimously.

5. Request to approve Minutes: April 4, 2022 (Placed on Regular Agenda at the request of the Township Clerk).

Moved by Lowe and supported by Croft to approve the Minutes of April 4, 2022 with the following corrections: Adding campaign staffer, to State Representative Candidate Conley, who introduced himself to the board shortly after a call to the public. Adding a comment from Rogers that the Mary Post request was being handled. Striking the last two paragraphs before the adjournment. The motion carried unanimously.

6. Request for approval of a Resolution adopting the Livingston County Hazard Mitigation Plan. (Roll Call)

Moved by Mortensen and supported by Lowe to table the Resolution until a review by the Brighton Fire Authority is received. The motion carried unanimously.

7. Request for approval of a Board of Trustees agenda management policy as recommended by the Township Supervisor.

Moved by Mortensen and supported by Lowe to approve the Management Policy as recommended. The motion carried unanimously.

8. Consideration of hiring a recording secretary for the drafting of Township Board minutes.

Skolarus argued the position of the Board in hiring a recording secretary. Seward – The clerk shall transcribe the minutes under the open meetings act. If there is just dialogue that doesn't lead to any action by the board I don't see that there is any action required under the open meetings act. Rogers - This action does not make it permanent with a couple people documenting the action of the board.

Moved by Hunt and supported by Croft to hire a recording secretary for drafting the Township Board minutes which will include a summary of what happened at the meeting and an overview by the Clerk. The motion carried as follows: Ayes – Ledford, Croft, Hunt, Lowe, Mortensen and Rogers. Nay - Skolarus

9. Consideration of adjustments to car allowances for the Assessor, Deputy Assessor, Assistant Township Manager and Township Manager.

Mortensen asked if the car allowances were paid by a 1099 or a W-2 and that Palka should look at the matter. Skolarus – If they are paid by 1099 then there is no additional cost to the township. With a W-2 there is another 10% going into retirement, plus another 7.5% cost to the Township for Medicare and Social Security contribution. This raises the cost considerably. Rogers - We will talk to the auditor.

Moved by Mortensen and supported by Hunt to approve the car allowances as requested by Archinal if the Township auditor concludes that it is acceptable from a taxpayer point of view. Future review will be part of the annual budget process. The motion carried as follows: Ayes – Ledford, Croft, Hunt, Lowe, Mortensen and Rogers. Nay – Skolarus, because there is an additional 17.5% cost that is not being considered.

Correspondence: None

Member Discussion:

- Mortensen – The Township Cemetery on Chilson Road is a disgrace. The MTA magazine includes an item for ARPA funds with regard to cemetery maintenance or expansion. Hunt will look into the use of ARPA funds.
- Lowe – I attended a Parks and Recreation meeting. Park passes for Genoa Township residents are $40.00 a year or $10.00 a day. The Oceola center is beautiful and she will provide counts at the next meeting.
- Archinal – The senior survivor park is moving forward.
- Skolarus to Attorney Seward – There was a recent HIPAA violation. Seward - I don't believe the township is a health care provider and so the township is covered. Skolarus - So you would defend the person who was the violator versus the violated. Seward - I am familiar with the HIPAA Federal law.

Moved by Mortensen and supported by Croft to adjourn the meeting at 7:50 p.m.

Paulette Skolarus, Clerk
Genoa Charter Township

Bill Rogers, Supervisor
Genoa Charter Township

2911 Dorr Road
Brighton, MI 48116
810.227.5225
810.227.3420 fax
genoa.org

MEMORANDUM

TO: **Honorable Board of Trustees**

FROM: **Adam VanTassell**

DATE: **May 2, 2022**

RE: **Proposed Township Hall Park Drinking Fountain replacement**

Manager's Review: _____

The drinking fountain was installed at the Township Pavilion in 2006. Since then it has received enthusiastic use by park patrons and their pets.

Unfortunately, upon activation for the upcoming summer season, the drinking fountain sprang several large leaks. An inspection was performed and it was determined that the fountain had sustained too much damage and corrosion over the years and was not salvageable.

Staff is recommending the purchase and installation of the same drinking fountain model.

Recommended Motion

A. **Moved by _____, Supported by _____ to approve the proposal from Northern Plumbing for the purchase and installation of a drinking fountain for the Township Pavilion for $12, 400.00.**
B. **Moved by _____, Supported by _____ to amend the FY 2022/2023 Building and Grounds Fund #249 Budget, adding line item 249-265-981-006 in the amount of $12, 400.00.**

SUPERVISOR
Bill Rogers
CLERK
Paulette A. Skolarus
TREASURER
Robin L. Hunt
TRUSTEES
Jean W. Ledford
H. James Mortensen
Terry Croft
Diana Lowe
MANAGER
Michael C. Archinal

ESTIMATE FROM:

April 22, 2022

NORTHERN PLUMBING, INC.
3529 WESTPHAL
HOWELL, MI. 48843
517-546-6145

CUSTOMER NAME:
Genoa Township
2911 Dorr Rd.
Brighton, Mi. 48116

JOB LOCATION:
Genoa Twp. Hall
Playground

DESCRIPTION OF ESTIMATED WORK TO BE PERFORMED AND/ OR MATERIALS TO BE PROVIDED:
Per discussion with Adam VanTassell. Estimate to replace Playground drinking fountain. Provide labor and material to remove, diagnose and prepare an estimate to replace drinking fountain with Pet bowl. Replace with comparable model and color that was previously installed.
Any material prices that increase after the date of this estimate will be the responsibility of the customer.

TERMS:

1) **All payments due upon percentage of completion of plumbing work at time of billing. Payments 30 days past due will be charged a 2% per month service fee.**
2) **Materials supplied by others will not be warranted by Northern Plumbing, Inc. Repairs or replacements will incur additional charges. Materials supplied by others must be on site and complete at time of installation.**

Cost increases for material is subject to change based on a rapidly fluctuating market. Any material cost increases after the date of this estimate will be added to the original quoted price, to be paid by customer.

Materials and/or services listed above may be provided by Northern Plumbing, Inc. For the estimated sum of: ***Twelve thousand four hundred and 00/100 dollars. ($12,400.00) Plus any OPTIONS, changes or additions to this quote.***

This proposal may be withdrawn if not accepted within 5 days.
Submitted by Northern Plumbing, Inc.:

_____ April 22, 2022
Timothy T. Park/ President **Date**

Accepted by:_____ **Title:**_____

Date:_____ **Phone:**_____

Mike Archinal

From: Mike Archinal
Sent: Thursday, April 21, 2022 10:24 AM
To: 'Michael O'Brian'
Subject: RE: Hazard Mitigation Plan

Thanks Chief.

Mike

From: Michael O'Brian <mobrian@brightonareafire.com>
Sent: Thursday, April 21, 2022 10:16 AM
To: Mike Archinal <Mike@genoa.org>
Cc: Bill Rogers <Bill@genoa.org>; Robin Hunt <Robin@genoa.org>; Duffy Rojewski <Duffy@genoa.org>
Subject: Re: Hazard Mitigation Plan

All,

The plan looks good and we had worked on portions of this during this development. I would recommend Genoa Township Adopt

Michael O'Brian, Fire Chief
Brighton Area Fire Authority
810-299-0024

****Candidate for 2nd Vice President of the International Association of Fire Chiefs in 2022*

On Tue, Apr 19, 2022 at 9:58 AM Mike Archinal <Mike@genoa.org> wrote:

> Chief,
>
> The Township Board tabled approval of the County's Hazard Mitigation Plan subject to your review/comment. Please let us know if you have any comments relative to this document. I will place this item on the May 2, 2022 agenda. Thanks in advance.
>
> Michael Archinal, AICP
>
> Township Manager
>
> Genoa Charter Township
>
> 2911 Dorr Road
>
> Brighton MI, 48116

Resolution No. 220502A

ACKNOWLEDGING AND ADOPTING
THE LIVINGSTON COUNTY HAZARD MITIGATION PLAN

WHEREAS, Hazard Mitigation is a critical component to a successful community,

NOW, THEREFORE, BE IT RESOLVED, that the Genoa Charter Township Board hereby acknowledges and adopts the Livingston County Mitigation Plan.

ADOPTED – this 2nd day of May, 2022

_____

Bill Rogers, Supervisor

_____

Paulette A. Skolarus, Clerk

CERTIFICATION

I hereby certify that the foregoing is a true and complete copy of Resolution No. 220502,

Adopted by the Genoa Charter Township Board, Livingston County, Michigan, at a regular meeting held on the 2nd day of May, 2022 and that the meeting was held and the minutes therefore were filed in compliance with Act No. 267 of the Public Acts of 1976.

IN WITNESS WHEREOF, I have hereto affixed my official signature the 2nd day of May, 2022

_____

Paulette A. Skolarus, Clerk
Genoa Charter Township

Resolution No. 220516A

ACKNOWLEDGING AND ADOPTING
THE LIVINGSTON COUNTY HAZARD MITIGATION PLAN

WHEREAS, Hazard Mitigation is a critical component to a successful community,

NOW, THEREFORE, BE IT RESOLVED, that the Genoa Charter Township Board hereby acknowledges and adopts the Livingston County Mitigation Plan.

ADOPTED – this 16th day of May, 2022

_____
Bill Rogers, Supervisor

_____
Paulette A. Skolarus, Clerk

CERTIFICATION

I hereby certify that the foregoing is a true and complete copy of Resolution No. 220516,

Adopted by the Genoa Charter Township Board, Livingston County, Michigan, at a regular meeting held on the 16th day of May, 2022 and that the meeting was held and the minutes therefore were filed in compliance with Act No. 267 of the Public Acts of 1976.

IN WITNESS WHEREOF, I have hereto affixed my official signature the 16th day of May, 2022

_____

Paulette A. Skolarus, Clerk
Genoa Charter Township

RESOLUTION #220516B

ASSESSORS AFFIDAVIT OF THE 2022 MILLAGE LEVIES FOR THE TOWNSHIP OF GENOA

This report is to certify the 2022 Genoa Township **Operating Millage Levy at 0.7774** mills., the Maximum Allowable Millage Levy without a vote of the people.

The maximum allowable operating Millage Levy is arrived by calculations of the forms L-4034, (2020 Millage Reductions Fractions Worksheet) to show the 2022 "Headlee Reduction Fraction", Sec. 211.34d, M.C.L. (.9898), the "Truth in Assessing" calculation, sec 211.34 M.C.L. (1.0000), the "Truth in County Equalization", sec 211.34 M.C.L. (1.0000), and the "Truth in Taxation" 2022 Base Tax Rate Fraction (.9582)*.

The asterisk (*) is to show that the 2022 Base Tax Rate Fraction of .9582 is due to Genoa Township being exempt from this calculation and the "Truth in Taxation Public Hearing" because the 2021 Millage Levy was less than One Mill (0.7855).

STATE TAX COMMISSION BULLETIN NO. 5

Dated August 2, 1999. The above STC BULLETIN addressed public act 38 of 1999, which requires that all calculations now "Round Down" the tax rate to 4 decimal places to comply with the change in law under public act 38 of 1999. This request to certify the 2022 Millage levy for the Township of Genoa at 0.7774 mills for operating, is in compliance with all of the calculation requirements of form L-4029 Millage Request Report under Sections 211.34, 211.34d and 211.24e.

Therefore, it is requested that the Genoa Township Board pass a resolution to authorize the 2022 Millage Rate at **0.7774 mills**.

Respectfully Submitted,

Debra L. Rojewski
Genoa Township Assessor

TO: Honorable Board of Trustees

FROM: Debra L. Rojewski, Assessor

DATE: MAY 2, 2022

RE: 2022 Millage Rate

Manager's Signature: _____

I have enclosed the 2022 Genoa Township Millage Rate that will be used to calculate the amount of taxes to be collected for each parcel in Genoa Township for the Winter Taxes of 2022. There has been a change in the millage from .7855 to .7774

Michigan State Law requires the Township to approve the millage rate for each tax year.

I would recommend the following motion:

Moved by_____, supported by _____,

To approve the Assessor's affidavit of the 2022 Millage levies for Genoa Township, establishing the Millage Rate at 0.7774.

Michigan Department of Treasury
614 (Rev. 02-22)

ORIGINAL TO: County Clerk(s)
COPY TO: Equalization Department(s)
COPY TO: Each township or city clerk

L-4029

2022 Tax Rate Request (This form must be completed and submitted on or before September 30, 2022)

MILLAGE REQUEST REPORT TO COUNTY BOARD OF COMMISSIONERS

Carefully read the instructions on page 2.

This form is issued under authority of MCL Sections 211.24e, 211.34 and 211.34d. Filing is mandatory; Penalty applies.

County(ies) Where the Local Government Unit Levies Taxes	2022 Taxable Value of ALL Properties in the Unit as of 5-23-2022
LIVINGSTON	**1,300,439,189**
Local Government Unit Requesting Millage Levy	For LOCAL School Districts: 2022 Taxable Value excluding Principal Residence, Qualified Agricultural, Qualified Forest, Industrial Personal and Commercial Personal Properties.
GENOA CHARTER TOWNSHIP	

This form must be completed for each unit of government for which a property tax is levied. Penalty for non-filing is provided under MCL Sec 211.119. The following tax rates have been authorized for levy on the 2022 tax roll.

(1) Source	(2) Purpose of Millage	(3) Date of Election	(4) Original Millage Authorized by Election Charter, etc.	(5) ** 2021 Millage Rate Permanently Reduced by MCL 211.34d "Headlee"	(6) 2022 Current Year "Headlee" Millage Reduction Fraction	(7) 2022 Millage Rate Permanently Reduced by MCL 211.34d "Headlee"	(8) Sec. 211.34 Truth in Assessing or Equalization Millage Rollback Fraction	(9) Maximum Allowable Millage Levy *	(10) Millage Requested to be Levied July 1	(11) Millage Requested to be Levied Dec. 1	(12) Expiration Date of Millage Authorized
ALLOC	OPER	N/A		.7855	.9898	.7774	1.0000	.7774		.7774	

Prepared by	Telephone Number	Title of Preparer	Date
DEBRA L. ROJEWSKI	**(810) 227-5225**	**ASSESSOR**	

CERTIFICATION: As the representatives for the local government unit named above, we certify that these requested tax levy rates have been reduced, if necessary to comply with the state constitution (Article 9, Section 31), and that the requested levy rates have also been reduced, if necessary, to comply with MCL Sections 211.24e, 211.34 and, for LOCAL school districts which levy a Supplemental (Hold Harmless) Millage, 380.1211(3).

	Signature	Print Name	Date
☐ Clerk ☐ Secretary			
☐ Chairperson ☐ President			

** Under Truth in Taxation, MCL Section 211.24e, the governing body may decide to levy a rate which will not exceed the maximum authorized rate allowed in column 9. The requirements of MCL 211.24e must be met prior to levying an operating levy which is larger than the base tax rate but not larger than the rate in column 9.*

Local School District Use Only. Complete if requesting millage to be levied. See STC Bulletin 2 of 2022 for instructions on completing this section.

Total School District Operating Rates to be Levied (HH/Supp and NH Oper ONLY)	Rate
For Principal Residence, Qualified Ag., Qualified Forest and Industrial Personal	
For Commercial Personal	
For all Other	

**** IMPORTANT:** See instructions on page 2 regarding where to find the millage rate used in column (5).

Instructions For Completing
Form 614 (L-4029) *2022 Tax Rate Request,*
Millage Request Report To County Board Of Commissioners

These instructions are provided under MCL Sections 211.24e (truth in taxation), 211.34 (truth in county equalization and truth in assessing), 211.34d (Headlee), and 211.36 and 211.37 (apportionment).

Column 1: Source. Enter the source of each millage. For example, allocated millage, separate millage limitations voted, charter, approved extra-voted millage, public act number, etc. Do not include taxes levied on the Industrial Facilities Tax Roll.

Column 2: Purpose of millage. Examples are: operating, debt service, special assessments, school enhancement millage, sinking fund millage, etc. A local school district must separately list operating millages by whether they are levied against ALL PROPERTIES in the school district or against the NON-HOME group of properties. (See State Tax Commission Bulletin 2 of 2022 for more explanation.) A local school district may use the following abbreviations when completing Column 2: "Operating ALL" and "Operating NON-HOME". "Operating ALL" is short for "Operating millage to be levied on ALL PROPERTIES in the local school district" such as Supplemental (Hold Harmless) Millages and Building and Site Sinking Fund Millages. "Operating NON-HOME" is short for "Operating millage to be levied on ALL PROPERTIES EXCLUDING PRINCIPAL RESIDENCE, QUALIFIED AGRICULTURAL, QUALIFIED FOREST AND INDUSTRIAL PERSONAL PROPERTIES in the local school district" such as the 18 mills in a district which does not levy a Supplemental (Hold Harmless) Millage.

Column 3: Date of Election. Enter the month and year of the election for each millage authorized by direct voter approval.

Column 4: Millage Authorized. List the allocated rate, charter aggregate rate, extra-voted authorized before 1979, each separate rate authorized by voters after 1978, debt service rate, etc. (This rate is the rate before any reductions.)

Column 5: 2021 Millage Rate Permanently Reduced by MCL 211.34d ("Headlee") Rollback. Starting with taxes levied in 1994, the "Headlee" rollback permanently reduces the maximum rate or rates authorized by law or charter. The **2021** permanently reduced rate can be found in column 7 of the **2021** Form L-4029. For operating millage approved by the voters after April 30, 2021, enter the millage approved by the voters. For debt service or special assessments not subject to a millage reduction fraction, enter "NA" signifying "not applicable."

Column 6: Current Year Millage Reduction Fraction. List the millage reduction fraction certified by the county treasurer for the current year as calculated on Form 2166 (L-4034), *2022 Millage Reduction Fraction Calculations Worksheet*. The millage reduction fraction shall be rounded to four (4) decimal places. The current year millage reduction fraction shall not exceed 1.0000 for 2022 and future years. This prevents any increase or "roll up" of millage rates. Use 1.0000 for new millage approved by the voters after April 30, 2022. For debt service or special assessments not subject to a millage reduction fraction, enter 1.0000.

Column 7: 2022 Millage Rate Permanently Reduced by MCL 211.34d ("Headlee") Rollback. The number in column 7 is found by multiplying column 5 by column 6 on this 2022 Form L-4029. This rate must be rounded DOWN to 4 decimal places. (See STC Bulletin No. 11 of 1999, Supplemented by Letter of 6/7/2000.) For debt service or special assessments not subject to a millage reduction fraction, enter "NA" signifying "not applicable."

Column 8: Section 211.34 Millage Rollback Fraction (Truth in Assessing or Truth in Equalization). List the millage rollback fraction for 2022 for each millage which is an operating rate. Round this millage rollback fraction to 4 decimal places. Use 1.0000 for school districts, for special assessments and for bonded debt retirement levies. For counties, villages and authorities, enter the Truth in Equalization Rollback Fraction calulated on STC Form L-4034 as TOTAL TAXABLE VALUE BASED ON CEV FOR ALL CLASSES/TOTAL TAXABLE VALUE BASED ON SEV FOR ALL CLASSES. Use 1.0000 for an authority located in more than one county. For further information, see State Tax Commission Bulletin 2 of 2022. For townships and cities, enter the Truth in Assessing Rollback Fraction calculated on STC Form L-4034 as TOTAL TAXABLE VALUE BASED ON ASSESSED VALUE FOR ALL CLASSES/TOTAL TAXABLE VALUE BASED ON SEV FOR ALL CLASSES. The Section 211.34 Millage Rollback Fraction shall not exceed 1.0000.

Column 9: Maximum Allowable Millage Levy. Multiply column 7 (2022 Millage Rate Permanently Reduced by MCL 211.34d) by column 8 (Section 211.34 millage rollback fraction). Round the rate DOWN to 4 decimal places. (See STC Bulletin No. 11 of 1999, Supplemented by Letter of 6/7/2000.) For debt service or special assessments not subject to a millage reduction fraction, enter millage from Column 4.

Column 10/Column 11: Millage Requested to be Levied. Enter the tax rate approved by the unit of local government provided that the rate does not exceed the maximum allowable millage levy (column 9). A millage rate that exceeds the base tax rate (Truth in Taxation) cannot be requested unless the requirements of MCL 211.24e have been met. For further information, see State Tax Commission Bulletin 2 of 2022. A LOCAL School District which levies a Supplemental (Hold Harmless) Millage shall not levy a Supplemental Millage in excess of that allowed by MCL 380.1211(3). Please see the memo to assessors dated October 26, 2004, regarding the change in the collection date of certain county taxes.

Column 12: Expiration Date of Millage. Enter the month and year on which the millage will expire.

Michigan Department of Treasury, STC
2166 (Rev.2-02)

2022 MILLAGE REDUCTION FRACTION CALCULATIONS WORKSHEET **L-4034**

INCLUDING MILLAGE RECUCTION FRACTION CALCULATIONS NOT

NOT SPECIFICALLY ASSIGNED TO THE COUNTY EQUALIZATION DIRECTOR BY LAW

County	Taxing Jurisdiction	
LIVINGSTON COUNTY	Genoa Twp.	(City, Twp., Village, County, Authority, School District)

2021 Total Taxable Value	**1,300,439,189**
Losses	**8,428,061**
Addition	**27,104,994**
2022 Total Taxable Value Based on SEV	**1,375,488,132**
2022 Total Taxable Value Based on Assessed Value (A.V.)	**1,375,488,132**
2022 Total Taxable Value Based on CEV	**1,375,488,132**
2022 Rate of Inflation (C.P.I.)	**1.033**

Note: The last two items above are only needed when it is necessary to calculate a Truth in Assessing or Truth in County Equalizaton Rollback Fraction.

1. Section 211.34d, MCL, **"Headlee"** (for each unit of local government)

(2021 Total Taxable Value-Losses) x Inflation Rate (C.P.I.)

$$\frac{1{,}300{,}439{,}189 \text{ Minus } 8{,}428{,}061 \times 1.033}{1{,}375{,}488{,}132 \text{ Minus } 27{,}104{,}994} = \mathbf{0.9898}$$

(2022 Total Taxable Value Based on SEV - Additions)

2022 Millage Reduction Fraction (Headlee). Round to 4 decimal places in the conventional manner. If number exceeds 1.0000, line through and enter 1.0000

See State Tax Commission Bulletin No. 3 of 1995 regarding the calculation of losses and additions. See also the Supplelements to STC Bulletin No. 3 of 1995 contained in STC Bulletin No. 3 of 1997.

2a. Section 211.34, MCL, "Truth in Assessing" (for cities and townships if S.E.V. exceeds A.V. for 2009 only)

(2022 Total Taxable Value Based on Assessed Value for all Classes)

$$\frac{1{,}375{,}488{,}132}{1{,}375{,}488{,}132} = \mathbf{1.0000}$$

(2022 Total Taxable Value Based on SEV for all Classes)

2022 Rollback Fraction (Truth in Assessing) Round to 4 decimal places in the conventional manner. (Cannot exceed 1.000)

See State Tax Commission Bulletin No. 7 of 2004 for more information regarding this calculation.

2b. Section 211.34, MCL, **"Truth in County Equalization"** (for villages, counties and authorities if S.E.V. exceeds C.E.V. for 2009 only)

(2022 Total Taxable Value based on CEV for all Classes)

$$\frac{1{,}375{,}488{,}132}{1{,}375{,}488{,}132} = \mathbf{1.0000}$$

(2022 Total Taxable Value Based on SEV for all Classes)

2022 Rollback Fraction (Truth in County Equalization) Round to 4 decimal places in the Conventional manner. (Cannot exceed 1.000)

See State Tax Commission Bulletin No. 7 of 2004 for more information regarding this calculation.

3. Section 211.24e, MCL, **"Truth in Taxation"** (for each taxing jurisdiction that levied more than 1 mill for operating purposes in prior year only).

(2021 Total Taxable Value-Losses)

$$\frac{1{,}300{,}439{,}189 \text{ minus } 8{,}428{,}061}{1{,}375{,}488{,}132 \text{ minus } 27{,}104{,}994} = \mathbf{0.9582}$$

(2022 Total Taxable Value Based on SEV - Additions)

2022 Base Tax Rate Fraction (Truth in Taxation) Round to 4 decimal places in the conventional manner

Use the same amounts for addtions and losses as were used for the 211.34d ("Headlee") rollback.

Note: The truth in taxation BTRF is independent from the cumulative millage reductions provided by sections 211.34d and 211.34. The Base Tax Rate equals the BTRF X 2021 Operating Rate levied.

2911 Dorr Road
Brighton, MI 48116
810.227.5225
810.227.3420 fax
genoa.org

MEMORANDUM

TO: Honorable Board of Trustees

FROM: Kelly VanMarter, Assistant Manager/Community Development Director

DATE: April 26, 2022

RE: Westbury Phase 2 – Impact Assessment and Site Plan

MANAGER'S REVIEW:_____

In consideration of the approval recommendation by the Township Planning Commission on April 11, 2022 please find the attached project case file for Westbury Phase 2. The applicant is seeking approval for 136 apartment units in 17 buildings. The property is located north of the Whitehorse Drive and Arundell Drive intersection. The proposed residential development is located within the Lorentzen PUD on a parcel that was previously approved for 137 apartments.

Procedurally, the Planning Commission is to make a recommendation to the Township Board on the impact assessment and the site plan. The Township Board has the final review/approval authority over the proposal. Based on the conditions established within the Planning Commission recommendation, I offer the following for your consideration:

Moved by _____, Supported by _____ to APPROVE the Environmental Impact Assessment dated January 17, 2022 for Westbury Phase as submitted.

Moved by _____, Supported by _____ to APPROVE the Site Plan with the following conditions:

1. The requirements of the Township Engineer's letter dated April 7, 2022 and the Brighton Fire Authority Fire Marshal letter dated April 6, 2022 shall be satisfied before issuance of a land use permit.
2. The deteriorated existing paving on Arundel Avenue shall be replaced with at least a base course of asphalt prior to issuance of a permit for any new buildings. The final top course shall thereafter be installed when doing the final paving of phase 2.
3. The architecture and materials of Phase 2 shall match phase 1.

Should you have any questions concerning this matter, please do not hesitate to contact me.

Sincerely,

SUPERVISOR
Bill Rogers
CLERK
Paulette A. Skolarus
TREASURER
Robin L. Hunt
TRUSTEES
Jean W. Ledford
H. James Mortensen
Terry Croft
Diana Lowe
MANAGER
Michael C. Archinal

GENOA CHARTER TOWNSHIP

Application for Site Plan Review

TO THE GENOA TOWNSHIP PLANNING COMMISSION AND TOWNSHIP BOARD:

APPLICANT NAME & ADDRESS: Elevate Property Partners, LLC

If applicant is not the owner, a letter of Authorization from Property Owner is needed.

OWNER'S NAME & ADDRESS: Singh IV Limited Partnership

SITE ADDRESS: 1025 Westbury Blvd., Howell, MI 48843 PARCEL #(s): 11-04-300-024

APPLICANT PHONE: (248-939-7564 OWNER PHONE: (248-865-1600

OWNER EMAIL: avi@singhmail.com

LOCATION AND BRIEF DESCRIPTION OF SITE: This project is the second phase of a 2 phase apartment development. The property is on the Northeast side of Grand River Ave. east of Latson Road.

BRIEF STATEMENT OF PROPOSED USE: Westbury Phase 2 is a Multi-Family Project.

THE FOLLOWING BUILDINGS ARE PROPOSED: Westbury Phase 2 will consist of 136 Apartment Unit in 17 buildings.

I HEREBY CERTIFY THAT ALL INFORMATION AND DATA ATTACHED TO AND MADE PART OF THIS APPLICATION IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

BY: J. Robert Langan, Elevate Property Partners,LLC

ADDRESS: 128 N. Center St., Northville MI 48167

Contact Information - Review Letters and Correspondence shall be forwarded to the following:

1.) J. Robert Langan (Bob) of Elevate Property Partners, LLC at blangan@bagleylangan.com

Name | Business Affiliation | E-mail Address

FEE EXCEEDANCE AGREEMENT

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

SIGNATURE: _____ DATE 1-17-22

PRINT NAME: J. Robert Langan PHONE: 248-939-7564

ADDRESS: 128 N. Center ST., Northville MI 48167

affordable housing in this community, but he does not want the continuity of this neighborhood to be broken.

Commissioner McBain knows that different associations can work well together and suggested the applicant propose and present complimentary architectural and building materials; however, she does not believe the single-family homes should be on the same side of Lawson as the existing condominiums. She is not in favor of the density. She agrees that these new residents will be driving down Aster Avenue and that should be addressed.

Mr. Healy stated that the density would be higher if they stayed with the original PUD of 140 units.

Chairman Grajek is not in favor of the size of the lots.

Moved by Commissioner Mortensen, seconded by Commissioner Dhaenens, to recommend to the Township Board denial of the Summerfield Point Estates PUD Agreement Amendment because the lot size and setbacks are not acceptable and do not meet the ordinance in terms of MDR zoning. Moreover, the proposed plan for single-family homes on individual lots is inconsistent with neighboring properties. **The motion carried unanimously.**

Moved by Commissioner Mortensen, seconded by Commissioner Dhaenens, to recommend to the Township Board denial of the Environmental Impact Assessment dated March 9, 2022 because the lot size and setbacks are not acceptable and do not meet the ordinance in terms of MDR zoning. Moreover, the proposed plan for single-family homes on individual lots is inconsistent with neighboring properties. **The motion carried unanimously.**

Moved by Commissioner Mortensen, seconded by Commissioner Dhaenens, to recommend to the Township Board denial of the Preliminary Site Condominium Plan for Summerfield Point Estates dated March 23, 2022 because the lot size and setbacks are not acceptable and do not meet the ordinance in terms of MDR zoning. Moreover, the proposed plan for single-family homes on individual lots is inconsistent with neighboring properties. **The motion carried unanimously.**

Moved by Commissioner Mortensen, seconded by Commissioner Dhaenens, to recommend to the Township Board denial of the private road for Summerfield Point Estates because the lot size and setbacks are not acceptable and do not meet the ordinance in terms of MDR zoning. Moreover, the proposed plan for single-family homes on individual lots is inconsistent with neighboring properties. In addition, there is insufficient information to determine whether the Township may allow variation from public roadway standards, the submittal does not include a Private Road Maintenance Agreement, the required easement width is not provided, the dimensional requirements for medians do not appear to be met, and the plans do not identify any street signs.
The motion carried unanimously.

OPEN PUBLIC HEARING #3…Consideration of a site plan and environmental impact assessment for 136 apartment units within 17 buildings located north of the intersection of Whitehorse Drive and Arundell Drive. The property is located within the Lorenzen Planned Unit Development and was previously approved for 137 apartment units. The request is petitioned by Elevate Property Partners, LLC.

APPROVED

A. Recommendation of Environmental Impact Assessment (1-17-22)
B. Recommendation of Site Plan (3-23-22)

Mr. Robert Langan of Elevate Property Partners, LLC and Mr. Robert Emerine of Seiber Keast, Inc. the engineer, were present.

Mr. Langan addressed the comments in the planner's letter dated April 7. The residents of the new phase will have the same amenities as the first phase and the building materials are the same as what was done in Phase I. They will duplicate what was built for Phase I; however, some of the light fixtures may be slightly different. They will redo the road as requested by the Township Engineer.

They have more parking that what is required, but that is because they have attached garages and then a parking space in front of the garage, so the garage and those spaces in front are considered parking spaces.

Mr. Borden reviewed his letter dated April 7, 2022.

- He noted that Mr. Langan addressed his request to explain how Phase 1 amenities apply to Phase 2 units
- Building materials and colors are subject to review and approval by the Planning Commission. He suggested making a condition of any approval to state that they will be the same as Phase I. Mr. Langan noted that it has been 15 years since Phase I was built; however, they will be of the same architecture and the material colors will be as close as can be.
- The applicant should be prepared to present building material and color samples, and/or a color rendering, to the Commission as part of its review.
- Per Section 14.02.06, the applicant must provide evidence in support of the amount of parking proposed, which Mr. Langan provided this evening.
- If exterior site lighting is proposed, a detailed lighting plan must be provided.
- The applicant must address any comments provided by the Township Engineer and/or Brighton Area Fire Authority.

Ms. Shelby Byrne reviewed her letter dated April 7, 2022.

- Parking dimensions should be added to typical parking details on Sheet ND3.
- Approval should be obtained by the Brighton Area Fire Authority prior to site plan approval.
- The petitioner has submitted water main and sanitary sewer plans to MHOG Sewer and Water Authority for review and received comments. After final site plan approval, the Petitioner will need to re-submit final construction plans to MHOG for re-review and approval.
- The proposed site plan is being reviewed by the Livingston County Drain Commissioner. Approval from the Drain Commissioner should be provided to the Township prior to approval.
- The petitioner is proposing to extend the two existing private roads of Arundell Avenue and Westbury Boulevard. After site plan approval, the petitioner must submit private road construction plans for review.
- The proposed road cross section shown on the plan notes a 50-foot-wide road ROW. The Township's Engineering Design Standards require that local roads have a minimum road ROW of 66 feet. The 50-foot-wide road ROW matches the previously approved road ROW in Westbury Phase I, so she has no concerns.

APPROVED

- As requested, the site plan has been revised to show the existing asphalt paving on Arundel Avenue as being replaced. The note says that the existing asphalt will be replaced after construction of Westbury Phase II. Due to the poor existing condition of Arundel Avenue, the Planning Commission may wish to require that the Petitioner complete the base of the proposed asphalt prior to construction, then apply the top course when doing final paving of the Westbury Phase II, as construction will only further degrade the current condition of the road.

Brighton Area Fire Authority Fire Marshal's letter dated April 6, 2022 states most of their previous comments have been addressed; however, two items are still outstanding:

- The applicant shall provide no parking fire lane signage every 50-feet along on the hydranted side of the access roads.
- He recommends that the sprinkler riser rooms be provided with separate addresses from the building units.

Mr. Langan stated they will address his concerns.

The call to the public was made at 10:23 pm with no response.

Moved by Commissioner Mortensen, seconded by Commissioner McCreary, to recommend to the Township Board approval of the Environmental Impact Assessment dated January 17, 2022 for Westbury Phase II. **The motion carried unanimously.**

Moved by Commissioner Mortensen, seconded by Commissioner McCreary, to recommend to the Township Board approval of the Site Plan dated March 23, 2022 for Westbury Phase II, subject to the following:

- Township Staff will review the documents to ensure the amenities of Phase I apply to Phase II, with the assistance of the Township Attorney, if necessary.
- The building materials and colors are to be consistent with Phase I and will be reviewed by Township Staff prior to submission to the Township Board.
- The requirements of the Township Engineer's letter dated April 7 and the Brighton Area Fire Authority Fire Marshal's letter dated April 6 shall be met.

The motion carried unanimously.

ADMINISTRATIVE BUSINESS

Staff Report

Ms. VanMarter stated there will be a second Planning Commission meeting in April. It is scheduled for April 25. There are five cases scheduled for the May 9 meeting so she may be scheduling a second May meeting.

Approval of the March 28, 2022 Planning Commission meeting minutes

Moved by Commissioner McCreary, seconded by Commissioner Chouinard, to approve the minutes of the March 28, 2022 Planning Commission Meeting as submitted. **The motion carried unanimously.**

APPROVED

April 7, 2022

Planning Commission
Genoa Township
2911 Dorr Road
Brighton, Michigan 48116

Attention:	Kelly Van Marter, AICP Planning Director and Assistant Township Manager
Subject:	Westbury Phase 2 – Site Plan Review #2
Location:	1025 Westbury Boulevard – north side of Grand River Avenue, east of Latson Road
Zoning:	MUPUD Mixed Use Planned Unit Development

Dear Commissioners:

At the Township's request, we have reviewed the revised final PUD site plan submittal for Phase 2 of the Westbury multiple-family development (plans dated 3/23/22).

A. Summary

1. We request the applicant explain how Phase 1 amenities apply to Phase 2 units.
2. Building materials and colors are subject to review and approval by the Planning Commission.
3. The applicant should be prepared to present building material and color samples (and/or a color rendering) to the Commission as part of its review.
4. Per Section 14.02.06, the applicant must provide evidence in support of the amount of parking proposed.
5. If exterior site lighting is proposed, a detailed lighting plan must be provided.
6. The applicant must address any comments provided by the Township Engineer and/or Brighton Area Fire Authority.

B. Proposal/Process

The applicant proposes Phase 2 of the Westbury development. The project includes 136 multi-family units spread across 17 buildings.

Procedurally, the Planning Commission is to review the final PUD site plan and Environmental Impact Assessment, and put forth a recommendation on each to the Township Board.

C. Site Plan Review

1. **Consistency with PUD.** Multiple-family residential is a permitted use in the PUD. Phase 2 originally called for 137 units, while the proposal entails 136 units.

   Phase 1 of the development includes a clubhouse and open space areas. We request the applicant explain to the Commission how Phase 1 amenities apply to the Phase 2 residential units.

2. **Dimensional Requirements.** The site plan depicts compliant setbacks (both internal and from exterior property lines) and building spacing.

3. **Buildings.** The proposal incorporates 3 different building types (identified as 100, 200, and 300). Each building type includes a mix of brick and horizontal siding, similar to the existing Phase 1 buildings.

Aerial view of site and surroundings (looking east)

Building materials and colors are subject to review and approval by the Planning Commission. The applicant should be prepared to present building material and color samples (and/or a color rendering) to the Commission as part of its review.

4. **Pedestrian Circulation.** The site plan includes 5-foot wide sidewalks along both roadways, and around each building with access to entrances.

5. **Vehicular Circulation.** Vehicular access is provided via extension of Arundell Drive and Westbury Boulevard. As a result, the project will complete a loop through and around the entire development.

   The revised plan includes 28-foot road widths, which is sufficient for two-way travel and meets the requirements of the Brighton Area Fire Authority.

   Any additional comments provided by the Township Engineer and/or the Brighton Area Fire Authority must be addressed.

6. **Parking.** Section 14.04 requires 272 spaces for the proposed development. The calculations included on Sheet 3 note 252 garage spaces, 252 apron spaces and 13 off-street spaces (517 total).

   The 200 and 300 type buildings include attached 2-car garages for each unit, while the 100 buildings include 50% 2-car and 50% 1-car attached garages.

   The total amount of parking provided represents 190% of the minimum requirement (approximately 3.8 spaces per unit).

   Per Section 14.02.06, the applicant must provide evidence in support of the amount of parking proposed, as it exceeds the maximum allowance (120% of the minimum requirement).

7. **Landscaping.** The Ordinance requires 2 street trees per unit, resulting in a total requirement of 272 trees. The revised landscape plan includes a total of 272 trees (207 deciduous and 65 evergreen).

   The majority of the deciduous trees are along the street, while the evergreen trees are primarily used as a buffer along the northerly property line.

8. **Exterior Lighting.** The revised site plan includes a note stating that "site lighting fixtures, where required, will match the fixtures provided in Phase 1."

If such fixtures are ultimately proposed, a detailed lighting plan (including fixture specifications) must be provided for review/approval.

9. **Waste Receptacle/Enclosure.** The revised site plan includes a note stating that "individual trash pick-up will be provided."

10. **Impact Assessment.** In summary, the Assessment notes that the proposed project is not expected to have an adverse impact upon natural features, stormwater, surrounding land, public services/utilities, or traffic and pedestrians.

    The revised submittal includes a trip generation analysis. In summary, the analysis states that "no additional traffic mitigation measures are recommended to accommodate the projected traffic volumes generated by Phase 2."

Should you have any questions concerning this matter, please do not hesitate to contact our office.

Respectfully,
SAFEBUILT

Brian V. Borden, AICP
Michigan Planning Manager

April 7, 2022

Ms. Kelly Van Marter
Genoa Township
2911 Dorr Road
Brighton, MI 48116

Re: Westbury Phase II
Site Plan Review No. 2

Dear Ms. Van Marter:

Tetra Tech conducted a second review of the proposed Westbury Phase II site plan submitted on March 23, 2022. The plans were prepared by Seiber Keast Lehner, Inc. on behalf of Elevate Property Partner, LLC. The development includes 16.35 acres located on the north side of the existing Westbury Development on White Horse Lane. The Petitioner is proposing 17 additional buildings as part of the second phase of the development. The proposed buildings include apartment buildings with a total of 136 individual units. We offer the following comments:

GENERAL

1. Parking dimensions should be added to typical parking details on ND3.
2. Approval should be obtained by the Brighton Area Fire Authority prior to site plan approval.
3. The petitioner has submitted water main and sanitary sewer plans to MHOG Sewer and Water Authority for review and received comments. After final site plan approval, the Petitioner will need to re-submit final construction plans to MHOG for re-review and approval.
4. The proposed site plan is being reviewed by the Livingston County Drain Commissioner. Approval from the Drain Commissioner should be provided to the Township prior to approval.

PRIVATE ROAD

1. The petitioner is proposing to extend the two existing private roads of Arundell Avenue and Westbury Boulevard. After site plan approval, the petitioner must submit private road construction plans for review.
2. The proposed road cross section shown on the plan notes a 50-foot-wide road ROW. The Township's Engineering Design Standards require that local roads have a minimum road ROW of 66 feet. The 50-foot-wide road ROW matches the previously approved road ROW in Westbury Phase I.
3. As requested, the site plan has been revised to show the existing asphalt paving on Arundel Avenue as being replaced. The note says that the existing asphalt will be replaced after construction of Westbury Phase II. Due to the poor existing condition of Arundel Avenue, the Planning Commission may wish to require that the Petitioner complete the base of the proposed asphalt prior to construction, then apply the top course when doing final paving of the Westbury Phase II, as construction will only further degrade the current condition of the road.

Tetra Tech
3497 Coolidge Road, East Lansing, MI 48823
Tel 517.316.3930 Fax 517.484.8140 www.tetratech.com

We recommend the petitioner address the above comments prior to final site plan approval.

Sincerely,

Gary J. Markstrom, P.E.
Vice President

Shelby Byrne
Project Engineer

BRIGHTON AREA FIRE AUTHORITY

615 W. Grand River Ave.
Brighton, MI 48116
o: 810-229-6640 f: 810-229-1619

April 6, 2022

Kelly VanMarter
Genoa Township
2911 Dorr Road
Brighton, MI 48116

RE: Westbury Phase II PUD Amendment
Genoa Twp., MI

Dear Kelly:

The Brighton Area Fire Authority has reviewed the above-mentioned site plan. The plans were received for review on March 30, 2022, and the drawings are dated January 17, 2022 with revisions dated March 23, 2022. The project is the proposed second phase of multi-family development. of seventeen (17) new structures and 136-Units. The plan review is based on the requirements of the International Fire Code (IFC) 2021 edition. All previous comments have been addressed.

1. Provide no parking fire lane signage every 50-feet along on the hydranted side of the access roads.

2. It is recommended that the sprinkler riser rooms be provided with separate addresses from the building units.

Additional comments will be given during the building plan review process (specific to the building plans and occupancy). The applicant is reminded that the fire authority must review the fire protection systems submittals (sprinkler & alarm) prior to permit issuance by the Building Department and that the authority will also review the building plans for life safety requirements in conjunction with the Building Department. If you have any questions about the comments on this plan review please contact me at 810-229-6640.

Cordially,

Rick Boisvert, FM,CFPS
Fire Marshal

WESTBURY PHASE 2

IMPACT ASSESSMENT

Prepared for:

Elevate Property Partners, LLC
126 N. Center Street
Northville, Michigan 48167
248-939-7564

Prepared by:

Seiber Keast Lehner, Inc.
39205 Country Club Drive
Farmington Hills, Michigan 48331
248-308-3331
Job No. 21-030

January 17, 2022

WESTBURY PHASE 2 IMPACT ASSESSMENT

This Impact Assessment is being provided to address any changes to the Impact Assessment submitted to Genoa Township on February 8, 2002 for both Westbury Phase 1 and 2. That February 2002 Impact Assessment is attached. Any changes to that assessment or any information specifically related to the Westbury Phase 2 are noted below.

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

Prepared By:

Seiber Keast Lehner, Inc.
Engineering and Surveying
39205 Country Club Drive
Suite C-8
Farmington Hills, Michigan 48331

Office Phone: 248-308-3331

Seiber Keast Lehner, Inc. is a full-service Engineering and Surveying company with 2 offices located in southeast Michigan. The company includes 6 Registered Engineers, 2 Registered Land Surveyors, 7 Project Managers/Designers, 3 CAD Operators, 3 Field Technicians and several support staff. The company was formed through a merger of Seiber Keast Enigneering, LLC and Lehner & Asociates and includes more than 35 years of experience.

b. **Map(s) and written description/analysis of the project site** including all existing structures, manmade facilities, and natural features. The analysis shall also include information for areas within 10 feet of the property. An aerial photograph or drawing may be used to delineate these areas.

This is the second phase of an apartment project that began in 2002. The first phase buildings have been completed. Also, the phase 2 mass grading, stormwater detention basin and much of the storm sewers were completed during the phase 1 construction activities. The phase 1 buildings, as well as commercial buildings with frontage on Grand River Ave., are located to the south of this project. To the north of the site is Hampton Ridge Phase 2, to the east is vacant property and to the west is a utility corridor.

c. **Impact on natural features:** A written description of the environmental characteristics of the site prior to development and following development, i.e., topography, soils, wildlife, woodlands, mature trees (eight-inch caliper or greater), wetlands, drainage, lakes, streams, creeks or ponds. Documentation by a qualified wetland specialist shall be required wherever the Township determines that there is a potential regulated wetland. Reduced copies of the Existing Conditions Map(s) or aerial photographs may accompany written material.

Except for the information provided in Item b. above the statements made in the February 2002 Impact Assessment about drainage and soils remains the same.

d. **Impact on stormwater management:** Description of measures to control soil erosion and sedimentation during grading and construction operations and until a permanent ground cover is established. Recommendations for such measures may be obtained from the Livingston County Drain Commission at (517) 546-0040.

Refer to the attached February 2002 Impact Assessment. Also, see Item g. below for Stormwater Management Comments.

e. **Impact on surrounding land used:** Description of the types of proposed uses and other man-made facilities, including any project phasing, and an indication of how the proposed use conforms or conflicts with existing and potential development patterns. A description shall be provided of any increases of light, noise or air pollution which could negatively impact adjacent properties.

Westbury Phase 1 consisting of 128 unit was built in 2002. This applicant is requesting approval of the second phase (136 units) to complete the 264-unit apartment complex.

The applicant will submit to Genoa Township, Livingston County and the State of Michigan for all required permits including sanitary sewer, water main, soil erosion control and stormwater management.

Refer to the attached February 2002 Impact Assessment.

f. **Impact on public facilities and services:** Describe the number of expected residents, employees, visitors, or patrons, and the anticipated impact on public schools, police protection and fire protection. Letters from the appropriate agencies may be provided, as appropriate.

Based on the Southeast Michigan Council of Governments (SEMCOG) Livingston County Community Profile and the 2020 census the average population per household is 2.59. For Westbury Phase 2 this would result in a population increase of 352 people (136 units x 2.59 people/unit).

g. **Impact on public utilities**: Describe the method to be used to service the development with water and sanitary sewer facilities, the method to be used to control drainage on the site and from the site, including runoff control during periods of construction. For sites serviced with sanitary sewer, calculations for pre- and post-development flows shall be provided in comparison with sewer line capacity. Expected sewage rates shall be provided in equivalents to a single-family home. Where septic systems are proposed, documentation or permits from the Livingston County Health Department shall be provided.

Water Mains*: The water mains in Westbury Phase 2 shall be 8-inch diameter and connected to the existing 8-inch water mains in Phase 1 at 2 locations. A third connection shall be provided by tapping the existing 8-inch water main in Hampton Ridge Phase 2. The water main basis of design is Provided on sheet 4 of the Site Plan.*

Sanitary Sewer*: The sanitary sewer in Westbury Phase 2 shall be 8-inch diameter and connected to the existing 8-inch sanitary sewer in Phase 1 at 2 locations. All sewers service shall be provided to each building by gravity. No force mains are proposed. The sanitary sewer service basis of design is provided on sheet 4 of the Site Plan.*

Stormwater Management*: The stormwater management will be provided by using the 2 existing detention basins constructed as part of the phase 1 development. The basins have been redesigned because of recent changes in the Livingston County stormwater management requirements. We have been in contact with the Drain Office and received a Draft Copy of the new design standards. The design will be subject to review and approval by the Township and County. The storm water detention calculations are provided on sheet 16 of the Site Plan.*

h. **Storage and handling of any hazardous materials:** A description of any hazardous substances expected to be used, stored or disposed of on the site. The information shall describe the type of materials, location within the site and method of containment. Documentation of compliance with federal and state requirements, and a Pollution Incident Prevention Plan (PIPP) shall be submitted, as appropriate.

The project is residential therefore, no hazardous materials will be used or disposed of on the site.

i. **Impact on Traffic and Pedestrians:** A description of the traffic volumes to be generated based on national reference documents, such as the most recent edition of the *Institute of Transportation Engineers Trip Generation Manual,* other published studies or actual counts of similar uses in Michigan. A detailed traffic impact study shall be submitted for any site over ten (10) acres in size which would be expected to generate 100 directional vehicle trips (i.e. 100 inbound or 100 outbound trips) during the peak hour of traffic of the generator or on the adjacent streets. The contents of the detailed study shall include:

Traffic impact information is provided in the attached February 2002 Impact Assessment.

j. **Special Provisions:** General description of any deed restrictions, protective covenants, master deed or association bylaws.

Refer to the attached February 2002 Impact Assessment.

k. **A list of all sources shall be provided.**

See the attached February 2002 Impact Assessment.

Livingston County Draft Copy of the Procedures and Design Criteria for Stormwater Management Systems

SEMCOG Livingston County Community Profile and 2020 Census

Previous Final Site Plan for Westbury Phase 1 and 2 Prepared by Boss Engineering with a latest revision date of November 20, 2003.

GENOA TOWNSHIP
FEB 0 8 2002
RECEIVED

IMPACT ASSESSMENT
FOR
"WESTBURY"
PART OF LORENZEN PUD
GENOA TOWNSHIP, LIVINGSTON COUNTY
MICHIGAN

Prepared for:

SINGH DEVELOPMENT COMPANY
7125 ORCHARD LAKE ROAD
SUITE 200
WESTBLOOMFIELD, Michigan 48334
(248) 865-1600

Prepared by:

BOSS ENGINEERING COMPANY
7125 ORCHARD LAKE ROAD
SUITE 108
WESTBLOOMFIELD, MI 48334
(248) 626-2677

Revised - February 7, 2002

February 27, 2001

2-00038EIA

INTRODUCTION

The purpose of this Impact Assessment (IA) report is to show the effect that this proposed development have on various factors in the general vicinity of the project. The format used for presentation of this report conforms to the *Submittal Requirements For Impact Assessment/Impact Statement* guidelines in accordance with Section 13.05 of the published Zoning Ordinance for Genoa Township, Livingston County, Michigan.

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 :
BOSS ENGINEERING COMPANY
3121 E. Grand River
Howell, MI 48843
(517) 546-4836

Prepared For :
SINGH DEVELOPMENT COMPANY
7125 Orchard Lake Road
Suite 200
West Bloomfield, MI 48322
(248) 865-1600

B. Description of the site, including existing structures, man made facilities, and natural features, all-inclusive to within 10' of the property boundary.

The site is located on the Grand River Avenue, just west of Latson Road, in section 4 & 9, T2N-R5E, Genoa Township, Livingston County, Michigan. The site location is presented on an USGS quad in Figure 1, Attachment A. The parcel contains an approximate area of 46.66 acres and is currently vacant. The northern half of the site drains in a northeasterly direction. The southern half of the site drains towards an existing detention basin on the southeast corner of the site. The average slope within the property is approximately 2%. The parcel is part of the approved Lorentzen P.U.D. and carries an underlaying light industrial zoning clasification. Singh Development Company is requesting that the underlying zoning be changed from LI to Medium Density Residential (MDR). Overall PUD plan and detailed site plan has been prepared as part of the site plan submittal.

The existing utilities abutting the site include water main and sanitary along Grand River Avenue on the southeast side of the site.

Adjacent properties include: To the east a vacant parcel, to the southeast corner an existing restaurant, to the southwest corner a proposed First National bank site, to the west Detroit Edison/Consumer Power corridor, to the north a proposed Hampton Ridge development.

C. Impact on natural features: A written description of the environmental characteristics of the site prior to development, i.e., topography, soils, vegetative cover, drainage, streams, creeks or ponds.

As described in earlier section, drainage pattern of the property is divided into two areas. Northern half drains towards northeast and southern half drains towards existing detention basin in southeast corner.

A review of the U.S.D.A. Soil Conservation Service Soil Survey of Livingston County, Michigan, Sheet 26, indicates that the on-site soils consists of the following six soil types.

1. MIAMI LOAM (MoB), Miami Loams are typically well-drained soils found on nearly level to very steep till plains and moraines. Permeability is more moderate, and the available water capacity and fertility are high. MoB soil slopes vary from 2-6%. The surface runoff is slow for MoB soil, and the soil erosion hazard is slight.
2. MIAMI LOAM (MoC), These soils are similar to MoB except, soil slopes vary from 6 to 12%. The surface runoff is medium and soil erosion hazard is moderate.
3. BRONSON LOAMY SAND (BwA), The Bronston series consist of nearly level, moderately well drained soils on valley trains and outwash plains with slope 0 to 2%. Permeability is moderately rapid and surface runoff is slow.
4. CONOVER LOAM (CvA), This soil is on till plains and basin like depressions in the hilly moraines. Soil slope vary from 0 to 2%. The surface runoff is slow and permeability is moderately slow.
5. HILLSDALE SANDY LOAM(HID), This soil exist along natural drainage ways on till plains and in small areas on moraines. Surface runoff is rapid and permeability is moderate.
6. SPINKS-OAKVILLE LOAMY SANDS (SvB), The Spinks series consist of well drained, nearly level to very steep soil on till plains, outwash plains, and moraines. Slope varies from 0 to 6%. In these soils surface runoff is slow, permeability is moderately rapid with slight erosion hazard.

The soils map for the site area is presented in Figure 2.

Vegetation at the site consists mainly of fallow farmland except at the northwest corner of the site. Northwest corner is wooded with variety of trees and shrubs. Alogn the north and east property line there are some trees and shrubs, which act as a natural vegetative buffer.

D. Impact on storm water management: description of soil erosion control measures during construction.

Surface runoff during periods of construction will be controlled by proper methods set forth by the Livingston County Drain Commissioner, including silt fence, pea stone filters, and seed and mulch.

At the time of construction, there may be some temporary dust, noise, vibration and smoke, but these conditions will be of relatively short duration and shall be controlled by complying appropriate procedures to minimize the effects, such as watering if necessary for dust control.

E. Impact on surrounding land use: Description of proposed usage and other man made facilities; how it conforms to existing and potential development patterns. Effects of added lighting, noise or air pollution which could negatively impact adjacent properties.

The applicant is proposing to construct a 264 unit apartment complex with clubhouse and community amenities including a swimming pool and tennis court. Under the existing Lorentzen P.U.D. agreement, the following types of usage could be developed

1. Business park
2. Research and development center
3. Light industrial Park

The applicant is requesting to amend the P.U.D. agreement and change underlying zoning to accommodate the proposed development. It is our belief that the proposed project contains significantly more open space than the above uses and will also result in less impact in such areas as noise, artificial light and truck traffic.

This development is proposed to contain residential apartment buildings, circulation drives, streets, and parking lots. The expected impact from the development will be minimized because of the following:

1. Significant features on the site will be disturbed only as necessary to construct the site improvement. Two detention basins will be located on the site. The basin in the northeast corner

is designed to accommodate northwestern 2/3rd of the site, approximately 38.21 acres. The outlet discharge of 0.2 cfs will be discharged into the natural watercourse/wetlands on the north side of the site.

2. There is an existing detention basin on southeast corner of the site. Currently this basin is designed to handle runoff from existing restaurant site and natural drainage from the project site. The outlet from this basin is designed to release storm water at a rate of 2.13 cfs (2.56-0.43 cfs for the Bank site) per McNamee ,Porter & Seeley's letter dated June 18, 1998 (included in Appendix C). This basin will be expanded to accommodate/detained added surface runoff from the proposed development. keeping the outlet discharge the same. The outlet pipe discharges into the M.D.O.T. storm drainage system along Grand River Avenue.

3. The layout was prepared taking into account the natural features of the site so as to preserve the existing lay of the land. The wooded area to the northwest and along property boundary of the site will be preserved as a natural landscape buffer. In addition, the site will be landscaped in accordance with Genoa Township Standards and to provide an aesthetically pleasing site.

4. Soil erosion control measures such as silt fence, straw bale filters, and pea stone filters at the catch basins will be utilized during construction to control siltation and sedimentation from entering the wooded areas.

5. Grand River Avenue is a major service road in this area and presently experiences a large volume of traffic along with the associated noise level. It is unlikely that this development will significantly change that. Since the site is located along a primary commuting route, it is anticipated that most of the traffic generated will account for a very small percentage of the traffic already traveling in the area.

F. Impact on public facilities and services: Description of number of residents, employees, patrons, and impact on general services, i.e., schools, police, fire.

Based on the SEMCOG 2020 Regional Development Forecast, Summary Report, dated December 1995, average household size in the region continues to drop and in 1990 it was 2.66 per household. Therefore with the total planned density of 264 apartment units, the projected population for this site will be 702 people.

Impact from this residential development will be on the local school system. Using the school system's potential population of 0.5 students per family unit, this project may result in a school population of 132 students. In an effort to aid the Howell school system in future planning, plans of this development will be submitted for their use.

G. Impact on public utilities: Description of public utilities serving the project, i.e., water, sanitary sewer, and storm drainage system. Expected flows projected in residential units.

Total projected sanitary sewage flow from the site will be 264 residential equivalent units (R.E.U.s) in addition to flows created from a clubhouse facility. The property is located within the community water district and the Genoa/Oceola sewer district. Under the executed P.U.D. agreement for the Lorenzten P.U.D. each residential parcel/user must connect to the community water system if such system is available at the time of development. Such connection shall require payment of all proportionate and applicable fees, charges, and assessments.

As described above two detention basins will be designed to collect storm water runoff from the site. Storm water will be released at an agricultural runoff rate to the appropriate natural/designed storm water systems.

All other utilities, including gas, electric, and telephone are also available adjacent to or near the site.

H. Storage or handling of any hazardous materials: Description of any hazardous materials used, stored, or disposed of on-site.

Since the proposed development is residential, there will be no hazardous materials used or disposed of on this site.

I. Impact on traffic and pedestrians: Description of traffic volumes to be generated and their effect on the area.

Consideration was given to the amount of traffic generated from the Lorentzen P.U.D. development and the impact it would have on the existing public road network. Since that time, there have been significant improvements to Grand River Avenue and additional improvements are currently being planned. Not only is M.D.O.T. planning additional improvement, both roadway and signalization improvements are being proposed.

Using the Institute of Transportation Engineers publication, TRIP GENERATION MANUAL, 5th edition, traffic flow information was generated for the proposed site. A comparison of traffic volume between existing and proposed underlying new zoning is presented in Appendix A. This study shows that the traffic volume generated from proposed development (264 units) will be less than other usage of the site per current zoning.

J. Special provisions: Deed restrictions, protective covenants, etc.

A Planned Unit Development Agreement for the Lorentzen P.U.D. dated April 12, 1996, was entered into between the property owner, Birgit Lorentzen and the Genoa Township Board. The applicant would like to amend this P.U.D. agreement with underlying zoning changes as requested.

K. Description of all sources:

Genoa Township's *Submittal Requirements For Impact Assessment/Impact Statement*

Genoa 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

Brooks Williamson and Associates, Inc. letter dated December 6, 1991 detailing results of wetland inspection

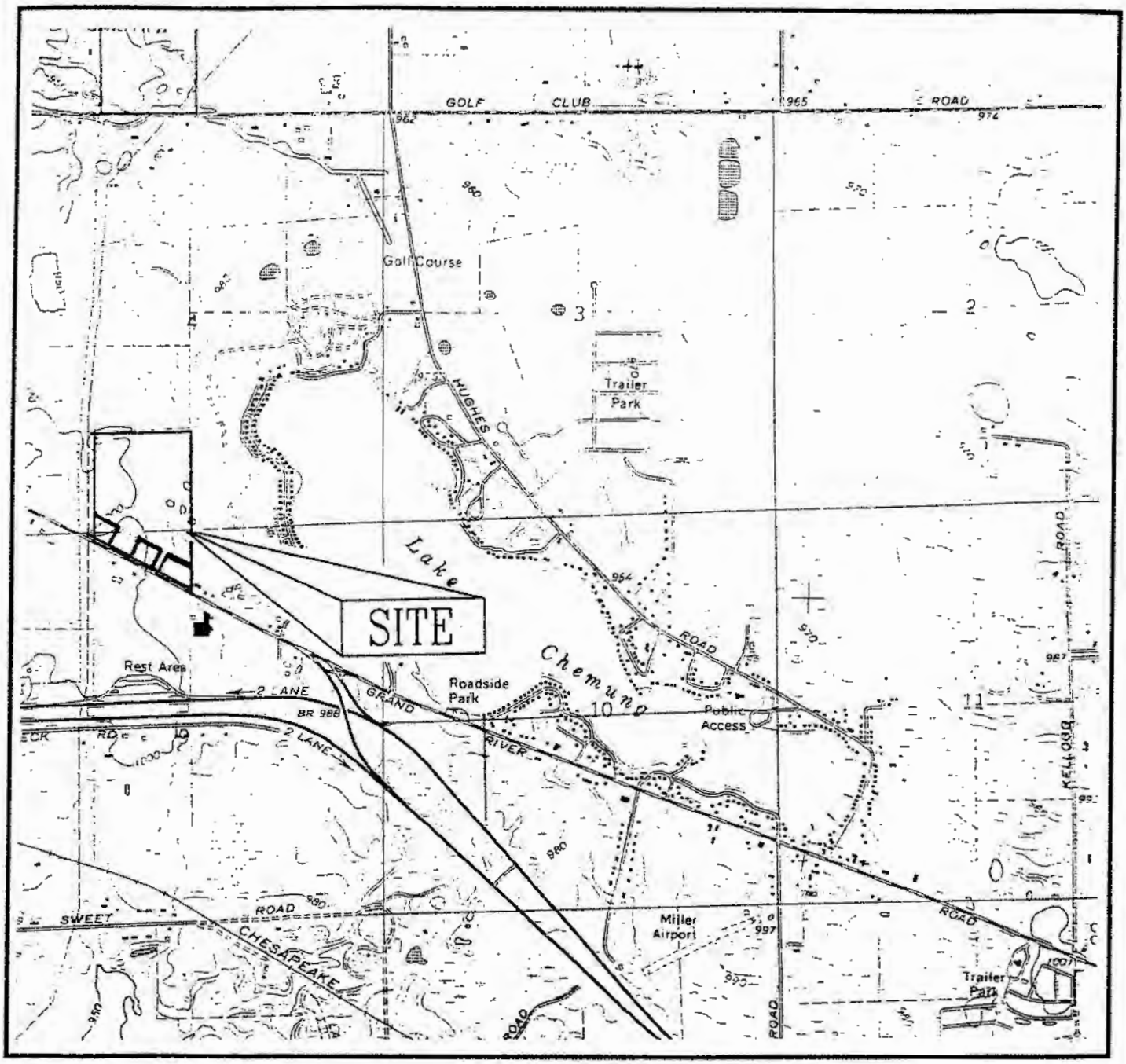
Trip Generation manual, 5th edition, Institute of Transportation Engineers

A Planned Unit Development Agreement for the Lorentzen P.U.D. dated April 12, 1996 (Appendix B)

2020 Regional Development Forecast, Summary Report, dated December 1995, SEMCOG

L. previously submitted environmental assessments

None



N

SOURCE : USGS QUADRANGLE MAP, BRIGHTON, MICHIGAN

SCALE : 1" = 2000'

1	DESIGNED BY:	CLIENT: SINGH DEVELOPMENT COMPANY
	DRAWN BY: JB	
	SCALE: 1"=2000'	PROJECT: WESTBURY
	JOB NO. 2-00038	TITLE: TOPOGRAPHY OF SITE AND VICINITY MAP
SHEET NO.	DATE: 11/28/00	

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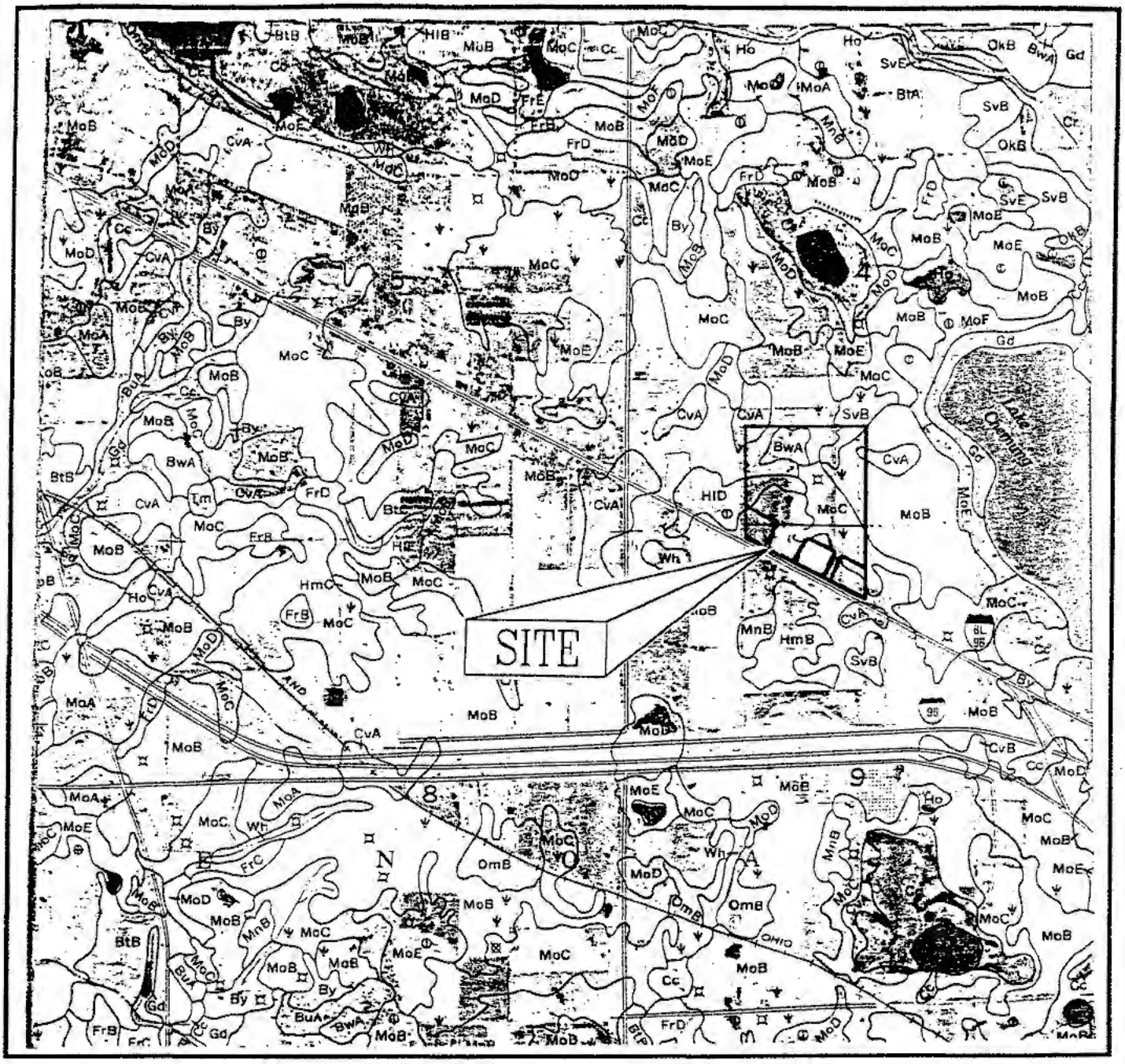

SOURCE : SOIL SURVEY OF LIVINGSTON COUNTY, MICHIGAN
BY USDA SOIL CONSERVATION SERVICE

N

2	DESIGNED BY:	CLIENT: SINGH DEVELOPMENT COMPANY
	DRAWN BY: JB	PROJECT: WESTBURY
	SCALE:	
	JOB NO. 2-00038	TITLE: SOIL SURVEY MAP
SHEET NO.	DATE: 11/28/00	

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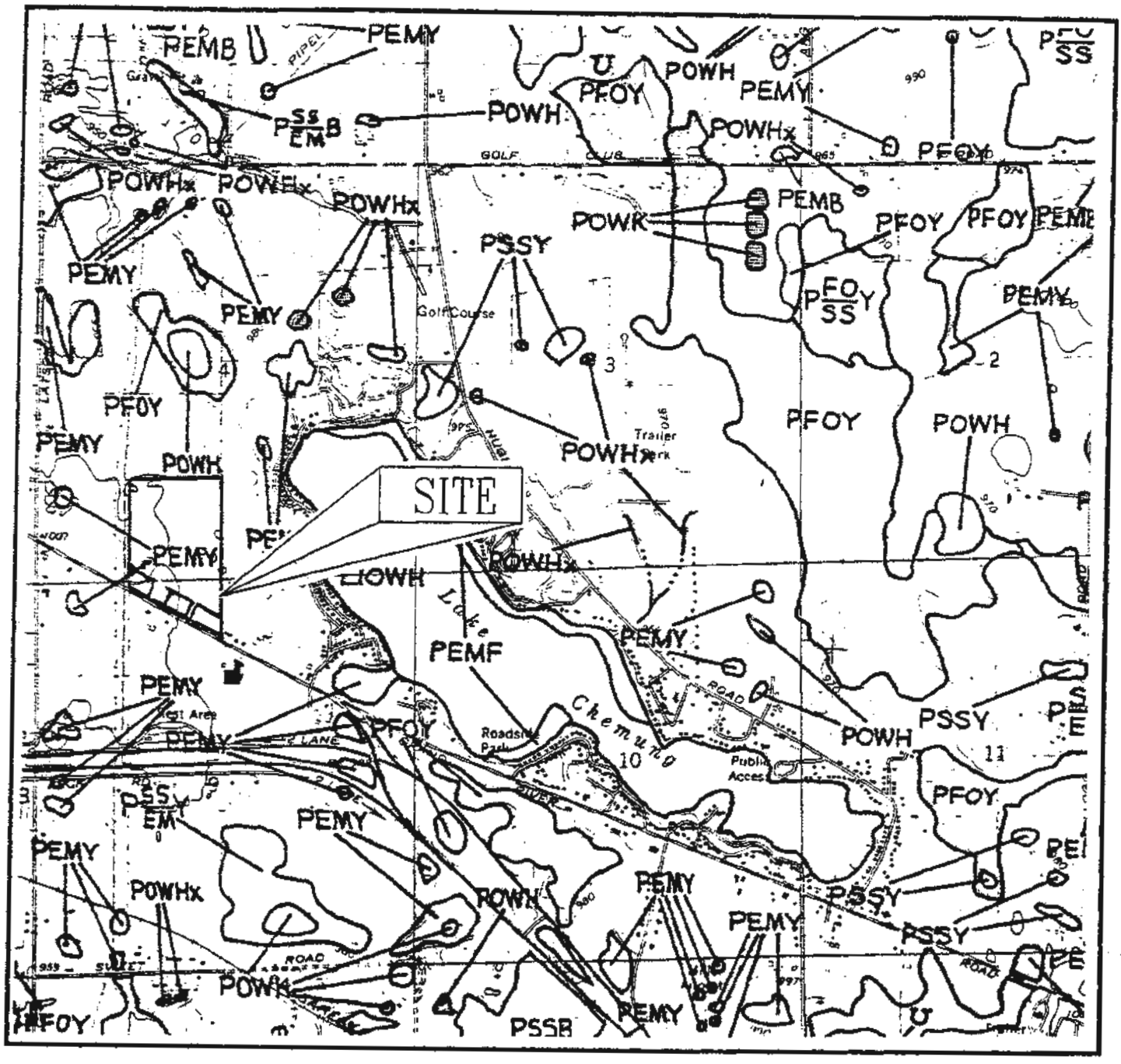

N

SOURCE : NATIONAL WETLAND INVENTORY MAP
U.S. DEPARTMENT OF THE INTERIOR
USGS QUADRANGLE MAP, BRIGHTON, MICHIGAN

3	DESIGNED BY:	CLIENT	SINGH DEVELOPMENT COMPANY
	DRAWN BY: JB	PROJECT	WESTBURY
	SCALE: 1"=2000'		
	JOB NO. 2-00038	TITLE	WETLAND INVENTORY MAP
SHEET NO.	DATE: 11/28/00		

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Lorentzen PUD Trip Generation Comparison
43 +/- Acre Light Industrial Parcel

Existing Zoning

Business Park (Land Use Code # 770)
Weekday Trips = 43 Ac x 159.75 = 6869 Vehicles
A.M. Peak = 43 Ac x 20.14 = 866 Vehicles
P.M. Peak = 43 Ac x 17.96 = 772 Vehicles

Research and Development Center (Land Use Code # 760)
Weekday Trips = 43 Ac x 79.6 = 3422 Vehicles
A.M. Peak = 43 Ac x 16.8 = 722 Vehicles
P.M. Peak = 43 Ac x 15.4 = 662 Vehicles

Industrial Park (Land Use Code # 130)
Weekday Trips = 43 Ac x 62.9 = 2705 Vehicles
A.M. Peak = 43 Ac x 8.29 = 356 Vehicles
P.M. Peak = 43 Ac x 8.67 = 372 Vehicles

Proposed Zoning

Single Family Development (Land Use Code # 210)
Weekday Trips = 189 Units x 9.55 = 1805 Vehicles
A.M. Peak = 189 Units x .76 = 144 Vehicles
P.M. Peak = 189 Units x 1.02 = 193 Vehicles

Apartment Development (Land Use Code # 221)
Weekday Trips = 264 Units x 6.59 = 1740 Vehicles
A.M. Peak = 264 Units x .51 = 135 Vehicles
P.M. Peak = 264 Units x .62 = 164 Vehicles

Definitions

Business Park -	Business parks consist of a group of flex-type or incubator one or two story buildings served by a common roadway system. The tenant space is flexible to house a variety of uses; the rear side of the building is usually served by a garage door. The average mix is 20 to 30% office/commercial, and 70 to 80% industrial/warehousing.
Research and Development Center-	Research and development centers are facilities or groups of facilities devoted nearly exclusively to research and development activities. They may also contain offices and light fabrication areas.
Insustrial Park-	Industrial parks are areas containing a number of industrial or related facilities. They are characterized by a mix of manufacturing, service, and warehouse facilities with a wide variation in the proportion of each type of use from one location to another

FINAL

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STATE OF MICHIGAN

COUNTY OF LIVINGSTON

TOWNSHIP OF GENOA

PLANNED UNIT DEVELOPMENT AGREEMENT

THIS PLANNED UNIT DEVELOPMENT AGREEMENT is made and entered into on this 12TH day of April, 1996, by BIRGIT LORENTZEN, 388 Au Sable Place, Ann Arbor, Michigan 48104 (referred to as "Owner"), and the TOWNSHIP OF GENOA, a Michigan municipal corporation, 2980 Dorr Road, Brighton, Michigan 48116 (referred to as "Township").

R E C I T A T I O N S:

The Owner possesses fee title to certain real property situated in the Township of Genoa, County of Livingston, State of Michigan, more particularly described on attached Schedule A (referred to as the "Property"), some of which Property is currently under binding agreement of sale. At the closings on such agreements of sale, purchasers will acknowledge that their respective portions of the Property shall be bound by this Agreement.

The Owner does not have a site specific development plan for the Property. However, in view of the size and strategic location of the Property, Township desires the establishment of a general land use plan setting forth authorized land uses, and Owner likewise desires to establish a plan setting forth the manner in which Owner's transferees are entitled to develop the Property at such time in the future as they are ready to proceed with development.

The Owner has submitted a proposal for a general land use plan for the future development of the Property. Township has reviewed and revised such plan, requiring, among other things, reduced intensity of land uses, reduced residential use density and fewer access points along Grand River Avenue and Latson Road.

The Township Planning Commission and Township Board, in strict compliance with the Township Zoning Ordinance and with Act 184 of the Public Acts of 1943, as amended, reclassified the Property as Mixed Use Planned Unit Development District, finding that such classification properly achieved the purposes of Article 10 of the Genoa Township Zoning Ordinance, including the encouragement of innovation in land use, the preservation of open space in areas adjacent to Latson Road in order to achieve compatibility with adjacent land uses, the promotion of efficient provision of public services and utilities, the reduction of adverse traffic impacts, and the provision of adequate housing and employment.

RETURN TO: GENOA TOWNSHIP 2980 DORR ROAD BRIGHTON, MICH. 48116

HOWE, HESSLER, MARSH, LYNCH, CLARK AND HAMPTON

The Township has found and concluded that the uses and future development plans and conditions shown on the approved PUD Concept Plan, attached as Schedule B ("PUD Plan"), are reasonable and promote the public health, safety and welfare of the Township, and that they are consistent with the plans and objectives of the Township and consistent with surrounding uses of land.

NOW, THEREFORE, OWNER AND TOWNSHIP, in consideration of the mutual promises contained in this Agreement, HEREBY AGREE AS FOLLOWS:

ARTICLE I. GENERAL TERMS OF AGREEMENT

1.1 The Township and the Owner acknowledge and represent that the recitations set forth above are true, accurate and binding.

1.2 The Township acknowledges and represents that this Agreement may be relied upon for future land use and development of the Property by Owner's heirs, assigns and transferees.

1.3 The PUD Plan, attached as Schedule B, has been duly approved by Township in accordance with all applicable Township ordinances, and depicts the land uses which will be permitted and which may be developed on the Property. All formal actions necessary or expedient to carry out this Agreement shall be taken by the parties without undue delay.

1.4 Except as specifically provided for in this Agreement, final site plans will comply with applicable Zoning Ordinance requirements. However, at the time of review of respective site plans for the development of various portions of the Property, deviations from ordinance regulations may be agreed upon by the Township and the ultimate developers of the Property.

1.5 The PUD Plan identifies the location and configuration of the authorized land uses that may be developed on the Property.

A. All uses authorized in the respective zoning classifications of the Genoa Township Zoning Ordinance on the date of this Agreement are authorized, provided, however, that east of Latson Road, between Latson Road and the Detroit Edison/Consumer's Power Corridor, in the areas which are designated GC*, the uses specified on attached Schedule C are authorized.

B. The Owner shall be permitted without further approval of Township to adjust the size or shape of the various parcels provided the adjustment does not alter the land use

KOHL, SECREST, WARDLE, LYNCH, CLARK AND HAMPTON

designation for any area of the Property or increase the intensity and/or density of use, provided, all development shall be subject to Final PUD Site Plan and land division approval. In addition:

1. The Owner shall not be entitled to make a modification which substantially increases the impact upon adjoining properties or facilities without the approval of Township.

2. The size, shape, entrance location and open space/buffer with respect to the 25.5 acre GC - Retail parcel shall not be modified without the approval of Township.

3. The Owner shall not be entitled to make other substantial changes without the approval of Township.

C. The sizes of the various parcels within the land use designations shall be subject to modification under the applicable regulations of the Zoning Ordinance and state law.

D. In those instances in which the Owner desires to obtain a modification of the PUD Plan, Township shall review the proposed change for the purpose of determining whether the change would have a material adverse impact upon surrounding land uses, services, transportation systems and/or facilities, and if such adverse impact would result, the Township may deny or impose mitigating conditions upon the proposed modification.

1.6 This Agreement, including the uses approved on the PUD Plan, are for the benefit of the Property, and shall run with the Property, and shall bind and inure to the benefit of the heirs, successors, assigns and transferees of the parties to this Agreement.

ARTICLE II. LAND USE AUTHORIZATION

2.1 The Planned Unit Development shall include a land use authorization for the following uses, as set forth on the PUD Zoning Plan:

GC	General Commercial
NSD	Neighborhood Service District
OSD	Office Service District
HDR	High Density Residential
IND	Light Industrial
MDR	Medium Density Residential

2.2 The Property is intended to be developed in stages or phases. More detailed planning for the development of the Property shall be undertaken on a parcel-by-parcel basis, subject to the intent and obligation to coordinate development of the Property as a whole, as specified hereinafter. The Owner, as dictated by the Owner's transferees, shall determine the timing and order of development. At the time the Owner, and the Owner's assigns and transferees, are prepared to develop each portion or phase of the Property, a plan prepared in the form required by applicable ordinance and law, including impact assessments required by the Township, and consistent with this Agreement, shall be submitted for review and approval. The Township shall review each of such plans within a reasonable time. Site plan and other review requirements shall not be subject to any subsequent enactments or amendments of the Zoning Ordinance which are inconsistent with this Agreement unless the concept plan as set forth herein is materially altered at the request of the Owner or her successors and assigns.

2.3 The number of residential units to be permitted on the residential component of the Property shall be as specified on the PUD Plan. Single family subdivision and site condominium lots, with detached housing, shall be a minimum of 18,000 square feet in area. The number of residential units shown on the PUD Plan may be reduced if required due to wetland considerations.

2.4 The Industrial use authorization shown on Schedule B shall include all permitted uses in the industrial district, however, the only special land uses which shall be permitted are for urgent care and day care uses.

2.5 If a use authorized under the Genoa Township Zoning Ordinance as a special land use is proposed on the Property, such use must be applied for and authorized as provided in the Zoning Ordinance.

ARTICLE III. CURB CUTS AND OFF-SITE TRANSPORTATION IMPROVEMENTS

3.1 The establishment of curb cuts and driveways to public thoroughfares from the PUD property shall be limited and restricted for the purpose of reducing the number of turning movements to and from the property. Therefore, the number and general location of entrances to the site from adjacent public thoroughfares shall be fixed in the manner specified on the PUD Plan.

3.2 Off-site Improvements in Public Right of Way.

It has been determined that certain off-site improvements to the adjoining state highway, Grand River Avenue and Latson Road, would be desirable at such time as more

LAW OFFICES, WARDLE, LYNCH, CLARK AND HAMPTON

intense development occurs on the Property, as specified in the following subparagraphs. Identification of the entity undertaking the surveying, engineering and construction with regard to Grand River Avenue improvements shall be determined by MDOT in the future based upon the MDOT access permit process. Identification of the entity undertaking the surveying, engineering and construction with regard to Latson Road improvements shall be determined by the Livingston County Road Commission, or MDOT, in the future. Owner's transferees shall participate financially in the improvements outlined herein, however, the extent of such financial participation shall take into consideration applicable law, and, such participation shall not be required if and to the extent the Michigan Department of Transportation and/or the Livingston County Road Commission has scheduled such improvements using other funding.

A. Grand River west of Latson: A center turn lane shall be constructed along Grand River Avenue to complete a continuous center turn lane from the western end of the Property to the Latson Road intersection approach. It is contemplated that such improvements, including traffic signal(s), will be constructed at such time in the future as more than fifty percent of the Grand River frontage on the Property, west of Latson Road, is developed or seeking development approval, or upon the development of the larger GC-Retail area, whichever occurs first in time.

B. Grand River Avenue east of Latson: A center turn lane must be constructed according to the plans and specifications, including length, established by the Michigan Department of Transportation. It is contemplated that such improvements would be undertaken at such time as: (1) the users on the Grand River frontage on the Property, east of Latson Road, would be reasonably anticipated to generate at least fifty peak hour left turns from Grand River into such portion of the Property; or (2) 50% of the acreage or frontage on the Property east of Latson Road is approved for development and is reasonably anticipated to begin generating traffic; whichever occurs first in time.

C. Latson Road, adjacent to non-residential: Turning lanes, mutually agreeable right-of-way and other improvements, as may be required by the Livingston County Road Commission, are to be constructed.

D. Latson Road, adjacent to residential: A turning lane for any access point from Latson Road is to be constructed prior to the occupancy of the twentieth unit to be served primarily by that access point, or as required by the Livingston County Road Commission. Passing lanes shall be constructed when a sufficient number of units are developed to warrant the requirement of a passing lane based upon Livingston County Road Commission standards.

KOHL, SECREST, WARDLE, LYNCH, CLARK AND HAMPTON

ARTICLE IV. INTERNAL ROAD NETWORK

4.1 An internal system of vehicular thoroughfares shall be planned and established throughout the PUD as approval of the development on respective portions or phases of the Property takes place. Internal roads shall be designed to permit vehicular access between and among users of the Property, as ultimately developed, with the view and intent of minimizing the number of traffic movements onto adjoining public roads. The precise location and design of the overall system of thoroughfares shall be reviewed and authorized as each site plan for a portion of the overall PUD is proposed for development. Such review shall be based upon the objective of establishing a workable plan for the entire property, taking into consideration the uncertainty of the future development of the remainder of the un...eloped property.

4.2 In residential areas:

A. The Owner's transferees shall have the right to determine whether roads shall be public or private, provided applicable ordinances are met. If private roads are constructed, a private road maintenance agreement, subject to approval by the Township, providing for ongoing maintenance shall be adopted.

B. In the interest of efficient circulation and adequate access for emergency vehicles, the Township may as part of site plan approval, require street connections with land to the west or north of the residential component of the PUD on the Property, provided all rights relating to private streets shall be respected and observed. Owner's transferees shall construct such streets as reasonably required by the Township and/or the Board of Road Commissioners of Livingston County.

4.3 Permission for shared access east of Latson Road.

It is anticipated that Owner's transferees shall ultimately develop a vehicular traffic lane or road providing access to Latson Road at the northern end of the property on the east side of Latson Road. Immediately north of Owner's Property, the Township has approved a planned unit development which includes a multiple family residential component not yet constructed. Owner shall authorize the developer of the multiple family project to have common use of the traffic lane or road on the north end of Owner's Property following construction of the traffic lane or road so as to allow access from the multiple family residential component to Latson Road, provided that Owner and the developer of the multiple family property reach a mutually satisfactory agreement with respect to the use, location of connection, construction and maintenance of the traffic lane or road providing access to Latson Road, and providing to Owner and Owner's transferees a release with respect to liability in connection with the design

KOHL, SECREST, WARDLE, LYNCH, CLARK AND HAMPTON

and use thereof. The Owner and Owner's transferees shall not unreasonably negotiate relative to this right of access.

4.4 The developer of the Retail portion of the Property shall construct a service drive or traffic lane to the west Property line and provide a shared access easement for the connection to the adjacent property on which there are currently Kroger's and Walmart shopping facilities. This service drive shall be designed at a grade to allow eventual connection, however, the developer of such Retail area shall not be required to complete any service drive construction or provide any easement off of the Property.

4.5 If the then owner of the eastern portion of the Property and the developer of the land to the immediate east of the Property reach a mutually satisfactory agreement with respect to such things as construction, use, maintenance and liability, a service drive or traffic lane intersecting the east boundary of the Property, in the location determined in the discretion of the Owner (as dictated by Owner's transferees), shall be constructed to provide a vehicular connection between the properties. The Owner shall not be required to undertake construction or provide an easement off of the Property.

ARTICLE V. DRAINAGE

5.1 The system of drainage on the Property, including drainage retention and detention, as applicable, shall be designed so as to be coordinated throughout the PUD and shall be subject to Township review and approval.

5.2 It is acknowledged by the Township that there is a cross-easement with the property to the west (which includes the WalMart store) for storm drainage purposes.

ARTICLE VI. SITE IMPROVEMENTS

6.1 There shall be a coordination of site improvements within the overall Property, with the objective of creating site improvements that are integrated and mutually supportive among the respective portions or phases of the development, including the utilities, landscaping and lighting.

6.2 The bermed buffer area adjacent to Latson Road on the GC-Retail parcel shall be landscaped as shown on attached Schedule D.

6.3 The PUD Plan shows a Connection to Existing Parking on the west of the site in the area of the existing Wendy's and Kroger uses on adjoining property. Such connection is intended to make available a connection for vehicles and pedestrians. Owner shall not be required to acquire an easement or make improvements in any area not on the Property.

ROHL, SECREST, WARDLE, LYNCH, GLAN AND HAMPTON

6.4 A pedestrian network shall be constructed as each phase of development on the Property is constructed, with the intent of connecting all pedestrian components of the Planned Unit Development on the Property, and connecting pedestrian walkways at the property line.

6.5 Unless the Township reasonably determines that it is not physically or economically feasible, development shall be undertaken with underground electrical service to the buildings on the Property.

ARTICLE VII. DESIGN OF BUILDINGS AND SIGNS

7.1 The architecture, building materials, colors and shapes of all non-residential buildings shall be in substantial conformity with the guidelines set forth in the Grand River Avenue Corridor Plan, as adopted, and as it may be reasonably amended. It is the intention of the parties to promote and encourage a development that incorporates varying building lines, natural earth tone construction materials and other elements contemplated to upgrade the appearance of the development overall in the interest of making it aesthetically pleasing. Flat front roof facades shall be discouraged. Large walls shall include varying building lines, setbacks, color accents, windows or other elements to upgrade appearance. Each site plan will include a narrative or illustration(s) that demonstrate the design will be consistent with, or complement, architecture of the other sites.

7.2 Signage: Free standing signs within the PUD shall be ground mounted (monument) signs. No pole signs shall be permitted. All free standing signs shall have a base constructed of materials that coordinate and are not inconsistent with the building, and other signs within the PUD. With regard to the area referenced on Schedule B as GC-Retail, there shall be not more than one free standing sign along Grand River Avenue and not more than one free standing sign along Latson Road advertising the uses on such property. The two signs for the GC-Retail area (one per frontage) shall be no taller than 15 feet and no larger than 72 square feet in area. All other lots within the PUD shall be limited to monument signs no taller than 6 feet and no larger than 60 square feet in area. All wall signs shall have channel lettering (not panels). All free standing lighted signs shall be internally lit. Wall and other signs shall be permitted as authorized in the zoning ordinance.

7.3 Landscaping and site lighting: The landscaping within the PUD shall demonstrate consistency in terms of design and materials. Generally, site lighting shall be a uniform type and color.

KOHL, WEGRZEY, WARBLE, LYNCH, CLARK AND HAMPTON

ARTICLE VIII. UTILITIES

8.1 All of the Property is located within the community water district area but is not included in the water special assessment district. Each commercial and residential parcel/uses must connect to the community water system if such system is available at the time of development. Such connection shall require payment of all proportionate and applicable fees, charges and assessments.

A. On the approximately 65 acres east of Latson Road designated for Industrial and NSD on Schedule B, connection to the public water system shall be made if a water main has been extended to and is available at the site, or, if a land area greater than 15 acres in size is proposed for development, connection shall be made to the system, provided that all off-site easements necessary for extension of the main have been provided by the Township.

B. On the balance of the property, connection to the municipal water system shall be made at the time of construction of buildings.

8.2 All of the commercial, industrial and residential buildings constructed on the Property shall, as developed, be connected to and served by public sanitary sewer. The Township represents that there has been reserved for owner adequate municipal wastewater treatment capacity to service the reasonable development of the Property, and the adequacy of wastewater treatment capacity shall not limit the type of use or density of the reasonable development of the Property.

8.3 Fees, charges and costs for utilities shall be as set forth on attached Schedule E, which may be amended on a district-wide basis from time-to-time.

ARTICLE IX. MISCELLANEOUS

9.1 This Agreement may not be modified, replaced, amended or terminated without the prior written consent of the parties to this Agreement. The Owner and the Township shall be entitled to modify, replace or amend this Agreement without the consent of any other person or entity, regardless of whether such person or entity now or hereafter has any interest in any part of the Property, including subsequent purchasers, or their tenants, mortgagees, or others.

9.2 While Owner possesses legal title to the Property, Owner does not intend to develop it. Rather, Owner intends to sell the Property in various parcels to others to develop. Accordingly, reference in this Agreement to activities by the Owner in relation to development is intended to mean Owner's transferees and assigns unless context dictates to the contrary.

KOHL, SECKER, WANDER, LYNCH, CLARK AND HAMPTON

9.3 In the event of any direct conflict between the terms and provisions of this Agreement (including the attached PUD Plan) and the provisions of the Zoning Ordinance, or other Township ordinances, rules or regulations, the provisions of this Agreement shall control.

9.4 In the event a portion of the Property is submitted for site plan approval, and such approval is denied, the party submitting such site plan shall be entitled to appeal such decision to the Zoning Board of Appeals as provided by law, and all parties shall agree to proceed expeditiously to final resolution.

9.5 The undersigned parties acknowledge that the conditions imposed upon the development of the property are reasonable conditions necessary to ensure that public services and facilities affected by the proposed land use or activity will be capable of accommodating increased service and facility loads caused by the land use or activity, to protect the natural environment and conserve natural resources and energy, to ensure compatibility with adjacent uses of land, and to promote the use of land in a socially and economically desireable manner. Further, it is acknowledged that the conditions meet all of the requirements of MSA 5.2963(16d)(2)(a)(b) and (c).

9.6 Until the Property is fully developed, each site plan applicant shall be responsible following Township approval of the respective site plan, plat and/or site condominium presented to the Township, to superimpose the approved plan of development upon the overall PUD plan to clearly illustrate the final development plan for each portion of the Property.

APPROVED by Owner on this 12th day of April, 1996.

WITNESSES:

Todd Smith

Terri L. Lenpean
Terri L. Lenpean

OWNER:

Birgit Lorentzen
Birgit Lorentzen

On this 12th day of April, 1996, before me, a notary public in and for Livingston County, personally appeared BIRGIT LORENTZEN to me known to be the person described in and who executed the Planned Unit Development Agreement, set forth above, and who acknowledged the same to be her free act and deed.

Joanne B. Hanton
Notary Public

JOANNE B. HANTON
Notary Public, Oakland County, MI
My Commission Expires June 21, 1997

KOIL, BIGGS, WADLE, LYNCH, CLARK AND HAMPTON

APPROVED BY THE TOWNSHIP BOARD FOR THE TOWNSHIP OF GENOA on the 18 day of March, 1996, at a meeting duly called and held.

WITNESSES:

Mary Krenecki
Mary Krenecki

Mary Krenecki
Mary Krenecki

TOWNSHIP OF GENOA:

BY: Robert R. Murray
Robert R. Murray

BY: Paulette A. Skolarus
Paulette A. Skolarus

On this 2 day of May, 1996, before me, a notary public in and for Livingston County, personally appeared Robert R. Murray and Paulette A. Skolarus to me known to be the Supervisor and Clerk, respectively, who were duly authorized by the Genoa Township Board to sign this Agreement on behalf of Genoa Township and who acknowledged the same to be their free act and deed.

Ann Spiroff
Notary Public & also a witness

Ann Spiroff
Livingston Co.
expires 9/6/99

5114/JATWORK3

Drafted by:
Gerald L. Fisher
30903 Northwestern Hwy.
PO Box 3040
Farmington Hills MI 48333-3040

INDEX OF EXHIBITS

Schedule A	Property Description
Schedule B	PUD Concept Plan
Schedule C	Authorized Uses
Schedule D	Landscape Plan
Schedule E	Fees, Charges and Costs for Utilities
Schedule F	Letter of March 18, 1996

HOLL, SCHEER, WARDLE, LYNCH, CLARK AND HAMPTON

EXHIBIT "A"

2038 PAGE 0051

BOSS ENGINEERING
ENGINEERS & SURVEYORS

LORENTZEN PROPERTY WEST OF LATSON ROAD:

Part of the Southeast 1/4 of Section 5, T2N-R5E, Genoa Township, Livingston County, Michigan, more particularly described as follows: Commencing at the Southeast Corner of Section 5; thence along the East line of Section 5 and being the centerline of Latson Road (66 foot wide Right of Way), N 02°11'26" E, 854.58 feet, to the POINT OF BEGINNING of the Parcel to be described; thence N 60°51'00" W, 287.02 feet; thence S 02°11'26" W, 306.09 feet; thence along the centerline of Grand River Avenue (100 foot wide right of Way), N 60°51'00" W, 950.60 feet; thence along the easterly property line, of a parcel as recorded in Livingston County Records, at Liber 1800 of Deeds, pages 81-83, N 02°11'32" E, 420.61 feet; thence N 89°59'52" W, 181.99 feet; thence along the North-South 1/8 line, of Section 5, N 02°12'56" E, 1101.46 feet; thence along the East-West 1/4 line of Section 5, N 88°41'15" W, 1284.64 feet; thence along the North-South 1/4 line of Section 5, N 02°08'46" E, 1325.47 feet; thence S 89°09'44" E, 1286.03 feet; thence S 88°44'51" E, 1284.51 feet; thence along the centerline of Latson Road and the East line of Section 5, S 02°11'26" W, 1337.49 feet to the East 1/4 Corner of said Section; thence continuing along the centerline of Latson Road and the East line of Section 5, S 02°11'26" W, 1789.80 feet, to the POINT OF BEGINNING; Containing 127.22 acres, more or less, and subject to the rights of the public over the existing GRAND RIVER AVENUE & LATSON ROAD. Also subject to any other easements or restrictions of record.

File No. 94192d10

Boss Engineering Company • 3121 East Grand River • Howell, Michigan 48843
Phone (517) 546-4836 • Brighton (810) 229-4773 • Fax (517) 548-1670

CERTIFICATE OF SURVEY

Part of the South ½ of the Southwest ¼ of Section 4, T2N-R5E Genoa Township, Livingston County, Michigan, described as follows: Beginning at the intersection of centerlines of Grand River Ave. and Latson Road and on the West line of Section 4, N02°11'26"E 548.49 feet from the Southwest corner of said Section 4; running thence N02°11'26"E 773.70 feet along the centerline of Latson Road and the Section line; thence N89°47'23"E 1095.65 feet; thence S02°01'03"W 1340.43 feet; thence N89°15'06"W 74.26 feet along the Section line; thence N60°42'38"W 584.16 feet along the centerline of Grand River Ave. (a 100 ft. wide R.O.W.); thence N60°51'00"W 565.97 feet along the centerline of Grand River Ave. (a 100 ft. wide R.O.W.) to the point of beginning.
Containing 27.061 acres more or less, subject to highway easements and easements of record.

Part of the South ½ of the Southwest ¼ of Section 4 and that part of the East ½ of the Northwest ¼ of Section 9 lying Northerly of the centerline ofGrand River Ave., all in T2N-R5E, Genoa Township, Livingston County, Michigan, described as follows:
Beginning at the South ¼ conrer of said Section 4; running thence S01°39'41"W 864.72 feet along the North-South ¼ line; thence N60°42'38"W 1483.05 feet along the centerline of Grand River Ave. (a 100 ft. wide R.O.W.); thence N01°39'09"E 156.04 feet along the West line of said East ½ of the Northwest ¼ of Section 9; thence N02°01'03"E 1344.03 feet along the West line of the Southeast ¼ of the Southwest ¼ of Section 4; thence N89°47'23"E 1310.81 feet along the North line of the Southeast ¼ of the Southwest ¼ of Section 4; thence S01°50'59"W 1365.88 feet along the North-South ¼ line of said Section 4 to the point of beginning.
Containing 56.201 acres more or less, subject to highway easements and easements of record.

West ¼ corner Sec. 4, T2N-R5E, Set PK spike on straight line between SW cor. and NW cor. or Sec. 4 at a record distnace, N2°11'26"E 2644.38 feet from the SW cor, Sec. 4. No witness points available.

Ctr. Sec. 4, T2N-R5E, Computed intersection of 1/4 lines

Southwest corner Sec. 4, T2N-R5E,
Fd. PK spike
N45°E-48.58'-I. Pipe
West-21.85'-ctr. 12" Oak
S20°E-41.85'-ctr. 12" oak
N54°W-27.60'-ctr. 11" Oak
S55°W-31.68'-ctr. 8" Hick

South ¼ corner Sec. 4, T2N-R5E
Fd. "t" iron
East-4.7'-ctr. 48" oak
East-59.4'-ctr. 15" Hick
North-88.3'-ctr. 36" Oak
S2W-28.2'-ctr. 5" hick
S30E-59.0'-NW cor. Pole Barn

Ctr. Sec. 9, T2N-R5E
Fd. Boat Spike
N10°E-27.18'-ctr. 30" Oak
S45°W-37.64'-ctr. 18" Hick

I HEREBY CERTIFY THAT I HAVE SURVEYED AND MAPPED THE LAND ABOVE PLATTED AND/OR DESCRIBED AND THAT THE SURVEY COMPLIES WITH THE REQUIREMENTS OF PUBLIC ACT NUMBER 132 - 1970

CHARLES E. GARLOCK
R.S. NO. 14762

SCHEDULE B

(PUD Concept Plan)

On Record at the Offices

of

Genoa Township
2980 Dorr Road
Brighton, MI 48116

KOHL, SECREST, WARDLE, LYNCH, CLARK AND HAMPTON

1992038 ME0054

SCHEDULE "C"

LIST OF PERMITTED USES EAST OF LATSON ROAD
Between Latson & Power Lines

Child Care Center/Preschool

Churches, Places of Worship

Bed and Breakfast Inns

Banks, S & L, Credit Unions

Business Services

Commercial Schools and Studios

Dry Cleaners/Laundry

Funeral Homes/Mortuary

Hospitals

Medical Offices

Medical Centers/Urgent

Personal Service Establishments

Personal Service/Retail

Photographic/Art Studios

Professional and Corporate Offices

Vocational/Technical Training Facilities

Health Clubs, Gyms, Fitness Centers

Bakeries

Banquet Halls

Food Establishment

Restaurant or Deli, Sit Down, no Drive Thru

Taverns and Bars Without Dancing

Taverns and Bars With Dancing

HOYT, BERNEY, MARDEL, LYNCH, CLARK AND HAMPTON

2038 0055

Video Rental

Convenience Stores without gas

Lodging: Bed and Breakfast

Lodging: Hotel, Motel

Retail Indoor Business

Lawn and Garden Centers

Print Shops and Publishing

Research and Testing Laboratories and Facilities

LIBER 2038 PAGE 0056

SCHEDULE D

(Landscape Plan)

On Record at the Offices

of

Genoa Township
2980 Dorr Road
Brighton, MI 48116

JOHN ACKER, WARD, LINCK, BLANK AND HAMPTON

"SCHEDULE I"

LORENTZEN PUD AGREEMENT

GENOA/OCEOLA PHASE I
SEWER ASSESSMENT FORMULA

UNDEVELOPED			SEWER FEE		
FRONT FOOTAGE	ACRE	R.E.U.	FRONT FOOTAGE	ACRE	R.E.U.
$36.00	$3,200	$3,100	0	0	$3,100

GENOA/OCEOLA PH I WATER
WATER ASSESSMENT FORMULA

UNDEVELOPED	R.E.U.
$1,300. PER ACRE	1.2 R.E.U's PER ACRE AT $3,000.

When property developes, if the use exceeds the R.E.U per acre formula, an additional $3,000. per R.E.U. will be charged.

512 East Grand River
Brighton, MI 48116
Telephone: (810) 220-3112
Fax: (810) 220-0384

McNAMEE, PORTER & SEELEY, INC.

Ann Arbor • Brighton • Detroit • Escanaba • Grand Rapids • Lansing

June 18, 1998

RECEIVED
JUN 19 1998
Ans'd

Mr. Michael Archinal, Manager
Genoa Township
2980 Dorr Road
Brighton, MI 48116

Re: Lorentzen PUD
Drainage to Grand River

Dear Mr. Archinal:

As discussed, we have received a request from the developer's engineer for the above referenced property to determine the amount of flow the proposed storm sewer along Grand River was designed to accept. This property was allocated approximately 13 acres of drainage area based on existing contours during the design for the Grand River Avenue widening, which equates to an outlet rate of 2.56 cfs. It appears the petitioner is proposing to direct approximately 28 acres east of the utility corridor to the Grand River Avenue through a community detention basin. The basin would need to be sized to detain the flow to 0.9 cfs per acre to meet the design criteria. Since Grand River Avenue is a state road, approval from MDOT will be required for any discharge into the right of way.

We trust this meets your needs at this time. If you have any questions or comments, please call us.

Sincerely,

Jeffrey J. Brown, P.E.

jms

Copy Robert Murray
Jeanette Patterson, Boss Engineering
Brenda O'Brien, MDOT

lc\mps\letters\storm.doc

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.

MEMO

VIA EMAIL blangan@bagleylangan.com

To:	**Mr. Bob Langan** **Elevate Property Partners, LLC**
From:	**Julie M. Kroll, PE, PTOE** **Fleis & VandenBrink**
Date:	**March 22, 2022**
Re:	**Westbury Phase 2** **Genoa Township, Livingston County, Michigan** **Trip Generation Analysis**

INTRODUCTION

This memorandum presents the results of the Trip Generation Analysis for the proposed Westbury Phase 2 multi-family development located in Genoa Township, Livingston County, Michigan. The proposed site plan includes Phase 2 of the existing Westbury Apartments development. The project site is located adjacent to the north side of Grand River Ave. approximately ½ mile east of Latson Road. as shown in **Figure 1**.

Figure 1: Site Location Map

27725 Stansbury Boulevard, Suite 195
Farmington Hills, MI 48334
P: 248.536.0080
F: 248.536.0079
www.fveng.com

The purpose of this study is to provide a comparison of the trip generation associated with current PUD zoning and the trip generation for the existing Phase 1 and proposed Phase 2 development plans to determine if the site plan is consistent with the traffic study prepared for the approved PUD.

As part of the PUD zoning for this site a Traffic Impact Assessment was prepared, which included the evaluation of 189 single family homes and 264 multi-family homes on this site. Westbury Phase 1 was constructed and includes 128 multi-family residential units. The proposed Westbury Phase 2 site plan includes the development of 136 multi-family residential units.

The analysis included herein is based upon Fleis & VandenBrink's (F&V) knowledge of the study area, understanding of the development program, accepted traffic engineering practice, and methodologies published by the Institute of Transportation Engineers (ITE).

Site Trip Generation Analysis

The number of weekday, daily, AM and PM peak hour vehicle trips that would be generated by the Westbury Development Phase 1 (existing) and Phase 2 (proposed) were forecast based on data published by ITE in the *Trip Generation Manual, 11th Edition.* The trip generation data for the approved PUD are summarized from the traffic study performed for the PUD zoning approval. The results of the analysis are summarized in **Table 1.**

Table 1: Trip Generation Summary

Land Use		ITE Code	Size	Unit	Weekday Average Daily Traffic (vpd)	AM Peak Hour (vph)			PM Peak Hour (vph)		
						In	Out	Total	In	Out	Total
Current PUD (Traffic Study 2001)	Single-Family Detached	210	189	DU	1,805	37	107	144	122	71	193
	Multi-Family Housing	221	264	DU	1,740	31	104	135	100	64	164
Total			453	DU	3,545	68	211	279	222	135	357
Phase 1 (Existing)	Multi-Family Housing (Low-Rise)	220	128	DU	857	12	39	51	41	24	65
Phase 2 (Proposed)	**Multi-Family Housing (Low-Rise)**	**220**	**136**	**DU**	**911**	**13**	**41**	**54**	**43**	**26**	**69**
Total			264	DU	1,768	25	80	105	84	50	134
Difference			**-189**	**DU**	**-1,777**	**-43**	**-131**	**-174**	**-138**	**-85**	**-223**

Conclusions

- The trips generated by the addition of Westbury Phase 2 are *less* than the overall PUD zoning trip generation for this site. No additional traffic mitigation measures are recommended to accommodate the projected traffic volumes generated by Phase 2.

Any questions related to this memorandum, study, analyses, and results should be addressed to Fleis & VandenBrink.

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Michigan.

Attached: Site Plan
Westbury Traffic Study 2001, Trip Generation Excerpt

ENGINEERING CONSTRUCTION PLANS
WESTBURY PHASE 2

SECTION 4,TOWN 2N, RANGE 5E GENOA TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN

PREPARED FOR:

ELEVATE PROPERTY PARTNER, LLC
128 N CENTER ST., NORTHVILLE,
MICHIGAN 48167

LEGAL DESCRIPTION

PHASE II PARCEL AS SURVEYED

PART OF THE SOUTHWEST 1/4 OF SECTION 4 AND PART FOTHE NORTHWEST 1/4 OF SECTION 9, TOWN 2NORTH, RANGE 5EAST, GENOA TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN, MORE PARTICULARLY DESCRIPTED AS FOLLOW:

BEGINNING AT THE NORTH 1/4 CORNER OF SAID SECTION 9, ALSO BEING THE SOUTH 1/4 CORNER OF SAID SECTION 4;THENCE, ALONG THE NORTH SOUTH QUARTER LINE OF SAID SECTION 9, S01°46'49"E FOR A DISTANCE OF 457.82 FEET TO THE SOUTH ROW OF WHITE HORSE LANE. THENCE, ALONG SAID SOUTH ROW LINE, N88°07'36"W FOR A DISTANCE OF 401.50 FEET TO THE EAST ROW LINE OF ARUNDELL DRIVE.

THENCE, ALONG SAID EAST ROW LINE OF ARUNDELL DRIVE S23°47'50"W FOR A DISTANCE OF 310.35 FEET TO A POINT ON THE NORTHERLY ROW OF GRAND RIVER AVE. THENCE, ALONG SAID NORTHERLY ROW OF GRAND RIVER AVE. N64°58' 31"W FOR A DISTANCE OF 58.00 FEET TO A POINT ON THE WESTERLY ROW OF ARUNDELL DRIVE. THENCE, ALONG SAID WESTERLY ROW OF ARUNDELL, N25°06'23"E FOR A DISTANCE OF 310.12 FEET TO A POINT ON THE SOUTHERLY LINE OF WHITE HORSE DRIVE. THENCE THE FOLLOWING EIGHTEEN CALLS ALONG THE BOUNDARY OF PHASE I OF WESTBURY (WESTBURY APARTMENTS): THENCE, N31°17'46"E FOR A DISTANCE OF 153.60 FEET TO A POINT. THENCE, N62°38' 38"W FOR A DISTANCE OF 81.10 FEET TO A POINT. THENCE, N30°29'41"E FOR A DISTANCE OF 36.19 FEET TO A POINT. THENCE, N32°51'39"E FOR A DISTANCE OF 136.87 FEET TO A POINT. THENCE, N21°57'24"E FOR A DISTANCE OF 205.26 FEET TO A POINT. THENCE, N86°32'02"E FOR A DISTANCE OF 65. 34 FEET TO A POINT. THENCE, N03°31'14"W FOR A DISTANCE OF 20.32 FEET TO A POINT. THENCE, N03°15'41"W FOR A DISTANCE OF 229.67 FEET TO A POINT. THENCE, N63°31'48"W FOR A DISTANCE OF 34.62 FEET TO A POINT. THENCE, N01°54' 53"W FOR A DISTANCE OF 52.14 FEET TO A POINT. THENCE, N03°14'09"W FOR A DISTANCE OF 269.55 FEET TO A POINT. THENCE, S88°07'36"W FOR A DISTANCE OF 223.17 FEET TO A POINT. THENCE, S03°25'14"E FOR A DISTANCE OF 433.95 FEET TO A POINT. THENCE, N77°39'12"W FOR A DISTANCE OF 133.36 FEET TO A POINT. THENCE, N85°07'23"W FOR A DISTANCE OF 34.49 FEET TO A POINT. THENCE, N46°35'39"W FOR A DISTANCE OF 30.36 FEET TO A POINT. THENCE, S53°48'12"W FOR A DISTANCE OF 30.30 FEET TO A POINT. THENCE, S85°14'25"W FOR A DISTANCE OF 49.11 FEET TO A POINT. THENCE, N35°34'26"W FOR A DISTANCE OF 94.52 FEET TO A POINT. THENCE, N88°32'07"W FOR A DISTANCE OF 31.51 FEET TO THE EAST LINE OF THE PARK AREA OF WESTBURY. THENCE, ALONG SAID EAST LINE N01°26'11"W FOR A DISTANCE OF 620.78 FEET TO THE SOUTH LINE OF HAMPTON RIDGE PHASE II. THENCE, ALONG SAID SOUTH LINE N86°16'33"E A DISTANCE OF 738.65 FEET TO THE WEST LINE OF PROPOSED SUMMERFIELD POINT AND THE NORTH SOUTH 1/4 LINE AS PREVIOUSLY SURVEYED AND MONUMENTED BY BORIS ENGINEERING. THENCE, ALONG SAID NORTH SOUTH 1/4 LINE S01°30'53"E FOR A DISTANCE OF1365.83 FEET TO THE POINT OF BEGINNING. CONTAINING 17.472 ACRES MORE OR LESS AND SUBJECT TO THE RIGHTS TO THE PUBLIC OVER THE EXISTING GRAND RIVER AVENUE (100 FEET WIDE). ALSO, SUBJECT TO AND INCLUDING THE USE OF EASEMENT 'B' AS RECORDED IN LIBER 2580 PG 0494-0505; EASEMENT A AND THE WHITE HORSE DRIVE EASEMENT AS RECORDED IN LIBER 3623 PG 0768-0778. ALSO, SUBJECT TO ANY EASEMENTS, RIGHT-OF-WAY AND RESTRICTIONS OF RECORD.

NOTES

1. NOTIFY THE GENOA TOWNSHIP A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
2. ALL CONSTRUCTION MUST CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS ADOPTED BY GENOA TOWNSHIP. STANDARD DETAIL SHEETS ARE ATTACHED.
3. CALL 811 ONE-CALL UTILITY LOCATING A MINIMUM OF 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
4. ALL SOIL EROSION AND SILTATION MUST BE CONTROLLED AND CONTAINED ON-SITE. THE OWNER SHALL SECURE A PERMIT FROM THE LIVINGSTON COUNTY DRAIN COMMISSION PRIOR TO ANY EARTH DISTURBANCE.
5. ALL EXCAVATION, INCLUDING ALL UTILITIES AND LEADS, UNDER OR WITHIN 1 ON 1 INFLUENCE OF ANY PAVEMENT, EXISTING OR PROPOSED, OR 18-KEYS SAND BACKFILL IS CALLED FOR ON THE PLAN, SHALL BE BACKFILLED AND COMPACTED WITH GRANULAR MATERIAL (SAND) MDOT CLASS II TO 95 PERCENT MAXIMUM UNIT DENSITY (ALL OTHERS 90 PERCENT).
6. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES AND FACILITIES. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT THE PROPOSED UTILITY CROSSINGS PRIOR TO THE START OF UNDERGROUND CONSTRUCTION. ANY CONFLICTS WITH UTILITIES SHALL BE IMMEDIATELY REPORTED TO THE PROJECT ENGINEER.
7. WHERE TWO UTILITIES CROSS, INCLUDING SANITARY SEWER LEADS, PROVIDE POROUS GRADE 'B' BACKFILL MATERIAL COMPACTED TO THE UNDERSIDE OF THE HIGHER UTILITY OR AS SPECIFIED ON THE DETAIL SHEET.
8. DUST CONTROL SHALL BE MAINTAINED AT ALL TIMES.
9. ANY MUD TRACKED ONTO THE EXISTING STREETS SHALL BE REMOVED DAILY.
10. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITY LOCATIONS, INVERTS AND GRADES PRIOR TO THE START OF ANY WORK.
11. AS-BUILTS SHALL BE PROVIDED IN ACCORDANCE WITH THE GENOA TOWNSHIP AND LIVINGSTON COUNTY STANDARDS.

SCALE

(IN FEET)
Scale: 1 Inch = 160 ft.

SHEET INDEX

1. COVER SHEET
2. EXISTING CONDITIONS
3. SITE PLAN
4. COMPOSITE UTILITY PLAN
5. GRADING AND S.E.S.C. PLAN
6. GRADING AND S.E.S.C. PLAN
7. GRADING AND S.E.S.C. PLAN
8. SANITARY & WATERMAIN PLAN & PROFILE
9. SANITARY & WATERMAIN PLAN & PROFILE
10. SANITARY & WATERMAIN PLAN & PROFILE
11. STORM SEWER PLAN & PROFILE
12. STORM SEWER PLAN & PROFILE
13. STORM SEWER PLAN & PROFILE
14. DRAINAGE DISTRIBUTION PLAN
15. OVERALL TRIBUTARY AREA PLAN
16. DETENTION BASIN 2 PLAN

ND1. NOTES AND DETAILS
ND2. NOTES AND DETAILS

DETAILS

–MHOG WATER AND SANITARY STANDARD DETAILS

–LIVINGSTON COUNTY SOIL EROSION AND SEDIMENT CONTROL DETAIL

BENCHMARKS

BM#1 –TOP ARROW ON HYDRANT LOCATED ON SW SIDE OF WHITE HORSE LANE AND ARUNDELL DR. ELEVATION 997.22 NAVD88

BM#3 –BENCHMARK ON LIGHT POLE BASE LOCATED ON NE SIDE OF STONEHENGE WAY AND WESTBURY BLVD. ELEVATION 994.18 NAVD88

SEIBER KEAST LEHNER, INC.
ENGINEERING | SURVEYING
39205 COUNTRY CLUB DR. • SUITE C-8
FARMINGTON HILLS, MICHIGAN • 48331
PHONE: 248.308.3331

LANDSCAPE PLANS PREPARED BY:
ALLEN DESIGN, LLC
LANDSCAPE ARCHITECTURE
557 CARPENTER, NORTHVILLE,
MICHIGAN 48167
PHONE: 248.467.4668

ARCHITECTURAL PLANS PREPARED BY:
ALEXANDER V. BOGAERTS & ASSOC.
2445 FRANKLIN ROAD,
BLOOMFIELD HILLS, MICHIGAN
48302
PHONE: 248.334.5000

TOPOGRAPHIC & BOUNDARY SURVEY PROVIDED BY THE OWNER:

REVISIONS			ENGINEER'S SEAL
NO.	REV.	DATE	

GENOA TOWNSHIP

FEB 0 8 2002

RECEIVED

IMPACT ASSESSMENT
FOR
"WESTBURY"
PART OF LORENZEN PUD
GENOA TOWNSHIP, LIVINGSTON COUNTY
MICHIGAN

Prepared for:

SINGH DEVELOPMENT COMPANY
7125 ORCHARD LAKE ROAD
SUITE 200
WESTBLOOMFIELD, Michigan 48334
(248) 865-1600

Prepared by:

BOSS ENGINEERING COMPANY
7125 ORCHARD LAKE ROAD
SUITE 108
WESTBLOOMFIELD, MI 48334
(248) 626-2677

Revised - February 7, 2002

February 27, 2001

2-00038EIA

Lorentzen PUD Trip Generation Comparison
43 +/- Acre Light Industrial Parcel

Existing Zoning

Business Park (Land Use Code # 770)
Weekday Trips = 43 Ac x 159.75 = 6869 Vehicles
A.M. Peak = 43 Ac x 20.14 = 866 Vehicles
P.M. Peak = 43 Ac x 17.96 = 772 Vehicles

Research and Development Center (Land Use Code # 760)
Weekday Trips = 43 Ac x 79.6 = 3422 Vehicles
A.M. Peak = 43 Ac x 16.8 = 722 Vehicles
P.M. Peak = 43 Ac x 15.4 = 662 Vehicles

Industrial Park (Land Use Code # 130)
Weekday Trips = 43 Ac x 62.9 = 2705 Vehicles
A.M. Peak = 43 Ac x 8.29 = 356 Vehicles
P.M. Peak = 43 Ac x 8.67 = 372 Vehicles

Proposed Zoning

Single Family Development (Land Use Code # 210)
Weekday Trips = 189 Units x 9.55 = 1805 Vehicles
A.M. Peak = 189 Units x .76 = 144 Vehicles
P.M. Peak = 189 Units x 1.02 = 193 Vehicles

Apartment Development (Land Use Code # 221)
Weekday Trips = 264 Units x 6.59 = 1740 Vehicles
A.M. Peak = 264 Units x .51 = 135 Vehicles
P.M. Peak = 264 Units x .62 = 164 Vehicles

LIBER 3623 PAGE 0768

RECORDED

2002 NOV 21 P 4:48

NANCY HAVILAND
REGISTER OF DEEDS
LIVINGSTON COUNTY, MI.
48843

27/2

RECIPROCAL EASEMENT AGREEMENT

(3)

THIS RECIPROCAL EASEMENT AGREEMENT is made and entered into as of the 21 day of October, 2002, by and between WESTBURY SINGH, L.L.C., a Michigan limited liability company, whose address is 7125 Orchard Lake Road, Suite 200, West Bloomfield, MI 48322 ("Westbury"), and SINGH IV LIMITED PARTNERSHIP, a Michigan limited partnership, whose address is 7125 Orchard Lake Road, Suite 200, West Bloomfield, MI 48322 ("Singh").

WITNESSETH:

Westbury is currently constructing and plans to operate a certain multi-family residential development in the Township of Genoa, Livingston County, Michigan, which is more particularly described in Exhibit "A" attached hereto (the "Phase I Property"), and which is more commonly known as Phase I of the Westbury Apartments. The Phase I Property will include certain recreational facilities, including a clubhouse, swimming pool, basketball court, tennis court, and related grounds, roadways, sidewalks and parking areas (the "Recreational Facilities").

Singh is the owner of a vacant parcel of real property situated in the Township of Genoa, Livingston County, Michigan, which is more particularly described in Exhibit "B" attached hereto (the "Phase II Property"). The Phase II Property is adjacent to the Phase I Property, and Singh intends to develop the Phase II Property for use as Phase II of the Westbury Apartments.

Westbury and Singh desire to establish certain easements and rights for ingress, egress, underground utilities, storm water drainage and retention and use of Recreational Facilities, all upon the terms and conditions set forth in this Reciprocal Easement Agreement.

NOW THEREFORE, in consideration of the mutual promises and covenants contained herein, it is agreed as follows:

1. Ingress and Egress Easements: The following easements are hereby granted:

(a) Westbury hereby grants and conveys to Singh a permanent and non-exclusive easement, right and privilege for ingress and egress, both pedestrian and vehicular, over and across the present and future roadways, driveways, parking lots, sidewalks and pathways now or in the future located upon the Phase I Property, for use by the owners, residents, tenants, licensees and concessionaires of the Phase II Property, and their employees, guests, invitees, mortgagees, agents and contractors. TNT 647672

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29.00

(b) Singh hereby grants and conveys to Westbury a permanent and non-exclusive easement, right and privilege for ingress and egress, both pedestrian and vehicular, over and across the present and future roadways, driveways, parking lots, sidewalks and pathways now or in the future located upon the Phase II Property, for use by the owners, residents, tenants, licensees and concessionaires of the Phase I Property, and their employees, guests, invitees, mortgagees, agents and contractors.

2. Underground Utility Easements. The following easements are hereby granted:

(a) Westbury hereby grants and conveys to Singh a permanent and non-exclusive easement, right and privilege to tap into and to use the present and future underground utility facilities, including without limitation the water mains, sanitary sewers, storm sewers, gas mains, telephone cables, television cables, electric cables and to install any necessary extensions of any of the aforesaid now or hereafter located on the Phase I Property.

(b) Singh hereby grants and conveys to Westbury a permanent and non-exclusive easement, right and privilege to tap into and to use the present and future underground utility facilities, including without limitation the water mains, sanitary sewers, storm sewers, gas mains, telephone cables, television cables, electric cables and to install any necessary extensions of any of the aforesaid now or hereafter located on the Phase II Property.

3. Storm Water Detention Basin Easements. The following easements are hereby granted:

(a) Westbury hereby grants and conveys to Singh a permanent and non-exclusive easement, right and privilege to tap into and to use the present and future underground storm drainage lines and storm water detention basin facilities on the Phase I Property, and to install any necessary extensions of any of the aforesaid now or hereafter located on the Phase I Property.

(b) Singh hereby grants and conveys to Westbury a permanent and non-exclusive easement, right and privilege to tap into and to use the present and future underground storm drainage lines and storm water detention basin facilities on the Phase II Property, and to install any necessary extensions of any of the aforesaid now or hereafter located on the Phase II Property.

4. Recreational Facilities Use Easement. Westbury hereby grants and conveys to Singh a permanent and non-exclusive easement, right and privilege to use and enjoy the present and future Recreational Facilities now or hereafter located on the Phase I Property.

5. Repair and Maintenance: All of the improvements which are subject to the foregoing easements and licenses shall be operated, repaired, replaced and maintained by and at the cost of the owner of the Property upon which such improvements are located, except as follows:

(a) The cost of the maintenance, repair, operation, capital replacements and improvements of the Recreational Facilities shall be shared by the parties as set forth in Paragraph 7, below.

(b) Any extensions or leads to underground utility systems installed pursuant to paragraphs 2 and 3, above, shall be operated, maintained, repaired and replaced by the owner of the Property which is served by such utility extension or lead.

6. Operation, Repair, Maintenance and Replacement. The Recreational Facilities shall be operated, repaired and maintained and replaced by Westbury. The manner in which the Recreational Facilities shall be operated, repaired, maintained and replaced shall be in the sole discretion of Westbury, including without limitation, matters such as decoration, staffing levels, maintenance frequency, and hours of operation. Westbury may add to or subtract from any of the Recreational Facilities as it deems fit, and may close any or all of the Recreational Facilities at any time (either temporarily or permanently).

7. Recreational Facilities Operating Expense. Westbury and Singh agree that the cost of operation, repair, maintenance, operation, capital improvement and replacement (except to the extent of insurance proceeds) of the Recreational Facilities shall be shared by Westbury and Singh, proportionately on the basis that the number of dwelling units in each property bears to the total number of dwelling units in the Phase I Property and the Phase II Property combined. The cost of operation, repair and maintenance shall include, by way of illustration and not by way of limitation, insurance premiums, property taxes and assessments, cleaning and janitorial care, lawn and landscape maintenance, snow removal, periodic repairs, surfacing and re-striping of roads and parking areas adjacent to and necessary for the use of the Recreational Facilities, maintenance of lights and light standards, maintenance and repair of swimming pool facilities and all other services necessary for the safe and efficient use of the Recreational Facilities (the "Operating Expense"). Singh shall pay its share of the Operating Expense to Westbury periodically within thirty (30) days of each of Westbury's invoices therefor. Singh shall have the right, at reasonable times and during business hours, to inspect Westbury's books and records with respect to the Operating Expenses.

At any time that Singh fails to pay its proportionate share of the Operating Expense within thirty (30) days after receipt of a statement therefor, then Westbury may, at its option, exclude and bar Singh and its tenants from the use and enjoyment of the Recreational Facilities until such time as all delinquent payments have been made in full.

8. Private Parties, Seminars. Westbury shall have the right to rent the Recreational Facilities from time to time for private parties, seminars, receptions, and the like. To the extent that rental privileges for private parties and functions are given to tenants of the Phase I Property, the same rental privileges shall be extended to tenants of the Phase II Property. All of the rental income from private parties, seminars, receptions and the like shall belong to Westbury.

9. Rules and Regulations: Each of the parties hereto reserves the right to establish from time to time reasonable and nondiscriminatory rules and regulations to govern the use of the facilities and improvements which are located upon such party's property and which are subject to this Reciprocal Easement Agreement, including without limitation, traffic directional controls and parking restrictions.

10. Amendments: The provisions of this Reciprocal Easement Agreement may be abrogated, modified, terminated, rescinded or amended in whole or in part only upon the unanimous written consent or declaration of all of the owners and mortgagees of the Phase I Property and the Phase II Property, which consent or declaration shall be in writing, executed and acknowledged by all such owners and mortgagees, and shall be duly recorded in the office of the Register of Deeds, Oakland County, Michigan.

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11. Location: Each of the parties shall have the right to locate and relocate the roadways, driveways, entryways, parking areas, sidewalks, pathways, walkways, underground utilities and other improvements upon their respective properties as such owner shall see fit, or to add to or subtract from any of the foregoing; provided, however, that any party performing any such relocation shall also relocate the access or leads of the other party so as to preserve the access and use of the other party to the roadway, driveway, entryway, parking area, sidewalk, pathway, walkway, underground utilities or other improvements being so relocated.

12. Default: The failure of any owner to reasonably repair, maintain or replace any of the improvements on its respective property which are subject to the easements contained herein or to perform any covenant or agreement contained herein shall constitute a default hereunder. Then, and in such event, any non-defaulting party may, at its option and without any obligation to do so, upon prior written notice to the defaulting party (except in the event of an emergency), perform such repair, maintenance or replacement or take whatever action or expend whatever amounts as maybe reasonably necessary to cure the default. Any amounts expended by any non-defaulting party to cure or prevent the default of another shall constitute a debt of the defaulting party, and the defaulting party shall pay all such amounts to the non-defaulting party forthwith upon demand. In addition, any non-defaulting party may bring an action to restrain or enjoin such default or in the nature of specific performance, and/or an action at law to recover damages.

13. Limitation on Enforcement: The enforcement of the easements, covenants, rights and privileges contained herein shall be limited to the owners of the Phase I Property and the Phase II Property, and their respective mortgagees, and no other person or party shall be entitled to bring any action under this Reciprocal Easement Agreement or to enforce the rights and remedies contained herein.

14. Dedication. Each of the parties hereto shall have the right to dedicate to the public or to grant public or private easements to public or private utility companies or to governmental bodies with respect to any of the underground utility facilities installed pursuant to this Reciprocal Easement Agreement.

15. Assignment. The rights, interest and burdens of any party or any successor to any party under this Reciprocal Easement Agreement may be assigned or conveyed in whole or in part, and such successor(s) shall be considered as a party to this Reciprocal Easement Agreement. In the event that any party establishes a declaration of condominium, establishes a co-operative association or provides for any other form of individual ownership of residential parcels or units with respect to all or any part of its property, then the condominium association or owner's association representing all of such individual residential owners shall become a successor party hereunder, and shall pay all operating expense billings for and on behalf of all of such individual owners.

16. Covenants Binding. The easements hereby created and established and the covenants contained herein shall be easements and covenants running with the land and shall inure to the benefit of and be binding upon the present and future owners of the Phase I Property and the owners of the Phase II Property, and their respective heirs, successors, representatives and assigns. Any reference to any person or party in this Reciprocal Easement Agreement shall be deemed to include a reference to the heirs, successors, assigns, and representatives of such party or person.

17. Cooperation. It is understood and agreed that the easements granted herein include the right to enter upon the lands described herein to construct such road extensions, utility

extensions and leads, parking facilities and other improvements as may be necessary to enable the other parties to gain access to the roads, driveways, walkways, sidewalks, pathways, and underground utilities located upon such party's property, at such places as may be mutually convenient to both parties. The exercise of such easement rights shall be done in an expeditious manner and shall not interfere with any activity or any business conducted by the party whose land the easement burdens and shall not block or interfere with ingress or egress into and from any party's premises, through any driveways, approaches, or otherwise, and shall be performed in a reasonable period of time. To the extent that any addition to or additional use of any existing utilities, roads, lines, pipes, poles or other facilities would exceed the capacity or designed maximum loads of such facilities, then the party proposing such addition to or additional use of the facilities will perform and pay for any necessary enlargement of or replacement of such facilities, at their own cost and expense, and shall not permit the filing of any construction lien or mechanic's lien as a result of the work performed or materials supplied. All property disturbed or altered, now or in the future, by reason of the exercise of the within easement rights, shall be restored to good condition. The party constructing any facilities pursuant to the easements granted herein shall indemnify and save harmless the other parties hereto from any claims, damages, judgments or obligations whatsoever, including the cost of defense of suit, arising out of damage to property, or arising out of injury to persons, including employees, guests and invitees, and those claiming under the other parties, incurred in connection with or as a result of the construction of any such facilities.

18. Exculpation of Mortgagees. In the event that any mortgagee or any other party shall succeed to the interest of a mortgagor in a Property as a result of a mortgage foreclosure, a deed in lieu of foreclosure, or if a mortgagee exercises all or any part of the rights granted to it under the mortgage, including without limitation the appointment of a receiver, then said mortgagee or such other party shall not be:

a. Liable for any act or omission of the mortgagor or its successors pertaining to this Easement, or otherwise liable for any act, event, occurrence or matter pertaining to this Easement which occurs or arises prior to the acquisition of title to the Property by the mortgagee or any other party succeeding to the interest of the mortgagor;

b. Subject to any offsets, credits, counterclaims or defenses pertaining to this Easement which any person or party might have against the mortgagor or its successors; or

c. Bound by any amendment or modification of this Reciprocal Easement made without the consent of the mortgagee.

19. Mortgagee's Opportunity to Cure Default. In the event that this Easement contains rights, interests or privileges which benefit a Property, and which could be or are threatened to be lost, forfeited or terminated due to the act or omission of a mortgagor or its successors, then the mortgagee or any other party succeeding to the interest of mortgagor in any foreclosure proceedings, deed in lieu of foreclosure or other mortgage enforcement proceeding shall have an additional period of thirty (30) days from the date that the mortgagee or such other party acquires indefeasible title to the Property within which it shall have the right (but not the obligation) to cure such default of mortgagor, or if such default by its nature cannot reasonably be cured within that time, then such additional time period as may be reasonably necessary if, within such thirty (30) day period, mortgagee has commenced and is diligently pursuing the remedies necessary to cure such default.

20. Notices. Any notice, delivery or tender required or permitted to be given or served upon any party hereto in connection with this Agreement shall be deemed to be completed and legally sufficient when (i) personally delivered, or (ii) on the next business day after the same is deposited with an expedited mail service company for delivery on the next business day, or (iii) sent by telegram, or (iv) by facsimile transmission, or (v) on the next business day after the date when deposited in the United States Mails, first class and postage prepaid, addressed to the party for whom the same is intended. Any party hereto may, at any time by written notice to the other party hereto, designate any other address in substitution of the foregoing address to which such notice shall be given and other parties to whom copies of all notices hereunder shall be sent. If any notice or tender is required or permitted to be given on a Saturday, Sunday or legal holiday, then the time for giving such notice or tender is hereby extended to the next regular business day.

21. Governing Law. This Agreement and the obligations of the parties hereunder shall be interpreted, construed and enforced in accordance with the laws of the State of Michigan.

22. Severability. If any provision of this Reciprocal Easement Agreement shall be invalid or unenforceable to any extent, the remainder of this Reciprocal Easement Agreement shall not be affected thereby and may be enforced to the greatest extent permitted by law.

IN WITNESS WHEREOF, this Reciprocal Easement Agreement has been executed as of the day and year first above written.

Westbury Singh , L.L.C., a Michigan limited liability company, by its Manager, Singh General Corp., a Michigan corporation

By: _____
Lushman S. Grewal, Vice President

Singh IV Limited Partnership, a Michigan limited partnership, by its general partner, Singh General Corp., a Michigan corporation

By: _____
Lushman S. Grewal, Vice President

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STATE OF MICHIGAN)
) SS.
COUNTY OF OAKLAND)

The foregoing instrument was acknowledged before me this 18th day of October, 2002, by Lushman S. Grewal, the Vice President of Singh General Corp., a Michigan corporation, which is the Manager of Westbury Singh, L.L.C., a Michigan limited liability company, on behalf of the said limited liability company.

Linda M. Kleinstiver
Notary Public, Oakland County, Michigan

My commission expires:_____

LINDA M KLEINSTIVER
NOTARY PUBLIC STATE OF MICHIGAN
OAKLAND COUNTY
MY COMMISSION EXP. DEC. 16,2003

STATE OF MICHIGAN)
) SS.
COUNTY OF OAKLAND)

The foregoing instrument was acknowledged before me this 18th day of October, 2002, by Lushman S. Grewal, the Vice President of Singh General Corp., a Michigan corporation, which is the general partner of Singh IV Limited Partnership, a Michigan limited partnership, on behalf of the said limited partnership.

Linda M. Kleinstiver
Notary Public, Oakland County,
Michigan

My commission expires:_____

LINDA M KLEINSTIVER
NOTARY PUBLIC STATE OF MICHIGAN
OAKLAND COUNTY
MY COMMISSION EXP. DEC. 16,2003

Drafted By and When
Recorded Return To:

Lawrence A. Kilgore
7125 Orchard Lake Road
Suite 200
West Bloomfield, MI 48322

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Exhibit "A"
WESTBURY APARTMENTS, Phase I

A parcel of land situated in the Township of Genoa, Livingston County, Michigan, described as:

Part of the Southwest 1/4 of Section 4 and part of the Northwest 1/4 of Section 9, Town 2 North, Range 5 East, Genoa Township, Livingston County, Michigan, more particularly described as follows: Commencing at the North 1/4 corner of said Section 9 also being the South 1/4 corner of said Section 4; thence along the North-South 1/4 line of said Section 9 South 01°39'41" West, 457.93 feet; thence North 60°52'38" West, 467.36 feet to the POINT OF BEGINNING of the parcel to be described; thence North 60°42'38" West, 320.00 feet; thence South 29°17'22" West, 310.09 feet, thence along said Northerly line of Grand River Avenue, North 60°42'38" West, 318.43 feet; thence North 29°17'22" East, 310.09 feet; thence North 60°42'38" West, 273.51 feet; thence Northwesterly on an Arc right, having a length of 116.72 feet; a radius of 333.00 feet, a central angle of 20°04'58", and a long chord which bears North 50°40'09" West, 116.12 feet; thence along the Easterly Line of the Detroit Edison-Consumers Power Corridor, North 02°00'42" East, 117.47 feet; thence Southeasterly on an Arc right, having a length of 18.00 feet, a radius of 323.29 feet, a central angle of 03°11'27", and a long chord which bears South 26°52'01" East 18.00 feet; thence Southeasterly on an Arc left, having a length of 40.39 feet, a radius of 267.00 feet a central angle of 08°40'01", and a long chord which bears South 30°02'11" East 40.35 feet; thence North 02°00'42" East, 257.32 feet; thence North 89°38'24" East, 443.77 feet; thence North 35°00'06" East, 66.07 feet; thence North 00°12'15" West, 71.47 feet; thence North 89°47'45" East, 64.09 feet; thence South 77°49'44" East 21.55 feet; thence South 22°03'19" East, 94.63 feet; thence North 68°41'50" East, 49.11 feet; thence North 37°09'43" East, 30.31 feet; thence South 44°58'36" East, 35.33 feet; thence South 81°40'03" East, 34.49 feet thence South 74°17'03" East, 132.34 feet; thence due North 423.12 feet; thence North 89°33'08" East, 223.46 feet; thence South 00°13'11" West, 400.05 feet; thence South 01°41'00" West, 52.24 feet; thence South 60°10'57" East, 34.64 feet; thence South 00°11'56" West, 229.71 feet; thence Due South 20.25 feet; thence Due West, 95.39 feet; thence South 25°24'17" West, 255.26 feet; thence South 26°20'39" West, 156.63 feet; thence South 56°00'06" East, 38.28 feet; thence South 59°11'43" East, 81.10 feet; thence South 34°38'25" West, 153.64 feet, to the POINT OF BEGINNING; containing 19.42 acres, more or less, and subject to the rights of the public over the existing Grand River Avenue (100 feet wide). Also including use of White Horse Drive, a 66 foot wide private easement for ingress, egress and public utilities, as described below. Also including the use of Easement "A", a 66 foot wide private easement for ingress, egress and public utilities, as recorded in Liber 2580 of Deeds on pages 194-205 of the Livingston County Records, and as described below.

Easement "A"

Part of the Northwest ¼ of Section 9, T2N-R5E, Genoa Township, Livingston County, Michigan, more particularly described as follows: Commencing at the North ¼ Corner of said Section 9; thence along the North-South ¼ line of said Section 9, South 01°39'41" West, 807.93 feet; thence along the Northerly line of Grand River Avenue (100 ft. wide), North 60°42'38" West, 563.67 feet, to the POINT OF BEGINNING of the Easement to be described; thence continuing along said Northerly line, North 60°42'38" West, 66.00 feet; thence North 29°17'22" East, 310.09 feet; thence South 60°42'38" East, 66.00 feet; thence South 29°17'22" West, 310.09 feet, to the POINT OF BEGINNING.

White Horse Drive Easement:

Part of the Southwest ¼ of Section 4 and part of the Northwest ¼ of Section 9, T2N- R5E, Genoa Township, Livingston County, Michigan, more particularly described as follows: Commencing at the

North ¼ Corner of said Section 9, also being the South ¼ Corner of Section 4; thence along the North-South ¼ line of Section 9, South 01°39'41" West, 383.44 feet to the POINT OF BEGINNING of the Parcel to be described; thence continuing along the North-South ¼ line of said Section 9, South 01°39'41" West, 74.49 feet; thence North 60°42'38" West, 1377.31 feet; thence Northwesterly on an arc right, having a lengthy of 116.72 feet, a radius of 333.00 feet, a central angle of 20°04'58", and a long chord which bears North 50°40'09" West, 116.12 feet; thence along the Easterly line of the Detroit Edison-Consumers Power Corridor, North 02°00'42" East, 119.36 feet; thence Southeasterly on an arc left, having a length of 183.05 feet, a radius of 257.00 feet, a central angle of 39°16'53", and a long chord which bears South 41°04'11" East, 179.49 feet; thence South 60°42'38" East 1342.76 feet to the POINT OF BEGINNING.

Property Tax ID No: Part of 11-04-300-022

f:\legal\legal descriptions\westbury phase 1
August 22, 2002

Exhibit A
Legal Description

Westbury Apartments, Phase II

Part of the Southwest ¼ of Section 4 and part of the Northwest ¼ of Section 9, T2N-R5E, Genoa Township, Livingston County, Michigan, more particularly described as follows: Beginning at the North ¼ Corner of said Section 9, also being the South ¼ Corner of said Section 4; thence along the North-South ¼ line of said Section 9, S. 01°39'41" W., 457.93 feet; thence N. 60°42'38" W., 401.36 feet; thence S. 29°17'22" W., 310.09 feet; thence along the Northerly line of Grand River Avenue (100 ft. wide), N. 60°42'38" W., 66.00 feet; thence N. 29°17'22" E., 310.09 feet; thence N. 34°38'25" E., 153.64 feet; thence N. 59°11'43" W., 81.10 feet; thence N. 56°00'06" W, 38.28 feet; thence N. 26°20'39" E. 156.63 feet; thence N. 25°24'17" E., 255.26 feet; thence Due East, 95.39 feet; thence Due North 20.25 feet; thence N. 00°11'56" E., 229.71 feet; thence N. 60°10'57" W., 34.64 feet; thence N. 01°41'00" E., 52.24 feet; thence N. 00°13'11" E., 400.05 feet; thence S. 89°33'08" W., 223.46 feet; thence Due South, 423.12 feet; thence N. 74°17'03" W., 132.34 feet; thence N. 81°40'03" W., 34.49 feet; thence N. 44°58'36" W., 35.33 feet; thence S. 37°09'43" W., 30.31 feet; thence S. 68°41'50" W., 49.11 feet; thence N. 22°03'19" W., 94.63 feet; thence N. 77°49'44" W. 21.55 feet; thence N. 02°00'42" E., 621.06 feet; thence N. 89°47'45" E., 739.63 feet; thence along the North-South ¼ line of said Section 4, S. 01°50'59" W., 1365.88 feet, to the POINT OF BEGINNING; Containing 17.47 acres, more or less, and subject to the right of the public over the existing Grand River Avenue (100 ft. wide). Also including use of White Horse Drive, a 66 foot wide private easement for ingress, egress and public utilities as described below. Also including the use of Easement "B" (a 66 foot wide Private Easement for Ingress, Egress, and Public Utilities) as recorded in Liber 2580, Pages 0194-0205 of the Livingston County Records, as described below.

Easement "B"

Part of the Northwest ¼ of Section 9, T2N-R5E, Genoa Township, Livingston County, Michigan, more particularly described as follows: Part of the Northwest ¼ of Section 9, T2N-R5E, Genoa Township, Livingston County, Michigan, more particularly described as follows: Commencing at the North ¼ Corner of said Section 9; thence along the North-South ¼ line of said Section 9, South 01°39'41" West, 807.93 feet; thence along the Northerly line of Grand River Avenue (100 ft. wide), North 60°42'38" West, 1200.10 feet, to the POINT OF BEGINNING of the Easement to be described; thence continuing along said Northerly line, North 60°42'38" West, 66.00 feet; thence North 29°17'22" East, 310.09 feet; thence South 60°42'38" East, 66.00 feet; thence South 29°17'22" West, 310.09 feet, to the POINT OF BEGINNING.

White Horse Drive Easement:

Part of the Southwest ¼ of Section 4 and part of the Northwest ¼ of Section 9, T2N- R5E, Genoa Township, Livingston County, Michigan, more particularly described as follows: Commencing at the North ¼ Corner of said Section 9, also being the South ¼ Corner of Section 4; thence along the North-South ¼ line of Section 9, South 01°39'41" West, 383.44 feet to the POINT OF BEGINNING of the Parcel to be described; thence continuing along the North-South ¼ line of said Section 9, South 01°39'41" West, 74.49 feet; thence North 60°42'38" West, 1377.31 feet; thence Northwesterly on an arc right, having a lengthy of 116.72 feet, a radius of 333.00 feet, a central angle of 20°04'58", and a long chord which bears North 50°40'09" West, 116.12 feet; thence along the Easterly line of the Detroit Edison-Consumers Power Corridor, North 02°00'42" East, 119.36 feet; thence Southeasterly on an arc left, having a length of

183.05 feet, a radius of 267.00 feet, a central angle of 39°16'53", and a long chord which bears South 41°04'11" East, 179.49 feet; thence South 60°42'38" East 1342.76 feet to the POINT OF BEGINNING.

Property Tax ID No.: Part of 11-04-300-022

f:\legal\legal descriptions\westbury Phase II
8/15/02

LIBER 2257 PAGE 0259

RECORDED

1997 DEC -2 A 9:59

NANCY HAVILAND
REGISTER OF DEEDS
LIVINGSTON COUNTY, MI.
48243

13/2

HIGHWAY EASEMENT

The Grantor, BIRGIT LORENTZEN, a single woman, of 388 Ausable Place, Ann Arbor, Michigan 48104, for the sum of One Dollar conveys to Genoa Township, a general law township, its successors and assigns, with business offices at 2980 Dorr Road, Brighton, Michigan 48116, an easement for highway purposes, in, over, and upon the real estate located in the Township of Genoa, County of Livingston, State of Michigan, described in the attached Rider A. The easement premises and the servient tenament are legally described in Rider A.

The easement grant is subject to the following: This conveyance includes the consent of the Grantor to the removal at any time of such trees, shrubs, and vegetation as, in the judgment of Genoa Township or its assignee the Michigan Department of Transportation, is necessary to the construction and maintenance of the highway. Notice to the Grantor of the removal by Genoa Township or the Michigan Department of Transportation of such trees, shrubs and vegetation is not required.

The Grantor agrees that no trees, shrubs, or vegetation shall be cut or removed from the highway right-of-way easement by the Grantor, her heirs, successors and assigns, without the written permission of Genoa Township or the Michigan Department of Transportation. The Grantor agrees for herself, her heirs, successors and assigns, that no billboard, or advertising devise, shall be erected, permitted or maintained on the right-of-way as described.

The Grantor hereby consents and agrees that the easement rights granted to Genoa Township may be assigned by Genoa Township to the Michigan Department of Transportation.

Signed this 1st day of December, 1997.

WITNESSES:

Richard A. Heikkinen

Nancy K. Bogardus

GRANTOR:

BIRGIT LORENTZEN

Return To: The Heikkinen Law Firm, P.C.
110 N. Michigan, Howell MI 48843

STATE OF MICHIGAN)
)ss
COUNTY OF LIVINGSTON)

The foregoing instrument was acknowledged before me this 1st day of December, 1997, by Birgit Lorentzen, a single woman.

Richard A. Heikkinen
Notary Public
Livingston County, Michigan
My Commission expires: Oct 24 2001

DRAFTED BY:

Richard A. Heikkinen
THE HEIKKINEN LAW FIRM, P.C.
110 North Michigan Avenue
Howell MI 48843

GENOA TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN
I-96 B.L. IMPROVEMENTS
EASEMENT FOR DRAINAGE AND ROAD WIDENING
EASEMENT PARCEL NO. 24
Tax Roll No. 11-09-100-005

TAX ROLL ADDRESSEE
Birgit Lorentzen
388 Ausable Place
Ann Arbor, Michigan 48104

LEGAL DESCRIPTION OF PROPERTY OWNED PER A METROPOLITAN TITLE SEARCH (No. S-23021)

Part of the Northeast 1/4 of the Northwest 1/4 of Section 9 , Town 2 North, Range 5 East, Genoa Township, Livingston County, Michigan, more particularly described as follows: Beginning at the North 1/4 corner of Section 9; thence N 89° W 1314.14 feet; thence S 1° W 156.04 feet; thence S 60° E 1483.05 feet; thence N 1° E 864.72 feet to the POINT OF BEGINNING.

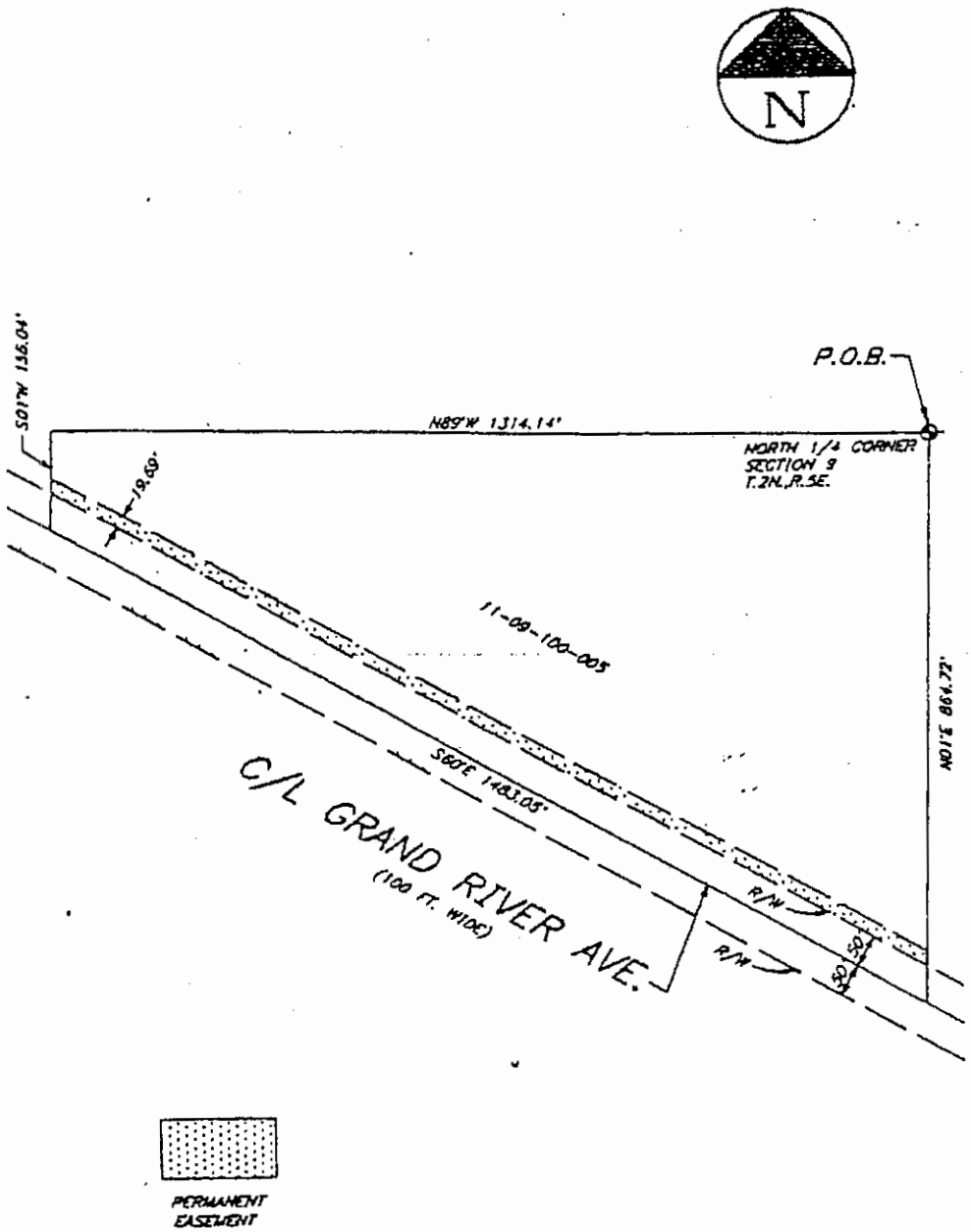
LEGAL DESCRIPTION OF A 19.69 FOOT (6 METER) WIDE PERMANENT EASEMENT

A 19.69 foot strip of land lying Northerly of, and adjacent to the Northerly Right-of -Way of Grand River Avenue (100 feet wide), and over and across the following described parcel of land: Part of the Northeast 1/4 of the Northwest 1/4 of Section 9 , Town 2 North, Range 5 East, Genoa Township, Livingston County, Michigan, more particularly described as follows: Beginning at the North 1/4 corner of Section 9; thence N 89° W 1314.14 feet; thence S 1° W 156.04 feet; thence S 60° E 1483.05 feet; thence N 1° E 864.72 feet to the POINT OF BEGINNING.

Prepared By:
McNamee, Porter & Seeley, Inc.
512 East Grand River
Brighton, Michigan 48116
Project Number: 0144.224.30
April 30, 1997

Easement Parcel No. 24
Sheet 1 of 2

LIBER 2257 PAGE 0262



McNAMEE PORTER & SEELEY INC.	DESIGNED FOR EXCELLENCE SINCE 1914	GENOA TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN I-96 B.L. IMPROVEMENTS EASEMENT PARCEL NO. 24	CONTRACT
SCALE 1"=200'	DATE 04-15-97		SHEET 2
DESIGNED CTC	CHECKED SJV	CADD FILE G:\MPS\0144\EXHIBIT\LOGIT4.DWG	OF 2

ENGINEERING CONSTRUCTION PLANS

WESTBURY PHASE 2

Utility plan and profile sheets numbered 8-13 and detail sheets ND1-3 were removed from the packet to reduce the file size. Please contact Kelly VanMarter at kelly@genoa.org to get a copy.

SECTION 4,TOWN 2N, RANGE 5E GENOA TOWNSHIP,
LIVINGSTON COUNTY, MICHIGAN

PREPARED FOR:

ELEVATE PROPERTY PARTNER, LLC
128 N CENTER ST., NORTHVILLE,
MICHIGAN 48167

LEGAL DESCRIPTION

PHASE II PARCEL AS SURVEYED

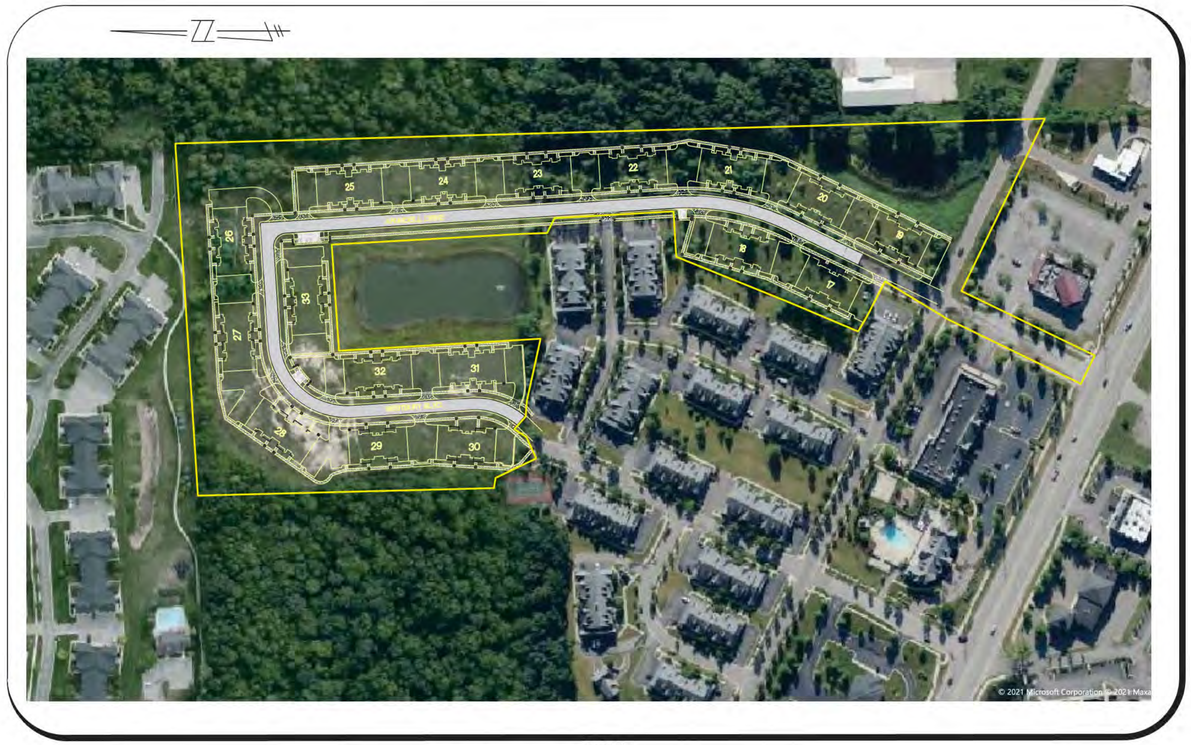
PART OF THE SOUTHWEST 1/4 OF SECTION 4 AND PART FOTHE NORTHWEST 1/4 OF SECTION 9, T02N R05E GENOA TOWNSHIP, LIVINGSTON COUNTY, MIICHIGAN, MORE PARTICULARLY DESCRIPED AS FOLLOW:

BEGINNING AT THE NORTH 1/4 CORNER OF SAID SECTION 9, ALSO BEING THE SOUTH 1/4 CORNER OF SAID SECTION 4:THENCE, ALONG THE NORTH SOUTH QUARTER LINE OF SAID SECTION 9, S01°46'49"E FOR A DISTANCE OF 457.82 FEET TO THE SOUTH ROW OF WHITE HORSE LANE. THENCE, ALONG SAID SOUTH ROW LINE N64°07'56"W FOR A DISTANCE OF 401.50 FEET TO THE EAST ROW LINE OF ARUNDELL DRIVE.

THENCE, ALONG SAID EAST ROW LINE OF ARUNDELL DRIVE S25°47'50"W FOR A DISTANCE OF 310.35 FEET TO A POINT ON THE NORTHERLY ROW OF GRAND RIVER AVE. THENCE, ALONG SAID NORTHERLY ROW OF GRAND RIVER AVE. N64°09' 31"W FOR A DISTANCE OF 66.00 FEET TO A POINT ON THE WESTERLY ROW OF ARUNDELL DRIVE. THENCE, ALONG SAID WESTERLY ROW OF ARUNDELL, N25°49'23"E FOR A DISTANCE OF 310.12 FEET TO A POINT ON THE SOUTHERLY LINE OF WHITE HORSE DRIVE. THENCE THE FOLLOWING EIGHTEEN CALLS ALONG THE BOUNDARY OF PHASE I OF WESTBURY (WESTBURY APARTMENTS): THENCE, N31°13'48"E FOR A DISTANCE OF 153.62 FEET TO A POINT. THENCE, N62°38' 36"W FOR A DISTANCE OF 81.10 FEET TO A POINT. THENCE, N59°29'41"W FOR A DISTANCE OF 38.18 FEET TO A POINT. THENCE, N22°51'39"E FOR A DISTANCE OF 156.67 FEET TO A POINT. THENCE, N21°57'24"E FOR A DISTANCE OF 255.26 FEET TO A POINT. THENCE, N86°32'02"E FOR A DISTANCE OF 95. 34 FEET TO A POINT. THENCE, N03°19'14"W FOR A DISTANCE OF 20.22 FEET TO A POINT. THENCE, N03°15'41"W FOR A DISTANCE OF 229.67 FEET TO A POINT. THENCE, N63°31'48"W FOR A DISTANCE OF 34.62 FEET TO A POINT. THENCE, N01°54' 53"W FOR A DISTANCE OF 52.16 FEET TO A POINT. THENCE, N03°14'09"W FOR A DISTANCE OF 399.95 FEET TO A POINT. THENCE, S86°07'36"W FOR A DISTANCE OF 223.17 FEET TO A POINT. THENCE, S03°25'16"E FOR A DISTANCE OF 423.20 FEET TO A POINT. THENCE, N77°39'12"W FOR A DISTANCE OF 132.29 FEET TO A POINT. THENCE, N85°07'23"W FOR A DISTANCE OF 34.49 FEET TO A POINT. THENCE, N48°25'29"W FOR A DISTANCE OF 35.28 FEET TO A POINT. THENCE, S33°48'12"W FOR A DISTANCE OF 30.30 FEET TO A POINT. THENCE, S65°14'25"W FOR A DISTANCE OF 49.11 FEET TO A POINT. THENCE, N25°34'39"W FOR A DISTANCE OF 94.52 FEET TO A POINT. THENCE, N80°52'07"W FOR A DISTANCE OF 21.51 FEET TO THE EAST LINE OF THE PARK AREA OF WESTBURY. THENCE, ALONG SAID EAST LINE N01°26'11"W FOR A DISTANCE OF 620.78 FEET TO THE SOUTH LINE OF HAMPTON RIDGE PHASE II. THENCE, ALONG SAID SOUTH LINE N86°19'33"E A DISTANCE OF 739.65 FEET TO THE WEST LINE OF PROPOSED SUMMERFIELD POINT AND THE NORTH SOUTH 1/4 LINE AS PREVIOUSLY SURVEYED AND MONUMENTED BY BOSS ENGINEERING. THENCE, ALONG SAID NORTH SOUTH 1/4 LINE S01°35'53"E FOR A DISTANCE OF1365.87 FEET TO THE POINT OF BEGINNING: CONTAINING 17.472 ACRES MORE OR LESS AND SUBJECT TO THE RIGHTS FO THE PUBLIC OVER THE EXISTING GRAND RIVER AVENUE (100 FEET WIDE). ALSO, SUBJECT TO AND INCLUDING THE USE OF EASEMENT B AS RECORDED IN LIBER 2580 PG 0194-0205, EASEMENT A AND THE WHITE HORSE DRIVE EASEMENT AS RECORDED IN LIBER 3623 PG 0768-0778. ALSO, SUBJECT TO ANY EASEMENTS, RIGHT-OF-WAY AND RESTRICTIONS OF RECORD.

NOTES

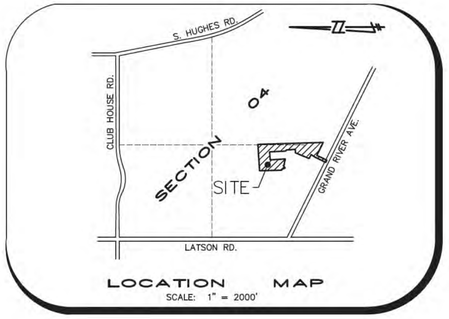
1. NOTIFY THE GENOA TOWNSHIP A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
2. ALL CONSTRUCTION MUST CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS ADOPED BY GENOA TOWNSHIP. STANDARD DETAIL SHEETS ARE ATTACHED.
3. CALL 811 ONE-CALL UTILITY LOCATING A MINIMUM OF 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
4. ALL SOIL EROSION AND SILTATION MUST BE CONTROLLED AND CONTAINED ON-SITE. THE OWNER SHALL SECURE A PERMIT FROM THE LIVINGSTON COUNTY DRAIN COMMISSION PRIOR TO ANY EARTH DISRUPTION.
5. ALL EXCAVATION, INCLUDING ALL UTILITIES AND LEADS, UNDER OR WITHIN 1 ON 1 INFLUENCE OF ANY PAVEMENT, EXISTING OR PROPOSED, OR WHERE SAND BACKFILL IS CALLED FOR ON THE PLAN, SHALL BE BACKFILLED AND COMPACTED WITH GRANULAR MATERIAL (SAND) MDOT CLASS II TO 95 PERCENT MAXIMUM UNIT DENSITY (ALL OTHERS 90 PERCENT).
6. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES AND FACILITIES. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT THE PROPOSED UTILITY CROSSINGS PRIOR TO THE START OF UNDERGROUND CONSTRUCTION. ANY CONFLICTS WITH UTILITIES SHALL BE IMMEDIATELY REPORTED TO THE PROJECT ENGINEER.
7. WHERE TWO UTILITIES CROSS, INCLUDING SANITARY SEWER LEADS, PROVIDE POROUS GRADE "B" BACKFILL MATERIAL COMPACTED TO THE UNDERSIDE OF THE HIGHER UTILITY OR AS SPECIFIED ON THE DETAIL SHEET.
8. DUST CONTROL SHALL BE MAINTAINED AT ALL TIMES.
9. ANY MUD TRACKED ONTO THE EXISTING STREETS SHALL BE REMOVED DAILY.
10. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITY LOCATIONS, INVERTS AND GRADES PRIOR TO THE START OF ANY WORK.
11. AS-BUILTS SHALL BE PROVIDED IN ACCORDANCE WITH THE GENOA TOWNSHIP AND LIVINGSTON COUNTY STANDARDS.



SCALE

150 0 75 150 300 600

(IN FEET)
Scale: 1 inch = 150 ft.



LOCATION MAP
SCALE: 1" = 2000'

SHEET INDEX

1. COVER SHEET
2. EXISTING CONDITIONS
3. SITE PLAN
4. COMPOSITE UTILITY PLAN
5. GRADING AND S.E.S.C. PLAN
6. GRADING AND S.E.S.C. PLAN
7. GRADING AND S.E.S.C. PLAN
8. SANITARY & WATERMAIN PLAN & PROFILE
9. SANITARY & WATERMAIN PLAN & PROFILE
10. SANITARY & WATERMAIN PLAN & PROFILE
11. STORM SEWER PLAN & PROFILE
12. STORM SEWER PLAN & PROFILE
13. STORM SEWER PLAN & PROFILE
14. DRAINAGE DISTRIBUTION PLAN
15. OVERALL TRIBUTARY AREA PLAN
16. DETENTION BASIN 2 PLAN

ND1. NOTES AND DETAILS
ND2. NOTES AND DETAILS
ND3. NOTES AND DETAILS

DETAILS

-MHOG WATER AND SANITARY STANDARD DETAILS

- LIVINGSTON COUNTY STORM SEWER DETAILS

-LIVINGSTON COUNTY SOIL EROSION AND SEDIMENT CONTROL DETAIL

BENCHMARKS

BM#1 -TOP ARROW ON HYDRANT LOCATED ON SW SIDE OF WHITE HORSE LANE AND ARUNDELL DR. ELEVATION 997.22 NAVD88

BM#3 -BENCHMARK ON LIGHT POLE BASE LOCATED ON NE SIDE OF STONEHENGE WAY AND WESTBURY BLVD. ELEVATION 994.18 NAVD88

SEIBER KEAST LEHNER, INC.
ENGINEERING | SURVEYING
39205 COUNTRY CLUB DR. • SUITE C-8
FARMINGTON HILLS, MICHIGAN • 48331
PHONE: 248.308.3331

LANDSCAPE PLANS PREPARED BY:
ALLEN DESIGN, LLC
LANDSCAPE ARCHITECTURE
557 CARPENTER, NORTHVILLE,
MICHIGAN 48167
PHONE: 248.467.4668

ARCHITECTURAL PLANS PREPARED BY:
ALEXANDER V. BOGAERTS & ASSOC.
2445 FRANKLIN ROAD,
BLOOMFIELD HILLS, MICHIGAN
48302
PHONE: 248.334.5000

TOPOGRAPHIC & BOUNDARY SURVEY
PROVIDED BY THE OWNER:

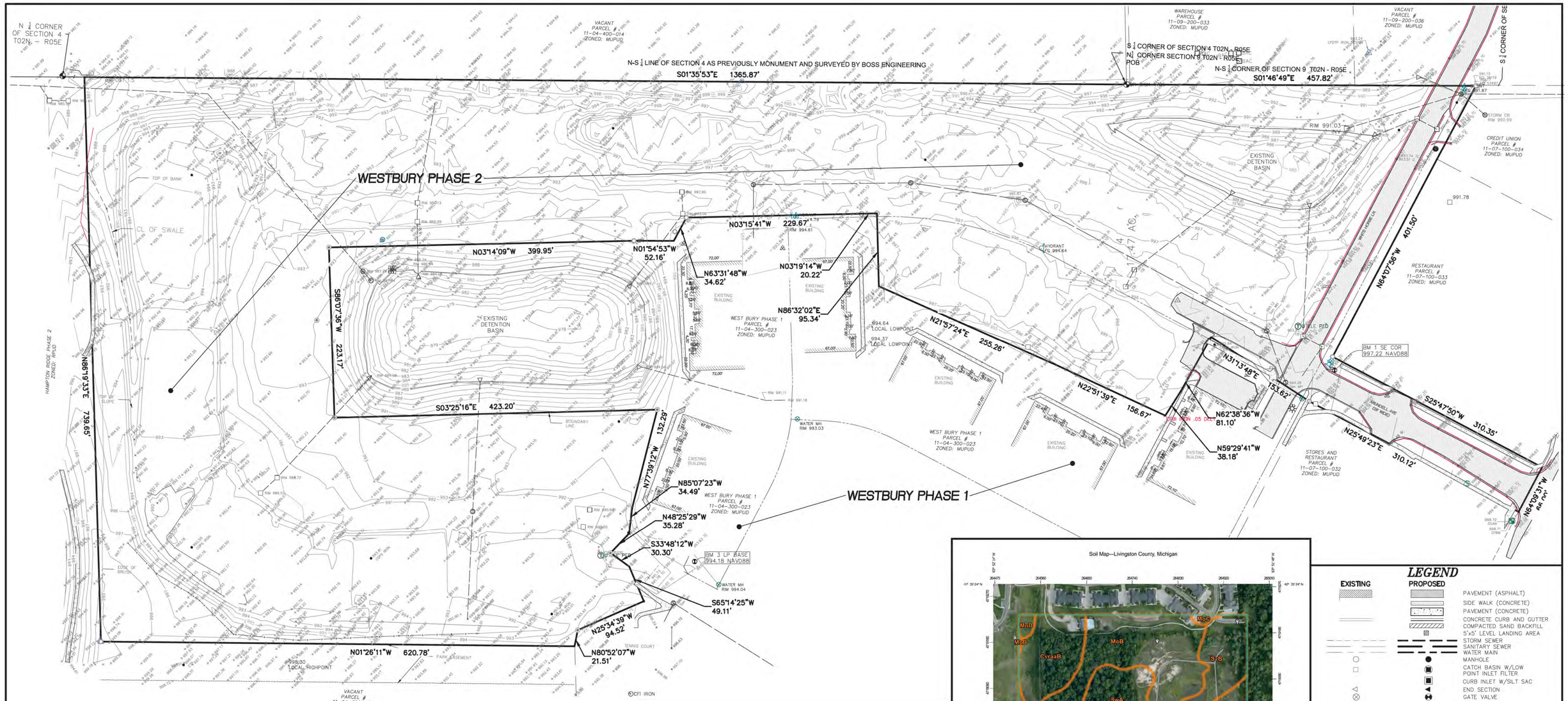
REVISIONS

NO.	ITEM	DATE
1.	REVISED PER TOWNSHIP	03-23-2022

ENGINEER'S SEAL

STATE OF MICHIGAN
ROBERT JAMES EMERINE
ENGINEER
No. 6201051253
LICENSED PROFESSIONAL ENGINEER

DATE: 1-17-22	DESIGNED BY: A.A	JOB NUMBER: 21-030
	CHECKED BY: B.E.	DRAWING FILE: 21-030CV.dwg



Soil Map—Livingston County, Michigan

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BwA	Bronson loamy sand, 0 to 2 percent slopes	3.9	5.8%
CvraaB	Conover loam, 0 to 4 percent slopes	4.5	6.7%
HID	Hillsdale sandy loam, 12 to 18 percent slopes	4.6	6.9%
MoB	Wawasee loam, 2 to 6 percent slopes	38.3	56.9%
MoC	Wawasee loam, 6 to 12 percent slopes	11.3	16.8%
MoD	Miami loam, 12 to 18 percent slopes	0.3	0.5%
SvB	Spinks-Oakville loamy sands, 0 to 6 percent slopes	4.3	6.4%
Totals for Area of Interest		**67.3**	**100.0%**

LEGEND

EXISTING	PROPOSED	
		PAVEMENT (ASPHALT)
		SIDE WALK (CONCRETE)
		PAVEMENT (CONCRETE)
		CONCRETE CURB AND GUTTER
		COMPACTED SAND BACKFILL
		5'x5' LEVEL LANDING AREA
		STORM SEWER
		SANITARY SEWER
		WATER MAIN
		MANHOLE
		CATCH BASIN W/LOW POINT INLET FILTER
		CURB INLET W/SILT SAC
		END SECTION
		GATE VALVE
		HYDRANT
		FLOOD PLAIN
1000	1000	CONTOURS
1000.0	1000.00 T/C	SPOT ELEVATION
		SURFACE DRAINAGE
		OVERFLOW ROUTE
		TREE FENCE
		SILT FENCE
		PROPOSED DRIVEWAY LOCATION
		LIMIT OF DISTURBANCE

WESTBURY PHASE 2

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

REVISIONS

NO.	ITEM	DATE
1.	REVISED PER TOWNSHIP	03-23-2022

UTILITY WARNING

UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THE PLAN, WERE OBTAINED FROM UTILITY OWNER AND NOT FIELD LOCATED.

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

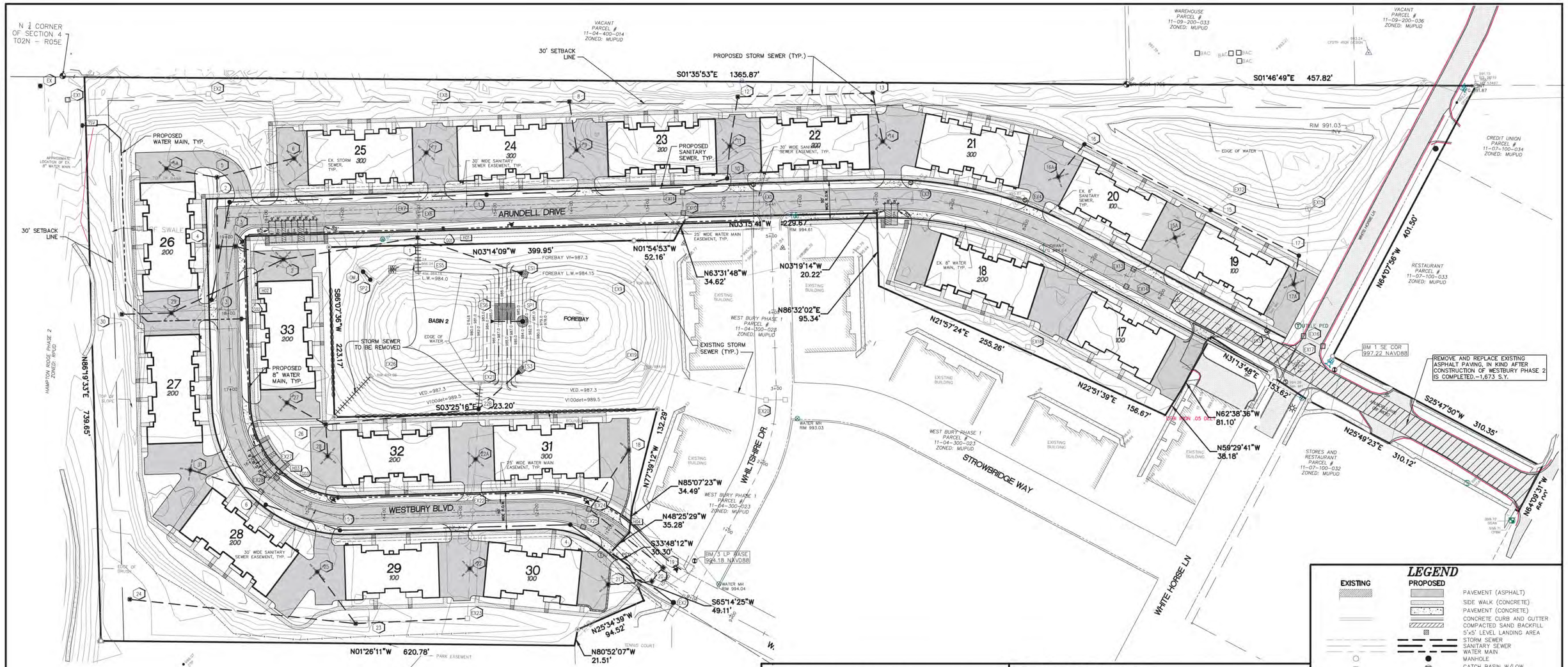
THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF AND/OR RELOCATION OF ALL UTILITIES THAT MAY INTERFERE WITH CONSTRUCTION.

DATE: 1-17-22 | DESIGNED BY: A.A. | CHECKED BY: B.E. | JOB NUMBER: 21-030 | DRAWING FILE:21-030TP.dwg

EXISTING CONDITIONS

SEIBER KEAST LEHNER INC.
ENGINEERING | SURVEYING
39205 COUNTRY CLUB DR. SUITE C-8
FARMINGTON HILLS, MICHIGAN 48331
PHONE: 248.308.3331

SHEET 2



UNIT MATRIX

BUILDING TYPE	UNIT TYPE	BUILDING NUMBER	UNIT DESCRIPTION	UNIT AREA (S.F.)	GARAGE SIZE (CARS)	TOTAL AREA PER UNIT TYPE (S.F.)	NUMBER OF BUILDINGS	UNITS PER BUILDING	NO. OF UNIT TYPES 1 BED	2 BED	3 BED	TOTAL NUMBER OF UNITS	GARAGE AREA (S.F.)	TOTAL GARAGE AREA	GRAND TOTAL AREA (UNIT+GARAGE)
100 PHASE II	101	17, 19, 20, 29, 31	1BR, 1 BTH RANCH LOWER	963	1	19,260	5	4	20			20	296	5,920	25,180
	102		3 BR, 2 BTH RANCH UPPER	1258	2	25,160		4			20	20	440	8,800	33,960
200 PHASE II	201	18, 22, 23, 26, 27, 28, 32, 33	2 BR, 2 BTH RANCH LOWER	1242	2	39,744	8	4		32		32	415	13,280	53,024
	202		2 BR, 2 BTH RANCH UPPER	1323	2	42,336		4		32		32	293	9,376	51,712
300 PHASE II	301	21, 24, 25, 30	3 BR, 2 BTH RANCH LOWER	1412	2	22,592	4	4			16	16	373	5,968	28,560
	302		3 BR, 2 BTH RANCH UPPER	1393	2	22,288		4			16	16	388	6,208	28,496
SUBTOTAL						171,380	17		20	64	52	136		49,552	220,932
									15%	47%	38%	100%			
GRAND TOTAL															220,932

(UNIT MATRIX PROVIDED BY ALEXANDER V. BOGARTS & ASSOCIATES)

WESTBURY PHASE 2 PARKING REQUIREMENTS

Parking Spaces Required

2 parking spaces per dwelling unit

136 Units x 2 = 272

Total Required 272

Parking Spaces Provided

Garage Parking = 252

Apron Parking = 252

Off-Street Parking = 13

Total Provided 517

Accessible Parking Spaces

Total Parking Spaces (Excluding Garages) =

Off-Street Parking = 13 spaces

Garage Approach Parking = 252

TOTAL 265

Accessible Spaces

Per 2010 ADA (208.2.3 Residential Facilities)

Total Required (Minimum 2% of the total 6

Total Provided

Standard Accessible Spaces 6

Van Accessible Spaces 1

7

SCALE

60 0 30 60 120 240

(IN FEET)

Scale: 1 inch = 60 ft.

WESTBURY PHASE 2 NOTES

1. U.S DEPT. OF AGRICULTURE SOIL CONSERVATION SERVICE SOILS INFORMATION IS SHOWN ON SHEET 2
2. SETBACKS

	REQUIRED	PROPOSED
A.	35 FT. (MIN) FRONT SETBACK	35 FT.
B.	15 FT. (MIN) SIDE SETBACK	15 FT.
C.	30 FT. (MIN) REAR SETBACK	30 FT.
D.	FRONT YARD INTERNAL SETBACK 20 FT. (MIN.)	20 FT.
E.	REAR YARD INTERNAL SETBACK 30 FT. (MIN.)	30 FT.
F.	BUILDING SPACING 30 FT. (MIN.)	30 FT.

3. SANITARY SEWER SHALL BE PROVIDED BY CONNECTING TO THE WESTBURY PHASE 1 SANITARY SEWERS.
4. WATER SUPPLY SHALL BE PROVIDED BY CONNECTING TO THE WESTBURY PHASE 1 AND HAMPTON RIDGE WATER MAINS.
5. BOTH ONSITE DETENTION BASINS ARE EXISTING.
6. PROSOSED ELECTRICAL SUPPLY, GAS SUPPLY, CABLE SERVICE AND TELEPHONE SERVICE SHLL BE INSTALLED UNDERGROUND.
7. INDIVIDUAL TRASH PICK-UP WILL BE PROVIDED.
8. ALL ROADS ARE PRIVATE WITH CONCRETE CURBS.
9. WESTBURY PHASE 1 INCLUDED THE CLUBHOUSE AND 16 BUILDINGS (128 UNITS). PHASE 2 CONSISTS OF 17 BUILDINGS (136 UNITS).
10. SITE LIGHTING FIXTURES, WHERE REQUIRED, WILL MATCH THE FIXTURES PROVIDED IN PHASE 1.

FIRE DEPARTMENT NOTES

1. NO STREET PARKING WILL BE ALLOWED ON THE HYDRANT SIDE OF THE STREET. "NO PARKING – FIRE LANE" SIGNS SHALL BE POSTED PER THE FIRE MARSHAL'S RQUIREMENTS.
2. ALL PHASE 2 BUILDINGS SHALL BE SPRINKLED.
3. HYDRANT LOCATIONS SHALL BE REVIEWED AND APPROVED BY THE FIRE MARSHAL

LEGEND

EXISTING	PROPOSED	
		PAVEMENT (ASPHALT)
		SIDE WALK (CONCRETE)
		PAVEMENT (CONCRETE)
		CONCRETE CURB AND GUTTER
		COMPACTED SAND BACKFILL
		5'x5' LEVEL LANDING AREA
		STORM SEWER
		SANITARY SEWER
		WATER MAIN
		MANHOLE
		CATCH BASIN W/LOW POINT INLET FILTER
		CURB INLET W/SILT SAC
		END SECTION
		GATE VALVE
		HYDRANT
		FLOOD PLAIN
1000	1000	CONTOURS
1000.0	1000.00 T/C	SPOT ELEVATION
		SURFACE DRAINAGE
		OVERFLOW ROUTE
		TREE FENCE
		SILT FENCE
		PROPOSED DRIVEWAY LOCATION
		LIMIT OF DISTURBANCE

WESTBURY PHASE 2

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

REVISIONS

NO.	ITEM	DATE
1.	REVISED PER TOWNSHIP	03-23-2022

UTILITY WARNING

UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THE PLAN, WERE OBTAINED FROM UTILITY OWNER AND NOT FIELD LOCATED.

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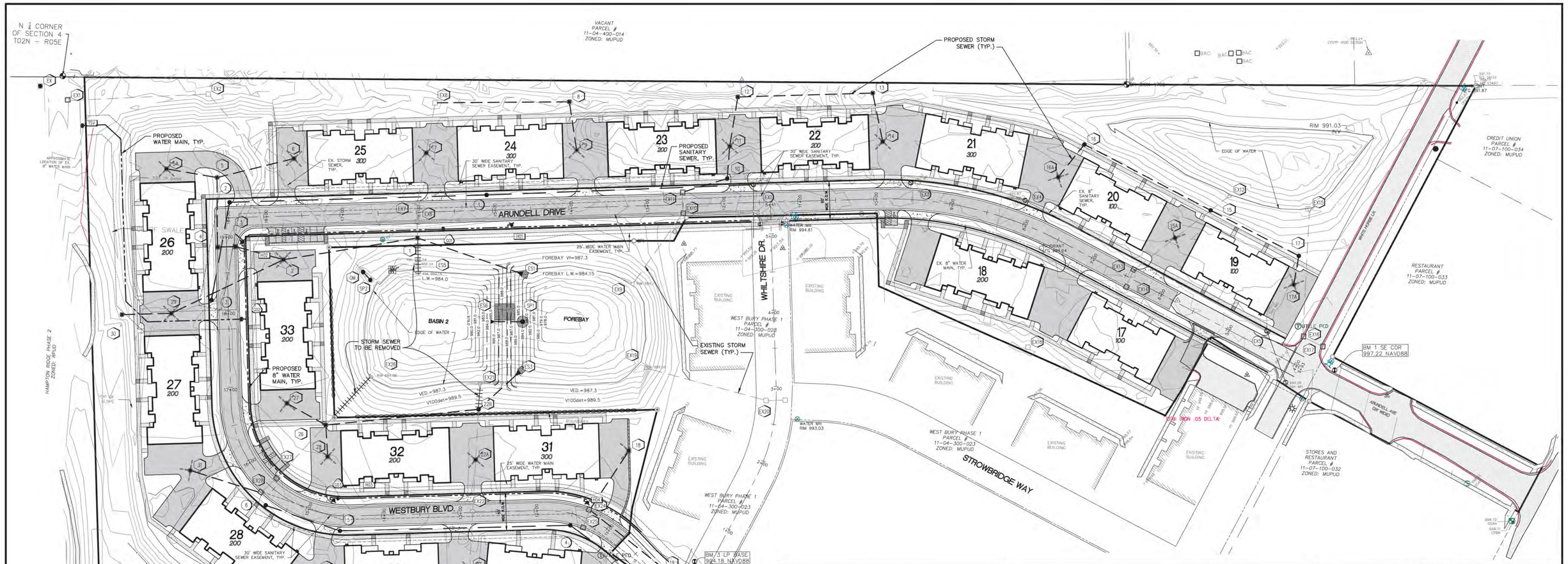
THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF AND/OR RELOCATION OF ALL UTILITIES THAT MAY INTERFERE WITH CONSTRUCTION.

DATE: 1-17-22 | DESIGNED BY: A.A. | CHECKED BY: B.E. | JOB NUMBER: 21-030 | DRAWING FILE:21-030SP.dwg

SITE PLAN

SEIBER KEAST LEHNER INC.
ENGINEERING | SURVEYING
39205 COUNTRY CLUB DR. SUITE C-8
FARMINGTON HILLS, MICHIGAN 48331
PHONE: 248.308.3331

SHEET 3



BENCHMARKS

BM#1 –TOP ARROW ON HYDRANT LOCATED ON SW SIDE OF WHITE HORSE LANE AND ARUNDELL DR. ELEVATION 997.22 NAVD88

BM#3 –BENCHMARK ON LIGHT POLE BASE LOCATED ON NE SIDE OF STONEHENGE WAY AND WESTBURY BLVD. ELEVATION 994.18 NAVD88

SCALE

60 0 30 60 120 240

(IN FEET)
Scale: 1 inch = 60 ft.

WESTBURY PH2

ESTIMATED QUANTITIES

SANITARY SEWER

	ITEM	QUANTITY	
1	4" PVC SDR 23.5 HOUSE LEAD	497	L.F.
3	8" ABS TRUSS SANITARY SEWER	1392	L.F.
4	4' DIA. MANHOLE	6	EA.

WATER MAIN

	ITEM	QUANTITY	
1	8" WATER MAIN D.I. CL 54	1,989	L.F.
2	HYDRANT, VALVE & BOX	4	EA.
3	8"X12" TAPPING SLEEVE, VALVE & WELL	1	EA.
4	8" GATE, VALVE & WELL	3	EA.
5	4" D.I. WATER SERVICE LEAD	979	L.F.

STORM SEWER

	ITEM	QUANTITY	
1	4" PVC SCH. 40		L.F.
2	12" C-76 CL. 4	2414	L.F.
3	18" C-76 CL. 4	644	L.F.
4	21" C-76-CL.4	189	L.F.
5	27" C-76 CL. 4	73	L.F.
6	2' DIA. INLET	12	EA.
7	4' DIA. CATCH BASIN	21	EA.
8	4' DIA. MANHOLE	3	EA.
9	MECHANICAL SEDIMENT REMOVAL STRUCTURE	1	EA.
10	36" CMP STANDPIPE (PIPE/STONE)	2	EA.
11	12" CONC. END SECTION	1	EA.
12	18" CONC. END SECTION	1	EA.
13	21" CONC. END SECTION	1	EA.
14	27" CONC. END SECTION	1	EA.

PAVING

	ITEM	QUANTITY	
1	ON-SITE ASPHALT PAVEMENT (4.5" ON 10")	16,634	S.Y.
2	CONC. CURB & GUTTER	5,422	L.F.
3	5' WIDE CONCRETE SIDEWALK (4" THICK)	5,334	S.Y.
4	CONCRETE DRIVE APPROACH (6" THICK)	878	S.Y.

ESTIMATED QUANTITIES ARE FOR REFERENCE ONLY. CONTRACTOR SHALL DETERMINE THE QUANTITIES OF WORK REQUIRED TO COMPLETE THE PROJECT.

SANITARY SEWER BASIS OF DESIGN

CONNECT TO AN 8" SANITARY AT 2 LOCATIONS IN THE EXISTING WESTBURY APARTMENTS PHASE 1

INITIAL AND ULTIMATE SERVICE AREA

NUMBER OF UNITS

Apartments:
136 units = 136.00 units

Total 136.00 units

POPULATION
= 2.6 people/unit x 136.00 units
= 353.60 people

AVERAGE FLOW
= 353.60 people x 100 gal/cap/day
= 35,360 gal/day
= 0.055 cfs

PEAK FACTOR
= (18+SQRT(P/1000))/(4+SQRT(P/1000))
= 4.05 (28,400 > Pop > 500)
= 4 (Pop < 500 people, Lyon Township/10 State Standard)

PEAK FLOW
= PEAK FACTOR X AVERAGE FLOW
= 0.219 cfs

LEGEND

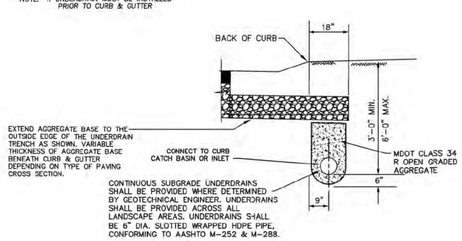
EXISTING / PROPOSED

- PAVEMENT (ASPHALT)
- SIDE WALK (CONCRETE)
- PAVEMENT (CONCRETE)
- CONCRETE CURB AND GUTTER
- COMPACTED SAND BACKFILL
- 5'x5' LEVEL LANDING AREA
- STORM SEWER
- SANITARY SEWER
- WATER MAIN
- MANHOLE
- CATCH BASIN W/LOW POINT INLET FILTER
- CURB INLET W/SILT SAC
- END SECTION
- GATE VALVE
- HYDRANT
- FLOOD PLAIN
- CONTOURS
- SPOT ELEVATION
- SURFACE DRAINAGE
- OVERFLOW ROUTE
- TREE FENCE
- SILT FENCE
- PROPOSED DRIVEWAY LOCATION
- LIMIT OF DISTURBANCE

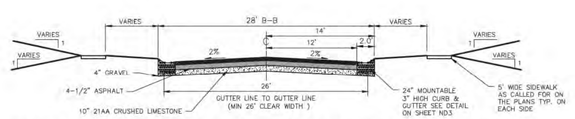
WESTBURY PHASE 2

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

NOTE: 1. UNDERDRAIN MUST BE INSTALLED PRIOR TO CURB & GUTTER



UNDERDRAIN DETAIL



TYPICAL ROAD CROSS-SECTION WITHOUT PARKING

WESTBURY PHASE 2

Water Basis of Design

INTIAL AND ULTIMATE SERVICE AREA

NUMBER OF UNITS

Apartments:
136 units = 136 units

POPULATION
= 2.7 people/unit x 136 units
= 367.2 people

AVERAGE FLOW
= 367.2 people x 100 gal/cap/day
= 36720.0 gal/day =
= 0.056814 cfs 0.0367 mgd

PEAK FACTOR
= (18+SQRT(P/1000))/(4+SQRT(P/1000))
= 4.039533 4

PEAK FLOW
= PEAK FACTOR X AVERAGE FLOW
= 0.229503 cfs 0.1483 mgd

REVISIONS			
NO.	ITEM	DATE	
1.	REVISED PER TOWNSHIP	03-23-2022	

UTILITY WARNING

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DATE: 1-17-22 | DESIGNED BY: A.A. | JOB NUMBER: 21-030
CHECKED BY: B.E. | DRAWING FILE:21-030CU.dwg

COMPOSITE UTILITY PLAN

SEIBER KEAST LEHNER INC.
ENGINEERING | SURVEYING
39205 COUNTRY CLUB DR. SUITE C-8
FARMINGTON HILLS, MICHIGAN 48331
PHONE: 248.308.3331

SHEET 4

CATCH BASIN WITH LOW POINT INLET FILTER (YARD) TYP.

CATCH BASIN WITH LOW POINT INLET FILTER (PAVEMENT) TYP.

PROPOSED 36" SILT FENCE AND LIMITS OF CONSTRUCTION

INSTALL SILT FENCE AROUND TOP SOIL STOCK PILE AREA

EDGE OF WATER

RIM 991.03 INV

5'x5' LEVEL LANDING AREAS (TYP.)

MH15- "CONTECH CASCADE SEPARATOR" SEE SHEET ND1 FOR DETAILS

ARUNDELL DRIVE

EX. 8" SANITARY SEWER, TYP.

EX. 8" WATER MAIN, TYP.

PROPOSED 8" WATER MAIN, TYP.

REMOVE EXISTING CURB AS NECESSARY TO ADD PROPOSED ADA RAMP

SEE SHEET 6 FOR CONTINUATION

22 FF=996.80 FG=996.13

21 FF=997.80 FG=997.13

20 FF=996.20 FG=995.53

19 FF=996.20 FG=995.53

18 FF=998.02 FG=997.53

17 FF=997.92 FG=997.25

WEST BURY PHASE 1 PARCEL # 11-04-300-023 ZONED: MUPUD

994.64 LOCAL LOWPOINT

994.37 LOCAL LOWPOINT

SAW CUT EX. PAVEMENT AND PROVIDE BUTT JOINT

36" SILT FENCE GRAVEL FILTER

PROPOSED 36" SILT FENCE AND LIMITS OF CONSTRUCTION

INSTALL TRACKING MAT (SEE SESC DETAIL SHEET)

SAW CUT EX. PAVEMENT AND PROVIDE BUTT JOINT SEE DETAIL ND SHEET

REMOVE AND REPLACE PAVEMENT IF NECESSARY TO MAINTAIN GRADES

ADD SILT SACK TO EXISTING CATCH BASINS, TYP.

WEST BURY PHASE 1 PARCEL #

LEGEND

EXISTING	PROPOSED	
		PAVEMENT (ASPHALT)
		SIDE WALK (CONCRETE)
		PAVEMENT (CONCRETE)
		CONCRETE CURB AND GUTTER
		COMPACTED SAND BACKFILL
		5'x5' LEVEL LANDING AREA
		STORM SEWER
		SANITARY SEWER
		WATER MAIN
		MANHOLE
		CATCH BASIN W/LOW POINT INLET FILTER
		CURB INLET W/SILT SAC
		END SECTION
		GATE VALVE
		HYDRANT
		FLOOD PLAIN
1000	1000	CONTOURS
1000.0	1000.00 T/C	SPOT ELEVATION
		SURFACE DRAINAGE
		OVERFLOW ROUTE
		TREE FENCE
		SILT FENCE
		PROPOSED DRIVEWAY LOCATION
		LIMIT OF DISTURBANCE

SCALE

30 0 15 30 60 120

(IN FEET)
Scale: 1 inch = 30 ft.

KEY MAP
(Scale: 1"= 300')

WESTBURY PHASE 2

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

REVISIONS

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GRADING AND S.E.S.C. PLAN

SEIBER KEAST LEHNER INC.
ENGINEERING | SURVEYING
39205 COUNTRY CLUB DR. SUITE C-8
FARMINGTON HILLS, MICHIGAN 48331
PHONE: 248.308.3331

SHEET 5

PROPOSED 36" SILT FENCE AND LIMITS OF CONSTRUCTION

CATCH BASIN WITH LOW POINT INLET FILTER (YARD) TYP.

5'x5' LEVEL LANDING AREAS (TYP.)

APPROXIMATE LOCATION OF EX. WATER MAIN

36" SILT FENCE GRAVEL FILTER

ARUNDELL DRIVE

WESTBURY BLVD.

HAMPTON RIDGE PHASE 2
ZONED: RPUD

25
FF=995.20
FG=994.53

24
FF=995.20
FG=994.53

23
FF=995.80
FG=995.13

26
FF=996.20
FG=995.53

27
FF=996.50
FG=995.83

33
FF=996.50
FG=995.83

32
FF=996.52
FG=995.85

31
FF=995.42
FG=994.75

CATCH BASIN WITH LOW POINT INLET FILTER (PAVEMENT) TYP.

30' WIDE SANITARY SEWER EASEMENT, TYP.

20' WIDE WATER MAIN EASEMENT, TYP.

25' WIDE WATER MAIN EASEMENT, TYP.

ADD SILT SACK TO EXISTING CATCH BASINS, TYP.

SEE SHEET 16 FOR DETENTION BASIN PLAN

EXISTING BUILDING

FOREBAY Vf=987.3

FOREBAY L.W.=984.15

L.W.=984.0

BASIN 2

FOREBAY

EXISTING STORM TO BE ABANDONED

VED.=987.3

V100det=989.5

PROPOSED 36" SILT FENCE AND LIMITS OF CONSTRUCTION

SEE SHEET 7 FOR CONTINUATION

SEE SHEET 5 FOR CONTINUATION

W/F – SEE SHEET ND1 FOR SESC NOTES
– SEE LIVINGSTON COUNTY SESC DETAIL SHEET

LEGEND

EXISTING	PROPOSED	
		PAVEMENT (ASPHALT)
		SIDE WALK (CONCRETE)
		PAVEMENT (CONCRETE)
		CONCRETE CURB AND GUTTER
		COMPACTED SAND BACKFILL
		5'x5' LEVEL LANDING AREA
		STORM SEWER
		SANITARY SEWER
		WATER MAIN
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		CATCH BASIN W/LOW POINT INLET FILTER
		CURB INLET W/SILT SAC
		END SECTION
		GATE VALVE
		HYDRANT
		FLOOD PLAIN
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		SURFACE DRAINAGE
		OVERFLOW ROUTE
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		PROPOSED DRIVEWAY LOCATION
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WESTBURY PHASE 2

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GENOA TWP., LIVINGSTON COUNTY, MICHIGAN

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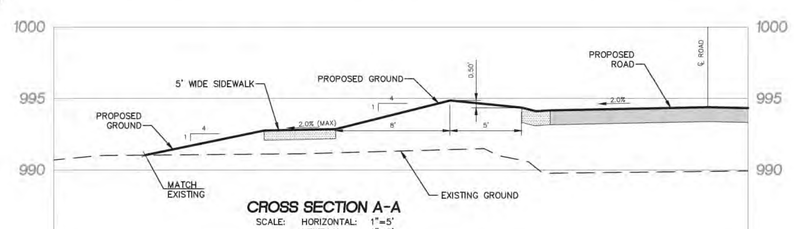
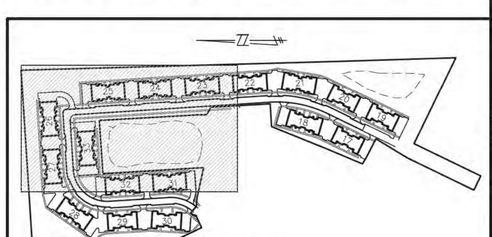
SEIBER KEAST LEHNER INC.
ENGINEERING | SURVEYING
39205 COUNTRY CLUB DR. SUITE C-8
FARMINGTON HILLS, MICHIGAN 48331
PHONE: 248.308.3331

SHEET 6

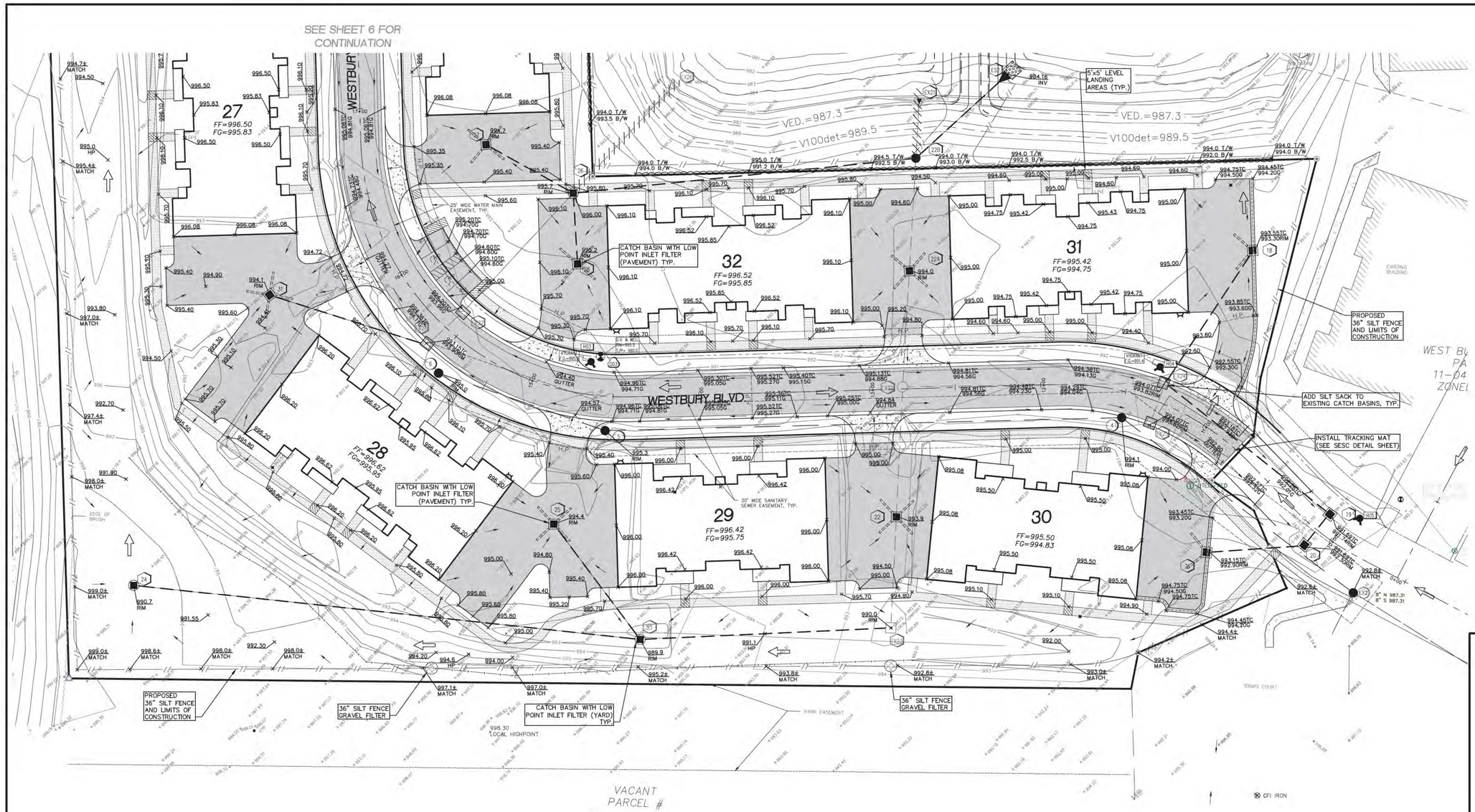
SCALE
30 0 15 30 60 120
(IN FEET)
Scale: 1 inch = 30 ft.

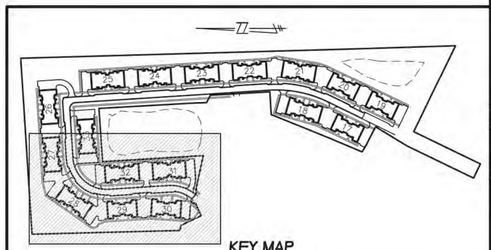


CROSS SECTION A-A
SCALE: HORIZONTAL: 1"=5'
VERTICAL: 1"=5'



KEY MAP
(Scale: 1"= 300')





LEGEND

EXISTING	PROPOSED	
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		PAVEMENT (CONCRETE)
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		COMPACTED SAND BACKFILL
		5'x5' LEVEL LANDING AREA
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		SANITARY SEWER
		WATER MAIN
		MANHOLE
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WESTBURY PHASE 2

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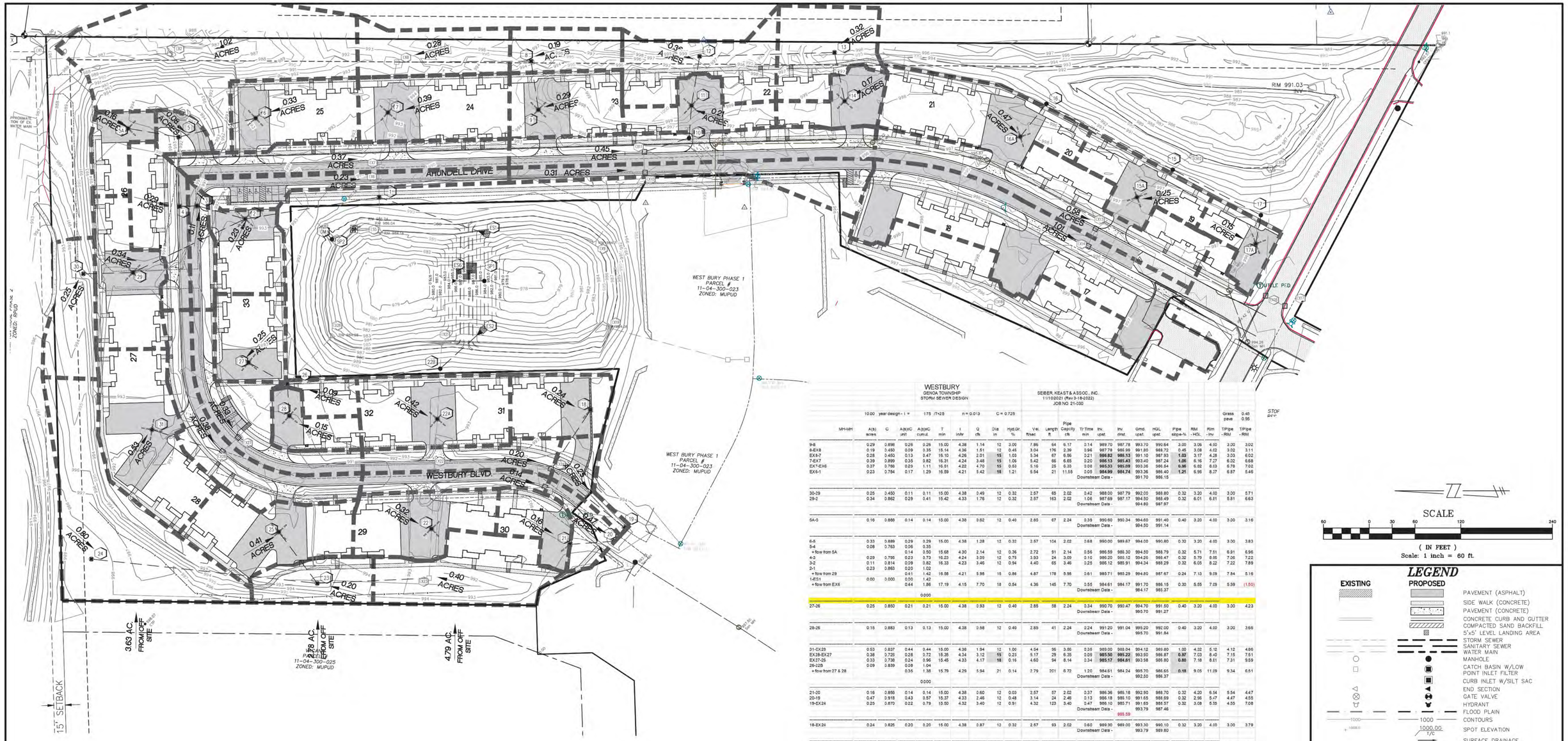
ENGINEERING | SURVEYING
39205 COUNTRY CLUB DR. SUITE C-8
FARMINGTON HILLS, MICHIGAN 48331
PHONE: 248.308.3331

SHEET 7



WESTBURY
GENOA TOWNSHIP
STORM SEWER DESIGN

SEIBER, KEAST & ASSOC., INC.
11/10/2021 (Rev 3-18-2022)
JOB NO. 21-030

10.00 year design - I = 175 /T+25 n = 0.013 C = 0.725

Grass pave 0.45 0.55

MH-MH	A(s) acres	C	A(s)xC unit	A(s)xC cumul.	T min	I in/hr	Q cfs	Dia in	Hyd.Gr. %	Vel. ft/sec	Length ft	Pipe Capcity cfs	Tr Time min	Inv upst.	Inv dnst.	Gmd. upst.	HGL upst.	Pipe slope-%	RIM HGL	Rim - Inv	TPipe - RIM	TPipe - RIM
9-8	0.29	0.896	0.26	0.26	15.00	4.38	1.14	12	3.00	7.86	64	6.17	0.14	989.70	987.78	993.70	990.84	3.00	3.06	4.00	3.00	3.02
8-EX8	0.19	0.450	0.09	0.35	15.14	4.36	1.51	12	0.45	3.04	176	2.39	0.96	987.78	986.99	991.80	988.72	0.45	3.08	4.02	3.02	3.11
EX8-7	0.28	0.450	0.13	0.47	15.10	4.26	2.01	15	1.03	5.34	67	6.55	0.21	986.82	986.13	991.10	987.93	1.03	3.17	4.28	3.03	6.02
7-EX7	0.39	0.899	0.35	0.82	15.31	4.24	3.48	15	1.06	5.42	66	6.65	0.20	986.13	985.43	993.40	987.24	1.06	6.16	7.27	6.02	6.68
EX7-EX6	0.37	0.788	0.29	1.11	15.51	4.22	4.70	15	0.53	5.16	25	6.33	0.08	985.33	985.09	993.36	986.64	0.96	6.82	8.03	6.78	7.02
EX6-1	0.23	0.754	0.17	1.29	15.59	4.21	5.42	18	1.21	5.54	21	11.55	0.05	984.99	984.74	993.36	986.40	1.21	6.96	8.37	6.87	5.46
													Downstream Data -			991.70	986.15					
30-29	0.25	0.450	0.11	0.11	15.00	4.38	0.49	12	0.32	2.57	65	2.02	0.42	988.00	987.79	992.00	989.80	0.32	3.20	4.00	3.00	5.71
29-2	0.34	0.862	0.29	0.41	15.42	4.33	1.76	12	0.32	2.57	163	2.02	1.06	987.69	987.17	994.60	989.49	0.32	6.01	6.81	5.81	6.63
													Downstream Data -			994.60	987.97					
5A-5	0.16	0.888	0.14	0.14	15.00	4.38	0.62	12	0.40	2.85	67	2.24	0.39	990.60	990.34	994.60	991.40	0.40	3.20	4.00	3.00	3.16
													Downstream Data -			994.50	991.14					
6-5	0.33	0.889	0.29	0.29	15.00	4.38	1.28	12	0.32	2.57	104	2.02	0.68	990.00	989.67	994.00	990.80	0.32	3.20	4.00	3.00	3.83
5-4	0.08	0.763	0.06	0.35																		
+ flow from 5A			0.14	0.50	15.68	4.30	2.14	12	0.36	2.72	91	2.14	0.56	986.59	986.30	994.50	988.79	0.32	5.71	7.51	6.91	6.96
4-3	0.29	0.795	0.23	0.73	16.23	4.24	3.09	12	0.75	3.93	24	3.09	0.10	986.20	986.12	994.26	989.47	0.32	5.79	8.66	7.06	7.22
3-2	0.11	0.814	0.09	0.82	16.33	4.23	3.46	12	0.94	4.40	65	3.46	0.25	986.12	985.91	994.34	989.29	0.32	6.05	8.22	7.22	7.89
2-1	0.23	0.863	0.20	1.02																		
+ flow from 29			0.41	1.42	16.58	4.21	5.98	15	0.86	4.87	178	5.98	0.61	985.71	985.29	994.60	987.67	0.24	7.13	9.09	7.84	5.16
1-EX1	0.00	0.000	0.00	1.42																		
+ flow from EX6			0.44	1.86	17.19	4.15	7.70	18	0.54	4.36	145	7.70	0.55	984.61	984.17	991.70	986.15	0.30	5.55	7.09	5.59	(1.50)
													Downstream Data -			994.17	985.37					
				0.000																		
27-26	0.25	0.850	0.21	0.21	15.00	4.38	0.93	12	0.40	2.85	58	2.24	0.34	990.70	990.47	994.70	991.50	0.40	3.20	4.00	3.00	4.23
													Downstream Data -			995.70	991.27					
28-26	0.15	0.883	0.13	0.13	15.00	4.38	0.58	12	0.40	2.85	41	2.24	0.24	991.20	991.04	995.20	992.00	0.40	3.20	4.00	3.00	3.66
													Downstream Data -			995.70	991.84					
31-EX28	0.53	0.837	0.44	0.44	15.00	4.38	1.94	12	1.00	4.54	96	3.56	0.35	989.00	988.04	994.12	989.80	1.00	4.32	5.12	4.12	4.86
EX28-EX27	0.38	0.725	0.28	0.72	15.35	4.34	3.12	15	0.23	3.17	29	6.35	0.09	985.50	985.22	993.50	986.87	0.97	7.03	8.40	7.15	7.51
EX27-26	0.33	0.738	0.24	0.96	15.45	4.33	4.17	18	0.16	4.60	94	8.14	0.34	985.17	984.61	993.58	986.80	0.80	7.18	8.61	7.31	9.59
26-22B	0.09	0.839	0.08	1.04																		
+ flow from 27 & 28			0.35	1.38	15.79	4.29	5.94	21	0.14	3.79	201	8.72	1.20	984.61	984.24	995.70	986.65	0.18	9.05	11.09	9.34	6.51
													Downstream Data -			992.50	986.37					
				0.000																		
21-20	0.16	0.850	0.14	0.14	15.00	4.38	0.60	12	0.03	2.57	57	2.02	0.37	986.36	986.18	992.90	988.70	0.32	4.20	6.54	5.54	4.47
20-19	0.47	0.918	0.43	0.57	15.37	4.33	2.46	12	0.48	3.14	24	2.46	0.13	986.18	986.10	991.65	989.69	0.32	2.96	5.47	4.47	4.55
19-EX24	0.25	0.870	0.22	0.79	15.50	4.32	3.40	12	0.91	4.32	123	3.40	0.47	986.10	985.71	991.65	988.57	0.32	3.08	5.55	4.55	7.08
													Downstream Data -			993.79	987.46					
															985.59							
18-EX24	0.24	0.825	0.20	0.20	15.00	4.38	0.87	12	0.32	2.57	93	2.02	0.60	989.30	989.00	993.30	990.10	0.32	3.20	4.00	3.00	3.79
													Downstream Data -			993.79	989.80					
EX25-EX24	0.14	0.771	0.11	0.11	15.00	4.38	0.47	15	0.58	4.02	24	4.53	0.10	986.23	986.09	993.79	987.60	0.58	6.19	7.56	6.31	6.45
EX24-EX22	0.20	0.750	0.15	0.26																		
+ flow from 18 & 19			0.98	1.24	15.10	4.36	5.42	24	0.29	3.89	154	12.23	0.66	985.59	985.14	993.79	987.46	0.29	6.33	8.20	6.20	7.86
													Downstream Data -			995.00	987.51					
25-23	0.41	0.877	0.36	0.36	15.00	4.38	1.57	12	0.19	3.49	84	6.67	0.16	989.60	989.66	994.40	990.40	0.50	4.00	4.00	3.80	2.24
													Downstream Data -			989.90	988.85					
24-23	4.43	0.285	1.26	1.26	15.00	4.38	5.52	18	0.28	3.12	298	5.52	1.59	986.86	985.26	990.70	989.67	0.20	1.03	3.64	2.34	2.14
23-EX23	2.98	0.230	0.69	1.95																		
+ flow from 25			0.36	2.31	16.59	4.21	9.70	21	0.38	4.03	147	9.70	0.61	986.06	985.85	989.90	988.85	0.14	1.05	3.64	2.09	1.90
EX23-22	5.19	0.232	1.21	3.51	17.20	4.15	14.56	21	0.84	6.06	65	14.56	0.18	985.78	985.42	989.50	988.30	0.55	1.20	3.12	1.97	6.73
22-EX22	0.32	0.872	0.28	3.79	17.38	4.13	15.66	21	0.98	5.51	76	15.66	0.19	985.42	985.01	993.50	987.75	0.55	6.15	8.48	6.73	8.24
EX22-22A	0.00	0.000	0.00	3.79																		
+ flow from EX24			1.24	5.03	17.57	4.11	20.69	27	0.45	5.20	68	20.69	0.22	984.66	984.45	995.00	987.91	0.32	7.59	10.34	9.09	7.30
22A-22B	0.42	0.855	0.36	5.39	17.79	4.09	22.05	27	0.51	5.55	66	22.05	0.20	984.45	984.24	994.00	986.70	0.32	7.30	9.55	7.30	6.01
22B-EX2	0.00	0.000	0.00	5.39																		
+ flow from 26			1.38	6.78	17.99	4.07	27.58	30	0.49	5.62	73	27.58	0.22	984.24	984.16	992.50	986.37	0.10	6.13	8.26	5.76	(2.50)
													Downstream Data -			984.16	986.04					
14-13	0.17	0.921	0.16	0.16	15.00	4.38	0.68	12	0.04	2.57	65	2.02	0.42	990.20	989.99	995.20	992.12	0.32	3.08	5.00	4.00	2.41
13-12	0.32	0.903	0.29	0.45	15.42	4.33	1.93	12	0.29	2.57	177	2.02	1.15	989.99	989.43	993.40	992.09	0.32	1.31	3.41	2.41	2.57
12-11	0.36	0.894	0.32	0.77	16.57	4.21	3.23	12	0.82	4.11	65	3.23	0.26	989.43	989.22	993.00	991.57	0.32	1.43	3.57	2.57	3.98
11-10	0.21	0.928	0.19	0.96	16.84	4.18	4.02	12	1.28	5.12	43	4.02	0.14	989.22	989.08	994.20	991.94	0.32	3.16	4.58	3.98	4.62
10-EX11	0.00	0.000	0.00	0.96	16.97	4.17	4.01	12	1.27	5.11	62	4.01	0.20	989.08	988.88	994.70	990.49	0.32	4.21	5.62	4.62	3.39
EX11-EX10	0.48	0.761	0.34	1.30	17.18	4.15	5.41	12	2.31	5.73	27	6.86	0.05	988.86	987.86	993.27	989.71	3.70	3.56	4.41	3.41	4.49
EX10-EX9	0.31	0.660	0.20	1.51	17.23	4.14	6.25	12	3.08	7.96	115	6.25	0.24	987.86	984.74	993.35	989.08	2.71	4.27	5.49	4.49	(1.00)
													Downstream Data -			984.74	985.64					
16A-16	0.47	0.885	0.42	0.42	15.00	4.38	1.82	12	0.32	2.57	55	2.02	0.36	990.70	990.52	994.70	991.56	0.32	3.14	4.00	3.00	3.48
16-15	0.00	0.000	0.00	0.42	15.36	4.34	1.81	12	0.50	3.21	187	2.52	0.97	990.42	989.49	995.00	991.38	0.50	3.62	4.58	3.58	4.31
													Downstream Data -			994.60	990.44					
17A-17	0.15	0.883	0.13	0.13	15.00	4.38	0.58	12	0.32	2.57	38	2.02	0.25	990.70	990.58	994.70	991.54	0.32	3.16	4.00	3.00	3.12
17-15	0.00	0.000	0.00	0.13	15.25	4.35	0.58	12	0.75	3.93	130	3.09	0.55	990.48	989.50	994.70	991.42	0.75	3.28	4.22	3.22	4.30
													Downstream Data -			994.60	990.44					
EX14-EX13	1.01	0.845	0.85	0.85	15.00	4.38	3.74	12	1.19	5.60	25	5.19	0.06	990.28	989.75	994.01	991.67	2.12	2.14	3.73	2.73	3.26
EX13-15A	0.58	0.778	0.45	1.31	15.06	4.37	5.70	15	0.78	4.65	68	5.70	0.24	989.62	989.27	994.01	991.59	0.51	2.42	4.29	3.14	3.98
15A-15	0.25	0.870	0.22	1.52	15.31	4.34	6.61	15	1.05	5.39	59	6.61	0.18	989.27	988.97	994.50	991.06	0.51	3.44	5.23	3.98	4.58
15-EX12	0.00	0.000	0.00	1.52																		
+ flow from 16 & 17			0.55	2.07	15.49	4.32	8.96	15	1.92	7.30	33	8.96	0.08	988.97	988.81	994.80	990.44	0.48	4.36	5.83	4.58	(1.25)
													Downstream Data -			988.81	989.81					
				0.000																		

SCALE

60 0 30 60 120 240

(IN FEET)
Scale: 1 inch = 60 ft.

LEGEND

EXISTING	PROPOSED	
		PAVEMENT (ASPHALT)
		SIDE WALK (CONCRETE)
		PAVEMENT (CONCRETE)
		CONCRETE CURB AND GUTTER
		COMPACTED SAND BACKFILL
		5'x5' LEVEL LANDING AREA
		STORM SEWER
		SANITARY SEWER
		WATER MAIN
		MANHOLE
		CATCH BASIN W/LOW POINT INLET FILTER
		CURB INLET W/SILT SAC
		END SECTION
		GATE VALVE
		HYDRANT
		FLOOD PLAIN
1000	1000	CONTOURS
1000.0	1000.00 1/c	SPOT ELEVATION
		SURFACE DRAINAGE
		OVERFLOW ROUTE
		TREE FENCE
		SILT FENCE
		PROPOSED DRIVEWAY LOCATION
		LIMIT OF DISTURBANCE

WESTBURY PHASE 2

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

REVISIONS

NO	ITEM	DATE
1.	REVISED PER TOWNSHIP	03-23-2022

UTILITY WARNING

UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THE PLAN, WERE OBTAINED FROM UTILITY OWNER AND NOT FIELD LOCATED.

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

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF AND/OR RELOCATION OF ALL UTILITIES THAT MAY INTERFERE WITH CONSTRUCTION.

DATE: 1-17-22 | DESIGNED BY: A.A. | CHECKED BY: B.E. | JOB NUMBER: 21-030 | DRAWING FILE: 21-030DD.dwg

DRAINAGE DISTRIBUTION PLAN

SEIBER KEAST LEHNER INC.
ENGINEERING | SURVEYING
39205 COUNTRY CLUB DR. SUITE C-8
FARMINGTON HILLS, MICHIGAN 48331
PHONE: 248.308.3331

SHEET 14

SCALE

80 0 40 80 160 320

(IN FEET)
Scale: 1 inch = 80 ft.

LEGEND

EXISTING	PROPOSED	
		PAVEMENT (ASPHALT)
		SIDE WALK (CONCRETE)
		PAVEMENT (CONCRETE)
		CONCRETE CURB AND GUTTER
		COMPACTED SAND BACKFILL
		5'x5' LEVEL LANDING AREA
		STORM SEWER
		SANITARY SEWER
		WATER MAIN
		MANHOLE
		CATCH BASIN W/LOW POINT INLET FILTER
		CURB INLET W/SILT SAC
		END SECTION
		GATE VALVE
		HYDRANT
		FLOOD PLAIN
1000	1000	CONTOURS
1000.0	1000.00 T/C	SPOT ELEVATION
		SURFACE DRAINAGE
		OVERFLOW ROUTE
		TREE FENCE
		SILT FENCE
		PROPOSED DRIVEWAY LOCATION
		LIMIT OF DISTURBANCE

WESTBURY PHASE 2

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

REVISIONS

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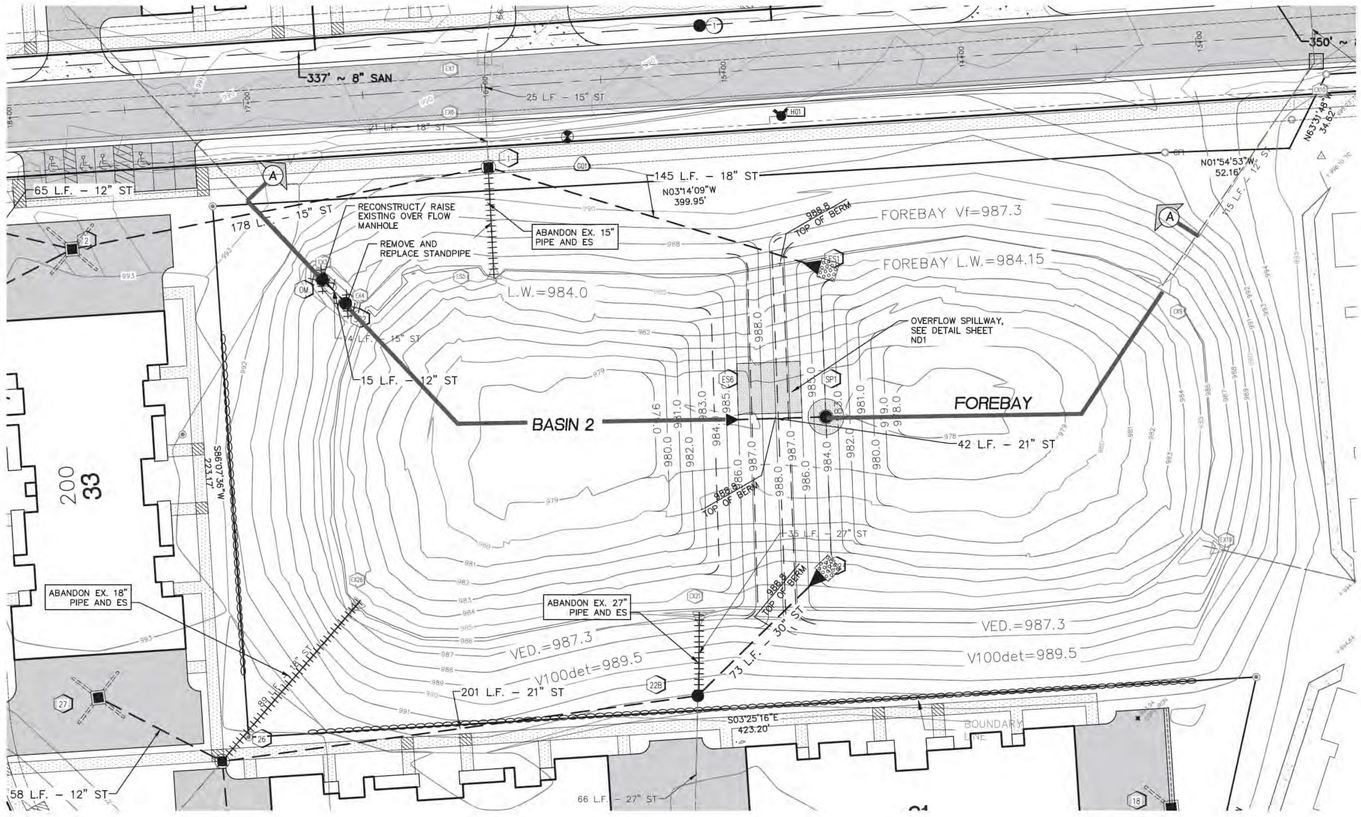
DATE: 1-17-22 | DESIGNED BY: A.A. | JOB NUMBER: 21-030
CHECKED BY: B.E. | DRAWING FILE:21-030DD.dwg

OVERALL TRIBUTARY AREA PLAN

SEIBER KEAST LEHNER INC.
ENGINEERING | SURVEYING
39205 COUNTRY CLUB DR. SUITE C-8
FARMINGTON HILLS, MICHIGAN 48331
PHONE: 248.308.3331

SHEET 15



SCALE

30 0 15 30 60 120

(IN FEET)
Scale: 1 inch = 30 ft.

Calculate Detention Volume Provided

Forebay V_F

Elev.	AREA(sf)	Volume (sf)	Accum. (C.F.)
984.15	30607		
985.00	21102	21976	21976
986.00	24651	22877	44853
987.00	28100	26376	71228
987.40	29530	11526	82754
TOTAL FOREBAY ALONE			**82754**

Detention Basin + Forebay

Elev.	AREA(sf)	Volume (sf)	Accum. (C.F.)	
984.00	36853			
985.00	42394	39624	39624	
986.00	49028	45711	85335	
987.00	55980	52504	137839	
987.40	58040	22804	160642	V_{ED}
987.80	61120	23832	184474	
987.81	62360	617	185092	
988.00	63799	11985	197077	
989.20	70201	80400	277477	V_{100det}
TOTAL BASIN + FOREBAY			**277,477 C.F.**	

Westbury Phase 2 Detention Basin 2

STORM WATER DETENTION DESIGN CALCULATIONS USING THE REVISED LIVINGSTON COUNTY DRAIN COMMISSIONERS STORMWATER STANDARDS

"C" Factor Calculations

TOTAL AREA TRIBUTARY TO STORM SEWERS	=	42.05	Ac			
PAVEMENTS, BUILDING AREA & SIDEWALKS	=	16.53	Ac	@	0.95 =	15.70
LAWN AREAS	=	13.20	Ac	@	0.50 =	6.60
WOODLAND AREA	=	10.78	Ac	@	0.40 =	4.31
LOW WATER	=	1.54	Ac	@	1.00 =	1.54
TOTAL AREA	=	42.05	Ac	@		22.30

Cavg = A * C / TOTAL ACRES = 0.530

Design Calculations

Required Water Quality Volume

V_{wq} = 1/12(43560)(C)(A)

V_{wq} = 3630 x 0.530 x 42.05 = 80,962 C.F.

Required Channel Protection Volume

V_{cp} = 1.3/12(43560)(C)(A)

4719 x 0.530 x 42.05 = 105,250 C.F.

Required Forebay Volume

$V_{FB} = V_F$ = 80,962 C.F.

Required Extended Detention Volume

V_{ED} = 1.9/12(43560)(C)(A)

6897 x 0.530 x 42.05 = 153,827 C.F.

Extended Detention Discharge Rate

Q_{ED} = V_{ED}/(48 hrs)(60 min)(60 sec)

Q_{ED} = 153,827 / 172800 = 0.89 cfs

100-Year Storm Inlet Rate

Q_{100in} = $(C)(A)(30.2033 \times 100^{0.8203}) / (Tc + 9.1747)^{0.8095}$

Q_{100in} = 0.530 x 42.05 x (83.302 / 14.08028)

Q_{100in} = 131,952 cfs

100-Year Allowable Outlet Rate

Q_{100all} = 0.2 cfs/Ac. X 42.05 Ac.

Q_{100all} = 8.41 cfs

Forebay Outlets and Spillway

Detention Basin 2 Forebay Outlet

Forebay Outlet Size shall be the same as the Extended Detention Outlet Size.

Use **19** **1" Dia. Holes at Elevation 984.15**

Forebay Outlet Pipe Sizing for the 10-Year Storm

Orifice Outlet Formula Q = .62 x AREA X SQRT(64.4 X H)

H = 3.250 (from center of assumed 12" outlet pipe to H.W.)

Qexp = C*I*A = 20.145 cfs

Area = 2.246 s.f.

Diameter = 20.292 inches

Use **21** **Inch Diameter Outlet Pipe at Elevation 984.15**

Forebay Overflow Spillway Sizing

Qexp = C*I*A = 20.14 cfs

$Q = C*L*H^{3/2}$

C = 3.33

L = 10 ft

H = 1 ft

Qprov = 33.3 cfs

Use **10** **foot wide overflow spillway.**

DETENTION BASIN 2 OUTLET SIZING

Detention Basin Oulets

Extended Detention Volume Release Rate Outlet Sizing at Detention Basin 2 Outlet

Q_{ED} Rate = 0.890 cfs

h = 987.3 - 984.0 = 3.400 ft.

Number of 1" dewatering holes required

$H_{ED} = V_{ED}/((4800)(h)^{1/2})$ = 18.85

Use **19** **1" Dia. Holes at Elevation 984.0**

Outlet Sizing for the 100-Year Storm

Orifice Outlet Formula Q = .62 x AREA X SQRT(64.4 X H)

H = 4.575 (from center of assumed 12" outlet pipe to H.W.)

Qall = 8.410 cfs

Area = 0.790 s.f.

Diameter = 12.037 inches

Use **12** **Inch Diameter Outlet Pipe at Elevation 984.0**

DETERMINE SIZE OF DETENTION BASIN OVERFLOW STRURCTURE

Size of Overflow MH =	**4 ft**
% of MH that can be used as a Weir =	50 %
Calculated Length of Weir = L =	6.28 ft
Acerage Tributry to Overflow (on + off site) =	42.05 Ac
Composite Runoff Coefficient =	0.530
Longest Time of Flow to Basin =	17.92 min
Sum of all Flow into Basin	28.96 cfs
Volume of Basin (Det Calcs) =	262084 ft^3
Storage Elevation =	989.20 ft
Freeboard Elevation =	990.20 ft
Time to Fill Basin = Vprov / Flow into Basin =	150.83 min.
10 Year Storm I = 175/(T+25)	0.90 In / hr
Qexp = C*I*A =	20.14 cfs

Qweir = $3.33*(L)*(H^{3/2})$

Calculate how high the water will rise above the Overflow Structure to pass the expected flow.

h =	0.98 ft
Rim. Overflow MH =	0.00 ft
Elevation of Water during Overflow Conditions =	0.98 ft

Elevation of Water during Overflow Condition is Less than the Freeboard Elevation, Therefore the Overflow MH is Adequately Sized.

Required 100-Year Storm Detention Volume

Storage Curve Factor

R = 0.206 - (0.15)LN(Q_{all}/Q_{100in}))

R = 0.6189525

100-Year Storm Volume In

V_{100in} = 18,985 (C)(A)

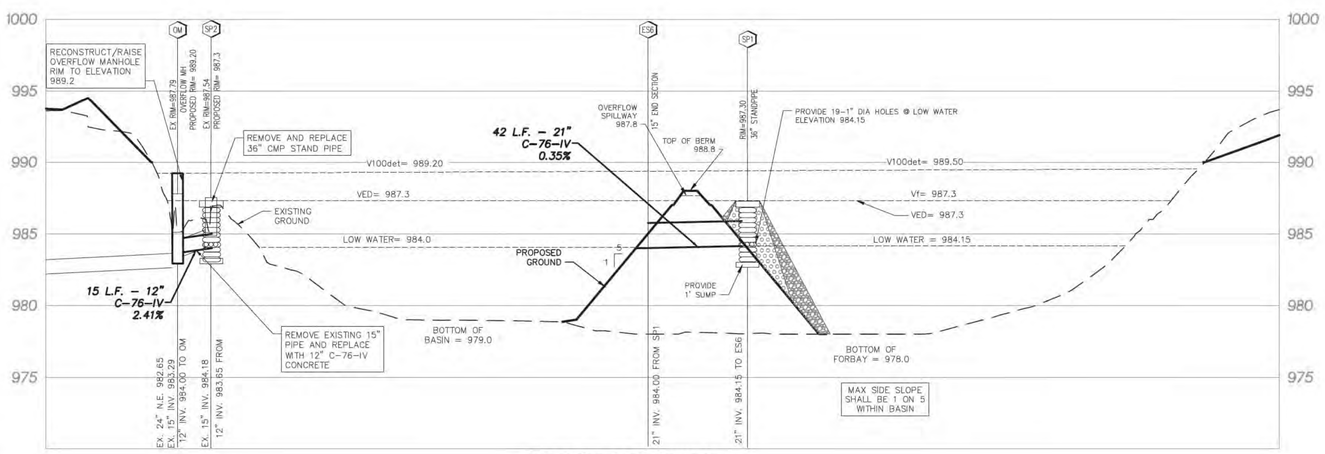
V_{100in} = 423431.95 C.F.

Required 100-Year Storm Storage Volume Above Outlet

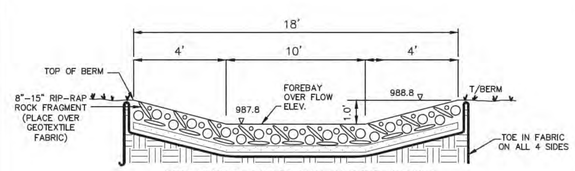
V_{100det} = (V_{100in})(R) - Vcp Credit

V_{100det} = 262084.27 C.F.

SEE SHEET ND2 FOR SOIL BORING DETAIL



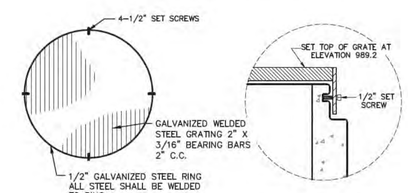
BASIN CROSS SECTION A-A
SCALE: HORIZ. 1"=30'
VERT. 1"= 5'



NOTE: GEOTEXTIE FABRICS SHALL HAVE THE FOLLOWING MINIMUM SPECIFICATIONS:

GRAB TENSILE STRENGTH:	300 LBS
MULLEN BURST STRENGTH:	600 PSI
TRAPEZOID TEAR STRENGTH:	120 LBS
ULTRA-VIOLET STABILITY:	70%
FABRIC:	WOVEN POLYPROPYLENE MONOFILAMENT YARNS

FOREBAY OVERFLOW SPILLWAY



4' DIA. DETENTION BASIN OVERFLOW MANHOLE OUTLET GRATE
(NOT TO SCALE)

LEGEND

EXISTING / PROPOSED

- PAVEMENT (ASPHALT)
- SIDE WALK (CONCRETE)
- PAVEMENT (CONCRETE)
- CONCRETE CURB AND GUTTER
- COMPACTED SAND BACKFILL
- 5'x5' LEVEL LANDING AREA
- STORM SEWER
- SANITARY SEWER
- WATER MAIN
- MANHOLE
- CATCH BASIN W/LOW POINT INLET FILTER
- CURB INLET W/SILT SAC
- END SECTION
- GATE VALVE
- HYDRANT
- FLOOD PLAIN
- 1000 CONTOURS
- 1000.00 T/C SPOT ELEVATION
- SURFACE DRAINAGE OVERFLOW ROUTE
- TREE FENCE
- SILT FENCE
- PROPOSED DRIVEWAY LOCATION
- LIMIT OF DISTURBANCE

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UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THE PLAN, WERE OBTAINED FROM UTILITY OWNER AND NOT FIELD LOCATED.

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

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF AND/OR RELOCATION OF ALL UTILITIES THAT MAY INTERFERE WITH CONSTRUCTION.

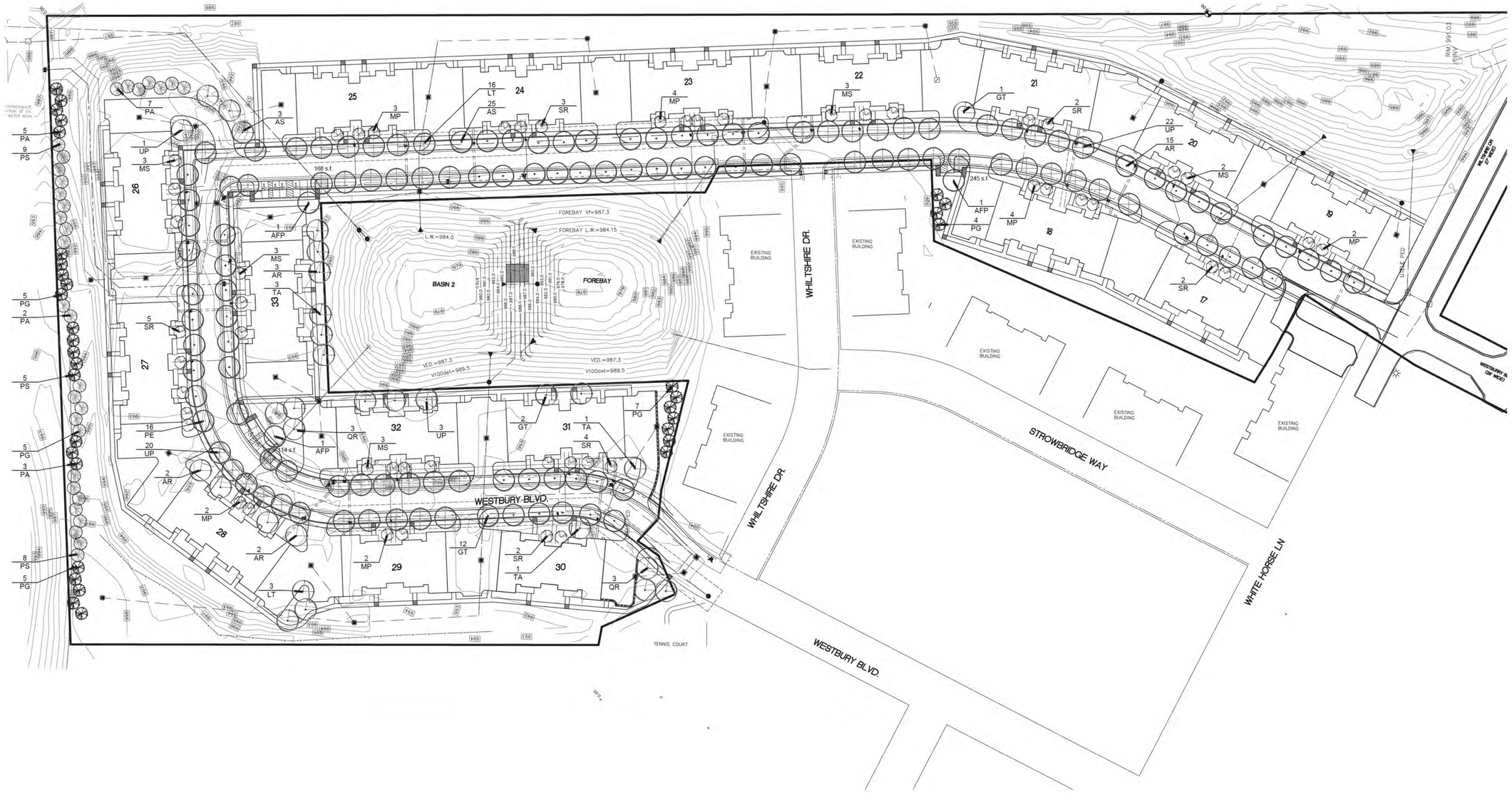
DATE: 1-17-22 | DESIGNED BY: A.A. | CHECKED BY: B.E. | JOB NUMBER: 21-030 | DRAWING FILE:21-030DB.dwg

DETENTION BASIN 2 PLAN

SEIBER KEAST LEHNER INC.
ENGINEERING | SURVEYING
39205 COUNTRY CLUB DR. SUITE C-8
FARMINGTON HILLS, MICHIGAN 48331
PHONE: 248.308.3331

SHEET 16

ALLENDESIGN
LAND PLANNING / LANDSCAPE ARCHITECTURE
557 Carpenter
Northville, Michigan 48167
e. jca@wideopenwest.com
t. 248.467.4668



Landscape Summary

Residential Street Trees

Proposed Units	136 Units
Trees Required	272 Trees (2 per Unit)
Trees Provided	272 Trees (126 Trees Located on the Street)

Parking Area Landscaping

Spaces Shown	13 Spaces
Open Space Required	130 s.f. (13 / 10) x 100
Open Space Provided	527 s.f.
Trees Required	1.3 Trees (13 / 10)
Trees Provided	3 Trees

Note:
Street Trees Proposed are Tall Canopy Trees and Shall be Pruned to Maintain a 13'-6" Clear Height Above the Street Pavement.

Plant List

sym.	qty.	botanical name	common name	caliper	spacing	root	height
Street Trees							
AR	22	Acer rubrum 'October Glory'	October Glory Red Maple	2.5"	as shown	B&B	
AS	28	Acer saccharum 'Green Mountain'	Green Mountain Sugar Maple	2.5"	as shown	B&B	
GT	15	Gleditsia triacanthos var. inermis	Honeylocust	2.5"	as shown	B&B	
LT	19	Liriodendron tulipifera	Tulip Tree	2.5"	as shown	B&B	
MP	17	Malus 'Profusion'	Profusion Crabapple	2.0"	as shown	B&B	
MS	15	Malus 'Spring Snow'	Spring Snow Crabapple	2.0"	as shown	B&B	
PA	17	Picea abies	Norway Spruce		as shown	B&B	8'
PE	16	Platanus x acerifolia 'Exclamation'	Exclamation London Planetree	2.5"	as shown	B&B	
PG	26	Picea glauca var. densata	Black Hills Spruce		as shown	B&B	8'
PS	22	Pinus strobus	White Pine		as shown	B&B	8'
QR	6	Quercus rubra	Red Oak	2.5"	as shown	B&B	
SR	18	Syringa reticulata	Japanese Lilac Tree	2.0"	as shown	B&B	
TA	5	Tilia americana 'Redmond'	Redmond Linden	2.5"	as shown	B&B	
UP	46	Ulmus 'Pioneer'	Pioneer Elm	2.5"	as shown	B&B	
	272	Trees Provided					

sym.	qty.	botanical name	common name	caliper	spacing	root	height
Parking Lot Trees							
AFP	3	Acer x. freemanii 'Autumn Blaze'	Autumn Blaze Maple	2.5"	as shown	B&B	
	3	Trees Provided					

Seal:

Title:
Landscape Plan

Project:
Westbury II
Genoa Township, Michigan

Prepared for:
Elevate Property Partners, LLC
128 North Center
Northville, Michigan 48167

Revision:	Issued:
Review	January 18, 2022
Revised	March 23, 2022

Job Number:
21-083

Drawn By:	Checked By:
jca	jca

0' 15' 30' 60'
NORTH
1"=60'

Sheet No.
L-1

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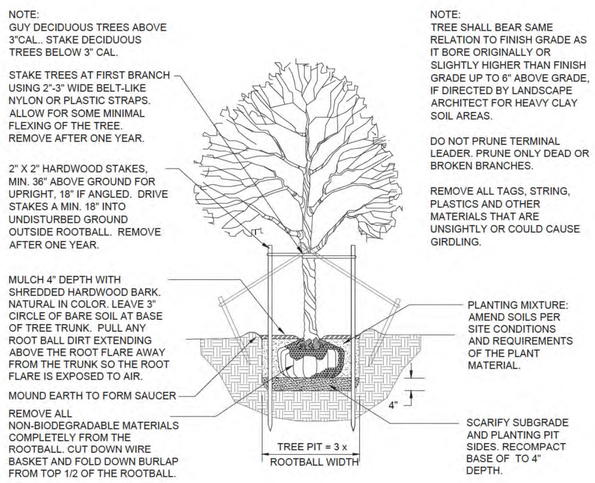
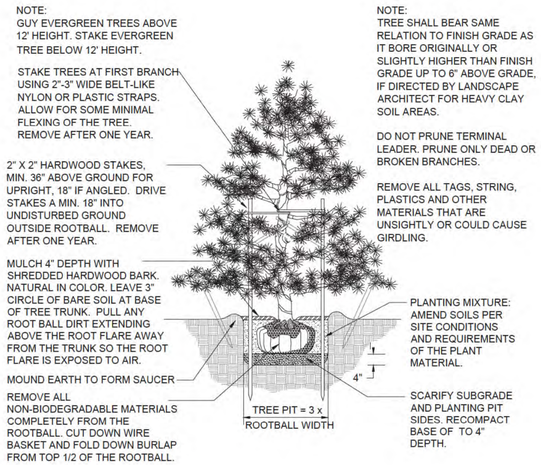


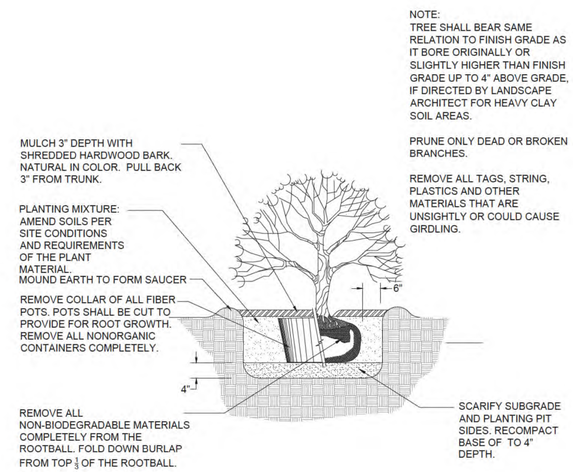
DECIDUOUS TREE PLANTING DETAIL

Not to scale



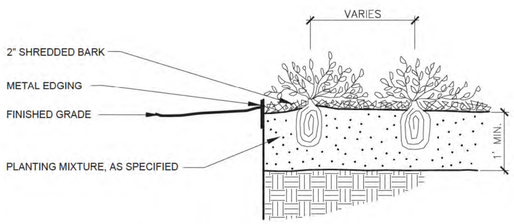
EVERGREEN TREE PLANTING DETAIL

Not to scale



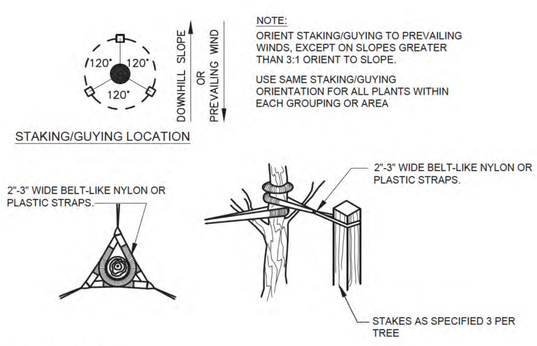
SHRUB PLANTING DETAIL

NOT TO SCALE



PERENNIAL PLANTING DETAIL

Not to scale



TREE STAKING DETAIL

Not to scale

LANDSCAPE NOTES

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

Seal:

Title:

Landscape Details

Project:

Westbury II
Genoa Township, Michigan

Prepared for:

Elevate Property Partners, LLC
128 North Center
Northville, Michigan 48167

Revision:	Issued:
Review	January 18, 2022
Revised	March 23, 2022

Job Number:

21-083

Drawn By:	Checked By:
jca	jca

Sheet No.

L-2

Know what's below. Call before you dig.

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WESTBURY - PHASE II

ELEVATE PROPERTY PARTNERS

GENOA TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN

CONSTRUCTION DATA

BUILDING TYPE 100, 200 & 300

CODE: 2015 MICHIGAN BUILDING CODE

USE GROUP: R-2

CONSTRUCTION CLASSIFICATION: 5-B

FIRE SUPRESSION SYSTEM: NFPA 13R

MAXIMUM BLDG. HEIGHT: 2 STORIES
BASE ALLOWABLE AREA PER FLOOR: 7,000 SQ. FT.
OPEN PERIMETER AREA INCREASE: 75% = 5,250 SQ. FT.
TOTAL ALLOWABLE AREA: = 12,250 SQ. FT.

BUILDING TYPE 100 MAX. AREA: 7,299 SQ. FT.
(FIRST FLOOR AREA)

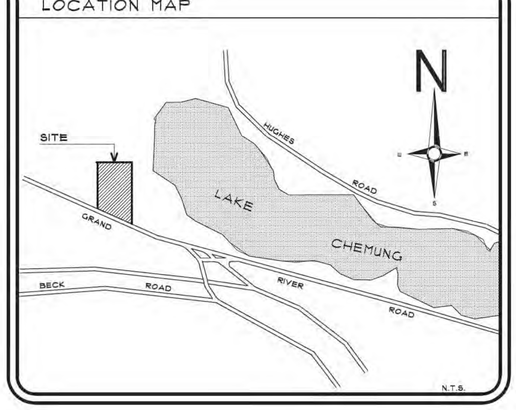
BUILDING TYPE 200 MAX. AREA: 8,402 SQ. FT.
(FIRST FLOOR AREA)

BUILDING TYPE 300 MAX AREA: 8,902 SQ. FT.
(FIRST FLOOR AREA)

TENANT SEPARATION: 1 HOUR

TENANT ATTIC SEPARATION: 1 HOUR

LOCATION MAP



SUMMARY

PROPOSED BUILDING UNIT MIX
PHASE 2

NO. OF BLDG'S.	BLDG. STYLE	UNIT MIX
5	100 STYLE BUILDING	4-1 BR / 4-3BR
8	200 STYLE BUILDING	8-2 BR UNITS
4	300 STYLE BUILDING	8-3 BR UNITS
TOTALS		
17 BUILDINGS		134 UNITS

PARTICIPANTS

OWNER:
EEVATE PROPERTY PARTNERS
128 N. CENTER ST.
NORTHVILLE, MICHIGAN 48167
(248) 924 4437

ARCHITECT
ALEXANDER V. BOGAERTS & ASSOCIATES
2445 FRANKLIN ROAD
BLOOMFIELD HILLS, MICHIGAN
(248) 334 5000

MECHANICAL / ELECTRICAL ENGINEER

CIVIL ENGINEER
BOSS ENGINEERING
7125 ORCHARD LAKE RD. SUITE 108
WEST BLOOMFIELD, MI 48322
(248) 626-9480

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

INDEX TO SHEETS

	ARCHITECTURAL
T-1	TITLE SHEET
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	BUILDING TYPE 100
101	FOUNDATION PLAN 1/4" = 1'-0"
102	FLOOR PLANS UNIT 101 & UNIT 102 / INTERIOR DOOR SCHEDULE
103	PARTIAL ELEVATIONS 1/4" = 1'-0" / WINDOW & EXTERIOR DOOR SCHEDULE / ROOF VENT CALC.
105	BUILDING PLANS - FOUNDATION AND FIRST FLOOR 1/8" = 1'-0"
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205	BUILDING PLANS - FOUNDATION AND FIRST FLOOR 1/8" = 1'-0"
206	BUILDING PLANS - SECOND FLOOR AND ROOF 1/8" = 1'-0"
207	BUILDING ELEVATIONS 1/8" = 1'-0"
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303	PARTIAL ELEVATIONS 1/4" = 1'-0" / WINDOW & EXTERIOR DOOR SCHEDULE / ROOF VENT CALC.
305	BUILDING PLANS - FOUNDATION AND FIRST FLOOR 1/8" = 1'-0"
306	BUILDING PLANS - SECOND FLOOR AND ROOF 1/8" = 1'-0"
307	BUILDING ELEVATIONS 1/8" = 1'-0"
N-1	UNIT MATRIX

NOTE TO BUILDING OFFICIAL:
THIS DRAWING IS NOT VALID UNLESS THE SIGNATURE AND SEAL ARE IN BLUE INK.

STATE OF MICHIGAN
ALEXANDER V. BOGAERTS II
ARCHITECT
No. 1301068995
LICENSED ARCHITECT

Alexander V. Bogaerts + Associates, P.C. • Architecture • Planning • Interior Design
2445 Franklin Road
Bloomfield Hills, MI 48302
248-334-5000

SHEET TITLE: TITLE SHEET

CLIENT/PROJECT: WESTBURY II
ELEVATE PROP. PARTNERS
LIVINGSTON COUNTY, MICHIGAN

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■ PRELIMINARY
☐ BIDS
☐ PERMITS
☐ CONSTRUCTION

REVISIONS
REVISION #1
02/22/2022

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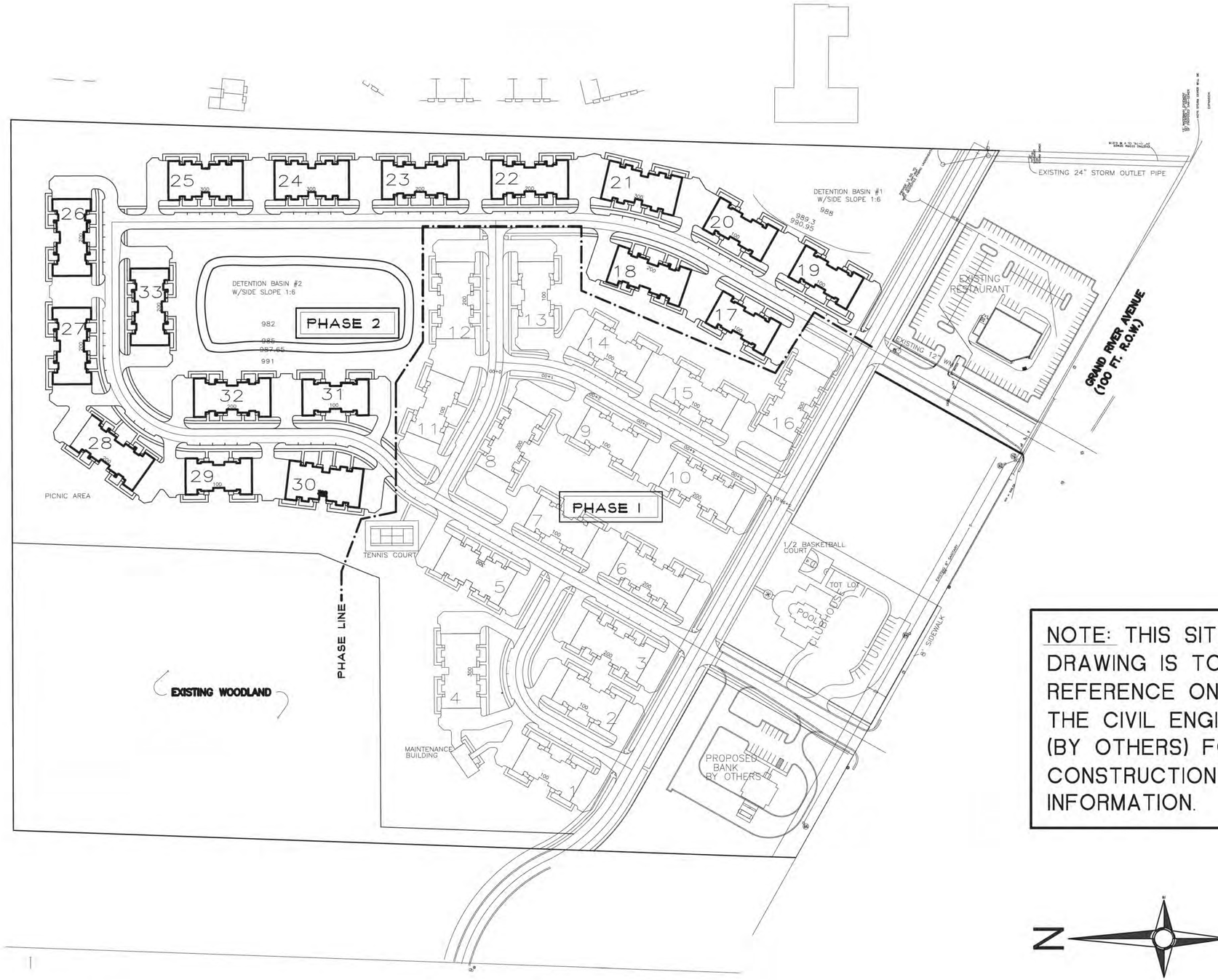
JOB NUMBER: 2333
DATE:
SHEET NUMBER: T-1



NOTE: THIS SITE LAYOUT DRAWING IS TO BE USED FOR REFERENCE ONLY. REFER TO THE CIVIL ENGINEERING DRAWINGS (BY OTHERS) FOR ALL SITE CONSTRUCTION & LAYOUT INFORMATION.

N

SITE PLAN

N.T.S.

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ALEXANDER V. BOGAERTS II
ARCHITECT
No. 1301068995
LICENSED ARCHITECT

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2445 Franklin Road
Bloomfield Hills, MI 48302
248-334-5000

SHEET TITLE: TITLE SHEET

CLIENT/PROJECT: WESTBURY II
ELEVATE PROP. PARTNERS
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REVISIONS
REVISION #1
02/22/2022

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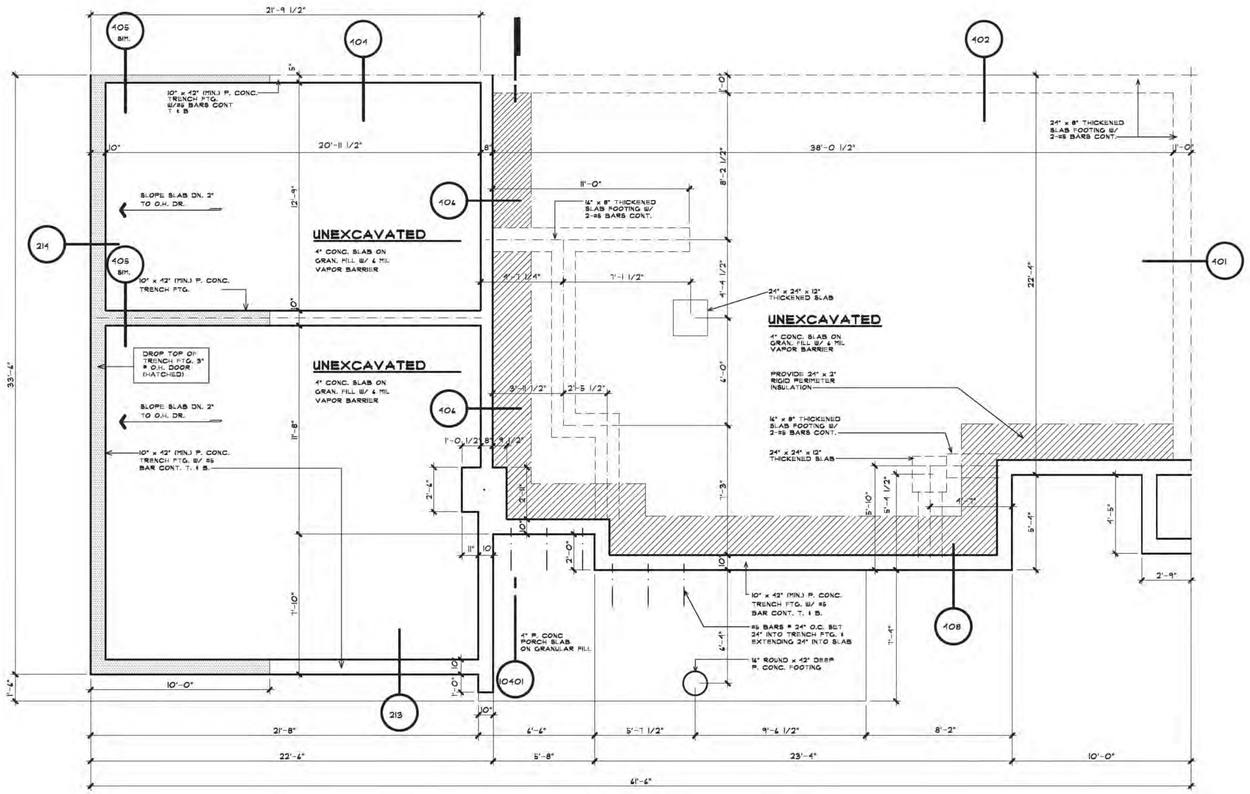

FOUNDATION PLAN - BUILDING TYPE 100

SCALE: 1/4" = 1'-0"

NOTE TO BUILDING OFFICIAL: THIS DRAWING IS NOT VALID UNLESS THE SIGNATURE AND SEAL ARE IN BLUE INK.

STATE OF MICHIGAN
ALEXANDER V. BOGAERTS II
ARCHITECT
No. 1301068995
LICENSED ARCHITECT

Alexander V. Bogaerts + Associates, P.C. • Architecture • Planning • Interior Design

2445 Franklin Road
Bloomfield Hills, MI 48302
248-334-5000

SHEET TITLE: FOUNDATION PLAN BUILDING 100

CLIENT/PROJECT: WESTBURY II ELEVATE PROP. PARTNERS
LIVINGSTON COUNTY, MICHIGAN

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JOB NUMBER: 2333
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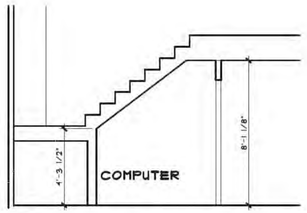
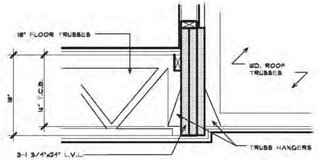
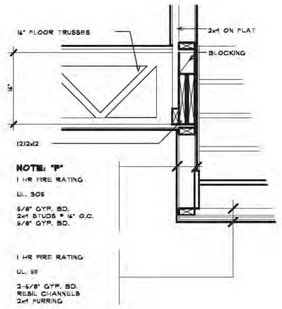
SHEET NUMBER: 101



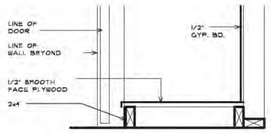
10202 / 102 **STAIR SECTION** 1/4" = 1'-0"



10204 / 102 **DETAIL**



10205 / 102 **DETAIL** 3/4" = 1'-0"



10203 / 102, 202, 302 **SECTION** 1/4"=1'-0"

* CER. TILE COND. ONLY

STRUCTURAL NOTES:

(2) 2x8 HEADERS TO BEAR ON (1) ONE JACK STUD UNLESS NOTED OTHERWISE.

(2) 2x10 & LARGER HEADERS TO BEAR ON (2) TWO JACK STUDS UNLESS NOTED OTHERWISE.

ALL PRE-ENGINEERED HEADERS TO BEAR ON REQUIRED NUMBER OF STUDS TO MATCH WIDTH OF HEADER MATERIAL OR ON (2) TWO JACK STUDS AT PARALLEL WALL CONDITION UNLESS NOTED OTHERWISE.

ALL PRE-ENGINEERED LUMBER HEADERS SHALL BE BUILT-UP FROM THE NUMBER OF HEADERS INDICATED ON DRAWINGS. ALL MEMBERS SHALL BE SECURED WITH NAILS OR BOLTS AS SPECIFIED BY THE MANUFACTURER FOR SIZES INDICATED.

ALL GIRDER TRUSSES TO BEAR ON (2) TWO STUDS MINIMUM OR AS REQUIRED TO MATCH NUMBER OF TRUSS PLYS UNLESS NOTED OTHERWISE ON DRAWINGS.

TRUSS FABRICATOR/CONTRACTOR TO PROVIDE ALL HANGERS W/ MODEL No. CLEARLY STAMPED & LAYOUT DRAWINGS CLEARLY INDICATING LOCATION OF VARIOUS HANGERS REQUIRED.

CARPENTER CONTRACTOR TO INSTALL NAIL SIZES & NUMBER REQ'D. AS SPECIFIED FOR EACH TYPE OF HANGER.

PROVIDE SOLID BLOCKING WITHIN FLOOR, WALL AND OTHER VOID SPACES UNDER OR ALIGNED WITH HEADER AND GIRDER TRUSS BEARING CONDITIONS DOWN TO SOLID BEARING (SUCH AS FOUNDATION OR BEAM). SOLID BLOCKING SIZE SHALL NOT BE LESS THAN BEARING STUD SIZES SUPPORTING THE STRUCTURAL HEADERS AND GIRDER TRUSSES.

SQUARE FOOTAGE UNIT 101	
1ST FLOOR	961 SQ FT
TOTAL	961 SQ FT

SQUARE FOOTAGE UNIT 102	
1ST FLOOR	52 SQ FT
2ND FLOOR	1427 SQFT
TOTAL	1479 SQ FT

DOOR SCHEDULE

TAG	SIZE	TYPE	STYLE
1	6'-0"x6'-8"	SLIDING GLASS DOOR	
2	NOT USED		
3	NOT USED		
4	3'-0"x6'-8" EXTERIOR	INSULATED STEEL ENTRY DOOR	STYLE - A
5	NOT USED		
6	NOT USED		
7	NOT USED		
8	NOT USED		
9	NOT USED		
10	NOT USED		
11	NOT USED		
12	2'-0"x6'-8" INTERIOR	SWING HOLLOW CORE	FLUSH STYLE - C
13	2'-6"x6'-8" INTERIOR	SWING HOLLOW CORE	FLUSH STYLE - C
14	2'-8"x6'-8" INTERIOR	SWING HOLLOW CORE	FLUSH STYLE - C
15	2'-8"x6'-8" INTERIOR	INSULATED STEEL FIRE DOOR	FLUSH STYLE - C
16	2'-10"x6'-8" INTERIOR	SWING HOLLOW CORE	STYLE - C

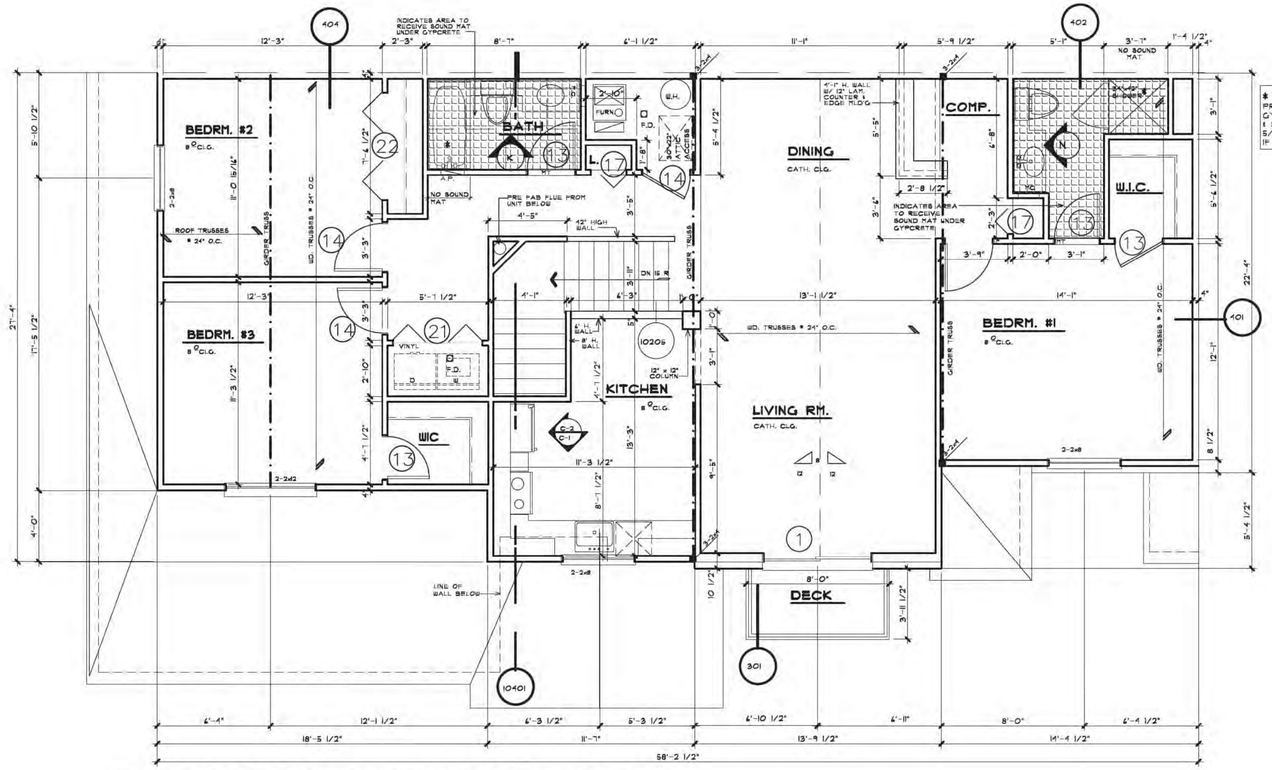
DOOR SCHEDULE

TAG	SIZE	TYPE	STYLE
17	2'-0"x6'-8" INTERIOR	BI-FOLD HOLLOW CORE	FLUSH STYLE - D
18	2'-6"x6'-8" INTERIOR	BI-FOLD HOLLOW CORE	FLUSH STYLE - D
19	3'-0"x6'-8" INTERIOR	BI-FOLD HOLLOW CORE	FLUSH STYLE - D
20	4'-0"x6'-8" INTERIOR	BI-FOLD HOLLOW CORE	FLUSH STYLE - E
21	5'-0"x6'-8" INTERIOR	BI-FOLD HOLLOW CORE	FLUSH STYLE - E
22	6'-0"x6'-8" INTERIOR	BI-FOLD HOLLOW CORE	FLUSH STYLE - E
23	1'-6"x6'-8" INTERIOR	SWING HOLLOW CORE	FLUSH STYLE - C

NOTE:
NON-COMBUSTIBLE HVAC & EXHAUST DUCTS LOCATED IN THE FLOOR TRUSS SPACE, WHICH DO NOT PENETRATE THE FLOOR OF A FIRE RESISTANCE RATED FLOOR/CEILING ASSEMBLY, BUT DO PENETRATE THE CEILING OF A FIRE RESISTANCE FLOOR/CEILING ASSEMBLY SHALL BE PROVIDED WITH AN APPROVED CEILING FIRE DAMPER AT THE CEILING PENETRATION.
CEILING FIRE DAMPERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS LISTED IN A FIRE RESISTANCE RATED DESIGN OR SHALL BE LABELED TO FUNCTION AS A HEAT BARRIER FOR AIR-HANDLING OUTLET/INLET PENETRATIONS IN THE CEILING OF A FIRE RESISTANCE RATED ASSEMBLY. PENETRATIONS BY AN AIR DUCT THROUGH A FIRE RESISTANCE RATED FLOOR/CEILING ASSEMBLY WHICH CONNECT NOT MORE THAN TWO STORIES SHALL BE PROVIDED WITH A FIRE DAMPER THAT COMPLIES WITH UL 555 INSTALLED AT THE FLOOR LINE. ALL FIRE DAMPERS SHALL BE ACCESSIBLE.

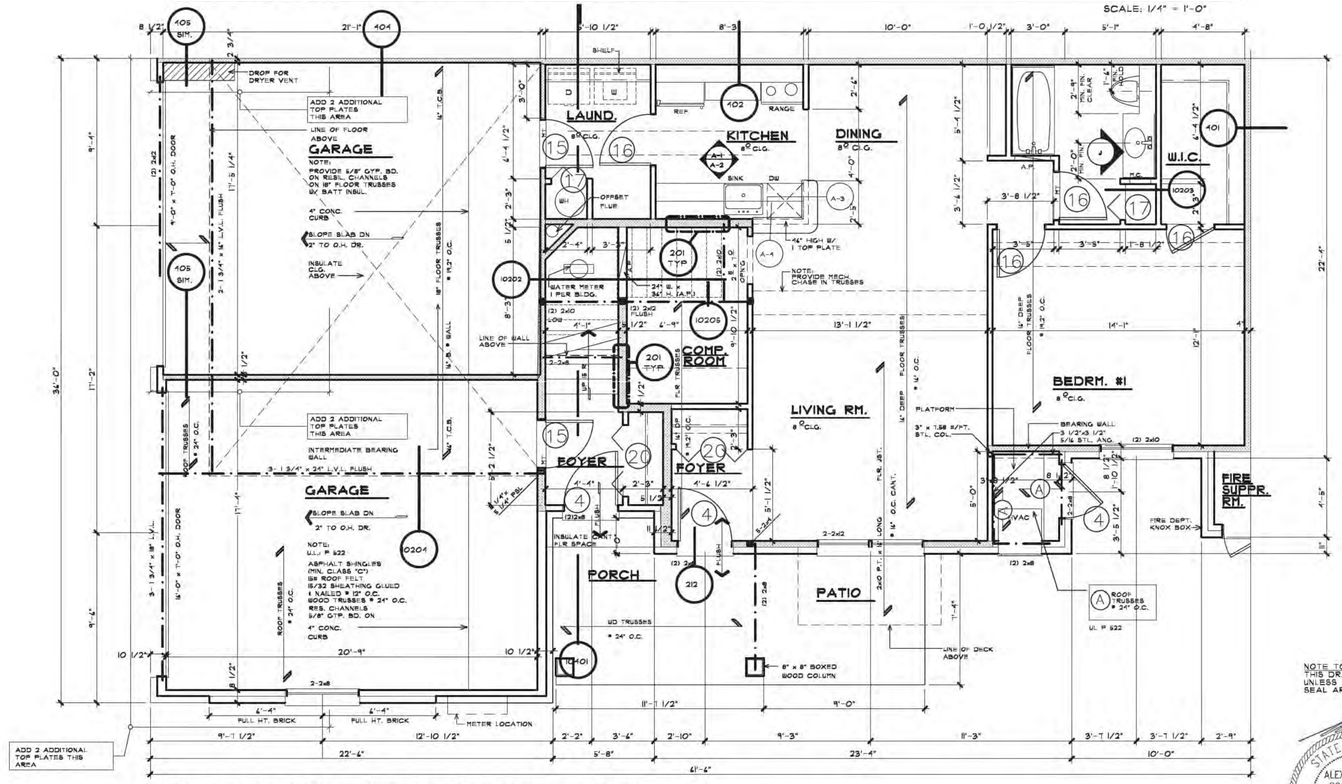
NOTE: PROVIDE 2x4 (MIN) CONT. STIFFENERS PERPENDICULAR TO TRUSSES @ MIN. 10'-0" O.C. UNLESS OTHERWISE RECOMMENDED BY TRUSS MANUFACTURER. ATTACH EACH TRUSS TO STIFFENER.

NOTE:
ALL 2x4 WD. STUD IN NON BEARING INTERIOR PARTITIONS TO BE SPACED @ 24" O.C. PROVIDE ADDITIONAL STUDS AS NECESSARY FOR PROPER INSTALLATION OF MEDICINE CABINETS RETURN AIR GRILLES ECT. ALL KITCHEN WALLS INTENDED TO SUPPORT KITCHEN CABINETS TO HAVE STUDS SPACED A MAX. OF 16" O.C.



SECOND FLOOR PLAN - BUILDING TYPE 100 - UNIT 102

SCALE: 1/4" = 1'-0"



FIRST FLOOR PLAN - BUILDING TYPE 100 - UNIT 101

SCALE: 1/4" = 1'-0"

NOTE TO BUILDING OFFICIAL: THIS DRAWING IS NOT VALID UNLESS THE SIGNATURE AND SEAL ARE IN BLUE INK.

STATE OF MICHIGAN
ALEXANDER V. BOGAERTS II
ARCHITECT
No. 1301068995
LICENSED ARCHITECT

Alexander V. Bogaerts + Associates, P.C. • Architecture • Planning • Interior Design

2445 Franklin Road
Bloomfield Hills, MI 48302
248-334-5000

SHEET TITLE: FIRST FLOOR PLAN / SECOND FLOOR PLAN / BUILDING TYPE 100

CLIENT/PROJECT: WESTBURY II / ELEVATE PROP. PARTNERS / LIVINGSTON COUNTY, MICHIGAN

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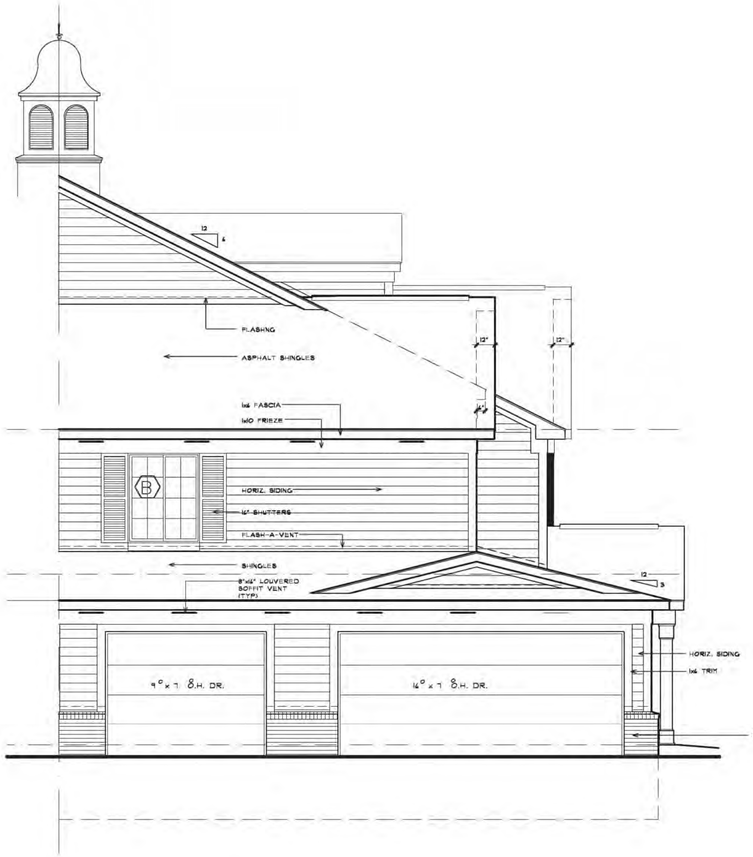

LEFT SIDE ELEVATION BUILDING TYPE 100

SCALE: 1/4" = 1'-0"

FRONT ELEVATION BUILDING TYPE 100

SCALE: 1/4" = 1'-0"

WINDOW SCHEDULE

TAG	SIZE	REMARKS
A	4030 SLIDER	
B	4050 SLIDER	EGRESS
C	3050 SLIDER	EGRESS
D	6040 SLIDER	EGRESS
E	1-2050 SINGLE HUNG	
F	3050 DOUBLE HUNG	EGRESS

DOOR SCHEDULE

TAG	SIZE	TYPE	STYLE
1	6'-0"x6'-8"	SLIDING GLASS DOOR	
4	3'-0"x6'-8" EXTERIOR	INSULATED STEEL ENTRY DOOR	STYLE - A

UNLESS NOTED OTHERWISE:
OVERHANG DIMENSIONS ARE 12" FROM FRAME WALL.
RAKE DIMENSIONS ARE 8" FROM FRAME AT BRICK WALLS AND 6" FROM FRAME AT SIDING WALLS.

STEEL LINTEL SCHEDULE

LOOSE STEEL LINTELS FOR MASONRY - EXTERIOR ANGLES FOR BRICK OR STONE (NO FLOOR LOAD)

MAX. CLEAR SPAN	LINTEL SIZE
5'-0" OR LESS	3 1/2" x 3 1/2" x 5/16"
7'-0" OR LESS	4" x 3 1/2" x 5/16"
8'-0" OR LESS	5" x 3 1/2" x 5/16"
9'-0" OR LESS	5" x 3 1/2" x 3/8"
10'-0" OR LESS	6" x 3 1/2" x 3/8"

NOTE: THIS SCHEDULE APPLIES UNLESS NOTED OTHERWISE ON THE PLANS AND/OR ELEVATIONS.

UNIT 102

PROPOSED VENT AREA:

VENT AREA RATIO 1:50

ATTIC AREA= 1510 SQ.FT. (/150)

VENT AREA= 10.06 SQ.FT.x144= 1450 SQ.IN.

50% SOFFIT AND 50% RIDGE= 725 SQ.IN. EACH

CONTINUOUS RIDGE TYPE # 18 SQ.IN. PER FT.= 7 LIN.FT.

LOUVER AT RIDGE TYPE # 50 SQ.IN. EA. = 14 UNITS

GABLE END TYPE (TOTAL)_____ SQ.IN. =_____ UNITS

TOTAL VENTING AT RIDGE = 826 SQ.IN.

CONTINUOUS SOFFIT TYPE #_____ SQ.IN. PER FT. =_____ LIN.FT.

LOUVER TYPE 8"x 16"# 54 SQ.IN. EA. = 15 UNITS

TOTAL VENTING AT SOFFIT = 810 SQ.IN.

NOTE TO BUILDING OFFICIAL: THIS DRAWING IS NOT VALID UNLESS THE SIGNATURE AND SEAL ARE IN BLUE INK.

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SHEET TITLE
ELEVATION
BUILDING 100

CLIENT/PROJECT
WESTBURY II
ELEVATE PROP. PARTNERS
LIVINGSTON COUNTY, MICHIGAN

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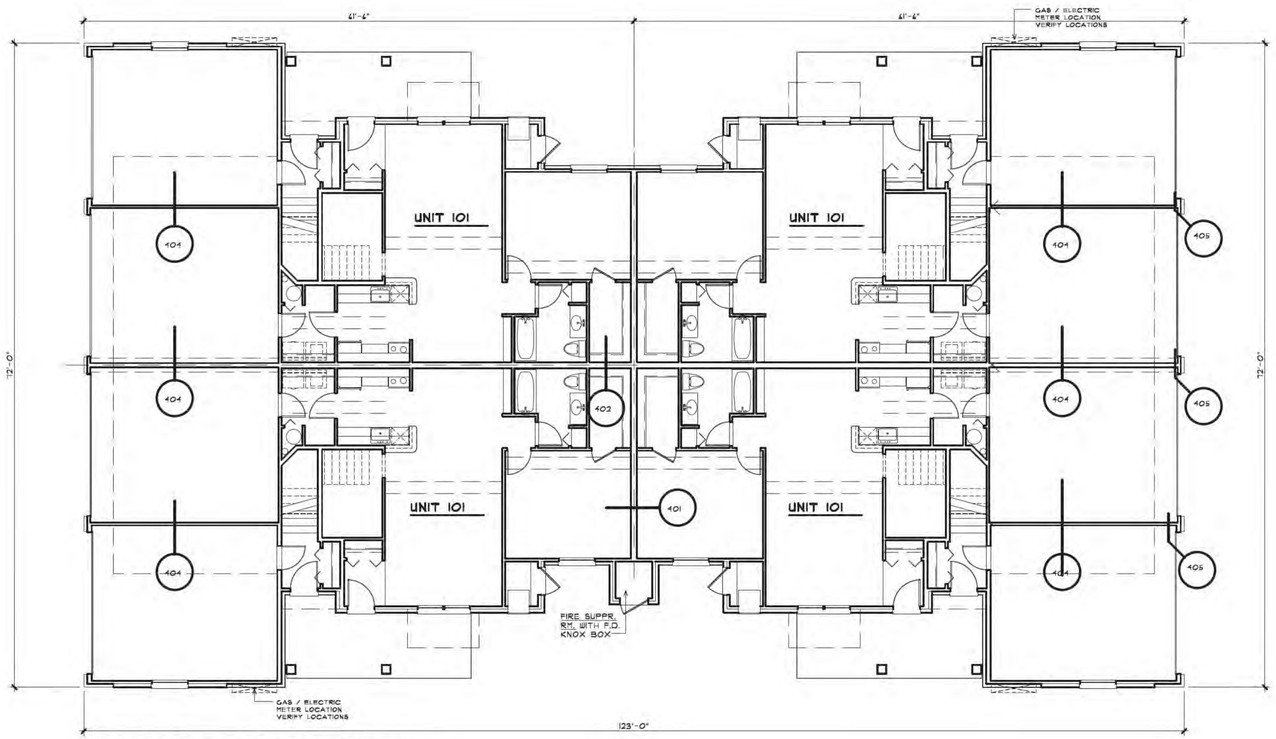
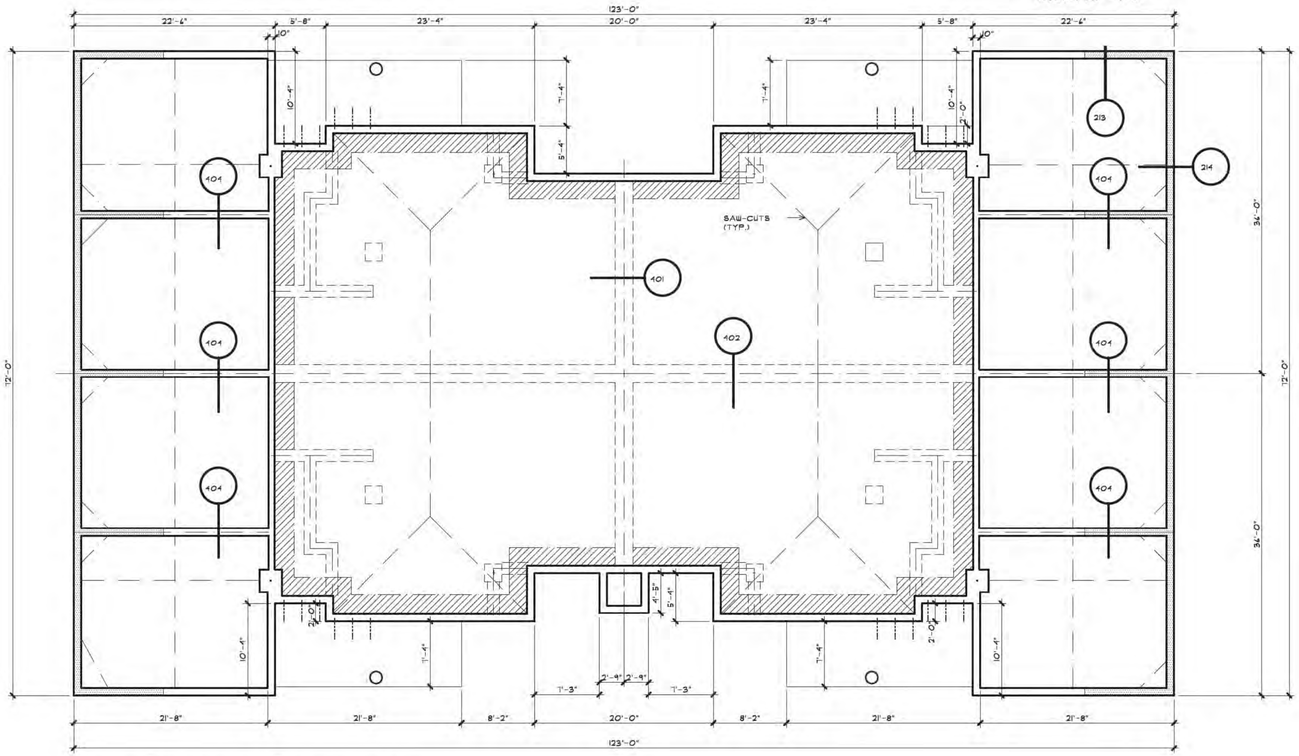


FIRST FLOOR PLAN - BUILDING 100

SCALE: 1/8" = 1'-0"



FOUNDATION PLAN - BUILDING 100

SCALE: 1/8" = 1'-0"

NOTE:
FOR ADDITIONAL NOTES AND INFORMATION SEE 1/4" SCALE PLANS.

NOTE TO BUILDING OFFICIAL:
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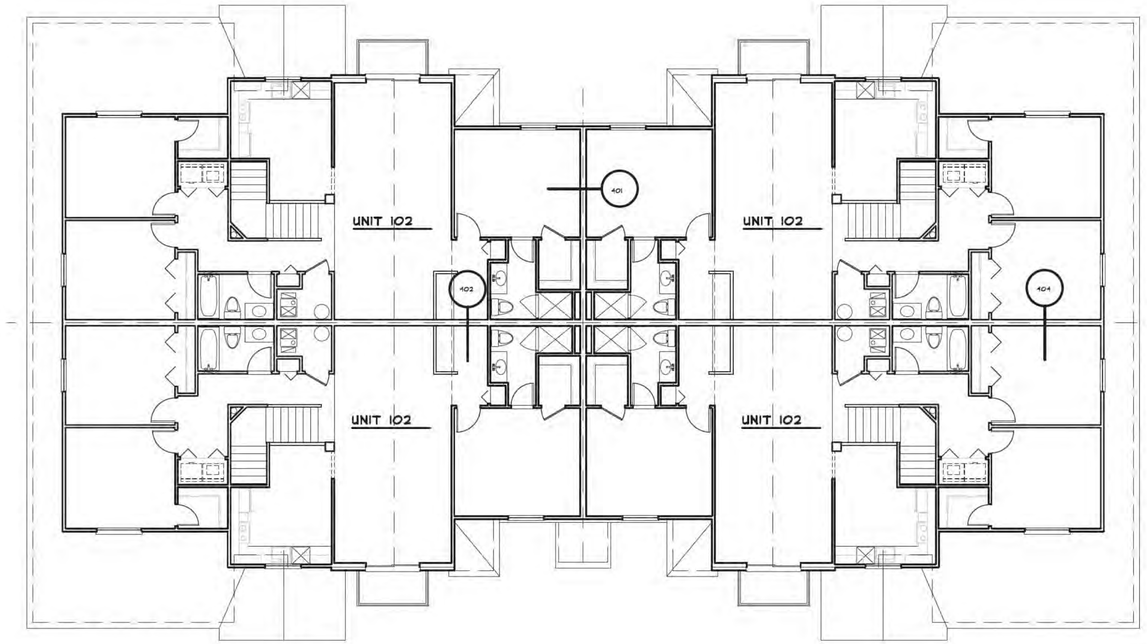
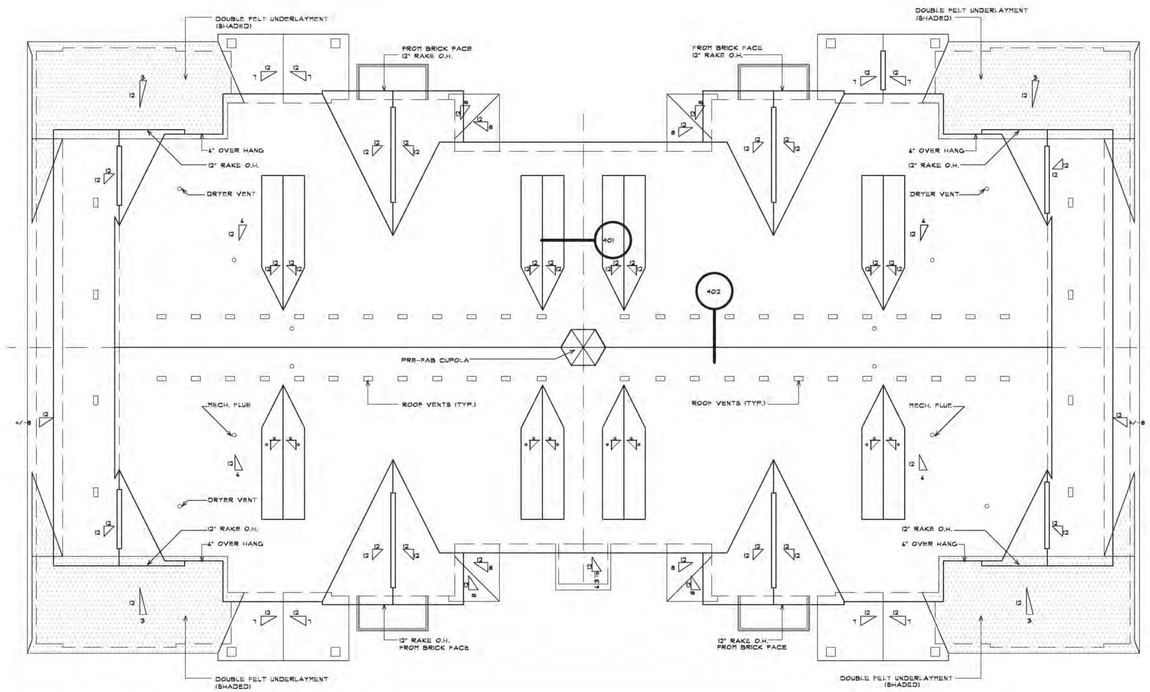


NOTE:
FOR ADDITIONAL NOTES AND INFORMATION SEE 1/4" SCALE PLANS.

SECOND FLOOR PLAN - BUILDING 100

SCALE: 1/8" = 1'-0"



ROOF PLAN - BUILDING 100

SCALE: 1/8" = 1'-0"

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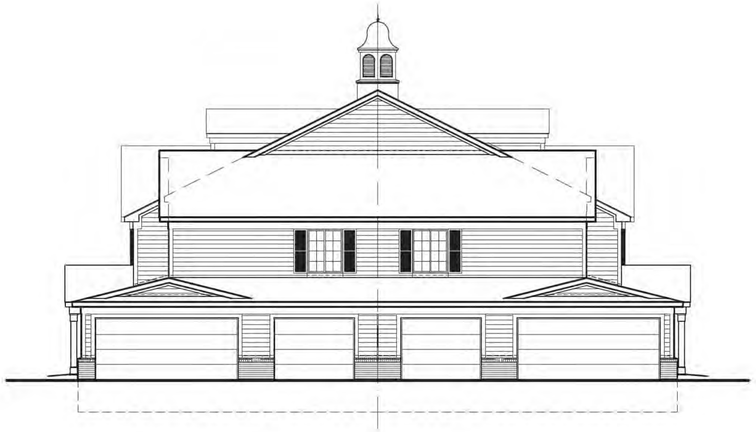

LEFT SIDE ELEVATION - BUILDING TYPE 100

RIGHT SIDE ELEVATION - OPPOSITE SIMILAR

SCALE: 1/8" = 1'-0"

FRONT ELEVATION - BUILDING TYPE 100

REAR ELEVATION - OPPOSITE SIMILAR

SCALE: 1/8" = 1'-0"

NOTE:
FOR ADDITIONAL NOTES AND INFORMATION SEE 1/4" SCALE PLANS.

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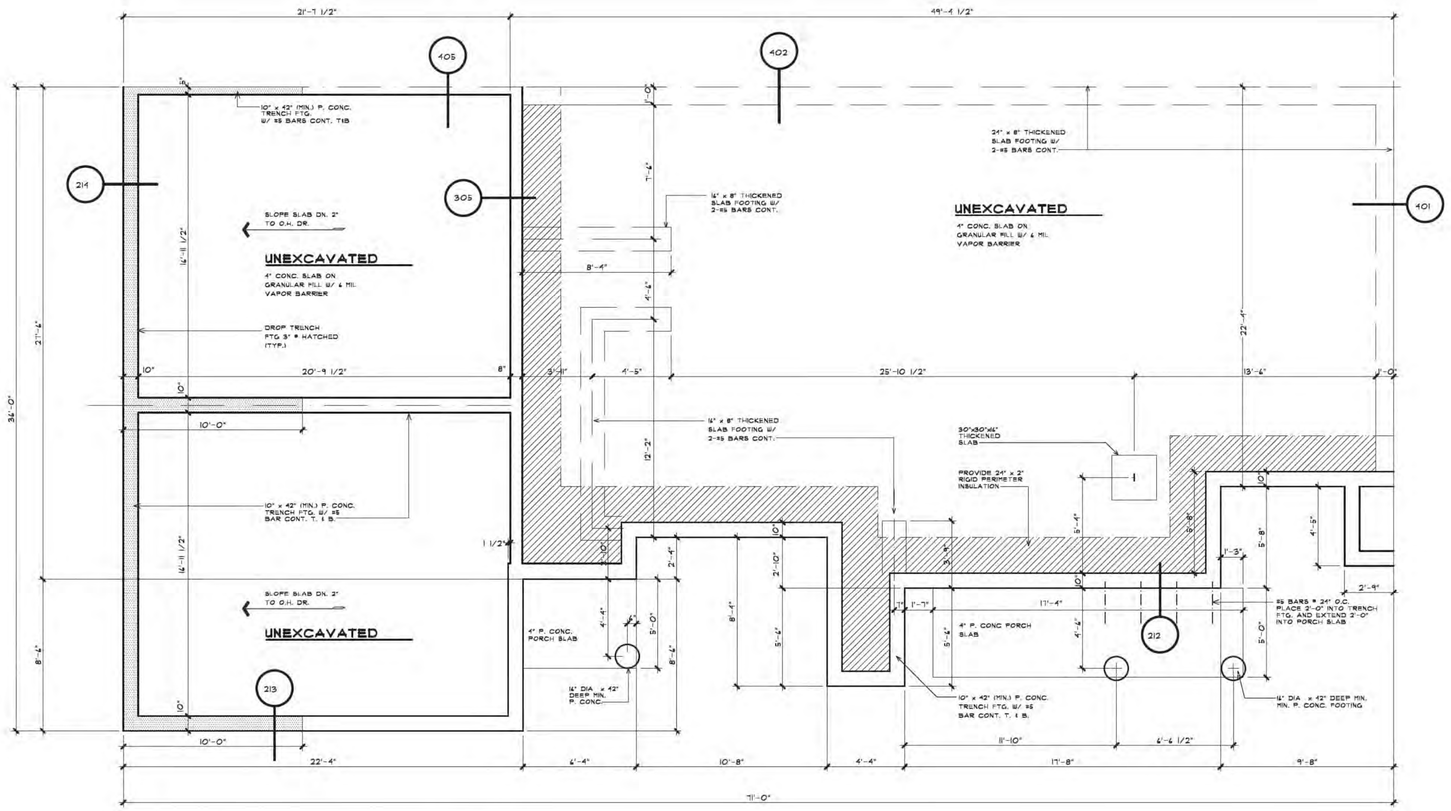

FOUNDATION PLAN - BUILDING TYPE 200

SCALE: 1/4" = 1'-0"

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SHEET TITLE
FOUNDATION PLAN
BUILDING 200

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STRUCTURAL NOTES:

(2) 2x8 HEADERS TO BEAR ON (1) ONE JACK STUD UNLESS NOTED OTHERWISE.

(2) 2x10 & LARGER HEADERS TO BEAR ON (2) TWO JACK STUDS UNLESS NOTED OTHERWISE.

ALL PRE-ENGINEERED HEADERS TO BEAR ON REQUIRED NUMBER OF STUDS TO MATCH WIDTH OF HEADER MATERIAL OR ON (2) TWO JACK STUDS AT PARALLEL WALL CONDITION UNLESS NOTED OTHERWISE.

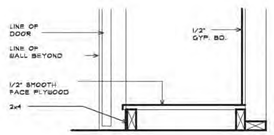
ALL PRE-ENGINEERED LUMBER HEADERS SHALL BE BUILT-UP FROM THE NUMBER OF HEADERS INDICATED ON DRAWINGS. ALL MEMBERS SHALL BE SECURED WITH NAILS OR BOLTS AS SPECIFIED BY THE MANUFACTURER FOR SIZES INDICATED.

ALL GIRDER TRUSSES TO BEAR ON (2) TWO STUDS MINIMUM OR AS REQUIRED TO MATCH NUMBER OF TRUSS PLYS UNLESS NOTED OTHERWISE ON DRAWINGS.

TRUSS FABRICATOR/CONTRACTOR TO PROVIDE ALL HANGERS W/ MODEL No. CLEARLY STAMPED & LAYOUT DRAWINGS CLEARLY INDICATING LOCATION OF VARIOUS HANGERS REQUIRED.

CARPENTER CONTRACTOR TO INSTALL NAIL SIZES & NUMBER REQ'D. AS SPECIFIED FOR EACH TYPE OF HANGER.

PROVIDE SOLID BLOCKING WITHIN FLOOR, WALL AND OTHER VOID SPACES UNDER OR ALIGNED WITH HEADER AND GIRDER TRUSS BEARING CONDITIONS DOWN TO SOLID BEARING (SUCH AS FOUNDATION OR BEAM). SOLID BLOCKING SIZE SHALL NOT BE LESS THAN BEARING STUD SIZES SUPPORTING THE STRUCTURAL HEADERS AND GIRDER TRUSSES.



20201 / 102, 202, 302 SECTION 1/4"=1'-0"

(* BASE OF LINEN CLOSET)
* CER. TILE COND. ONLY

NOTE:

FIRE RATED WALLS ARE SHOWN SHADED.

AT 3 1/2" THK. SHADED WALLS WITHIN A UNIT OR GARAGE, PROVIDE 5/8" UL CLASS. GYP. BD. BOTH SIDES OF WALL. 2 HOUR FIRE RATED, UL U305 & U309) PROVIDE FIBERGLAS WOOL IN WALLS BETWEEN GARAGE AND DWELLING UNIT.

SQUARE FOOTAGE UNIT 201	
1ST FLOOR	1253 SQ FT
TOTAL	1253 SQ FT

SQUARE FOOTAGE UNIT 202	
1ST FLOOR	102 SQ FT
2ND FLOOR	1238 SQ FT
TOTAL	1340 SQ FT

DOOR SCHEDULE

TAG	SIZE	TYPE	STYLE
1	6'-0"x6'-8"	SLIDING GLASS DOOR	
2	NOT USED		
3	NOT USED		
4	3'-0"x6'-8" EXTERIOR	INSULATED STEEL ENTRY DOOR	STYLE - A
5	NOT USED		
6	NOT USED		
7	NOT USED		
8	NOT USED		
9	NOT USED		
10	NOT USED		
11	NOT USED		
12	2'-0"x6'-8" INTERIOR	SWING HOLLOW CORE	FLUSH STYLE - C
13	2'-6"x6'-8" INTERIOR	SWING HOLLOW CORE	FLUSH STYLE - C
14	2'-8"x6'-8" INTERIOR	SWING HOLLOW CORE	FLUSH STYLE - C
15	2'-8"x6'-8" INTERIOR	INSULATED STEEL FIRE DOOR	FLUSH STYLE - C
16	2'-10"x6'-8" INTERIOR	SWING HOLLOW CORE	STYLE - C

DOOR SCHEDULE

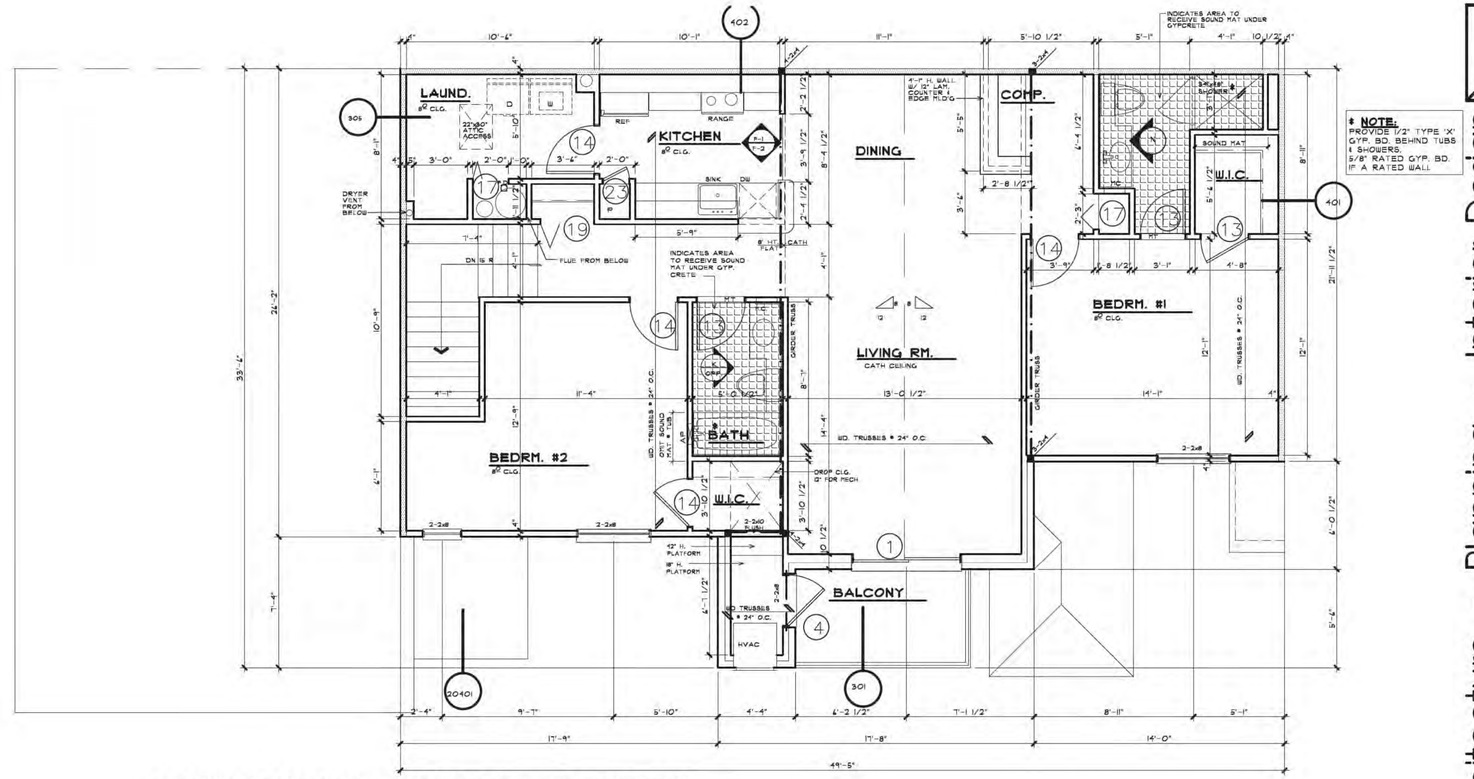
TAG	SIZE	TYPE	STYLE
17	2'-0"x6'-8" INTERIOR	BI-FOLD HOLLOW CORE	FLUSH STYLE - D
18	2'-4"x6'-8" INTERIOR	BI-FOLD HOLLOW CORE	FLUSH STYLE - D
19	3'-0"x6'-8" INTERIOR	BI-FOLD HOLLOW CORE	FLUSH STYLE - D
20	4'-0"x6'-8" INTERIOR	BI-FOLD HOLLOW CORE	FLUSH STYLE - E
21	5'-0"x6'-8" INTERIOR	BI-FOLD HOLLOW CORE	FLUSH STYLE - E
22	6'-0"x6'-8" INTERIOR	BI-FOLD HOLLOW CORE	FLUSH STYLE - E
23	1'-6"x6'-8" INTERIOR	SWING HOLLOW CORE	FLUSH STYLE - C

NOTE:

NON-COMBUSTIBLE HVAC & EXHAUST DUCTS LOCATED IN THE FLOOR TRUSS SPACE, WHICH DO NOT PENETRATE THE FLOOR OF A FIRE RESISTANCE RATED FLOOR/CEILING ASSEMBLY, BUT DO PENETRATE THE CEILING OF A FIRE RESISTANCE FLOOR/CEILING ASSEMBLY SHALL BE PROVIDED WITH AN APPROVED CEILING FIRE DAMPER AT THE CEILING PENETRATION.

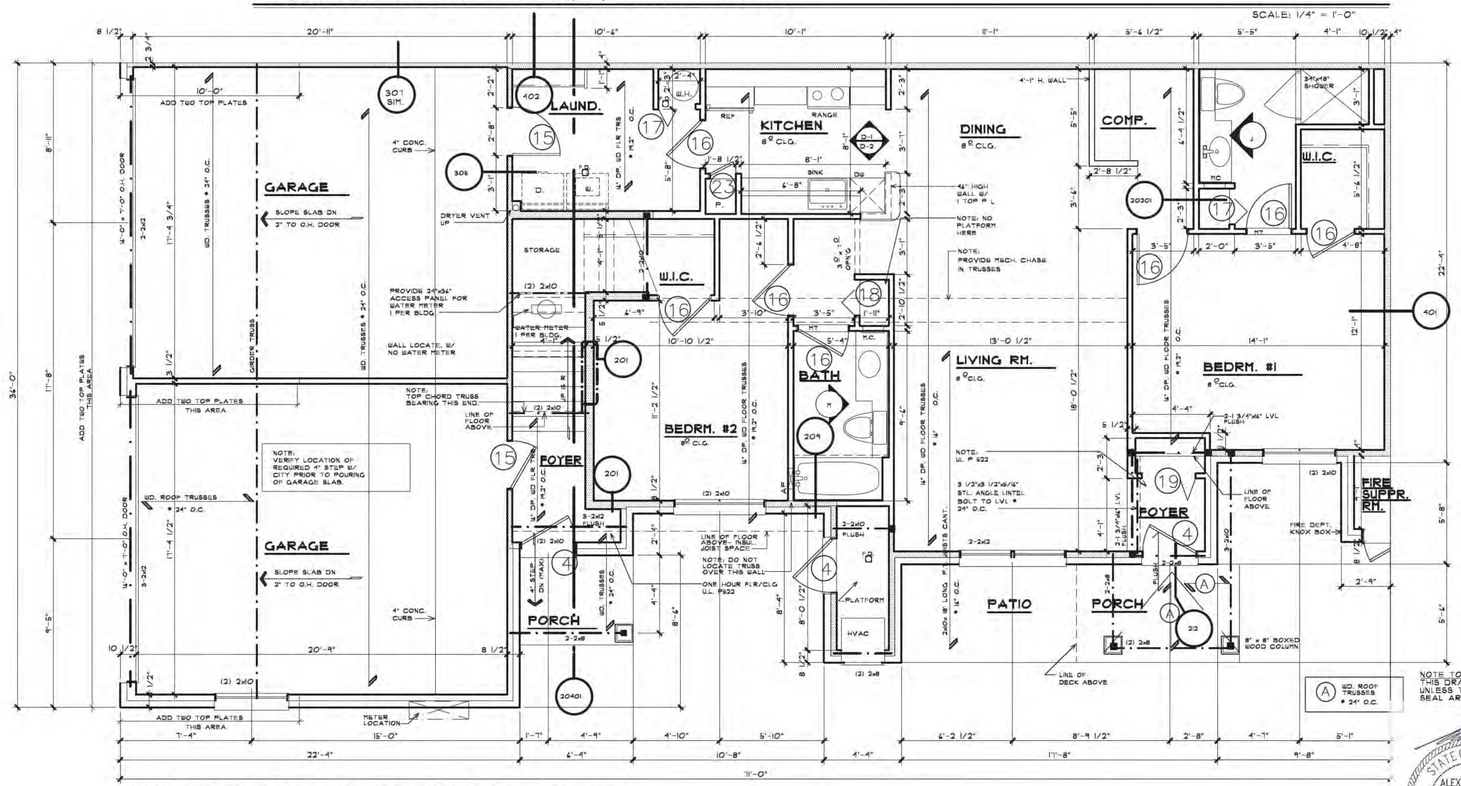
CEILING FIRE DAMPERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS LISTED IN A FIRE RESISTANCE RATED DESIGN OR SHALL BE LABELED TO FUNCTION AS A HEAT BARRIER FOR AIR-HANDLING OUTLET/INLET PENETRATIONS IN THE CEILING OF A FIRE RESISTANCE RATED ASSEMBLY. PENETRATIONS BY AN AIR DUCT THROUGH A FIRE RESISTANCE RATED FLOOR/CEILING ASSEMBLY WHICH CONNECT NOT MORE THAN TWO STORIES SHALL BE PROVIDED WITH A FIRE DAMPER THAT COMPLIES WITH UL 555 INSTALLED AT THE FLOOR LINE. ALL FIRE DAMPERS SHALL BE ACCESSIBLE.

NOTE:
ALL 2x4 WD. STUD IN NON BEARING INTERIOR PARTITIONS TO BE SPACED @ 24" O.C. PROVIDE ADDITIONAL STUDS AS NECESSARY FOR PROPER INSTALLATION OF MEDICINE CABINETS RETURN AIR GRILLES ECT. ALL KITCHEN WALLS INTENDED TO SUPPORT KITCHEN CABINETS TO HAVE STUDS SPACED A MAX. OF 14" O.C.



SECOND FLOOR PLAN - BUILDING TYPE 200 - UNIT 202

SCALE: 1/4" = 1'-0"



FIRST FLOOR PLAN - BUILDING TYPE 200 - UNIT 201

SCALE: 1/4" = 1'-0"

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SHEET TITLE
FIRST FLOOR PLAN
SECOND FLOOR PLAN
BUILDING TYPE 200

CLIENT/PROJECT
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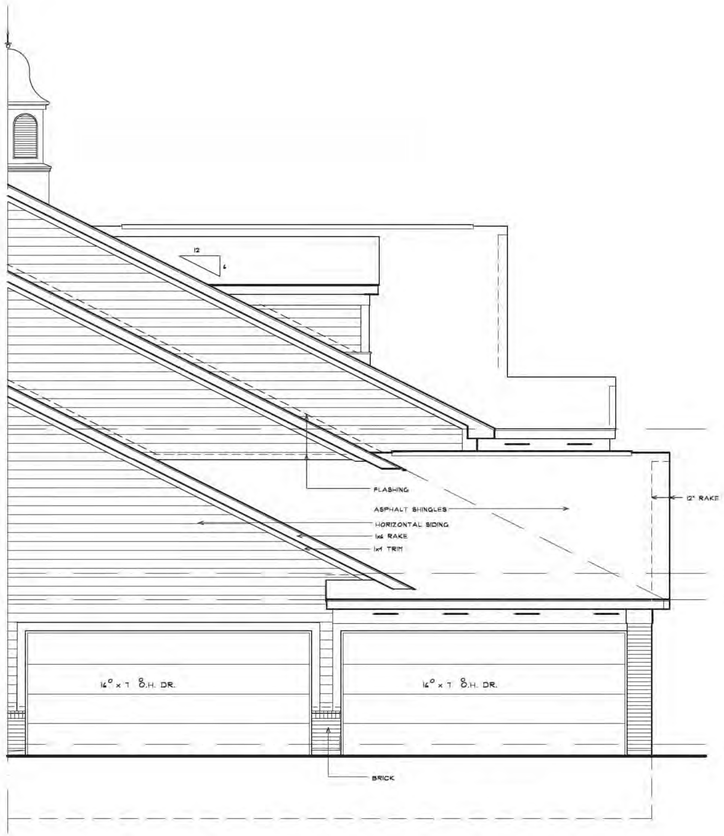
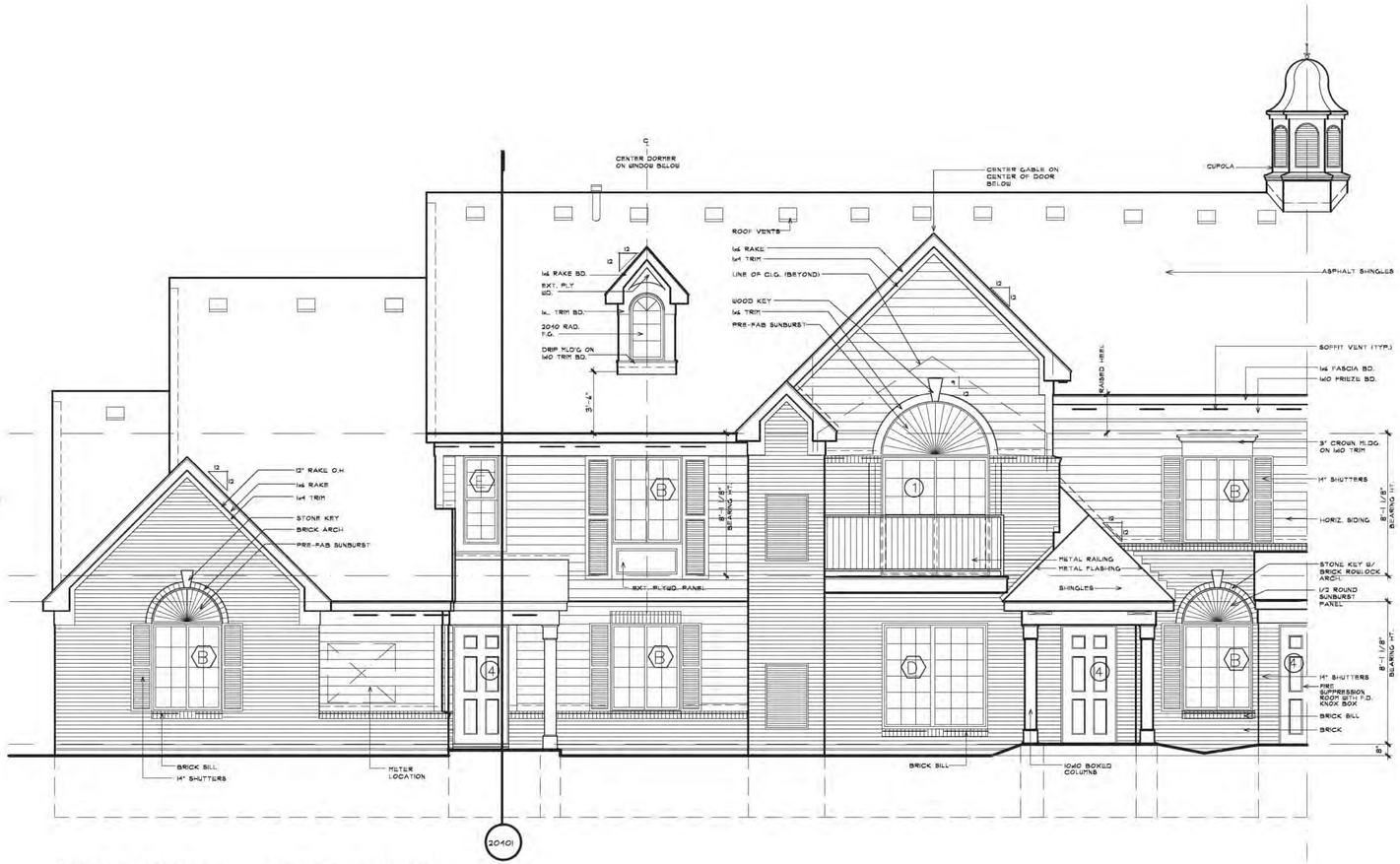


LEFT SIDE ELEVATION - BLDG. 200

SCALE: 1/4" = 1'-0"



FRONT ELEVATION - BUILDING TYPE 200

SCALE: 1/4" = 1'-0"

WINDOW SCHEDULE

TAG	SIZE	REMARKS
A	4050 SLIDER	
B	4050 SLIDER	EGRESS
C	5050 SLIDER	EGRESS
D	6050 SLIDER	EGRESS
E	1-2050 SINGLE HUNG	
F	3050 DOUBLE HUNG	EGRESS

DOOR SCHEDULE

TAG	SIZE	TYPE	STYLE
1	6'-0"x6'-8"	SLIDING GLASS DOOR	
4	3'-0"x6'-8" EXTERIOR	INSULATED STEEL ENTRY DOOR	STYLE - A

UNLESS NOTED OTHERWISE: -
OVERHANG DIMESIONS ARE 12" FROM FRAME WALL.
RAKE DIMENSIONS ARE 8" FROM FRAME AT BRICK WALLS AND 4" FROM FRAME AT SIDING WALLS.

STEEL LINTEL SCHEDULE

LOOSE STEEL LINTELS FOR MASONRY - EXTERIOR ANGLES FOR BRICK OR STONE (NO FLOOR LOAD)

MAX. CLEAR SPAN	LINTEL SIZE
5'-0" OR LESS	3 1/2" x 3 1/2" x 5/16"
7'-0" OR LESS	4" x 3 1/2" x 5/16"
8'-0" OR LESS	5" x 3 1/2" x 5/16"
9'-0" OR LESS	5" x 3 1/2" x 3/8"
10'-0" OR LESS	6" x 3 1/2" x 3/8"

NOTE: THIS SCHEDULE APPLIES UNLESS NOTED OTHERWISE ON THE PLANS AND/OR ELEVATIONS.

UNIT 202

PROPOSED VENT AREA:

VENT AREA RATIO 1:150

ATTIC AREA= 1296 SQ.FT. (/150)

VENT AREA= 8.64 SQ.FT.x144= 1245 SQ.IN.

50% SOFFIT AND 50% RIDGE= 623 SQ.IN. EACH

CONTINOUS RIDGE TYPE* 18 SQ.IN. PER FT.= 24 LIN.FT.

LOUVER AT RIDGE TYPE* 50 SQ.IN. EA. = 13 UNITS

GABLE END TYPE (TOTAL) _____ SQ.IN. = _____ UNITS

TOTAL VENTING AT RIDGE= 1082 SQ.IN.

CONTINOUS SOFFIT TYPE* _____ SQ.IN. PER FT.= _____ LIN.FT.

LOUVER TYPE 8"x 16" * 54 SQ.IN. EA. = 12 UNITS

TOTAL VENTING AT SOFFIT= 648 SQ.IN.

GARAGES
UNIT 201 + 202

PROPOSED VENT AREA:

VENT AREA RATIO 1:150

ATTIC AREA= 784 SQ.FT. (/150)

VENT AREA= 5.23 SQ.FT.x144= 753 SQ.IN.

50% SOFFIT AND 50% RIDGE= 377 SQ.IN. EACH

CONTINOUS RIDGE TYPE* 18 SQ.IN. PER FT.= 21 LIN.FT.

LOUVER AT RIDGE TYPE* 50 SQ.IN. EA. = 8 UNITS

GABLE END TYPE (TOTAL) _____ SQ.IN. = _____ UNITS

TOTAL VENTING AT RIDGE= 378 SQ.IN.

CONTINOUS SOFFIT TYPE* _____ SQ.IN. PER FT.= _____ LIN.FT.

LOUVER TYPE 8"x 16" * 54 SQ.IN. EA. = 7 UNITS

TOTAL VENTING AT SOFFIT= 378 SQ.IN.

NOTE TO BUILDING OFFICIAL: THIS DRAWING IS NOT VALID UNLESS THE SIGNATURE AND SEAL ARE IN BLUE INK.

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SHEET TITLE
ELEVATION
BUILDING 200

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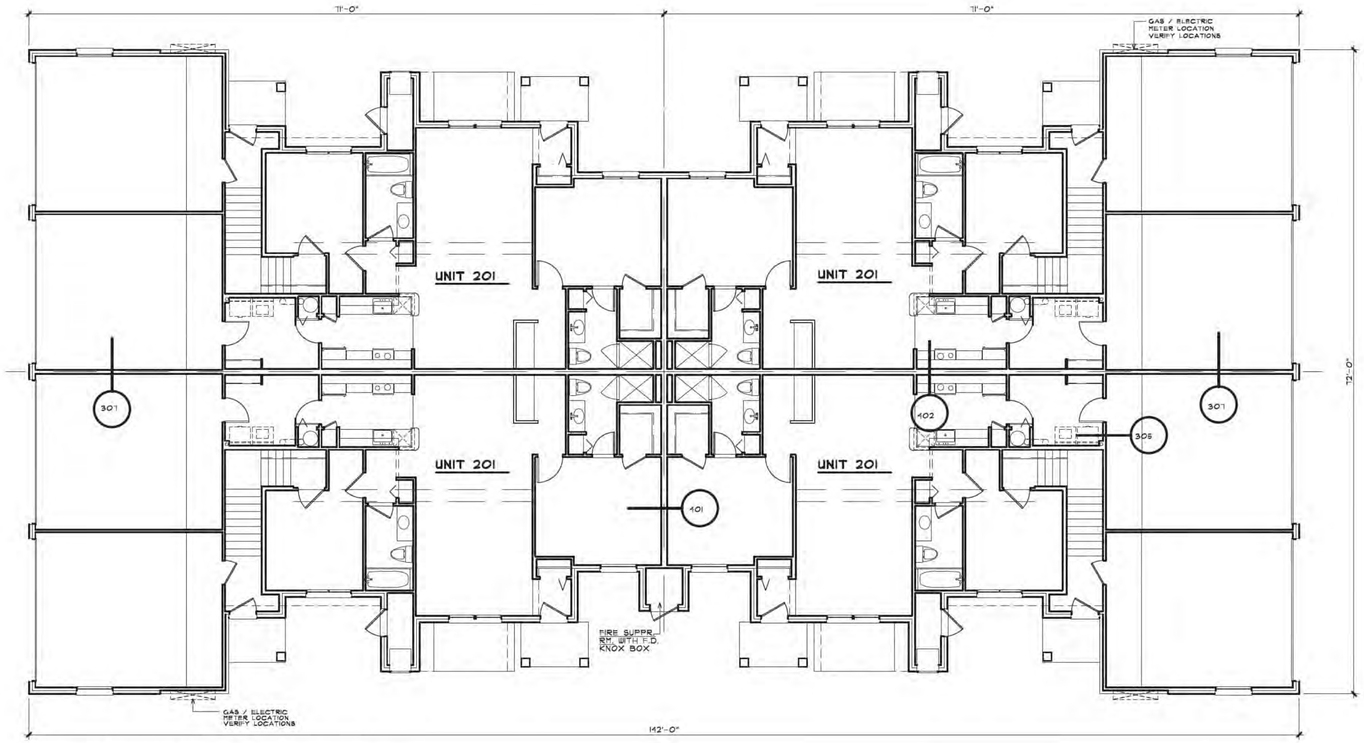
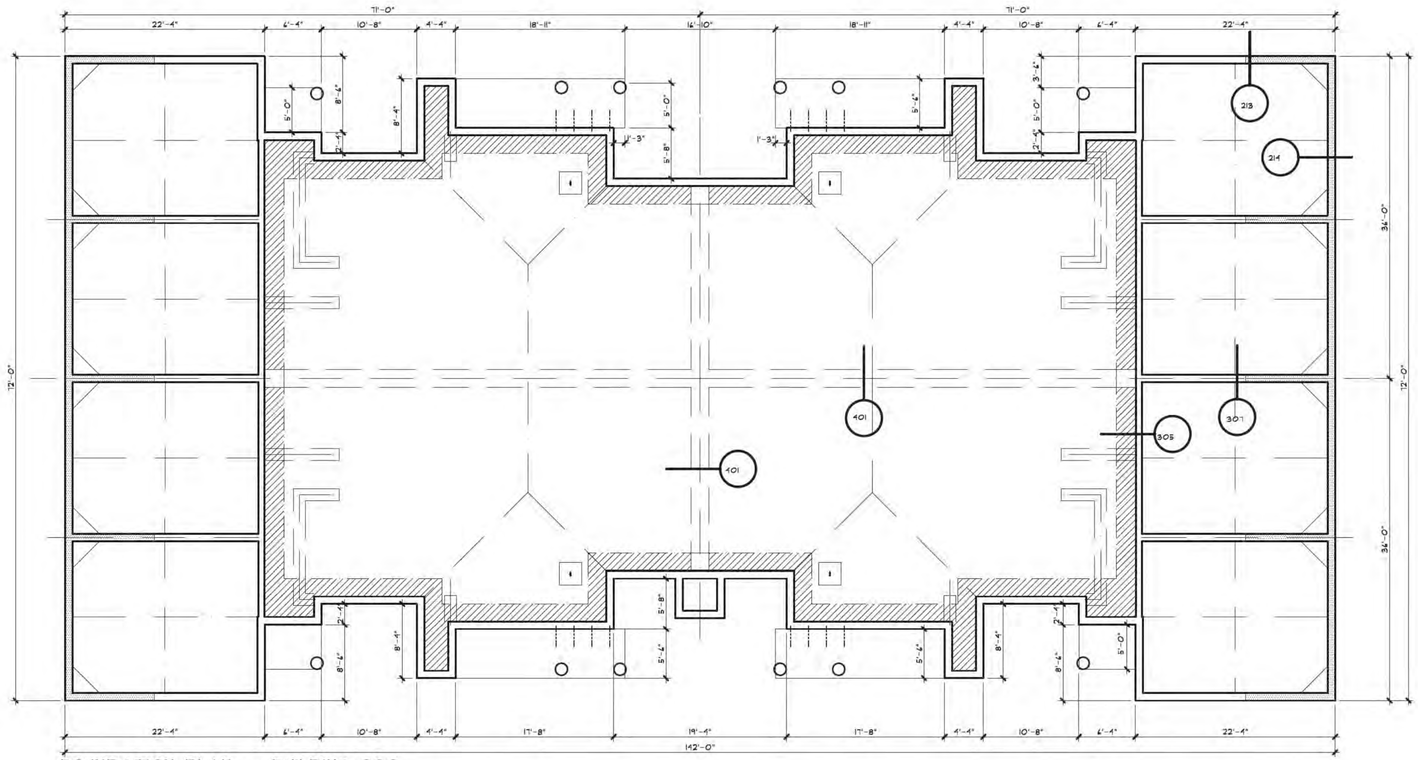


FIRST FLOOR PLAN - BUILDING 200

SCALE: 1/8" = 1'-0"



FOUNDATION PLAN - BUILDING 200

SCALE: 1/8" = 1'-0"

NOTE:
FOR ADDITIONAL NOTES AND INFORMATION, SEE 1/4" SCALE PLANS.

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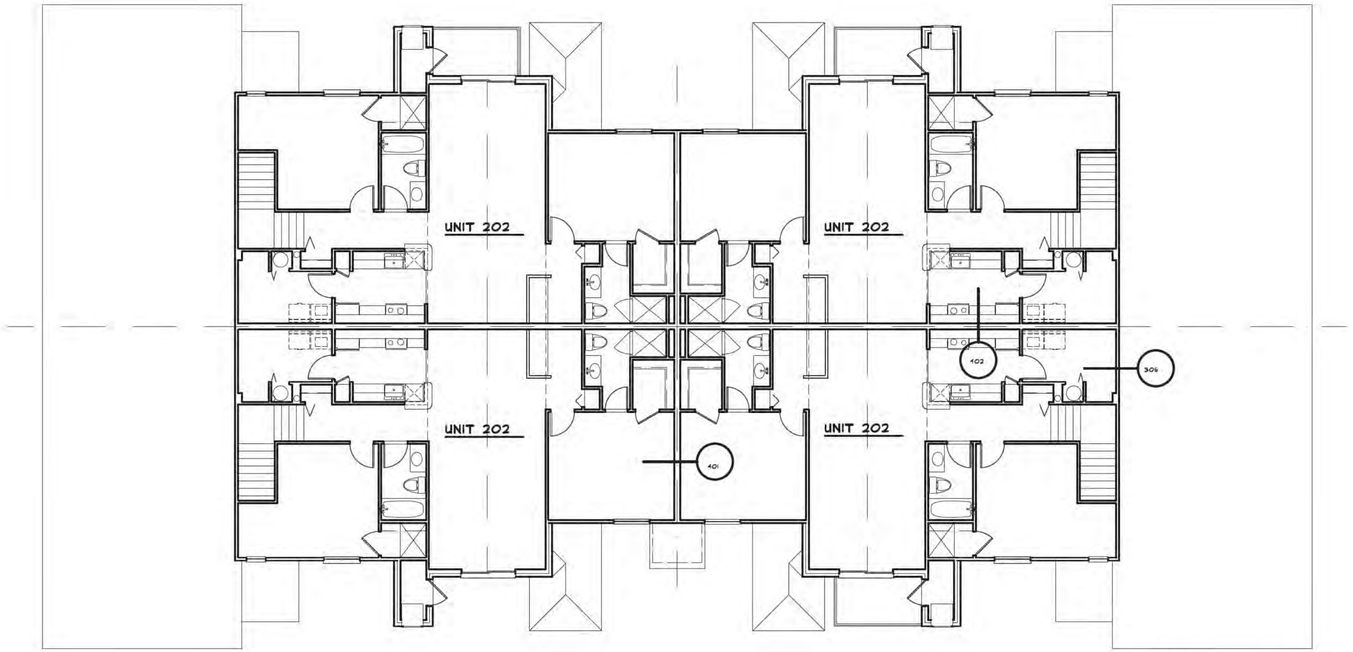
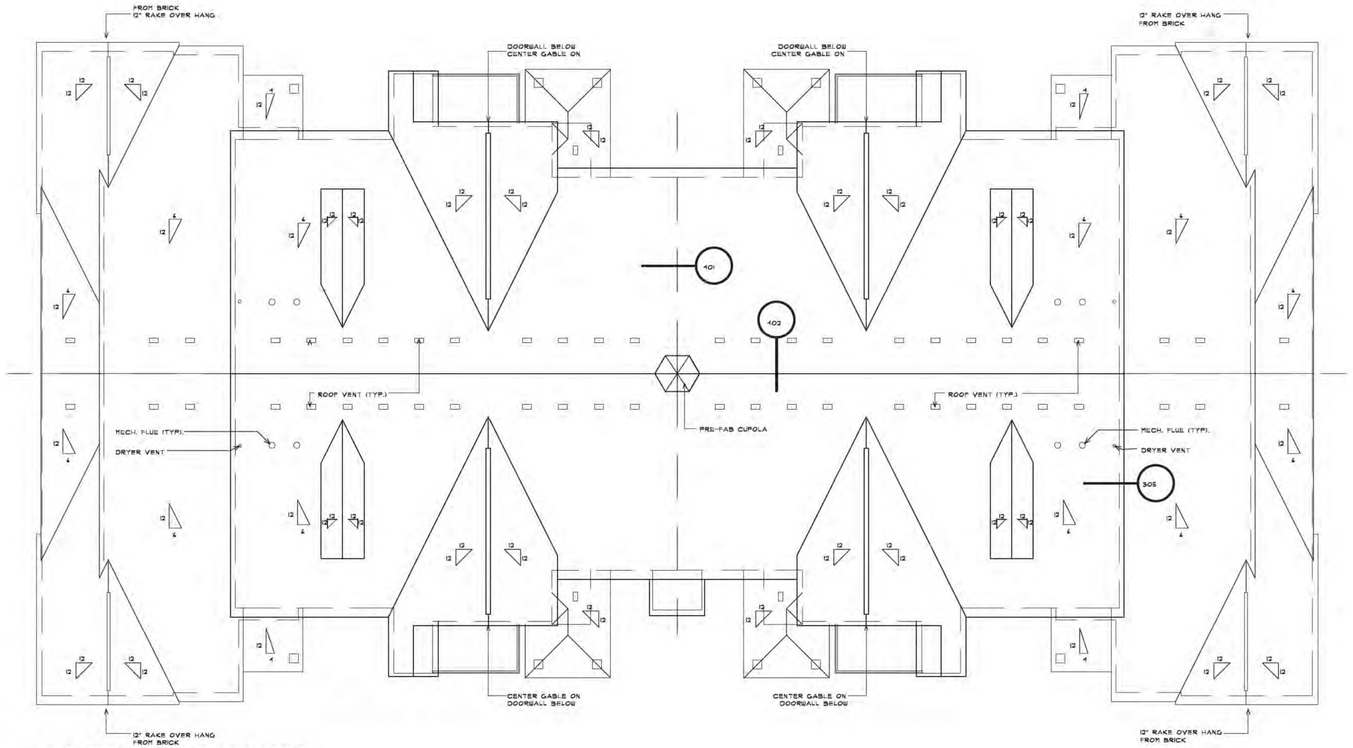


NOTE:
FOR ADDITIONAL NOTES AND INFORMATION SEE 1/4" SCALE PLANS.

SECOND FLOOR PLAN - BUILDING 200

SCALE: 1/8" = 1'-0"



ROOF PLAN - BUILDING 200

SCALE: 1/8" = 1'-0"

NOTE TO BUILDING OFFICIAL:
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STATE OF MICHIGAN
ALEXANDER V. BOGAERTS II
ARCHITECT
No. 1301068995
LICENSED ARCHITECT

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SHEET TITLE
BUILDING PLANS
BUILDING 200

CLIENT/PROJECT
WESTBURY II
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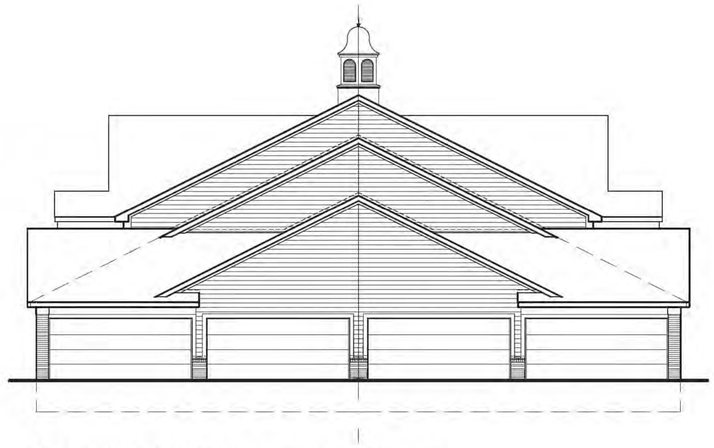

LEFT SIDE ELEVATION BUILDING TYPE 200

RIGHT SIDE ELEVATION - OPPOSITE SIMILAR

SCALE: 1/8" = 1'-0"

FRONT ELEVATION BUILDING TYPE 200

REAR ELEVATION - OPPOSITE SIMILAR

SCALE: 1/8" = 1'-0"

NOTE:
FOR ADDITIONAL NOTES AND INFORMATION SEE 1/4" SCALE PLANS.

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SHEET TITLE
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BUILDING 200

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STRUCTURAL NOTES:

(2) 2x8 HEADERS TO BEAR ON (1) ONE JACK STUD UNLESS NOTED OTHERWISE.

(2) 2x10 & LARGER HEADERS TO BEAR ON (2) TWO JACK STUDS UNLESS NOTED OTHERWISE.

ALL PRE-ENGINEERED HEADERS FRAMED PERPENDICULAR TO WALL LINE SHALL BEAR ON REQUIRED NUMBER OF STUDS TO MATCH WIDTH OF HEADER MATERIAL.

ALL PRE-ENGINEERED HEADERS FRAMED PARALLEL TO WALL LINE SHALL BEAR ON A MINIMUM (2) TWO JACK STUDS UNLESS NOTED OTHERWISE.

ALL PRE-ENGINEERED LUMBER HEADERS SHALL BE BUILT-UP FROM THE NUMBER OF HEADERS INDICATED ON DRAWINGS. ALL MEMBERS SHALL BE SECURED WITH NAILS OR BOLTS AS SPECIFIED BY THE MANUFACTURER FOR SIZES INDICATED.

ALL GIRDER TRUSSES TO BEAR ON (2) TWO STUDS MINIMUM OR AS REQUIRED TO MATCH NUMBER OF TRUSS PLYS, WHICH EVER IS GREATER.

TRUSS FABRICATOR/CONTRACTOR TO PROVIDE ALL HANGERS W/ MODEL No. CLEARLY STAMPED & LAYOUT DRAWINGS CLEARLY INDICATING LOCATION OF VARIOUS HANGERS REQUIRED.

CARPENTER CONTRACTOR TO INSTALL NAIL SIZES & NUMBER REQ'D. AS SPECIFIED FOR EACH TYPE OF HANGER.

LVI. DESIGN VALUES FOR MODULUS OF ELASTICITY (E) SHALL BE 2,000,000 PSI (2.0 E)

ELECTRICAL NOTES:

ALL RECESSED LIGHT ARE TO BE IC (INSULATION CONTACT) RATED.

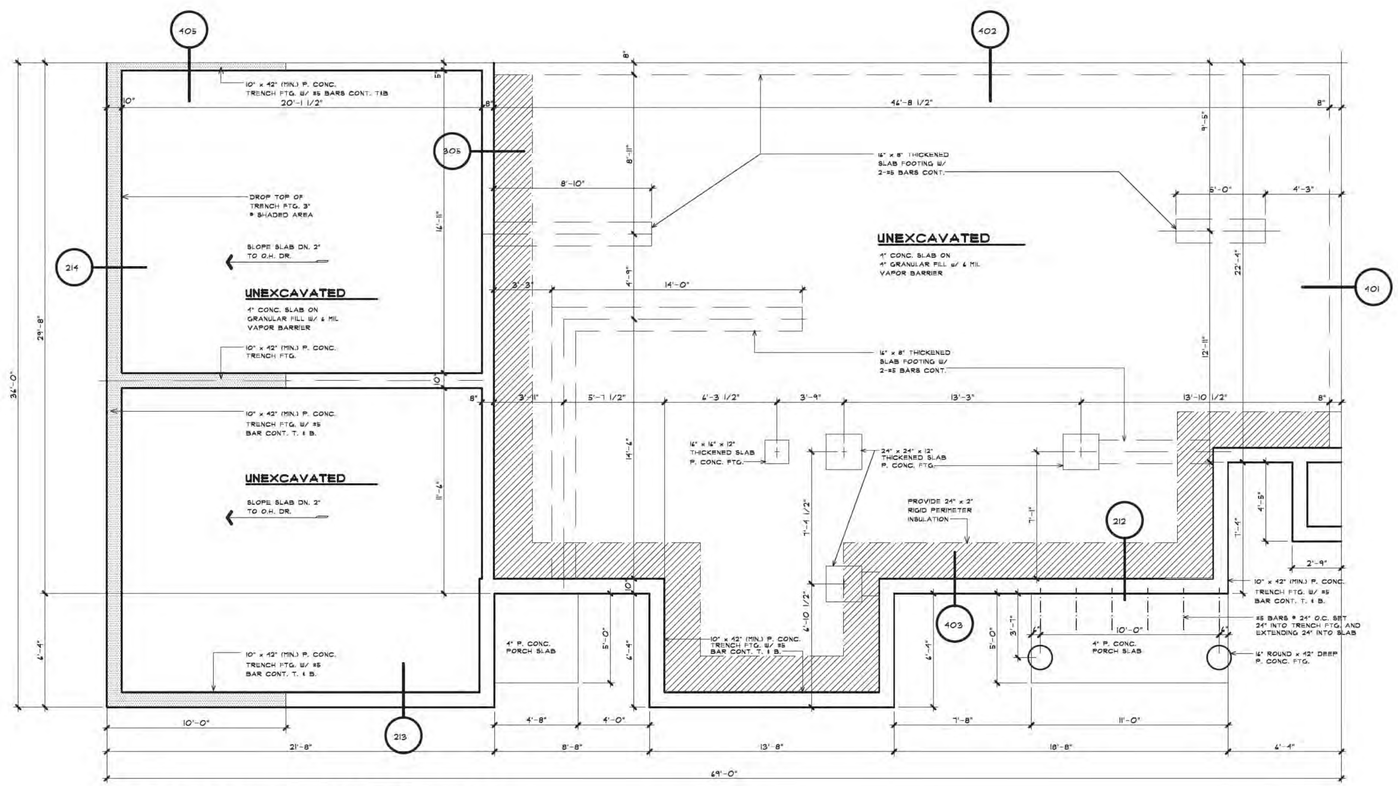
ALL RECESSED FIXTURES ARE TO BE SEALED TO LIMIT AIR LEAKAGE BETWEEN CONDITIONED AND UNCONDITIONED SPACES

PROVIDE GROUND-FAULT CIRCUIT-INTERRUPTER PROTECTION FOR ALL 125-VOLT, SINGLE-PHASE, 15- AND 20-AMPERE RECEPTACLES INSTALLED IN GARAGES, AND UNFINISHED BASEMENTS AREAS EXCEPT THOSE FOR FIRE OR BURGLAR ALARM SYSTEMS.

A MINIMUM OF 75% OF ALL PERMANENTLY INSTALLED LIGHTING FIXTURES MUST USE CFL BULBS OR OTHER HIGH EFFICIENCY LAMPS

ALL INTERIOR TREADS AND LANDINGS MUST BE ILLUMINATED WITH NOT LESS THAN 1 FOOT CANDLE.

EXTERIOR STAIRWAYS SHALL BE PROVIDED WITH AN ARTIFICIAL LIGHT SOURCE LOCATED AT THE TOP OF THE LANDING.



FOUNDATION PLAN - BUILDING TYPE 300

SCALE: 1/4" = 1'-0"

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SHEET TITLE: FOUNDATION PLAN BUILDING 300

CLIENT/PROJECT: WESTBURY II ELEVATE PROP. PARTNERS
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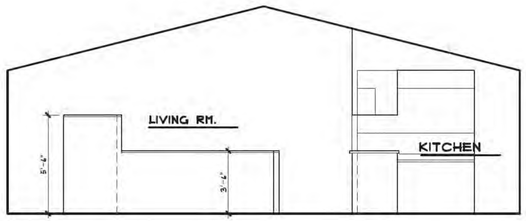
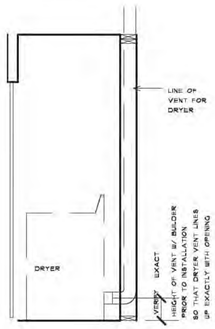
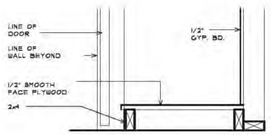


A INTERIOR ELEVATION



30201 DRYER VENT DETAIL



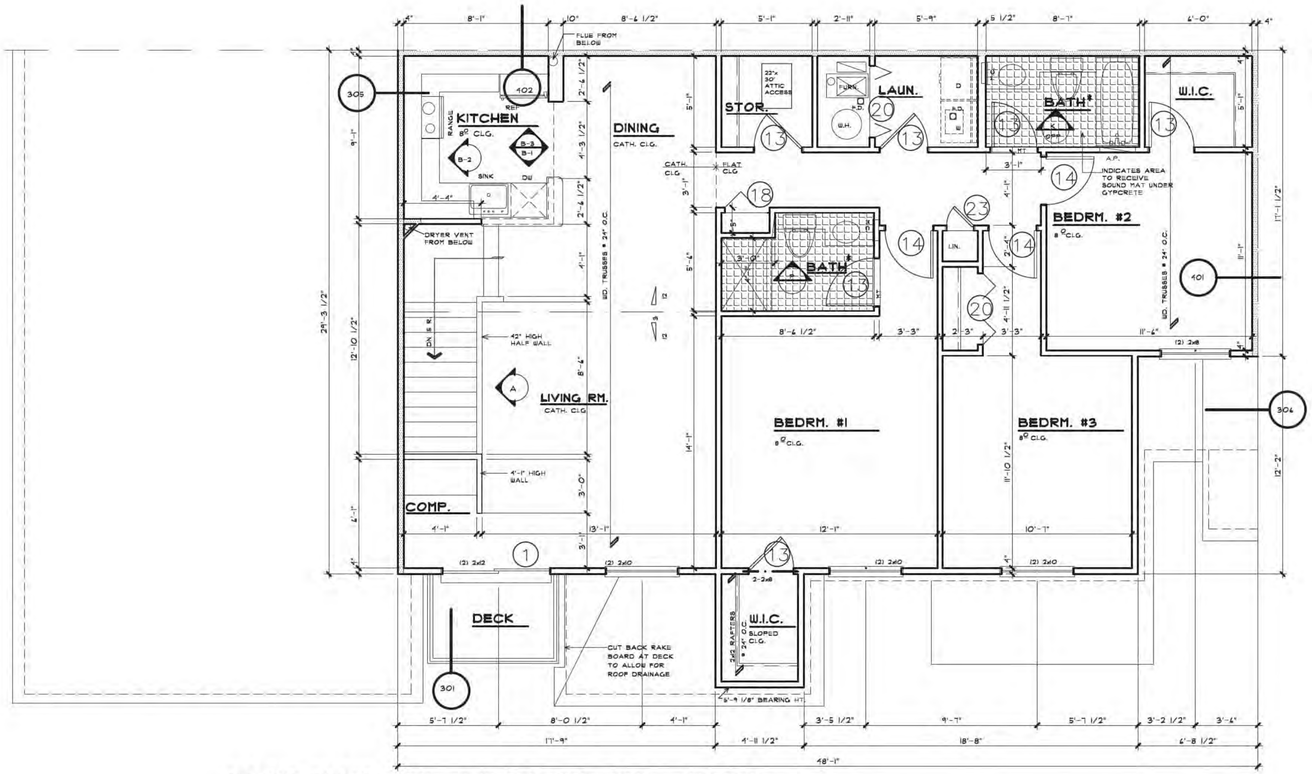
30102 102, 202, 302 SECTION 1/4"=1'-0" (@ BASE OF LINEN CLOSET)

DOOR SCHEDULE			
TAG	SIZE	TYPE	STYLE
1	6'-0"x6'-8"	SLIDING GLASS DOOR	
2	NOT USED	SLIDING GLASS DOOR	
3	NOT USED	SLIDING GLASS DOOR	
4	3'-0"x6'-8" EXTERIOR	INSULATED STEEL ENTRY DOOR	STYLE - A
5	NOT USED		
6	NOT USED		
7	NOT USED		
8	NOT USED		
9	NOT USED		
10	NOT USED		
11	NOT USED		
12	2'-0"x6'-8" INTERIOR	SWING HOLLOW CORE	FLUSH STYLE - C
13	2'-6"x6'-8" INTERIOR	SWING HOLLOW CORE	FLUSH STYLE - C
14	2'-8"x6'-8" INTERIOR	SWING HOLLOW CORE	FLUSH STYLE - C
15	2'-8"x6'-8" INTERIOR	INSULATED STEEL FIRE DOOR	FLUSH STYLE - C
16	2'-10"x6'-8" INTERIOR	SWING HOLLOW CORE	STYLE - C

DOOR SCHEDULE			
TAG	SIZE	TYPE	STYLE
17	2'-0"x6'-8" INTERIOR	BI-FOLD HOLLOW CORE	FLUSH STYLE - D
18	2'-4"x6'-8" INTERIOR	BI-FOLD HOLLOW CORE	FLUSH STYLE - D
19	3'-0"x6'-8" INTERIOR	BI-FOLD HOLLOW CORE	FLUSH STYLE - D
20	4'-0"x6'-8" INTERIOR	BI-FOLD HOLLOW CORE	FLUSH STYLE - E
21	5'-0"x6'-8" INTERIOR	BI-FOLD HOLLOW CORE	FLUSH STYLE - E
22	6'-0"x6'-8" INTERIOR	BI-FOLD HOLLOW CORE	FLUSH STYLE - E
23	1'-6"x6'-8" INTERIOR	SWING HOLLOW CORE	FLUSH STYLE - C

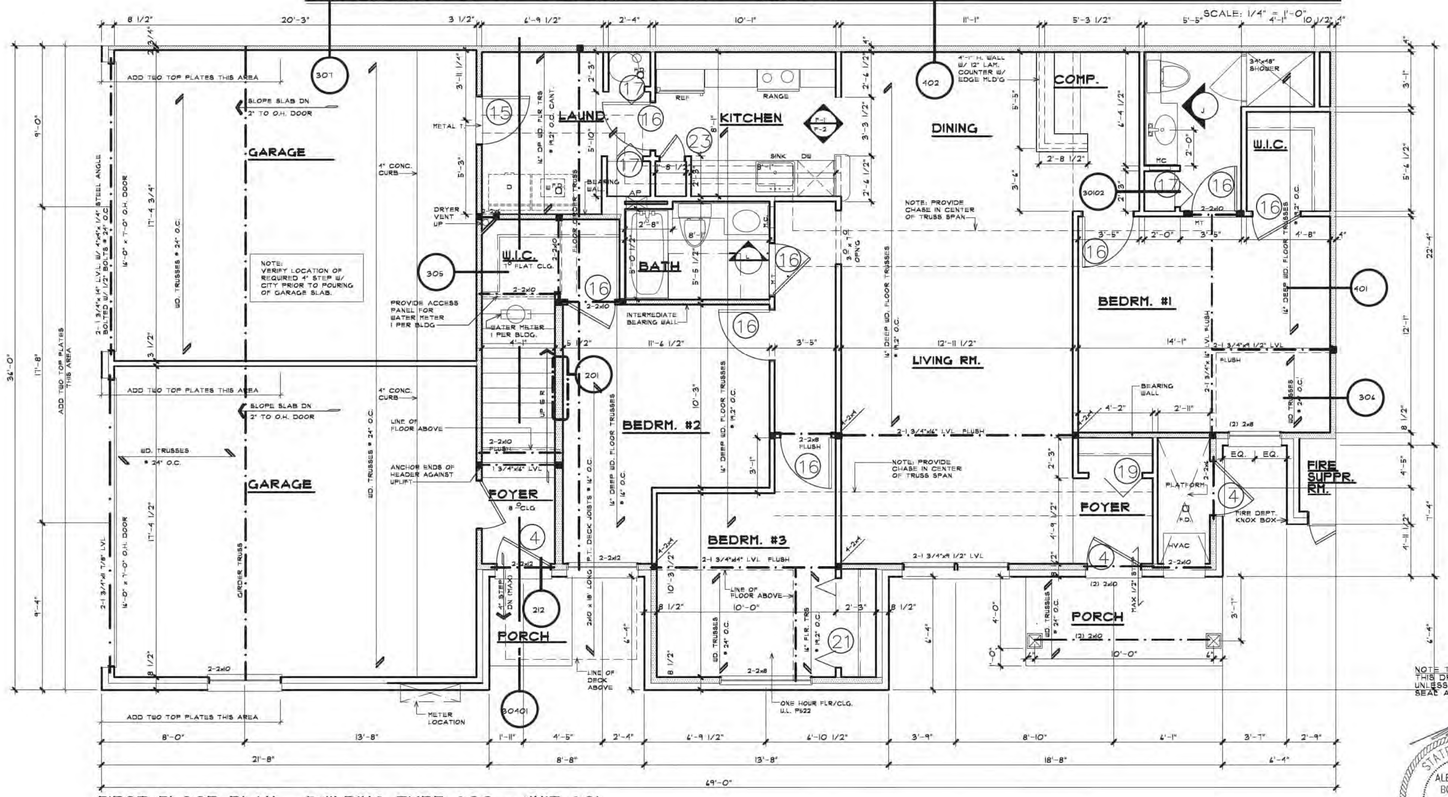
NOTE:
NON-COMBUSTIBLE HVAC & EXHAUST DUCTS LOCATED IN THE FLOOR TRUSS SPACE, WHICH DO NOT PENETRATE THE FLOOR OF A FIRE RESISTANCE RATED FLOOR/CEILING ASSEMBLY, BUT DO PENETRATE THE CEILING OF A FIRE RESISTANCE FLOOR/CEILING ASSEMBLY SHALL BE PROVIDED WITH AN APPROVED CEILING FIRE DAMPER AT THE CEILING PENETRATION.
CEILING FIRE DAMPERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS LISTED IN A FIRE RESISTANCE RATED DESIGN OR SHALL BE LABELED TO FUNCTION AS A HEAT BARRIER FOR AIR-HANDLING OUTLET/INLET PENETRATIONS IN THE CEILING OF A FIRE RESISTANCE RATED ASSEMBLY. PENETRATIONS BY AN AIR DUCT THROUGH A FIRE RESISTANCE RATED FLOOR/CEILING ASSEMBLY WHICH CONNECT NOT MORE THAN TWO STORIES SHALL BE PROVIDED WITH A FIRE DAMPER THAT COMPLIES WITH UL 555 INSTALLED AT THE FLOOR LINE. ALL FIRE DAMPERS SHALL BE ACCESSIBLE.

NOTE:
ALL 2x4 WD. STUD IN NON BEARING INTERIOR PARTITIONS TO BE SPACED @ 24" O.C. PROVIDE ADDITIONAL STUDS AS NECESSARY FOR PROPER INSTALLATION OF MEDICINE CABINETS RETURN AIR GRILLES ECT. ALL KITCHEN WALLS INTENDED TO SUPPORT KITCHEN CABINETS TO HAVE STUDS SPACED A MAX. OF 16" O.C.



SECOND FLOOR PLAN - BUILDING TYPE 300 - UNIT 302

* NOTE:
PROVIDE 1/2" TYPE 'X' GYP. BD. BEHIND TUBS & SHOWERS.
5/8" RATED GYP. BD. IF A RATED WALL



FIRST FLOOR PLAN - BUILDING TYPE 300 - UNIT 301

SCALE: 1/4" = 1'-0"

NOTE TO BUILDING OFFICIAL:
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248-334-5000

SHEET TITLE
FIRST FLOOR PLAN
SECOND FLOOR PLAN
BUILDING TYPE 300

CLIENT/PROJECT
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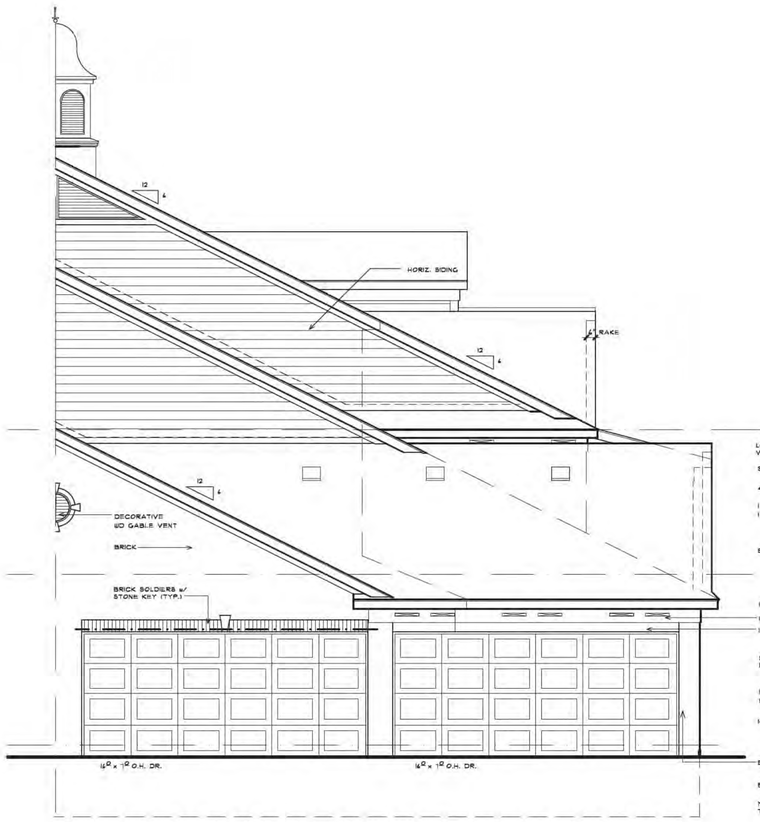
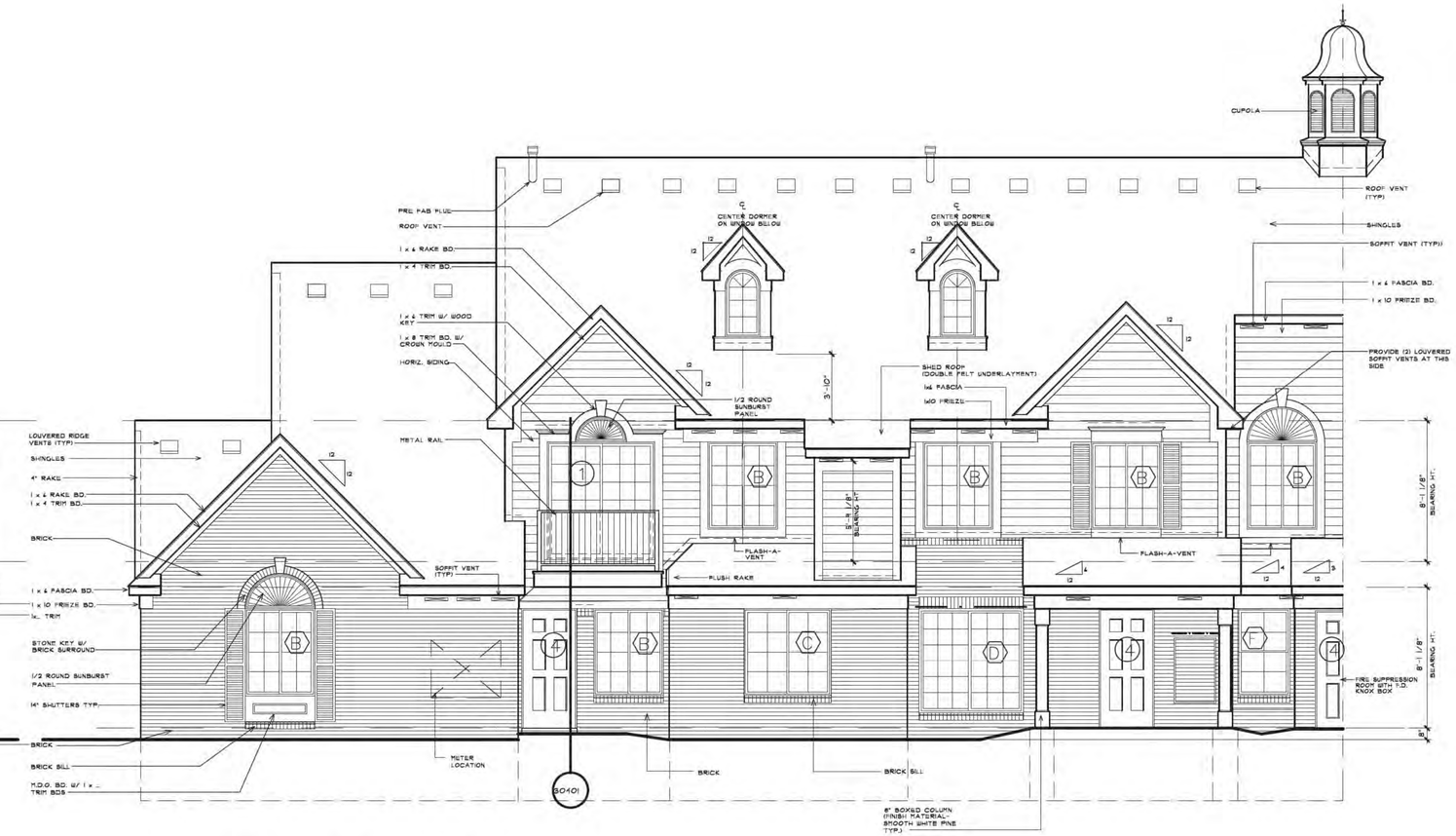


LEFT SIDE ELEVATION – BUILDING TYPE 300

SCALE: 1/4" = 1'-0"



FRONT ELEVATION – BUILDING TYPE 300

SCALE: 1/4" = 1'-0"

WINDOW SCHEDULE

TAG	SIZE	REMARKS
A	4030 SLIDER	
B	4060 SLIDER	EGRESS
C	5060 SLIDER	EGRESS
D	6060 SLIDER	EGRESS
E	1-2050 SINGLE HUNG	
F	3050 DOUBLE HUNG	EGRESS

DOOR SCHEDULE

TAG	SIZE	TYPE	STYLE
1	6'-0"x6'-8"	SLIDING GLASS DOOR	
4	3'-0"x6'-8" EXTERIOR	INSULATED STEEL ENTRY DOOR	STYLE – A

UNLESS NOTED OTHERWISE –
OVERHANG DIMESIONS ARE 12" FROM FRAME WALL.
RAKE DIMENSIONS ARE 8" FROM FRAME AT BRICK WALLS AND 4" FROM FRAME AT SIDING WALLS.

STEEL LINTEL SCHEDULE

LOOSE STEEL LINTELS FOR MASONRY – EXTERIOR ANGLES FOR BRICK OR STONE (NO FLOOR LOAD)

MAX. CLEAR SPAN	LINTEL SIZE
5'-0" OR LESS	3 1/2" x 3 1/2" x 5/16"
7'-0" OR LESS	4" x 3 1/2" x 5/16"
8'-0" OR LESS	5" x 3 1/2" x 5/16"
9'-0" OR LESS	5" x 3 1/2" x 3/8"
10'-0" OR LESS	6" x 3 1/2" x 3/8"

NOTE: THIS SCHEDULE APPLIES UNLESS NOTED OTHERWISE ON THE PLANS AND/OR ELEVATIONS.

UNIT 302

PROPOSED VENT AREA:

VENT AREA RATIO 1:50

ATTIC AREA= 1358 SQ.FT. (/150)

VENT AREA= 9.05 SQ.FT.x144= 1304 SQ.IN.

50% SOFFIT AND 50% RIDGE= 652 SQ.IN. EACH

CONTINUOUS RIDGE TYPE* 18 SQ.IN. PER FT.= 6 LIN.FT.

LOUVER AT RIDGE TYPE* 50 SQ.IN. EA. = 13 UNITS

GABLE END TYPE (TOTAL) _____ SQ.IN. = _____ UNITS

TOTAL VENTING AT RIDGE= 758 SQ.IN.

CONTINUOUS SOFFIT TYPE* _____ SQ.IN. PER FT.= _____ LIN.FT.

LOUVER TYPE 8"x 16"s 54 SQ.IN. EA. = 14 UNITS

TOTAL VENTING AT SOFFIT= 756 SQ.IN.

GARAGES UNIT 301 + 302

PROPOSED VENT AREA:

VENT AREA RATIO 1:50

ATTIC AREA= 759 SQ.FT. (/150)

VENT AREA= 5.06 SQ.FT.x144= 729 SQ.IN.

50% SOFFIT AND 50% RIDGE= 365 SQ.IN. EACH

CONTINUOUS RIDGE TYPE* 18 SQ.IN. PER FT.= 21 LIN.FT.

LOUVER AT RIDGE TYPE* 50 SQ.IN. EA. = 8 UNITS

GABLE END TYPE (TOTAL) _____ SQ.IN. = _____ UNITS

TOTAL VENTING AT RIDGE= 378 SQ.IN.

CONTINUOUS SOFFIT TYPE* _____ SQ.IN. PER FT.= _____ LIN.FT.

LOUVER TYPE 6"x 16"s 42 SQ.IN. EA. = 9 UNITS

TOTAL VENTING AT SOFFIT= 378 SQ.IN.

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STATE OF MICHIGAN
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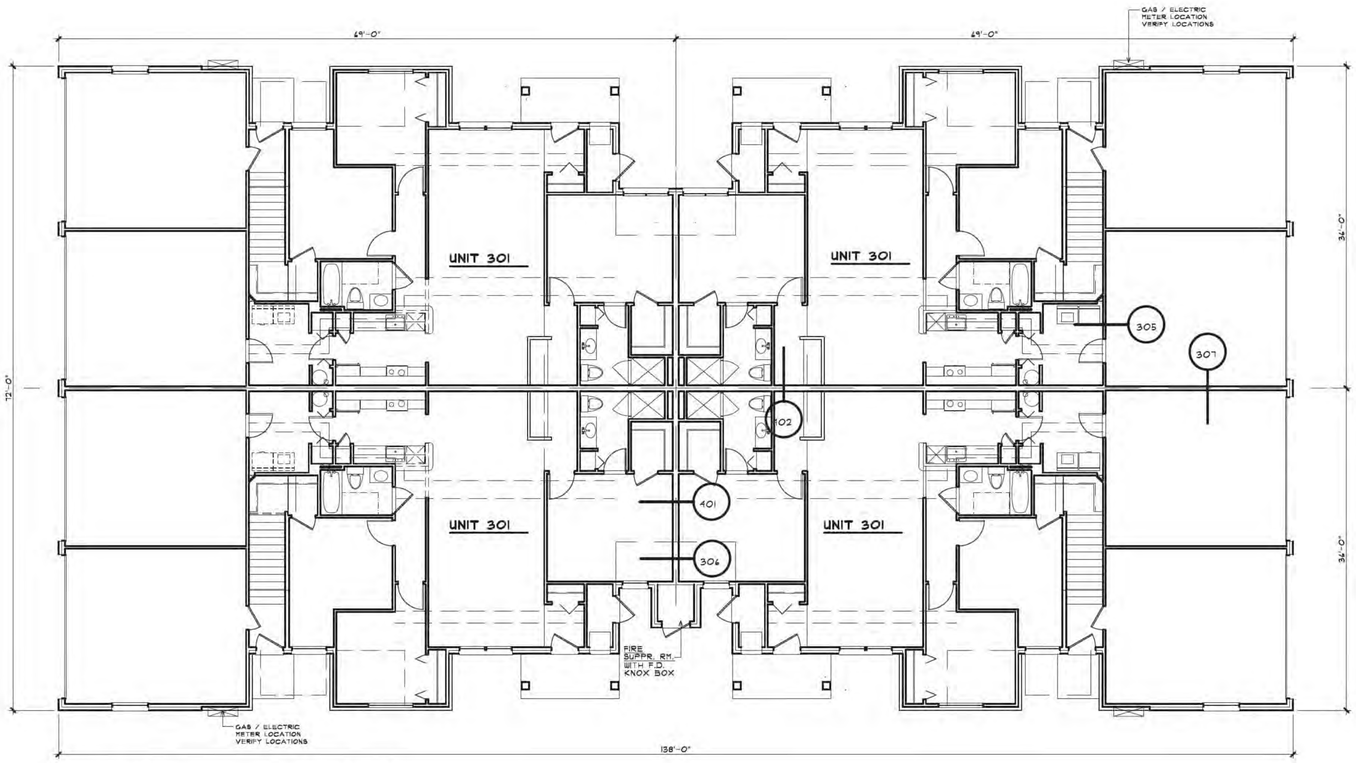
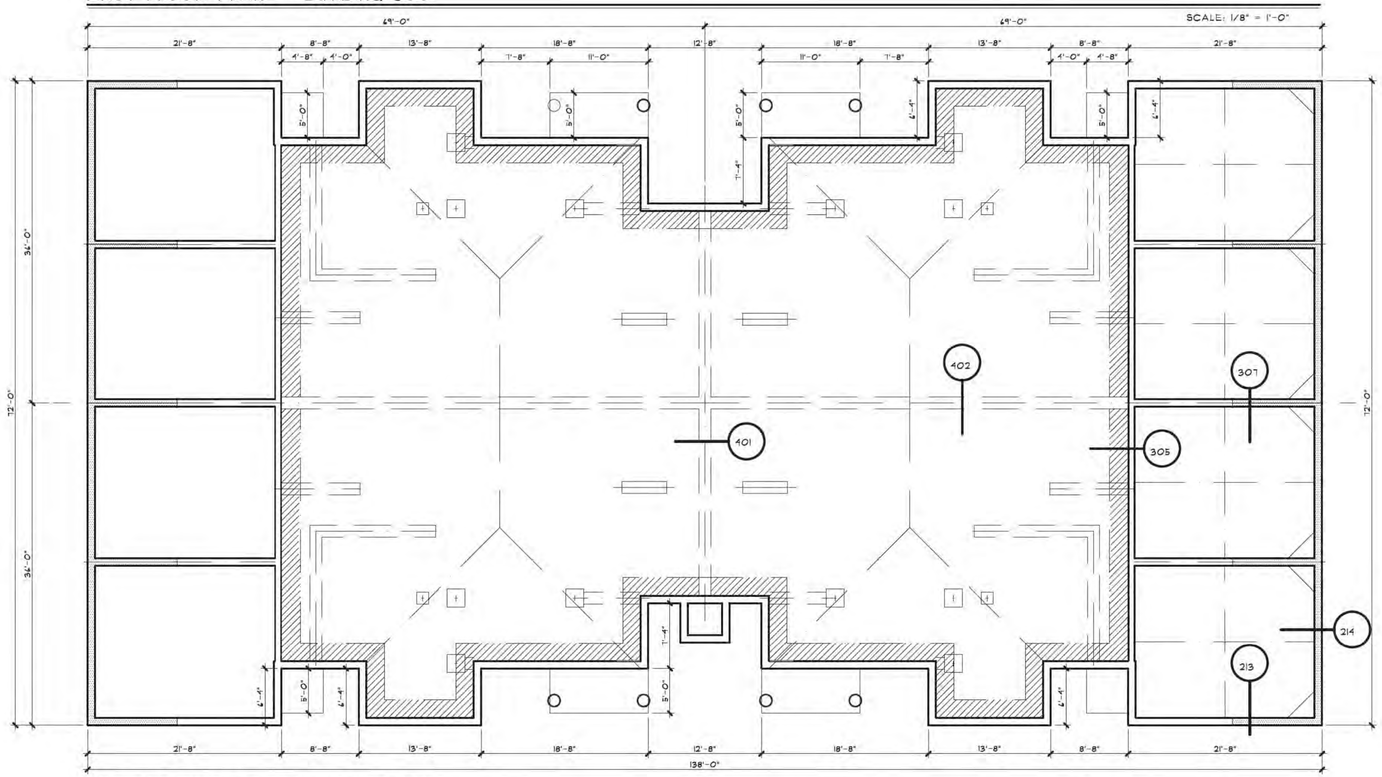


FIRST FLOOR PLAN - BUILDING 300

SCALE: 1/8" = 1'-0"



FOUNDATION PLAN - BUILDING 300

SCALE: 1/8" = 1'-0"

NOTE:
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BUILDING 300

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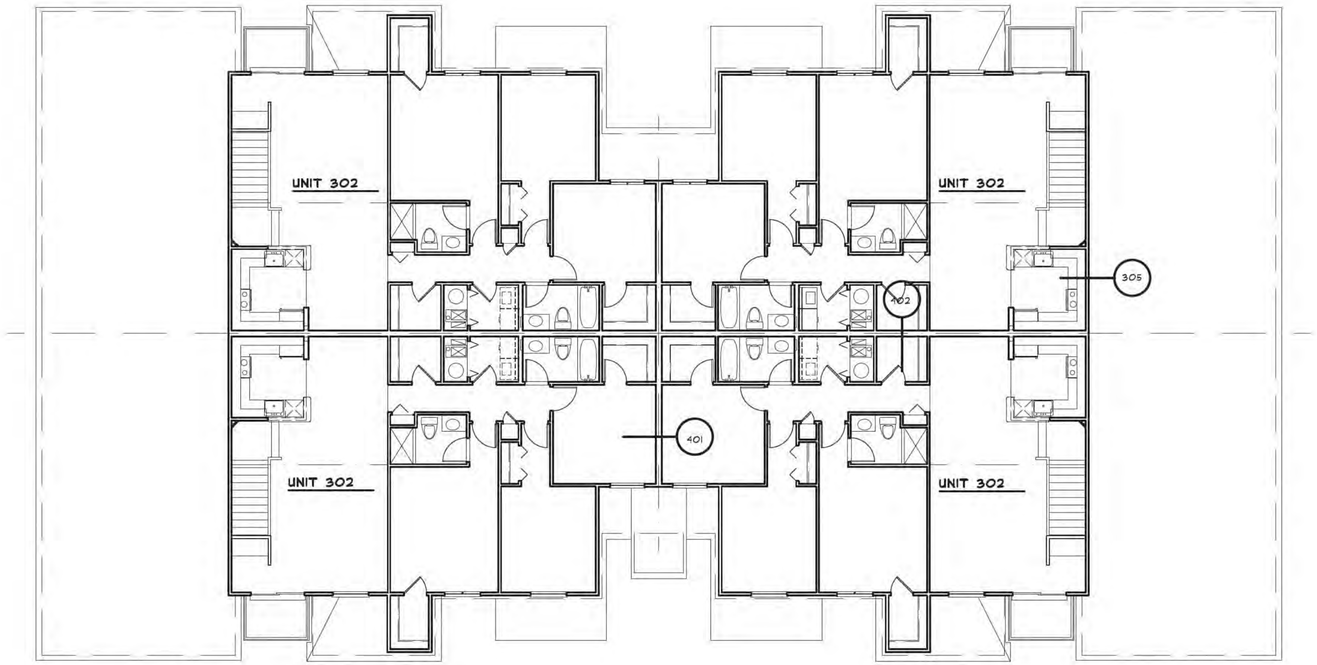

NOTE:
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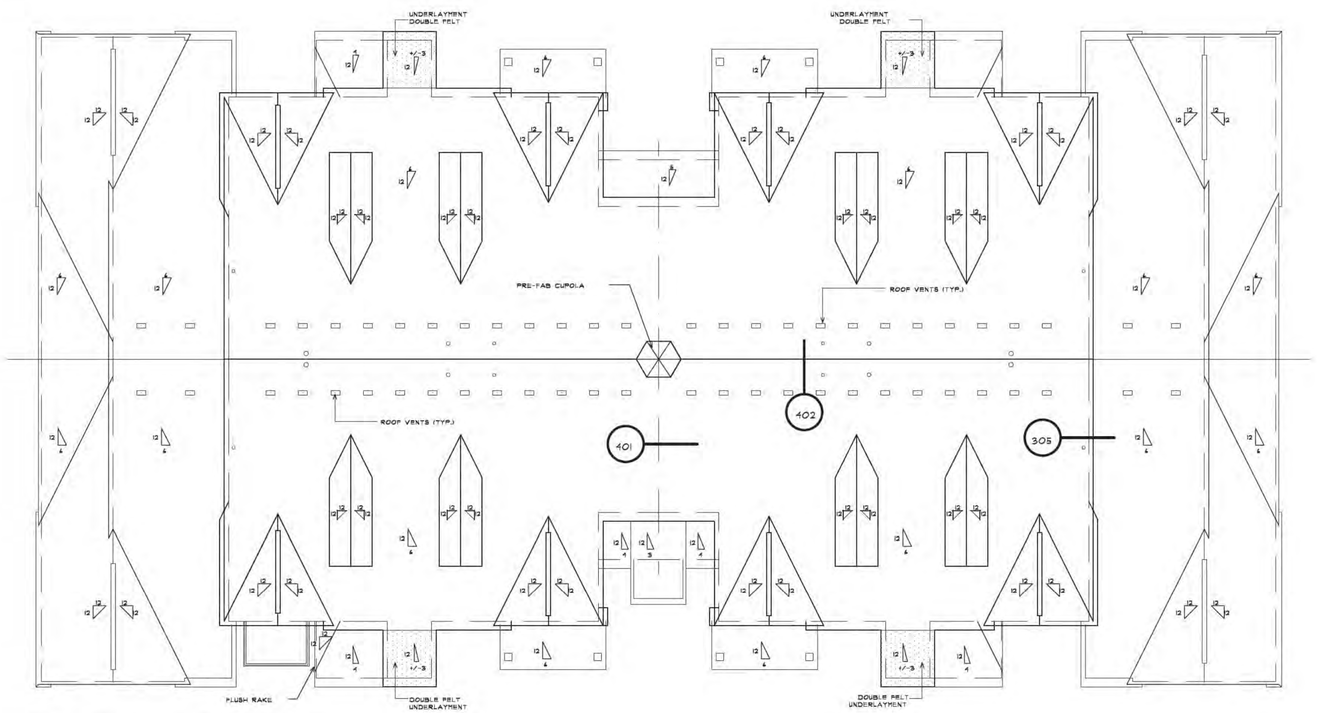
SECOND FLOOR PLAN - BUILDING 300

SCALE: 1/8" = 1'-0"



ROOF PLAN - BUILDING 300

SCALE: 1/8" = 1'-0"

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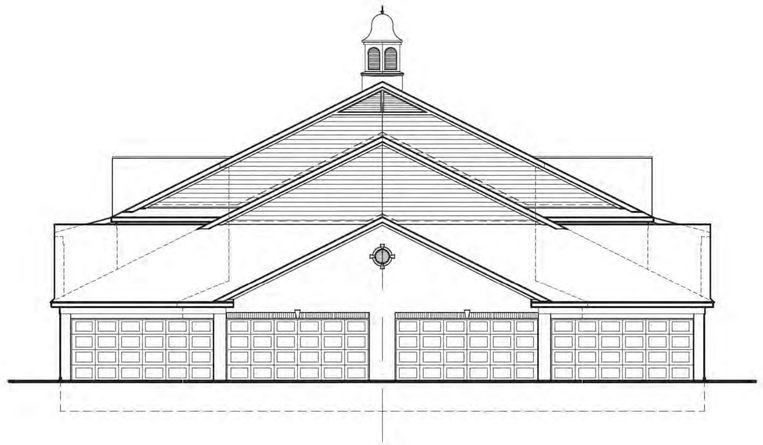

LEFT SIDE ELEVATION BUILDING TYPE 300

RIGHT SIDE ELEVATION - OPPOSITE SIMILAR

SCALE: 1/8" = 1'-0"

FRONT ELEVATION BUILDING TYPE 300

REAR ELEVATION - OPPOSITE SIMILAR

SCALE: 1/8" = 1'-0"

NOTE:
FOR ADDITIONAL NOTES AND INFORMATION SEE 1/4" SCALE PLANS.

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UNIT MATRIX

BUILDING TYPE	UNIT TYPE	BUILDING NUMBER	UNIT DESCRIPTION	UNIT AREA (S.F.)	GARAGE SIZE (CARS)	TOTAL AREA PER UNIT TYPE (S.F.)	NUMBER OF BUILDINGS	UNITS PER BUILDING	NO. OF UNIT TYPES 1 BED	2 BED	3 BED	TOTAL NUMBER OF UNITS	GARAGE AREA (S.F.)	TOTAL GARAGE AREA	GRAND TOTAL AREA (UNIT+GARAGE)
100 PHASE II	101	17, 19, 20, 29, 31	1BR, 1 BTH RANCH LOWER	963	1	**19,260**	5	4	20			20	296	**5,920**	**25,180**
	102		3 BR, 2 BTH RANCH UPPER	1258	2	**25,160**		4			20	20	440	**8,800**	**33,960**
200 PHASE II	201	18, 22, 23, 26, 27, 28, 32, 33	2 BR, 2 BTH RANCH LOWER	1242	2	**39,744**	8	4		32		32	415	**13,280**	**53,024**
	202		2 BR, 2 BTH RANCH UPPER	1323	2	**42,336**		4		32		32	293	**9,376**	**51,712**
300 PHASE II	301	21, 24, 25, 30	3 BR, 2 BTH RANCH LOWER	1412	2	**22,592**	4	4			16	16	373	**5,968**	**28,560**
	302		3 BR, 2 BTH RANCH UPPER	1393	2	**22,288**		4			16	16	388	**6,208**	**28,496**
SUBTOTAL						171,380	17		20	64	52	136		49,552	220,932
									15%	47%	38%	100%			
GRAND TOTAL															220,932

NOTE TO BUILDING OFFICIAL: THIS DRAWING IS NOT VALID UNLESS THE SIGNATURE AND SEAL ARE IN BLUE INK.

STATE OF MICHIGAN
ALEXANDER V. BOGAERTS II
ARCHITECT
No. 1301068995
LICENSED ARCHITECT

Alexander V. Bogaerts + Associates, P.C. • Architecture • Planning • Interior Design
2445 Franklin Road
Bloomfield Hills, MI 48302
248•334•5000

SHEET TITLE: UNIT MATRIX

CLIENT/PROJECT: WESTBURY II
ELEVATE PROP. PARTNERS
LIVINGSTON COUNTY, MICHIGAN

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REVISIONS
REVISION R1
02/22/2022

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DATE
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1025

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2911 Dorr Road
Brighton, MI 48116
810.227.5225
810.227.3420 fax
genoa.org

MEMORANDUM

TO: Honorable Board of Trustees

FROM: Kelly VanMarter, Assistant Manager/Community Development Director

DATE: April 26, 2022

RE: **Bible Baptist Church – 3850 Golf Club Road, Howell, Michigan**
Special Land Use(2), Site Plan and Impact Assessment

MANAGERS REVIEW: _____

Attached please find the project case file for a special land use (2) and site plan review project authorizing a church facility with recreational fields located at the southwest corner of Golf Club Road and Latson Road in Howell. The applicant proposes to develop the 46.5-acre site with a 19,843 square foot church building with 506 seats in the main auditorium, as well as 2 recreational fields (soccer and softball/baseball). The plans also identify a future phase 2, but those items are not included in this review.

The subject property is zoned Low Density Residential (LDR) which provides that churches, temples, and similar places of worship are allowed with special land use approval. Additionally, the project is requesting encroachments into the natural feature's setback which require an additional special land use review/approval.

SUPERVISOR
Bill Rogers

CLERK
Paulette A. Skolarus

TREASURER
Robin L. Hunt

TRUSTEES
Jean W. Ledford
H. James Mortensen
Terry Croft
Diana Lowe

MANAGER
Michael C. Archinal

Procedurally, churches in the LDR zoning district and encroachments into the natural feature setback require special land use, impact assessment and site plan approval by the Township Board following a public hearing and recommendation by the Planning Commission. This project was heard before the Planning Commission on March 14, 2022 and the Commission recommended conditional approval. Updated environmental impact assessment, site plans and architectural plans were provided in response to the conditions of the Planning Commission. The revised architectural plans and building materials were reviewed by members of the Commission at their meeting on April 25, 2022 and there was no opposition. My review of the updated documents is incorporated into the request for Board consideration provided below.

SPECIAL USE PERMITS (1. Church use in LDR zoning; 2. Encroachment into natural features setback)**
Moved by _____ , Supported by _____to APPROVE with conditions the Special Land Use permits for a church and encroachment into the natural features setback because it has been found that the requested use meets the requirements of Sections 19.03 and 3.02.02(l) of the Township Ordinance with the following conditions:

1. Any site plan fee exceedances associated with the additional meetings and consultant reviews as indicated on the site plan and special land use applications shall be paid prior to issuance of the land use permit.
2. The applicant will address the requirements spelled out in the Township Engineer's letter dated April 5, 2022 and the Brighton Area Fire Authority's letter dated April 6, 2022.
3. The applicant shall ensure that site noise will comply with Section 13.05.06 and be no greater than the normal level of traffic noise existing in the area at the time of such emission, when determined at the boundary of the property.
4. All conditions of approval related to the impact assessment and site plan shall be complied with prior to issuance of a land use permit.

***Please note that Section 19.02.04(h) of the Ordinance gives the applicant 60 days from the date of conditional approval to demonstrate compliance with the conditional approval or the submission is considered null and void*.

ENVIRONMENTAL IMPACT ASSESSMENT
Moved by _____, Supported by _____to APPROVE the Environmental Impact Assessment dated April 21, 2022 as submitted.

SITE PLAN
Moved by _____, Supported by _____, to APPROVE the site plan dated April 21, 2022 with the following conditions:

1. The applicant will provide a performance guarantee in compliance with Section 21.03 for the pathway along Latson Road prior to issuance of a land use permit.
2. Any site plan fee exceedances associated with the additional meetings and consultant reviews as indicated on the site plan and special land use applications shall be paid prior to issuance of the land use permit.
3. The private access easement for dam management must be shown on all sheets of the site plan package. In addition, since the site design will interfere with the ability to access the dam due to the forebay and retaining wall location, the applicant shall provide a written agreement involving both affected parties prior to issuance of the land use permit. This agreement should consider

relocating the access easement to the proposed new driveway location and the plans should be revised to indicate a new easement location if established.

4. The applicant must address any comments provided by the Township Engineer's letter dated April 5, 2022 and the Brighton Area Fire Authority's letter dated April 6, 2022.
5. Site lighting shall be programmed to turn off at night when activities are no longer occurring on the property.

Should you have any questions concerning this matter, please do not hesitate to contact me.

Sincerely,

Kelly VanMarter

GENOA CHARTER TOWNSHIP
Application for Site Plan Review

TO THE GENOA TOWNSHIP PLANNING COMMISSION AND TOWNSHIP BOARD:

APPLICANT NAME & ADDRESS: Bible Baptist Church 2258 E. Highland Rd. Howell, MI 48843
If applicant is not the owner, a letter of Authorization from Property Owner is needed.

OWNER'S NAME & ADDRESS: Bible Baptist Church c/o Pastor Tim Christoson, address same as above

SITE ADDRESS: 3850 Golf Club Road Howell, MI PARCEL #(s): 4711-05-200-002

APPLICANT PHONE: (517) 715-9223 OWNER PHONE: ( ) SAME

OWNER EMAIL: tim.christoson@howellchurch.org

LOCATION AND BRIEF DESCRIPTION OF SITE: Site is located on the SW corner of Latson Rd & Golf Club Rd. The north side of the site contains a 3+/- acre pond and single-family residence. The site is zoned LDR. The south side of the site contains steep topography and vegetation. The northern property line is the northern limits of Genoa Township. To the east of the site is Latson Rd and RR/RPUD zoning. To the south is an existing subdivision with MPUD zoning. To the west is single family homes in RR zoning.

BRIEF STATEMENT OF PROPOSED USE: This site plan is for a Phase 1 of Bible Baptist Church's campus. The Phase 1 church campus contains a 506-seat church sanctuary with associated site access, parking, a soccer field (for church recreation use), and utility infrastructure to support the facility.

THE FOLLOWING BUILDINGS ARE PROPOSED: The proposed building is a church building approximately 19,843 square feet in size.

I HEREBY CERTIFY THAT ALL INFORMATION AND DATA ATTACHED TO AND MADE PART OF THIS APPLICATION IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

BY: Tim Christoson

ADDRESS: Tim Christoson, BBC, 2258 E. Highland Rd., Howell, MI 48843

Contact Information - Review Letters and Correspondence shall be forwarded to the following:

1.) Scott Tousignant, P. E of Boss Engineering at scottt@bosseng.com

Name | Business Affiliation | E-mail Address

FEE EXCEEDANCE AGREEMENT

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

SIGNATURE: Tim Christ DATE: 1/28/2022

PRINT NAME: TIM CHRISTOSON PHONE: 517-715-9233

ADDRESS: 2258 E. HIGHLAND RD, HOWELL, MI 48843

GENOA CHARTER TOWNSHIP
Special Land Use Application

This application **must** be accompanied by a site plan review application and the associated submittal requirements. (The Zoning Official may allow a less detailed sketch plan for a change in use.)

APPLICANT NAME & ADDRESS: Bible Baptist Church c/o Pastor Tim Christoson, 2258 E. Highland Rd., Howell, MI 48843
Submit a letter of Authorization from Property Owner if application is signed by Acting Agent.

APPLICANT PHONE: (517) 715-9233 EMAIL: tim.christoson@howellchurch.org

OWNER NAME & ADDRESS: Same As Above

SITE ADDRESS: 3850 Golf Club Road, Howell, MI 48843 PARCEL #(s): 4711-05-200-002

OWNER PHONE: (517) 715-9233 EMAIL: tim.christoson@howellchurch.org

Location and brief description of site and surroundings:
Site is located on the southwest corner of LAtson Road and Golf Club Road and is zoned LDR. The north side of teh site contains a 3 acre + pond and single-family residence; the south side of the site contains steep topography and trees; the northern property line is the northern limits of Genoa Township. On the east by Latson Road is zone RR and RPU zoning; to the south is an existing subdivision in MUPUD zoning; and on the west are single family residences in RR zoning.

Proposed Use:
The site plans is for a Phase 1 of Bible Baptist Church' campus. The purpose of this special use is specifically for the encroachments into the Townships 25' natural features setbacks with grading as well as the placement of a retaining wall and storm water structures.

Describe how your request meets the Zoning Ordinance General Review Standards (section 19.03):

a. Describe how the use will be compatible and in accordance with the goals, objectives, and policies of the Genoa Township Comprehensive Plan and subarea plans, and will promote the Statement of Purpose of the zoning district in which the use is proposed.

The special use of encroachment within the natural features setback is in accordance with the goals of the Master Plan and Zoning district as it does not burden public infrastructure, it preserves the natural resources by ensuring no encroachment within the wetland limits, encroachment in the setback has no impact on generating excess traffic, nor does it interfere with utilization of single family dwellings in the district.

b. Describe how the use will be designed, constructed, operated, and maintained to be compatible with, and not significantly alter, the existing or intended character of the general vicinity.

As stated above, the disturbances do not occur within the wetlands, only the wetland setbacks. Historically, the property has been maintained(cut grass) up to the edge of the wetlands at the north end of the site. The proposed plan, once constructed, will return these areas back to a condition with similar vegetative grass cover. The character of the area is maintained by avoiding construction encroaching within the wetland limits.

c. How will the use be served adequately by essential public facilities and services such as highways, streets, police and fire protection, drainage structures, water and sewage facilities, refuse disposal and schools?

Special Use for encroachment into the 25' natural features setback does not impact any of the above mentioned services other than drainage structures. Included in the encroachment of the natural features setbacks are the drainage structures necessary to carry out the storm water management for the development.

d. Will the use involve any uses, activities, processes, or materials potentially detrimental to the natural environment, public health, safety, or welfare by reason of excessive production of traffic, noise, vibration, smoke, fumes, odors, glare, or other such nuisance? If so, how will the impacts be mitigated?

Encroachment of the natural features setbacks has no impact on traffic, noise, vibration, smoke, fumes, odors, glare, etc.

e. Does the use have specific criteria as listed in the Zoning Ordinance (sections 3.03.02, 7.02.02, & 8.02.02)? If so, describe how the criteria are met.

The special use for encroachment in the natural features setback does not have specific criteria listed in the Zoning Ordinance in Sections 3.03.02, 7.02.02,or 8.02.02.

I HEREBY CERTIFY THAT ALL INFORMATION AND DATA ATTACHED TO AND MADE PART OF THIS APPLICATION ARE TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF. I AGREE TO DESIGN, CONSTRUCT AND OPERATE, AND MAINTAIN THESE PREMISES AND THE BUILDINGS, STRUCTURES, AND FACILITIES WHICH ARE GOVERNED BY THIS PERMIT IN ACCORDANCE WITH THE STATED REQUIREMENTS OF THE GENOA TOWNSHIP ZONING ORDINANCE, AND SUCH ADDITIONAL LIMITS AND SAFEGUARDS AS MAY BE MADE A PART OF THIS PERMIT.

THE UNDERSIGNED Tim Christoson STATES THAT THEY ARE THE FREE OWNER OF THE PROPERTY OF PROPERTIES DESCRIBED ABOVE AND MAKES APPLICATION FOR THIS SPECIAL LAND USE PERMIT.

BY: Tim Christoson

ADDRESS: 2258 E. Highland Rd, Howell, MI 48843

Contact Information - Review Letters and Correspondence shall be forwarded to the following:

Scott Tousignant, PE	of Boss Engineering	at scottt@bosseng.com
Name	Business Affiliation	Email

FEE EXCEEDANCE AGREEMENT

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

SIGNATURE: Tim Christoson DATE: 3/16/2022

PRINT NAME: Tim Christoson PHONE: 517-715-9233

Revised 08-15-13, kasp

GENOA CHARTER TOWNSHIP
Special Land Use Application

This application **must** be accompanied by a site plan review application and the associated submittal requirements. (The Zoning Official may allow a less detailed sketch plan for a change in use.)

APPLICANT NAME & ADDRESS: Bible Baptist Church c/o Pastor Tim Christoson 2258 E. Highland Rd. Howell, MI 48843
Submit a letter of Authorization from Property Owner if application is signed by Acting Agent.

APPLICANT PHONE: (517) 715-9223 EMAIL: tim.christoson@howellchurch.org

OWNER NAME & ADDRESS: Same as Above

SITE ADDRESS: 3850 Golf Club Rd Howell, MI PARCEL #(s): 4711-05-200-002

OWNER PHONE: ( ) SAME AS ABOVE EMAIL: TIM.CHRISTOSON@HOWELLCHURCH.ORG

Location and brief description of site and surroundings:

Site is located on the southwest corner of Latson Road and Golf Club Road and is zoned LDR. The north side of the site contains a 3 acre +/- pond and single-family residence (circa 1928);The south side of the site contains steep topography and vegetation. The northern property line is the northern limits of Genoa Township. On the east by Latson Road is RR and RPUD zoning; to the south is an existing subdivision in MPUD zoning; and on the west are single family residences in RR zoning.

Proposed Use:

This site plan is for a phase 1 of Bible Baptist Church' campus. The Phase 1 church campus contains a 506-seat church sanctuary with associated site access, parking, a soccer field (for church recreation use), and utility infrastructure to support the facility.

Describe how your request meets the Zoning Ordinance General Review Standards (section 19.03):

a. Describe how the use will be compatible and in accordance with the goals, objectives, and policies of the Genoa Township Comprehensive Plan and subarea plans, and will promote the Statement of Purpose of the zoning district in which the use is proposed.

This use is compatible with the development pattern proposed in the Township Master Plan. This development is aiming to preserve the natural resources on the site by removing only that which is necessary to construct the site. The construction of this church results in minimal impact to the existing utility infrastructure.

b. Describe how the use will be designed, constructed, operated, and maintained to be compatible with, and not significantly alter, the existing or intended character of the general vicinity.

Phase I will include a driveway off Golf Club Road proceeding southerly to the church campus at the southeast corner of the parcel. Trees and shrubs within the site will only be removed in proposed construction areas while maintaining existing woodland buffers at all adjacent propoerty boundaries. This development will preserve much of the natural features and topographical features of the site as well as maintain existing drainage patterns.

c. How will the use be served adequately by essential public facilities and services such as highways, streets, police and fire protection, drainage structures, water and sewage facilities, refuse disposal and schools?

The church will require connecting to public sanitary and MHOG water supply along Latson Road. Normal Police and fire protection services should not be affected by this development. Storm water is being managed on-site with ultimate discharge to the ponds and wetlands on-site. Refuse will be handled via a dumpster near the building. The church construction does not impact schools. The approach on Golf Club Road along with any Road improvements will be designed per LCRC standards.

d. Will the use involve any uses, activities, processes, or materials potentially detrimental to the natural environment, public health, safety, or welfare by reason of excessive production of traffic, noise, vibration, smoke, fumes, odors, glare, or other such nuisance? If so, how will the impacts be mitigated?

No. A traffic impact study is being conducted to determine the traffic impact on Golf Club Road to determine any necessary road improvements needed. to support this development. The site will not generate smoke, odor, fumes, or glare that are detrimental to the environment, public health, safety or welfare of the community or natural resources. Traffic will be at the level of a typical church operation.

e. Does the use have specific criteria as listed in the Zoning Ordinance (sections 3.03.02, 7.02.02, & 8.02.02)? If so, describe how the criteria are met.

3.03.02 (L) Requires minimum lot are of 3 acres with additional acreage per 100 seats. This site is 46.5 ac +/-. Max building height is 35 ft or 2 stories, this building does not exceed that; Off-street parking adjacent to residential districts requires minimum parking lot setback of 50 feet with a continuous obscuring wall/fence/landscape area at least 4 ft in height. A 4 ft tall hedge is provided at the south end of the parking lot in addition to existing mature vegetation.

I HEREBY CERTIFY THAT ALL INFORMATION AND DATA ATTACHED TO AND MADE PART OF THIS APPLICATION ARE TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF. I AGREE TO DESIGN, CONSTRUCT AND OPERATE, AND MAINTAIN THESE PREMISES AND THE BUILDINGS, STRUCTURES, AND FACILITIES WHICH ARE GOVERNED BY THIS PERMIT IN ACCORDANCE WITH THE STATED REQUIREMENTS OF THE GENOA TOWNSHIP ZONING ORDINANCE, AND SUCH ADDITIONAL LIMITS AND SAFEGUARDS AS MAY BE MADE A PART OF THIS PERMIT.

THE UNDERSIGNED TIM CHRISTOSON STATES THAT THEY ARE THE FREE OWNER OF THE PROPERTY OF PROPERTIES DESCRIBED ABOVE AND MAKES APPLICATION FOR THIS SPECIAL LAND USE PERMIT.

BY: TIM CHRISTOSON, PASTOR OF BIBLE BAP 1ST CHURCH

ADDRESS: 2258 E. HIGHLAND RD., HOWELL, MI 48843

Contact Information - Review Letters and Correspondence shall be forwarded to the following:

Scott Tousignant, P.E.	of Boss Engineering	at scottt@bosseng.com
Name	Business Affiliation	Email

FEE EXCEEDANCE AGREEMENT

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

SIGNATURE: Tim Chris DATE: 1/28/2022

PRINT NAME: TIM CHRISTOSON PHONE: 517-719-2233

Revised 08-15-13, kasp

BOSS Engineering

3121 E. Grand River Howell, MI 48843
517.546.4836 fax 517.548.1670
www.bosseng.com

April 21st, 2022

Ms. Kelly VanMarter, AICP
Genoa Township Planning Commission
2911 Dorr Road
Brighton, Michigan 48116

Re: Bible Baptist Church-Special Land Use and Site Plan Review

Dear Ms. VanMarter,

Please find enclosed a revised project submittal for the Bible Baptist Church project. Included are revised site plans, and a revised impact assessment to address items brought up during the April 11th, 2022 Planning Commission Meeting.

1) The environmental impact assessment has been revised with additional language of the existing 10' wide dam maintenance easement as well as an exhibit added that includes the dam maintenance easement document.
2) The Site plan set has been revised to depict, note and reference the dam maintenance easement. The easement is depicted and noted on the existing conditions sheet.
3) Two trees have been added to the landscape plan for parking lot landscaping.
4) The two storm pipes with steep slopes have been reduced per Tetra Tech comments.
5) The architectural plans have been revised to show only a single door (as opposed to the double door previously proposed).
6) Bible Baptist Church is currently working on the sidewalk performance guarantee.
7) Building materials and updated architectural plan had been dropped off at the Township for Township staff/P.C. members to view and offer comments and/or approval on the materials.
8) As was noted in the plans previously, the site lighting will be off when there is no activity at the church.

Feel free to contact us should you have any questions, or if you are in need of any additional information.

Sincerely,

BOSS ENGINEERING COMPANY

Scott Tousignant

Scott Tousignant, PE
Project Manager

GENOA TOWNSHIP
APR 22 2022
RECEIVED

GENOA CHARTER TOWNSHIP
PLANNING COMMISSION
PUBLIC HEARING
MARCH 14, 2022
6:30 P.M.
MINUTES

APPROVED

CALL TO ORDER: Chairman Grajek called the meeting of the Genoa Charter Township Planning Commission to order at 6:30 p.m. Present were Chris Grajek, Jim Mortensen, Marianne McCreary, Eric Rauch, Glynis McBain, Jeff Dhaenens, and Tim Chouinard. Also present was Kelly VanMarter, Community Development Director/Asst. Township Manager, Brian Borden of Safebuilt, and Shelby Byrne of Tetra Tech.

PLEDGE OF ALLEGIANCE: The pledge of allegiance was recited.

APPROVAL OF AGENDA:

Chairman Grajek advised that after reviewing the documents provided by the applicant for Item #4 on tonight's agenda, he has come to the conclusion that the applicant has failed to submit the required Special Land Use application for grading in the natural features setback. Therefore, he is asking for a motion to postpone this item indefinitely due to an incomplete application and associated public notice for the required Special Land use for grading in the natural features setback. The applicant must submit the proper applications in accordance with the review schedule to be placed on a future agenda. He asked for Planning Commission members for their input.

Commissioner Mortensen agrees.

The applicant stated that their application has been through two review letters and the need for this document was not stated. Ms. VanMarter stated that it was in both review letters from the Township Planner.

Commissioner Rauch questioned where this is noted in the review letters. Ms. VanMarter stated that in the Township Planner's review letter in tonight's packet it is listed in A.1.e and f, which states "The project includes grading and structures (drive, retaining wall, parking lot, and softball/baseball field) that encroach into the 25-foot natural feature setback. As such, a separate special land use review/approval is needed" and "The Township may wish to withhold a finding related to the impact criterion until such time as the natural feature setback encroachments can be fully evaluated."

Moved by Commissioner McCreary, seconded by Commissioner Mortensen, to approve tonight's agenda with the postponement of Agenda Item #4 - special use application, environmental impact assessment and site plan for a proposed 19,843 sq. ft. church and sports field located at 3850 Golf Club Road, southwest corner of Golf Club Road and Latson Road by Bible Baptist Church. **The motion carried unanimously with Commissioner McBain abstaining due to conflict of interest.**

DECLARATION OF CONFLICT OF INTEREST: None

GENOA CHARTER TOWNSHIP
PLANNING COMMISSION
PUBLIC HEARING
APRIL 11, 2022
6:30 P.M.
MINUTES

APPROVED

CALL TO ORDER: Chairman Grajek called the meeting of the Genoa Charter Township Planning Commission to order at 6:30 p.m. Present were Chris Grajek, Jim Mortensen, Marianne McCreary, Glynis McBain, Jeff Dhaenens, and Tim Chouinard. Absent was Eric Rauch. Also present was Kelly VanMarter, Community Development Director/Asst. Township Manager, Brian Borden of Safebuilt, and Shelby Byrne of Tetra Tech. There were approximately 100 people in the audience.

PLEDGE OF ALLEGIANCE: The pledge of allegiance was recited.

APPROVAL OF AGENDA:

Moved by Commissioner McCreary, seconded by Commissioner Mortensen, to approve the agenda as presented. **The motion carried unanimously**.

DECLARATION OF CONFLICT OF INTEREST: Commission McBain stated she has a residence in close proximity to the property for Open Public Hearing #1 so she cannot deliberate or vote on this item.

Moved by Commissioner McBain, seconded by Commissioner Dhaenens to recuse herself from Open Public Hearing #1. **The motion carried unanimously.**

CALL TO THE PUBLIC: The call to the public was made at 6:32 pm with no response.

OLD BUSINESS:

OPEN PUBLIC HEARING #1... Consideration of two special use applications, environmental impact assessment and site plan for a proposed 19,843 sq. ft. church and sports field in the Low Density Residential (LDR) district and a special land use for site grading and storage within the wetland protection setback located at 3850 Golf Club Road, southwest corner of Golf Club Road and Latson Road. The request is petitioned by Bible Baptist Church.

A. Recommendation of Special Use Application (Church)
B. Recommendation of Special Use Application (Grading in wetland protection setback)
C. Recommendation of Environmental Impact Assessment (3-16-22)
D. Recommendation of Site Plan (3-16-22)

Mr. Scott Tousignant of Boss Engineering and Mr. Tim Christoson, the pastor of Bible Baptist Church, were present.

Mr. Christoson provided a review of their church and the proposed project. They are meeting the setback requirements of the ordinance by almost double. They have met with Township Staff and the neighboring property owners. These meetings have resulted in some changes to the plan. They will be providing a buffer of mature trees between both the building and the parking lot and the neighbors, which is now double what is required. Their lights will be on timers, and they have updated the outside building materials, and they will be able to contain the sound of the worship within the building by using specific building materials. There will also be an outdoor walking trail, serene lakeside areas and grassy fields, all of which will be available to be used by people who are and are not members of their church.

Mr. Tousignant reviewed the site plan, which included the size of the lot, buildable portion, the topography, drainage, vegetation, the access drive on the site, onsite utilities, etc. He also described the reasons why they are seeking a Special Use Application for the grading in wetland protection setback, noting they will not be entering into the wetlands themselves, just within the setback. He showed renderings and a colored rendering of the north side (front) of the building, reiterating Mr. Christoson's statement that they have changed the outside facade after meeting with their neighbors.

Chairman Grajek noted there were concerns from the neighbors regarding the drainage. Mr. Tousignant stated the drainage is being improved on the south side of the site.

Commission McCreary asked if the proposed expansion could be the first church location. Both Mr. Tousignant and Mr. Christoson explained their reasons for placing the first building and the parking lot in its proposed location.

Mr. Tousignant stated a traffic study was completed. They did one study with Phase I, which requires an acceleration lane, a deceleration lane as well as the extension of a left turn lane. With Phase II, they would need to add a designated right turn lane out of their site. Additionally, the level of service at the light would decrease on Sunday peak times when the church was letting out. The Livingston County Road Commission stated they can mitigate that service level decrease by changing the timing of the lights for that time period. The Church would pay for these improvements and changes.

Mr. Borden explained the steps of the review and approval process for this project. He then reviewed his letter dated April 7, 2022.

- In order to find that the church is compatible with the Master Plan, the Township needs to find that the project is consistent with the goals of the Plan, which he provided in his letter.
- The applicant has addressed previous concerns with regard to lighting, and they noted this evening that they will be using specific materials to help with containing the sound from the auditorium.
- The activities within the natural feature setback are necessary for access and stormwater management and/or will not result in adverse impacts upon the wetland areas. An EGLE permit has been obtained for work along and within the wetland areas.
- The applicant must address any comments provided by the Township Engineer and Brighton Area Fire Authority.

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- The use requirements of Section 3.03.02(l) of the zoning ordinance are met.
- The façade facing Latson Road is comprised simply of metal siding. In terms of design and materials, the rear façade is not "comparable to the front façade". This is required by ordinance. Mr. Christoson provided details of the siding materials and colors for all four of the elevations. Their architect will be providing building material samples. Commissioner Mortensen is not comfortable sending a 20,000 square foot building to the Township Board without seeing colored renderings or samples of building materials. The applicant provided the manufacturer's website that was shared with the Planning Commission this evening. Mr. Tousignant asked if the materials could be approved administratively after the samples are provided prior to the plan being sent to the Township Board.
- The applicant should be prepared to present building material and color samples (and/or a color rendering) to the Commission.
- The applicant is proposing to delay the installation of the bike path on Latson Road due to the anticipated changes to Latson Road. If it is not required to be installed at this time, the Township may allow a performance guarantee in lieu of pathway construction at this time.
- The landscape plan is deficient by two parking lot trees.
- The Planning Commission may allow existing vegetation in lieu of new greenbelt plantings.

Ms. Byrne reviewed her letter dated April 5, 2022.

All of her major concerns have been addressed; however, more details will need to be provided for the utilities.

- After final site plan approval, the Petitioner will be required to submit construction plans to MHOG Sewer and Water Authority for review and approval.
- The Petitioner is proposing a dead-end water main with a stub to the south for potential future connection to the existing 8-inch water main on Sugarbush Drive. The petitioner has included a 25-foot utility easement to the edge of the property to facilitate this future connection.
- The Petitioner is proposing an on-site lift station and force main that will discharge to the existing 8-inch HDPE force main on the west side of Latson Road. Additional detail should be provided for the lift station during the construction plan review process and the lift station and force main connection will need to be coordinated with MHOG Sewer and Water Authority.
- Two stretches of 18-inch pipe have proposed slopes of 3 percent, which is greater than the max allowable slope of 2.84 percent. The proposed pipes should be revised to ensure that the proposed storm sewer does not exceed that maximum allowable velocity of 10 feet per second.
- The plan proposes a commercial drive with a dead end that is approximately 1,400 feet long. If the property is further developed in the future, the petitioner will need to work with the Township to determine if the driveway will need to be considered a private road.

The Brighton Area Fire Authority Fire Marshal's letter dated April 6, 2022 states that all of his previous comments for Phase I have been addressed.

The call to the public was made at 7:46 pm.

Ms. VanMarter noted that there were several letters received from the public that were included in tonight's packet. There were also two received today, which were provided to the Planning

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Commission. One from Jeremy Doody of 3825 Sugarbush and another from Brian McBain of 280 Lane Drive.

Mr. Michael Siterlet of 3780 Golf Club Road stated his property abuts this property. He is concerned about the preservation of the wetlands. He owns a portion of Crescent Lake with the applicant and there are easements that must be acknowledged. The speed of the traffic on Gold Club should be addressed.

Mr. Jeff Hauk of 3873 Sugarbush Drive appreciates the applicant making changes to the plans based on their discussions. He wanted to reiterate the drainage issues he has on his property and anything that the applicant can do to make it better would be appreciated.

Ms. Patricia Murphy of 139 Lake Shore Vista has concerns with the traffic and the traffic study that was done. She does not believe it included necessary data, such as church event traffic, seasonal traffic, traffic from other roadways in the area, and the inclusion of the Livingston County Road Commission and Oceola Township.

Mr. Bruce Macey of 3878 Sugarbush Drive asked what the dotted lines are near the common area shown on the plans. Mr. Tousignant stated those are water main easements. Mr. Macey would like to see a final rendition of the building. He asked if the flooding onto Golf Club Road will be remedied. Mr. Tousignant stated the wetland will have more sufficient drainage.

Mr. Paul Rottach of 3897 Sugarbush Drive was concerned with the building being so close to his house, the parking lot lights, and the drainage issues he experiences. He stated that Mr. Tousignant and Pastor Tim met with him, and he appreciates the changes that they are proposing that will address his concerns.

Ms. Kara Miller of 2885 Acorn Lane stated this is a completely appropriate area for a church and they care about addressing the concerns of the residents.

Mr. Brian McBain of 280 Lane Drive stated the Master Plan has just been redone recently and questioned what the purpose is of having a Master Plan if it is not followed. This will be a commercial building in a residential area.

Ms. Barry Swatsenbarg of 4100 Stephanie Lane in Oceola Township stated the hills on Latson Road cause problems. He is concerned about the traffic and the safety in this area.

Mr. Matt Spencer of 3035 S. Latson Road stated this is a good idea for the area and a lot of the concerns noted by the people who spoke today are due to the Road Commission approving the streets off of Latson Road at the bottom of the hill. That is not the church's fault.

Mr. Lance Lockhart of 3440 Woodridge Drive stated this proposed church on this site will be an added amenity to the community. He is a member of Bible Baptist Church.

The call to the public was closed at 8:16 pm.

Commissioner McCreary stated that the traffic engineer of any project has never been before the Planning Commission. She would like to have that person present for this project as traffic and safety is a concern. She asked when the traffic was done. Ms. VanMarter stated the traffic study was dated March 2022.

Commissioner Dhaenens appreciates that the church has listened to the concerns of the Township and the neighbors. They have made changes by moving the church and the parking lot, adding an additional landscape buffer, addressing the drainage, and mitigating the light and noise concerns. It is very open and green. He agrees with allowing Township Staff to approve the building materials.

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Commissioner Chouinard is familiar with the building materials, and he believes that the way the petitioner is proposing to use them is done well.

Commissioner Mortensen proposed to have the materials approved by Township Staff as well as two or three Planning Commission members.

Commissioner McCreary suggested tabling this item so they can return with the building materials and a representative of the company who completed the traffic study. Commissioner Dhaenens does not agree that hearing from a representative of the traffic study is necessary.

Chairman Grajek stated that the traffic concerns and any necessary changes will be addressed by the Livingston County Road Commission.

Moved by Commissioner Mortensen, seconded by Commissioner Dhaenens, to recommend to the Township Board approval of two Special Uses Applications for the Bible Baptist Church, one for the construction of the church and the second for the infringement into the setbacks of four wetland areas on the site, subject to the following:

- The Planning Commission finds that the plan meets, in general, the special land use standards of Section 19.03 as well as the use requirements in Section 3.03.02(l) of the Township Ordinance.
- The applicant has agreed to replace double doors with single doors on the church to minimize sound drifting into neighboring properties to the south.
- The applicant will address the requirements spelled out in the Township Engineer's letter dated April 5, 2022 and the Brighton Area Fire Authority's letter dated April 6, 2022.

The motion carried unanimously.

Moved by Commissioner Mortensen, seconded by Commissioner Dhaenens, to recommend to the Township Board approval of the Environmental Impact Assessment dated March 16, 2022. **The motion carried unanimously.**

Moved by Commissioner Mortensen, seconded by Commissioner Dhaenens, to recommend to the Township Board conditional approval of the Site Plan dated March 16, 2022, subject to the following:

- The applicant will provide a performance guarantee for the pathway along Latson Road.
- The applicant will install the two additional parking lot trees.
- The Planning Commission agrees that the existing vegetation can be substituted for greenbelt plantings.
- The applicant will confer with the Township Attorney regarding potential easement issues on the lake, which transcends two pieces of property, as raised by a citizen this evening.
- The applicant must address any comments provided by the Township Engineer's letter dated April 5, 2022 and the Brighton Area Fire Authority's letter dated April 6, 2022.
- With respect to the building materials, the Planning Commission recommends approval of the front facade; however, only conditional approval is given regarding the remaining three facades and will require favorable recommendation of two Planning Commission members and Township Staff prior to submission to the Township Board.
- The exterior lighting shall be turned off when activities are no longer occurring on the property.

The motion carried unanimously.

APPROVED

April 7, 2022

Planning Commission
Genoa Township
2911 Dorr Road
Brighton, Michigan 48116

Attention:	Kelly Van Marter, AICP Planning Director and Assistant Township Manager
Subject:	Bible Baptist Church – Special Land Use and Site Plan Review #3
Location:	3850 Golf Club Road – southwest corner of Latson and Golf Club Roads
Zoning:	LDR Low Density Residential District

Dear Commissioners:

At the Township's request, we have reviewed the revised submittal from Bible Baptist Church requesting special land use and site plan review/approval for a new church and activities within the natural feature setback (site plan dated 3/16/22).

A. Summary

1. Special Land Use standards of Section 19.03:

a. In order to find that the church is compatible with the Master Plan, the Township needs to find that the project is consistent with the goals of the Plan.
b. We suggest noise mitigation be required for the auditorium portion of the proposed building.
c. The activities within the natural feature setback are necessary for access and stormwater management and/or will not result in adverse impacts upon the wetland areas.
d. An EGLE permit has been obtained for work along and within the wetland areas.
e. The applicant must address any comments provided by the Township Engineer and Brighton Area Fire Authority.

2. Use Requirements of Section 3.03.02(l):

a. The use requirements are met.

3. Site Plan Review:

a. The façade facing Latson Road is comprised simply of metal siding.
b. In terms of design and materials, the rear façade is not "comparable to the front façade."
c. The applicant should be prepared to present building material and color samples (and/or a color rendering) to the Commission.
d. The Township may allow a performance guarantee in lieu of pathway construction at this time.
e. The landscape plan is deficient by 2 parking lot trees.
f. The Planning Commission may allow existing vegetation in lieu of new greenbelt plantings.

Aerial view of site and surroundings (looking north)

B. Proposal/Process

The applicant proposes to develop the 46.5-acre site with a 19,843 square foot church building with 506 seats in the main auditorium, as well as 2 recreational fields (soccer and softball/baseball).

The plans also identify a future Phase 2 (building and parking lots), though these items are not addressed in this review. If/when the applicant seeks to develop Phase 2, the applicable procedures and regulations of the Zoning Ordinance must be followed.

Churches, temples, and similar places of worship are allowed with special land use approval in the LDR District. Such uses are also subject to the requirements of Section 3.03.02(l).

Additionally, there are elements of the project that encroach into the natural feature setback. These encroachments require an additional special land use review/approval.

Procedurally, the Planning Commission is to review the special land uses, site plan, and Environmental Impact Assessment, and provide a recommendation on each to the Township Board following a public hearing.

The Township Board has final review/approval authority over each aspect.

C. Special Land Use Review

Section 19.03 of the Zoning Ordinance identifies the review criteria for all special land uses, as follows:

1. **Master Plan.** The Township Master Plan and Future Land Use Map identify the site and properties to the east and west as Low Density Residential.

   This category is intended for "single family residential use, located on the fringe between the rural residential and the more urbanized areas of the Township." However, there is no reference institutional uses, such as churches, temples, and similar places of worship.

As such, the Township will need to find that the proposed use aligns with the Plan's goals, which include (but are not limited to) the following:

- Accommodate a variety of land uses that are located in a logical pattern and complement community goals, the surrounding land uses, environment, capacity of roads and the sanitary sewer, and public water system capabilities.
- Provide land owners with reasonable use of their land in a manner that is compatible with adjacent uses and the overall land use plan for the Township and the capacity of infrastructure.
- Promote harmonious and organized development consistent with adjacent land uses.
- Achieve high quality site and building design that contributes to strong neighborhoods, vital shopping districts, and desirable employment centers.
- Preserve the "quality of life" in Genoa Township by retaining significant, sensitive natural amenities such as water bodies, wetlands, slopes, mature trees and natural ecosystem.
- Encourage integration of natural features such as woodlands and wetlands into site development as aesthetic and functional features.

2. **Compatibility.** There is an existing residence and a large accessory building on the property (to the northwest along Golf Club Road), though the subject site is otherwise undeveloped.

   The surrounding area includes single-family residences at various densities.

   The submittal materials reference preservation of existing wooded areas to the south and west to provide buffering from existing residential uses.

   Sheet 2 of the revised submittal identifies 6 large trees in these areas (5 to the south and 1 to the west) that will be protected.

   Based on the limits of disturbance (depicted on Sheet 3), the westerly 450 feet of the property will remain undisturbed.

   Lastly, in response to questions posed in our previous review letter, the applicant has indicated that church operations will include 2 worship services on Sunday mornings, 1 weeknight activity for youth groups and miscellaneous small group bible studies during the week.

   Given the building design with double doors and windows along the south side of the auditorium, we suggest mitigation be required to prevent noise impacts for the adjacent residential uses.

3. **Public Facilities and Services.** Vehicular access will be provided to/from Golf Club Road, while utility connections are proposed via the Latson Road right-of-way.

   The applicant must address any comments provided by the Township Engineer and/or Brighton Area Fire Authority with respect to this criterion.

4. **Impacts.** The primary concerns under this criterion are related to traffic and sensitive natural features (wetlands).

   Traffic: The revised submittal includes a traffic impact study (dated March 2022) that is subject to technical review by the Township Engineer. However, we provide the following excerpts from the summary/conclusions of the study for the Commission's consideration:

   - Currently, approaches and movements operate at a Level of Service (LOS) D or better.
   - As a result of the project, approaches and movements will continue to operate at a LOS D or better.

- No off-site roadway or traffic control improvements are required.
- A left turn lane and right turn taper are warranted at the driveway's intersection with Golf Club Road.

The revised site plan includes the improvements noted in the traffic study.

Natural Feature Setbacks. Section 13.02.04 establishes a 25-foot undisturbed area around regulated wetlands unless special land use approval is granted for encroachment. Furthermore, no activities are allowed within 10 feet of a regulated wetland, unless specifically approved by the Planning Commission.

As previously noted, the project includes encroachments into the setback for grading, stormwater structures, and portions of the driveway (including a retaining wall).

The revised submittal includes a detailed drawing of the proposed encroachments for both the northerly and southerly portions of the site (Sheet 13).

There are 7 areas where grading occurs within the 25-foot setback – 3 in the northerly portion and 4 in the southerly. 5 of these areas are also within 10 feet of the wetland boundary.

These encroachments will be reseeded after disturbance and returned to their pre-development condition.

The stormwater plan also includes 5 structures within the required setback/at the edge of the wetland boundary. These activities have been permitted by EGLE.

Lastly, the driveway encroaches into the 25-foot setback in 4 location – 3 in the northerly portion and 1 in the southerly. The primary encroachment in the northerly area also includes a retaining wall that is within 10 feet of the wetland boundary.

Given the location of the wetlands, site topography, and current conditions on Latson Road, encroachments are necessary to construct a driveway to/from Golf Club Road. Notes on Sheet 13 also indicate that the driveway has been designed to minimize disturbance of the natural feature setback area.

In summary, the proposed encroachments are necessary for access and stormwater management and/or do not result in a significant adverse impact upon the wetland areas. Furthermore, where necessary, the activities have been permitted by EGLE.

5. **Mitigation.** Should additional concerns arise as part of the review process, the Township may require improvements to mitigate potential adverse impacts.

D. Use Requirements

Section 3.03.02(l) identifies the use requirements applicable to churches, temples, and similar places of worship, as follows:

1. **Minimum lot area shall be three (3) acres plus an additional fifteen thousand (15,000) square feet for each one hundred (100) persons of seating capacity.**

The notes on Sheet 4 identify a seating capacity of 506, which results in a minimum lot area requirement of 4 to 5 acres. The 46.5-acre site greatly exceeds the minimum lot area required by this criterion.

2. **Buildings of greater than the maximum height allowed in Section 3.04, Dimensional Standards, may be allowed provided front, side and rear yards are increased above the minimum required yards by one foot for each foot of building height that exceeds the maximum height allowed. The maximum height of a steeple shall be sixty (60) feet.**

The proposed building has a maximum height of 26'-8", which is within the maximum allowed in the LDR (35').

3. **Wherever an off-street parking area is adjacent to a residential district, there shall be a minimum parking lot setback of fifty (50) feet with a continuous obscuring wall, fence and/or landscaped area at least four (4) feet in height shall be provided. The Township Board may reduce this buffer based on the provision of landscaping, the presence of existing trees or in consideration of topographic conditions.**

At its nearest, the southerly drive aisle/parking lot provides a 98.5-foot setback from the residential district adjacent to the south.

The revised landscape plan includes 36 tightly spaced Arborvitae (4-foot tall at time of planting) immediately south of this drive aisle. The plans also note an "existing vegetative buffer" in this area that is to be preserved.

4. **Private schools and child day care centers may be allowed as an accessory use to churches, temples and similar places of worship where the site has access to a paved public roadway.**

The revised submittal materials note that neither a private school nor child care center are proposed as part of this project.

E. Site Plan Review

1. **Dimensional Requirements.** The location of the proposed building and parking lots comply with the applicable dimensional requirements of the LDR District.

2. **Building Materials and Design.** Building materials include a stone veneer at the building entrance, wood (or wood-grain) siding, and 3 types of metal siding (2 with vertical alignment and 1 with horizontal).

   Though the material standards of Section 12.01 do not apply to single-family residential districts, the remaining design standards do. This includes a requirement that "building walls over 100 feet in length shall be broken up with varying building lines, windows, architectural accents and trees."

   Additionally, "building rear facades shall be constructed to a finished quality comparable to the front façade."

   Each building face is at least 100 feet in length, though the façade facing Latson Road is comprised simply of metal siding. Meanwhile, the rear façade is entirely metal, the larger portion having only vertical siding, and is not "comparable to the front façade."

   The applicant should be prepared to present material and color samples (and/or a color rendering) to the Commission for their review.

3. **Pedestrian Circulation.** In accordance with Section 12.05, an 8-foot wide bike path is required along county primary roads, as designated on the Pathways Plan (which also notes a planned path along this portion of Latson Road).

In response, the applicant has indicated that the Road Commission has future right-of-way improvements planned, which will impact construction at this time. As such, the Township may allow a performance guarantee in lieu of pathway construction.

4. **Vehicular Circulation.** Vehicular access is proposed to/from Golf Club Road. The driveway includes deceleration and acceleration lanes for eastbound traffic.

   The circulation pattern includes two-way travel, with sufficient drive aisle widths provided throughout the site.

   The applicant must address any comments provided by the Township Engineer or Brighton Area Fire Authority with respect to vehicular circulation.

5. **Parking.** Based on the number of seats noted in the main unit of worship (506), Section 14.04 requires a total of 169 parking spaces.

   The proposed site plan provides 187 spaces, including the required number of barrier-free spaces (6 required; 8 provided). Proper dimensions are also provided, and details note the use of looped striping (as required).

6. **Landscaping.** The revised landscape plan has been reviewed for compliance with the standards of Section 12.02, as shown in the following table:

Standard	Required	Proposed	Notes
Front yard greenbelt (Golf Club)	20' width 27 canopy trees	+20' width Existing vegetation	Notes state that presence of wetland precludes new plantings.
Front yard greenbelt (Latson)	20' width 40 canopy trees	+20' width Existing vegetation	Notes state existing woodland buffer to remain in lieu of new plantings.
Parking lot	16 canopy trees 1550 SF internal landscaped area	14 canopy trees 5,145 SF internal landscaped area	Deficient by 2 canopy trees
Detention pond	4 trees 39 shrubs	4 trees 39 shrubs	Requirements met

   The Planning Commission may allow existing vegetation to remain in lieu of new plantings, per Section 12.02.13.

7. **Exterior Lighting.** The revised lighting plan includes 19 light poles along the driveway and throughout the parking lot, along with 2 wall mounted fixtures on the rear of the building. In response to comments from our initial review letter, the applicant has confirmed that appropriate shielding will be provided and that the soccer field will not be illuminated.

   Details note the use of downward-directed LED fixtures. Pole fixtures are mounted at a height of 20 feet, while the wall units are mounted at 15 feet.

   Maximum photometric readings on-site (7.3) and along property lines (0.0) comply with Ordinance standards.

   Lastly, the applicant has noted that site lighting will be placed on timer controls so they are turned off when there are no activities occurring.

8. **Impact Assessment.** The submittal includes a revised Impact Assessment (most recently dated March 16, 2022). The revised Assessment includes information regarding the natural feature setbacks and the findings from the traffic study.

In summary, the Assessment notes that the proposed project is not expected to have an adverse impact upon natural features, stormwater, surrounding land uses, public services/utilities, or traffic and pedestrians.

Should you have any questions concerning this matter, please do not hesitate to contact our office.

Respectfully,
SAFEBUILT

Brian V. Borden, AICP
Michigan Planning Manager

April 5, 2022

Ms. Kelly Van Marter
Genoa Township
2911 Dorr Road
Brighton, MI 48116

Re: Bible Baptist
Site Plan Review No. 3

Dear Ms. Van Marter:

Tetra Tech conducted a third review of the proposed Bible Baptist site plan last dated March 13, 2022. The plans were prepared by Boss Engineering on behalf of Bible Baptist Church. The development is located on 46.5 acres in the southwest quadrant of the Golf Club Road and Latson Road intersection. The Petitioner is proposing a 19,843 square foot church in the southeast corner of the property. The proposed site includes a 1,400-foot driveway, on-site storm sewer and storage, parking improvements, and municipal water main and sanitary sewer improvements. We offer the following comments:

GENERAL

1. The proposed entrance on Golf Club Road will need to be approved by the Livingston County Road Commission and approval should be provided to the Township prior to site plan approval.

2. The Petitioner provided a traffic impact study for the proposed development. The traffic impact study recommended that a left-turn lane and right-turn taper be constructed on Golf Club Road at the proposed driveway, and the site plan correctly includes the recommendations of the study.

3. The plan proposes a commercial drive with a dead-end that is approximately 1,400 feet long. If the property is further developed in the future, the Petitioner will need to work with the Township to determine if the driveway will need to be considered a private road.

SANITARY AND WATER SERVICES

1. The proposed 19,843 square foot church will be 2.58 REUs per the Township REU table that assigns 0.13 REU per 1,000 square feet for churches. This number of REUs should be used to determine the tap fee required for the proposed development. In the future, if the church is expanded, additional tap fees will be required.

2. After final site plan approval, the Petitioner will be required to submit construction plans to MHOG Sewer and Water Authority for review and approval.

3. The Petitioner is proposing a dead-end water main with a stub to the south for potential future connection to the existing 8-inch water main on Sugarbush Drive. The petitioner has included a 25-foot utility easement to the edge of the property to facilitate this future connection.

Tetra Tech
3497 Coolidge Road, East Lansing, MI 48823
Tel 517.316.3930 Fax 517.484.8140 www.tetratech.com

4. The Petitioner is proposing an on-site lift station and force main that will discharge to the existing 8-inch HDPE force main on the west side of Latson Road. Addition detail should be provided for the lift station during the construction plan review process and the lift station and force main connection will need to be coordinated with MHOG Sewer and Water Authority.

DRAINAGE AND GRADING

1. Two stretches of 18-inch pipe have proposed slopes of 3 percent, which is greater than the max allowable slope of 2.84 percent. The proposed pipes should be revised to ensure that the proposed storm sewer does not exceed that maximum allowable velocity of 10 feet per second.

We recommend the petitioner address the above comments prior to approval.

Sincerely,

Gary J. Markstrom, P.E.
Vice President

Shelby Byrne
Project Engineer

BRIGHTON AREA FIRE AUTHORITY

615 W. Grand River Ave.
Brighton, MI 48116
o: 810-229-6640 f: 810-229-1619

April 6, 2022

Kelly VanMarter
Genoa Township
2911 Dorr Road
Brighton, MI 48116

RE: Bible Baptist Church Special Use
3850 Golf Club Rd.
Genoa Twp., MI

Dear Kelly:

The Brighton Area Fire Department has reviewed the above-mentioned site plan. The plans were received for review on March 22, 2022 and the drawings are dated February 1, 2022 with latest revisions dated March 16, 2022. The project is based on the redevelopment of an existing vacant parcel to a new A-3 19.843 square foot church facility. The plan review is based on the requirements of the International Fire Code (IFC) 2021 edition.

All previous comments have been corrected or acknowledged in this submission. Phase II will require an independent review for proper access. The proposed Phase II emergency access shown is not compliant with the fire code.

Additional comments will be given during the building plan review process (specific to the building plans and occupancy). The applicant is reminded that the fire authority must review the fire protection systems submittals (sprinkler & alarm) prior to permit issuance by the Building Department and that the authority will also review the building plans for life safety requirements in conjunction with the Building Department.

If you have any questions about the comments on this plan review please contact me at 810-229-6640.

Cordially,

Rick Boisvert, CFPS
Fire Marshal

cc:Amy Ruthig amy@genoa.org

From: Patricia Murphy
To: Kelly VanMarter
Subject: Hearing re Bible Baptist on Latson and Golf Club, please add my concerns
Date: Tuesday, March 8, 2022 9:38:53 AM

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to Planning Director Kelly VanMarter and Planning Commission:

My name is Patricia Murphy, 139 Lakeshore Vista, Howell. I reside in the Lakeshore Pointe sub. The sub has one and only exit/entrance road is Golf Club. I am out of town, unable to attend the March 14 hearing, so am sending this email so that my concerns can be heard. I am a Christian myself, but my concerns are about the proposal, not the church.

Lakeshore Pointe sub has **248** homes, most with **two** vehicles. Our only way to enter and exit is Golf Club. Exiting, particularly, is **extremely dangerous**. **Golf Club traffic does not slow down and cannot be seen** coming down from Latson at **50+MPH.** We cannot see them nor they us. Exiting at present onto Golf Club from our sub takes courage, a fast step on the gas and a prayer.

The increased traffic from the Bible Baptist project will two will gravely increase the danger. It will make entering and exiting from our sub even more dangerous. It will be impossible to safely exit our sub.

GPS and WAZE etc routes Golf Club to Latson to the freeway 96, Meijer's, Walmart, Kohl's etc. It is the route residents use. Once again **more traffic on this stretch of Golf Club, from Latson to Grand River, will make exiting and entering our sub hazardous, if not impossible.**

Golf Club is two lanes and not able to accommodate heavy traffic. **Bible Baptist project phase one alone, will not only host Sunday and Wednesday services (186 parking spots, 500 seat auditorium) but large gatherings, events etc)** Golf Club was not created to handle such heavy traffic! It will not be safe.
So I ask the planning commission:
??Has an outside consulting unbiased Firm, not linked in any relationship to Boss engineering, been hired to study and report on the total impact of this project on the community?
??Has a thorough traffic study been done, not only on the Latson/Golf Club corner but on the stretch of Golf Club from Latson down to Grand River? From Chemung Hills golf course, Eager Rd, and our Lakeshore Pointe sub in both North and South directions?

If a **complete study** has not yet been done and made available to the commission and to residents, no action can be taken on this project proposal. **The safety of the community and impact on its residents is paramount. My concerns are not about religion. My concerns are about lives and safe roads.**
And although Bible Baptist submits this phase one, its label " phase one" demands that future development plans already written and posted on their website also be given some weight in the decision of the planning commission. the sake and safety, of the community and present residents, voters and taxpayers needs to be insured.

Thank you for taking time to consider my concerns.
Sincerely, Patricia Murphy
139 Lakeshore Vista, Howell
C248.770.3552

Sent from Patricia Murphy's I pad

Kelly VanMarter

From: Jeff Hauk <jhauk@comcast.net>
Sent: Friday, March 11, 2022 10:09 AM
To: Kelly VanMarter; Jeff Dhaenens
Subject: Genoa Bible Baptist Church Project

Follow Up Flag: Follow up
Flag Status: Completed

Good Morning Genoa Board,

I am writing with concerns over the proposed church plans that are submitted for your approval. The main concern is not that the church is being built, it is more about where they chose to place the development. With 45 acres to use that could have created a very sufficient natural barrier between them and the subdivision to the south. Below are a couple screenshots that illustrate my concern including a proposal that will improve the reception of the project.

In screenshot 1, they call for a 60' setback and 50' clearance from the edge of my property line and their parking lot with lights and garbage dumpster. Their design calls to Maintain Existing Vegetative barrier. The issue with this is there is No Barrier, currently there is a Mowed Walking/Driving path through the property that is 50' wide. The dense row of large Pine Trees start at 50' from my line which means they will all be removed for the project. Their call out in Screenshot 2 to maintain the Dense 30-60' wide buffer is incorrect. The only thing between them and my back patio is my row of trees that are bare 6 months out of the year providing no natural barrier.

If I were to install a fence along the my yard, that would provide very little relief as the church property is significantly elevated from my property and the parking lot lights would pollute my peaceful back porch.

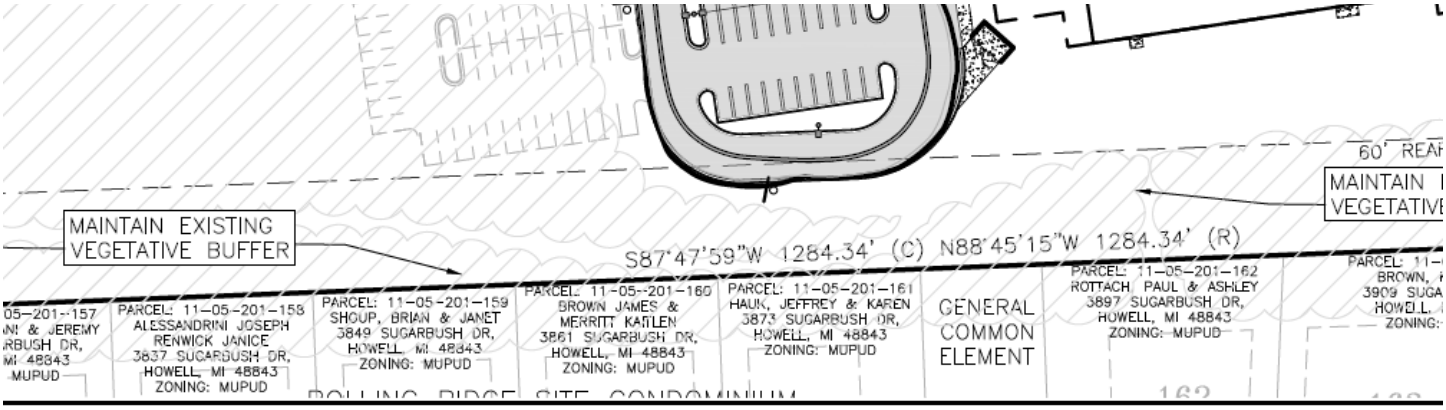
My proposal for the project would be to increase the gap from our back property line from 50 Feet to 50 yards. This would seem to save the church money on their entrance road project. The natural barrier created by the dense existing Pine trees should provide a reasonable natural noise and light barrier to allow both parties a comfortable environment. Screenshot 3 seems to show enough variance to allow this change. With a worst case scenario of relocating the soccer field to somewhere else in the 45 acres.

If the Board Members would like to walk the property with me or have additional pictures provided, I would be happy to assist.

Jeff Hauk

248-756-2488

Screenshot 1.



Screenshot 2.

5. LANDSCAPE BUFFERS
GREENBELTS ALONG THE RIGHT-OF-WAY AND A LANDSCAPED BUFFER ZONE BASED ON ADJACENT ZONING SHALL BE PROVIDED AS REQUIRED IN SECTION 12.02.

REQUIRED: GREENBELT ALONG R.O.W. 20' WIDE, 1 CANOPY TREE FOR EVERY 40 LINEAR FEET OF FRONTAGE

PROVIDED: LOCATION OF EXISTING WETLAND TO THE NORTH ALONG GOLF CLUB DR. PREVENTS PLANTING OF TREES ALONG R.O.W. EXISTING WOODLAND BUFFER ALONG LATSON ROAD R.O.W. TO REMAIN.

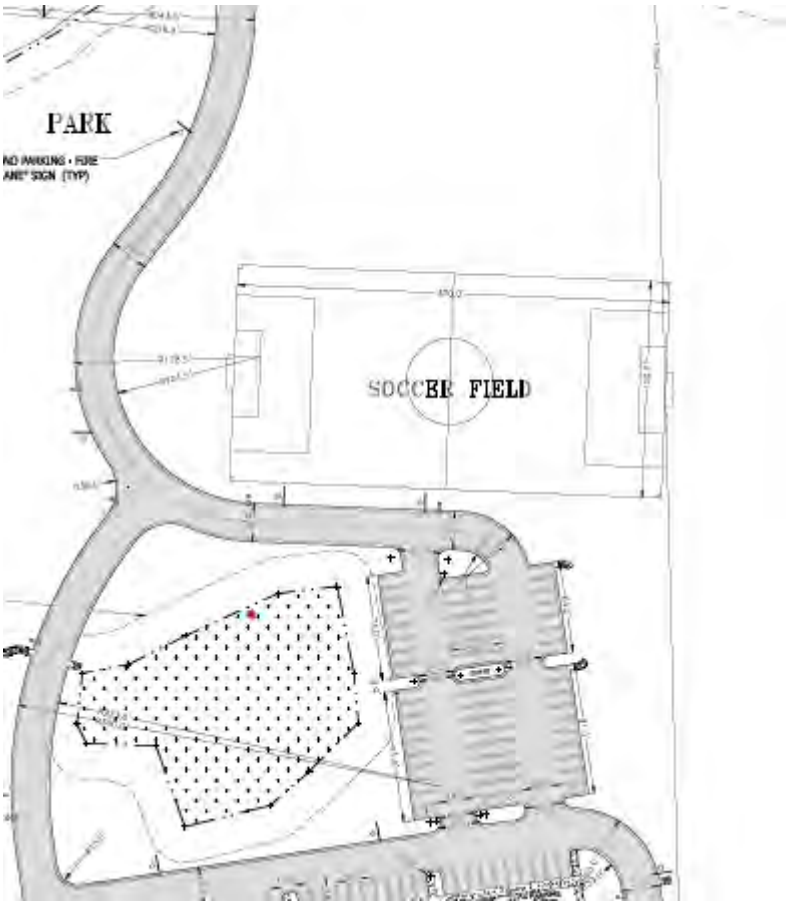
REQUIRED: BUFFER TO MIXED USE PUD DISTRICT TO THE SOUTH

PROVIDED: DENSE EXISTING 30'-60' WIDE BUFFER TO ADJACENT ZONING AT THE SOUTH WILL REMAIN. PLANTING ROW OF PLANTINGS ALONG THE SOUTHERN END OF THE SOUTHWEST PARKING LOT ADJACENT TO THE RESIDENTIAL TO THE SOUTH WHERE THE EXISTING VEGETATION REMAINING IS 30' WIDE.

REQUIRED: BUFFER TO RURAL RESIDENTIAL DISTRICT TO THE WEST

PROVIDED: ADJACENT ZONING TO WEST IS SCREENED BY EXISTING WOODLANDS THROUGHOUT THE SITE (SEE OVERALL SITE PLAN SHEET 4)

Screenshot 3.


PARK
SOCCER FIELD

From: Paul Rottach
To: Kelly VanMarter
Subject: Proposed Site Plan for Church on Latson and Golf Club
Date: Friday, March 11, 2022 5:36:16 PM

Good morning,

I hope all is well with everyone. I am writing with concerns regarding the proposed church plans behind my house. I have two concerns; one is the closeness of the building and parking lots with lighting to my home and two is water drainage and run-off from the property.

I understand that the property is being developed and I have come to terms with it. However, I would ask that proper and sufficient natural barrier between my home and the building, parking lot, dumpsters and outdoor lighting please be considered. The closeness of the proposed site plan does not reflect accurately the natural barriers in place. Not only is it not a dense barrier as stated in the site plan, it removes the pine trees and the hill placing everything within a very close distance of my home and other homes as well.

The current placement will create a constant lighting nuisance to multiple adjoining properties. I believe that if someone from the board would come to my home and look, they would understand that what is being proposed is not accurately depicted in the site plan.

Also, Water run off is not properly being discussed. As seen in the pictures I have provided, there is a water runoff and accumulation issue on and around this property. Not only on Golf Club Rd but on my property as well, I am deeply concerned that once this building is built, that my basement will begin to flood. I believe that it is appropriate to have my concerns documented and addressed.

Lastly, I understand that this site is being developed, however, I ask that the new landowners think of the neighborly thing to do before they build. They are coming into a new neighborhood, and I would like to be supportive of my new neighbors.

Thank you,

Paul Rottach

248-804-4611

Pmr13@yahoo.com

From: Beth
To: Kelly VanMarter
Subject: Church build golf club and Latson
Date: Sunday, March 13, 2022 2:50:17 PM

Good afternoon. I am writing with concern over the proposed church build on the corner of Golf Club and Latson. My concern is with the traffic that will most definitely increase by building on this land? As a resident who's neighborhood sits on Golf Club, over the last 2-5 years the increase in traffic on this road has been huge. Attempting to make a left turn out of your subdivision at any time of day has become very difficult and dangerous. Even more so with golf club and eager being a way to avoid golf club and Latson to get to m59. When first moving yo the area we were taken by how it was a nice two lane road that didn't see a ton of traffic. How is the addition of this building going to increase that traffic, Specifically with the driveway dumping church goers into golf club? How is the township planning to address these small two lane roads not made to handle the influx of traffic that has happened?
The amount of traffic that is on Latson and golf club during any time of the day is also increasing by the week. The area is dangerous seeing multiple accidents with traffic consistently backed up in every single direction. The limited site distance coming over the hill to the light on golf club causes many to have to make sudden stops for a red light not seen until the last minute.
Is there plans for future build on that site for housing? The last thing we need in this area is more housing.
How are the wetlands being addressed and protected on that parcel?
We moved away from the metro detroit area to get away from the constant development on every corner of the city. Where you can look around and there are zero fields, wetlands, or empty parcels of land left. We fear we didn't move far enough west at this point the way the area is being developed at such a rapid rate.
I hope all the concerns of those of us who live in the area are taken into consideration with this proposal as it will greatly affect our day to day lives.
Thank you for your time
Beth O'Dea

Sent from my iPhone

From: Lisa
To: Kelly VanMarter
Subject: Bible Baptist Church
Date: Monday, March 14, 2022 10:14:45 AM

Good Morning -
I'm writing to you regarding my concerns of plans for the Bible Baptist Church on Latson, south of Golf Club.

I'm sorry I can't attend tonight's meeting due to health issues, but wanted to voice my concerns.

My understanding of the plans is to have the entrance/exit of the church on to Golf Club road? We live in Lakeshore Pointe and already face traffic issues trying to turn in and out of our neighborhood. It's a blind curve and with cars going 45+ mph, it's very dangerous. Our concern is this situation will only get worse with increase in traffic along Golf Club road.

My first concern is the over development of this corridor as is.There is plenty of open property for the church to consider that does not sit on a major road, like Latson, that is already struggling to keep up with current development and heavy flow of traffic.

If the proposal went through, then we ask that planning commission consider that the flow of traffic from the church enters and exits with a Light on to Latson road, NOT Golf Club.

Lastly, if plans proceed as is, then we ask at bare minimum, the planning commission insists on lowering the speed on Golf Club to 35mph.and installs a light at Golf Club and Eager road to help mitigate traffic concerns. There has been plenty of accidents at this intersection to warrant this concern.

Thank you for your time. I appreciate you listening and considering our concerns.

Lisa (& Dean) Norton
20+ year residents

Kelly VanMarter

From: Michael Siterlet <mgsiterlet@gmail.com>
Sent: Wednesday, April 6, 2022 7:39 AM
To: Kelly VanMarter
Subject: Issues to Consider Bible Baptist Church Development - Golf Club Rd

Hello Kelly,

Prior to next week's planning meeting (Monday, April 11, 2022) Eileen and I wanted to provide you and the Planning Board Members with a list of issues we have with the development being proposed by Bible Baptist Church.

As you may recall, we share common appurtenances to both our properties connected to Crescent Lake. The appurtenances we are referring to are the beautiful views created by the lake and connected landscape - the pines and hardwoods boarding the lake.

Back in 1984 the Pasinski family sold the property to the Boss family with a stipulation that the Boss family, their successors and assignee's, recognize and maintain the features associated with the lake that are clearly appurtenances to both properties. Proofs of these stipulations are provided in the form of the recorded easements (at Liber 432, page 461, Livingston County Records). A copy has been provided to Genoa Township Planning in past correspondence. If additional copies are needed please let me know.

We realize that some board members may believe the issue concerning the property easements are private matters that go beyond the responsibilities of a planning board, however we feel, critical to the decision making process,(either private or public), all information connected with the effects of a proposed development are important. In our opinion, any impact that affects a plan, whether private or public, needs to be considered at all levels.

Like many existing property owners, we also believe Genoa Township is very unique when compared to the other surrounding communities' due to its lakes and natural environmental characteristics.

The land adjacent to the intersection of Latson and Golf Club Road not only is environmentally sensitive when considering the volume of water that flows through it and how it is filtered, the current variety of living species depend on it. The land also provides a relief, a relief from many of the negative impacts that have been created by past developments in surrounding communities.

Although Eileen and I plan to be at Monday's meeting to discuss our concerns in more detail, the list below provides a briefing on what our concerns entail.

Points we would like Discussed;

1. That any approval of the Preliminary Site Plan for the church includes a requirement noting existing Easements and restrictions on the plans. Any final approved Site Plan must include the required amendments to the existing Easements. All parties connected with the appurtenances understand, agree and accept the changes to the Easements.
2. The Impact Assessment provided does not clearly address the impact of the development on the lake's water level and surrounding drainage - what if it fails?
3. Traffic; we have concerns with both existing and future traffic and its impact on our health and safety.
The additional traffic volume on Golf Club Road, a road that has little or no enforced speed and noise controls is already at unbearable levels.
The original preliminary site plan approval by the Genoa Planning Board was for a private drive that would access a 10 unit Condo Development from Golf Club Rd. not for a church with 400 plus congregants.
Current noise levels at our home on Golf Club Road, adjacent to the proposed church entrance, have increased significantly. The results of increased cars and commercial vehicles traveling Golf Club Road at greater speeds have also increased noise levels that exceed 75 Db.

Prior to the meeting, feel free to contact me with any concerns or comments. If not, we are looking forward to the meeting.

Thanks,

Michael & Eileen Siterlet

3780 Golf Club Rd

Howell, Michigan

810 533-3780

From:	Kelly VanMarter
To:	Amy Ruthig
Subject:	FW: Bible Baptist Church
Date:	Monday, April 11, 2022 2:29:17 PM

Kelly VanMarter, AICP
Assistant Township Manager/Community Development Director

Genoa Charter Township
2911 Dorr Road, Brighton, Michigan 48116
Direct: (810) 588-6900, Phone: (810) 227-5225, Fax: (810) 227-3420
E-mail: kelly@genoa.org, Url: www.genoa.org

From: Brian McBain <bmgolfer@gmail.com>
Sent: Sunday, April 10, 2022 12:11 PM
To: Kelly VanMarter <Kelly@genoa.org>
Subject: Bible Baptist Church

Hi Kelly, sorry for the late communication, just arrived from vacation to the letter of notice on Thursday.

I wish to take a moment to briefly address my concerns with the consideration of the Bible Baptist Church currently proposed for Latson and Golf Club Roads. I will stick to the points:

- The township just recently rezoned this property to low density 1 acre lots having previously denied a multi-family rezoning. This action sent a clear message to the community the township was remaining consistent with the master plan in keeping low density development at this corner. Adding a very large commercial building and parking, approved special use or not, turns this corner into a commercial property and it is no longer low density. I urge the planning commission and township to remain consistent with the master plan.
- No one can deny with the increased building along Latson Road from both directions, traffic has increased significantly at this intersection. I appreciate the expertise that went into the traffic study. In reality, those surrounding this intersection are seeing significant traffic backed up at the turn lanes particularly when turning West on Golf Club from Latson and turning North or South while headed East on Latson. The proposed ingress/egress in such close proximity (almost adjacent) to the turn lanes will most definitely further bottleneck this situation. Congestion is consistent 7 days a week in the morning and early evening hours. Sunday's are no exception due to the church/shopping/personal traffic traveling through this intersection. Those that drive through this intersection daily are confident both the

From:	Jeremy Doody
To:	Kelly VanMarter; Amy Ruthig
Subject:	Re: Opposition to proposed re-zoning of parcel #11-05-200-002 currently owned by Gary R. Boss
Date:	Monday, April 11, 2022 2:18:09 PM

Hello, my name is Jeremy Doody and I live at 3825 Sugarbush Dr., which currently backs up to parcel #11-05-200-002 between our street and Golf Club Rd., and just as our household strongly opposed the previous proposed rezoning of said property for a number of reasons that are a detriment to our neighborhood, township, and community as a whole. We are just as opposed to the current special use applications for both constructing a church and also the grading in any wetlands within. I will re-express our various concerns below.

Our first and main concern would have to be traffic and safety. Latson Rd. traffic is frequently very congested and it's often difficult to pull out of our neighborhood from Snowden Ln. onto Latson (especially if trying to go north on Latson.. good luck!). I often find it a scary situation having to pull out with so much traffic, especially while driving our toddlers. Adding additional traffic on any day of the week in such proximity will just increase this congestion even more, making it less safe than it already is. (Weekend mornings seem to often already have just as much traffic as the weekdays, with lots of people heading to and from outdoor sports activities at the Oceola Township hall just up the road. I am still concerned that a traffic study from 2012 is being allowed to speak for the current traffic conditions. This was before the I96/Latson Rd. freeway ramps were built and the area was a LOT less built up in this area in general. The estimates for how much traffic have increased for now seem very conservative because the area has grown at a faster rate than others lately, and thus normal growth rates seemingly would be inaccurate. If you've driven on Latson during morning or afternoon rush hours especially, then you know it's a complete zoo out here already.

The aforementioned land was zoned a certain way for a reason and certainly doesn't need to be any more densely populated than it currently is. Sewer and water may supposedly support the increase, but all other areas certainly cannot. It should remain as-is, which is still a benefit to the community, township, and beyond. The forest is beautiful and it, along with the large wetland also contained within the property, surely provide habitats to a wide range of wildlife. There isn't much of these types of areas remaining in our township, and it would be nice if some could be preserved.

Once other concern is that all the property along Sugarbush Dr. is significantly lower than Mr. Boss's property, and we already have plenty of drainage issues, with our back and side yards being beyond wet into the middle of summer, then again starting in the fall until it freezes. Taking away even a portion of the trees and other flora will most likely just make this situation even worse, possibly wreaking havoc on our actual residence as well.

Lastly, I just don't see the need for yet another church to be built. Especially in my back yard and especially when they don't have to pay their fair share of taxes as us other land owners to help support and sustain the area we're in. This just seems like bad business for the township.

Thank you for allowing our opposition to be noted. I have spoken to many of our neighbors and all that I have spoken to feel the same way. I will not be able to attend tonight's meeting because of family scheduling constraints but wanted to send this ahead of time in case

something comes up. We currently love our neighborhood as-is and if this were to go through I am afraid it may not be a good fit for our family any more if the area is so drastically changed. It sounds like at least a few others feel the same way. We would very much prefer this not to happen.

Please feel free to contact me via telephone or email with any follow-up questions or need of any clarifications.

Thank you for your time,

Jeremy Doody
517-281-9759
3825 Sugarbush Dr.

townships and county will be faced with a quick fix plan to elevate this problem within a year of the opening of this church. Since this entity will not be contributing to the tax roll, I hope if considered, a bond will be held to contribute some portion of the estimated cost to remedy the immediate impact they may have on this intersection.

- Please take a closer look at the proposed location of this church as you drive down Latson just passing Meijer and envision this commercial building sitting on top of a hill looking down at all the homes surrounding it. No amount of trees or flora will create any type of screen from this commercial building or lighting from the residential communities. You're just plopping (literally) a commercial building high above a residential area. Envision leaving the commercial area of Grand River and Latson, transitioning to high then low density residential homes only to be surprised again to see a commercial building high up on a hill. Having residential homes similar to those across the street from this site remains consistent with the plan and appears well planned. Additionally, homes on this property will not create anywhere near the noise, light pollution and destruction of mature trees as a commercial property will.
- The building itself. Simply put, commercial, sterile and completely out of character with the residential community. If even considered, I hope the planning commission will make the right decision for the community to ensure architectural changes are enforced to present a more harmonious look and feel with the surrounding residential area.
- Drainage issues have only become worse with growth. Just last year the county drain and wetlands could not handle the water flow between this property and the neighboring sub, flooding Latson for at least 12 hours. Golf Club has been flooded for over a month this year across from the neighboring property just West of this proposed project. Keeping residential development at this property will decrease drainage issues as opposed to extensive cement and asphalt and possibly filling in of wet land. Our current infrastructure is better served with 35 residential units at this corner where natural landscape can help to absorb this water vs. commercial property.
- While we can never predict, this should be considered. Looking currently at the many vacated commercial buildings along the corridor, particularly the vacant shopping mall across from Clearly University for 8 years. One has to wonder if such a big endeavor fails, what the impact to the community will be. If homes were to be built there as the master plan outlines, this problem could be avoided.

In closing, I understand special land use requests and I appreciate that this church has the opportunity to request it. I again have to ask the planning commission, is this really the right location for such a large commercial project within a planned residential area within our township. I believe there are many better alternate options along the Grand River corridor for such a large project considering the expansion plans.

Thank you for your consideration of my points,

Brian McBain
280 Lane Drive
Howell, Michigan

Sent from my iPad

GENOA TOWNSHIP IMPACT ASSESSMENT

Prepared for:

Owner / Applicant
Bible Baptist Church
2258 E. Highland Rd.
Howell, Michigan 48843

Prepared by:

Jennifer M. Austin, PLA

BOSS Engineering

3121 E. Grand River Howell, MI 48843
517.546.4836 fax 517.548.1670
www.bosseng.com

February 1, 2022

Revised: February 23, 2022
Revised: March 16, 2022
Revised: April 21, 2022

INTRODUCTION

The purpose of this Impact Assessment (IA) Report is to show the effect that the proposed church campus development has on various factors in the general vicinity of the use. The format used for presentation of this report conforms to the Submittal Requirements for Impact Assessment/Impact Statement Guidelines in accordance with Section 13.05 of the published Zoning Ordinance for Genoa Township, Livingston County, Michigan.

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:

Jennifer M. Austin, PLA
Professional Landscape Architect and Project Manager
Boss Engineering
3121 E Grand River
Howell, MI 48843

Prepared for:

Owner/Applicant:
Bible Baptist Church
2258 E. Highland Rd.
Howell, MI 48843

B. Description of the site, including existing structures, man-made facilities, and natural features, all-inclusive to within 10' of the property boundary.

The project site is on parcel # 4711-05-200-002 in the NE ¼ of Section 5, Genoa Township, Livingston County, MI, and which the parcel at the southwest corner of Golf Club Road and Latson Road.

The subject site is bordered:

- To the north is the Genoa Township-Oceola Township line along Golf Club Road. The northern half of the subject property contains a 3+/- acre pond, a wetland and single family residence.
- To the east are RR and RPUD zoning on the opposite side of Latson Road.
- To the south is MUPUD zoning which contains the Rolling Ridge site condominium.
- To the west is RR zoning with single family residences.

Current zoning of the subject site is Low Density Residential (LDR),1 unit/acre. This new zoning designation was approved by the Genoa Township Planning Commission at the July 20, 2020 meeting. Sewer and Water are along entire the Easterly line (Latson Road) of the subject parcel and accessible at the Southerly property line at Sugarbush Drive.

C. Impact on natural features: A written description of the environmental characteristics of the site prior to development, i.e., topography, soils, vegetative cover, drainage, streams, creeks or ponds.

GENERAL OVERVIEW

AREA 1

The Northwesterly 10 acres of the site are the location of the existing residence. This area consists of two parts: The House, located on the top of a gently rolling hill, and the pond adjacent to the house along the southerly and westerly portions. The private entrance road to the proposed church campus will cross the easterly portion of this area.

AREA 2

The Northeasterly 10 acres of the site are relatively flat of which approximately 5 acres is a wetland. There are 2 man-made ditches within this wetland that flow northerly under Golf Club Road into a small wetland in Oceola Township. Stormwater management for this project will mostly be managed in this area by forebays to filter stormwater before discharge into the wetlands and/or pond.

AREA 3

The Southerly 26+ acres are gently sloped to moderately steep slopes. The entire area is heavily wooded with a mixture of evergreens and hardwoods. The northerly portion of Area 3 flows naturally north to the existing lake and/or the existing wetland. The southerly portion of Area 3 flows generally southeast into an existing drainage area along Latson Road.

The church campus and a portion of the driveway will be located in this area. Clearing of trees will be kept to a minimum by use of curb and gutter for the commercial drive.

WETLAND SETBACKS

The regulated wetlands on-site contain a 25-foot wetland setback per Township Ordinance. The proposed development includes grading within the 25-foot wetland setback at the east wetland, the open water pond as well as for the two upland wetland pockets. Also included within the wetland setbacks are a retaining wall and multiple storm water structures. The areas of disturbance within the setback on the east wetland and the open water pond will have no impact on the wetlands. Currently, the land is maintained up to the wetland limits in these areas with grass, in which the 25' is open. The disturbance will not disrupt crucial vegetation in this instance and the area will be reseeded with grass post construction, consistent with its pre-development condition. Given the location of the wetlands and their proximity to each other, as well as their proximity to other existing structures on site, in order for the commercial drive to run southerly to access the developable portion of the parcel, work within the setback will be required.

There are two upland pocket wetlands near the proposed church and parking lots. Disturbance is proposed to occur within the 25' wetland setback on both upland wetland pockets. Based on the topography and visual inspection, the eastern upland wetland has very minimal water ponding as water typically flows through this area to ultimately pond at the western upland wetland pocket. The wetland vegetation quality is low, and the minimal trees within the wetland limits are dead. The wetland is of low quality and grading within the setback of this wetland does not impact the overall stormwater management on the site. Water is continuing to be directed to the western of the two upland wetland pockets, prior to discharging northerly towards the existing pond on-site.

The retaining wall located within the wetland setback is proposed to limit disturbance and avoid disturbance within the wetland limits. The proposed drainage structures proposed within the wetland setbacks are utilized for the sites storm water management system. Water is being directed in a manner consistent with the current overall drainage patterns on the site.

SPECIFIC OVERVIEW
The soils and natural features throughout the site are specified on the Existing Conditions and Natural Features Sheets 2 and 3.

D. Impact on storm water management: description of soil erosion control measures during construction.

The preliminary site plan indicates stormwater management forebay and mechanical pretreatment units to be constructed during the infrastructure construction. These forebays and mechanical pretreatment units will pre-treat the stormwater prior to discharge to the pond and wetland at the north half of the site. The discharges and pond storage is permitted in MDEGLE permit WRP026826. The detailed construction plans will be reviewed by the Township Engineer and the Soil Erosion Control permit will be reviewed and issued by the Livingston County Drain Commissioner. Silt fence will be used to stop erosion from impacting the wetlands.

E. Impact on surrounding land use: Description of proposed usage and other man-made facilities; how it conforms to existing and potential development patterns. Effects of added lighting, noise or air pollution which could negatively impact adjacent properties.

Phase I of this project will include a commercial drive approach on Golf Club Road, proceeding southerly to the church campus at the southeast corner of the parcel. This development will have little, if any, impact on the northerly 15 acres of the site. The development will require maintaining a significant portion of the existing forested property along the west, east and south property lines. These natural buffers will minimize lighting and noise to existing developed, adjacent properties. The low-density residential development will have no air pollution impact.

F. Impact on public facilities and services: Description of number of residents, employees, patrons, and impact on general services, i.e., schools, police, fire.

The Site Plan for this phased development is for a 506-seat church sanctuary and associated parking, a new commercial driveway, a soccer field, and stormwater forebay in Phase I. Phase II will allow for an expansion of the church with approximately 500 more seats and associated parking, a potential new access drive off Latson Road, and potentially five single-family low-density residential lots.

The church will require connecting to water and sewer along Latson Road. Police and fire protection services, and schools should not be impacted by this church project.

G. Impact on public utilities: description of public utilities serving the project, i.e., water, sanitary sewer, and storm drainage system. Expected flows projected in residential units.

As noted above, the church will need to connect to the public sanitary and MHOG water along Latson Road for Phase I. A watermain easement will be provided to the southern property line for potential future looping with the existing Rolling Ridge development.

The stormwater management plan utilizes enclosed pipe and open swales to transmit water to either a mechanical pretreatment unit (for the primary stormwater management treating the majority of the developed site) and a forebay for the remainder of the storm water runoff on the north end of the site. The forebay and mechanical pretreatment unit filter runoff prior to release into the existing pond and wetlands that are on site. There is an existing access and maintenance easement that is 10' that leads to the dam embankment for the pond that allows access to an adjacent property to the west. The easement document is recorded in Livingston County Records Liber 1111 Page 477 and is attached herein as Exhibit A.

H. Storage or handling of any hazardous materials: Description of any hazardous materials used, stored, or disposed of on-site.

No storing or handling of any hazardous materials is expected for this church campus.

I. Impact on traffic and pedestrians: Description of traffic volumes to be generated and their effect on the area.

A traffic study has been prepared for this site. The summary of the study is that all intersections currently operate at an LOS D or better during all peak hours and minor increases in delay will not be discernible. The required improvements to the Road network and proposed site approach are the following:

1) A center left turn lane and a right turn lane on Golf Club Road will be required.
2) If the church expands in Phase II, then a right turn lane would be needed on the proposed drive approach at Golf Club Road.
3) If a Laston Road approach is not installed, then special timing plans for the intersection of Latson Road and Golf Club Road associated with the Sunday service times should be coordinated with the LCRC. Should a Latson Road entrance be constructed, the signalization timing change is not warranted.

The Traffic Impact Study utilized the ITE Trip Generation Manual, 11th Edition, Church Land Use. The site trip generation for the 506-seat church is shown in the tables below and was extracted from the Traffic Impact Study.

Table 6: Phase I ITE Site Trip Generation

Land Use	ITE Code	Amount	Units	Average Daily Traffic	AM Peak Hour			PM Peak Hour			SUN Peak Hour		
					In	Out	Total	In	Out	Total	In	Out	Total
Church	560	506	Seats	454	21	14	35	23	28	51	121	125	246

Table 7: Phase I Sunday Site Trip Generation

Land Use	ITE Code	Amount	Units	SUN INBOUND Peak			SUN OUTBOUND PEAK		
				In	Out	Total	In	Out	Total
Church	560	506	Seats	121	25	146	24	125	149

The traffic study is to be submitted to the LCRC for review and approval in conjunction with the proposed project. The Livingston County Road Commission will be required to review and approve the commercial driveway approach at Golf Club Road as it relates to their standards and findings within the traffic study. At this time, the project plans include:

1) extending the Golf Club Road center left turn lane through the proposed approach on Golf Club Road,
2) providing a right turn(deceleration) lane and taper on the Golf Club Road approach,
3) providing a right turn lane on the approach as would be required in the Phase II traffic recommendations.

J. Special provisions: Deed restrictions, protective covenants, etc.

There is a document addressing shared maintenance and access to the existing pond on the subject property between Bible Baptist Church and the adjacent owner to the northwest to allow maintenance activities on the pond operations. There is an existing access and maintenance easement that is 10' that leads to the dam embankment for the pond that allows access to an adjacent property to the west. The easement document is recorded in Livingston County Records Liber 1111 Page 477 and is attached herein as Exhibit A.

K. Description of all sources:

- Genoa Township Zoning Ordinance
- "Soil Survey of Livingston County Michigan" Soil Conservation Services, USDA
- Bible Baptist Church Traffic Impact Study – prepared by Bergmann

EXHIBIT A

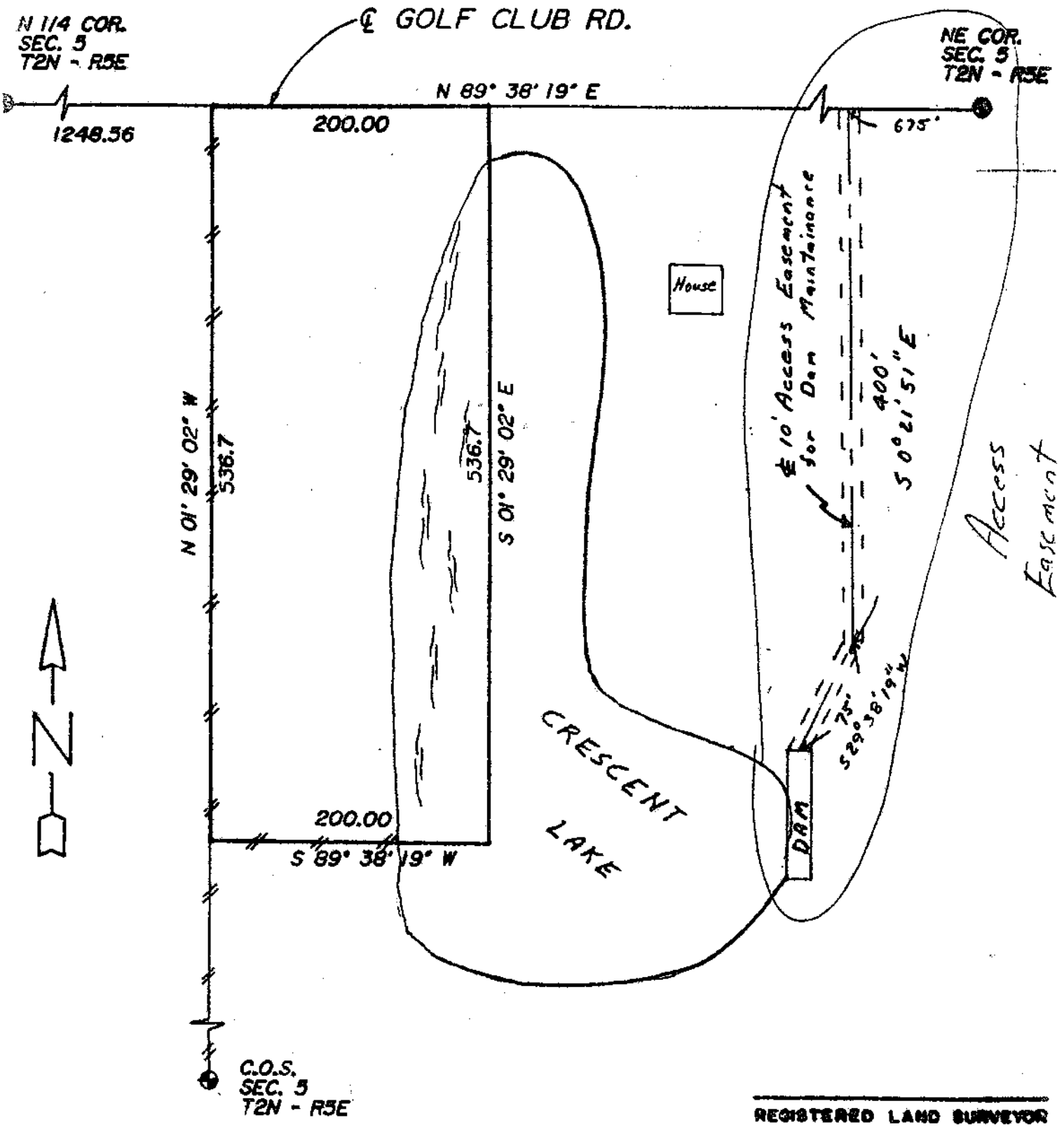
10’ ACCESS EASEMENT FOR DAM MAINTENANCE

BOSS ENGINEERING COMPANY
CIVIL ENGINEERS & LAND SURVEYORS

10 FOOT ACCESS EASEMENT FOR DAM MAINTENANCE

A 10 foot access easement for dam maintenance the centerline of which is described as beginning at a point in the centerline of Golf Club Road distant S 89°38'19" W 625.00 feet from the NE corner of Section 5, T2N-R5E, Genoa Township, Livingston County, Michigan, said point of beginning also being on the North Section line of said section 5; thence S 0°21'51" E, along an old farm road, 400 feet; thence S 29°38'19" W 75.0 feet to Crescent Lake Dam (so-called) and the point of ending of this access easement.

MAIN OFFICE: 3121 E. GRAND RIVER AVENUE • HOWELL, MICHIGAN 48843 • (517) 546-4836
CHARLEVOIX OFFICE: BOX 28A • PORTAIR PLAZA • CHARLEVOIX, MICHIGAN 49720 • (616) 547-2872



REGISTERED LAND SURVEYOR
NO. 17022

ENT PASINSKI
OSURE ERROR 1/
SCRIPTION
W 1/4, NE FRL. 1/4
CTION 5 T 2N R. 5E

BOSS ENGINEERING COMPANY
CIVIL ENGINEERS – LAND SURVEYORS
3121 E. GRAND RIVER, HOWELL, MICHIGAN
(517) 546 – 4836 48843
BOX 26 A, PORT AIR PLAZA, CHARLEVOIX, MICHIGAN

17

DEED AND GRANT OF EASEMENT

Deed and Grant of Easement made this 31 day of Oct., 1984, by COMERICA BANK - DETROIT, formerly known as THE DETROIT BANK & TRUST COMPANY, of Detroit, Michigan as Trustee under the Will of Walter J. Pasinski, Deceased, Grantor, to EUGENE PASINSKI and MAXINE E. PASINSKI, his wife, of 3780 Golf Club Road, Howell, Michigan, Grantees.

WHEREAS, the Trustees under the Will of Walter J. Pasinski, Deceased, prior to 1963 owned a parcel of land described as follows:

> The Northeast 1/4 of the Northeast fractional 1/4 of Section 5, Town 2 North, Range 5 East, Michigan.

WHEREAS, COMERICA BANK - DETROIT, as Trustee under the Will of Walter J. Pasinski, Deceased, is the owner of land ("Parcel A") described as follows:

> Northeast 1/4 of the Northeast fractional 1/4 of Section 5, Town 2 North, Range 5 East, Michigan, excepting that parcel beginning at the Northwest corner of said Northeast 1/4 of the Northeast fractional 1/4 of said Section 5; thence East 200 feet; thence South 500 feet; thence West 200 feet; thence North 500 feet to the point of beginning.

which is adjacent to land owned by Eugene Pasinski and maxine E. Pasinski, his wife.

WHEREAS, the Trustee under the Will of Walter J. Pasinski, by deed to EUGENE PASINSKI and MAXINE E. PASINSKI, his wife, on October 28, 1963, which is recorded at Liber 432, Page 461, Livingston County Records, conveyed the real property described as follows ("Parcel B"):

LIBER 1111 PAGE 477
NOV 29 12 33 PM '84
NANCY HAYLAND
REGISTER OF DEEDS
LIVINGSTON COUNTY, MI
48843

13254

A part of the Northeast 1/4 of the Northeast fractional 1/4 of Section 5, Town 2 North, Range 5 East, Michigan, described as: Beginning at the Northwest corner of said Northeast 1/4 of the Northeast fractional 1/4 of said Section 5; thence East 200 feet; thence South 500 feet; thence West 200 feet; thence North 500 feet to the point of beginning.

Together with all and singular the hereditaments and appurtenances thereunto belonging or in anywise appertaining.

WHEREAS, the October 28, 1963 deed was intended to convey the real property (Parcel B), 200 feet by 500 feet, commencing at the established fence line which formed the West line of the property owned by the Trustees under the Will of Walter J. Pasinski, Deceased and which fence line now forms the West boundary of the property owned and occupied by the Grantees, EUGENE PASINSKI and MAXINE E. PASINSKI, his wife;

WHEREAS, a survey for Parcel B has been requested and Grantor desiree to clarify its earlier grant to conform to the legal description according to the survey as stated above, whereby the long-established fence line corresponds to the West line of the property of Grantees and whereby the northern border of the property is the road;

WHEREAS, the damming of flow from a spring on Grantor's land more than thirty years ago has resulted in a pond covering portions of both Parcel A and Parcel B, sometimes known as Crescent Lake, and Grantees have received certain easements in connection with the pond through the hereditaments and appurtenances recited in the Deed recorded at Liber 432, Page 461, to Grantees;

WHEREAS, clarification and description of those easements are required;

NOW, THEREFORE, in consideration of One and 00/100 ($1.00) Dollar Sec 207.505 the Grantor grants and conveys the property and rights therein as follows:

1. Grantor grants and conveys to Grantees the real property approximately described as follows:

> A part of the N/E 1/4 of the N/E fractional 1/4 of Section 5, T2N-R5E, Genoa Township, Livingston County, Michigan, described as beginning in the centerline of Golf Club Road at a point N 89 38'19" E along the north line of said Section 5 1248.56 feet from the North 1/4 corner of said Section 5, thence continuing along said section line and centerline of Golf Club Road N 89 38'19" E 200.00 feet; thence S 01 29'02" E 536.7 feet; thence S 89 38'19" W 200.00 feet; thence North 01 29'02" W 536.7 feet to the point of beginning.

according to the points computed by surveyor Gary Boss, but which are not yet included in a certified survey.

2. Grantor grants to Grantees, their heirs, assigns and successors in title nonexclusive easements relating to the maintenance of the dam which controls the pond sometimes known as Crescent Lake which covers portions of both Parcel A and Parcel B, as follows:

(a) Grantor, for itself and its successors in title and assigns, covenants to maintain the earthen dam so that the dam retains the waters of Crescent Lake. Grantor grants to Grantees and their heirs, successors in title and assigns the rights to inspect the dam, to make repairs to maintain the dam and any related structures in order to maintain the water level at the height

LIBER 1111 PAGE 479

existing at the date of this Deed and Grant of Easement;

(b) Grantor covenants, for itself and its successors in title and assigns, that it will not alter the height of the dam and, further, that it will not dredge, excavate, or remove soil from the dam without the written consent of the owner of Parcel B.

(c) Access to the dam for maintenance, repair, and inspection is allowable via Access Easement as per attached Exhibit A.

3. These easements shall be deemed to be appurtenant to and run with the land of Parcel B.

IN WITNESS WHEREOF, the undersigned grants these easements and grants and conveys the described property in confirmation of the deed recorded at Liber 432, Page 461, Livingston County Records, on the day and year first above written.

WITNESSES:

Judith Dettloff

Molly M. Popovich

GRANTOR:
COMERICA BANK - DETROIT, formerly known as The Detroit Bank & Trust Company of Detroit, Michigan, as Trustee under the Will of Walter J. Pasinski, Deceased, and not otherwise

By: Louis C. Fulgoni

Its: Louis C. Fulgoni, Corporate Real Estate Officer

LIBER 1111 PAGE 480

RECORDED JAN 29 12 33 PM '94 NANCY HAVILAND REGISTER OF DEEDS LIVINGSTON COUNTY, MI 48843

STATE OF MICHIGAN)
)SS.
COUNTY OF Wayne)

The foregoing instrument was acknowledged before me this 31 day of October, 1984, by Louis C. Fulgoni, Corporate Real Estate Officer of Comerica Bank - Detroit as Trustee under the Will of Walter J. Pasinski, Deceased, and not otherwise.

Judith Ottloff
Notary Public
_____ County, Michigan
My Commission Expires: _____

JUDITH OTTLOFF
Notary Public, Macomb County, Mich.
Acting in Wayne County, Mich.
My Commission Expires March 27, 1988

Instrument Drafted by:
M. J. Ruffley
3600 Penobscot Building
Detroit, MI 48226

LIBER 1111 PAGE 491

RECORDED
NOV 29 12 33 PM '84
NANCY HAVILAND
REGISTER OF DEEDS
LIVINGSTON COUNTY, MI
48843

RECORD AND RETURN TO:
Louis C. Fulgoni
Comerica Bank-Detroit
Corporate Real Estate
P.O. Box 59, Detroit 48231

BOSS ENGINEERING COMPANY
CIVIL ENGINEERS & LAND SURVEYORS

Exhibit A
Sheet 2 of 2

LIBER 1111 PAGE 483

10 FOOT ACCESS EASEMENT FOR DAM MAINTENANCE

A 10 foot access easement for dam maintenance the centerline of which is described as beginning at a point in the centerline of Golf Club Road distant S 89°38'19" W 625.00 feet from the NE corner of Section 5, T2N-R5E, Genoa Township, Livingston County, Michigan, said point of beginning also being on the North Section line of said section 5; thence S 0°21'51" E, along an old farm road, 400 feet; thence S 29°38'19" W 75.0 feet to Crescent Lake Dam (so-called) and the point of ending of this access easement.

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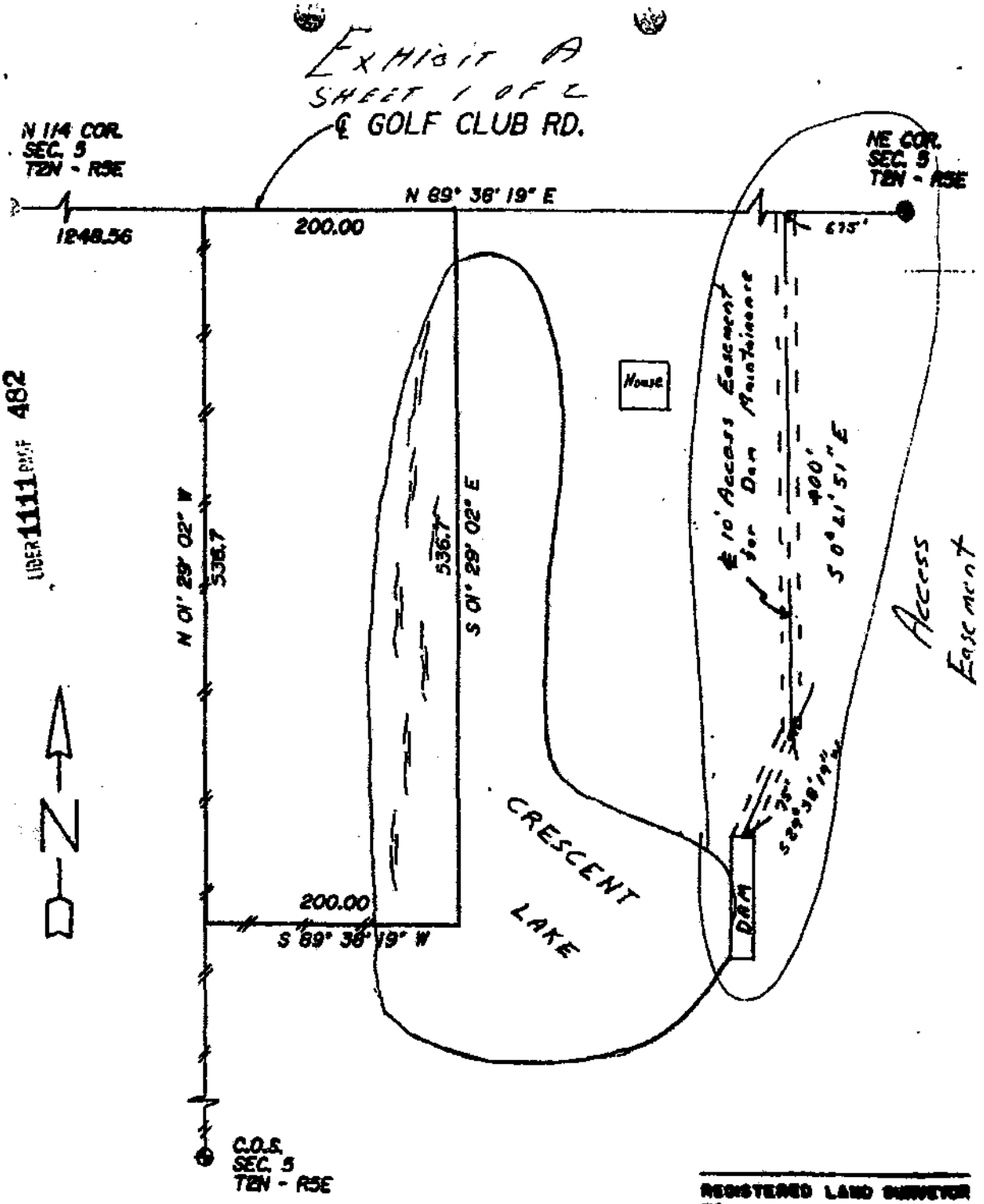

LIBER 1111 PAGE 482

REGISTERED LAND SURVEYOR
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ENT PASINSKI
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BOSS ENGINEERING COMPANY
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BOX 28 A, PORT AIR PLAZA, CHARLEVOIX, MICHIGAN

BERGMANN
ARCHITECTS ENGINEERS PLANNERS

BIBLE BAPTIST CHURCH

TRAFFIC IMPACT STUDY

Genoa Township, Michigan

Bergmann

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29777 Telegraph Road, Suite 1640
Southfield, MI 48034

Phone: 248.663.1289

Email: srusso@bergmannpc.com
www.bergmannpc.com

March, 2022

BIBLE BAPTIST CHURCH

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KV - The Appendix documents were left out of the packet due to the number of pages. Please let staff know if you want to see the full document and it will be provided.

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1.0 Executive Summary

This report presents the methodologies, analyses, results, and recommendations of a Traffic Impact Study (TIS) for the proposed Bible Baptist Church in Genoa Township, Livingston County, Michigan. The project site is located in the southwest quadrant of the Latson Road & Golf Cub Road intersection and is currently vacant. The proposed development plans include construction of a new church over two phases. Phase I would construct a 506-seat church with site access provided via a single driveway to Golf Club Road. Phase II would include an approximately 500-seat expansion with potential for a new right-in-right-out driveway to Latson Road.

The purpose of this study is to identify the traffic related impacts, if any, of the proposed project on the adjacent road network. This study was conducted in accordance with accepted traffic engineering practice and guidelines published by the Institute of Transportation Engineers (ITE) and applicable agency standards. Analysis of existing conditions indicate that all approaches and movements at the signalized intersection of Latson Road & Golf Club Road currently operate acceptably at a LOS D or better during the peak hours and will continue to operate acceptably in 2023 and 2026 no-build conditions.

Traffic volumes that are expected to be generated by the development for Phase I and Phase II were forecast based on the rates and equations published by ITE in *Trip Generation* as summarized in the table below. These trips were assigned to the study road network based on existing peak hour traffic patterns, zip code data provided by the Church for existing members, and ITE methodologies. These trips were added to the no-build traffic volumes to calculate the future build traffic volumes with the proposed development for each Phase.

Phase	ITE Code	Amount	Units	Average Daily Traffic	AM Peak Hour			PM Peak Hour			SUN IN Peak			SUN OUT Peak		
					In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Phase I	560	506	Seats	454	21	14	35	23	28	51	121	25	146	24	125	149
Phase II	560	1,000	Seats	913	42	28	70	45	55	100	249	52	301	50	259	309

The Conclusions related to this Traffic Impact Study and relative analyses are as follows:

1. At the time of this study, traffic volumes throughout the State of Michigan were impacted by restrictions in place associated with the COVID pandemic. Therefore, historic turning movement count data collected in April, 2019 was utilized to validate baseline traffic volumes for this study.
2. All approaches and movements at the study intersection of Latson Road & Golf Club Road currently operate acceptably at a LOS D or better during all peak hours.
3. Church time-of-day patterns and traffic volumes indicate approximately 80% of outbound traffic occurs in the first 30-minutes after service ends while approximately 85% of inbound traffic occurs in the 30-minutes prior to the service start time. Therefore, separate inbound and outbound analysis scenarios were completed as there will be minimal overlap between inbound and outbound traffic based on the one-hour separation between services.
4. All approaches and movements at the study intersection of Latson Road & Golf Club Road would continue to operate acceptably in the 2023 and 2026 no-build scenarios during all peak hours.
5. In accordance with LCRC standards, a left-turn lane and right-turn taper are warranted at the proposed site driveway to Golf Club Road under Phase I build conditions.
6. The 2023 Phase I build conditions analysis indicate that the proposed development will not have a significant impact on the adjacent road network. All approaches and movements at the intersection of Latson Road & Golf Club Road will continue to operate at a LOS D or better during all peak hours and minor increases in delay will not be discernable. Additionally, all approaches and movements at the proposed site driveway to Golf Club Road will operate acceptably. Therefore, the proposed development does not require any off-site roadway or traffic control improvements under Phase I build conditions.

7. In accordance with LCRC standards, a right-turn lane would be warranted at the proposed site driveway to Golf Club Road under Phase II build conditions.
8. The 2026 Phase II Alternative A build conditions analysis indicate the EB through/right-turn movement and WB left-turn movement at the signalized intersection of Latson Road & Golf Club Road would be reduced to a LOS F during the Sunday outbound peak 15-minute period. Additionally, the STOP controlled egress site driveway approach to Golf Club Road will operate at a LOS E or F during both the Sunday inbound and outbound peak 15-minute periods.
9. In order to improve traffic operations in the 2026 Phase II Alternative A build conditions, special Sunday timing plans during service times should be provided at the intersection of Latson Road & Golf Club Road.
10. In accordance with LCRC standards, a right-turn taper would be warranted at the proposed site driveway to Latson Road under Phase II Alternative B build conditions.
11. The 2026 Phase II Alternative B build conditions analysis indicate all approaches and movements at the intersection of Latson Road & Golf Club Road will continue to operate at a LOS D or better during all peak hours. At the proposed site driveways to Golf Club Road and Latson Road all approaches, and movements will operate acceptably at a LOS C or better during the weekday peak hours; however, the STOP controlled egress site driveway approaches to Golf Club Road and Latson Road will operate at a LOS F during the outbound peak 15-minute period.
12. Review of network simulations indicate a long vehicle queue on the site driveway approach to Golf Club Road during the outbound peak 15-minute period; however, the duration and length of this queue is reduced as compared to Alternative A. On the site driveway approach to Latson Road, the 95th percentile queue length is calculated to be 152 feet (six vehicles), which is not significant given the intensity of traffic utilizing this approach over a short duration of time. Therefore, the proposed development does not require any off-site roadway or traffic control improvements under Phase II Alternative B build conditions.
13. Queues from the signalized intersection of Latson Road & Golf Club Road would not block the site driveways to Golf Club Road or Latson Road under either Phase I or Phase II build conditions. Additionally, there will be no left-turn conflict along Golf Club Road between EB left turns at Latson Road and WB left turns at the proposed site driveway.
14. Site access Alternative B is recommended under Phase II build conditions as it would provide improved traffic operations for egress traffic from the site and reduce traffic impacts to the Latson Road & Golf Club Road intersection.

Based on the results of this study, the following improvements are recommended:

2023 Phase I Conditions

1. Construct left-turn lane and right-turn taper at proposed driveway to Golf Club Road.

2026 Phase II Alternative A Conditions

1. Construct right-turn lane at proposed driveway to Golf Club Road.
2. Install special timing plans at intersection of Latson Road & Golf Club Road associated with Sunday service times.

2026 Phase II Alternative B Conditions

1. Construct right-turn lane at proposed driveway to Golf Club Road.
2. Construct right-turn taper at proposed driveway to Latson Road.

2.0 Project Overview

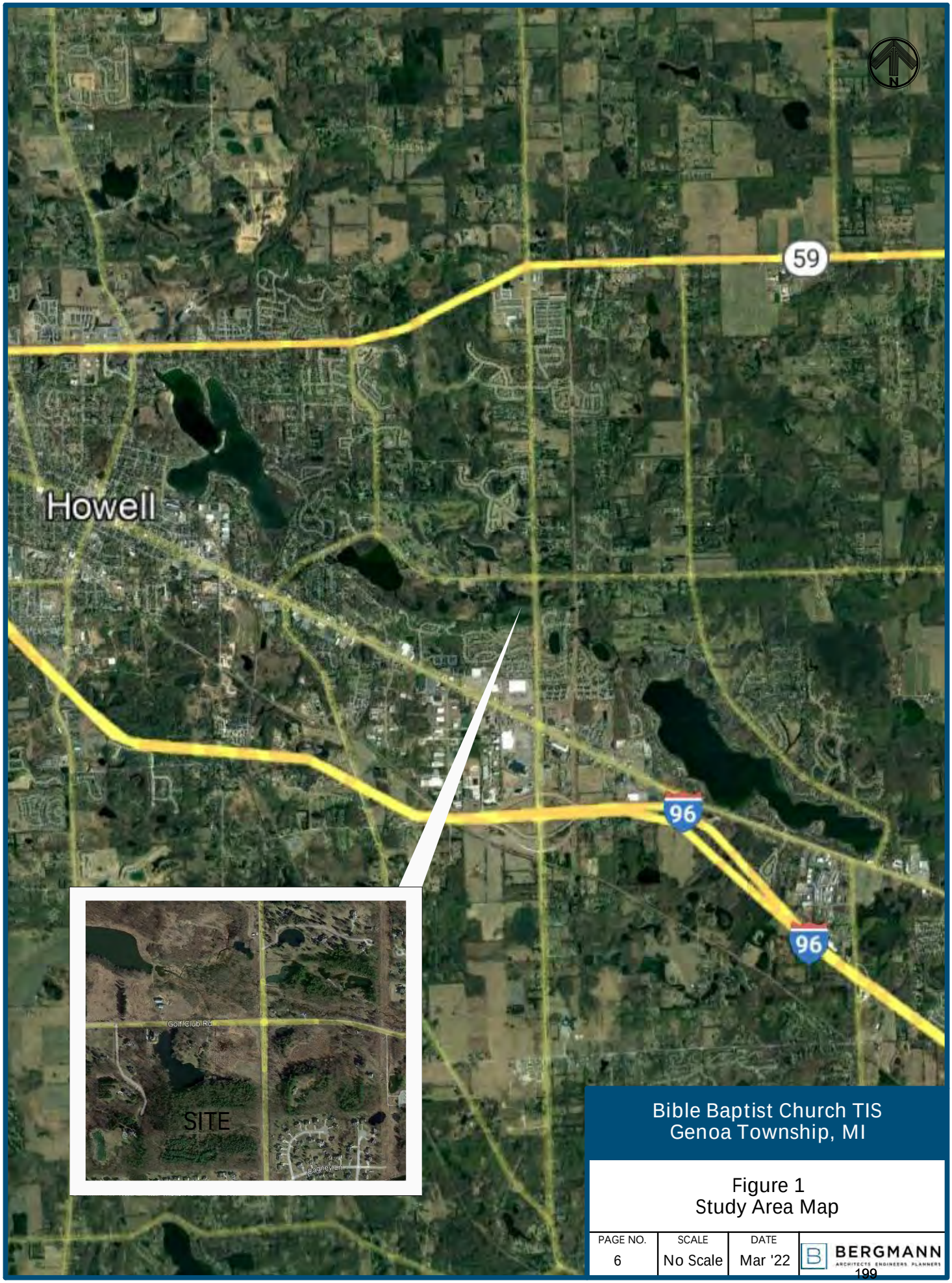
This report presents the methodologies, analyses, results, and recommendations of a Traffic Impact Study (TIS) for the proposed Bible Baptist Church in Genoa Township, Livingston County, Michigan. The project site is located in the southwest quadrant of the Latson Road & Golf Cub Road intersection as shown on **Figure 1,** and is currently vacant. The proposed development plans include construction of a new church over two phases. Phase I would construct a 506-seat church with site access provided via a single driveway to Golf Club Road. Phase II would include an approximately 500-seat expansion with potential for a new right-in-right-out driveway to Latson Road.

Proposed Phase I site operations will include Sunday Church services beginning at 9:00 AM and 11:00 AM in addition to children's activities, small groups, youth ministry, and other meetings occurring during the week. Upon completion of Phase II only one Sunday service is planned to be held at 10:30 AM with no changes to weekday activities. No weekday childcare or school is planned as part of the proposed Church. This TIS will address existing and future traffic conditions during the weekday AM (7:00 AM to 9:00 AM) and PM (4:00 PM to 6:00 PM) peak hours as well as the peak hour during Sunday service times.

Latson Road and Golf Club Road are under jurisdiction of the Livingston County Road Commission (LCRC); whereby access permitting will be subject to LCRC review and standards. Additionally, the project is subject to Township review and standards through the site plan approval process. In accordance with Township and LCRC standards a Traffic Impact Study (TIS) has been required for the project.

The purpose of this study is to identify the traffic related impacts, if any, of the proposed project on the adjacent road network. This study therefore includes analysis of the site access points as well as key off-site intersections surrounding the site. Analysis of the site access points will determine appropriate lane configurations as well as traffic control to process site traffic safely and efficiently. Key off-site intersections are analyzed to determine if new site-generated traffic passing through these locations would require improvements to mitigate any impacted traffic operations.

The scope of this study was developed based on Bergmann's knowledge of the study area, understanding of the development program, accepted traffic engineering practice and information published by the Institute of Transportation Engineers (ITE). Additionally, Bergmann solicited input regarding the proposed scope of work from LCRC. The study analyses were completed using Synchro and SimTraffic, Version 11 traffic analysis software and in accordance with the methodologies and practices published by ITE and the applicable requirements of LCRC. This report is intended for use by LCRC and the Township to guide decisions related to development project approvals, access permitting, and identifying future roadway improvement needs.



Bible Baptist Church TIS
Genoa Township, MI

Figure 1
Study Area Map

PAGE NO.	SCALE	DATE	
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3.0 Roadway Data

3.1 EXISTING ROAD NETWORK

The study intersections are identified below, and the existing lane use, and traffic control is shown on **Figure 2**. Further details on the study roadways are summarized in **Table 1**.

3.1.1 Study Intersections

- Latson Road & Golf Club Road (signalized); and
- The proposed site access drive(s) (unsignalized).

Table 1: Roadway Summary

Roadway Data	Latson Road	Golf Club Road
Functional Class	Minor Arterial	Major Collector
Direction	N - S	E - W
Speed Limit (mph)	55	55
Jurisdiction	LCRC	LCRC
Cross Section	2-Lane	2-Lane
AADT	22,300	7,400
AM Peak Hour Volume	1,400	555
PM Peak Hour Volume	1,915	820

At the intersection of Latson Road & Golf Club Road, a left-turn lane, through lane, and right-turn lane are provided on the NB and SB Latson Road approaches. On the EB and WB Golf Cub Road approaches a left-turn lane and shared through / right-turn lane are provided. The intersection is traffic signal controlled with permissive-protected left-turn phasing provided for the NB approach. Vehicle actuation is provided for all movements at the intersection. No marked crosswalks or pedestrian signals are provided for any legs of the intersection.

3.1.2 Existing Traffic Data

Historic 24-hour turning movement volumes at the intersection of Latson Road & Golf Club Road were obtained from LCRC for all days between November 11th and December 9th, 2021. During this time period, traffic volumes throughout the State of Michigan were impacted by restrictions in place associated with the COVID pandemic. Therefore, historic turning movement count data collected at the intersection on April 2nd, 2019 was also provided by LCRC. Traffic volume data are included in **Appendix A** and baseline traffic volumes were established as detailed in the subsequent sections.

Peak Hour Factors

All data were aggregated in 15-minute intervals to establish the current peak hour traffic volumes and peak hour factors (PHFs). Weekday PHFs at the study intersections were calculated by approach based on the requirements of MDOT's *Electronic Traffic Control Device Guidelines*. However, given the strong peaking characteristics of churches associated with service start and end times, PHFs were calculated by movement during the Sunday analysis periods. In order to determine the PHFs at the proposed site driveways, traffic volumes collected at three existing churches in southeast Michigan were reviewed and indicate an average PHF of 0.45 and 0.40 for entering and exiting traffic, respectively. Therefore, these PHFs were utilized for entering and exiting traffic movements at the site driveways for the Sunday analysis periods. For the weekday analysis periods, a PHF of 0.92 was utilized as traffic associated with weekday uses is less concentrated and more spread-out throughout the hour. For the Sunday build analysis scenarios, PHFs at the intersection of Latson Road & Golf Club Road were recalculated for movements to

and from the site by conservatively assuming the peak 15-minutes associated with Church traffic would coincide with the existing peak 15-minutes at the intersection.

Heavy Vehicle Percentage

Commercial truck percentages from the April, 2019 turning movement count were utilized during the weekday AM and PM peak hour and calculated by approach. For the Sunday analysis periods a default commercial truck percentage of 2% was utilized as truck data was not available.

Weekday Volumes

Weekday (Monday – Friday) AM and PM peak hour volumes were calculated for all days between November 11th and December 9th. This data was reviewed and any days which did not represent normal travel volumes and conditions were removed. The remaining days were averaged together to establish 2021 peak hour volumes. The 2021 peak hour volume was than compared to the pre-COVID 2019 turning movement count to determine if any volume adjustments were necessary. This comparison indicates similar overall traffic volumes at the intersection; however, some of the turning movement patterns have changed, particularly along the NB approach during the PM peak hour.

Commuting patterns through this area favor traffic traveling to the south and east during the morning peak hour and traffic traveling to the north and west during the afternoon peak hour. In mid to late 2019 improvements were made at the M-59 & Eager Road intersection which included widening of the Eager Road approaches to provide left turn lanes and installation of a traffic signal. This improved operations and safety for left turns at the intersection and made the shorter route of Golf Club Road to Eager Road more viable for traffic traveling from Latson Road south of Golf Club Road wishing to travel west on M-59. As such the shift in traffic patterns along the NB approach during the PM peak hour is likely attributed to these improvements.

Therefore, baseline traffic volumes for this study were established by taking the higher of the two volumes between the 2021 average and April, 2019 count for all turning movements during the peak hours with the exception of the NB approach during the PM peak hour. For this approach, the higher 2019 total approach volume was utilized and applied to the 2021 turning movement proportions along the approach. The resulting baseline weekday peak hour volumes are summarized on **Figure 3.**

Sunday Volumes

For Phase I, the peak hour will occur between services from 10:00 AM to 11:00 AM when vehicles from the first service are leaving and vehicles for the second service are arriving. For Phase II, the peak hour will occur after the lone service from 11:30 AM to 12:30 PM. Therefore, Sunday traffic volume data between 9:45 AM and 11:45 AM was utilized to establish Phase I peak hour volumes and traffic volume data between 11:30 AM and 1:00 PM was utilized to establish Phase II peak hour volumes and account for any potential shifts of service times in the future.

Peak hour volumes for each phase were calculated for all Sundays between November 11th and December 9th. Data was reviewed and any days which did not represent normal travel volumes and conditions were removed. Baseline traffic volumes were then conservatively established by taking the highest volume amongst all Sundays for each turning movement at the intersection. The resulting baseline Sunday peak hour volumes are summarized on **Figure 4.**

3.1.3 Analysis Methodologies

The performance of the study intersections was evaluated through a qualitative measure of operating conditions called Levels of Service (LOS). Six LOS are defined with letter designations from A to F with LOS A representing minimal delay, and LOS F indicating failing conditions. Typically, LOS D is considered acceptable in suburban/urban areas.

The LOS measurement for both signalized and unsignalized intersections is average control delay, which is quantified in terms of seconds of delay per vehicle. Control delay includes deceleration delay, stopped delay, queue move-up delay, and acceleration delay. The LOS criteria for unsignalized and signalized intersections taken from the HCM are included in **Appendix B**.

The operational analyses of all study intersections were performed using Synchro, Version 11 traffic analysis software. Synchro 11 is a software package used for modeling, optimizing, and simulating traffic systems. The LOS and delay calculations are based on the procedures and methodologies outlined in the Transportation Research Board's *Highway Capacity Manual, 6th Edition* (HCM6) which sets forth nationally accepted standards regarding traffic operations and capacity analysis.

In accordance with the HCM6, the capacity analysis is based on an evaluation of the peak 15-min period during the hour. Church time-of-day patterns and traffic volumes from three churches in southeast Michigan are summarized in **Chart 1** and indicate approximately 80% of outbound traffic occurs in the first 30-minutes after service has ended while approximately 85% of inbound traffic occurs in the 30-minutes prior to the service start time. Based on the proposed one-hour separation between the end of the first service and beginning of the second service, there will be minimal overlap between entering and exiting traffic volumes in the peak 15-minutes associated with each service. As such, analysis of a single time period with all forecast inbound and outbound traffic and application of PHFs previously identified would provide an overprediction of demand and delay.

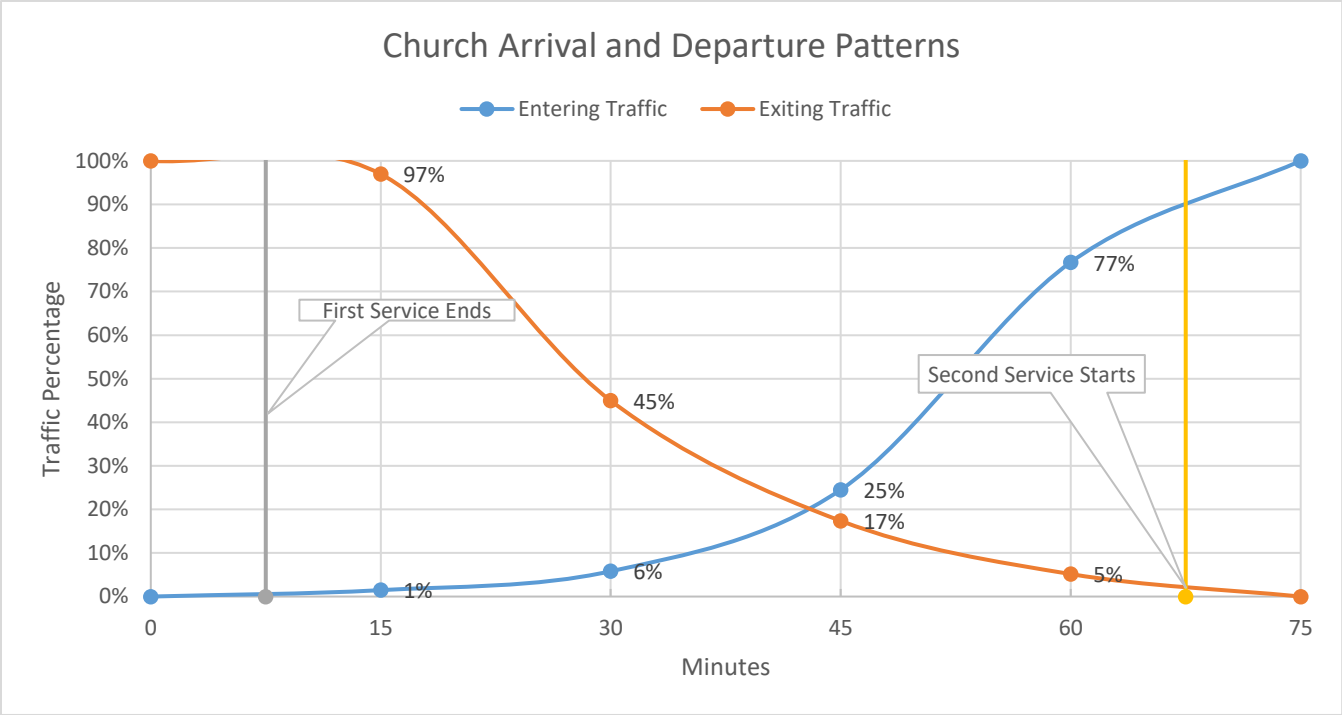
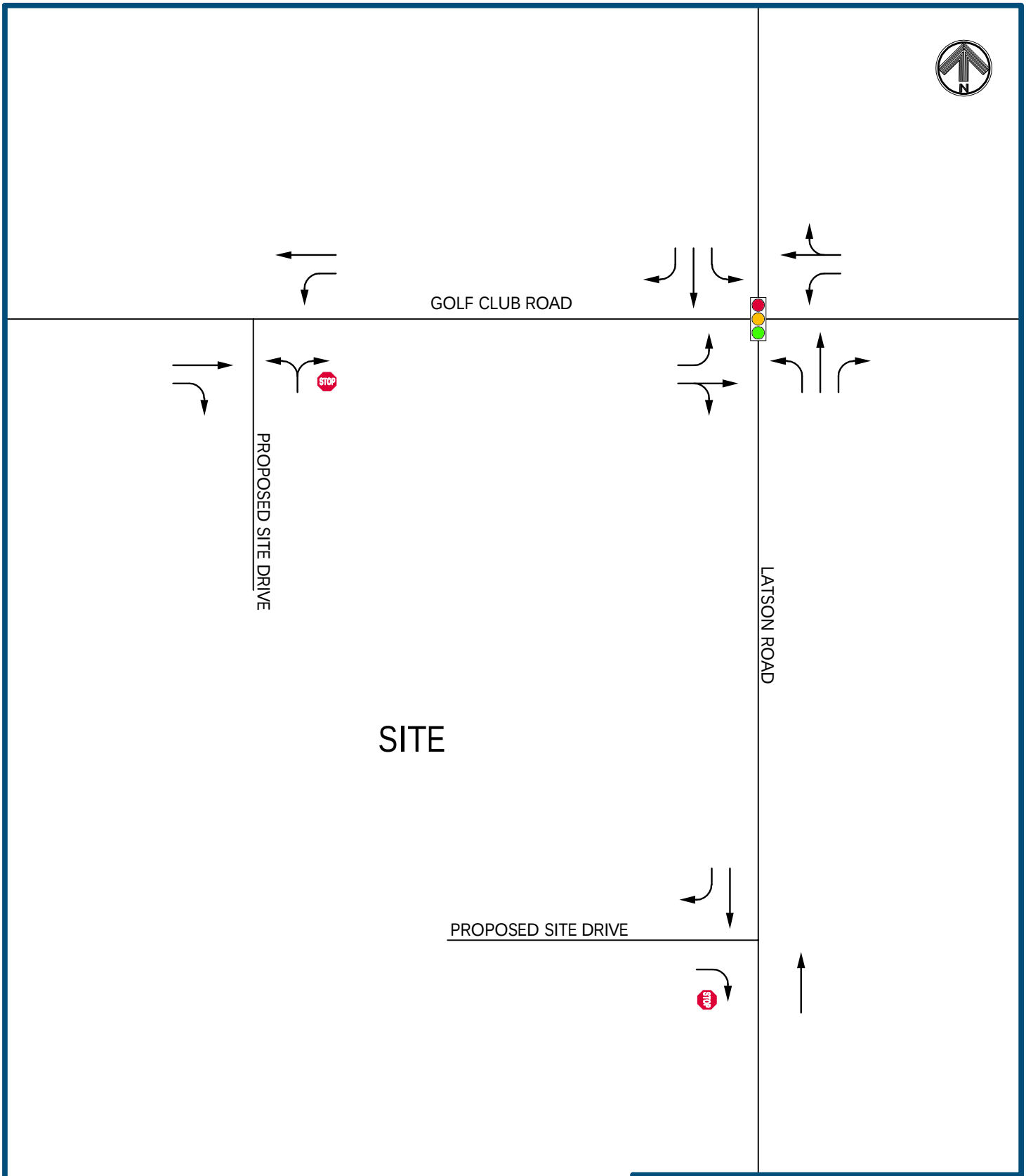


Chart 1: Church Arrival and Departure Patterns

In order to analyze two different 15-minute intervals, a separate inbound and outbound analysis scenario was completed for Phase I. For each scenario, only 20% of traffic in the non-peak direction was assumed to overlap with the peak direction being analyzed. This same approach was utilized for the Phase II analysis and accounts for a second Phase II service in the future should one ever be added.

Queue length calculations were conducted using SimTraffic, Version 11 software. The existing conditions SimTraffic models were calibrated in accordance with the procedures outlined in the MDOT *Electronic Traffic Control Device Guidelines*.



Bible Baptist Church TIS
Genoa Township, MI

Figure 2
Lane Use and Traffic Control

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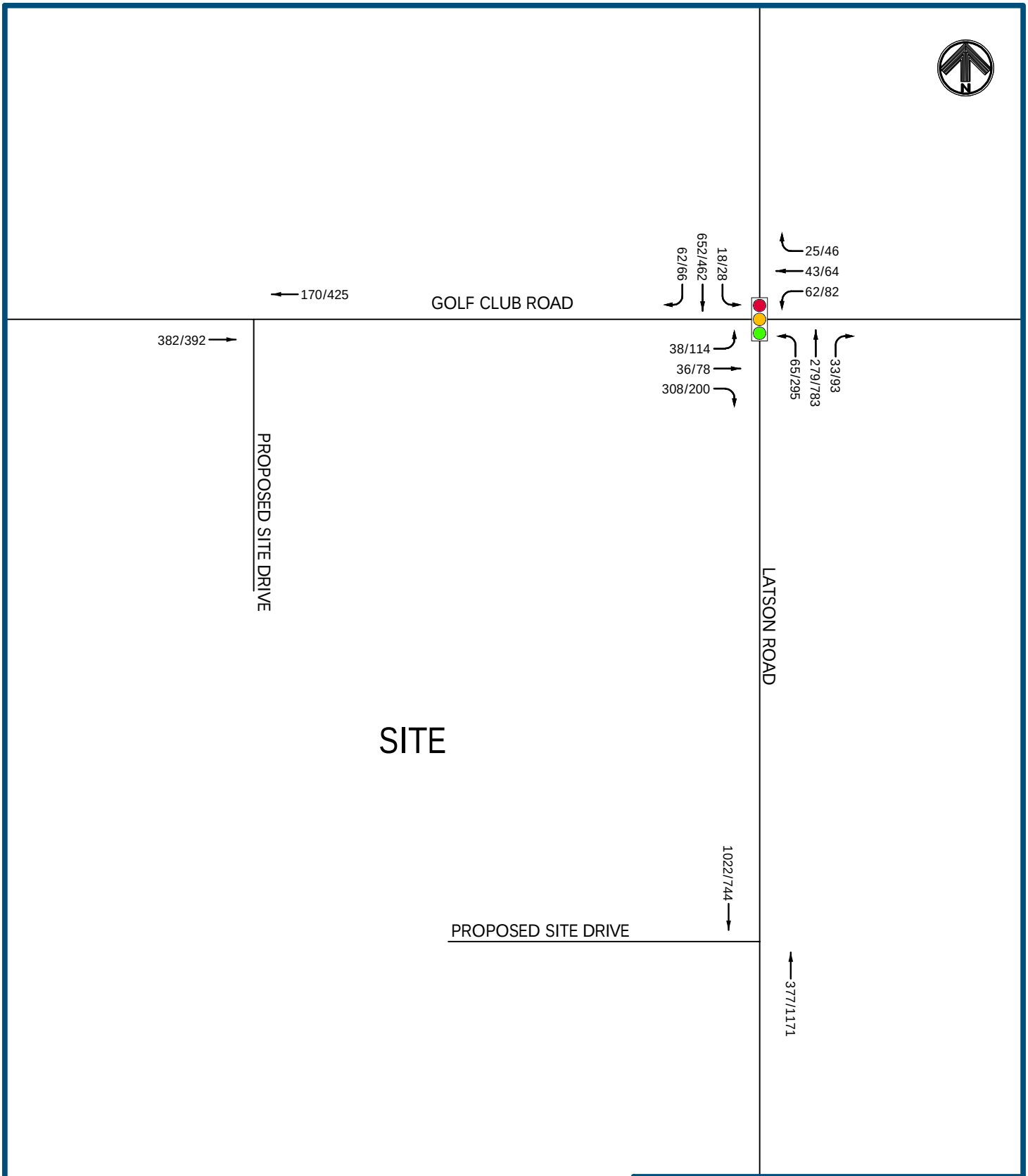

###/### AM/PM PEAK HOUR VOLUME

Bible Baptist Church TIS
Genoa Township, MI

Figure 3
Existing Weekday Traffic Volumes

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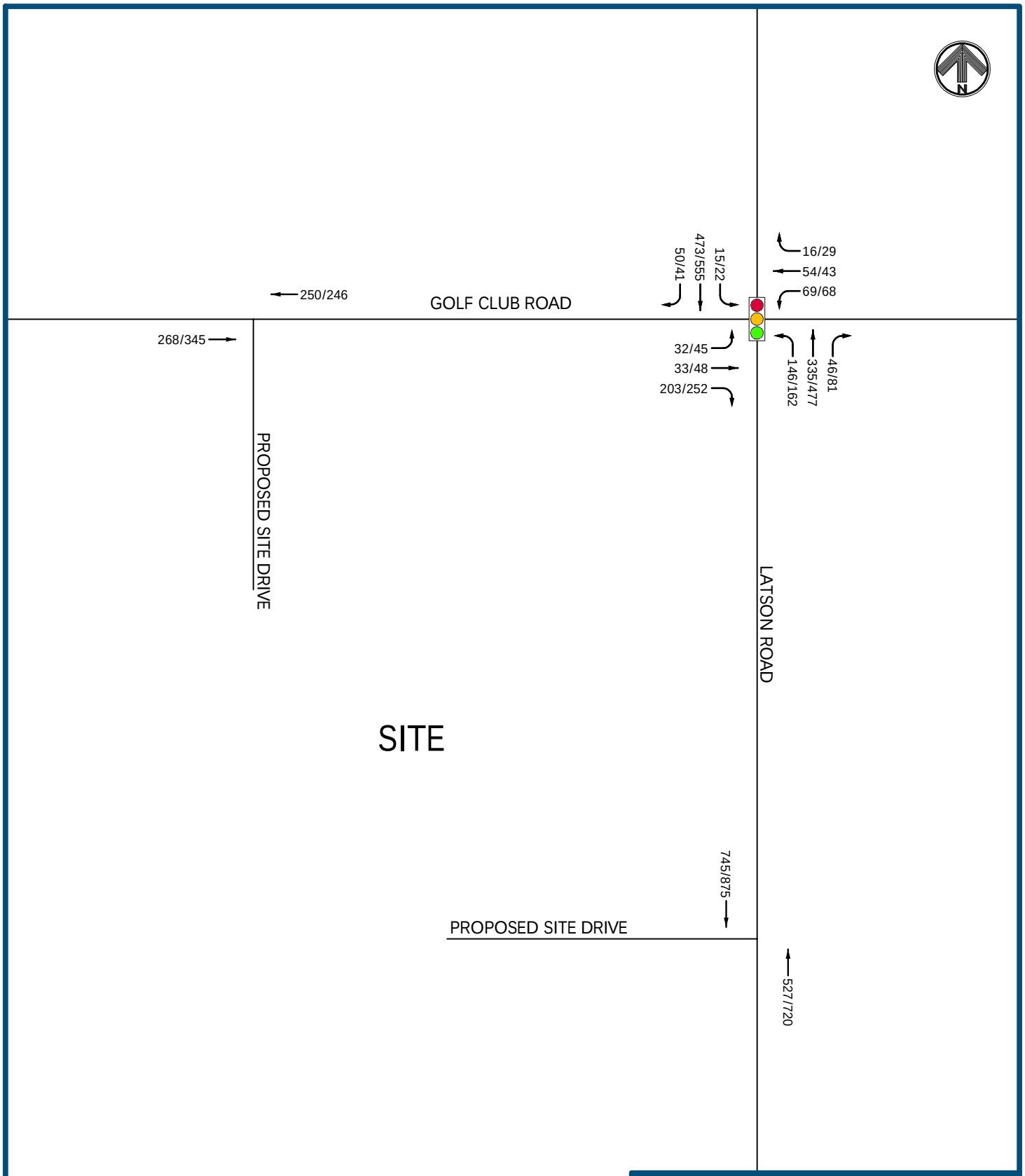

###/### SUN PHASE I/SUN PHASE II PEAK HOUR VOLUME

Bible Baptist Church TIS
Genoa Township, MI

Figure 4
Existing Sunday Traffic Volumes

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4.0 Existing Traffic Conditions Analysis

4.1 EXISTING TRAFFIC CONDITIONS

Existing peak hour vehicle delays and LOS were calculated at the study intersections based on the existing lane configurations and traffic control shown on **Figure 2**, the existing traffic volumes shown on **Figure 3,** and the methodologies presented in the HCM6.

The HCM6 methodology conservatively assumes a right-turn-on-red flow rate of zero vehicles in cases where it is not explicitly known from field data. As the EB Golf Club Road approach has a high-volume of right-turning vehicles and low volume of through vehicles, field reviews were conducted to determine a right-turn-on-red flow rate. During field reviews, between two and three vehicles per cycle were observed turning right on red for this approach during the AM and SUN peak hour and between one and two vehicles per cycle were observed turning right on red during the PM peak hour. Therefore, based on the field observations and the intersection cycle length currently in operation during the peak periods, a right-turn-on-red flow rate of 75 vehicles per hour was utilized for the AM and SUN peak hour and 50 vehicles per hour was utilized during the PM peak hour.

Simulations of the study network were also observed using SimTraffic, in order to identify potential issues related to vehicle queuing, traffic flow between intersections, and the overall study network. The results of the analysis of existing conditions are presented in **Appendix B**, summarized in **Table 2** and described in further detail below.

Table 2: Existing 2021 Traffic Conditions

Intersection	Control	Approach	Movement	Existing Conditions							
				AM Peak		PM Peak		SUN Phase I		SUN Phase II	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Latson Road & Golf Club Road	Signal	EB	Left	23.0	C	26.4	C	20.9	C	22.6	C
			Thru/Right	30.2	C	26.4	C	21.1	C	23.5	C
		WB	Left	34.6	C	32.6	C	25.2	C	29.0	C
			Thru/Right	21.2	C	21.3	C	19.1	B	20.3	C
		NB	Left	16.0	B	22.4	C	12.8	B	15.1	B
			Thru	9.1	A	14.5	B	7.4	A	9.2	A
			Right	7.7	A	8.0	A	6.0	A	7.0	A
		SB	Left	13.3	B	24.7	C	12.6	B	14.1	B
			Thru	24.7	C	25.8	C	19.0	C	21.6	C
			Right	13.6	B	17.8	B	12.9	B	14.0	B
		Overall		**21.9**	**C**	**20.8**	**C**	**15.5**	**B**	**17.1**	**B**

The results of the existing conditions analysis indicate that all approaches and movements at the intersection of Latson Road & Golf Club Road currently operate acceptably at a LOS C or better during the peak hours. Observation of peak hour simulations also indicate acceptable traffic operations during the peak hours with vehicles processed during each signal cycle and significant vehicle queues are not observed. Furthermore, SimTraffic vehicle delays for the EB shared through/right-turn lane are calculated to be 20.6, 27.0, 13.1, and 17.9 seconds per vehicle during the AM, PM, SUN Phase I, and SUN Phase II peak hours, respectively, validating the field reviews and right-turn-on-red flow rates utilized for this approach.

5.0 No-Build Traffic Conditions Analysis

Traffic impact studies typically include an evaluation of traffic operations in the future as they would be without the proposed development. This no-build condition serves to identify any mitigation that may be required, regardless of the project, and as a baseline for comparison of future buildout conditions. This scenario is comprised of existing traffic conditions, plus ambient traffic growth, plus traffic from approved developments in the study area that have

yet to be constructed. At the time of the 2021 traffic counts the following developments were identified within the study area and immediate vicinity that have yet to be constructed or were currently under construction:

1. Versa Mixed-Use Development
2. Westbury Phase II Residential Development

The vehicle trips that would be generated by the background developments were assigned to the study intersections based on the respective traffic study completed for each development. Where a traffic study was not completed for the development or the traffic study did not include the same intersections as this study, the number of vehicle trips was forecast based on data published by ITE in *Trip Generation, 11th Edition* and assigned to the study road network based on existing traffic patterns.

In addition to background developments, an ambient growth factor is applied to existing traffic volumes to account for future projects in the study area and population increases, as well as growth in regular traffic volumes due to development projects outside the study area. The recent construction of the I-96 & Latson Road interchange has resulted in significant changes in traffic patterns throughout the study area. As a result, historical traffic volumes do not provide an accurate representation of traffic growth in the area. Therefore, publicly available data from the Southeast Michigan Council of Governments (SEMCOG), including population and employment forecasts for Genoa Township were referenced.

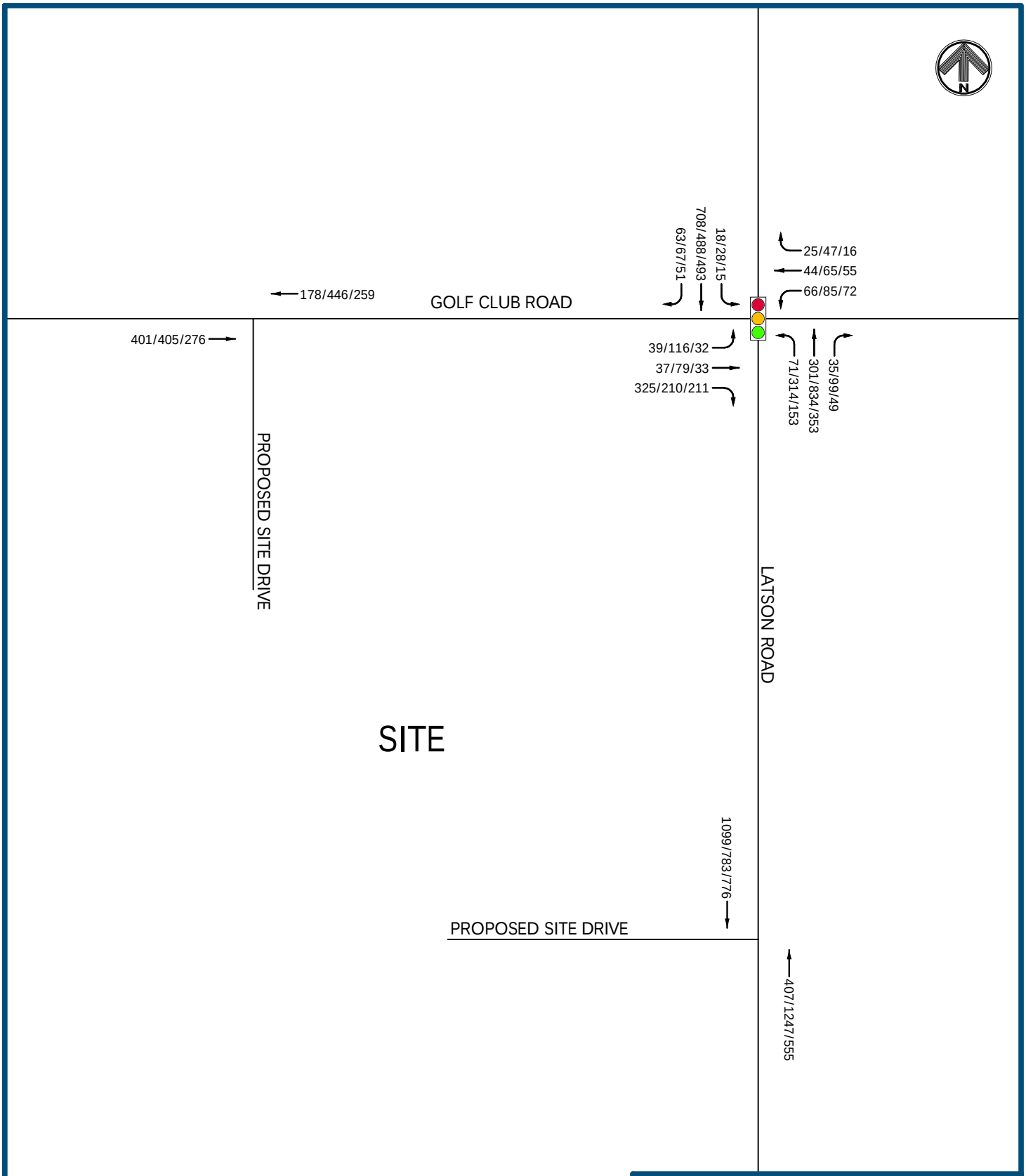
Table 3: SEMCOG Community Annual Growth Summary

Community	Measure	2015	2045	Growth
Genoa Township	Employment	12,072	13,534	0.38%
	Population	20,815	32,907	1.54%
Howell	Employment	10,365	11,527	0.35%
	Population	9,489	11,256	0.57%
Brighton	Employment	10,791	12,425	0.47%
	Population	17,791	21,883	0.69%
Brighton Township	Employment	10,772	12,986	0.63%
	Population	7,444	12,127	1.64%
AVERAGE				**0.78%**

The SEMCOG data indicates annual population and employment growths ranging from 0.35% to 1.64% between 2015 and 2045 as shown in **Table 3**. Therefore, an ambient background growth rate of 0.75% per year was utilized for this study. The ambient growth rate and trips from the background developments were applied to the existing 2021 traffic volumes to forecast the future 2023 and 2026 no-build traffic volumes ***without the proposed development.*** The resultant 2023 and 2026 no-build traffic volumes are summarized on **Figure 5** and **Figure 6**, respectively.

5.1 2023 NO-BUILD TRAFFIC CONDITIONS

2023 no-build peak hour vehicle delays and LOS were calculated at the study intersections based on the existing lane configurations and traffic control shown on **Figure 2**, the 2023 no-build traffic volumes shown on **Figure 5,** and the methodologies presented in the HCM6. The results of the analysis of 2023 no-build conditions are presented in **Appendix C**, summarized in **Table 4** and described in further detail below.



###/###/### AM/PM/SUN PEAK HOUR VOLUME

Bible Baptist Church TIS
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Figure 5
2023 Phase I No-Build Traffic Volumes

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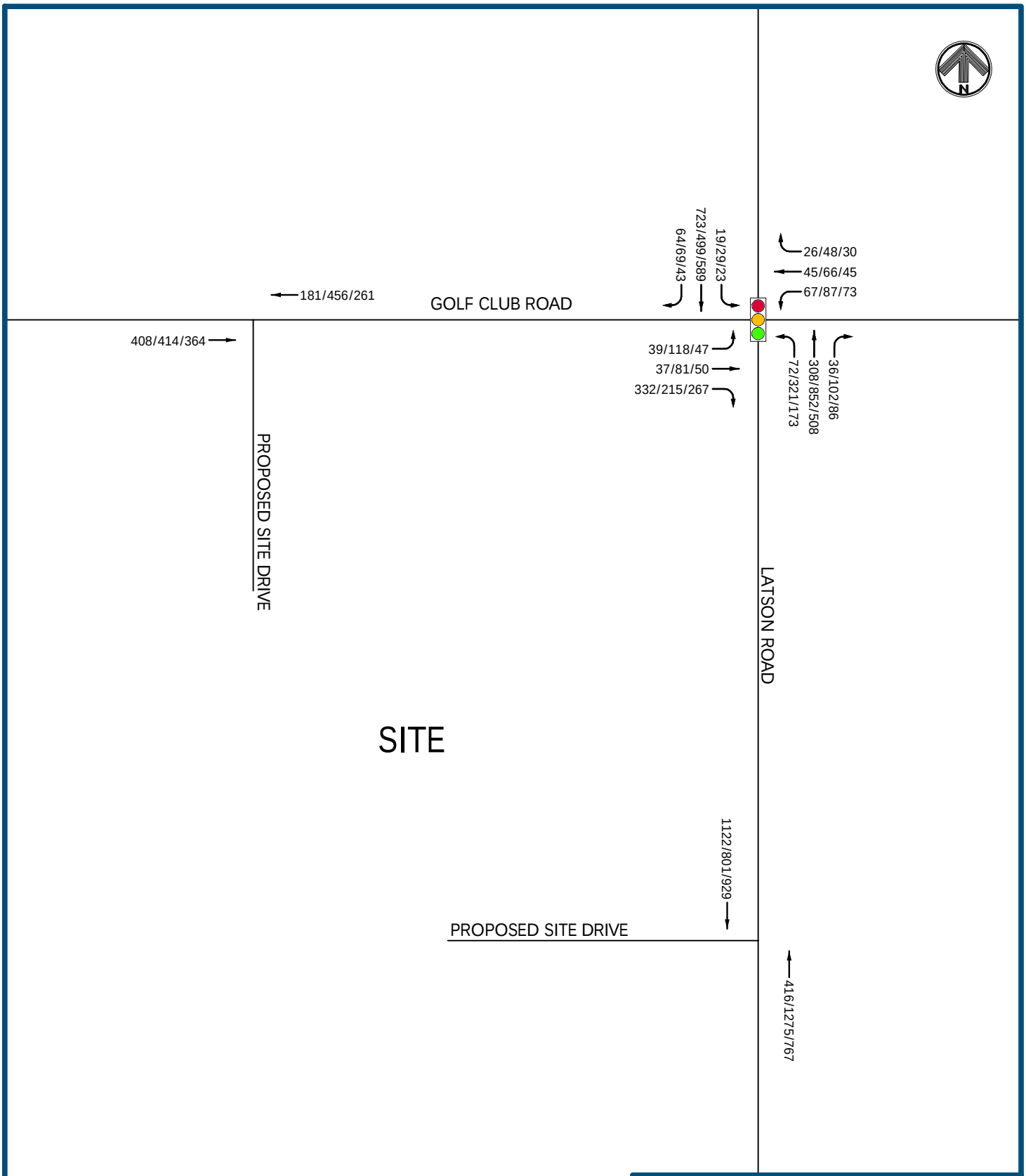

###/### AM/PM/SUN PEAK HOUR VOLUME

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Figure 6
2026 Phase II No-Build Traffic Volumes

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Table 4: 2023 No-Build Traffic Conditions

Intersection	Control	Approach	Movement	AM Peak				PM Peak				SUN Peak			
				Existing		No-Build		Existing		No-Build		Existing		No-Build	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Latson Road & Golf Club Road	Signal	EB	Left	23.0	C	25.2	C	26.4	C	28.1	C	20.9	C	21.4	C
			Thru/Right	30.2	C	38.5	D	26.4	C	29.4	C	21.1	C	21.7	C
		WB	Left	34.6	C	41.6	D	32.6	C	35.8	D	25.2	C	26.2	C
			Thru/Right	21.2	C	23.1	C	21.3	C	22.5	C	19.1	B	19.6	B
		NB	Left	16.0	B	17.0	B	22.4	C	26.9	C	12.8	B	13.6	B
			Thru	9.1	A	8.8	A	14.5	B	15.7	B	7.4	A	7.8	A
			Right	7.7	A	7.3	A	8.0	A	7.9	A	6.0	A	6.2	A
		SB	Left	13.3	B	12.7	B	24.7	C	27.2	C	12.6	B	13.0	B
			Thru	24.7	C	27.0	C	25.8	C	26.5	C	19.0	C	20.0	C
			Right	13.6	B	13.0	B	17.8	B	17.9	B	12.9	B	13.2	B
		Overall		**21.9**	**C**	**24.8**	**C**	**20.8**	**C**	**22.5**	**C**	**15.5**	**B**	**16.2**	**B**

The results of the 2023 no-build conditions analysis indicate that all approaches and movements at the intersection of Latson Road & Golf Club Road will continue to operate acceptably at a LOS D or better during the peak hours. Observation of network simulations also indicate acceptable traffic operations during the peak hours with vehicles processed during each signal cycle and significant vehicle queues are not observed.

5.2 2026 NO-BUILD TRAFFIC CONDITIONS

2026 no-build peak hour vehicle delays and LOS were calculated at the study intersections based on the existing lane configurations and traffic control shown on **Figure 2**, the 2026 no-build traffic volumes shown on **Figure 6,** and the methodologies presented in the HCM6. The results of the analysis of 2026 no-build conditions are presented in **Appendix C**, summarized in **Table 5** and described in further detail below.

Table 5: 2026 No-Build Traffic Conditions

Intersection	Control	Approach	Movement	AM Peak				PM Peak				SUN Peak			
				Existing		No-Build		Existing		No-Build		Existing		No-Build	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Latson Road & Golf Club Road	Signal	EB	Left	23.0	C	25.8	C	26.4	C	29.0	C	22.6	C	24.1	C
			Thru/Right	30.2	C	42.4	D	26.4	C	31.4	C	23.5	C	25.7	C
		WB	Left	34.6	C	45.6	D	32.6	C	38.5	D	29.0	C	32.0	C
			Thru/Right	21.2	C	23.7	C	21.3	C	23.1	C	20.3	C	21.6	C
		NB	Left	16.0	B	17.3	B	22.4	C	29.1	C	15.1	B	17.0	B
			Thru	9.1	A	8.7	A	14.5	B	16.1	B	9.2	A	10.0	B
			Right	7.7	A	7.2	A	8.0	A	7.8	A	7.0	A	7.5	A
		SB	Left	13.3	B	12.6	B	24.7	C	28.1	C	14.1	B	14.8	B
			Thru	24.7	C	27.6	C	25.8	C	26.6	C	21.6	C	23.4	C
			Right	13.6	B	12.9	B	17.8	B	17.8	B	14.0	B	14.7	B
		Overall		**21.9**	**C**	**26.0**	**C**	**20.8**	**C**	**23.4**	**C**	**17.1**	**B**	**18.6**	**B**

The results of the 2026 no-build conditions analysis indicate that all approaches and movements at the intersection of Latson Road & Golf Club Road will continue to operate acceptably at a LOS D or better during the peak hours. Observation of network simulations also indicate acceptable traffic operations during the peak hours with vehicles processed during each signal cycle and significant vehicle queues are not observed.

6.0 2023 Phase I Build Conditions Analysis

Phase I of the development plan is proposed to include a 506-seat church with site access provided via a single driveway to Golf Club Road.

6.1 SITE TRIP GENERATION

The number of AM, PM, and SUN peak hour vehicle trips that would be generated by the proposed development was forecast based on data published by ITE in *Trip Generation, 11th Edition*. The ITE land use that most closely matches the operations of the proposed development is *Land Use #560, Church*. The ITE trip generation forecast for the Sunday peak hour indicates an almost equal number of entering and exiting trips. This indicates that the data was likely collected at churches with multiple service times where the peak hour occurs between services. The ITE trip generation forecast for Phase I is summarized in **Table 6**.

Table 6: Phase I ITE Site Trip Generation

Land Use	ITE Code	Amount	Units	Average Daily Traffic	AM Peak Hour			PM Peak Hour			SUN Peak Hour		
					In	Out	Total	In	Out	Total	In	Out	Total
Church	560	506	Seats	454	21	14	35	23	28	51	121	125	246

As Phase I is proposed to include two services, this data provides a good forecast of Phase I operations; however, as previously discussed, there will be minimal overlap between entering and exiting traffic volumes in the peak 15-minutes based on the one-hour separation between the end of the first service and beginning of the second service. Analysis of a single time period with all forecast inbound and outbound traffic and application of PHFs previously identified would provide an overprediction of demand and delay. Therefore, separate inbound and outbound analysis scenarios were analyzed. For each scenario, only 20% of traffic in the non-peak direction was assumed to overlap with the peak direction being analyzed. The resulting Phase I site trip generation forecast utilized for each Sunday analysis scenario is summarized in **Table 7.**

Table 7: Phase I Sunday Site Trip Generation

Land Use	ITE Code	Amount	Units	SUN INBOUND Peak			SUN OUTBOUND PEAK		
				In	Out	Total	In	Out	Total
Church	560	506	Seats	121	25	146	24	125	149

6.2 TRAFFIC ASSIGNMENTS

The vehicle trips that would be generated by the proposed development were assigned to the study road network based on existing peak hour traffic patterns, zip code data provided by the Church for existing members, and ITE methodologies. These methods indicate that new trips will return to their direction of origin. The zip code data was reviewed in combination with available routes to/from the proposed site. The resulting trip distribution utilized in this study is summarized in **Table 8.**

Table 8: Site Trip Distribution

To/From	Via	AM/PM/SUN
North	Latson Road	15%
South	Latson Road	30%
East	Golf Club Road	5%
West	Golf Club Road	50%
TOTAL		100%

As only one driveway is proposed for Phase I, all trips were assigned to enter and exit the site via Golf Club Road. The site-generated vehicle trips were assigned to the study network as shown on **Figure 7**. These trips were added

to the 2023 no-build traffic volumes shown on **Figure 5** to calculate the future build traffic volumes shown on **Figure 8**.

6.3 AUXILIARY LANE ANALYSIS

In order to determine the configuration of the proposed site driveway with Golf Club Road, warrants for right and left-turn lanes were evaluated in accordance with the LCRC *Specifications and Administrative Rules Regulating Driveways, Road Approaches, Banners and Parades on and Over Highways*. LCRC does not publish warranting criteria for right-turn lanes, so the MDOT right-turn lane warrant outlined in Section 1.1.4 of the *Geometric Design Guidance* was utilized. Evaluation of the forecast site traffic volume assignments versus warranting criteria indicate a left turn lane and right-turn taper only is warranted at the proposed site driveway to Golf Club Road under Phase I. Due to the required length of storage and taper, the left turn lane for the site driveway should tie in full width to the existing left turn lane at the Latson Road intersection. The applicable warrant evaluations are included in **Appendix D**.

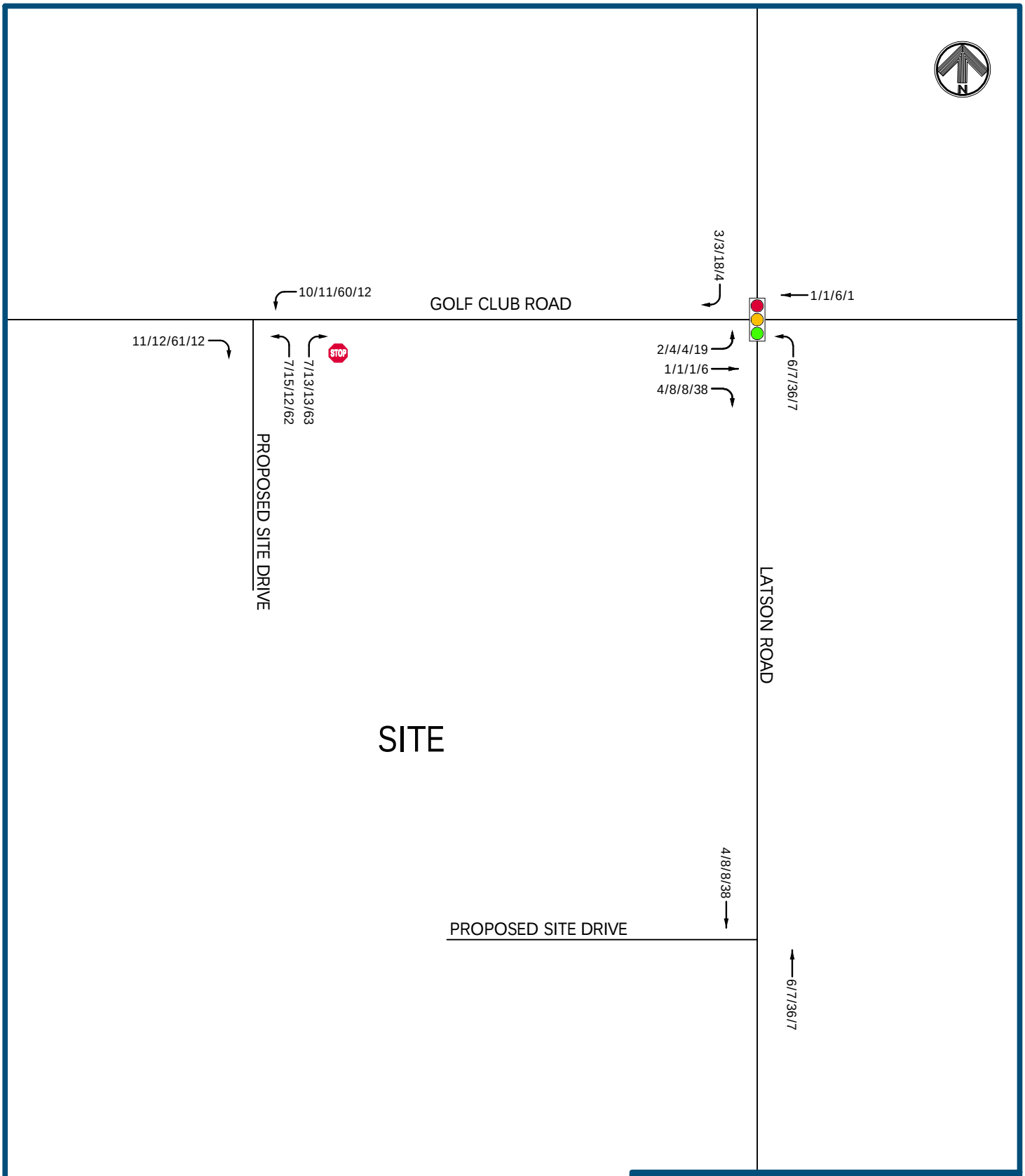
6.4 2023 PHASE I BUILD TRAFFIC CONDITIONS

Future 2023 phase I build peak hour vehicle delays and LOS ***with the proposed development*** were calculated based on existing lane configurations and traffic control shown on **Figure 2**, 2023 build traffic volumes shown on **Figure 8**, and HCM methodologies. SimTraffic simulations were also utilized to evaluate traffic flow and vehicle queues throughout the study network. The 2023 phase I build conditions results are included in **Appendix D** and summarized in **Table 9** and **Table 10**.

The results of the build conditions analysis indicate that the proposed development will not have a significant impact on the adjacent road network. All approaches and movements at the signalized intersection of Latson Road & Golf Club Road will continue to operate at a LOS D or better during all peak hour analysis scenarios and minor increases in delay will not be discernable. Additionally, all approaches and movements at the proposed site driveway to Golf Club Road will operate acceptably at a LOS C or better.

Table 9: 2023 Phase I Build Traffic Conditions - Weekday

Intersection	Control	Approach	Movement	AM Peak				PM Peak			
				No-Build		Phase I Build		No-Build		Phase I Build	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Latson Road & Golf Club Road	Signal	EB	Left	25.2	C	25.7	C	28.1	C	28.6	C
			Thru/Right	38.5	D	40.1	D	29.4	C	31.0	C
		WB	Left	41.6	D	43.0	D	35.8	D	37.6	D
			Thru/Right	23.1	C	23.2	C	22.5	C	22.7	C
		NB	Left	17.0	B	17.2	B	26.9	C	28.2	C
			Thru	8.8	A	8.8	A	15.7	B	15.6	B
			Right	7.3	A	7.3	A	7.9	A	7.9	A
		SB	Left	12.7	B	12.8	B	27.2	C	27.1	C
			Thru	27.0	C	27.1	C	26.5	C	26.6	C
			Right	13.0	B	13.1	B	17.9	B	18.0	B
		Overall		**24.8**	**C**	**25.2**	**C**	**22.5**	**C**	**23.0**	**C**
Golf Club Road & Site Drive	STOP (Minor)	EB	Thru/Right	Free		Free		Free		Free	
		WB	Left			8.4	A			8.6	A
			Thru	Free		Free		Free		Free	
		NB	Left/Right			13.0	B			17.0	C



###/###/###/### AM/PM/SUN IN/SUN OUT PEAK HOUR VOLUME

Bible Baptist Church TIS
Genoa Township, MI

Figure 7
Phase I Site Generated Traffic Volumes

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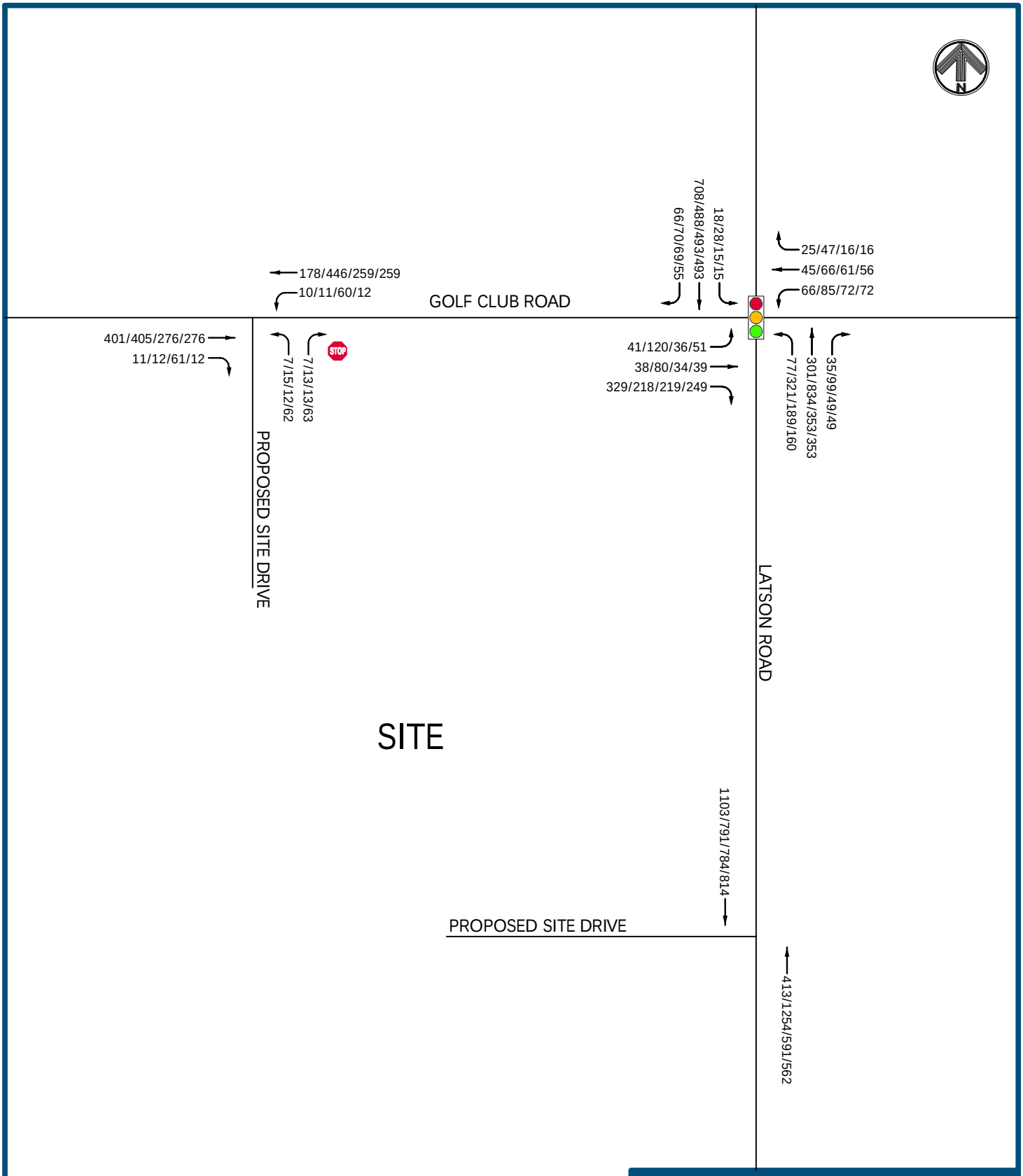

###/###/###/### AM/PM/SUN IN/SUN OUT PEAK HOUR VOLUME

Bible Baptist Church TIS
Genoa Township, MI

Figure 8
2023 Phase I Build Traffic Volumes

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Table 10: 2023 Phase I Build Traffic Conditions - Sunday

Intersection	Control	Approach	Movement	SUN Peak					
				No-Build		Build INBOUND		Build OUTBOUND	
				Delay	LOS	Delay	LOS	Delay	LOS
Latson Road & Golf Club Road	Signal	EB	Left	21.4	C	24.9	C	24.1	C
			Thru/Right	21.7	C	24.7	C	26.6	C
		WB	Left	26.2	C	30.5	C	32.5	C
			Thru/Right	19.6	B	22.1	C	20.6	C
		NB	Left	13.6	B	19.5	B	18.2	B
			Thru	7.8	A	8.2	A	9.9	A
			Right	6.2	A	6.6	A	8.0	A
		SB	Left	13.0	B	15.2	B	16.3	B
			Thru	20.0	C	23.3	C	25.0	C
			Right	13.2	B	16.2	B	17.0	B
		Overall		**16.2**	**B**	**19.0**	**B**	**20.4**	**C**
Golf Club Road & Site Drive	STOP (Minor)	EB	Thru/Right	Free		Free		Free	
		WB	Left			8.8	A	8.1	A
			Thru	Free		Free		Free	
		NB	Left/Right			16.2	C	23.4	C

Review of peak hour simulations also indicate future build traffic operations which are similar to no-build conditions with significant vehicle queues not observed. Vehicle queue lengths from the signalized intersection of Latson Road & Golf Club Road were also calculated and evaluated with respect to the proposed driveway located approximately 650 feet west of Latson Road. The results of this evaluation indicate a 95th percentile queue length of 237 feet or less during all peak hours for the EB approach which would not extend back past the proposed site driveway. Additionally, the EB left-turn movement from Golf Club Road onto Latson Road and WB left-turn movement into the proposed site driveway would experience a combined 95th percentile queue length of 161 feet or less during the peak hours which would not result in any left-turn conflict. Therefore, the proposed development does not require any off-site roadway or traffic control improvements under Phase I build conditions.

7.0 2026 Phase II Build Conditions Analysis

Phase II of the development plan is proposed to expand the church to 1,000 seats. The following two site access alternatives were analyzed for Phase II:

1. Alternative A: Site access provided via a single driveway to Golf Club Road.
2. Alternative B: Site access provided via one driveway to Golf Club Road and a right-in-right-out driveway to Latson Road.

7.1 SITE TRIP GENERATION

The number of AM, PM, and SUN peak hour vehicle trips that would be generated by the proposed development was forecast utilizing the methodologies and assumptions discussed for Phase I. The ITE trip generation forecast for Phase II is summarized in **Table 11**.

Table 11: Phase II ITE Site Trip Generation

Land Use	ITE Code	Amount	Units	Average Daily Traffic	AM Peak Hour			PM Peak Hour			SUN Peak Hour		
					In	Out	Total	In	Out	Total	In	Out	Total
Church	560	1,000	Seats	913	42	28	70	45	55	100	249	259	508

Phase II is planned to only include one service at this time; however, a second service may be added at some point in the future. Therefore, separate inbound and outbound analysis scenarios were once again analyzed for Phase II. For each scenario, only 20% of traffic in the non-peak direction was assumed to overlap with the peak direction being analyzed. The resulting Phase II site trip generation forecast utilized for each Sunday analysis scenario is summarized in **Table 12.**

Table 12: Phase I Sunday Site Trip Generation

Land Use	ITE Code	Amount	Units	SUN IN Peak Hour			SUN OUT Peak Hour		
				In	Out	Total	In	Out	Total
Church	560	1,000	Seats	249	52	301	50	259	309

7.2 TRAFFIC ASSIGNMENTS

The vehicle trips that would be generated by the proposed development were assigned to the study road network based on the trip distribution methodologies and assumptions developed for Phase I and summarized in **Table 8.** For Phase II Alternative A, all trips were assigned to enter and exit the site via Golf Club Road. For Phase II Alternative B, all egress traffic to the south on Latson Road was assigned to utilize the RIRO driveway. All remaining outbound traffic was assigned to the Golf Club Road driveway. For inbound, all traffic from the north was assigned to the RIRO driveway while all traffic from the south, east, and west was assigned to the Golf Club Road driveway. The site-generated vehicle trips were assigned to the study network as shown on **Figure 9** and **Figure 10**. These trips were added to the 2026 no-build traffic volumes shown on **Figure 6** to calculate the future Phase II build traffic volumes shown on **Figure 11** and **Figure 12**.

7.3 AUXILIARY LANE ANALYSIS

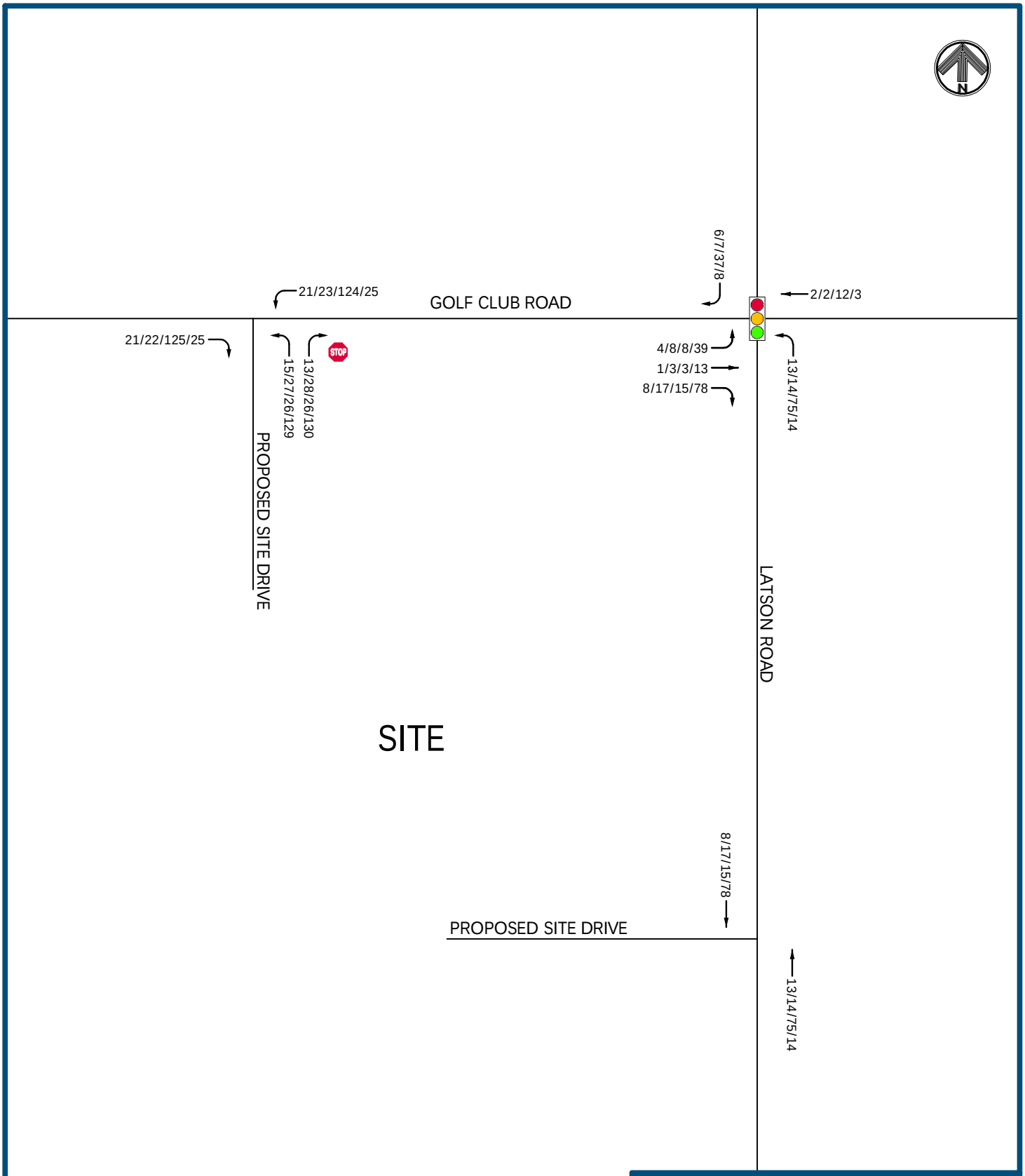
In order to determine the configuration of the proposed site driveway(s) with Golf Club Road and Latson Road, warrants for right-turn lanes were evaluated for each Phase II site access alternative in accordance with the LCRC *Specifications and Administrative Rules Regulating Driveways, Road Approaches, Banners and Parades on and Over Highways*. Evaluation of the forecast site traffic volume assignments versus warranting criteria indicate a right turn lane would be warranted at the Golf Club Road driveway under both site access alternatives. At the Latson Road driveway, a right-turn taper only would be warranted under Alternative B. The applicable warrant evaluations are included in **Appendix E**.

7.4 2026 PHASE II BUILD TRAFFIC CONDITIONS – ALTERNATIVE A

Future 2026 Phase II Alternative A build peak hour vehicle delays and LOS ***with the proposed development*** were calculated based on existing lane configurations and traffic control shown on **Figure 2**, 2026 build traffic volumes shown on **Figure 11**, and HCM methodologies. SimTraffic simulations were also utilized to evaluate traffic flow and vehicle queues throughout the study network. The 2026 Phase II Alternative A build conditions results are included in **Appendix E** and summarized in **Table 13** and **Table 14**.

The results of the build conditions analysis indicate that the proposed development will not have a significant impact on the adjacent road network during the weekday peak hours. All approaches and movements at the signalized intersection of Latson Road & Golf Club Road will continue to operate at a LOS D or better and minor increases in delay will not be discernable. Additionally, all approaches and movements at the proposed site driveway to Golf Club Road will operate acceptably at a LOS C or better during the weekday peak hours.

During the Sunday peak hours, the EB through/right-turn movement and WB left-turn movement at the signalized intersection of Latson Road & Golf Club Road would be reduced to a LOS F during the outbound peak 15-minute period. Additionally, the STOP controlled egress site driveway approach to Golf Club Road will operate at a LOS E or F during both the inbound and outbound peak 15-minute periods.



###/###/###/### AM/PM/SUN IN/SUN OUT PEAK HOUR VOLUME

Bible Baptist Church TIS
Genoa Township, MI

Figure 9
Phase II Site Generated Traffic Volumes - Alternative A

PAGE NO.	SCALE	DATE
24	No Scale	Mar '22

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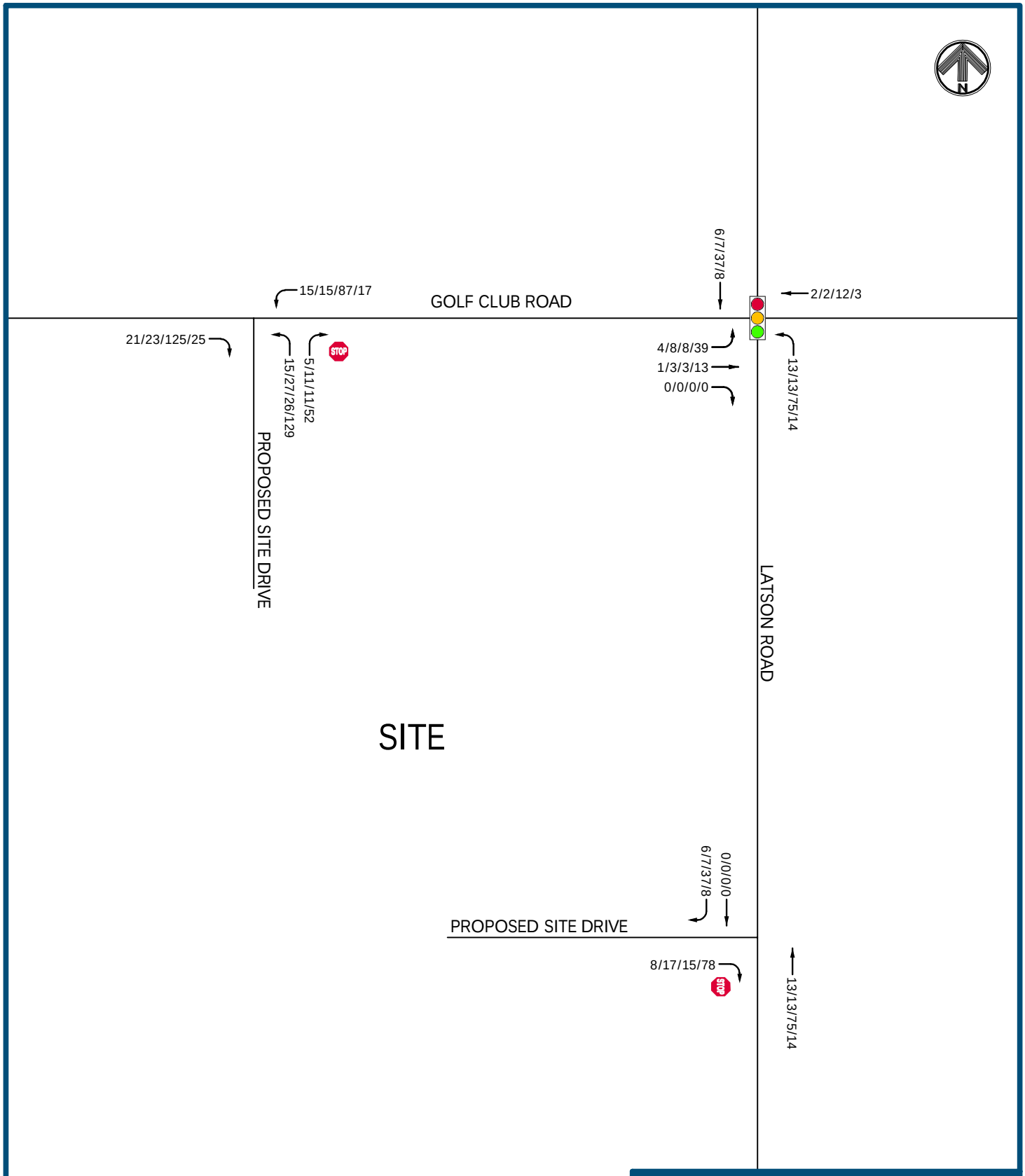
ARCHITECTS ENGINEERS PLANNERS



###/###/###/### AM/PM/SUN IN/SUN OUT PEAK HOUR VOLUME

Bible Baptist Church TIS
Genoa Township, MI

Figure 10
Phase II Site Generated Traffic Volumes - Alternative B

PAGE NO.	SCALE	DATE
25	No Scale	Mar '22

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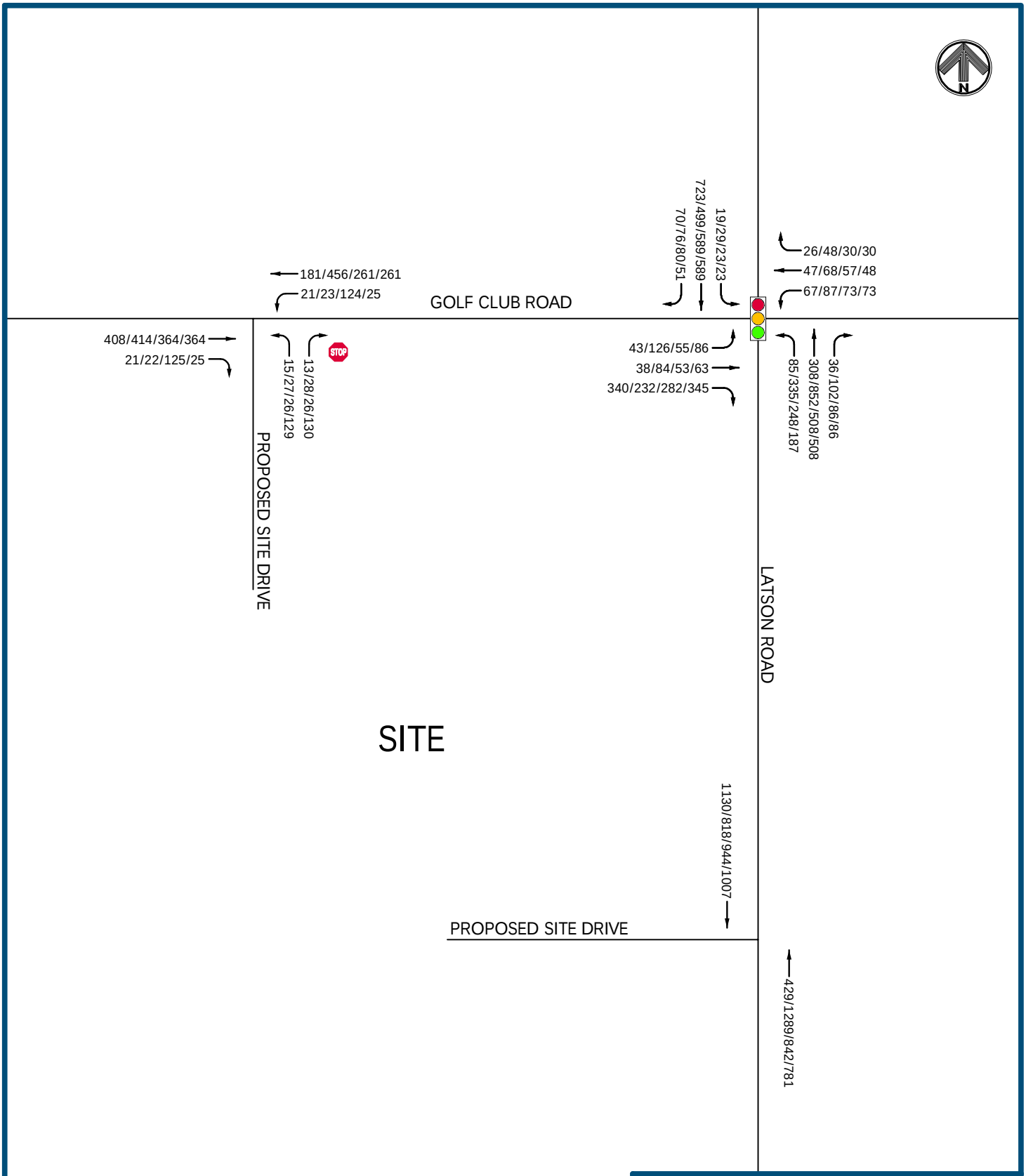

###/###/###/### AM/PM/SUN IN/SUN OUT PEAK HOUR VOLUME

Bible Baptist Church TIS
Genoa Township, MI

Figure 11
2026 Phase II Build Traffic Volumes - Alternative A

PAGE NO.	SCALE	DATE
26	No Scale	Mar '22

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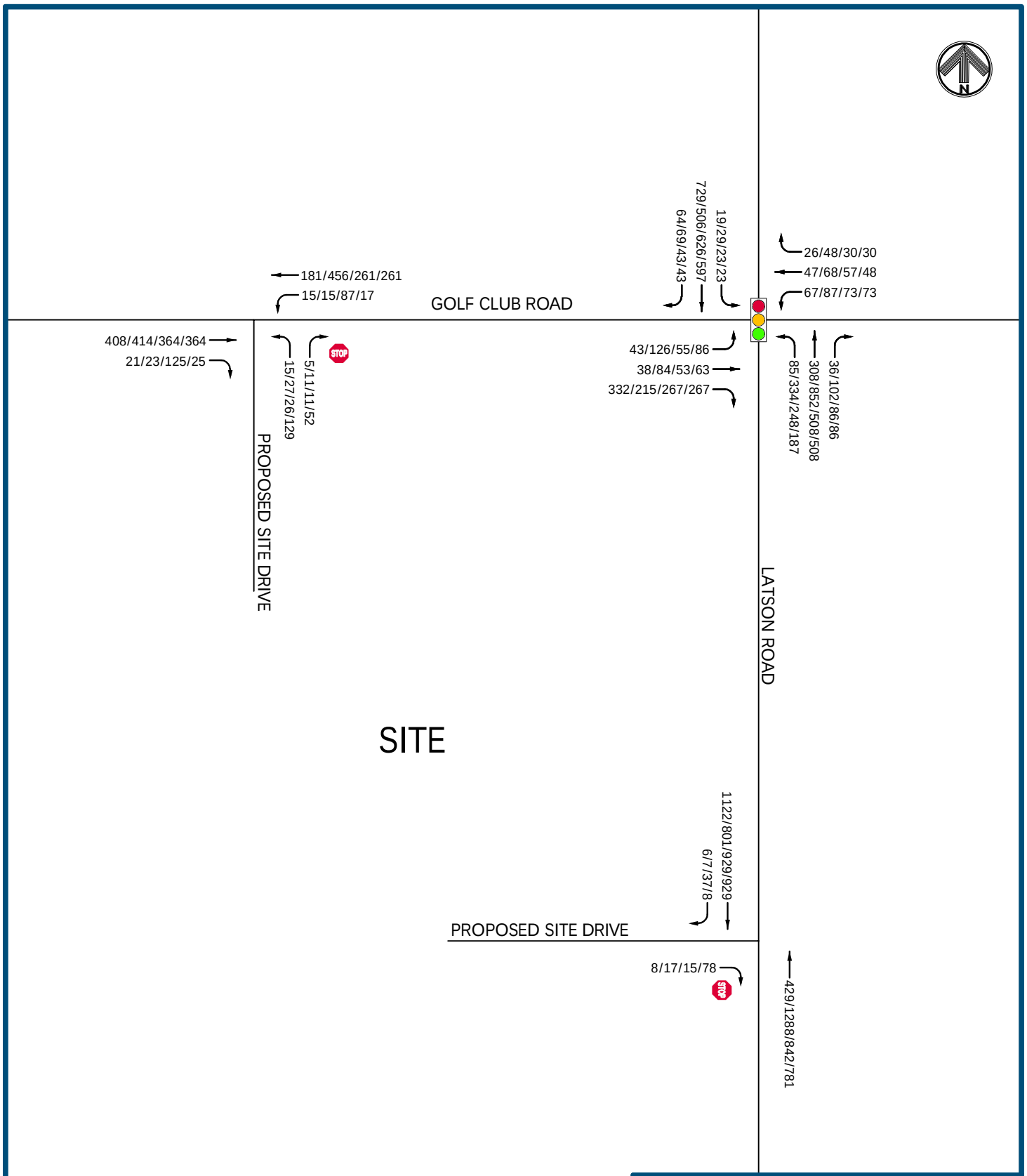

###/###/###/### AM/PM/SUN IN/SUN OUT PEAK HOUR VOLUME

Bible Baptist Church TIS
Genoa Township, MI

Figure 12
2026 Phase II Build Traffic Volumes - Alternative B

PAGE NO.	SCALE	DATE
27	No Scale	Mar '22

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ARCHITECTS ENGINEERS PLANNERS

Table 13: 2026 Phase II Build Traffic Conditions – Alternative A – Weekday

Intersection	Control	Approach	Movement	AM Peak				PM Peak			
				No-Build		Build – ALT A		No-Build		Build – ALT A	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Latson Road & Golf Club Road	Signal	EB	Left	25.8	C	26.2	C	29.0	C	29.9	C
			Thru/Right	42.4	D	46.4	D	31.4	C	35.6	D
		WB	Left	45.6	D	50.0	D	38.5	D	43.9	D
			Thru/Right	23.7	C	23.9	C	23.1	C	23.5	C
		NB	Left	17.3	B	17.8	B	29.1	C	31.8	C
			Thru	8.7	A	8.7	A	16.1	B	16.0	B
			Right	7.2	A	7.2	A	7.8	A	7.7	A
		SB	Left	12.6	B	12.7	B	28.1	C	27.8	C
			Thru	27.6	C	27.8	C	26.6	C	26.8	C
			Right	12.9	B	13.0	B	17.8	B	18.1	B
		Overall		**26.0**	**C**	**27.0**	**C**	**23.4**	**C**	**24.6**	**C**
Golf Club Road & Site Drive	STOP (Minor)	EB	Thru/Right	Free		Free		Free		Free	
		WB	Left			8.5	A			8.7	A
			Thru	Free		Free		Free		Free	
		NB	Left/Right			13.8	B			18.8	C

Table 14: 2026 Phase II Build Traffic Conditions – Alternative A – Sunday

Intersection	Control	Approach	Movement	SUN Phase II – ALT A					
				No-Build		Build INBOUND		Build OUTBOUND	
				Delay	LOS	Delay	LOS	Delay	LOS
Latson Road & Golf Club Road	Signal	EB	Left	24.1	C	29.6	C	27.9	C
			Thru/Right	25.7	C	34.7	C	81.4	F
		WB	Left	32.0	C	41.5	D	134.7	F
			Thru/Right	21.6	C	25.5	C	22.4	C
		NB	Left	17.0	B	40.2	D	19.7	B
			Thru	10.0	B	9.9	A	10.6	B
			Right	7.5	A	7.4	A	7.9	A
		SB	Left	14.8	B	17.2	B	15.9	B
			Thru	23.4	C	28.3	C	25.6	C
			Right	14.7	B	18.1	B	16.0	B
		Overall		**18.6**	**B**	**25.4**	**C**	**35.1**	**D**
Golf Club Road & Site Drive	STOP (Minor)	EB	Thru/Right	Free		Free		Free	
		WB	Left			10.6	B	8.4	A
			Thru	Free		Free		Free	
		NB	Left/Right			48.3	E	284.6	F

Review of the peak hour simulations indicate future build traffic operations which are similar to no-build conditions during the weekday peak hours with vehicle queues processed during each signal cycle and significant vehicle queues not observed. During the Sunday peak hour, brief periods of moderate vehicle queues are observed at the signalized intersection of Latson Road & Golf Club Road for movements to and from the site; however, these queues dissipate quickly and are not present throughout the duration of the peak hour. Long delays and queues are also observed for the STOP controlled egress site driveway approach during the outbound peak 15-minute period which is typical of Churches. This queue also dissipates quickly and is not present throughout the duration of the peak hour.

Vehicle queue lengths from the signalized intersection of Latson Road & Golf Club Road were also calculated and evaluated with respect to the proposed driveway. The results of this evaluation indicate a 95th percentile queue length of 334 feet or less during all peak hours for the EB approach which would not extend back past the proposed site driveway. Additionally, the EB left-turn movement from Golf Club Road onto Latson Road and WB left-turn movement into the proposed site driveway would experience a combined 95th percentile queue length of 189 feet or less during the peak hours which would not result in any left turn conflict.

7.5 2026 PHASE II BUILD TRAFFIC CONDITIONS WITH IMPROVEMENTS – ALTERNATIVE A

In order to improve traffic operations in the Phase II Alternative A build conditions, signal cycle length and timing adjustments were investigated at the intersection of Latson Road & Golf Club Road. The results of this analysis indicate that with optimized timings at the intersection, all approaches and movements would operate acceptably at a LOS D or better during the outbound peak 15-minutes as shown in **Table 15**. Therefore, special Sunday timing plans during service times may be necessary with Phase II build conditions Alternative A and should be coordinated with LCRC.

Table 15: 2026 Phase II Build Traffic Conditions with Improvements– Alternative A

Intersection	Control	Approach	Movement	SUN Phase II – Alternative A					
				No-Build		Build Out		Build Out IMP	
				Delay	LOS	Delay	LOS	Delay	LOS
Latson Road & Golf Club Road	Signal	EB	Left	24.1	C	27.9	C	26.1	C
			Thru/Right	25.7	C	81.4	F	33.1	C
		WB	Left	32.0	C	134.7	F	44.6	D
			Thru/Right	21.6	C	22.4	C	21.1	C
		NB	Left	17.0	B	19.7	B	52.1	D
			Thru	10.0	B	10.6	B	16.9	B
			Right	7.5	A	7.9	A	12.6	B
		SB	Left	14.8	B	15.9	B	24.0	C
			Thru	23.4	C	25.6	C	44.3	D
			Right	14.7	B	16.0	B	21.3	C
		Overall		**18.6**	**B**	**35.1**	**D**	**32.1**	**C**

7.6 2026 PHASE II BUILD TRAFFIC CONDITIONS – ALTERNATIVE B

Future 2026 Phase II Alternative B build peak hour vehicle delays and LOS ***with the proposed development*** were calculated based on existing lane configurations and traffic control shown on **Figure 2**, 2026 build traffic volumes shown on **Figure 12**, and HCM methodologies. SimTraffic simulations were also utilized to evaluate traffic flow and vehicle queues throughout the study network. The 2026 Phase II Alternative B build conditions results are included in **Appendix F** and summarized in **Table 16** and **Table 17.**

The results of the Phase II Alternative B build conditions analysis indicate that the proposed development would not have a significant impact on the adjacent road network during the weekday or Sunday peak hours. All approaches and movements at the signalized intersection of Latson Road & Golf Club Road would continue to operate at a LOS D or better. At the proposed site driveways to Golf Club Road and Latson Road all approaches, and movements will operate acceptably at a LOS C or better during the weekday peak hours; however, the STOP controlled egress site driveway approaches to Golf Club Road and Latson Road will operate at a LOS F during the outbound peak 15-minute period.

Table 16: 2026 Phase II Build Traffic Conditions – Alternative B – Weekday

Intersection	Control	Approach	Movement	AM Peak				PM Peak			
				No-Build		Build – ALT B		No-Build		Build – ALT B	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Latson Road & Golf Club Road	Signal	EB	Left	25.8	C	26.4	C	29.0	C	30.2	C
			Thru/Right	42.4	D	44.1	D	31.4	C	32.8	C
		WB	Left	45.6	D	47.7	D	38.5	D	40.4	D
			Thru/Right	23.7	C	24.1	C	23.1	C	23.7	C
		NB	Left	17.3	B	17.9	B	29.1	C	32.3	C
			Thru	8.7	A	8.6	A	16.1	B	15.9	B
			Right	7.2	A	7.1	A	7.8	A	7.7	A
		SB	Left	12.6	B	12.6	B	28.1	C	27.7	C
			Thru	27.6	C	28.1	C	26.6	C	26.8	C
			Right	12.9	B	12.9	B	17.8	B	17.9	B
		Overall		**26.0**	**C**	**26.6**	**C**	**23.4**	**C**	**24.2**	**C**
Golf Club Road & Site Drive	STOP (Minor)	EB	Thru/Right	Free		Free		Free		Free	
		WB	Left			8.5	A			8.7	A
			Thru	Free		Free		Free		Free	
		NB	Left/Right			14.2	B			20.0	C
Latson Road & Site Drive	STOP (Minor)	EB	Right			23.2	C			17.1	C
		NB	Thru	Free		Free		Free		Free	
		SB	Thru/Right	Free		Free		Free		Free	

Table 17: 2026 Phase II Build Traffic Conditions – Alternative B – Sunday

Intersection	Control	Approach	Movement	SUN Phase II – ALT B					
				No-Build		Build INBOUND		Build OUTBOUND	
				Delay	LOS	Delay	LOS	Delay	LOS
Latson Road & Golf Club Road	Signal	EB	Left	24.1	C	32.9	C	29.8	C
			Thru/Right	25.7	C	35.9	D	30.9	C
		WB	Left	32.0	C	43.6	D	37.2	D
			Thru/Right	21.6	C	28.3	C	23.9	C
		NB	Left	17.0	B	53.8	D	21.3	C
			Thru	10.0	B	9.3	A	10.2	B
			Right	7.5	A	6.9	A	7.6	A
		SB	Left	14.8	B	16.4	B	15.3	B
			Thru	23.4	C	32.1	C	27.2	C
			Right	14.7	B	16.2	B	15.2	B
		Overall		**18.6**	**B**	**29.0**	**C**	**22.0**	**C**
Golf Club Road & Site Drive	STOP (Minor)	EB	Thru/Right	Free		Free		Free	
		WB	Left			10.0	B	8.4	A
			Thru	Free		Free		Free	
		NB	Left/Right			31.9	D	136.9	F
Latson Road & Site Drive	STOP (Minor)	EB	Right			19.5	C	54.2	F
		NB	Thru	Free		Free		Free	
		SB	Thru/Right	Free		Free		Free	

Review of the peak hour simulations indicate future build traffic operations which are similar to no-build conditions during the weekday peak hours with vehicle queues processed during each signal cycle and significant vehicle queues not observed. During the Sunday peak hour, brief periods of moderate vehicle queues are observed at the

signalized intersection of Latson Road & Golf Club Road for the NB left-turn movement; however, this queue dissipates quickly and is not present throughout the duration of the peak hour. On the site driveway approach to Golf Club Road, a long vehicle queue is observed during the outbound peak 15-minute period; however, the duration and length of this queue is reduced as compared to Alternative A. On the site driveway approach to Latson Road, the 95th percentile queue length is calculated to be 152 feet (six vehicles), which is not significant given the intensity of traffic utilizing this approach over a short duration of time.

Vehicle queue lengths from the signalized intersection of Latson Road & Golf Club Road were also calculated and evaluated with respect to the proposed driveways. The results of this evaluation indicate a 95th percentile queue length of 357 feet and 477 feet or less during all peak hours for the EB and NB approaches, respectively, which would not extend back past the proposed site driveways. Additionally, the EB left-turn movement from Golf Club Road onto Latson Road and WB left-turn movement into the proposed site driveway would experience a combined 95th percentile queue length of 221 feet or less during the peak hours which would be adequately stored in the center lane for left turns. Therefore, the proposed development does not require any off-site roadway or traffic control improvements under Phase II Alternative B build conditions.

Based on the results of the two site access alternatives, Alternative B is recommended for Phase II of the development. This alternative would provide improved traffic operations for egress traffic from the site and reduce traffic impacts to the Latson Road & Golf Club Road intersection.

8.0 Conclusions and Recommendations

The Conclusions related to this Traffic Impact Study and relative analyses are as follows:

1. At the time of this study, traffic volumes throughout the State of Michigan were impacted by restrictions in place associated with the COVID pandemic. Therefore, historic turning movement count data collected in April, 2019 was utilized to validate baseline traffic volumes for this study.
2. All approaches and movements at the study intersection of Latson Road & Golf Club Road currently operate acceptably at a LOS D or better during all peak hours.
3. Church time-of-day patterns and traffic volumes indicate approximately 80% of outbound traffic occurs in the first 30-minutes after service ends while approximately 85% of inbound traffic occurs in the 30-minutes prior to the service start time. Therefore, separate inbound and outbound analysis scenarios were completed as there will be minimal overlap between inbound and outbound traffic based on the one-hour separation between services.
4. All approaches and movements at the study intersection of Latson Road & Golf Club Road would continue to operate acceptably in the 2023 and 2026 no-build scenarios during all peak hours.
5. In accordance with LCRC standards, a left-turn lane and right-turn taper are warranted at the proposed site driveway to Golf Club Road under Phase I build conditions.
6. The 2023 Phase I build conditions analysis indicate that the proposed development will not have a significant impact on the adjacent road network. All approaches and movements at the intersection of Latson Road & Golf Club Road will continue to operate at a LOS D or better during all peak hours and minor increases in delay will not be discernable. Additionally, all approaches and movements at the proposed site driveway to Golf Club Road will operate acceptably. Therefore, the proposed development does not require any off-site roadway or traffic control improvements under Phase I build conditions.
7. In accordance with LCRC standards, a right-turn lane would be warranted at the proposed site driveway to Golf Club Road under Phase II build conditions.

8. The 2026 Phase II Alternative A build conditions analysis indicate the EB through/right-turn movement and WB left-turn movement at the signalized intersection of Latson Road & Golf Club Road would be reduced to a LOS F during the Sunday outbound peak 15-minute period. Additionally, the STOP controlled egress site driveway approach to Golf Club Road will operate at a LOS E or F during both the Sunday inbound and outbound peak 15-minute periods.
9. In order to improve traffic operations in the 2026 Phase II Alternative A build conditions, special Sunday timing plans during service times should be provided at the intersection of Latson Road & Golf Club Road.
10. In accordance with LCRC standards, a right-turn taper would be warranted at the proposed site driveway to Latson Road under Phase II Alternative B build conditions.
11. The 2026 Phase II Alternative B build conditions analysis indicate all approaches and movements at the intersection of Latson Road & Golf Club Road will continue to operate at a LOS D or better during all peak hours. At the proposed site driveways to Golf Club Road and Latson Road all approaches, and movements will operate acceptably at a LOS C or better during the weekday peak hours; however, the STOP controlled egress site driveway approaches to Golf Club Road and Latson Road will operate at a LOS F during the outbound peak 15-minute period.
12. Review of network simulations indicate a long vehicle queue on the site driveway approach to Golf Club Road during the outbound peak 15-minute period; however, the duration and length of this queue is reduced as compared to Alternative A. On the site driveway approach to Latson Road, the 95th percentile queue length is calculated to be 152 feet (six vehicles), which is not significant given the intensity of traffic utilizing this approach over a short duration of time. Therefore, the proposed development does not require any off-site roadway or traffic control improvements under Phase II Alternative B build conditions.
13. Queues from the signalized intersection of Latson Road & Golf Club Road would not block the site driveways to Golf Club Road or Latson Road under either Phase I or Phase II build conditions. Additionally, there will be no left-turn conflict along Golf Club Road between EB left turns at Latson Road and WB left turns at the proposed site driveway.
14. Site access Alternative B is recommended under Phase II build conditions as it would provide improved traffic operations for egress traffic from the site and reduce traffic impacts to the Latson Road & Golf Club Road intersection.

Based on the results of this study, the following improvements are recommended:

2023 Phase I Conditions

1. Construct left-turn lane and right-turn taper at proposed driveway to Golf Club Road.

2026 Phase II Alternative A Conditions

1. Construct right-turn lane at proposed driveway to Golf Club Road.
2. Install special timing plans at intersection of Latson Road & Golf Club Road associated with Sunday service times.

2026 Phase II Alternative B Conditions

1. Construct right-turn lane at proposed driveway to Golf Club Road.
2. Construct right-turn taper at proposed driveway to Latson Road.

Appendix A – Traffic Count Data

THE APPENDIX DOCUMENTS ARE AVAILABLE UPON REQUEST.
Please contact Kelly VanMarter at kelly@genoa.org or 810-227-5225 to request a copy.

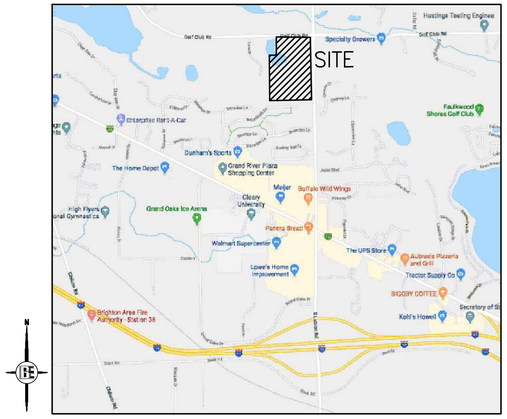
Phase 1
Building
Gravel Access Lane
Drop
Off
Parking
186
Wetland
Wetland
Soccer
Field
Summit Place Drive
Latson Road
Golf Club Road

SITE PLAN
FOR
BIBLE BAPTIST CHURCH
PART OF NE QUARTER, SECTION 5
GENOA TOWNSHIP, LIVINGSTON COUNTY, MI

PROPERTY DESCRIPTION:

PARCEL: 4711-05-200-002

Part of the Northeast 1/4 of the Northeast Fractional 1/4 of Section 5, T2N-R5E, Genoa Township, Livingston County, Michigan, more particularly described as follows: BEGINNING at the Northeast corner of Section 5; thence along the centerline of Latson Road (33 foot wide 1/2 Right of Way) and the East line of Section 5, S 01°15'41" E, 1627.92 feet; thence along the North line of "ROLLING RIDGE I", Livingston County Condominium Subdivision Plan No. 134, as recorded in Livingston County Records and the South line of the Northeast 1/4 of the Northeast fractional 1/4 of Section 5, as previously surveyed and monumented, S 87°47'59" W, 1284.34 feet; thence along the common property line per Agreement recorded in Liber 1098, Page 22, Livingston County Records, N 02°36'49" W, 1107.42 feet; thence N 88°30'30" E (recorded as East), 200.00 feet; thence N 02°36'49" W (recorded as North), 536.70 feet; thence along the centerline of Golf Club Road (66 foot wide Right of Way) and the North line of Section 5, as previously surveyed and monumented, N 88°30'31" E, 1122.98 feet, to the POINT OF BEGINNING, containing 46.50 acres, more or less, and subject to the rights of the public over the existing Latson Road and Golf Club Road. Also subject to any other easements or restrictions of record.



LOCATION MAP
NO SCALE

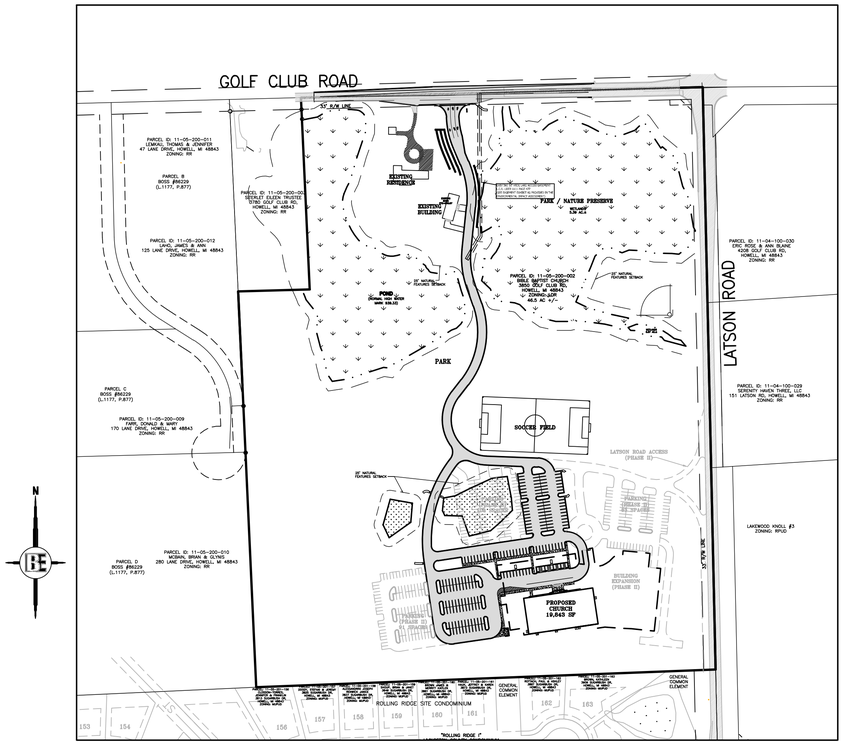
CONSTRUCTION NOTES

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.
34. ACCESS ROADS TO THE SITE SHALL BE MAINTAINED DURING CONSTRUCTION AND SHALL BE CONSTRUCTED TO BE CAPABLE OF SUPPORTING THE IMPOSED LOAD OF FIRE APPARATUS WEIGHING AT LEAST 75,000 POUNDS.

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.



OVERALL SITE MAP
NO SCALE

SHEET INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	EXISTING CONDITIONS & DEMOLITION PLAN
3	NATURAL FEATURES PLAN
4	OVERALL SITE PLAN
5	CHURCH SITE PLAN
6	UTILITY PLAN
7	GRADING PLAN
8	DRAINAGE PLAN
9	SESC PLAN
10	LANDSCAPE PLAN
11-11B	GOLF CLUB ROAD APPROACH
12	FOREBAY DETAILS
13	WETLAND SETBACK DISTURBANCE
14	CONSTRUCTION DETAILS
15	MHOG STANDARD WATERMAIN DETAILS
16	MHOG STANDARD WATERMAIN DETAILS
LIGHTING PLANS – GASSER BUSH	
1	PHOTOMETRIC PLAN
2	PHOTOMETRIC PLAN
ARCHITECTURAL PLANS – JEFFREY PARKER ARCHITECTS	
A1.0	FLOOR PLAN
A3.0	EXTERIOR ELEVATIONS

APPLICANT/OWNER:

BIBLE BAPTIST CHURCH
2258 EAST HIGHLAND ROAD
HOWELL, MI 48843
CONTACT: MR. TIM CHRISTOSON
PHONE: 517-715-9233

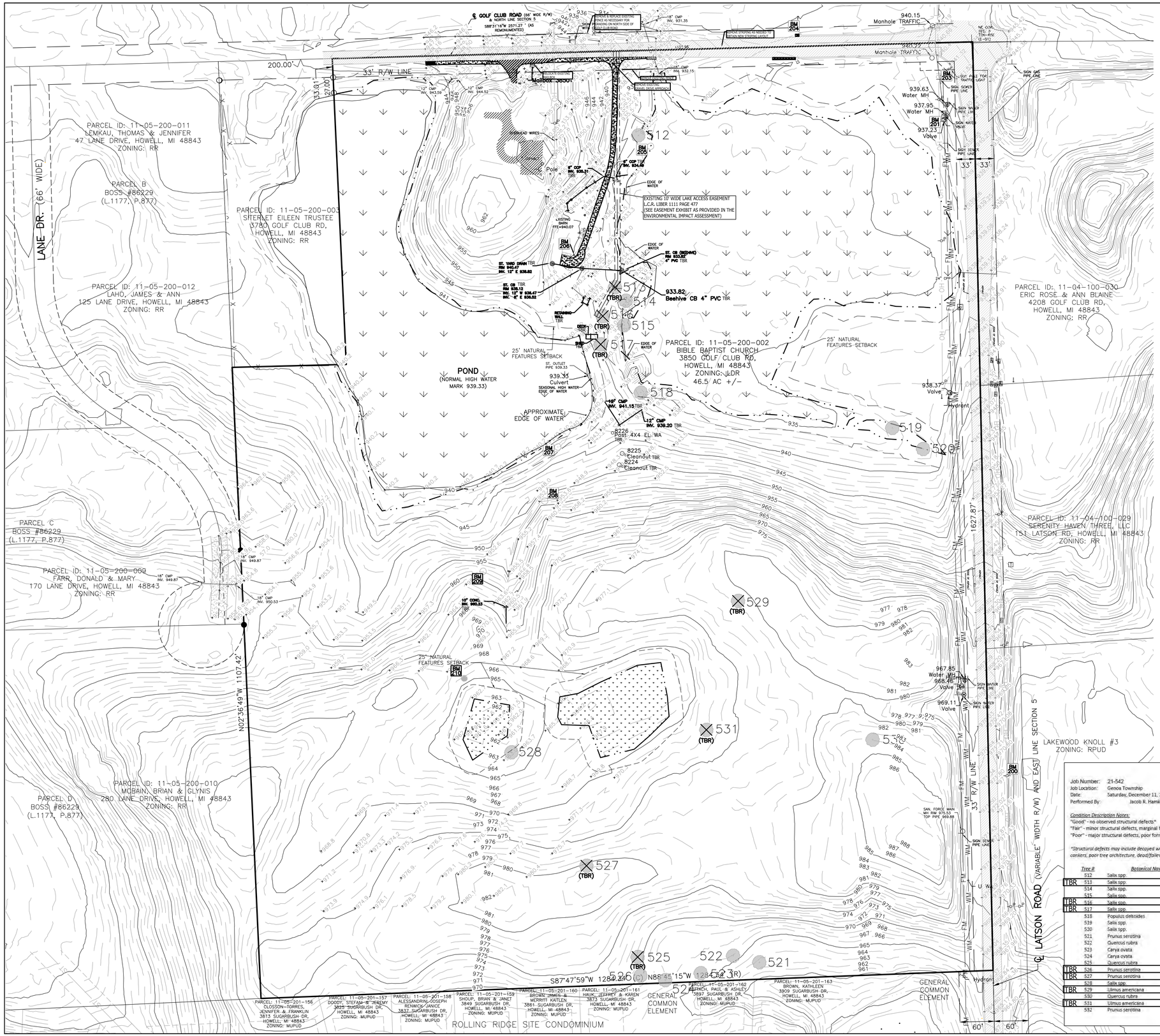
PREPARED BY:

FOR SITE PLAN APPROVAL ONLY!
NOT TO BE USED AS
CONSTRUCTION DRAWINGS

NO	BY	CK	REVISION	DATE
3	ST		PER TOWNSHIP REVIEW	4/21/22
2	ST		PER TOWNSHIP REVIEW	3/16/22
1	ST		PER TOWNSHIP REVIEW	2/23/22

1

ISSUE DATE: 2/1/2022
JOB NO. 21-542



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SCALE: 1 INCH = 80 FEET

LEGEND

- 900 EXISTING CONTOUR
- 922.00 EXISTING SPOT ELEVATION
- POWER POLE
- GUY WIRE
- LIGHT POLE
- HYDRANT
- WATER GATE VALVE
- WATER MANHOLE
- MANHOLE
- STORM CATCH BASIN (SQUARE)
- STORM INVERT
- TELEPHONE RISER
- CABLE TV RISER
- U.G. CABLE TV MARKER
- MAILBOX
- SIGN
- DECIDUOUS TREE
- CONIFEROUS TREE
- STEEL ROD OR PIPE FOUND
- WOOD LATH SET
- SECTION CORNER
- TBR TO BE REMOVED

GENERAL SURVEY NOTES:

1. WETLANDS FLAGGED AND TIED OUT BY BOSS ENGINEERING SPRING 2019.
2. BEARINGS ARE BASED ON MICHIGAN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE.
3. 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.
4. EASEMENTS OR RESTRICTIONS OF RECORD NOT DEPICTED ON THIS DRAWING MAY EXIST.
5. ELEVATIONS WERE ESTABLISHED FROM GPS OBSERVATION, AND USING OPUS POST-PROCESS SYSTEM. (NAVD88 DATUM)
6. CONTOURS ARE SHOWN AT 1 FOOT INTERVALS.
7. THE LOCATIONS OF STORM SEWER, SANITARY SEWER & WATERMAIN, AS SHOWN ON THIS DRAWING ARE APPROXIMATE. THE LOCATIONS ARE BASED ON PHYSICAL FIELD LOCATIONS OF STRUCTURES.
8. ALL WORK SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE MUNICIPALITY, THE COUNTY, AND THE STATE OF MICHIGAN.
9. ALLOW THREE WORKING DAYS BEFORE YOU DIG, CALL MISS DIG TOLL FREE 1-800-482-7171.

SITE BENCHMARKS (NAVD88 DATUM):

-BM #200 = NAIL/TAG W/S P.POLE E/S LASTON RD. 785'± NORTH OF CONOVER CT.. ELEV.=971.41
-BM #201 = ARROW ON HYD W/S OF LASTON RD. 135'± SOUTH OF GOLF CLUB RD.. ELEV.=939.50
-BM #203 = FD. R.R. E/S OF GUY POLE W/S OF LASTON RD. 44'± SOUTH OF GOLF CLUB RD.. ELEV.=942.12
-BM #205 = PK NAIL/TAG W/S 40" WILLOW TREE 170'± SOUTH OF GOLF CLUB RD. & 160'± NORTH OF BARN. ELEV.=935.10
-BM #206 = LANDSCAPE SPIKE SET S/E CORNER OF POLE BARN. ELEV.=940.32
-BM #207 = PK NAIL/TAG S/S 12" MAPLE TREE S/S OF POND. ELEV.=945.31
-BM #208 = PK NAIL/TAG SET 10" PINE TREE 50'± EAST OF TWO TRACK RUNNING N&S & 150'± SOUTH OF POND, N/S OF TWO TRACK RUNNING E&W. ELEV.=954.73
-BM #209 = PK NAIL/TAG S/S 12" ELM TREE 142'± SOUTH OF POND. ELEV.=959.69
-BM #210 = PK NAIL/TAG E/S 8" PINE TREE 330'± SOUTH OF POND. ELEV.=966.83

TOPOGRAPHIC SURVEY NOTE:

TOPOGRAPHIC SURVEY OF GOLF CLUB ROAD AND LATSON ROAD PREPARED BY BOSS ENGINEERING.
TOPOGRAPHY FOR THE SUBJECT SITE IS GENERATED FROM THE LIVINGSTON COUNTY GIS TOPO.

Inventory of Significant Trees within Project Area

Job Number: 21-542 — Bible Baptist Church
Job Location: Genoa Township
Date: Saturday, December 11, 2021
Performed By: Jacob R. Hamilton — Forestry Registration No. 46119

Condition Description Notes:
"Good" - no observed structural defects*
"Fair" - minor structural defects, marginal form, some insect activity noted*
"Poor" - major structural defects, poor form, insect infested*

**Structural defects may include decayed wood, cracks, root problems, weak branch unions cankers, poor tree architecture, dead/failed branches due to various causes.*

	Tree #	Botanical Name	Common Name	Dia.	Type	Other Dia.	Condition	Comments
	512	Salix spp.	Willow Sp.	53			Good	
TBR	513	Salix spp.	Willow Sp.	37			Poor	Major lean, cankers, epicormic branching
	514	Salix spp.	Willow Sp.	41			Fair	Leaning
	515	Salix spp.	Willow Sp.	36	Twin	20	Good	Leaning
TBR	516	Salix spp.	Willow Sp.	36			Good	
TBR	517	Salix spp.	Willow Sp.	37			Fair	Lost large twin, canker
	518	Populus deltoides	Eastern Cottonwood	24			Good	
	519	Salix spp.	Willow Sp.	28			Good	
	520	Salix spp.	Willow Sp.	25			Good	
	521	Prunus serotina	Black Cherry	35			Good	
	522	Quercus rubra	Red Oak	26			Good	
	523	Carya ovata	Shagbark Hickory	25			Good	
	524	Carya ovata	Shagbark Hickory	32			Good	
	525	Quercus rubra	Red Oak	24			Good	
TBR	526	Prunus serotina	Black Cherry	34			Poor	Major canker, dieback
TBR	527	Prunus serotina	Black Cherry	26			Good	
	528	Salix spp.	Willow Sp.	28			Good	
TBR	529	Ulmus americana	American Elm	24			Good	
	530	Quercus rubra	Red Oak	26			Good	
TBR	531	Ulmus americana	American Elm	27			Good	
	532	Prunus serotina	Black Cherry	31			Poor	Major dieback, canker rot, lost limbs

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. BOSS ENGINEERING DOES NOT WARRANT THEIR ACCURACY OR COMPLETENESS. OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL UTILITIES. THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES AND PROPOSED UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR. IF ANY CONFLICTS ARE ENCOUNTERED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY CONFLICTS ARE ENCOUNTERED. THE LOCATION OR DEPTH DIFFERS SIGNIFICANTLY FROM THE PLANS.

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

BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.546.4836 FAX 517.548.1670

PROJECT: BIBLE BAPTIST CHURCH

PREPARED FOR: BIBLE BAPTIST CHURCH
2258 EAST HIGHLAND ROAD
HOWELL, MI 48843
517-715-9233

TITLE: EXISTING CONDITIONS & DEMOLITION PLAN

NO	BY	REVISION PER	DATE
3	ST	PER TWP. REVIEW	4/21/22
2	ST	PER TWP. REVIEW	3/16/22
1	ST	PER TWP. REVIEW	2/23/22

DESIGNED BY: ST
DRAWN BY: JS
CHECKED BY:
SCALE 1" = 80'
JOB NO. 21-542
DATE 2/1/2022
SHEET NO. 2

BOSS Engineering

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NATURAL FEATURES NARRATIVE:

SEVERAL NATURAL FEATURES WERE IDENTIFIED DURING AN ON-SITE VISIT TO THE PROPERTY ON AUGUST 23, 2019 THAT INCLUDE WETLANDS AND A VARIETY OF WOODLAND STANDS. BELOW IS A BRIEF DESCRIPTION OF EACH NATURAL FEATURE, LABELED AS ZONES "A-V". ALTHOUGH THE TOTAL SITE IS MEASURED AT 46.88 ACRES, THE ZONES DESCRIBED BELOW ARE APPROXIMATELY 41.11 ACRES WHEN ADDED TOGETHER. NOTE THAT EACH ZONE IS MEASURED TO AN APPROXIMATE SIZE AND THAT ZONES ARE SEPARATED BY A PATH THAT IS ROUGHLY 12' WIDE AND IS NOT ACCOUNTED FOR IN THE CALCULATIONS.

ZONE "A"

AN ESTIMATED 4.62 ACRE "FRESHWATER POND", AS DESCRIBED BY THE NATIONAL WETLANDS INVENTORY, IS POSITIONED ON SITE AND CONTINUES ONTO THE NEIGHBORING LOT TO THE WEST. THE ON-SITE ACREAGE IS ESTIMATED TO BE 3.88 ACRES. THE POND EDGE IS MOWN LAWN AND HAS A SOUTHERN BORDER OF NORWAY MAPLE TREES, AND A WESTERN BORDER OF BLACK CHERRY, AMERICAN ELM, VARIOUS OAKS AND SPRUCE TREES, SIZES RANGING FROM 4-18" AT DBH WITH TREES BEING SPACED AN AVERAGE OF 12' APART. THE POND COLLECTS STORMWATER FROM ROUGHLY 9 ACRES OF LAND FROM THE WEST AND SOUTH, WITH SLOPES RANGING FROM 10-20%.

ZONE "B"

AT APPROXIMATELY 0.9 ACRES IN SIZE, THIS ZONE IS COMPOSED OF WAWASEE LOAM SOILS WITH SLOPES BETWEEN 6-12%. TREE SPECIES INCLUDE AN EQUAL MIX OF BLACK WALNUT, BLACK CHERRY, AMERICAN ELM, COTTONWOOD, AND BITTERNUT HICKORY SIZES RANGING FROM 6"-30" AND AVERAGING ABOUT 10" DBH. THE UNDERSTORY IS MOSTLY NON-EXISTENT BUT CONTAINS A SCATTERING OF HONEYSUCKLE AND VARIOUS PATCHES OF HERBACEOUS MATERIAL. AN ADDITIONAL AND APPROXIMATE 2.17 ACRES OF MANAGED PRIVATE PROPERTY IS FOUND TO THE WEST AND SOUTH OF THIS ZONE AND CONTAINS WAWASEE LOAM SOIL THAT SLOPES AT 6-12% TOWARDS THE POND IN ZONE "A." A PORTION OF VEGETATION IN THIS AREA WILL BE REMOVED FOR THE DRIVEWAY AND/OR RETAINING WALLS.

ZONE "C"

ZONE "C" IS A SMALL WOODLAND POCKET APPROXIMATELY 0.17 ACRES IS SIZE IS COMPOSED OF BLACK LOCUST, VARIOUS LARGE WILLOWS, AND BOXELDERS. TREES RANGE FROM 4-22" AT DBH. THIS POCKET IS IN A FLAT AREA THAT BORDERS FRESHATER EMERGENT WETLANDS TO THE EAST, AND CONTAINS CARLISLE MUCK SOILS, WHICH ARE HYDRIC IN NATURE.

ZONE "D"

ZONE "D" IS SET WITHIN A MANAGED SPACE NEXT TO AN OUTBUILDING, IS APPROXIMATELY 0.13 ACRES IN SIZE, AND HAS MOWN LAWN AS AN UNDERSTORY. SOILS ARE COMPOSED OF WAWASEE LOAMS AND THERE IS A STAND OF MATURE NORWAY SPRUCE TREES THAT ARE ROUGHLY 12" AT DBH AND SPACED OUT ABOUT 10-15' APART. A PORTION OF VEGETATION IN THIS AREA WILL BE REMOVED FOR THE DRIVEWAY AND/OR RETAINING WALLS.

ZONE "E"

A FRESHWATER EMERGENT WETLAND THAT IS APPROXIMATELY 5.45 ACRES IN SIZE WAS IDENTIFIED IN ZONE "E". THE AREA IS COMPOSED OF CARLISLE MUCK SOILS AND IS DOMINATED BY REED CANARY GRASS, PHRAGMITES, BROADLEAF CATTAIL, AND A VARIETY OF FORBES AND RUSHES. THIS WETLAND COLLECTS A LARGE AMOUNT OF STORMWATER RUNOFF FROM THE CONIFER STAND TO THE SOUTH, AND FROM THE ADJACENT ROAD SYSTEMS. MANICURED LAWN BORDERS THE NORTHERN AND EASTERN EDGES OF THIS ZONE AND MAKE UP APPROXIMATELY 1.22 ACRES.

ZONE "F"

ZONE "F" IS ANOTHER MANAGED AREA WITH MANICURED LAWN THAT IS APPROXIMATELY 0.43 ACRES IN SIZE AND HAS A SERIES OF NORWAY SPRUCE TREES PLANTED IN A DOUBLE ROW. THE TREES ARE ROUGHLY 12" AT DBH AND SPACED ROUGHLY 15' APART. SOILS ARE WAWASEE LOAMS AND SLOPING EAST TOWARDS THE WETLAND IN ZONE "E". AT THE EASTERN EDGE OF THIS ZONE, THERE ARE SEVERAL LARGE WILLOW TREES AND BLACK WALNUTS, SOME OF WHICH MAY QUALIFY AS LANDMARK TREES. A PORTION OF VEGETATION IN THIS AREA WILL BE REMOVED FOR THE DRIVEWAY AND/OR RETAINING WALLS.

ZONE "G"

ZONE "G" IS A FILL AREA OF APPROXIMATELY 1.16 ACRES THAT WAS FORMERLY USED AS A SPORTS FIELD. IT HAS SINCE BECOME OVERGROWN WITH A VARIETY OF MEADOW FORBES AND GRASSES.

ZONE "H"

ZONE "H" IS AN APPROXIMATELY 0.07 ACRE FRESHWATER EMERGENT/FORESTED WETLAND. THERE ARE POCKETS OF LARGE COTTONWOOD TREES AND WILLOWS WITH SOME SEDGES AND WETLAND FORBES WITHIN THE DELINEATED AREA. THIS ZONE COLLECTS STORMWATER RUNOFF FROM THE SOUTHERN HILLSIDE OF THE PROPERTY AND SLOWLY DRAINS WATER TO THE WEST INTO THE LARGER WETLAND IN ZONE "E".

ZONE "I"

ZONE "I" IS A LARGE AREA, APPROXIMATELY 7.63 ACRES IN SIZE, AND COMPOSED ALMOST ENTIRELY OF NORWAY SPRUCE TREES RANGING FROM 5-18" AT DBH, SPACED 10-15' APART, AND MAKE UP ROUGHLY 90% OF THE TREE POPULATION. THE REMAINING 10% OF TREE COVER IS COMPOSED OF BLACK CHERRY, BLACK LOCUST, RED OAK, AND AMERICAN ELM, ALL OF WHICH ARE BETWEEN 6-18" AT DBH. THE UNDERSTORY IS ALMOST NON-EXISTENT. THE EASTERN 75% OF THIS ZONE IS COMPOSED OF MIAMI LOAM SOILS WITH SLOPES RANGING FROM 25-35%, AND THE WESTERN 25% IS A FOX-BOYER COMPLEX WITH SLOPES RANGING FROM 12-18%. A PORTION OF VEGETATION IN THIS AREA WILL BE REMOVED FOR THE DRIVEWAY AND/OR SOCCER FIELD.

ZONE "J"

ZONE "J" IS APPROXIMATELY 2.38 ACRES IN SIZE AND IS A SLIGHT TRANSITION FROM THE ZONE "I" CONIFEROUS COMMUNITY TO A MORE DECIDUOUS FOREST STAND. THE DOMINANT SPECIES HERE ARE RED AND WHITE OAK, SHAGBARK AND BITTERNUT HICKORY, BLACK CHERRY, AND AMERICAN ELM. THERE ARE SEVERAL LARGE NORWAY SPRUCE TREES, BUT THEY ARE NO LONGER THE DOMINANT SPECIES. ALL OF THESE TREES ARE MATURE AND ARE 6-18" AT DBH AND SPACED ROUGHLY 10' APART. AN UNDERSTORY OF GREEN ASH, HICKORY, AND HONEYSUCKLE IS PRESENT, THOUGH NOT OVERBEARING. SOILS ARE A FOX-BOYER COMPLEX WITH 18-25% SLOPES THAT DRAIN TO THE LARGE POND IN ZONE "A".

ZONE "K"

ZONE "K" IS APPROXIMATELY 2.85 ACRES IN SIZE AND BORDERS MUCH OF THE SOUTHERN AND WESTERN BOUNDARIES OF THE SITE. THIS FOREST STAND IS ALMOST ENTIRELY DECIDUOUS AND CONTAINS MATURE RED OAKS, BLACK CHERRY, AMERICAN ELM, HICKORY, AND VARIOUS MAPLE TREES RANGING FROM 5-18" AT DBH, THOUGH THERE ARE SEVERAL LANDMARK TREES IN THIS ZONE THAT MUST BE NOTED. THE TREES ARE SPACED ROUGHLY 15' APART. THE SOILS ARE MIAMI LOAMS WITH 18-25% SLOPES THAT SHED WATER TOWARDS THE SOUTHERN BOUNDARIES OF THE SITE.

ZONES "L", "M", "N"

THESE THREE ZONES MAKE UP A LARGER OPEN SPACE, APPROXIMATELY 1.68 ACRES IN SIZE AND IS ALMOST ENTIRELY FREE OF TREE SPECIES. INSTEAD, THE AREA IS POPULATED WITH A DOMINANCE OF GREY DOGWOOD SHRUBS, VARIOUS MEADOW FORBES, GRASSES, AND VINES. THERE ARE A FEW LARGE BUT DEAD ELM TREES AT THE EASTERN EDGE OF ZONE "N", AND SEVERAL NORWAY MAPLE TREES AT THE NORTHERN PORTION OF ZONE "N". THE LAND IS MUCH FLATTER IN THIS AREA WHERE SOILS ARE A FOX-BOYER COMPLEX WITH SLOPES AT 2-6% THAT GENTLY DRAIN TO THE WEST. A PORTION OF VEGETATION IN THIS AREA WILL BE REMOVED FOR THE DRIVEWAY AND/OR PARKING.

ZONES "O" AND "P"

THESE ZONES MAKE UP APPROXIMATELY 1.31 ACRES OF THE SITE AND ARE LARGE STANDS OF DECIDUOUS TREES THAT INCLUDE SHAGBARK AND BITTERNUT HICKORY, AMERICAN ELM, BLACK CHERRY, AND BLACK LOCUST. THE TREES ARE SPACED ROUGHLY 15' APART AND RANGE FROM 4-12" AT DBH, THOUGH THERE ARE SEVERAL LANDMARK TREES IN THIS AREA THAT MUST BE NOTED. THESE ZONES ARE AT ONE OF THE HIGHEST POINTS OF THE SITE WITH WAWASEE LOAMS SLOPING 2-6% TO THE WEST. A PORTION OF VEGETATION IN THIS AREA WILL BE REMOVED FOR PARKING.

ZONE "Q"

THIS ZONE IS APPROXIMATELY 1.57 ACRES IN SIZE AND HAS A DOMINANCE OF BLACK LOCUST TREES THAT MAKE UP 70% OF THE FOREST STAND. THE REMAINING TREE SPECIES ARE AMERICAN ELM, BLACK CHERRY, AND HICKORY. ALL TREES ARE MATURE RANGING FROM 5-18" AT DBH AND SPACED 15' APART ON AVERAGE. THE EASTERN EDGE OF THIS ZONE IS SLOPING STEEPLY AT 25-35% TO THE EAST TOWARDS LATSON ROAD AND TO THE NORTH TOWARDS ZONE "H". THE WESTERN AND SOUTHERN PORTIONS OF ZONE "Q" ARE RELATIVELY FLAT. THE SOILS ARE A MIX OF WAWASEE LOAMS AND MIAMI LOAMS.

ZONE "R"

SIMILAR TO ZONE "Q", ZONE "R", WHICH IS APPROXIMATELY 2.60 ACRES IN SIZE, IS DOMINATED BY BLACK LOCUST TREES WHICH MAKE UP 70% OF THE FOREST STAND, WHILE THE REMAINING 30% COVER IS COMPOSED OF AMERICAN ELM, BLACK LOCUST, AND BLACK CHERRY TREES. ALL TREES RANGE FROM 4-18" AT DBH AND AVERAGE ABOUT 10" AT DBH SPACED ROUGHLY 15' APART. THE UNDERSTORY IS MADE UP OF SEVERAL DECIDUOUS SAPLINGS AND SOME HONEYSUCKLE, BUT OTHERWISE OPEN. STEEP SLOPES OF 25-35% RUN EAST TOWARDS LATSON ROAD, WHILE THE SOUTHERN EDGE OF THIS ZONE SLOPES MORE GENTLY TO THE SOUTH AT ROUGHLY 10%. THE SOILS ARE A MIX OF MIAMI LOAM AND WAWASEE LOAM. A PORTION OF VEGETATION IN THIS AREA WILL BE REMOVED FOR PARKING.

ZONE "S"

SIZED AT APPROXIMATELY 1.73 ACRES, ZONE "S" IS A LARGE CONIFER STAND COMPOSED MOSTLY OF NORWAY SPRUCE TREES. THE SOUTHERN PORTION OF THIS ZONE IS PLANTED WITH ROWS OF WHITE FIR TREES. ALL TREES IN THIS AREA ARE BETWEEN 4-18" AT DBH AND PLANTED BETWEEN 6-12' APART ON AVERAGE. THE LANDSCAPE SLOPES GENTLY TO THE WEST AT ROUGHLY 2-6%. THE SOILS ARE MOSTLY WAWASEE LOAMS, THOUGH THE SOUTHERN PORTION IS A FOX-BOYER COMPLEX SOIL. A PORTION OF VEGETATION IN THIS AREA WILL BE REMOVED FOR CHURCH BUILDING.

ZONE "T"

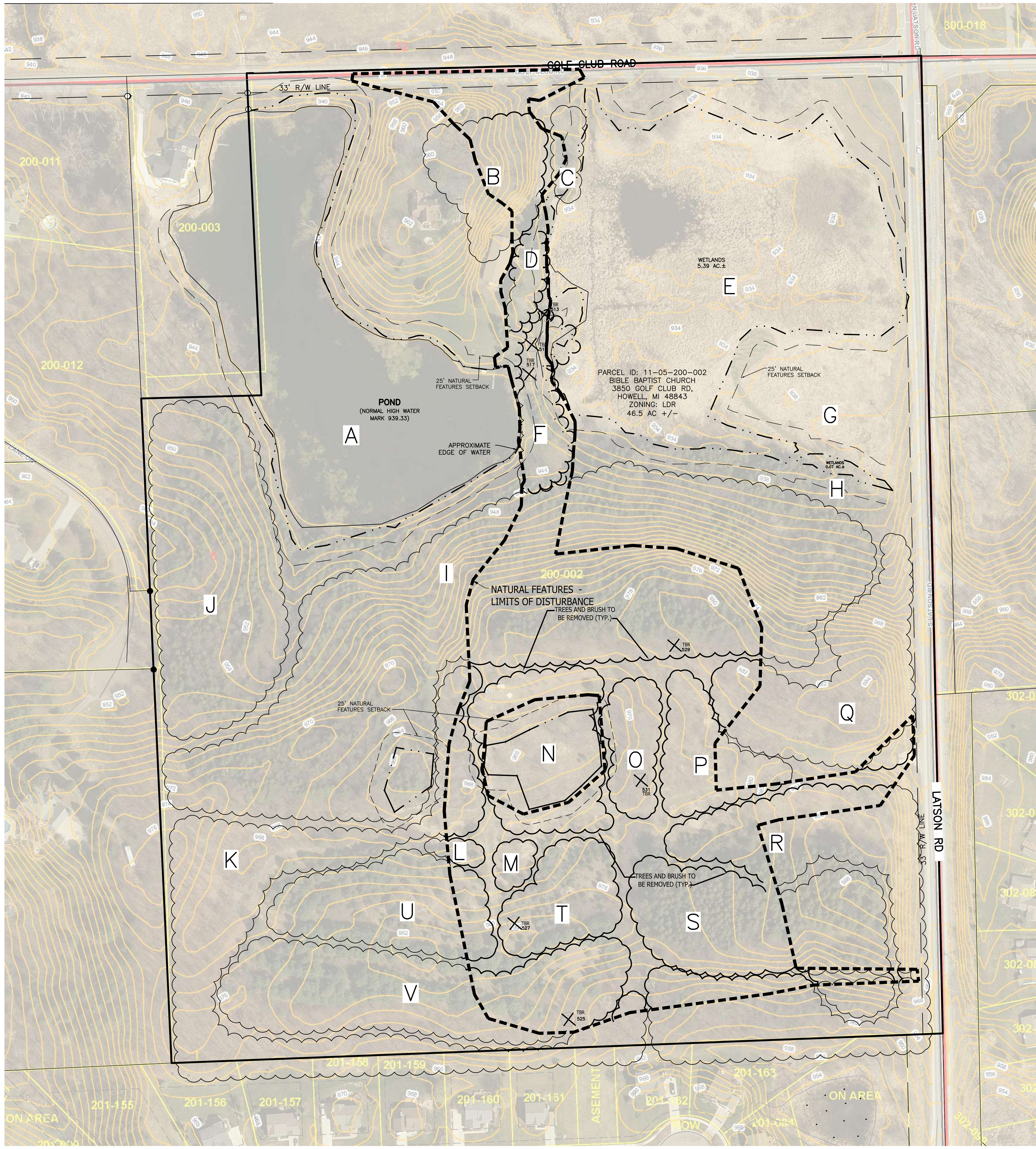
ZONE "T" IS A SMALLER AND MORE OPEN AREA THAT IS APPROXIMATELY 0.64 ACRES IN SIZE. IT IS POPULATED WITH YOUNGER FRASIER FIR AND SCOTCH PINE TREES THAT ARE NOT MUCH LARGER THAN 8" AT DBH. GRASSES AND FORBES OCCUPY THE SPACES IN BETWEEN. THIS ZONE HAS A MIX OF FOX-BOYER COMPLEX SOILS, AND WAWASEE LOAMS THAT SLOPE TO THE NORTHEAST AT ROUGHLY 2-6%. A PORTION OF VEGETATION IN THIS AREA WILL BE REMOVED FOR PARKING AND THE CHURCH BUILDING.

ZONE "U"

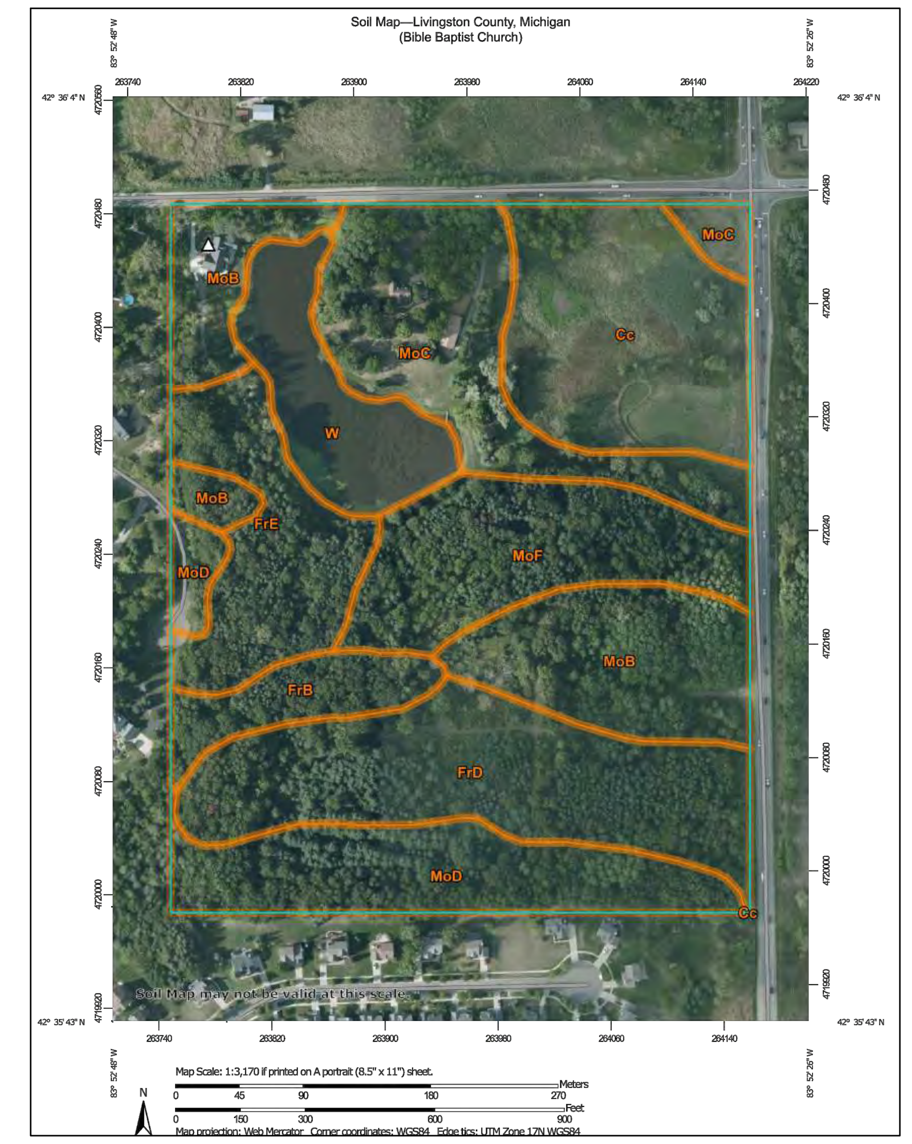
ZONE "U" IS APPROXIMATELY 1.10 ACRES IN SIZE AND POPULATED WITH SCOTCH PINE TREES AND SEVERAL NORWAY SPRUCE TREES THAT RANGE BETWEEN 6-12" AT DBH AND ARE SPACED ABOUT 15' APART. SOILS ARE MIAMI LOAMS AND FOX-BOYER COMPLEX SOILS THAT SLOPE TO THE NORTH AT ABOUT 12%. THE UNDERSTORY IS MINIMAL, THOUGH SOME SMALLER DECIDUOUS SPECIES ARE SPROUTING. A PORTION OF VEGETATION IN THIS AREA WILL BE REMOVED FOR PARKING.

ZONE "V"

ZONE "V" IS APPROXIMATELY 2.04 ACRES IN SIZE AND POPULATED WITH WHITE PINE TREES THAT ARE PLANTED IN ROWS ON THE SOUTHERN EDGE, WITH A MIX OF SCOTCH PINE AND WHITE PINE ON THE NORTHERN PORTION. THESE TREES ARE BETWEEN 6-18" AT DBH AND SPACED 15' APART WITH NO UNDERSTORY OBSERVED. THE TREES ARE PLANTED ON A RIDGE WITH MIAMI LOAM SOILS TO THE SOUTH, AND FOX-BOYER COMPLEX SOILS TO THE NORTH WITH SLOPES RANGING FROM 2-6%. A PORTION OF VEGETATION IN THIS AREA WILL BE REMOVED FOR PARKING.



SCALE: 1 INCH = 100 FEET

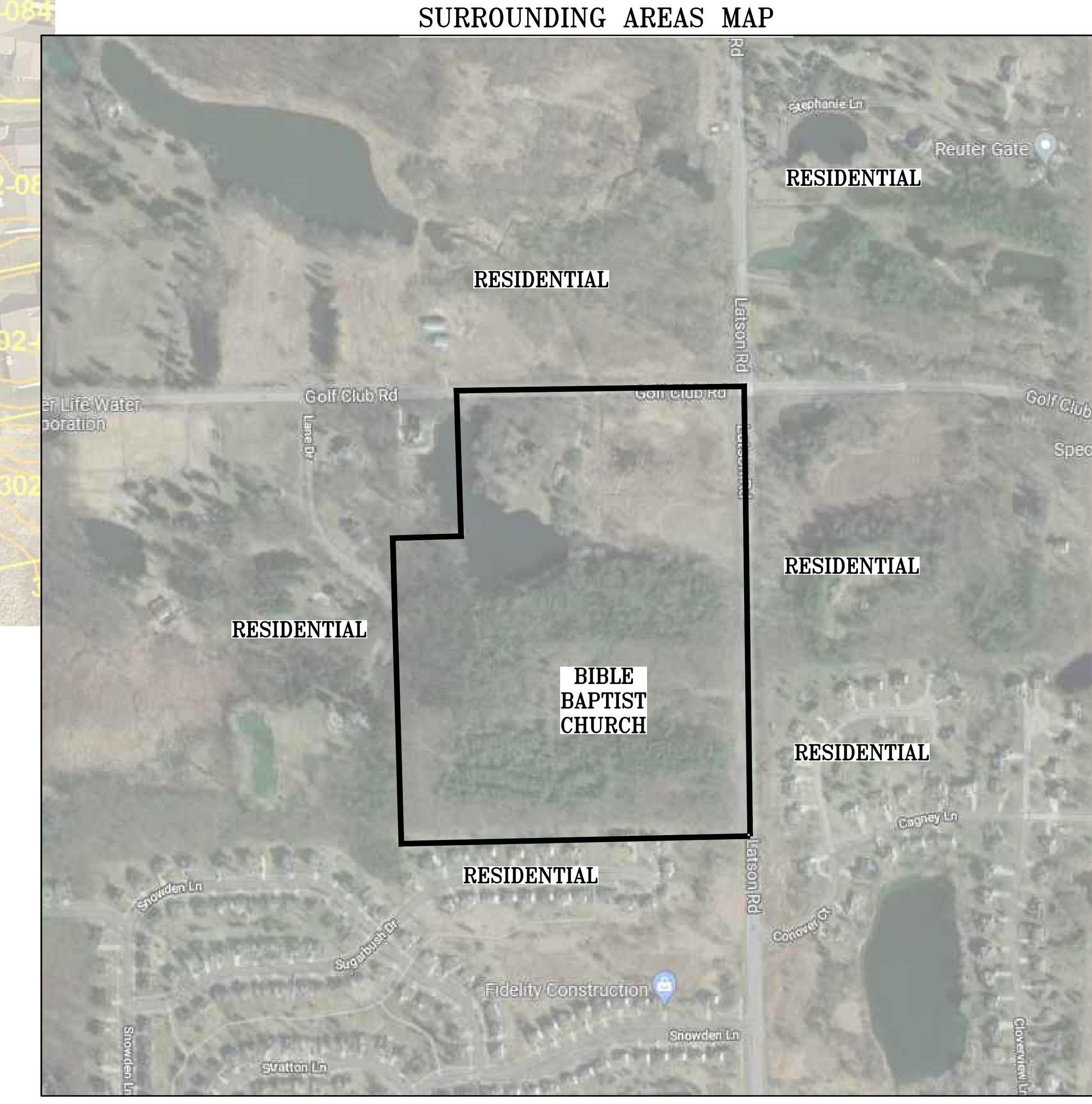


SOIL CLASSIFICATION

ACCORDING TO USDA NRCS WEB SOIL SURVEY DATA:

Map Unit Symbol	Map Unit Name
Cc	Carlisle muck, 0 to 2 percent slopes
FrB	Fox-Boyer complex, 2 to 6 percent slopes
FrD	Fox-Boyer complex, 12 to 18 percent slopes
FrE	Fox-Boyer complex, 18 to 25 percent slopes
MoB	Wawasee loam, 2 to 6 percent slopes
MoC	Wawasee loam, 6 to 12 percent slopes
MoD	Miami loam, 12 to 18 percent slopes
MoF	Miami loam, 25 to 35 percent slopes
W	Water
Totals for Area of Interest	

SURROUNDING AREAS MAP



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
(TOLL FREE)
FOR THE LOCATION OF UNDERGROUND FACILITIES

BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.546.4836 FAX 517.548.1670

PROJECT: BIBLE BAPTIST CHURCH

PREPARED FOR: BIBLE BAPTIST CHURCH
2258 EAST HIGHLAND ROAD
HOWELL, MI 48843
517-715-9233

TITLE: NATURAL FEATURES PLAN

NO	BY	REVISION PER	DATE
3	ST	PER TWP REVIEW	4/21/22
2	ST	PER TWP REVIEW	3/16/22
1	ST	PER TWP REVIEW	2/23/22

DESIGNED BY: JH
DRAWN BY: JS
CHECKED BY:
SCALE 1" = 100'
JOB NO. 21-542
DATE 2/1/2022
SHEET NO. 3

BOSS Engineering

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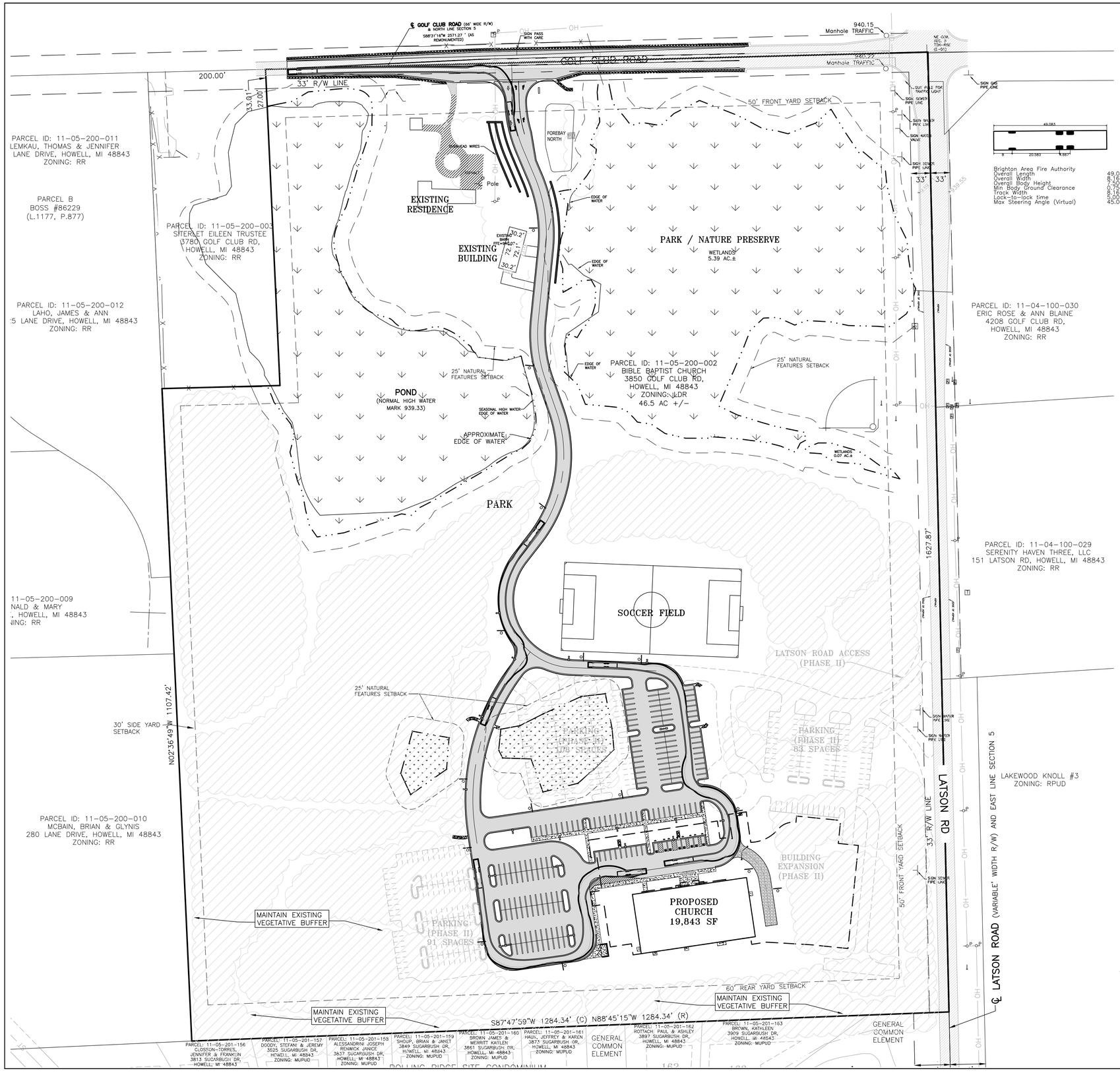
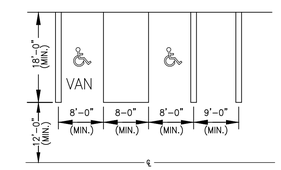
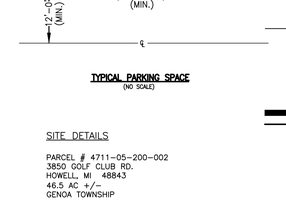


LEGEND

PROPOSED (PR)	EXISTING (EX)	
900	900	CONTOUR
		STORM DRAINAGE FLOW
T/C XXX.XX	+ 922.08	SPOT 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
SN	SN	SANITARY SEWER
FM	FM	FORCE MAIN
ST	ST	STORM SEWER
WM	WM	WATER MAIN
WL	WL	WATER LEAD
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
X	X	FENCE
	⊥	SIGN
TBR		TO BE REMOVED
CB T		STORM SEWER LABEL
GV T		WATER MAIN LABEL
		LIMITS OF GRADING/CLEARING
		WETLAND BOUNDARY
		LIMITS OF CLEARANCE/DISTURBANCE



TYPICAL BARRIER FREE PARKING SPACE
(NO SCALE)



TYPICAL PARKING SPACE
(NO SCALE)

SITE DETAILS

PARCEL # 4711-05-200-002
3850 GOLF CLUB RD.
HOWELL, MI 48843
46.5 AC +/-
GENOA TOWNSHIP

ZONING DISTRICT: LDR (LOW DENSITY RESIDENTIAL)

PROPOSED USE: CHURCH (SPECIAL USE REQUIRED)

MAX. LOT COVERAGE: N/A

MINIMUM LOT AREA FOR CHURCHES: 3 ACRES, PLUS 15,000 SF FOR EACH 100 PERSONS OF SEATING CAPACITY

MAX. BUILDING HEIGHT: 2 STORIES / 35 FEET; IF GREATER THEN FRONT, SIDE AND REAR YARDS ARE INCREASED ABOVE THE MINIMUM REQUIRED YARDS BY ONE FOOT FOR EACH FOOT OF BUILDING HEIGHT THAT EXCEEDS THE MAXIUM HEIGHT ALLOWED. THE MAX HEIGHT OF A STEEPLE SHALL BE 60 FEET.

SETBACKS FOR LDR

	REQUIRED	PROVIDED
FRONT:	50' (MEASURED FROM THE RIGHT OF WAY)	1358'
SIDE:	SMALLEST SIDE 30', 60' FOR BOTH	292.4'
REAR:	60'	118'

NATURAL FEATURES SETBACK: 25' FROM ALL REGULATED WETLANDS, PONDS, STREAMS SUBJECT TO SECTION 13.02

LANDSCAPE BUFFERS: GREENBELTS ALONG THE RIGHT-OF-WAY AND A LANDSCAPED BUFFER ZONE BASED ON ADJACENT ZONING SHALL BE PROVIDED AS REQUIRED IN SECTION 12.02. SEE SHEET 6.

PARKING SETBACK: WHEREVER AN OFF-STREET PARKING AREA IS ADJACENT TO A RESIDENTIAL DISTRICT, THERE SHALL BE A MINIMUM PARKING LOT SETBACK OF 50 FEET WITH A CONTINUOUS OBSCURING WALL, FENCE AND/OR LANDSCAPED AREA AT LEAST 4 FEET IN HEIGHT SHALL BE PROVIDED. THE TOWNSHIP BOARD MAY REDUCE THIS BUFFER BASED ON THE PROVISION OF LANDSCAPING. THE PRESENCE OF EXISTING TREES OR IN CONSIDERATION OF TOPOGRAPHIC CONDITIONS.

PARKING REQUIREMENTS:
CHURCHES
- 1 SPACE FOR EACH 3 SEATS OR 6 FEET OF PEWS IN THE MAIN UNIT OF WORSHIP
- DIMENSIONS FOR 90 DEGREE ARE 9 FT X 18 FT WITH 24 FOOT TWO-WAY DRIVE AISLE
- 506 SEATS / 3 SEATS = 168.66 PARKING SPACES REQUIRED
- 187 PROPOSED PARKING SPACES (8 ADA INCLUDED)

ACCORDING TO ORDINANCE RESIDENTIAL DISTRICTS ARTICLE 3.03.02 (L) --
CHURCHES, TEMPLES AND SIMILAR PLACES OF WORSHIP AND RELATED FACILITIES SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS:

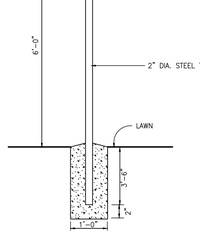
(1) MINIMUM LOT AREA SHALL BE THREE (3) ACRES PLUS AN ADDITIONAL FIFTEEN THOUSAND (15,000) SQUARE FEET FOR EACH ONE HUNDRED (100) PERSONS OF SEATING CAPACITY.

(2) BUILDINGS OF GREATER THAN THE MAXIMUM HEIGHT ALLOWED IN SECTION 3.04, DIMENSIONAL STANDARDS, MAY BE ALLOWED PROVIDED FRONT, SIDE AND REAR YARDS ARE INCREASED ABOVE THE MINIMUM REQUIRED YARDS BY ONE FOOT FOR EACH FOOT OF BUILDING HEIGHT THAT EXCEEDS THE MAXIMUM HEIGHT ALLOWED. THE MAXIMUM HEIGHT OF A STEEPLE SHALL BE SIXTY (60) FEET.

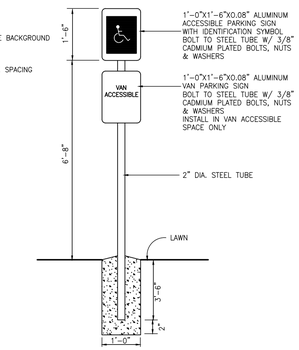
(3) WHEREVER AN OFF-STREET PARKING AREA IS ADJACENT TO A RESIDENTIAL DISTRICT, THERE SHALL BE A MINIMUM PARKING LOT SETBACK OF FIFTY (50) FEET WITH A CONTINUOUS OBSCURING WALL, FENCE AND/OR LANDSCAPED AREA AT LEAST FOUR (4) FEET IN HEIGHT SHALL BE PROVIDED. THE TOWNSHIP BOARD MAY REDUCE THIS BUFFER BASED ON THE PROVISION OF LANDSCAPING, THE PRESENCE OF EXISTING TREES OR IN CONSIDERATION OF TOPOGRAPHIC CONDITIONS.

(4) PRIVATE SCHOOLS AND CHILD DAY CARE CENTERS MAY BE ALLOWED AS AN ACCESSORY USE TO CHURCHES, TEMPLES AND SIMILAR PLACES OF WORSHIP WHERE THE SITE HAS ACCESS TO A PAVED PUBLIC ROADWAY.

SCALE: 1 INCH = 80 FEET



NO PARKING SIGN DETAIL
(NO SCALE)



HANDICAP PARKING SIGN DETAIL
(NO SCALE)

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. BEFORE BEGINNING WORK, THE CONTRACTOR SHALL VERIFY THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES. THE LOCATION AND ELEVATION OF EXISTING UTILITIES AND PROPOSED UTILITIES SHOWN ON THE PLANS ARE NOT GUARANTEED. IF ANY CONFLICTS ARE ENCOUNTERED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY CONFLICTS ARE FOUND TO EXIST OR IF ANY LOCATION OR DEPTH DIFFERS SIGNIFICANTLY FROM THE PLANS.

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HOWELL, MI. 48843
517.546.4836 FAX 517.548.1670

PROJECT
BIBLE BAPTIST CHURCH

PREPARED FOR
BIBLE BAPTIST CHURCH
2258 EAST HIGHLAND ROAD
HOWELL, MI 48843
517-715-9233

TITLE
OVERALL SITE PLAN

NO	BY	REVISION PER	DATE
1	ST	PER TWP REVIEW	4/21/22
2	ST	PER TWP REVIEW	3/16/22
3	ST	PER TWP REVIEW	2/23/22

DESIGNED BY: ST
DRAWN BY: JS
CHECKED BY:
SCALE 1" = 80'
JOB NO. 21-542
DATE 2/1/2022
SHEET NO. 4

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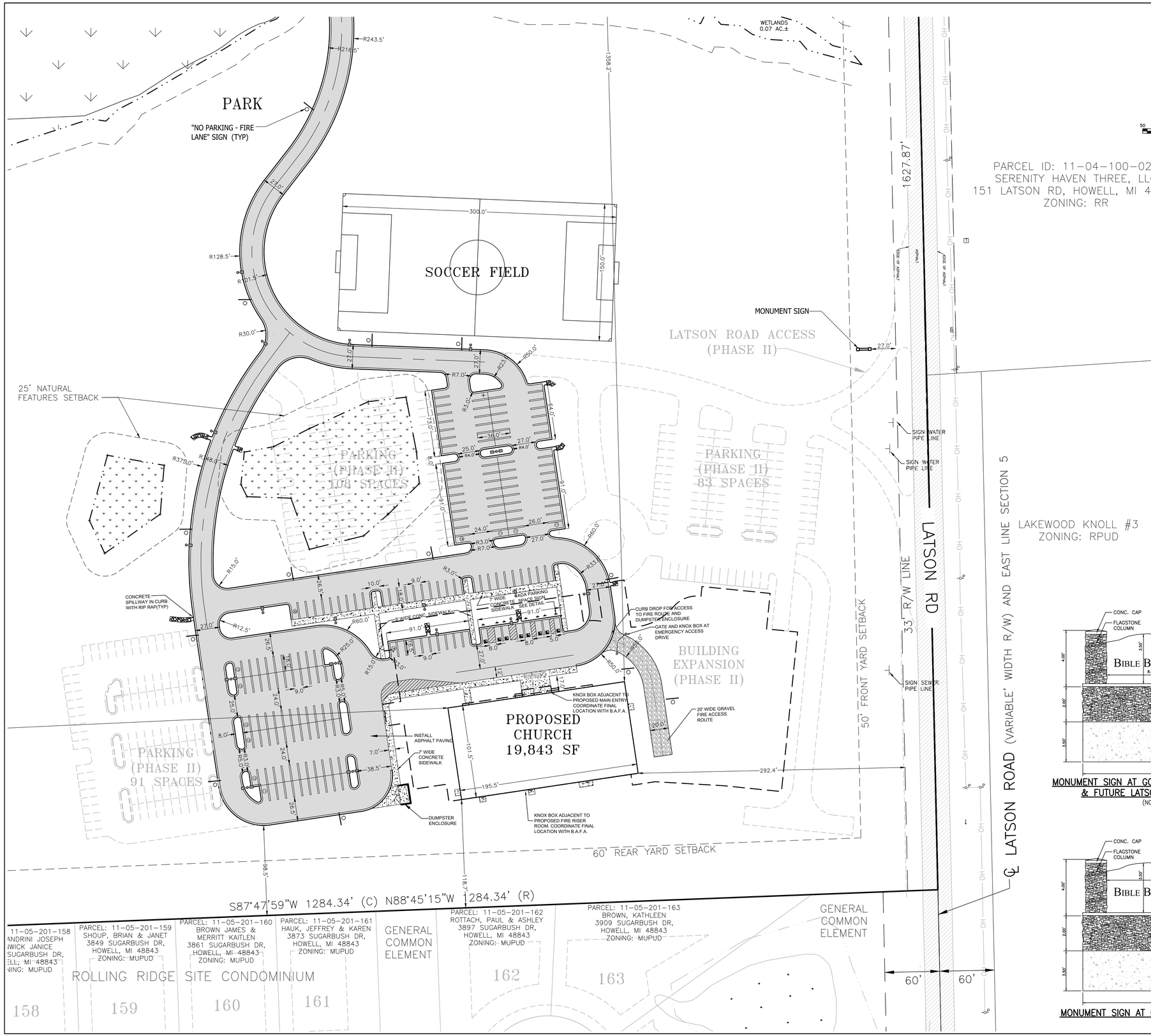
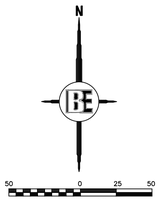


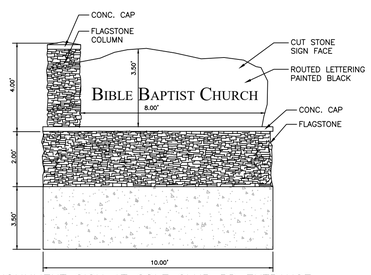


LEGEND

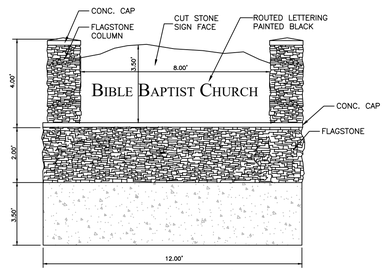
PROPOSED (PR)	EXISTING (EX)	
900	900	CONTOUR
T/C		STORM DRAINAGE FLOW
XXX.XX	+ 922.08	SPOT ELEVATION
FG	FG	FINISHED GRADE ELEVATION
T/A	T/A	TOP OF ASPHALT
T/C	T/C	TOP OF CURB / CONCRETE
T/W	T/W	TOP OF WALK
F/L	F/L	FLOW LINE
T/P	T/P	TOP OF PIPE
B/P	B/P	BOTTOM OF PIPE
RIM	RIM	RIM ELEVATION
INV	INV	INVERT 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
SN	SN	SANITARY SEWER
FM	FM	FORCE MAIN
ST	ST	STORM SEWER
WM	WM	WATER MAIN
WL	WL	WATER LEAD
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
X	X	FENCE
		SIGN
TBR		TO BE REMOVED
CB 1		STORM SEWER LABEL
GV 1		WATER MAIN LABEL
		LIMITS OF GRADING/CLEARING
		WETLAND BOUNDARY
		LIMITS OF CLEARANCE/DISTURBANCE

GENERAL NOTES

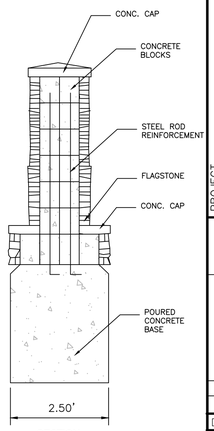
1. ALL OUTDOOR LIGHTS SHALL BE SHIELDED TO REDUCE GLARE AND SHALL BE ARRANGED TO NOT INTERFERE WITH THE VISION OF PERSONS ON ADJACENT ROADWAYS OR ADJACENT PROPERTY.
2. ALL SIGNS SHALL MEET LOCAL MUNICIPALITY ORDINANCE REQUIREMENTS.
3. FUTURE ACCESS DRIVE FROM LATSON ROAD TO CONFORM TO BAFA'S ACCESS STANDARDS.
4. THE CHURCH SHALL INCLUDE THE BUILDING ADDRESS A MINIMUM 6" HIGH LETTERS OF CONTRASTING COLORS AND BE CLEARLY VISIBLE FROM THE STREET. THE LOCATION AND SIZE SHALL BE VERIFIED PRIOR TO INSTALLATION.
5. ONE SIDE OF THE STREET SHALL BE MARKED AS A FIRE LANE AND SHALL HAVE APPROPRIATE SIGNAGE.
6. ACCESS ROADS TO THE SITE SHALL BE PROVIDED AND MAINTAINED DURING CONSTRUCTION.
7. ACCESS ROADS SHALL BE CONSTRUCTED TO BE CAPABLE OF SUPPORTING THE IMPOSED LOAD OF FIRE APPARATUS WEIGHING AT LEAST 84,000 POUNDS.
8. A MINIMUM VERTICAL CLEARANCE OF 13.5 FEET SHALL BE MAINTAINED THROUGHOUT THE SITE. THIS INCLUDES ENCROACHMENTS FROM LARGE TREE CANOPIES, LIGHTING, ETC.
9. DURING THE CONSTRUCTION PROCESS, THE BUILDING WILL BE EVALUATED FOR EMERGENCY RESPONDER RADIO SIGNAL STRENGTH. IF COVERAGE IS FOUND TO BE QUESTIONABLE OR INADEQUATE; AN APPROVED CONTRACTOR SHALL BE HIRED TO PERFORM A GRID TEST OF THE FACILITY. IF THE SIGNAL STRENGTH COVERAGE IS FOUND TO BE NON-COMPLIANT, AN APPROVED EMERGENCY RESPONDER RADIO COVERAGE SYSTEM SHALL BE PROVIDED IN THE BUILDING.
10. SITE LIGHTING SHALL BE PLACED ON TIMERS TO BE OFF DURING NON-USE HOURS TO THE EXTENT POSSIBLE WHILE MAINTAINING SITE SAFETY.



MONUMENT SIGN AT GOLF CLUB RD ENTRANCE & FUTURE LATSON RD ENTRANCE
(NO SCALE)



MONUMENT SIGN AT GOLF CLUB/LATSON INTERSECTION
(NO SCALE)



SECTION

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PROJECT
BIBLE BAPTIST CHURCH

PREPARED FOR
BIBLE BAPTIST CHURCH
2258 EAST HIGHLAND ROAD
HOWELL, MI 48843
517-715-9233

TITLE
CHURCH CAMPUS SITE PLAN

NO	BY	REVISION PER	DATE
3	ST	PER TWP REVIEW	4/21/22
2	ST	PER TWP REVIEW	3/16/22
1	ST	PER TWP REVIEW	2/23/22

DESIGNED BY: ST
DRAWN BY: JS
CHECKED BY:
SCALE 1" = 50'
JOB NO. 21-542
DATE 2/01/2022
SHEET NO. 5

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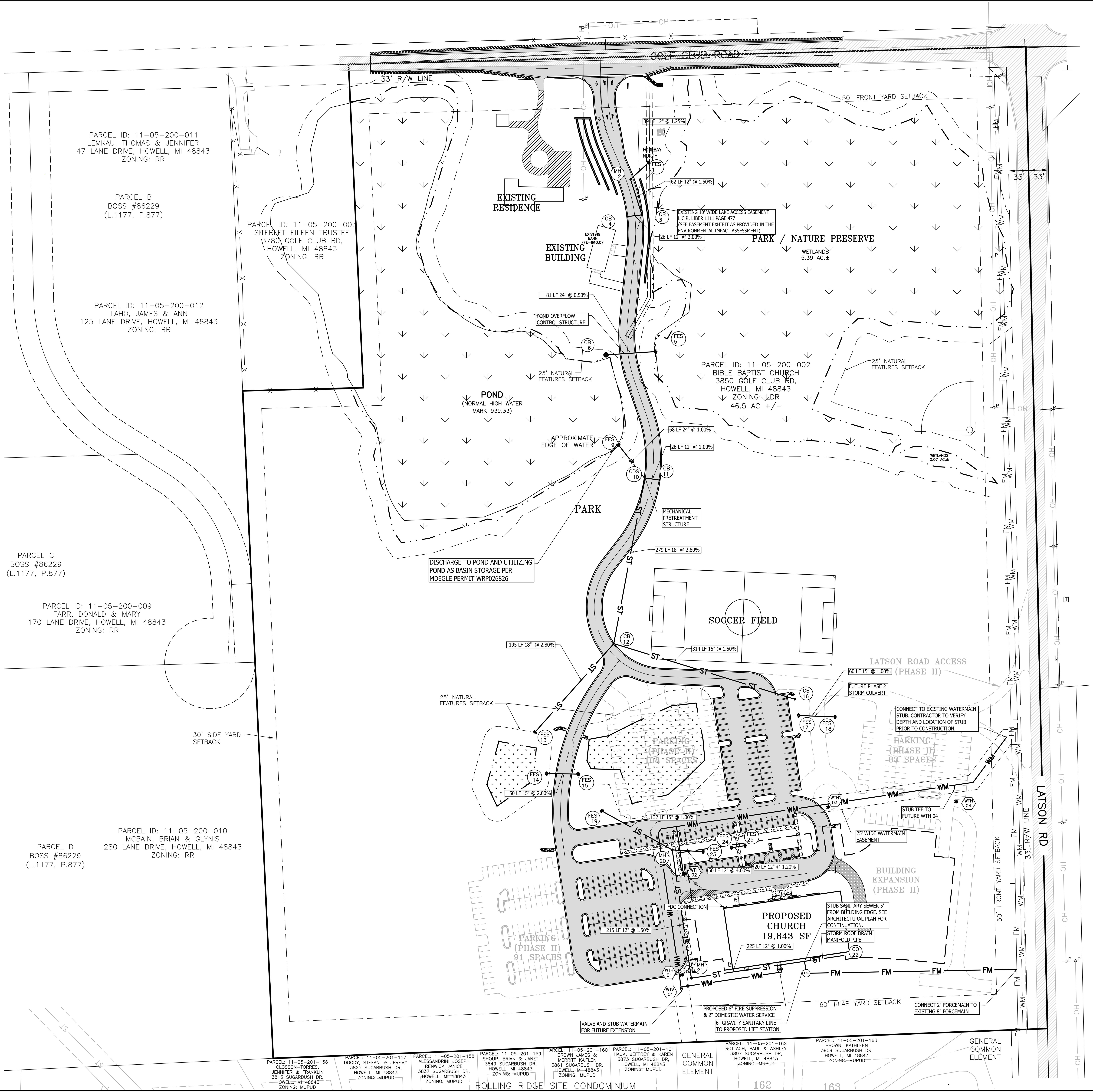

N

SCALE: 1 INCH = 80 FEET

LEGEND

PROPOSED (PR)	EXISTING (EX)	
900	900	CONTOUR
		STORM DRAINAGE FLOW
T/C XXX.XX	+ 922.08	SPOT 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
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HY	HY	HYDRANT
UP	UP	UTILITY POLE
SN	SN	SANITARY SEWER
FM	FM	FORCE MAIN
ST	ST	STORM SEWER
WM	WM	WATER MAIN
WL	WL	WATER LEAD
OH	OH	OVERHEAD WIRE
C	C	CABLE
E	E	ELECTRIC
G	G	GAS
T	T	TELEPHONE
		MANHOLE
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		FLARED END-SECTION
		GATE VALVE
		HYDRANT
		UTILITY POLE
X	X	FENCE
		SIGN
TBR		TO BE REMOVED
CB 1		STORM SEWER LABEL
GV 1		WATER MAIN LABEL
		WETLAND BOUNDARY

NOTES

1. A WATERMAIN PERMIT (ACT 399) SHALL BE OBTAINED PRIOR TO CONSTRUCTION.
2. ALL WORK SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF GENOA TOWNSHIP, LIVINGSTON COUNTY, AND THE STATE OF MICHIGAN.
3. THREE WORKING DAYS BEFORE YOU DIG, CALL MISS DIG TOLL FREE 1-800-482-7171.
4. ALL LENGTHS SHOWN ARE FROM ℄ TO ℄ OF STRUCTURE OR FROM ℄ OF STRUCTURE TO DISCHARGE END OF FLARED END SECTION.
5. ALL STORM SEWER UNDER THE ROADBED AND WITHIN GREEN SPACE SHALL BE ADS HP WITH WATERTIGHT PREMIUM JOINTS, UNLESS OTHERWISE NOTED ON PLAN.
6. ALL OPEN INLET OR OUTLET END OF STORM SEWER AND CULVERTS SHALL INCLUDE PREFAB FLARED-END SECTION AND MINIMUM 15 SQ. YD. OF PLAIN COBBLESTONE RIP-RAP (6 INCH MIN. SIZE), UNLESS OTHERWISE SPECIFIED.
7. APPROPRIATE SOIL EROSION CONTROL MEASURES SHALL BE ESTABLISHED PRIOR TO BEGINNING CONSTRUCTION AND CONTINUOUSLY MAINTAINED BY CONTRACTOR UNTIL VEGETATION HAS BEEN RE-ESTABLISHED.
8. ALL CATCH BASIN RIM ELEVATIONS ARE AT FLOW LINE.
9. ALL CURB SHALL BE "HIGH BACK" CURB. ENTRANCE SHALL BE "B2" CURB, UNLESS OTHERWISE NOTED.
10. FOR ALL WORK WITHIN ROAD RIGHT-OF-WAY, SEE STANDARDS AND SPECIFICATIONS, LIVINGSTON COUNTY ROAD COMMISSION STANDARD DETAILS FOR RESIDENTIAL STREETS.
11. MINIMUM 10' HORIZONTAL SEPARATION AND 18" VERTICAL SEPARATION SHALL BE MAINTAINED BETWEEN UTILITIES AT ALL TIMES. A CONCRETE COLLAR SHALL BE USED WHEREVER THE MINIMUM 18" VERTICAL SEPARATION CANNOT BE MET BETWEEN STORM SEWER AND SANITARY MAIN. SEE STORM SEWER CONSTRUCTION DETAIL SHEET FOR CONCRETE COLLAR DETAIL.
12. SEE STANDARDS AND SPECIFICATIONS ON WATER MAIN STANDARD NOTES AND WATER MAIN STANDARD DETAILS SHEETS.
13. WATER MAIN SHALL BE 8" DUCTILE IRON PIPE CLASS 52.
14. WATER MAIN SHALL HAVE MINIMUM 5 1/2 FEET OF COVER AND MAX 8 1/2' COVER.
15. HYDRANTS AT CURB TO BE A MINIMUM OF 3' & MAXIMUM 10' OFF BACK OF CURB (TYP.)
16. PER MHOG STANDARDS, GATE VALVES AND BOXES ARE TO BE UTILIZED ON WATERMAIN 12 INCHES AND SMALLER.
17. A FULL PIPE LENGTH (20') IS TO BE INSTALLED AT ALL WATERMAIN PIPE CROSSINGS, CENTERED UNDER THE CONFLICTING PIPE.
18. ALL PIPE THAT IS TO BE INSTALLED ABOVE THE EXISTING GROUND SHALL BE BACKFILLED WITH ENGINEERING FILL COMPACTED TO 95% MAX DRY UNIT WEIGHT.

STORM STRUCTURE TABLE

STRUCTURE NAME	STRUCTURE DETAILS
CB3 48Ø COVER TYPE 'C' 2' SUMP	RIM = 938.80 SUMP = 2' 12" INV W = 933.92 12" INV N = 933.92
CB4 24Ø COVER TYPE 'C' 2' SUMP	RIM = 938.80 SUMP = 2' 12" INV E = 934.44
CB6 24Ø COVER TYPE 'GRATE' 2' SUMP	RIM = 940.50 SUMP = 2' 24" INV E = 935.27
CB11 24Ø COVER TYPE 'C' 2' SUMP	RIM = 948.08 SUMP = 2' 12" INV W = 942.74
CB12 48Ø COVER TYPE 'C' 2' SUMP	RIM = 965.93 SUMP = 2' 15" INV E = 959.60 18" INV SW = 958.90 21" INV N = 952.90
CB16 48Ø COVER TYPE 'E' 2' SUMP	RIM = 970.00 SUMP = 2' 15" INV W = 964.31
CDS10 96 Ø COVER TYPE 'C' 6' SUMP	RIM = 948.08 SUMP = 6' 21" INV S = 945.08 12" INV E = 942.48 24" INV NW = 941.68
CO22 24 Ø COVER TYPE 'A' 2' SUMP	RIM = 979.80 SUMP = 2' 12" INV W = 975.80
FES1	18" INV SW = 932.50
FES5	24" INV W = 934.86
FES9	24" INV SE = 941.00
FES13	18" INV NE = 964.36
FES14	15" INV E = 964.00
FES15	15" INV W = 965.00
FES17	15" INV E = 971.00

STORM STRUCTURE TABLE

STRUCTURE NAME	STRUCTURE DETAILS
FES18	15" INV W = 971.60
FES19	15" INV SE = 968.00
FES23	12" INV W = 975.27
FES24	12" INV E = 976.28
FES25	12" INV W = 976.52
MH2 48Ø COVER TYPE 'A' 0' SUMP	RIM = 939.42 SUMP = 0' 12" INV S = 932.99 18" INV NE = 932.99
MH20 48Ø COVER TYPE 'A' 2' SUMP	RIM = 978.94 SUMP = 2' 12" INV E = 973.27 12" INV S = 970.02 15" INV NW = 969.32
MH21 48Ø COVER TYPE 'A' 2' SUMP	RIM = 979.00 SUMP = 2' 12" INV E = 973.25 12" INV N = 973.25

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 (TOLL FREE) FOR THE LOCATION OF UNDERGROUND FACILITIES

BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.546.4836 FAX 517.548.1670

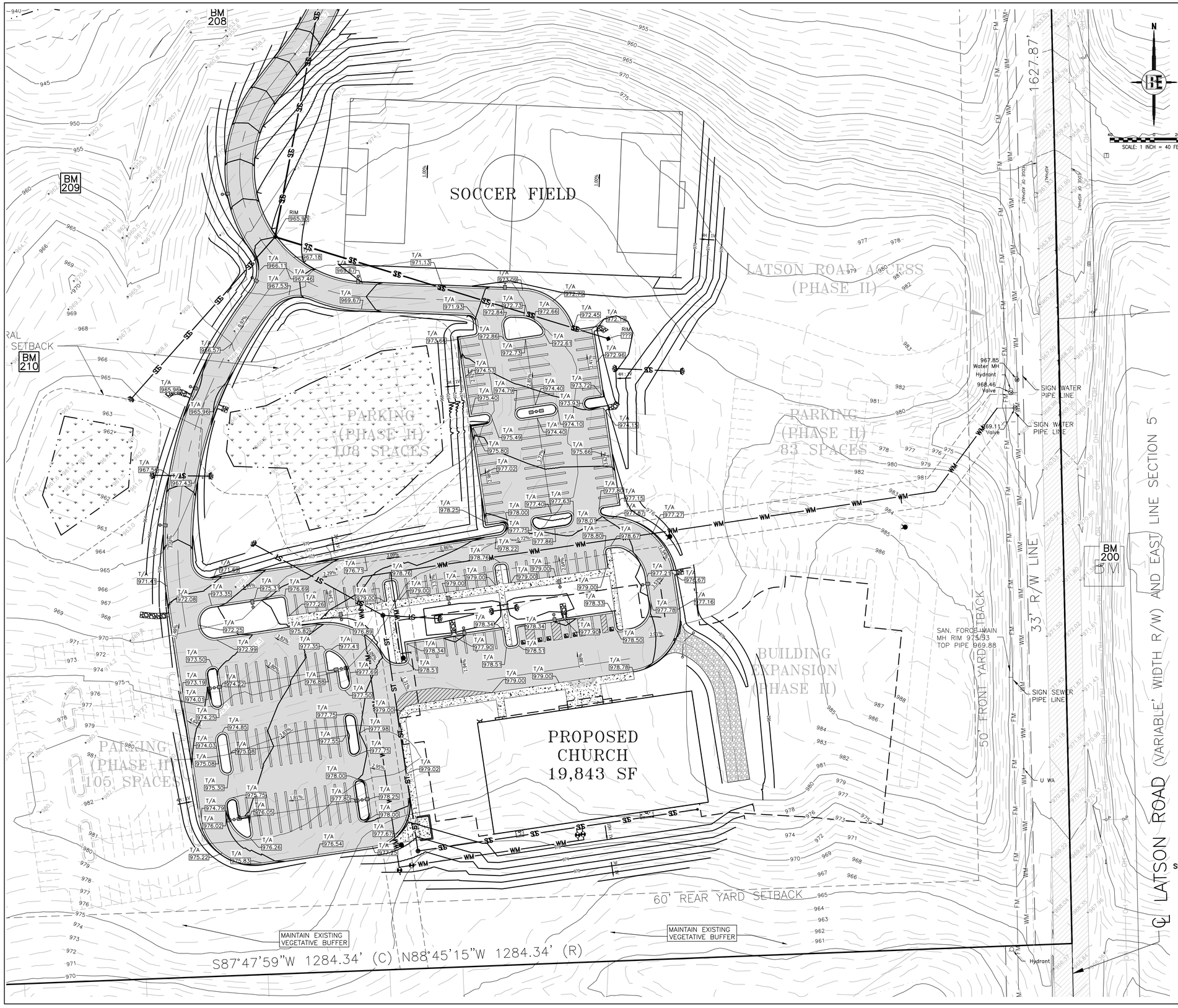
PROJECT
BIBLE BAPTIST CHURCH

PREPARED FOR
BIBLE BAPTIST CHURCH
2258 EAST HIGHLAND ROAD
HOWELL, MI 48843
517-715-9233

TITLE
UTILITY PLAN

NO	BY	REVISION PER	DATE
3	ST	PER TWP REVIEW	4/21/22
2	ST	PER TWP REVIEW	3/16/22
1	ST	PER TWP REVIEW	2/23/22

DESIGNED BY: ST
DRAWN BY: JS
CHECKED BY:
SCALE 1" = 80'
JOB NO. 21-542
DATE 2/1/2022
SHEET NO. 6



LEGEND

PROPOSED (PR)	EXISTING (EX)	
900	900	CONTOUR
T/C		STORM DRAINAGE FLOW
XXX.XX	+ 922.08	SPOT 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
SN	SN	SANITARY SEWER
FM	FM	FORCE MAIN
ST	ST	STORM SEWER
WM	WM	WATER MAIN
WL	WL	WATER LEAD
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
X	X	FENCE
	⊥	SIGN
TBR		TO BE REMOVED
CB		STORM SEWER LABEL
GV 1		WATER MAIN LABEL
		WETLAND BOUNDARY
		LIMITS OF CLEARANCE/DISTURBANCE

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. NO WARRANTY IS MADE BY THE ENGINEER FOR THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL UTILITIES BEFORE BEGINNING ANY CONSTRUCTION. IF THE CONTRACTOR FINDS THAT THE LOCATION AND ELEVATION OF EXISTING UTILITIES AND PROPOSED UTILITIES ARE IN CONFLICT, OR THAT ADDITIONAL UTILITIES ARE ENCOUNTERED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY CONFLICTS ARE ANTICIPATED, OR IF THE LOCATION OR DEPTH DIFFERS SIGNIFICANTLY FROM THE PLANS.

3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171 (TOLL FREE) It's the LAW!!! MISS DIG

BE BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.546.4836 FAX 517.548.1670

PROJECT: **BIBLE BAPTIST CHURCH**

PREPARED FOR: **BIBLE BAPTIST CHURCH**
2258 EAST HIGHLAND ROAD
HOWELL, MI 48843
517-715-9233

TITLE: **GRADING PLAN**

NO	BY	REVISION PER	DATE
2	ST	PER TWP REVIEW	3/16/22
1	ST	PER TWP REVIEW	2/23/22

DESIGNED BY: ST
DRAWN BY: JS
CHECKED BY:
SCALE 1" = 40'
JOB NO. 21-542
DATE 12/01/2021
SHEET NO. 7

SITE BENCHMARKS (NAVD88 DATUM):

–BM #200 = NAIL/TAG W/S P.POLE E/S LASTON RD. 785'± NORTH OF CONOVER CT.. ELEV.=971.41

–BM #201 = ARROW ON HYD W/S OF LASTON RD. 135'± SOUTH OF GOLF CLUB RD.. ELEV.=939.50

–BM #203 = FD. R.R. E/S OF GUY POLE W/S OF LASTON RD. 44'± SOUTH OF GOLF CLUB RD.. ELEV.=942.12

–BM #205 = PK NAIL/TAG W/S 40" WILLOW TREE 170'± SOUTH OF GOLF CLUB RD. & 160'± NORTH OF BARN. ELEV.=935.10

–BM #206 = LANDSCAPE SPIKE SET S/E CORNER OF POLE BARN. ELEV.=940.32

–BM #207 = PK NAIL/TAG S/S 12" MAPLE TREE S/S OF POND. ELEV.=945.31

–BM #208 = PK NAIL/TAG SET 10" PINE TREE 50'± EAST OF TWO TRACK RUNNING N&S & 150'± SOUTH OF POND, N/S OF TWO TRACK RUNNING E&W. ELEV.=954.73

–BM #209 = PK NAIL/TAG S/S 12" ELM TREE 142'± SOUTH OF POND. ELEV.=959.69

–BM #210 = PK NAIL/TAG E/S 8" PINE TREE 330'± SOUTH OF POND. ELEV.=966.83

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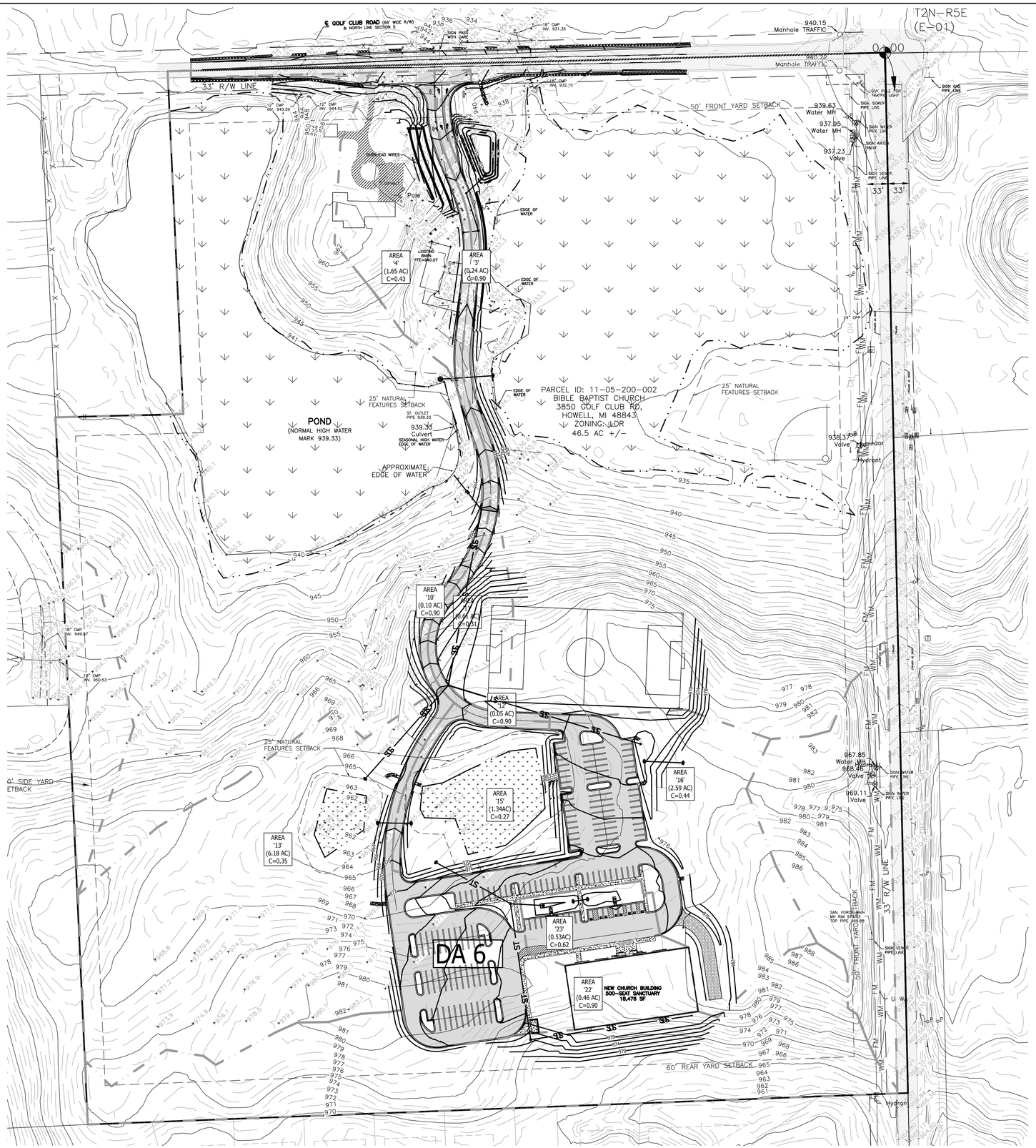

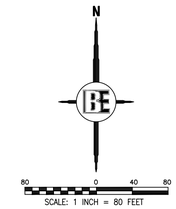

LEGEND

PROPOSED (PR)	EXISTING (EX)	
900	900	CONTOUR
		STORM DRAINAGE FLOW
T/C XXX.XX	+ 922.08	SPOT 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
	SN	SANITARY SEWER
	FM	FORCE MAIN
	ST	STORM SEWER
	WM	WATER MAIN
	WL	WATER LEAD
	OH	OVERHEAD WIRE
	C	CABLE
	E	ELECTRIC
	G	GAS
	T	TELEPHONE
		MANHOLE
		INLET / CATCHBASIN
		FLARED END-SECTION
		GATE VALVE
		HYDRANT
		UTILITY POLE
X	X	FENCE
		SIGN
TBR		TO BE REMOVED
CB		STORM SEWER LABEL
GV 1		WATER MAIN LABEL
		WETLAND BOUNDARY
		PROPOSED DRAINAGE AREA

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. BE BOSS ENGINEERING DOES NOT ASSUME THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF EXISTING UTILITIES AND PROPOSED UTILITIES PRIOR TO THE START OF CONSTRUCTION. IF ANY CONFLICTS ARE ENCOUNTERED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY CONFLICTS ARE FOUND TO EXIST OR IF ANY ADJUSTMENT IN LOCATION OR DEPTH DIFFERS SIGNIFICANTLY FROM THE PLANS.

3 WORKING DAYS
BEFORE YOU
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1-800-482-7171
(TOLL FREE)
IT'S THE LAW!
MISS DIG

DRAINAGE NARRATIVE:

PRE-DEVELOPMENT:
IN GENERAL, THE SITE SLOPES NORTHERLY TOWARDS AN EXISTING OPEN WATER POND AND WETLAND AT THE NORTH PORTION OF THE PROPERTY. WATER FROM THE OPEN WATER POND DISCHARGES THROUGH AN EXISTING STANDPIPE EASTERLY TO THE EXISTING WETLAND AND THEN RUNS NORTHERLY UNDERNEATH GOLF CLUB ROAD. A SMALL PORTION OF THE PROPERTY SLOPES EASTERLY DIRECTLY TO LATSON ROAD RIGHT OF WAY AS WELL AS SOME AREA SLOPING DIRECTLY SOUTHERLY TO THE EXISTING ROLLING RIDGE SITE CONDO.

POST-DEVELOPMENT:
THE OVERALL DRAINAGE PATTERNS ON THE SITE AFTER DEVELOPMENT REMAIN GENERALLY THE SAME. THERE WILL A REDUCTION IN DRAINAGE AREA DIRECTLY DISCHARGING TO THE ROLLING RIDGE SITE CONDO TO THE SOUTH. THE DIRECT DRAINAGE TO LATSON ROAD RIGHT OF WAY WILL REMAIN UNCHANGED. THE PROPOSED CHURCH AND ALL IMPERVIOUS SURFACES WILL BE DIRECTED VIA A COMBINATION OF ENCLOSED STORM SEWER AS WELL AS OPEN SWALES NORTHERLY TO A MECHANICAL PRETREATMENT UNIT. THE MECHANICAL PRETREATMENT UNIT WILL TREAT THE STORMWATER FROM THE FIRST FLUSH PER NEW LCDC STANDARDS AND DISCHARGE TO THE EXISTING POND ON THE NORTHWEST PORTION OF THE PROPERTY. STORAGE IS WITHIN THE OPEN WATER POND PRIOR TO DISCHARGE INTO THE EAST WETLAND, WHICH IS PERMITTED UNDER MDEGLE PERMIT #WRP026826. THERE IS A NORTH FOREBAY WHOSE DRAINAGE AREAS IS LIMITED TO THE NORTHERN PORTION OF THE PROPOSED COMMERCIAL DRIVE. THIS NORTHERN FOREBAY DISCHARGES DIRECTLY TO THE EAST WETLAND AND IS PERMITTED UNDER MDEGLE PERMIT #WRP026826.

FUTURE DEVELOPMENT:
THE PLANS FOR A CHURCH EXPANSION ARE ANTICIPATED AT A LATER DATE, WITH A REASONABLE EXPECTED LAYOUT PROVIDED AT THIS TIME FOR THIS FUTURE EXPANSION. SINCE THIS FUTURE EXPANSION IS KNOWN, THE STORM SEWER CALCULATIONS AND FOREBAY/MECHANICAL PRETREATMENT UNITS HAVE BEEN SIZED ACCORDINGLY TO ACCOUNT FOR FUTURE CHURCH DEVELOPMENT, THUS MITIGATING UNNECESSARY DISTURBANCE DURING THE EXPANSION PROJECT. AS WAS THE CASE IN THE POST-DEVELOPED CONDITION, THE DRAINAGE AREA DISCHARGING DIRECTLY TO THE ROLLING RIDGE SITE CONDO TO THE SOUTH WILL BE REDUCED YET AGAIN IN THE FUTURE CONDITION. THE DRAINAGE TO THE LATSON ROAD RIGHT OF WAY WILL NEED TO BE APPROVED BY LCRC.

BE BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.546.4836 FAX 517.548.1670

PROJECT
BIBLE BAPTIST CHURCH

PREPARED FOR
BIBLE BAPTIST CHURCH
22258 EAST HIGHLAND ROAD
HOWELL, MI 48843
517-715-9233

TITLE
DRAINAGE PLAN

NO	BY	REVISION PER	DATE
2	ST	PER TWP REVIEW	3/16/22
1	ST	PER TWP REVIEW	2/23/22

DESIGNED BY: ST
DRAWN BY: JS
CHECKED BY:
SCALE 1" = 80'
JOB NO. 21-542
DATE 2/1/2022
SHEET NO. 8

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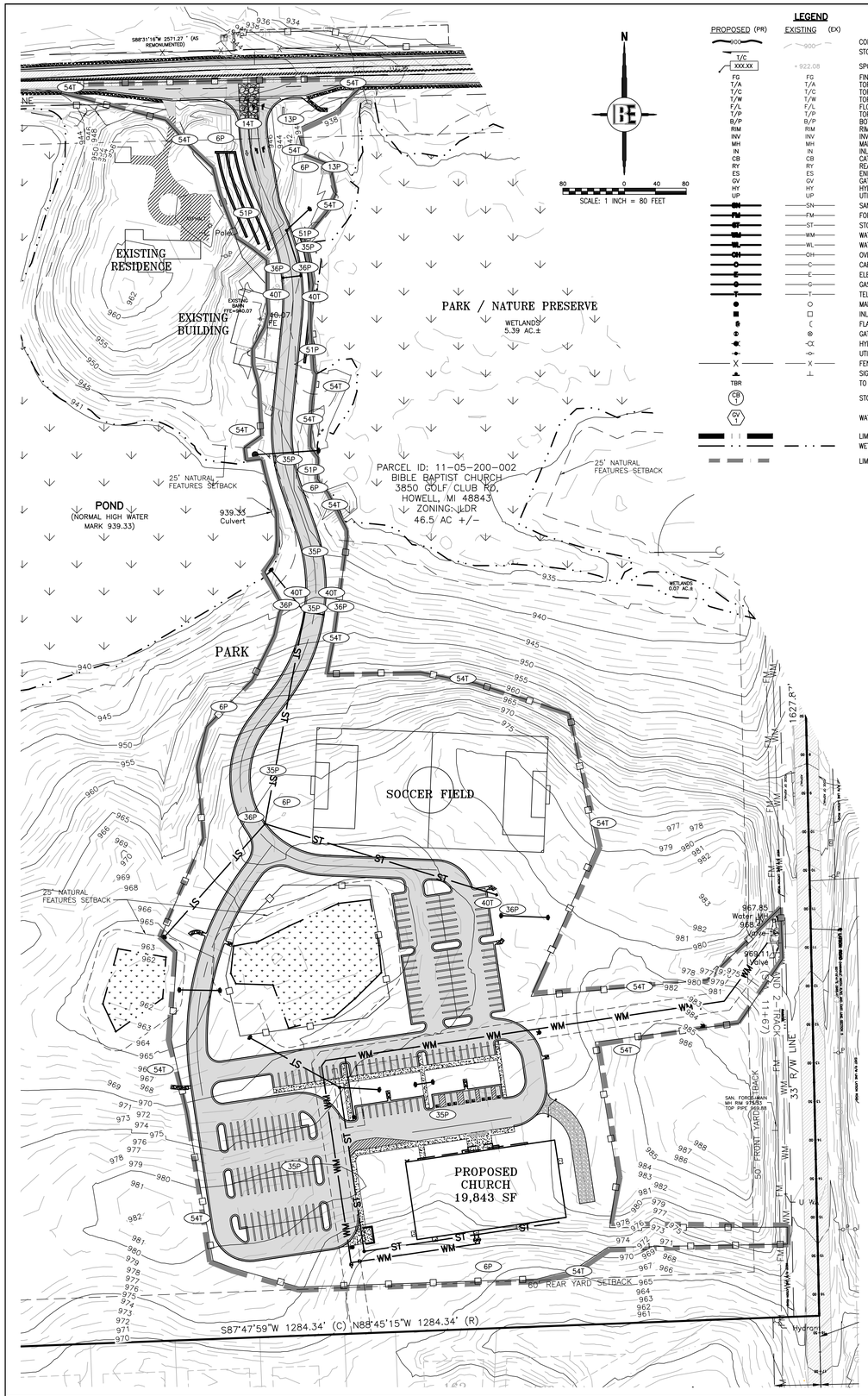


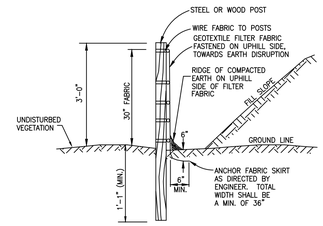
LEGEND

PROPOSED (PR)	EXISTING (EX)	
900	900	CONTOUR
		STORM DRAINAGE FLOW
T/C XXX.XX	+ 922.08	SPOT 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
SN	SN	SANITARY SEWER
FM	FM	FORCE MAIN
ST	ST	STORM SEWER
WM	WM	WATER MAIN
WL	WL	WATER LEAD
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
X	X	FENCE
	⊥	SIGN
TBR		TO BE REMOVED
CB 1		STORM SEWER LABEL
GV 1		WATER MAIN LABEL
		LIMITS OF GRADING/CLEARING
		WETLAND BOUNDARY
		LIMITS OF CLEARANCE/DISTURBANCE

SOIL EROSION CONTROL MEASURES

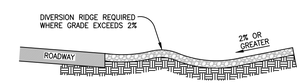
SILT FENCE

T=TEMPORARY, P=PERMANENT
TOTAL DISTURBED AREA = 11.65 AC

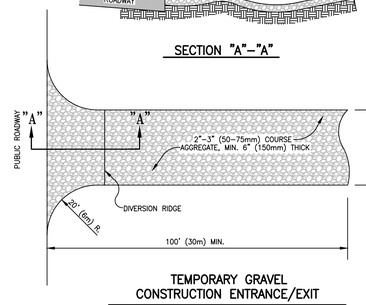


SILT FENCE DETAIL

NO SCALE

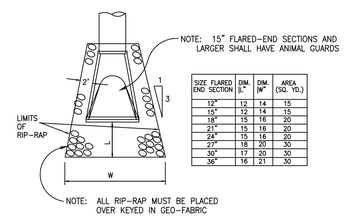


SECTION "A"–"A"



TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT

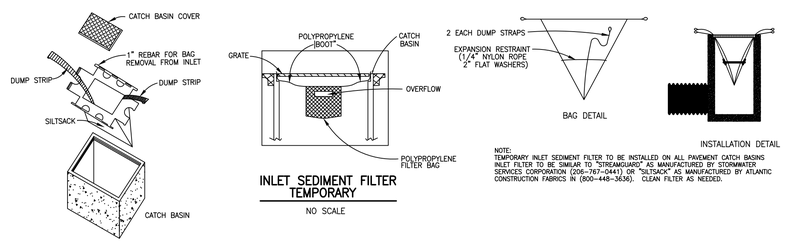
NO SCALE



SIZE FLARED END SECTION	DIM. "L"	DIM. "W"	AREA (SQ. YD.)
12"	12	14	15
15"	12	14	15
18"	15	16	20
21"	15	16	20
24"	15	16	20
27"	18	20	30
30"	17	20	30
36"	16	21	30

TYPICAL RIP-RAP DETAIL

(SCALE: NONE)



INLET SEDIMENT FILTER TEMPORARY

NO SCALE

NOTE:
TEMPORARY INLET SEDIMENT FILTER TO BE INSTALLED ON ALL PAVEMENT CATCH BASINS INLET FILTER TO BE SIMILAR TO "STREAMGUARD" AS MANUFACTURED BY STORMWATER SERVICES CORPORATION (206-767-0441) OR "SILTSACK" AS MANUFACTURED BY ATLANTIC CONSTRUCTION FABRICS IN (800-448-3636). CLEAN FILTER AS NEEDED.

SURFACE WATER & COUNTY DRAINS

WETLAND – ON SITE
LAKES – APPROXIMATELY 5,710 FT SE TO LAKE CHEMUNG
STREAMS – APPROXIMATELY 660 FT N OF GOLF CLUB RD.
BASINS – APPROXIMATELY 1,872 FT W OF PARCEL
DRAINS – APPROXIMATELY 1,024 FT EAST TO GENOA NO. 5 DRAIN NO. X
PONDS – ON SITE

CONSTRUCTION SEQUENCE

THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT EROSION IS MINIMIZED AND THAT COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS, REGULATIONS, AND ORDINANCES IS MAINTAINED THROUGHOUT EXECUTION OF THIS PROJECT.

1 DAY	1.	INSTALL SILT FENCE AS SHOWN ON PLANS.
30 DAYS	2.	ROUGH GRADE AND INSTALL STORM DRAINAGE.
1 DAY	3.	INSTALL INLET PROTECTION ON STORM INLETS.
4 DAYS	5.	INSTALL PAVEMENT
5 DAYS	6.	FINE GRADE, SPREAD TOPSOIL, SEED OR SOD AS APPLICABLE.
1 DAY	7.	REMOVE ALL EROSION CONTROL STRUCTURES.
1 DAY	8.	REMOVE ACCUMULATED SILT FROM ALL EXISTING DRAINAGE.

CONTROLS & MEASURES POST CONSTRUCTION SEQUENCE

ACTIVITY	WEEKLY	MONTHLY	AS REQUIRED
MAINTAIN LANDSCAPING, REPLACE MULCH	X	X	X
CLEAN INLETS		X	X
COLLECT LITTER	X		X
SWEEP PARKING LOT		X	X

CONTROLS & MEASURES NARRATIVE

ACTIVITY	DESCRIPTION
MAINTAIN LANDSCAPING, REPLACE MULCH	COLLECT GRASS, TREE, AND SHRUB CLIPPINGS. DISPOSE IN APPROVED CONTAINER. REPLACE DEAD SOD, TREES AND SHRUBS.
CLEAN INLETS	REMOVE LITTER, SEDIMENT, AND DEBRIS. DISPOSE OF IN APPROVED LANDFILL.
COLLECT LITTER	DISPOSE OF WITH INLET DEBRIS.
SWEEP PARKING LOT	REMOVE MUD, DIRT, GREASE AND OIL WITH PERIODIC SWEEPING
DUST CONTROL	SPRINKLE WATER AS NEEDED

LIVINGSTON COUNTY SOIL EROSION PERMIT TEMPLATE TEMPORARY CONTROLS AND SEQUENCE

1. NOTIFY LIVINGSTON COUNTY DRAIN COMMISSIONER'S OFFICE 24 HOURS PRIOR TO START OF GRADE WORK.
2. IN ACCORDANCE WITH PUBLIC ACT NO. 53, OF 1974 THE PERMIT HOLDER SHALL CALL MISS DIG FOR STAKING AND LOCATING OF UTILITIES, AT LEAST 72 HOURS IN ADVANCE OF THE START OF ANY WORK.

PERMITTING STANDARDS

3. (IMPORTANT NOTICE) RETENTION/DETENTION PONDS SHALL BE EXCAVATED, TOPSOILED, SEEDED, MULCHED AND TACKED PRIOR TO THE START OF MASSIVE EARTH DISRUPTION. INGRESS/EGRESS MUST HAVE LARGE CRUSHED ROCK TO REDUCE THE TRACKING OF SOIL ONTO THE PUBLIC TRAFFIC AREAS. SEE DETAIL ITEMS BELOW.
4. 36" M.D.O.T SPECIFICATION TYPE SILT FABRIC FENCE AS SHOWN ON PLANS SHALL BE PLACED AND MAINTAINED ALONG PERIMETER ON ALL LOW LYING AREAS OF THE CONSTRUCTION SITE TO FILTER RUNOFF BEFORE LEAVING PROJECT SITE.
5. ALL TEMPORARY EROSION CONTROL DEVICES AS NOTED ON PLANS SHALL BE INSTALLED PRIOR TO THE START OF MASSIVE EARTH DISTRIBUTION.
6. PLAN DOES DENOTE A DETAILED EROSION CONTROL DEVICE TO RESTRICT TRACKING OF MATERIAL ONTO THE HIGHWAY. STONE DIAPERS SHALL BE INSTALLED AT ALL INGRESS/EGRESS AREAS OF THE SITE PRIOR TO THE START OF MASSIVE EARTH DISRUPTION. DIAPERS SHALL BE OF CRUSHED STONE AND SHALL HAVE A MINIMUM LENGTH OF 100' LINEAL FEET.

RETENTION PONDS

7. RETENTION/DETENTION/SEDIMENTATION PONDS SHALL BE EXCAVATED, TOPSOILED, SEEDED, MULCHED AND TACKED PRIOR TO THE START OF MASSIVE EARTH DISRUPTION.
8. DETENTION POND OUTLETS SHALL BE OF THE STANDPIPE AND STONE FILTER SYSTEM, WITH TRASH SCREEN. OUTLET FLOW SHALL NOT EXCEED 0.20 CUBIC FEET OF WATER PER SECOND/PER ACRE. POND DIKES SHALL HAVE A MINIMUM OF ONE (1) FOOT OF FREEBOARD. AN EMERGENCY SPILLWAY SHALL BE CONSTRUCTED WITHIN THE FREEBOARD LEVEL.
9. THE EMERGENCY SPILLWAY FROM THE DETENTION POND SHALL BE SODDED AND PEGGED, OR RIP RAPPED, 15 FEET PAST THE TOE OF THE SLOPE OF THE BERM.
10. DIKES AND BERMS SHALL BE FREE OF ALL ORGANIC MATTER.
11. RETENTION/DETENTION PONDS SHALL BE FENCED WITH A 4' CHAIN LINK FENCE, INCLUDING A 12' ACCESS GATE FOR MAINTENANCE UNLESS MINIMUM 5 FT. HORIZONTAL TO 1 FT. VERTICAL SIDE SLOPES ARE PROVIDED. THE FENCE SHALL BE INSTALLED AT THE OUTER PORTION OF THE BERM, TO ALLOW FOR MAINTENANCE WORK TO BE DONE INSIDE THE FENCE.
12. ALL UNIMPROVED DISTURBED AREAS SHALL BE STRIPPED OF TOPSOIL WHICH WILL BE STORED ONSITE DURING THE EXCAVATING STAGE. TOPSOIL PILES SHALL BE SEEDED AND MULCHED, OR MATTED WITH STRAW IN THE NON-GROWING SEASON, IMMEDIATELY AFTER THE STRIPPING PROCESS IS COMPLETED, TO PREVENT WIND AND WATER EROSION.
13. SOIL EROSION CONTROLS SHALL BE MONITORED DAILY BY THE ON-SITE ENGINEER, OR CONTRACTOR, WHICHEVER CASE APPLIES.

SLOPES AND DITCHES

14. ON SITE DITCHES SHALL BE OF THE FLAT BOTTOM TYPE MINIMUM WIDTH OF 2' WITH A MINIMUM OF 3 HORIZONTAL TO 1 VERTICAL SIDE SLOPES, 3:1.
15. DITCHES WITH STEEP SLOPES WILL NEED FLOW CHECKS TO PREVENT SCOURING OF THE DITCH BOTTOM. THESE SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER OR INSPECTOR.
16. SLOPES IN EXCESS OF 3 HORIZONTAL TO 1 VERTICAL SHALL NOT BE USED EXCEPT WITH A MECHANICAL DEVICE SUCH AS A RETAINING WALL, TERRACING, OR OTHER PRIOR APPROVED DEVICE. STORM DRAINS
17. ALL STORM WATER STRUCTURES, CATCH BASINS AND/OR MANHOLES, IF BLOCK, SHALL BE PLASTERED ON BOTH THE INSIDE AND OUTSIDE OF THE STRUCTURES. GROUTING AND POINTING WILL BE NECESSARY AT THE CASTING AND STRUCTURE JOINT TO PREVENT LEAKAGE AND THE RESULTING SOIL MOVEMENT, AROUND THE STRUCTURE.
18. STORM WATER INLETS SHALL HAVE AS A TEMPORARY CONTROL A STRAW BALE BARRIER AND STONE FILTER INSTALLED AROUND THE INLET DURING CONSTRUCTION. AS AN ALTERNATIVE TO THE STRAW BALE BARRIER, A BURLAP AND PEA STONE FILTER MAY BE USED. THREE LAYERS OF BURLAP FIBER AND A FILTER OF PEA STONE MINIMUM 1 FT. IN DEPTH CAN BE USED. DUE TO THE POROSITY OF THE BURLAP FILTER THE MINIMUM OF 1
FT. OF STONE IS VERY IMPORTANT. THE CONTROL SHALL BE INSTALLED AS SOON AS THE STRUCTURE IS BUILT AND INSPECTED DAILY.
19. BURLAP AND PEA STONE FILTERS WILL NEED TO BE CHANGED AFTER EACH RAINFALL.
20. COUNTY CODE REQUIRES A MINIMUM PIPE SIZE OF 12" IN DIAMETER. IF SMALLER PIPE IS NEEDED FOR OUTLET PURPOSES THE 12" CAN BE BAFFLED TO THE CORRECT SIZE. ALL PIPE SHALL MEET THE 12" DIAMETER CODE SIZE.
21. ALL STORM DRAIN OUTLETS 15" IN DIAMETER OR LARGER SHALL HAVE ANIMAL GUARDS INSTALLED TO PREVENT ENTRANCE TO THE SYSTEM.
22. ALL STORM DRAINAGE PIPE 30" IN DIAMETER OR LARGER SHALL BE POINTED, AT THE JOINTS ON THE INSIDE WITH MORTAR, AFTER BACKFILLING.
23. ALL STORM DRAIN OUTLETS THAT DO NOT EMPTY INTO THE RETENTION/DETENTION POND SHALL HAVE A TEMPORARY 5'X10'X3' SUMP INSTALLED AT THE TERMINATION OF THE STORM SEWER. UPON COMPLETION OF THE STABILIZATION WORK THE SUMP AREA SHALL BE FILLED AND RIP RAPPED WITH COBBLE STONE. SILT TRAPS SHALL BE INSPECTED AFTER EACH STORM.
24. STORM WATER OUTLETS DO DENOTE RIP RAP. ALL OUTLETS SHALL BE RIP RAPPED OVER KEYED FILTER FABRIC WITH A MINIMUM OF 15 SQ. YARDS OF 6" OR LARGER COBBLE STONE.
25. RIP RAP AS NOTED ON THE PLAN SHALL BE OF A FUNNEL SHAPE CONSTRUCTION, WIDTH SHALL INCREASE AS DISTANCE FROM THE OUTLET POINT INCREASES AT A 3:1 RATIO.
26. RIP RAP SHALL BE OF COBBLE STONE, 6" IN DIAMETER OR LARGER. GROUTING MAY BE NECESSARY, AND SHALL BE A MINIMUM OF 6" IN DEPTH WITH THE COBBLE SET IN THE CEMENT SLURRY.
27. STORM WATER OUTLET IS IN NEED OF A SPLASH BLOCK WHICH IS NOT NOTED ON THE PLAN. INSTALL SPLASH BLOCK IF SLOPE OF THE PIPE IS 4% OR GREATER.
28. IT WILL BE NECESSARY FOR THE DEVELOPER TO HAVE THE STORM DRAINAGE LINES CLEANED PRIOR TO FINAL INSPECTION BY THE LIVINGSTON COUNTY DRAIN COMMISSIONER'S OFFICE. IF REQUIRED, THIS WORK SHALL BE DONE BY A PROFESSIONAL SEWER CLEANING FIRM AND CERTIFIED IN WRITING BY THE PROJECT ENGINEER. ALL SUMPS AND TEMPORARY SILT TRAPS SHALL ALSO BE CLEANED AT THIS TIME.

STABILIZATION

29. ALL UNIMPROVED DISTURBED AREAS SHALL BE RE-TOP SOILED, WITH A MINIMUM OF 3" OF MATERIAL, SEEDED, MULCHED AND TACKED WITHIN 15 DAYS OF THE COMPLETION OF THE MASSIVE EARTH DISRUPTION. IN THE NON-GROWING SEASON STRAW MATTING WILL SUFFICE. HYDROSEEDING WILL BE AN ACCEPTABLE ALTERNATE FOR MULCHING. EXTREME CARE SHOULD BE EXERCISED IN SPRING AND FALL PERIODS AS A FROST WILL BREAK THE BIND OF THE HYDROSEEDING, WHICH WILL AFFECT THE EFFECTIVENESS OF THIS PROCEDURE.
30. IN THE NON-GROWING SEASON, TEMPORARY STABILIZATION OF MASSIVELY EXPOSED AREAS FOR WINTER STABILIZATION SHALL BE DONE WITH STRAW MATTING.
31. PERIODIC INSPECTIONS WILL BE MADE THROUGHOUT THE COURSE OF THE PROJECT. IT WILL BE THE RESPONSIBILITY OF THE MANAGERS OF THE PROJECT TO CONTACT THIS OFFICE FOR THE FINAL INSPECTION AT THE END OF THE PROJECT.
32. THIS COMMERCIAL PERMIT IS VALID FOR THE MASS EARTH MOVEMENT, THE INSTALLATION OF ROADS, DRAINS, AND UTILITIES AND IS NOT FOR ANY SINGLE FAMILY RESIDENCE. ALL RESIDENTIAL BUILDERS WILL NEED TO SECURE WAIVERS AND OR PERMITS AS NECESSARY FOR EACH LOT IN THIS DEVELOPMENT AT THE TIME APPLICATION FOR SINGLE FAMILY RESIDENCE IS MADE.
33. THE ISSUING BUILDING DEPARTMENT SHALL NOT ISSUE THE CERTIFICATE OF OCCUPANCY UNTIL THE FINAL INSPECTION LETTER FROM THE LIVINGSTON COUNTY DRAIN COMMISSIONER'S OFFICE HAS BEEN OBTAINED.
34. PER THE LIVINGSTON COUNTY DRAIN COMMISSIONER THE SEEDING, FERTILIZER AND MULCH MINIMUM QUANTITIES SHALL BE AS FOLLOWS:

TOP-SOIL	3" IN DEPTH
GRASS SEED	218 LBS. PER ACRE
FERTILIZER	150 LBS. PER ACRE
STRAW MULCH	3" IN DEPTH 1.5 TO 2 TONS PER ACRE (ALL MULCHING MUST HAVE A TIE DOWN, SUCH AS TACKIFIER, NET BINDING, ETC.)
HYDRO-SEEDING	HYDRO-SEEDING IS NOT ACCEPTABLE FOR SLOPES EXCEEDING 1%, IN SUCH CASES STABILIZATION SHALL BE DONE WITH SEED AND STRAW MULCH WITH A TACKIFIER.

MAINTENANCE SCHEDULE FOR SOIL EROSION CONTROLS

1. SILT FENCE SHALL BE INSPECTED WEEKLY AND AFTER EACH MAJOR STORM EVENT. MAINTENANCE SHALL INCLUDE REMOVAL OF ACCUMULATED SILT AND REPLACEMENT OF TORN SECTIONS. SILT FENCE SHALL BE REMOVED WHEN ALL CONTRIBUTING AREAS HAVE BEEN STABILIZED.
2. TRACKING PAD SHALL BE INSPECTED MONTHLY FOR ACCUMULATED DIRT. TRACKING PAD SHALL BE REPLACED WHEN THE STONES ARE CHOKED WITH DIRT. TRACKING PAD SHALL BE REMOVED IMMEDIATELY PRIOR TO THE FIRST COURSE OF ASPHALT BEING LAID.
3. DETENTION/RETENTION POND SHALL BE INSPECTED QUARTERLY ON A PERMANENT BASIS. MAINTENANCE SHALL INCLUDE SEDIMENT REMOVAL, EMBANKMENT STABILIZATION AND MAINTAINING THE OUTLET STRUCTURE IN GOOD CONDITION. NO TREES SHALL BE ALLOWED TO GROW ON THE EMBANKMENT.
4. CATCH BASINS SHALL BE INSPECTED ANNUALLY FOR ACCUMULATION OF SEDIMENT. ALL SEDIMENT MUST BE REMOVED AND DISPOSED OF PROPERLY WHEN THE SUMP IS FULL.
5. COMMON AREAS SHALL BE STABILIZED NO LATER THAN 15 DAYS AFTER GRADE WORK, PURSUANT TO RULE 1709 (5).

SILT FENCE SHALL BE A MINIMUM 36".

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PROJECT
BIBLE BAPTIST CHURCH
PREPARED FOR
BIBLE BAPTIST CHURCH
2258 EAST HIGHLAND ROAD
HOWELL, MI 48843
517-715-9233

TITLE
SOIL EROSION & SEDIMENTATION CONTROL PLAN

NO	BY	REVISION PER	DATE
1	ST	PER TWP REVIEW	3/16/22
2	ST	PER TWP REVIEW	2/23/22
3	ST	PER TWP REVIEW	4/21/22

DESIGNED BY: ST
DRAWN BY: JS
CHECKED BY:
SCALE 1" = 80'
JOB NO. 21-542
DATE 2/1/2022
SHEET NO. 9

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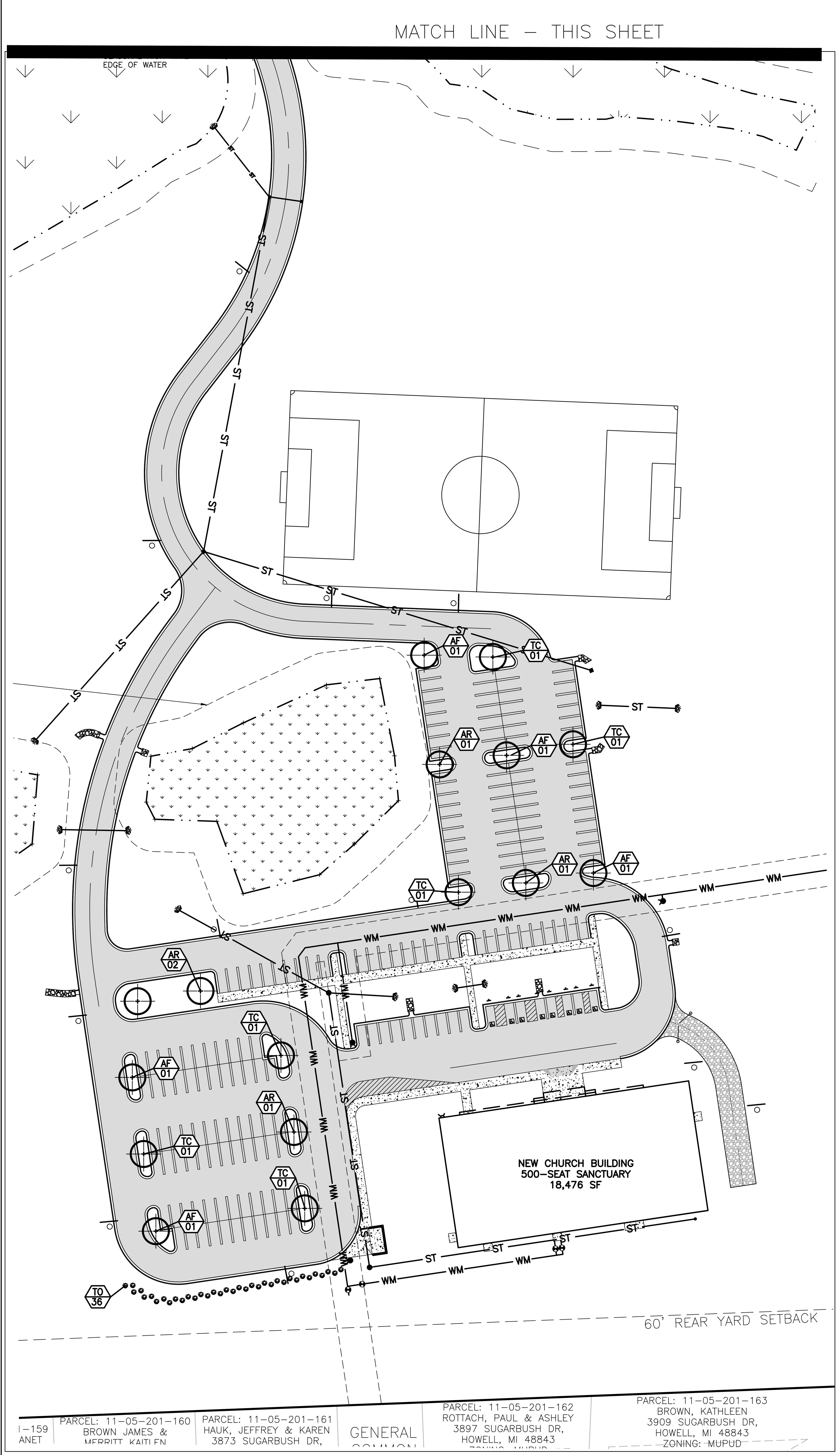
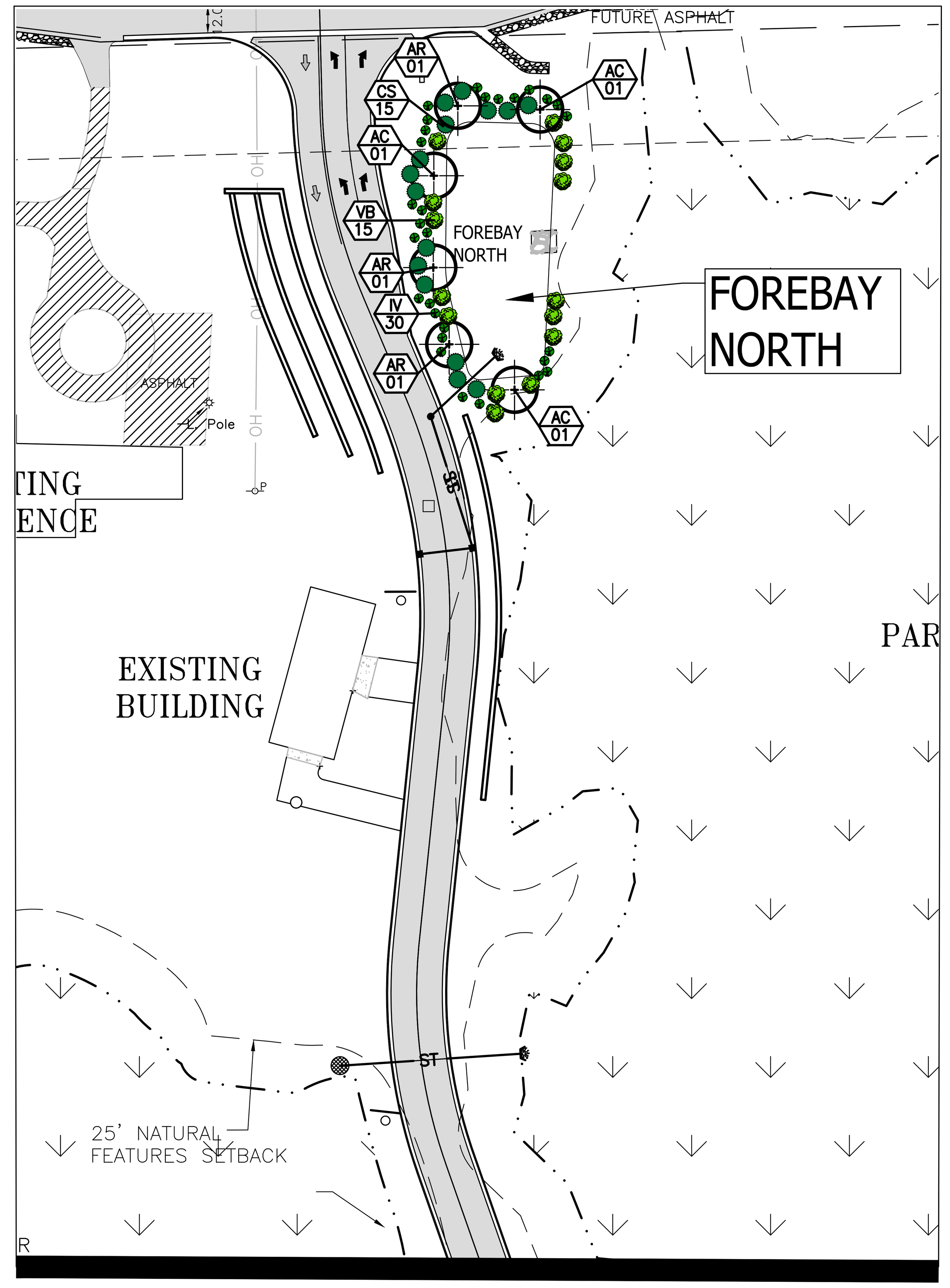
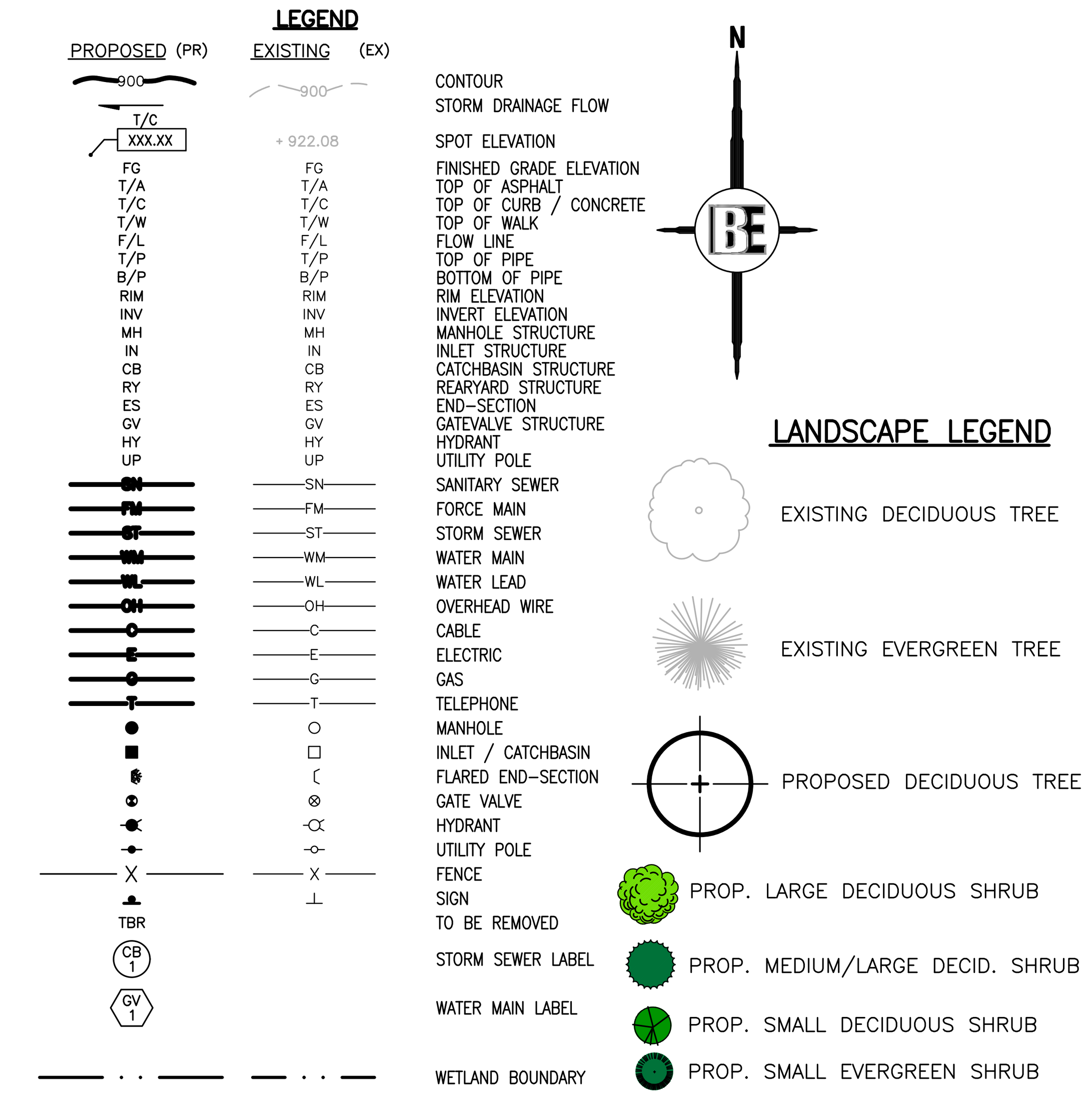






LANDSCAPE REQUIREMENTS PER ORDINANCE AND CALCULATIONS

1. MULTIPLE MATURE TREES OVER THREE (3) INCHES CALIPER AND IN GOOD CONDITION ALONG THE DRIVEWAY TO REMAIN.

2. DETENTION/RETENTION POND LANDSCAPING
   a. FREE FORM AS POSSIBLE, SIDE SLOPES NOT TO EXCEED 1 FOOT VERTICAL FOR EVERY THREE FEET HORIZONTAL
   b. 1 DECIDUOUS SHADE OR EVERGREEN TREE AND 10 SHRUBS FOR EVERY FIFTY LINEAL FEET OF POND PERIMETER AS MEASURED ALONG THE TOP OF THE BANK ELEVATION. LANDSCAPE TO BE LIMITED TO ABOVE FREEBOARD LEVEL.
   REQUIRED FOREBAY NORTH: 298 LF/50=5.96 TREES AND 5.96*10=59.6 SHRUBS
   PROVIDED FOREBAY NORTH: 6 TREES AND 60 SHRUBS

3. REQUIRED PARKING AREA LANDSCAPING
   a. AREAS CONTAINING TEN OR MORE PARKING SPACES SHALL BE PROVIDED WITH LANDSCAPING --101 THROUGH 200 SPACES: 1 CANOPY TREE AND 100 SF OF LANDSCAPED AREA PER 12 SPACES.
   REQUIRED: 186 SPACES / 12 = 15.5 TREES AND 1,550 SF LANDSCAPED AREA
   PROVIDED: 16 TREES, AND 5,145 SF LANDSCAPED AREA

4. PARKING SETBACK: WHEREVER AN OFF-STREET PARKING AREA IS ADJACENT TO A RESIDENTIAL DISTRICT, THERE SHALL BE A MINIMUM PARKING LOT SETBACK OF 50 FEET WITH A CONTINUOUS OBSCURING WALL, FENCE AND/OR LANDSCAPED AREA AT LEAST 4 FEET IN HEIGHT SHALL BE PROVIDED. THE TOWNSHIP BOARD MAY REDUCE THIS BUFFER BASED ON THE PROVISION OF LANDSCAPING. THE PRESENCE OF EXISTING TREES OR IN CONSIDERATION OF TOPOGRAPHIC CONDITIONS.
   PROVIDED: 36 SHRUBS PLANTED AT 4' TALL AT SOUTH EDGE OF PARKING LOT.

5. LANDSCAPE BUFFERS
   GREENBELTS ALONG THE RIGHT-OF-WAY AND A LANDSCAPED BUFFER ZONE BASED ON ADJACENT ZONING SHALL BE PROVIDED AS REQUIRED IN SECTION 12.02.
   REQUIRED: GREENBELT ALONG R.O.W. 20' WIDE, 1 CANOPY TREE FOR EVERY 40 LINEAR FEET OF FRONTAGE
   PROVIDED: LOCATION OF EXISTING WETLAND TO THE NORTH ALONG GOLF CLUB DR. PREVENTS PLANTING OF TREES ALONG R.O.W. EXISTING WOODLAND BUFFER ALONG LATSON ROAD R.O.W. TO REMAIN.

   REQUIRED: BUFFER TO MIXED USE PUD DISTRICT TO THE SOUTH
   PROVIDED: DENSE EXISTING 30'-60' WIDE BUFFER TO ADJACENT ZONING AT THE SOUTH WILL REMAIN. PLANTING ROW OF PLANTINGS ALONG THE SOUTHERN END OF THE SOUTHWEST PARKING LOT ADJACENT TO THE RESIDENTIAL TO THE SOUTH WHERE THE EXISTING VEGETATION REMAINING IS 30' WIDE.

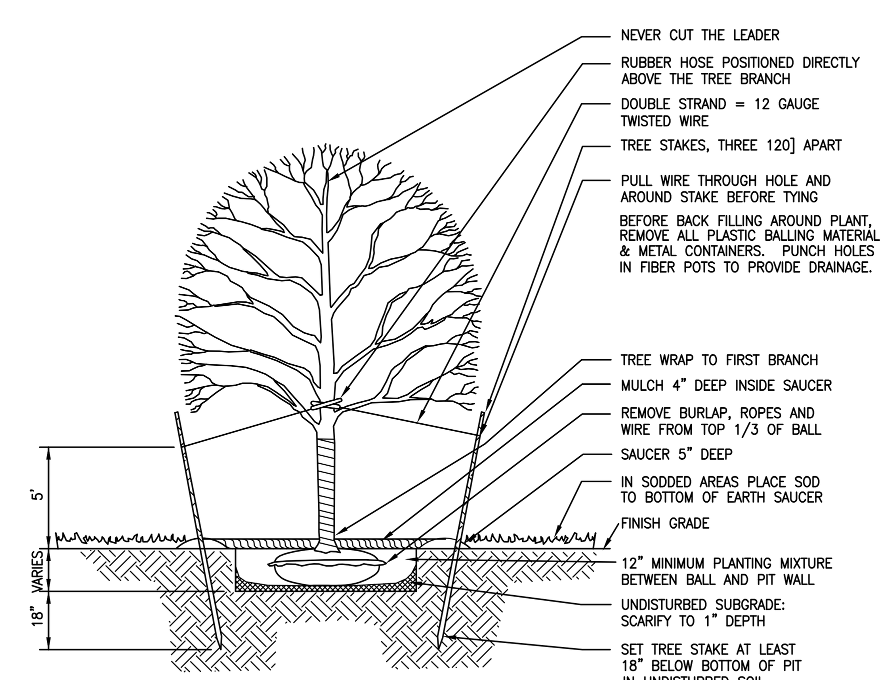
   REQUIRED: BUFFER TO RURAL RESIDENTIAL DISTRICT TO THE WEST
   PROVIDED: ADJACENT ZONING TO WEST IS SCREENED BY EXISTING WOODLANDS THROUGHOUT THE SITE (SEE OVERALL SITE PLAN SHEET 4)

GENERAL LANDSCAPE NOTES:

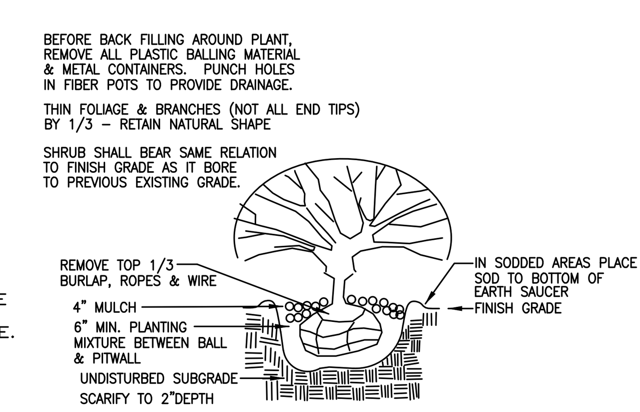
1. ALL PLANT MATERIAL SHALL CONFORM TO THE REQUIREMENTS AND SPECIFICATIONS OF THE GOVERNING MUNICIPALITY AND SHALL BE NURSERY GROWN. ALL SIZES AND MEASUREMENTS SHALL CONFORM TO ANSI Z60 STANDARDS. ALL PLANT MATERIAL SHALL BE OF SELECTED SPECIMEN QUALITY AND HAVE A NORMAL HABIT OF GROWTH. ALL PLANT MATERIAL IS SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT.
2. ALL PLANT MATERIALS SHALL BE BALLED AND BURLAPPED STOCK OR CONTAINER STOCK. NO BARE ROOT STOCK IS PERMITTED. ALL PLANT BALLS SHALL BE FIRM, INTACT AND SECURELY WRAPPED AND BOUND.
3. ALL PLANT BEDS SHALL BE EXCAVATED OF ALL BUILDING MATERIALS AND OTHER EXTRANEOUS OBJECTS AND POOR SOILS TO A MINIMUM DEPTH OF 12 INCHES AND BACKFILLED TO GRADE WITH PLANTING MIX (SEE BELOW).
4. PLANTING MIXTURE SHALL CONSIST OF 4 PARTS TOPSOIL FROM ON SITE, 1 PART PEAT, AND 5 POUNDS OF SUPERPHOSPHATE PER CUBIC YARD OF MIX. INGREDIENTS SHALL BE THOROUGHLY BLENDED TO A UNIFORM CONSISTENCY.
5. ALL PLANT BEDS AND INDIVIDUAL PLANTS SHALL BE MULCHED WITH A 3 INCH LAYER OF SHREDDED BARK MULCH.
6. ALL PLANTS AND PLANT BEDS SHALL BE THOROUGHLY WATERED UPON COMPLETION OF PLANTING AND STAKING OPERATIONS.
7. THE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR A PERIOD OF 1 YEAR FROM THE DATE THE WORK IS ACCEPTED, IN WRITING, BY THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL REPLACE, WITHOUT COST TO THE OWNER, WITHIN A SPECIFIED PERIOD TIME, ALL DEAD PLANTS, AND ALL PLANTS NOT IN A VIGOROUS, THRIVING CONDITION, AS DETERMINED BY THE LANDSCAPE ARCHITECT DURING AND AT THE END OF THE GUARANTEE PERIOD. REPLACEMENT STOCK SHALL CONFORM TO THE ORIGINAL REQUIREMENTS.
8. ALL LANDSCAPE BEDS SHALL BE EDGED WITH BLACK ALUMINUM EDGING, 1/8" X 4". INSTALL PER MANUFACTURER'S INSTRUCTIONS. ALL EDGING SHALL BE INSTALLED IN STRAIGHT LINES OR SMOOTH CURVES WITHOUT IRREGULARITIES.
9. SOD SHALL BE DENSE, WELL ROOTED TURF, FREE OF WEEDS. IT SHALL BE COMPRISED OF A BLEND OF AT LEAST TWO KENTUCKY BLUEGRASSES AND ONE FESCUE. IT SHALL HAVE A UNIFORM THICKNESS OF 3/4 INCH, AND CUT IN UNIFORM STRIPS NOT LESS THAN 10 INCHES BY 18 INCHES. SOD SHALL BE KEPT MOIST AND LAID WITHIN 36 HOURS AFTER CUTTING.
   IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A DENSE LAWN OF PERMANENT GRASSES, FREE OF LUMPS AND DEPRESSIONS. ALL SODDED AREAS THAT BROWN OUT OR HAVE NOT FIRMLY KNITTED TO THE SOIL BASE WITHIN A PERIOD OF ONE MONTH SHALL BE REPLACED BY THE CONTRACTOR, AT NO COST TO THE OWNER.
10. ALL AREAS OF THE SITE THAT BECOME DISTURBED DURING CONSTRUCTION AND ARE NOT TO BE PAVED, STONED, LANDSCAPED, OR SODDED SHALL BE SEEDED AND MULCHED.
    SEED MIXTURE SHALL BE AS FOLLOWS:

KENTUCKY BLUEGRASS (CHOOSE 3 VARIETIES:	
ADELPHI, RUGBY, GLADE OR PARADE)	30%
RUBY RED OR DAWSON RED FINE FESCUE	30%
ATLANTA RED FESCUE	20%
PENNFINE PERENNIAL RYE	20%

    THE ABOVE SEED MIXTURE SHALL BE SOWN AT A RATE OF 250 POUNDS PER ACRE. PRIOR TO SEEDING, THE TOPSOIL LAYER SHALL BE FERTILIZED WITH A COMMERCIAL FERTILIZER WITH A 10-0-10 ANALYSIS:
    10% NITROGEN: A MINIMUM OF 25% FROM A UREAFORMALDEHYDE SOURCE
    0% PHOSPHATE
    10% POTASH: SOURCE TO BE POTASSIUM SULFATE OR POTASSIUM NITRATE.
    THE FIRST FERTILIZER APPLICATION SHALL BE AT A RATE OF 10 POUNDS OF BULK FERTILIZER PER 1000 SQUARE FEET.
    IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A DENSE LAWN OF PERMANENT GRASSES, FREE OF LUMPS AND DEPRESSIONS. ANY PART OF THE AREA THAT FAILS TO SHOW A UNIFORM GERMINATION SHALL BE RESEEDED AND SUCH RESEEDING SHALL CONTINUE UNTIL A DENSE LAWN IS ESTABLISHED. DAMAGE TO SEEDED AREAS RESULTING FROM EROSION SHALL BE REPAIRED BY THE CONTRACTOR.
11. ALL PLANT MATERIALS SHALL BE FREE OF WEEDS, INSECTS AND DISEASE.



DECIDUOUS TREE PLANTING DETAIL
(NO SCALE)



SHRUB PLANTING DETAIL
(NO SCALE)

FOREBAY NORTH PLANT LIST

KEY	QUAN.	BOTANICAL NAME	COMMON NAME	SIZE	REMARK
TREES					
AC	03	Amelanchier canadensis	Serviceberry	2.5" cal.	B-B
AR	03	Acer rubrum 'October Glory'	Red Maple 'October Glory'	2.5" cal.	B-B
SHRUBS					
CS	15	Cornus sericea	Red Osier Dogwood	30" ht.	B-B
IV	30	Ilex verticillata	Winterberry	24" ht.	B-B
VB	15	Viburnum trilobum	American cranberrybush viburnum	30" ht.	B-B

PLANT LIST

KEY	QUAN.	BOTANICAL NAME	COMMON NAME	SIZE	REMARK
TREES					
AF	05	Acer x freemanii	Autumn Blaze Maple	2.5" cal.	B-B
AR	05	Acer rubrum 'October Glory'	Red Maple 'October Glory'	2.5" cal.	B-B
TC	06	Tilia cordata	Little-leaf Linden	2.5" cal.	B-B
SHRUBS					
TO	36	Thuja Occidentalis 'Nigra'	Black Arborvitae	48" ht.	B-B

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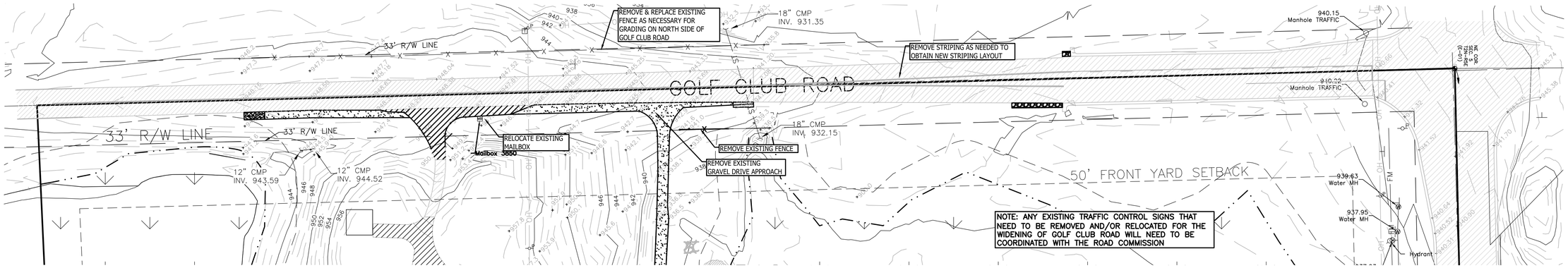
PROJECT: **PHASE I BIBLE BAPTIST CHURCH CAMPUS**

PREPARED FOR: **BIBLE BAPTIST CHURCH**
2258 EAST HIGHLAND ROAD
HOWELL, MI 48843
517-715-9233

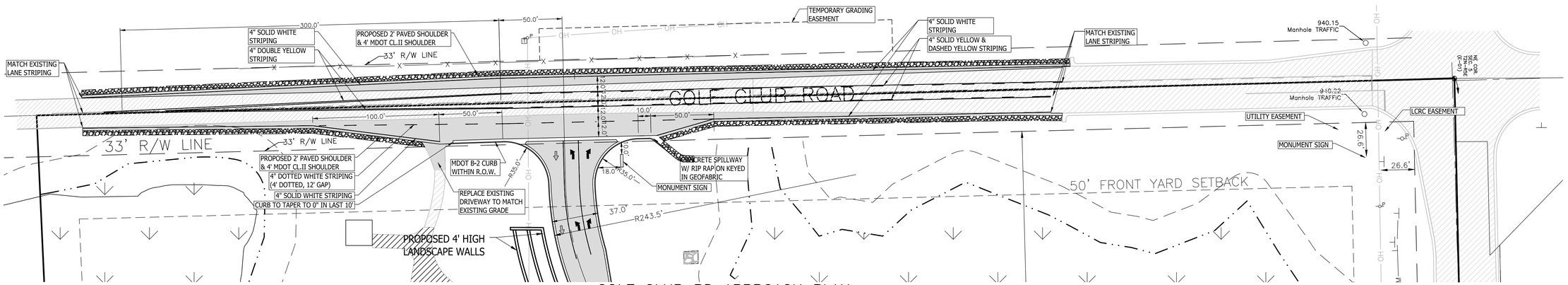
TITLE: **LANDSCAPE PLAN**

NO	BY	REVISION PER	DATE
3	ST	PER TWP REVIEW	4/21/22
2	ST	PER TWP REVIEW	3/16/22
1	ST	PER TWP REVIEW	2/23/22

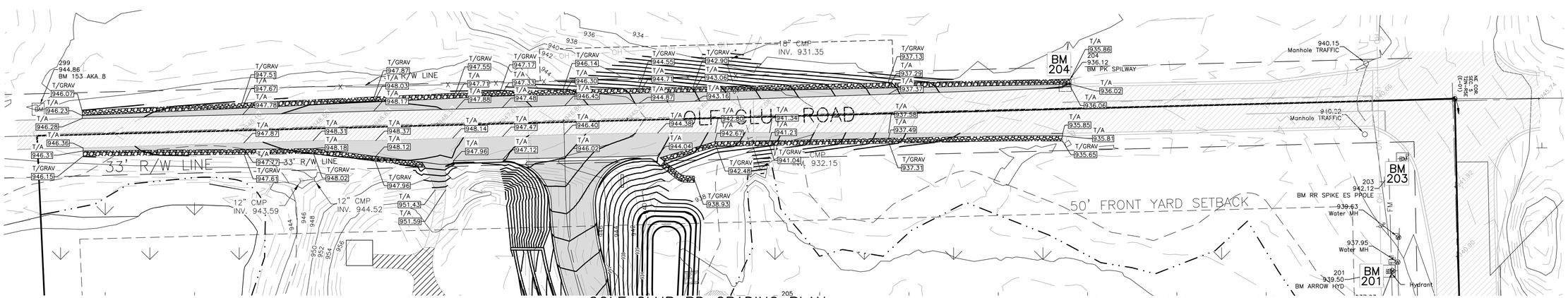
DESIGNED BY: JA
DRAWN BY: JA
CHECKED BY: ST
SCALE 1" = 50'
JOB NO. 21-542
DATE 2/1/2022
SHEET NO. **10**



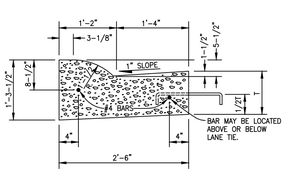
EXISTING CONDITIONS & DEMOLITION PLAN
SCALE: 1'' = 40'



GOLF CLUB RD APPROACH PLAN
SCALE: 1'' = 40'

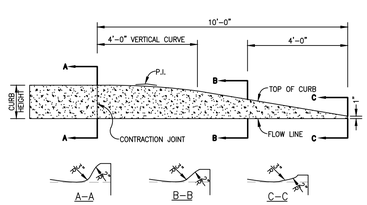


GOLF CLUB RD GRADING PLAN
SCALE: 1'' = 40'



DETAIL	DIMEN. T	LANE TIES	CONCRETE CU.YD/LIN.FT.
~~B1~~	~~9"~~	~~AS SHOWN~~	~~0.0900~~
B2	9"	OMITTED	0.0900
~~B3~~	~~10"~~	~~AS SHOWN~~	~~0.0941~~

MDOT B-2 CURB DETAIL
(NO SCALE)
(GOLF CLUB RD. ROW)



CONCRETE CURB AND GUTTER ENDINGS
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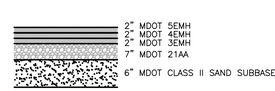
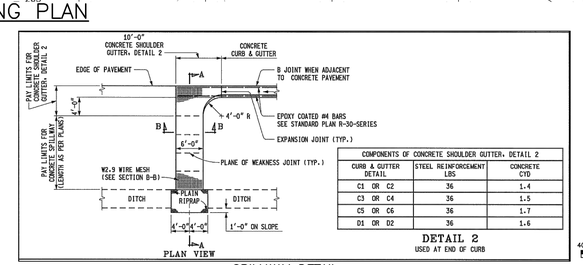


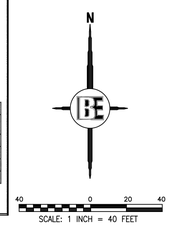
ASPHALT SECTION WITHIN GOLF CLUB ROAD R.O.W.
(NO SCALE)



COMPONENTS OF CONCRETE SHOULDER GUTTER, DETAIL 2		
CURB & GUTTER DETAIL	STEEL REINFORCEMENT LBS	CONCRETE CYD
C1 OR C2	36	1.4
C3 OR C4	36	1.5
C5 OR C6	36	1.7
D1 OR D2	36	1.6

DETAIL 2
USED AT END OF CURB

SPILLWAY DETAIL
FOR USE AT END OF CURB
(ANGLED)



LEGEND

PROPOSED (PR)	EXISTING (EX)	
900	900	CONTOUR
		STORM DRAINAGE FLOW
T/C XXX.XX	+ 922.08	SPOT ELEVATION
FG	FG	FINISHED GRADE ELEVATION
T/A	T/A	TOP OF ASPHALT
T/C	T/C	TOP OF CURB / CONCRETE
UP	UP	UTILITY POLE
OH	OH	OVERHEAD WIRE
		UTILITY POLE
X	X	FENCE
		SIGN
TBR		TO BE REMOVED
		LIMITS OF GRADING/CLEARING
		WETLAND BOUNDARY
		GRAVEL
		ASPHALT

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TITLE
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DESIGNED BY: ST
DRAWN BY: JS
CHECKED BY: ST
SCALE 1" = 40
JOB NO. 21-542
DATE 2/1/2022
SHEET NO. 11

BOSS Engineering

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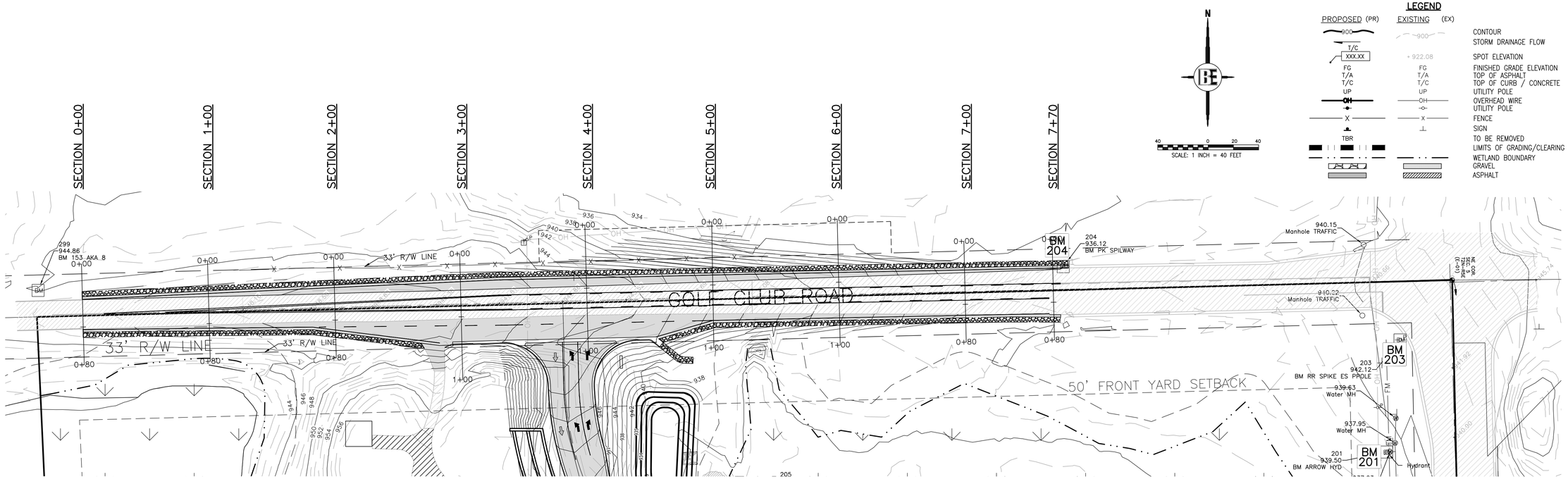

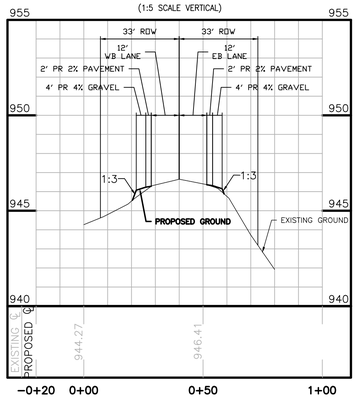

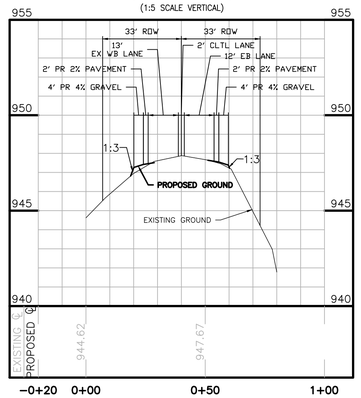

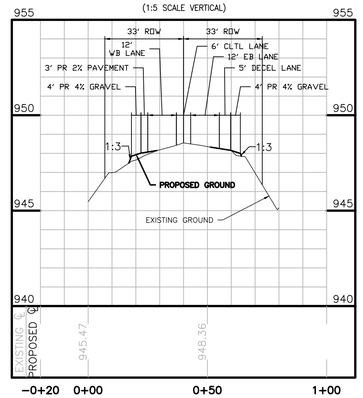

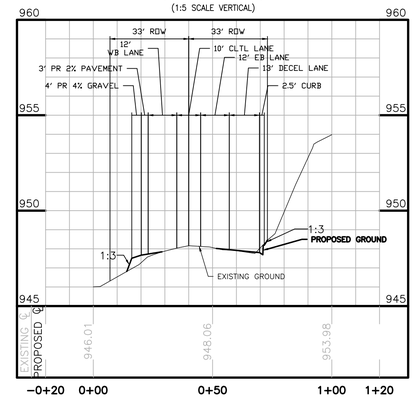

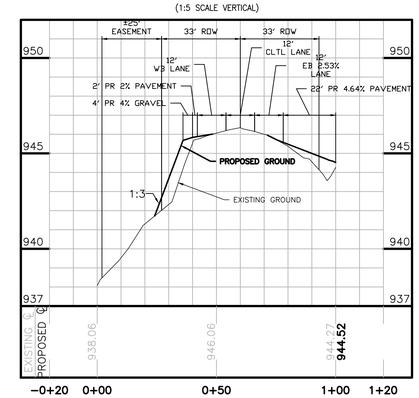

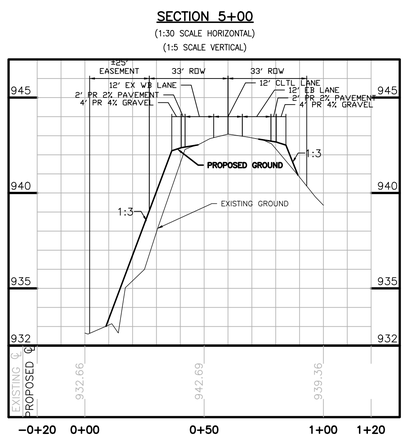

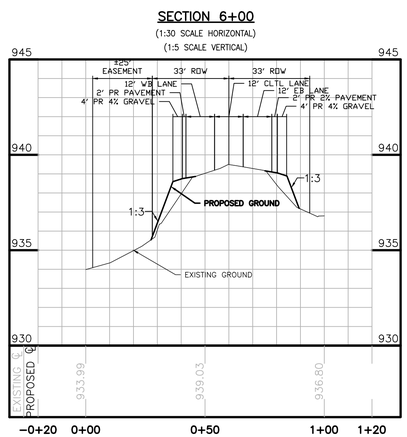

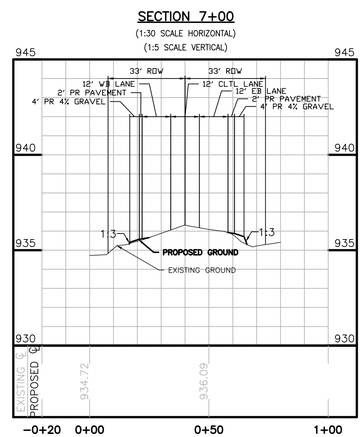

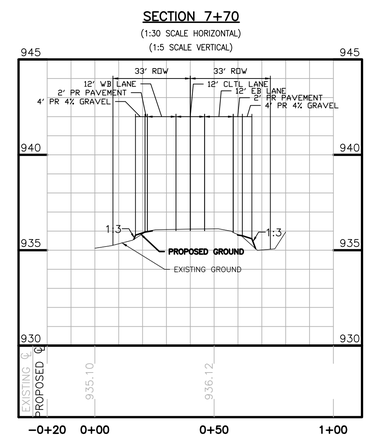

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. WE DO NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS. OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL UTILITIES. THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES AND PROPOSED UTILITIES CROSSING AREAS MUST BE FIELD VERIFIED BY THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY CONFLICTS ARE APPARENT OR IF THE LOCATION OR DEPTH DIFFERS SIGNIFICANTLY FROM THE PLANS.

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BE BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.546.4836 FAX 517.548.1670

PROJECT
BIBLE BAPTIST CHURCH

PREPARED FOR
BIBLE BAPTIST CHURCH
2258 EAST HIGHLAND ROAD
HOWELL, MI 48843
517-715-9233

TITLE
GOLF CLUB ROAD APPROACH

NO	BY	REVISION PER	DATE
1	ST	PER TWP REVIEW	4/21/22
2	ST	PER TWP REVIEW	3/16/22
3	ST	PER TWP REVIEW	2/23/22

DESIGNED BY: ST
DRAWN BY: JS
CHECKED BY: ST
SCALE 1" = 40'
JOB NO. 21-542
DATE 2/1/2022
SHEET NO. 11B

BOSS Engineering

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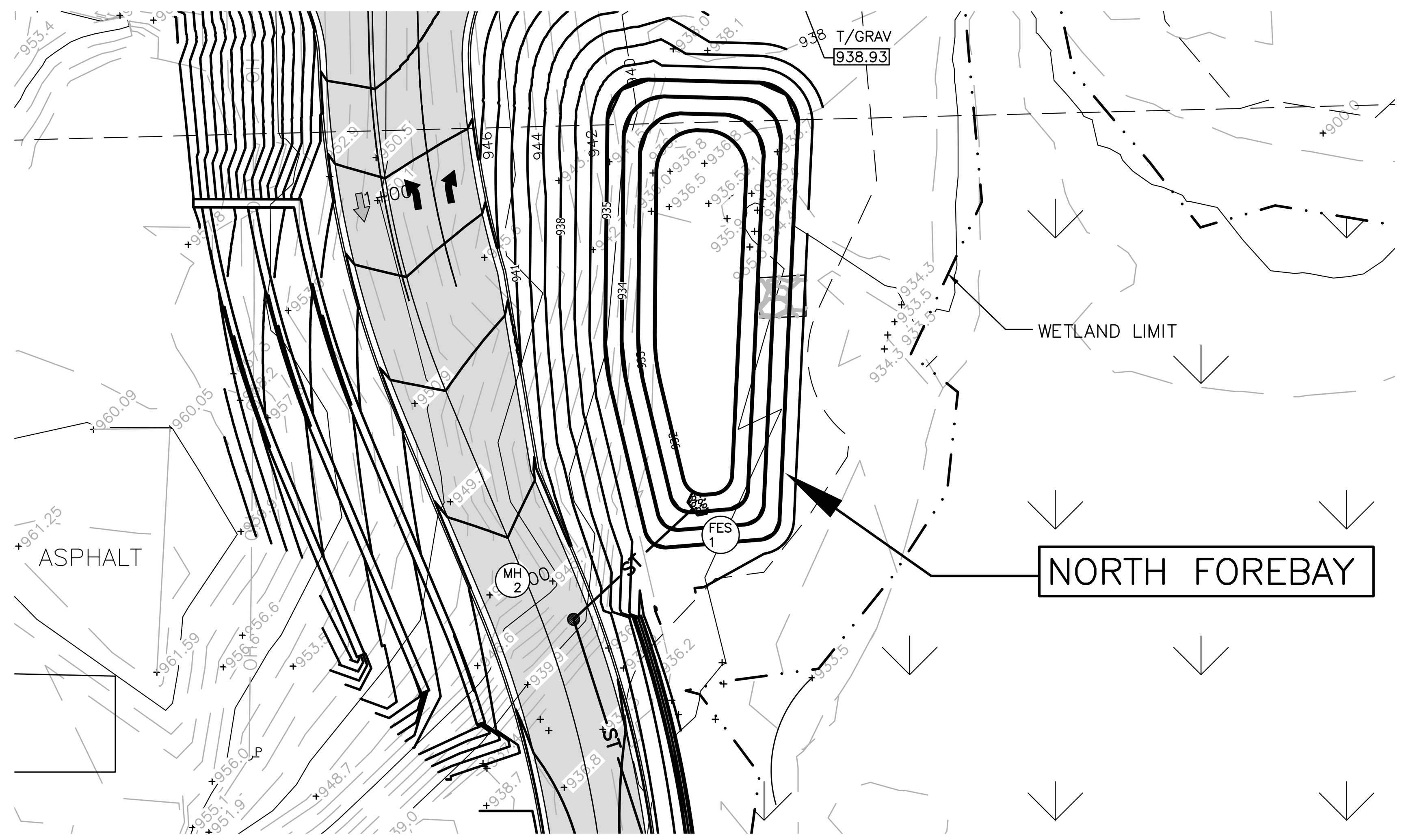
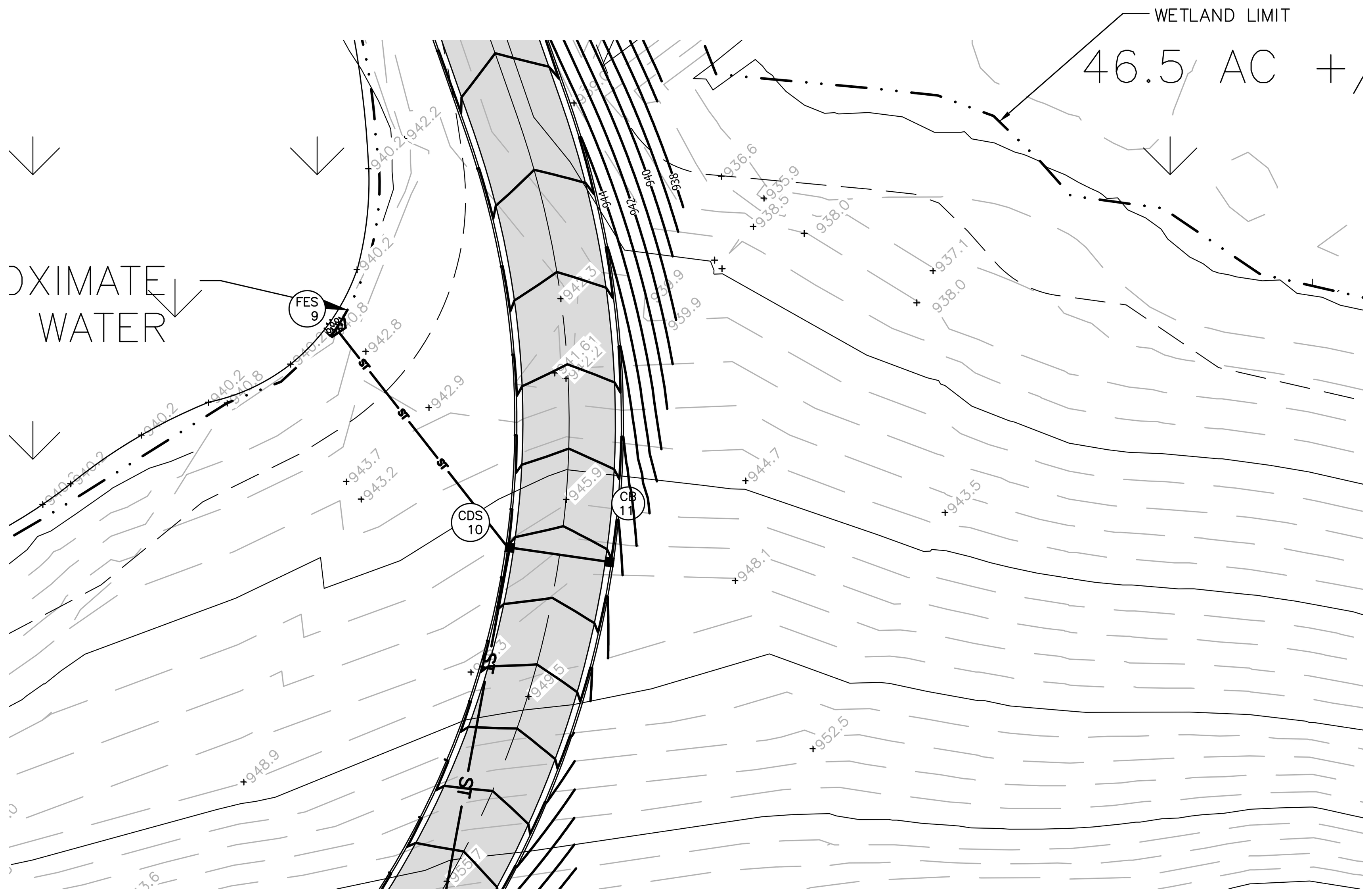
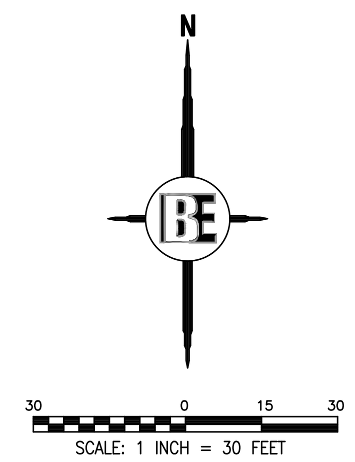
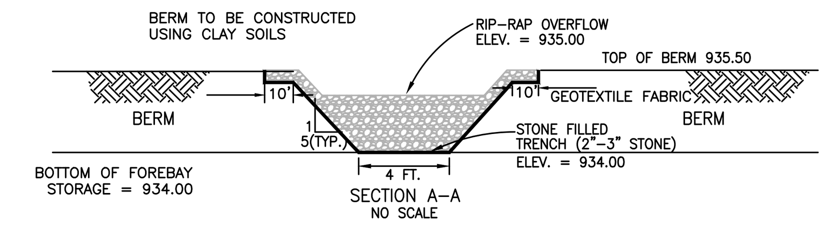
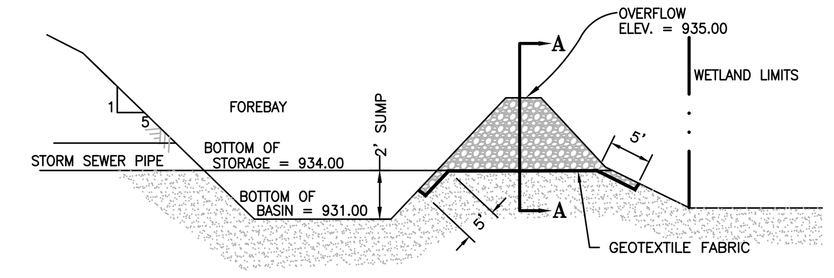










NORTH FOREBAY CROSS SECTION

NOT TO SCALE

LIVINGSTON COUNTY DETENTION BASIN CALCULATIONS - NORTH FOREBAY

AREA (ACRES)	IMPERVIOUS FACTOR	ACRE IMPERVIOUS
0.73	0.9	0.66
0.00	0.7	0.00
1.16	0.2	0.23

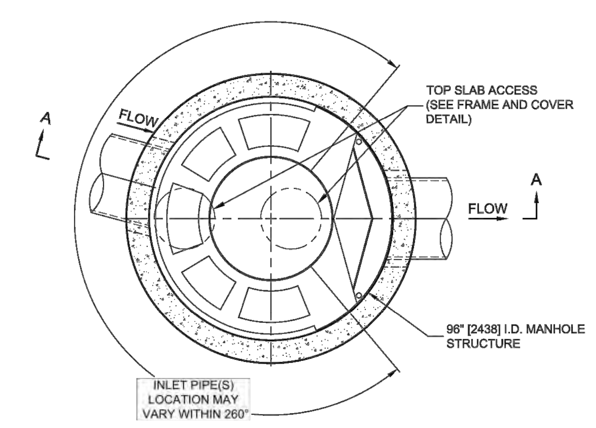
COMPOUND C: 0.47
TOTAL DRAINAGE AREA: 1.89 ACRES

WATER QUALITY VOLUME

V_{wq} = 3.630(C)(A) 3225 CF

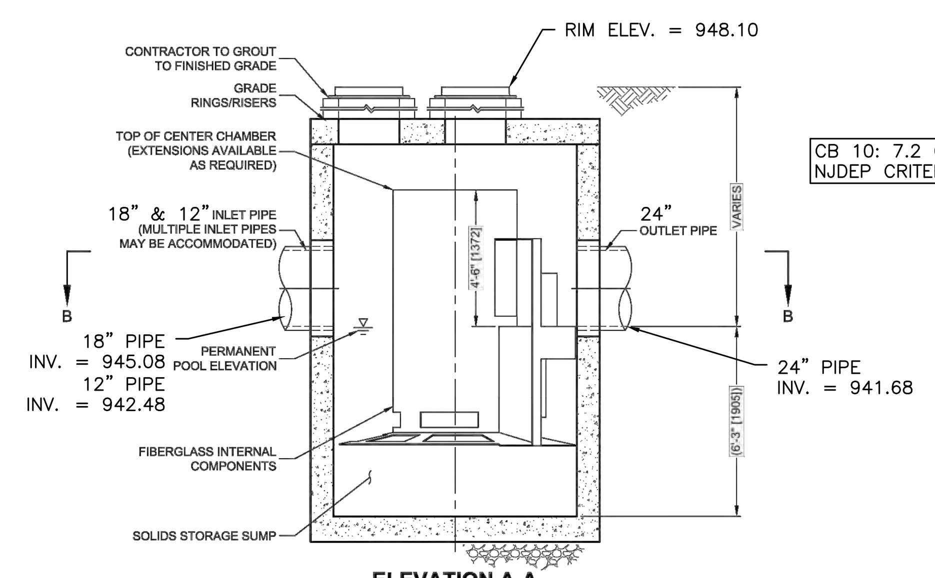
FOREBAY STORAGE VOLUME PROVIDED:

ELEV	AREA	VOLUME	CUMMULATIVE VOLUME	
935	4719	4142	4142	
934	3565	3050		BOTTOM OF STORAGI
933	2535	2083		SUMP
932	1630			SUMP
931	0			SUMP



PLAN VIEW B-B

NOT TO SCALE



ELEVATION A-A

NOT TO SCALE

CB 10: 7.2 CFS PER NJDEP CRITERIA

I:\COMMON\CAD\TREATMENT\21 CASCADE\40 STANDARD DRAWINGS\DWG\CS-8-DTL.DWG 1/22/2019 9:39 AM

CASCADE separator™

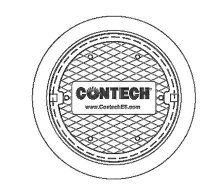
CASCADE SEPARATOR DESIGN NOTES

THE STANDARD CS-8 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			
WATER QUALITY FLOW RATE (cfs [L/s])			
PEAK FLOW RATE (cfs [L/s])			
RETURN PERIOD OF PEAK FLOW (yrs)			
RIM ELEVATION			
PIPE DATA:	INVERT	MATERIAL	DIAMETER
INLET PIPE 1			
INLET PIPE 2			
OUTLET PIPE			
NOTES / SPECIAL REQUIREMENTS:			



FRAME AND COVER

(DIAMETER VARIES)
NOT TO SCALE

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CASCADE SEPARATOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. CASCADE SEPARATOR STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2' [610], AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. CASCADE SEPARATOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD.
6. ALTERNATE UNITS ARE SHOWN IN MILLIMETERS [mm].

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CASCADE SEPARATOR MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CONTECH® ENGINEERED SOLUTIONS LLC
www.contechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CS-8
CASCADE SEPARATOR
STANDARD DETAIL

LIVINGSTON COUNTY DETENTION BASIN CALCULATIONS

AREA (ACRES)	IMPERVIOUS FACTOR	ACRE IMPERVIOUS
3.60	0.9	3.24
3.50	0.9	3.15
5.72	0.2	1.14

COMPOUND C: 0.59
TOTAL DRAINAGE AREA: 12.83 ACRES

WATER QUALITY VOLUME

V_{wq} = 3,630(C)(A) 27478 CF

CHANNEL PROTECTION VOLUME

V_{CPVC} = 4,719(C)(A) 35721 CF

CHANNEL PROTECTION RATE CONTROL VOLUME

V_{CPRC} = 6,897 (C)(A) 52208 CF

EXTENDED DETENTION OUTLET RATE

V_{ED} = (1"/12")(43560)(C)(A)(P) = 52208 CF
Q_{ED} = V_{ED}/(48hr) 0.302 CFS
H_{ED} = $V_{ED}/4{,}800\ (H)^{1/2}$ 5.8 1" HOLES
H = 3.5 FT
$ELEV_{ED}$ = 945.49

100-YEAR POST CONSTRUCTION INLET RATE

Q_{100in} = $(C)(A)30.2033 \times 100^{0.2203}/(T_c+9.1747)^{0.8069}$ 48.25 CFS

100-YEAR ALLOWABLE OUTLET RATE

Q_{DRAIN} = 0.2 (A) 2.566 CFS
Q_{VRR} = 1.1055 - 0.206LN(A) 0.580 CFS
Q_{100ALL} = LESSER OF Q_{DRAIN} & Q_{VRR} 0.580 CFS

100-YEAR DETENTION VOLUME

R = $0.206-.15(\ln(Q_{100all}/Q_{100IN})$ 0.6461
V_{100in} = 18985 (C)(A) 143711 CF
V_{100det} = V_{100in}*R-V_{cp} 92853 CF

FROM	TO	ACRES A	RUNOFF COEFF C	EQUIV. AREA A * C	INTEN-SITY I	TIME OF CONC. T_C	ADD'L RUNOFF Q	RUNOFF (CFS) Q	PIPE LENGTH (LF)	PIPE DIA. (IN)	VELOCITY FLOWING FULL (FPS)	HYDRAULIC GRADIENT SLOPE %	ACTUAL SLOPE USED	MANNING FLOW CAPACITY	MANNING'S VELOCITY (FT/SEC)	TIME (MIN)	HG ELEV UPPER END	HG ELEV LOWER END	RIM ELEV UPPER END	INVERT UPPER END	INVERT LOWER END	DROP DISTANCE (FT)	RIM-INV	RIM-HG >1	PIPE COVER >2.667	FLOW THRU COVER
4	3	1.465	0.46	0.6756	4.38	15.00		2.96	26	12	3.76	0.68%	2.00%	5.05	6.43	0.07	935.24	934.72	938.80	934.44	933.92		4.36	3.56	3.36	2.96
3	2	0.2442	0.90	0.2198	4.37	15.07		3.92	62	12	4.99	1.20%	1.50%	4.38	5.57	0.19	934.72	933.79	938.80	933.92	932.99		4.88	4.08	3.88	0.96
2	1	0	0.00	0	4.35	15.2524		3.92	39	12	4.99	1.20%	1.25%	3.99	5.09	0.13	933.79	933.30	939.42	932.99	932.50		6.43	5.63	5.43	0.00
6	5	0	0.00	0	4.38	15.00		0.00	81	24	0.00	0.00%	0.50%	16.04	5.11	0.26	936.87	936.46	940.50	935.27	934.86		5.23	3.63	3.23	0.00
22	21	0.4555	0.90	0.41	4.38	15.00		1.79	255	12	2.28	0.25%	1.00%	3.57	4.55	0.93	976.60	974.05	979.80	975.80	973.25		4.00	3.20	3.00	1.79
21	20	0	0.00	0	4.28	15.93		1.79	215	12	2.28	0.25%	1.50%	4.38	5.57	0.64	974.05	970.82	979.00	973.25	970.02	0.50	5.75	4.95	4.75	0.00
20	19	0	0.00	0	4.21	16.58	1.43	3.23	132	15	2.63	0.25%	1.00%	6.48	5.28	0.42	970.32	969.00	978.94	969.32	968.00		9.62	8.62	8.37	0.00
25	24	0.2644	0.62	0.1636	4.38	15.00		0.72	20	12	0.91	0.04%	1.20%	3.91	4.98	0.07	977.32	977.08	976.27	976.52	976.28		-0.25	-1.05	-1.25	0.72
23	20	0.5289	0.62	0.3273	4.38	15.00		1.43	50	12	1.82	0.16%	4.00%	7.14	9.10	0.09	976.07	974.07	975.27	975.27	973.27	3.75	0.00	-0.80	-1.00	1.43
15	14	1.3369	0.27	0.3571	4.38	15.00	3.23	4.79	50	15	3.90	0.55%	2.00%	9.16	7.46	0.11	966.00	965.00	968.00	965.00	964.00		3.00	2.00	1.75	1.56
13	12	6.1776	0.35	2.1324	4.38	15.00	4.79	14.12	195	18	7.99	1.80%	2.80%	17.62	9.97	0.33	965.56	960.10	964.35	964.36	958.90	6.00	-0.01	-1.21	-1.51	9.33
12	10	0.0548	0.90	0.0493	4.34	15.33	4.79	19.12	279	18	10.82	3.29%	2.80%	17.62	9.97	0.47	955.48	946.28	965.93	952.903	945.080	3.00	13.03	10.45	11.53	0.21
10	9	0.0984	0.90	0.0886	4.35	15.19	0.83	20.33	68	24	6.47	0.80%	1.00%	22.68	7.22	0.16	943.28	942.60	948.08	941.68	941.00		6.40	4.80	4.40	0.39
11	10	0.6138	0.31	0.1893	4.38	15.00		0.83	26	12	1.05	0.05%	1.00%	3.57	4.55	0.10	943.54	943.28	948.08	942.74	942.48		5.34	4.54	4.34	0.83
18	17	0	0.00	0	4.38	15.00		0.00	60	15	0.00	0.00%	1.00%	6.48	5.28	0.19	972.60	972.00	971.60	971.60	971.00		0.00	-1.00	-1.25	0.00
16	12	2.6585	0.41	1.0938	4.38	15.00		4.79	314	15	3.90	0.55%	1.50%	7.93	6.46	0.81	965.31	960.60	970.00	964.31	959.60	6.50	5.69	4.69	4.44	4.79

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3 WORKING DAYS
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CALL MISS DIG
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FOR THE LOCATION OF UNDERGROUND FACILITIES

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DESIGNED BY: ST
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SCALE 1" = 30'
JOB NO. 21-542
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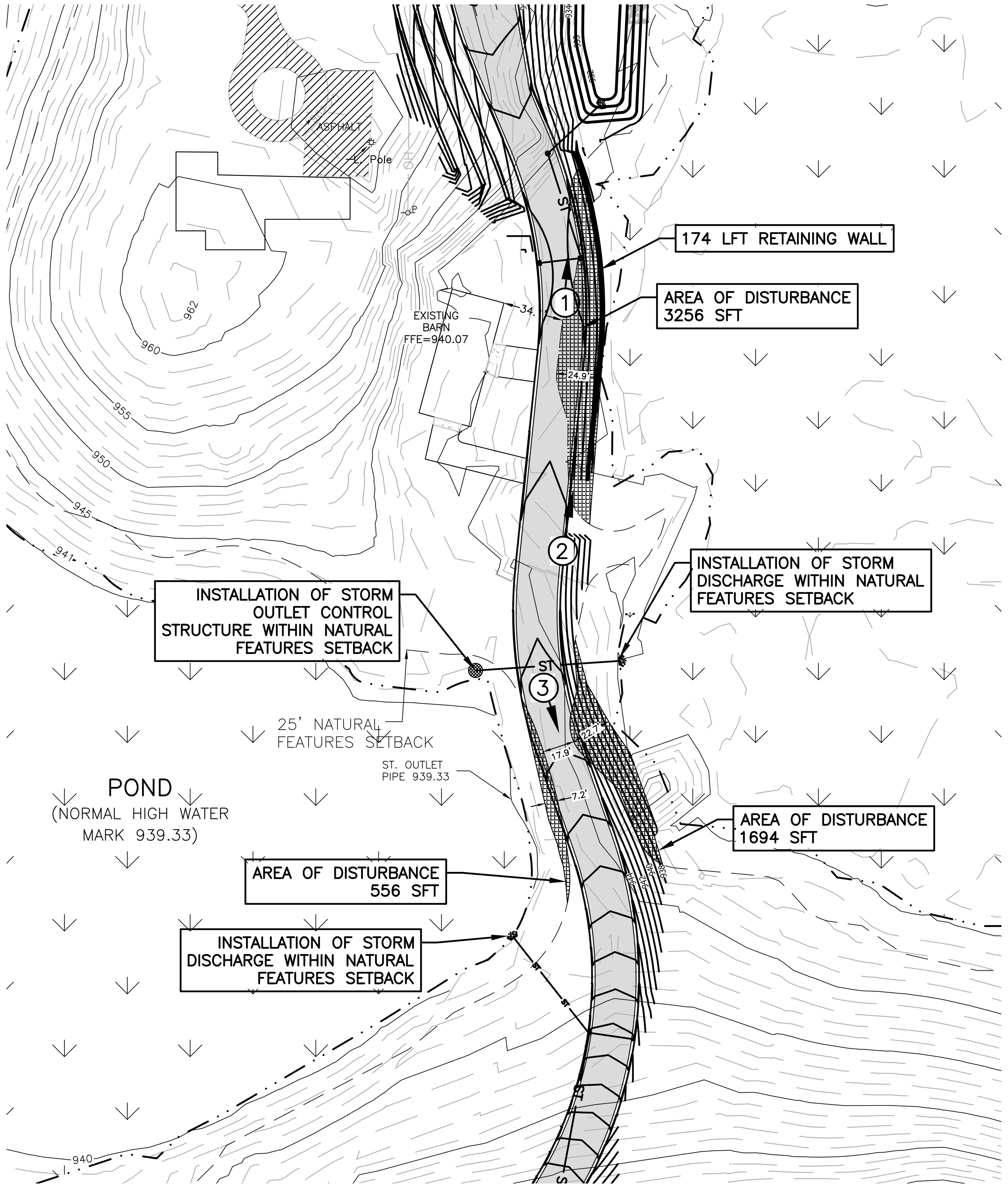
SHEET NO. 12



NORTHERLY NATURAL FEATURES SETBACK ENCROACHMENTS

NATURAL FEATURES SETBACK DISTURBANCE NARRATIVE:

NORTH SIDE:
DESCRIPTION:
ON THE NORTH SIDE OF THE DEVELOPMENT, THERE ARE THREE AREAS OF NATURAL FEATURES SETBACK DISTURBANCES FOR GRADING ACTIVITIES AND THREE ENCROACHMENTS FOR INSTALLATION OF STORM SEWER CONTROL STRUCTURES AND END SECTIONS. THE THREE AREAS OF GRADING DISTURBANCE VARY IN WIDTH WITH THE WIDEST AREA THE FULL WIDTH OF THE SETBACK. THE LOCATION OF THE THREE CONTROL STRUCTURE/END SECTIONS ALL OCCUR AT THE EDGE OF THE WETLAND AND THUS HAVE A 25' ENCROACHMENT INTO THE NATURAL FEATURES SETBACK. LASTLY, THERE IS A PROPOSED RETAINING WALL LOCATED WITHIN THE NATURAL FEATURES SETBACK AND IS LOCATED AT THE EDGE OF THE WETLAND.

NECESSITY:
EACH OF THESE NATURAL FEATURES SETBACK DISTURBANCE AREAS ARE NECESSARY FOR ACCESS TO THE APPROXIMATELY 18 ACRES OF DEVELOPABLE PROPERTY AT THE SOUTH END OF THE PARCEL. THERE IS APPROXIMATELY 34' OF SEPARATION FROM THE EXISTING BARN STRUCTURE AND EXISTING WETLAND SETBACK AND ONLY 17.9' BETWEEN THE TWO WETLAND SETBACK LINES AT THE POND. THERE SIMPLY IS NOT ENOUGH HORIZONTAL SPACE TO LOCATE A DRIVE WITHOUT DISTURBANCE AT THESE LOCATIONS. THE GRADE WAS MATCHED AS CLOSELY AS IS FEASIBLE TO MINIMIZE THE ENCROACHMENT.

THE THREE ENCROACHMENTS FOR THE STORM WATER OUTLET CONTROL STRUCTURE AND END SECTIONS ARE NEEDED FOR THE REQUIRED SITES STORM WATER MANAGEMENT SYSTEM. GIVEN THE TOPOGRAPHY OF THE SITE, THE END SECTIONS NEED TO BE LOCATED CLOSELY TO THE WETLAND LOCATIONS TO MINIMIZE CHANCES OF EROSION ON SLOPES BETWEEN THE END SECTIONS AND THE WETLAND/POND. UTILIZATION OF THE POND FOR DETENTION STORAGE AS WELL AS THE STORM WATER DISCHARGE LOCATIONS AND STRUCTURES HAVE BEEN APPROVED BY MDEGLE IN PERMIT WRP026826. THE RETAINING WALL WITHIN THE WETLAND SETBACK IS NECESSARY TO AVOID GRADING/FILL WITHIN THE WETLAND AREA.

IMPACT:
AS YOU CAN SEE IN THE PICTURES ON THIS SHEET, THE GROUNDS HAVE HISTORICALLY BEEN MAINTAINED TO THE EDGE OF THE WETLAND WITH GRASS. THERE IS NO EXISTING VEGETATION BUFFER/TRANSITION TO THE WETLAND. SINCE THIS IS THE CASE, ONLY GRASS AREAS ARE BEING DISTURBED. ONCE THE PROPOSED DISTURBANCES ARE CONSTRUCTED, THE GROUND WILL BE RESEEDED WITH GRASS AND RETURNED TO ITS CURRENT GROUND COVER, THUS THERE IS NO LONG TERM IMPACT TO THE WETLANDS DUE TO THESE DISTURBANCES. IN THE SHORT TERM, THE SITE WILL BE REQUIRED TO OBTAIN A COUNTY SESC PERMIT AND NPDES PERMIT TO CONTROL SOIL EROSION ON SITE DURING CONSTRUCTION, AGAIN TO MINIMIZE IMPACTS TO THE WETLAND. ALSO, THE STORM WATER MANAGEMENT SYSTEM CONTAINS PRE-TREATMENT OF STORM WATER PRIOR TO DISCHARGE INTO THE EXISTING POND/DETENTION BASIN TO ENSURE WATER QUALITY STANDARDS ARE MET PER MDEGLE AND COUNTY REQUIREMENTS.

HYDROLOGY:
HYDROLOGY IS BEING MAINTAINED ON SITE. STORM WATER ON THE SOUTHERN PORTION OF THE SITE FLOWS TO THE WETLAND POCKET TO THE WEST OF THE PROPOSED PARKING LOT. THIS WETLAND CONTAINS AN EXISTING DRAIN TILE THAT DIRECTS STORM WATER NORTHERLY TO THE EXISTING POND. THE STORM WATER IN THE POND CURRENTLY DISCHARGES THROUGH AN EXISTING OUTLET PIPE DISCHARGING TO THE WETLAND ON THE NORTHEAST QUADRANT OF THE SITE. THE PROPOSED DIRECTION OF STORM WATER FLOW MAINTAINS THIS DRAINAGE PATTERN. UTILIZING THE EXISTING POND AS DETENTION STORAGE IS PERMITTED PER MDEGLE PERMIT WRP026826.

PHOTO 1 – FACING NORTHERLY TOWARD GOLF CLUB ROAD

PHOTO 2 – FACING NORTHERLY TOWARD GOLF CLUB ROAD

PHOTO 3 – FACING SOUTHERLY

PHOTO 4 – FACING NORTHERLY

PHOTO 5 – FACING NORTHERLY TOWARD GOLF CLUB ROAD

LEGEND

PROPOSED (PR) EXISTING (EX)

- CONTOUR
- STORM SEWER LABEL
- WATER MAIN LABEL
- WETLAND BOUNDARY
- LIMITS OF CLEARANCE/DISTURBANCE
- WETLAND SETBACK FILL AREA
- WETLAND PHOTO NUMBER/DIRECTION

N

NATURAL FEATURES SETBACK DISTURBANCE NARRATIVE:

SOUTH SIDE:
DESCRIPTION:
ON THE SOUTH SIDE OF THE DEVELOPMENT, THERE ARE FOUR AREAS OF NATURAL FEATURES SETBACK DISTURBANCES FOR GRADING ACTIVITIES AND TWO ENCROACHMENTS FOR INSTALLATION OF STORM SEWER CONTROL STRUCTURES AND END SECTIONS. PARKING LOT ACCESS DRIVE AND SPILLWAY IS ALSO LOCATED WITHIN THE EASTERN UPLAND WETLAND POCKET SETBACK. THE FOUR AREAS OF GRADING DISTURBANCE VARY IN WIDTH WITH THE WIDEST AREA BEING APPROXIMATELY 22' WITHIN THE SETBACK. THE LOCATION OF THE TWO STORM WATER END SECTIONS ARE LOCATED JUST WITHIN THE NATURAL FEATURES SETBACK.

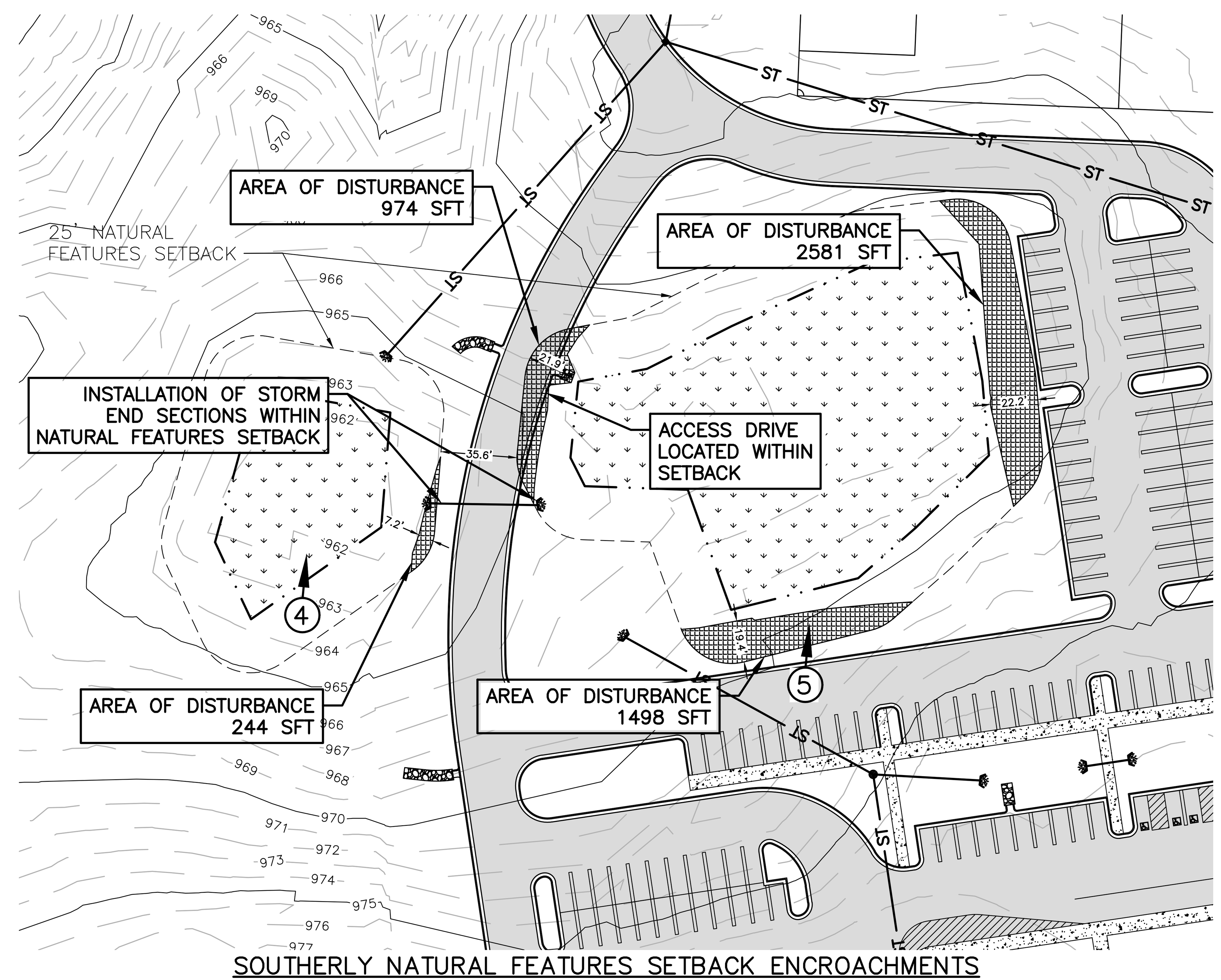
NECESSITY:
THE TWO GRADING DISTURBANCE AREAS ON THE WEST ARE DUE TO THE APPROXIMATELY 36' OF HORIZONTAL SPACE BETWEEN THE TWO WETLAND SETBACKS. THIS DRIVE IS 27' WIDE FROM BACK OF CURB TO BACK OF CURB. THE DISTURBANCE AREAS IS NECESSARY TO GRADE DOWN FROM THIS DRIVE TO THE EXISTING GRADE. THE SLOPES IN THIS STRETCH OF DRIVE HAVE BEEN MAXIMIZED IN ORDER TO MINIMIZE THE FILL/ENCROACHMENT NEEDED. IT WAS DETERMINED THAT DUE TO THE HYDROLOGY OF THE WESTERN UPLAND WETLAND POCKET COLLECTING THE WATER PRIOR TO AN EXISTING PIPED DISCHARGE TO THE NORTH, THAT THIS WETLAND IS OF MORE IMPORTANCE TO MINIMIZE ENCROACHMENT THAT IS THE EASTERN UPLAND WETLAND POCKET. FOR THIS REASON, THE ACCESS DRIVE WAS LOCATED SUCH THAT IT PRIMARILY ENCROACHES ON THE EASTERN UPLAND WETLAND SETBACK

THE TWO REMAINING ENCROACHMENTS FROM GRADING ARE ALSO NECESSARY DUE TO TOPOGRAPHIC CONSTRAINTS. EVEN THOUGH THE SOUTH SIDE OF THE SITE IS MOST PRACTICAL TO DEVELOP, THERE STILL REMAINS SOME CHALLENGING TOPOGRAPHIC CONDITIONS IN THIS AREA. THE PROPOSED ELEVATIONS OF THE SITE ARE APPROPRIATE IN TERMS OF ACCOMMODATING THE SITES TOPOGRAPHIC CONDITIONS IN ITS ENTIRETY. TO AVOID THESE TWO ENCROACHMENTS ON THE WEST WETLAND WOULD REQUIRE EITHER SIGNIFICANT ALTERATIONS TO THE PARKING LOT(WHICH COULD AFFECT THE OVERALL SITE CIRCULATION) AS WELL AS REQUIRE THE PROPOSED CHURCH BUILDING TO BE SHIFTED SOUTHERLY. THE LATTER IS NOT PREFERABLE EITHER AS THE CHURCH IS SEEKING TO MAINTAIN AS LARGE A NATURAL BUFFER AS FEASIBLE TO THE ADJACENT RESIDENTIAL PARCELS TO THE SOUTH.

IMPACT:
THESE TWO UPLAND WETLANDS ARE LOW QUALITY WETLANDS AS DETERMINED DURING THE WETLAND DELINEATION. THE WESTERN WETLAND POCKET CONTAINS DEADFALL AND MOWED PATHS WITHIN PORTIONS OF ITS WETLAND SETBACK WHILE THE EASTERN WETLAND CONTAINS PRIMARILY BRUSH AND SOME MOWED TRAILS. GIVEN THE WETLANDS ARE LOW QUALITY AND DISTURBANCE IS LIMITED TO WITHIN THE SETBACK AND NOT WITHIN THE WETLAND, THE NATURE OF THE WETLAND IS STILL BEING PRESERVED. A SIGNIFICANT AMOUNT OF SITE AREA IS BEING PRESERVED WHICH PROVIDES A NATURE CORRIDOR FOR WILDLIFE ON THE SITE.

HYDROLOGY:
THE WESTERN OF THE TWO WETLANDS IS A LOW POCKET THAT COLLECTS WATER FROM THE SOUTHERN PORTION OF THIS PARCEL. THERE IS AN EXISTING DRAIN PIPE THAT DRAINS THE WATER FROM THIS WESTERN WETLAND POCKET AND DRAINS IT NORTHERLY TOWARDS THE POND AT THE NORTHWEST QUADRANT OF THE PARCEL. THE EASTERN OF THESE TWO WETLANDS IS A FLOW THROUGH WETLAND. THERE IS A NATURAL WIDE 'DRAW' OF TOPOGRAPHY THROUGH THE AREA THAT DIRECTS WATER TOWARDS THE WESTERN WETLAND POCKET.

WITH THE CONSTRUCTION OF THE PROPOSED DRIVE AND PARKING LOTS, THE EASTERN OF THE TWO WETLANDS WILL BE SURROUNDED BY DEVELOPMENT. THIS DOES REDUCE THE AREA DRAINING THROUGH IT BY APPROXIMATELY 2.7 ACRES. BUT AGAIN, THE PRIMARY HYDROLOGY FOR THIS EASTERN WETLAND IS CONVEYING WATER TOWARDS THE WESTERN WETLAND POCKET, WHICH IT WILL CONTINUE TO DO VIA A STORM CULVERT UNDERNEATH THE DRIVE. THE WESTERN WETLAND POCKET WILL STILL COLLECT STORM WATER AND BE ABLE TO POND TO AN ELEVATION OF THE PROPOSED END SECTION OUTLET. THIS NEW END SECTION WILL DIRECT STORM WATER NORTHERLY TO THE POND IN THE NORTHWEST, AS IT CURRENTLY DOES. THESE UPLAND WETLAND AREAS ARE BEING UTILIZED IN A MANNER THAT IS CONSISTENT WITH THE DESIRED APPROACH/INTENT OF THE NEW LCDC STORM WATER STANDARDS WHERE INFILTRATION IS ENCOURAGE PRIOR TO DETENTION SYSTEMS VIA THE USE OF POCKET AREA, OPEN DITCHES, BIOSWALES, ETC.



SOUTHERLY NATURAL FEATURES SETBACK ENCROACHMENTS

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
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CALL MISS DIG
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(TOLL FREE)
FOR THE LOCATION OF UNDERGROUND FACILITIES

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Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.546.4836 FAX 517.548.1670

PROJECT
BIBLE BAPTIST CHURCH

PREPARED FOR
BIBLE BAPTIST CHURCH
2258 EAST HIGHLAND ROAD
HOWELL, MI 48843
517-715-9233

TITLE
NATURAL FEATURES SETBACK DISTURBANCE

NO	BY	REVISION PER	DATE
3	ST	PER TWP REVIEW	4/21/22
2	ST	PER TWP REVIEW	3/16/22
1	ST	PER TWP REVIEW	2/23/22

DESIGNED BY: ST
DRAWN BY: MD
CHECKED BY:
SCALE 1" = 50'
JOB NO. 21-542
DATE 12/01/2021
SHEET NO. 13

BOSS Engineering

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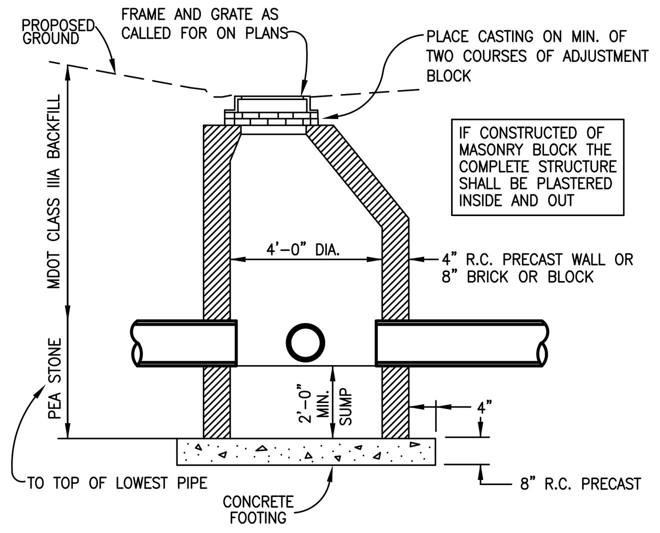


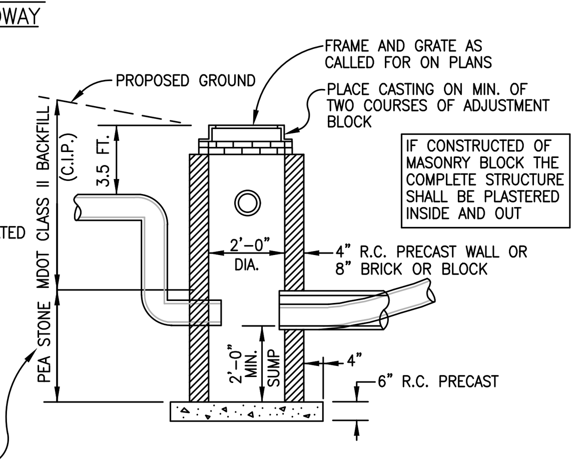
4 FT. DIA. CATCH BASIN W/SUMP

NO SCALE

INSTALL SUBDRAINS AT ALL CATCH BASINS LOCATED WITHIN ROADWAY

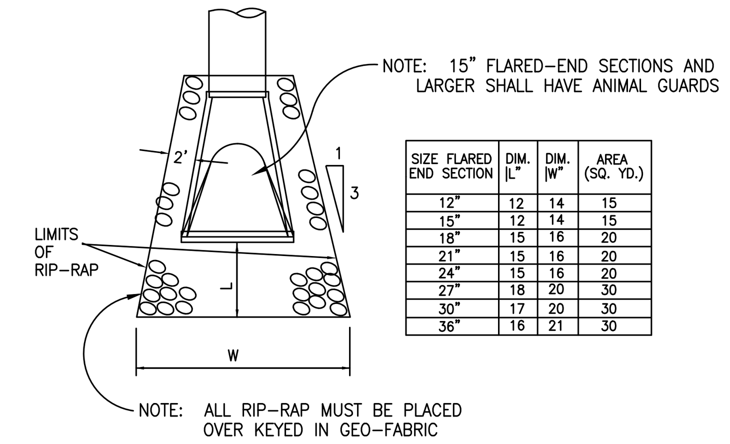
(1) 4 L.F. (MIN.) 6"ø PERFORATED P.V.C. PIPE WRAPPED WITH GEOTEXTILE FABRIC PLACED AT LOWEST INVERT PARALLEL TO ROAD OR LINE OF PIPE. BACK-FILLED WITH PEA STONE ONE FOOT ABOVE PIPE.

(2) AT LOWPOINT CATCH BASINS 20 L.F. (MIN.) OF 6"ø PERFORATED P.V.C. PIPE WRAPPED WITH GEOTEXTILE FABRIC, STARTING AT LOWEST INVERT AND CONTINUING AT 3.5 FT BELOW ROAD-WAY, PARALLEL TO ROAD. (BOTH DIRCTIONS) BACK-FILLED WITH PEA STONE TO THE SUBBASE.



2 FT. DIA. CATCH BASIN W/SUMP

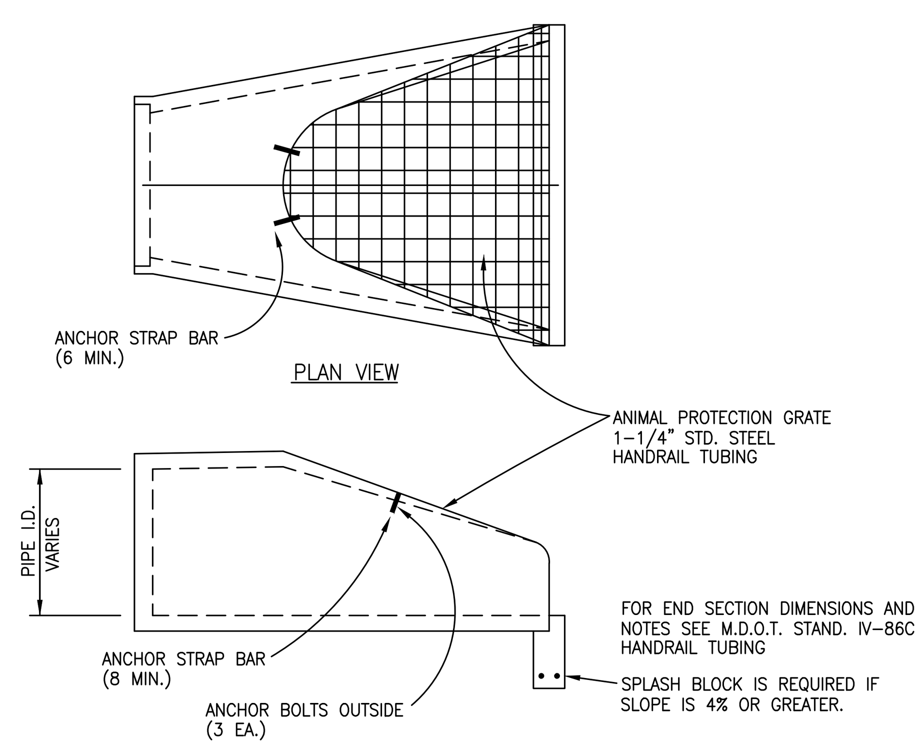
NO SCALE



SIZE FLARED END SECTION	DIM. "L"	DIM. "W"	AREA (SQ. YD.)
12"	12	14	15
15"	12	14	15
18"	15	16	20
21"	15	16	20
24"	15	16	20
27"	18	20	30
30"	17	20	30
36"	16	21	30

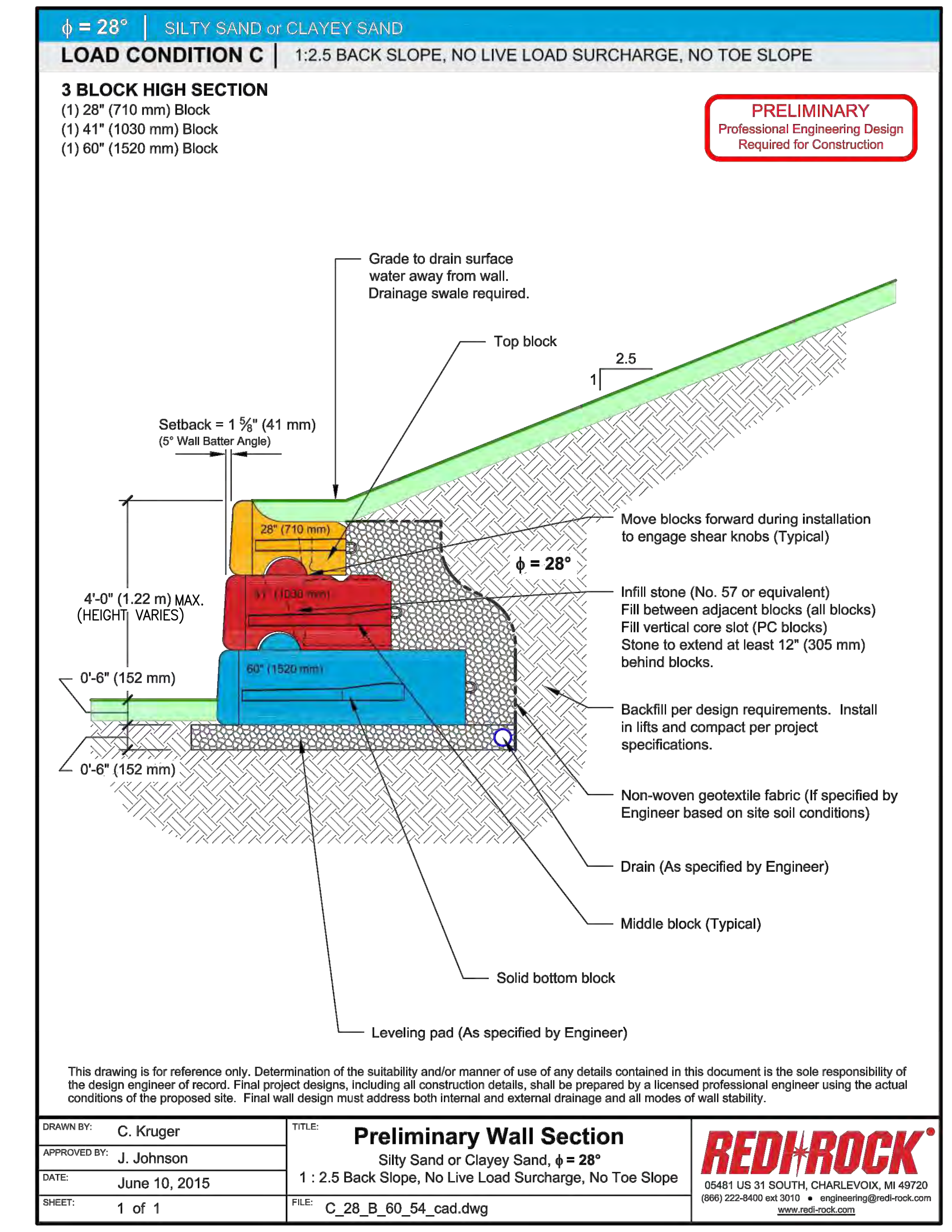
TYPICAL RIP-RAP DETAIL

(SCALE: NONE)



PRECAST CONCRETE END SECTION FOR PIPE CULVERT W/ ANIMAL GRATE

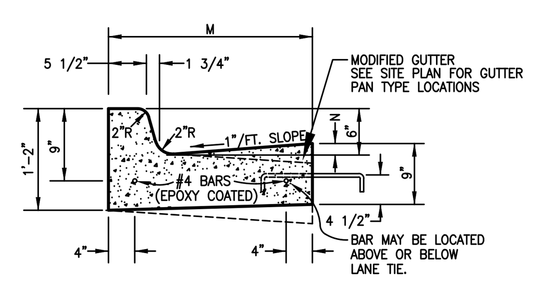
(NO SCALE)



LANDSCAPE WALL DETAIL

SCALE: NONE

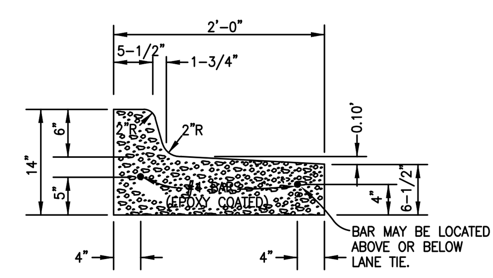
STRUCTURE FRAMES & COVERS					
COVER	TYPE	USE	MANUFACTURER OR EQUAL: EAST JORDAN	MANUFACTURER OR EQUAL: NEENAH	TYPE OF COVER OR GRATE
A	MH	ALL	1120	R-1415	VENTED
B	CB & INLET	TYPE B2 CURB	7085	R-3038-A	
K	CB & INLET	TYPE C & F CURB	7045	R-3031-B	FLAT GRATE WITH VERT. 4" OPEN THROAT
C	CB & INLET	VALLEY CURB	7065	R-3034-B	
D	CB & INLET	PARKING LOTS	1020-M1 5105-M1	R-2560-D	FLAT GRATE
E	CB & INLET	LAWN AREA OR DITCH	1020-01		BEEHIVE GRATE 4" HIGH



DETAIL	DIMENSIONS M	DIMENSIONS N	LANE TIES	CONCRETE CU.YD/LIN.FT.
F1	1'-6"	7/8"	AS SHOWN	0.0484
F2	1'-6"	7/8"	OMITTED	0.0484
F3	2'-0"	1 3/8"	AS SHOWN	0.0610
F4	2'-0"	1 3/8"	OMITTED	0.0610
F5	2'-6"	1 7/8"	AS SHOWN	0.0737
F6	2'-6"	1 7/8"	OMITTED	0.0737

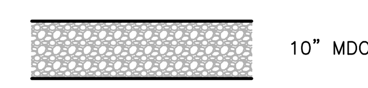
CONCRETE CURB & GUTTER TYPE F

(NO SCALE)



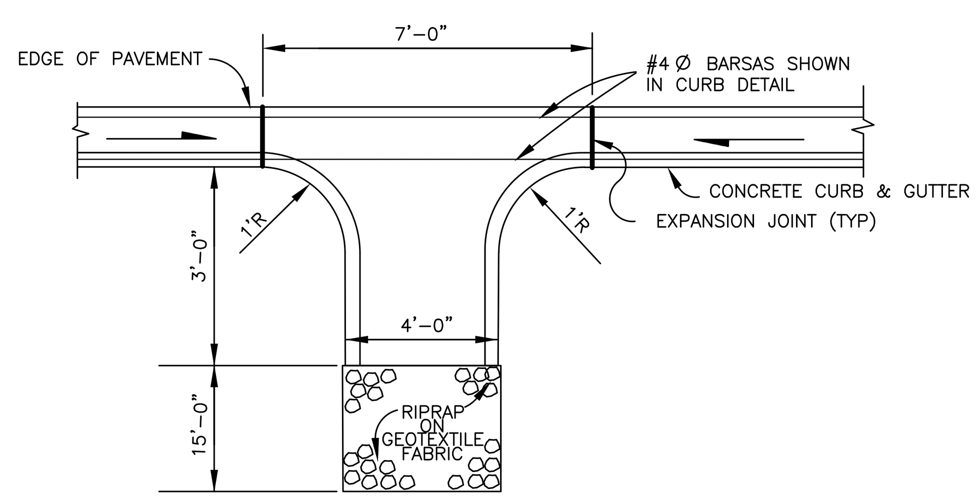
MODIFIED BARRIER (M.D.O.T. TYPE F4) (FOR ISLANDS ONLY)

(NO SCALE)



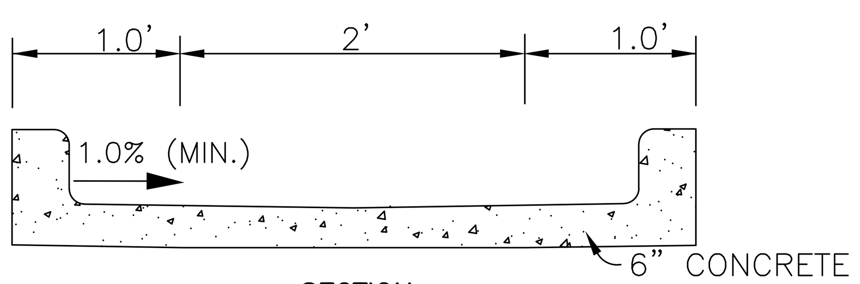
GRAVEL EMERGENCY FIRE ACCESS DRIVE

(NO SCALE)

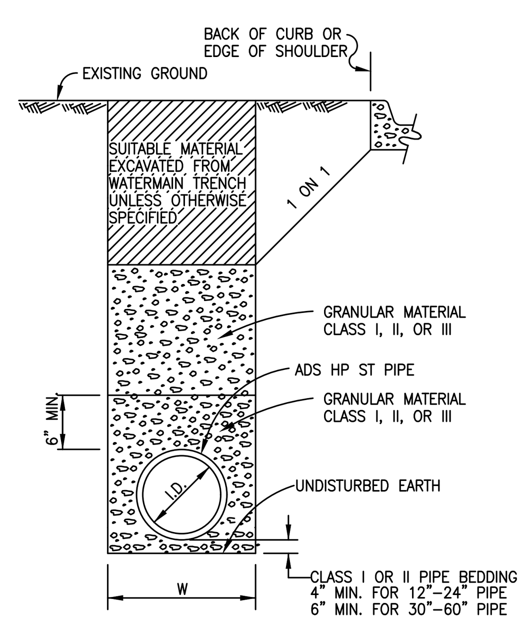


SPILLWAY DETAIL

NO SCALE

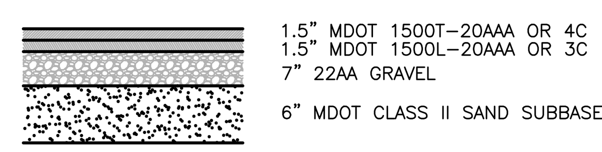


SECTION



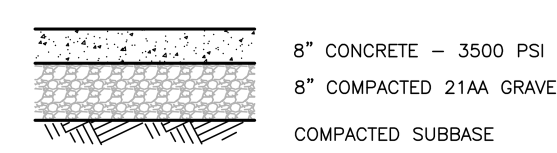
ADS HP ST PIPE TRENCH DETAIL OPEN SPACE/INFLUENCE OF ROADBED

NO SCALE



COMMERCIAL DRIVE ASPHALT SECTION

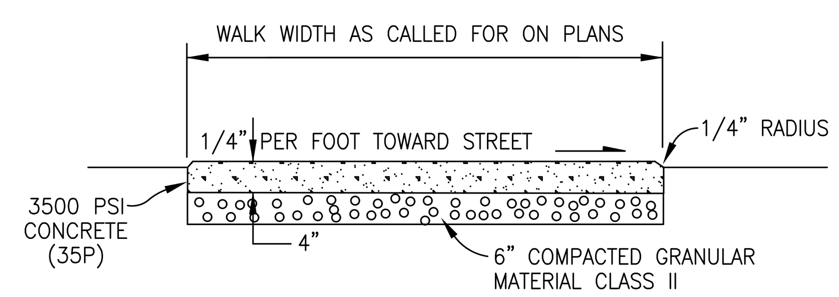
(NO SCALE)



CONCRETE PAVEMENT CROSS SECTION

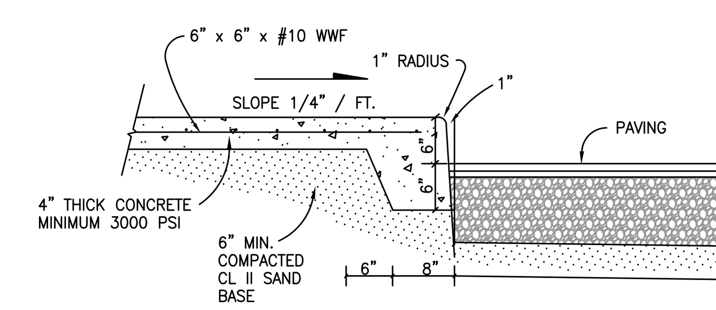
NOTE: FOR DUMPSTER PAD

(NO SCALE)



4" CONCRETE SIDEWALK

(NO SCALE)



INTEGRAL CONCRETE WALK / CURB DETAIL

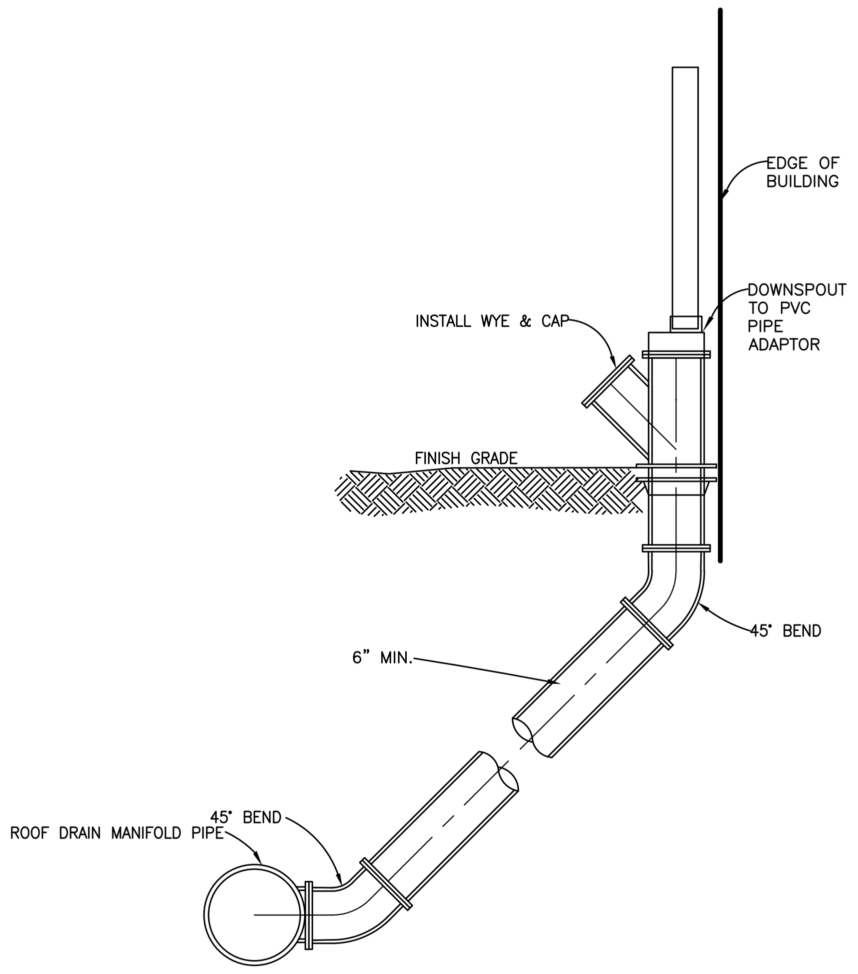
(NO SCALE)

DIA.	T(MIN.)	A(MIN.)	B*	C*	D*	E*	G	R1	R2	X	Y	APPROX. WT. LBS.
12"	2"	5"	23"	51"	74"	24"	2"	10-1/8"	9"	8"	18"	800
15"	2-1/4"	7"	27"	48"	75"	30"	2-1/4"	12-1/2"	11"	8"	18"	1100
18"	2-1/2"	11"	25"	49"	74"	36"	2-1/2"	15-1/2"	12"	8"	18"	1300
21"	2-3/4"	11"	33"	42"	75"	42"	2-3/4"	16-1/8"	13"	8"	18"	1500
24"	3"	12"	43"	32"	75"	48"	3"	16-3/16"	14"	8"	18"	1800
30"	3-1/2"	14"	53"	22"	75"	60"	3-1/2"	18-1/2"	15"	8"	18"	2400
36"	4"	17"	62"	37"	99"	72"	4"	24-5/16"	20"	8"	18"	4200
42"	4-1/2"	22"	62"	37"	99"	78"	4-1/2"	27-1/2"	22"	10"	24"	5600
48"	5"	24"	72"	26"	98"	84"	5"	28-1/2"	22"	10"	24"	7400
54"	5-1/2"	27"	65"	33-1/4"-35"	98-1/4"-100"	90"	5"	□	□	10"	24"	8040
60"	6"	30"	60"	39"	99"	96"	5"	□	□	12"	24"	8730
66"	6-1/2"	24"	72"-78"	21"-27"	99"	102"	5-1/2"	□	□	12"	24"	10,630
72"	7"	24"	78"	21"	99"	108"	6"	□	□	12"	24"	12,520
78"	7-1/2"	24"	78"	21"	99"	114"	6-1/2"	□	□	12"	24"	14,430
84"	8"	36"	90-1/2"	21"	111-1/2"	120"	6-1/2"	□	□	12"	24	18,160

* TOLERANCE ± 1"

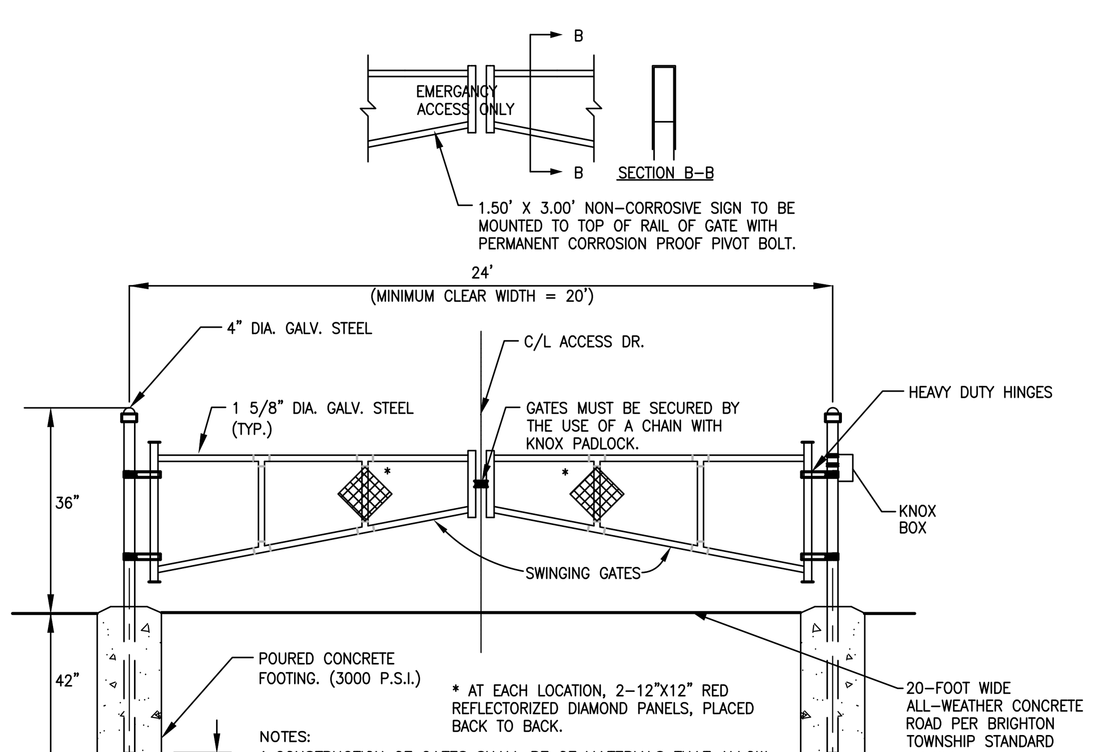
□ RADIUS AS FURNISHED BY THE MANUFACTURER

WEIGHT SHOWN DOES NOT INCLUDE CONCRETE FOOTING



ROOF DRAIN CLEANOUT DETAIL

NO SCALE

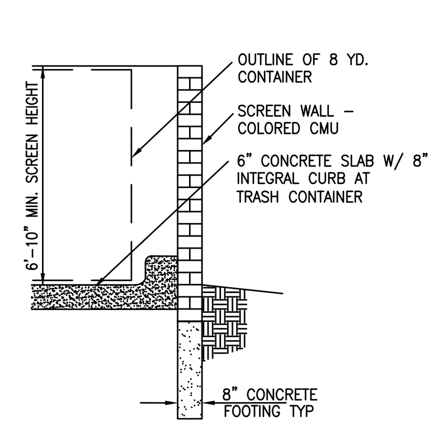


* AT EACH LOCATION, 2-12"X12" RED REFLECTORIZED DIAMOND PANELS, PLACED BACK TO BACK.

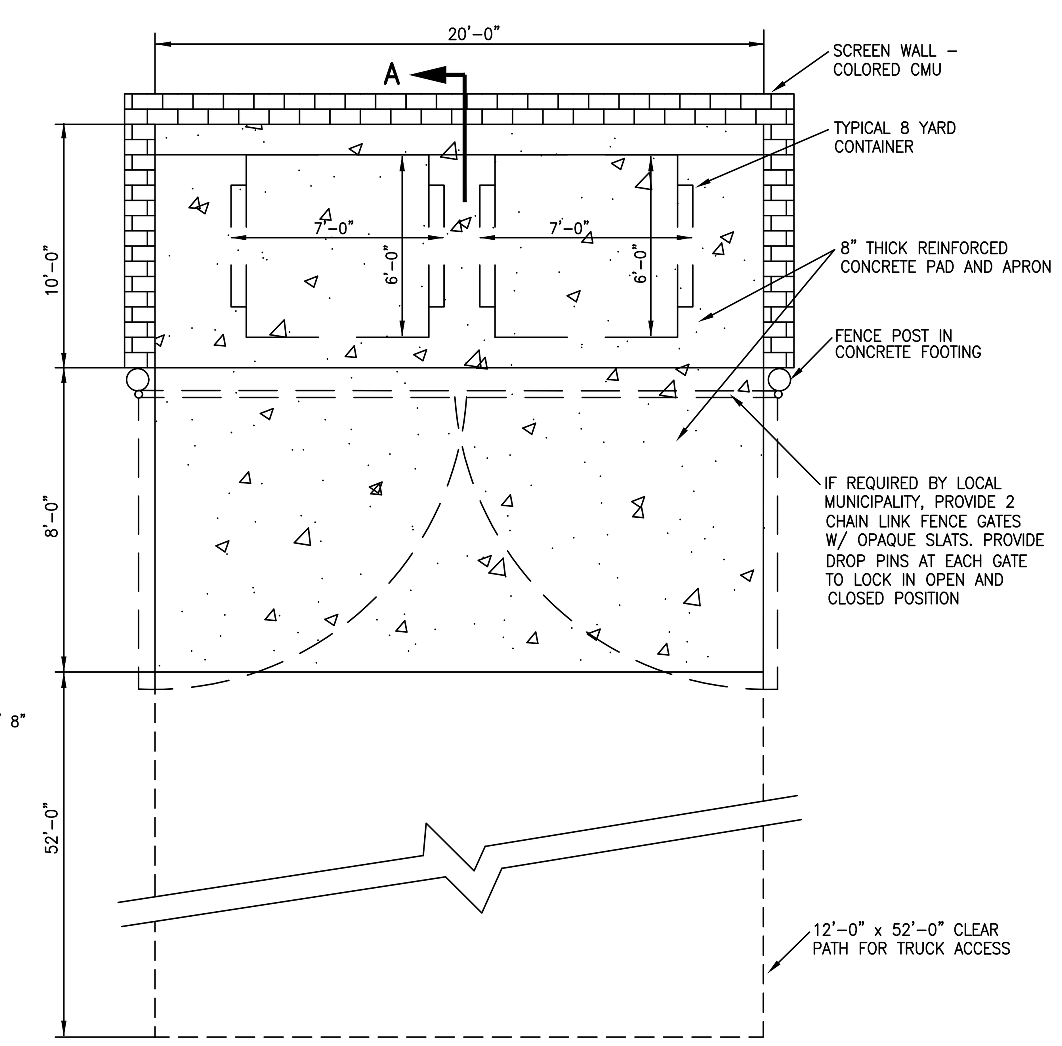
NOTES:
1. CONSTRUCTION OF GATES SHALL BE OF MATERIALS THAT ALLOW MANUAL OPERATIONS BY ONE PERSON.
2. GATE COMPONENTS SHALL BE MAINTAINED IN OPERATIVE CONDITION AT ALL TIMES AND REPLACED OR REPAIRED WHEN DEFECTIVE.
3. THE ACCESS DRIVE AND GATE SHALL BE ACCESSIBLE AT ALL TIMES (I.E. SNOW REMOVAL) AND POSTED AS A FIRE LANE.
4. THE USE OF THE KNOX RAPID ENTRY SYSTEM PADLOCK IS REQUIRED.
5. THE ACCESS DRIVE SHALL BE CONSTRUCTED SO IT CAN SUPPORT UP TO 100,000 POUND FIRE APPARATUS.

EMERGENCY FIRE ACCESS DRIVE GATE DETAIL

SCALE: NONE



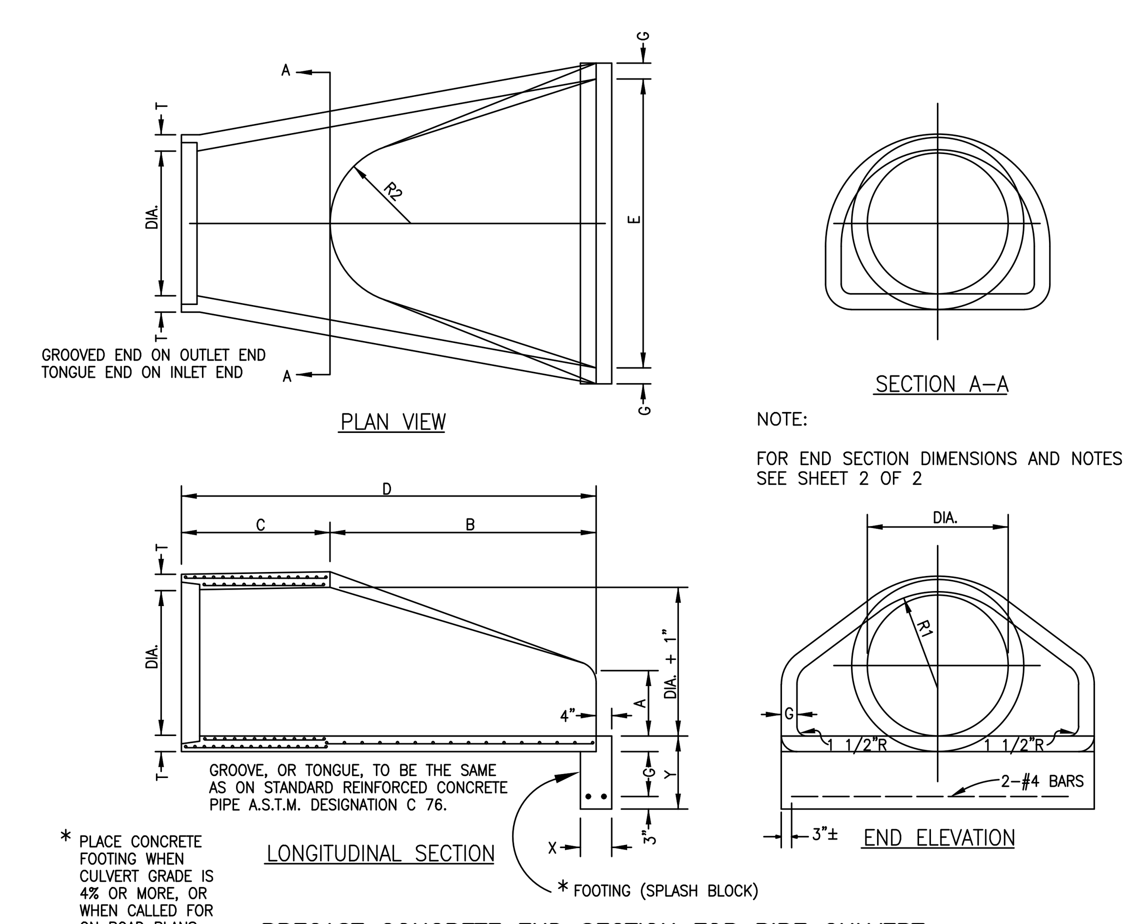
SECTION A



PLAN

DOUBLE CONTAINER CORRAL

(NO SCALE)



NOTE:

FOR END SECTION DIMENSIONS AND NOTES SEE SHEET 2 OF 2

* PLACE CONCRETE FOOTING WHEN CULVERT GRADE IS 4% OR MORE, OR WHEN CALLED FOR ON ROAD PLANS

PRECAST CONCRETE END SECTION FOR PIPE CULVERT

(REF. MDOT DETAIL IV-86C)

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Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.546.4836 FAX 517.548.1670

PROJECT: BIBLE BAPTIST CHURCH

PREPARED FOR: BIBLE BAPTIST CHURCH, 2258 EAST HIGHLAND ROAD, HOWELL, MI 48843, 517-715-9233

TITLE: CONSTRUCTION DETAILS

NO	BY	REVISION PER	DATE
3	ST	PER TWP REVIEW	4/21/22
2	ST	PER TWP REVIEW	3/16/22
1	ST	PER TWP REVIEW	2/23/22

DESIGNED BY: ST

DRAWN BY: JS

CHECKED BY:

SCALE: NO SCALE

JOB NO. 21-542

DATE 2/2/2022

SHEET NO. 14

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PIPE RESTRAINT SCHEDULE

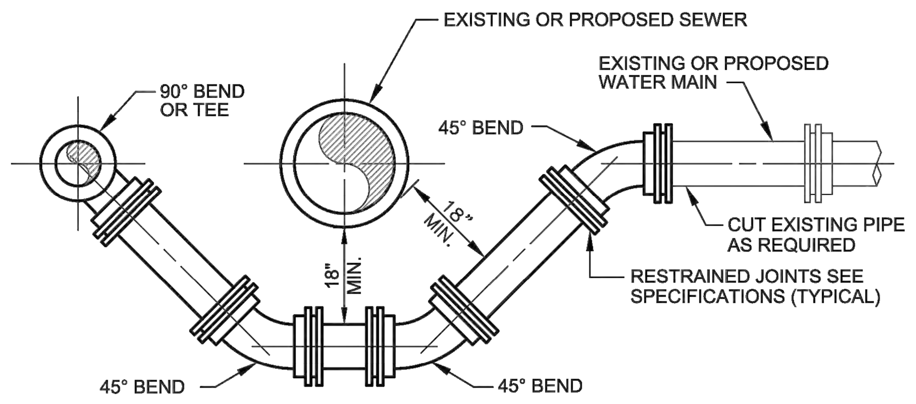
GROUND BURIED PRESSURE PIPE - POLYETHYLENE ENCASED DUCTILE IRON PIPE

PIPE DIAMETER	TEES, 90° BENDS	45° BENDS	22-1/2° BENDS	11-1/4° BENDS	DEAD ENDS	REDUCERS (ONE SIZE REDUCTION)*	REDUCERS (TWO SIZE REDUCTIION)*
4	13	5	3	1	40	--	--
6	19	8	4	2	58	31	--
8	24	10	5	2	75	30	70
12	34	14	7	3	107	57	116
16	43	18	9	4	139	59	137
20	52	22	10	5	169	59	134
24	61	25	12	6	199	60	132
30	73	30	15	7	242	85	168
36	84	35	17	8	281	84	168

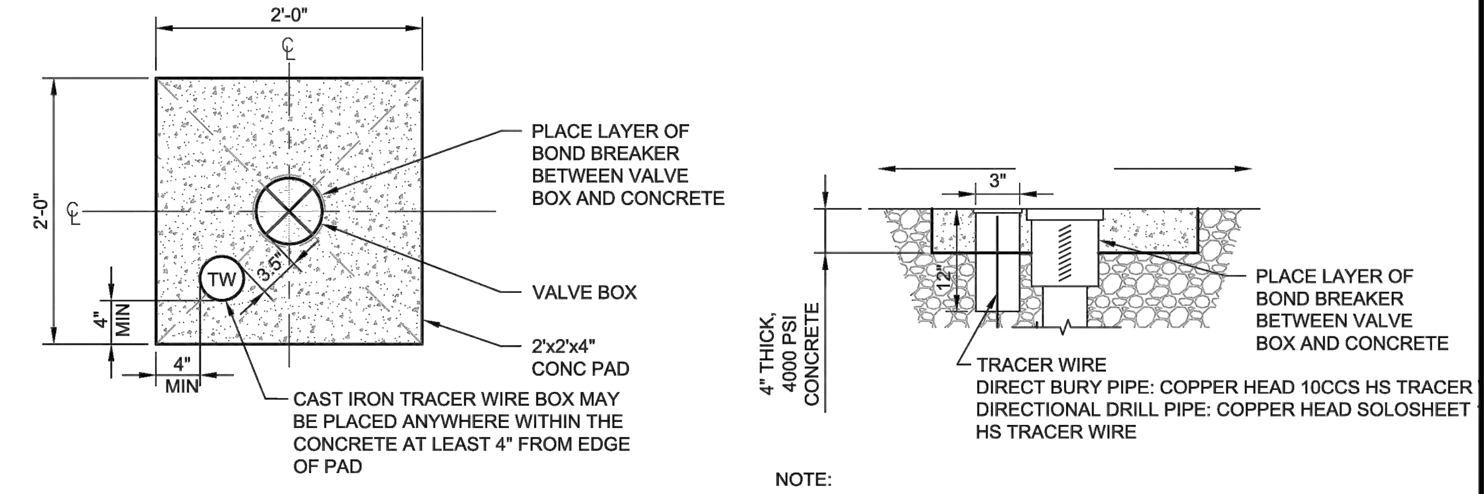
1. LENGTHS OF PIPE RESTRAINT ARE GIVEN IN FEET.
2. IF REQUIRED PIPE DIAMETER IS NOT LISTED IN THIS TABLE, THE NEXT LARGEST PIPE DIAMETER SHALL BE USED.
3. THIS TABLE IS BASED ON A TEST PRESSURE OF 180 PSI (OPERATING PRESSURE PLUS WATER HAMMER. FOR OTHER TEST PRESSURES, ALL VALUES TO BE INCREASED OR DECREASED PROPORTIONALLY.
4. THE VALUES PROVIDED OF RESTRAINT LENGTH ARE IN EACH DIRECTION FROM THE POINT OF DEFLECTION OR TERMINATION EXCEPT FOR TEES, AT WHICH ONLY THE BRANCH IN THE DIRECTION OF THE STEM.
5. IF TIE RODS ARE USED, USE FOUR RODS MINIMUM AND ADD 1/8-INCH TO BAR DIAMETER AS CORROSION ALLOWANCE.

* SIZE REDUCTION IS BASED UPON THE PIPE DIAMETER SHOWN IN THIS TABLE.

BASED UPON:
INTERNAL PRESSURE: 180
PIPE DEPTH: 5
BEDDING CLASS: TYPE 4
SOIL TYPE: GOOD SAND
SAFETY FACTOR: 2



WATER MAIN UTILITY OFFSET



NOTE: ALL BOXES & ADJOINING TW BOXES SHALL BE ENCASED IN A CONC. PAD UNLESS OTHERWISE DETERMINED BY MHOG.

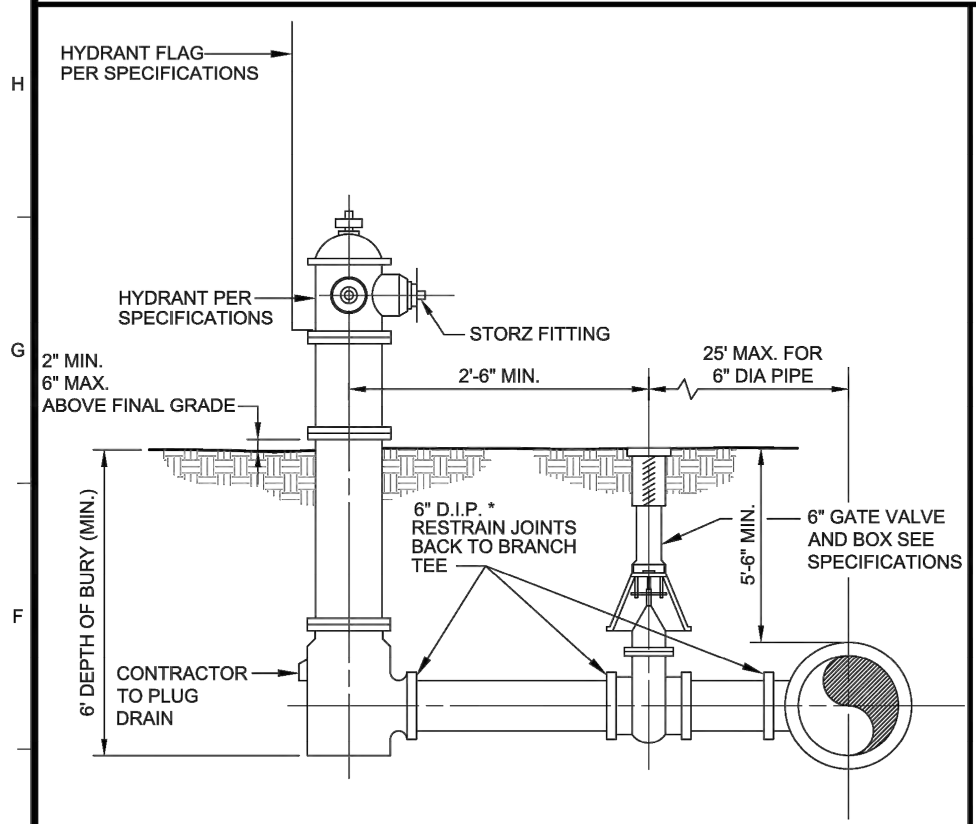
PLAN

NOTE:
1. TRACER WIRE BOXES LOCATED WITHOUT A VALVE BOX ONLY REQUIRE AN 18" X 18" CONCRETE PAD.
2. TRACER WIRE BOX SHALL HAVE A LOCKING LID W/STANDARD AWWA PENTAGON KEY.
3. TRACER WIRE BOX SHALL BE COPPERHEAD RB14*TP IN ASPHALT INSTALLATIONS AND CD14*TP FOR ALL OTHER INSTALLATIONS.

SECTION

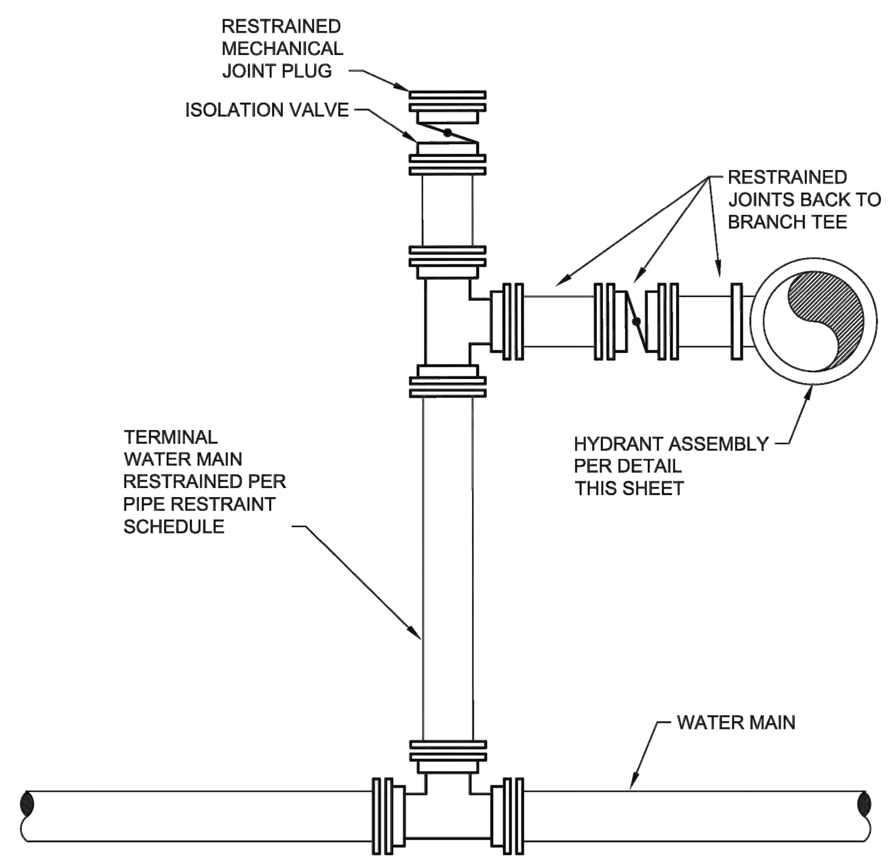
VALVE/TRACER WIRE BOX IN CONCRETE DETAIL

NO SCALE

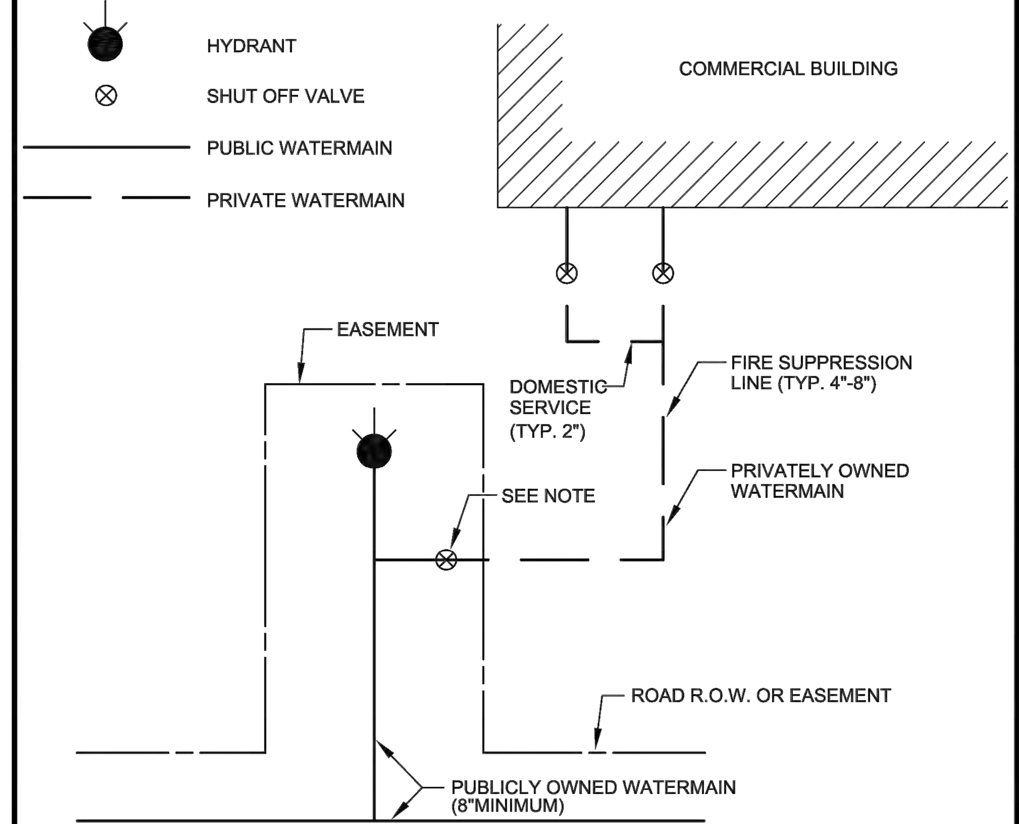


* THE LENGTH OF 6" PIPE FROM THE MAIN TO THE HYDRANT ASSEMBLY CANNOT EXCEED 25'. ANY PIPE OVER 25 FEET SHALL BE 8" DIAMETER MINIMUM AND DESIGNED PER MHOG SPECIFICATIONS.

FIRE HYDRANT ASSEMBLY

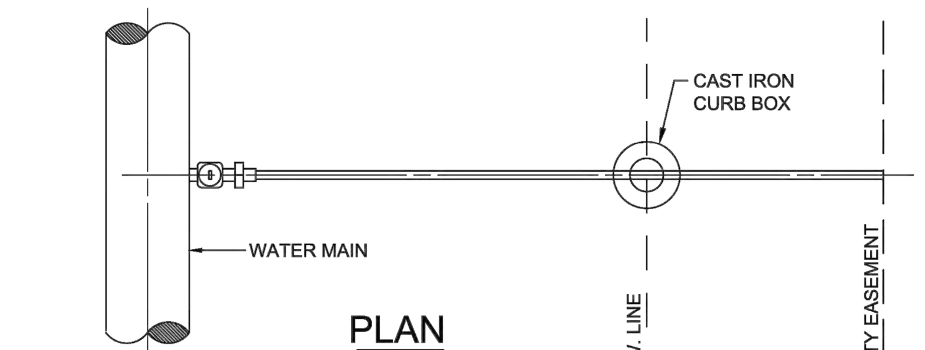


TERMINAL HYDRANT DETAIL



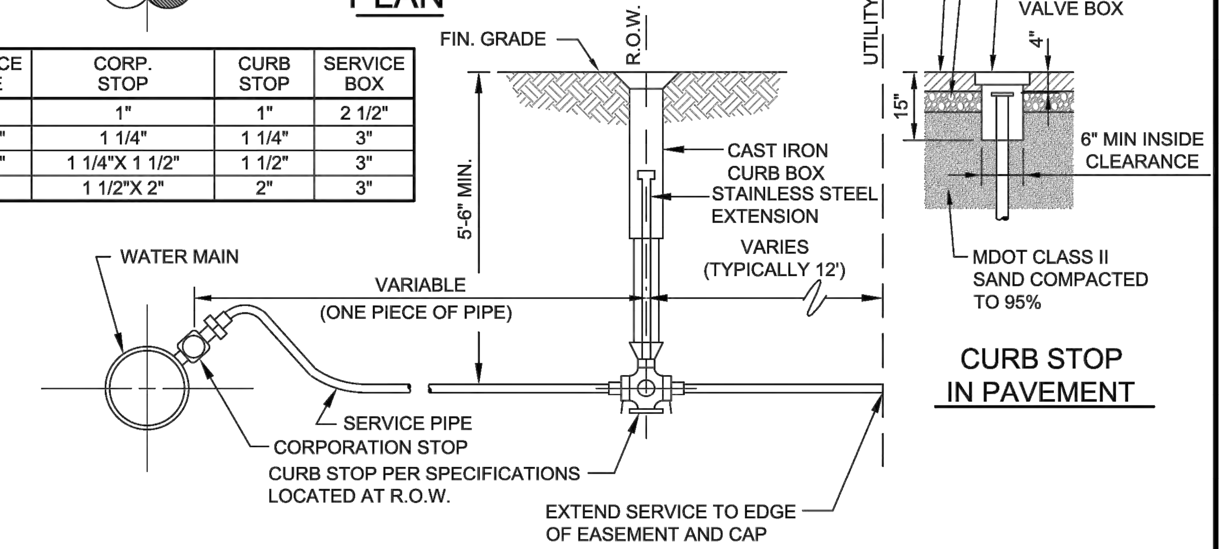
NOTE: PUBLICLY OWNED SHUT OFF VALVE TO BE LOCATED IN EASEMENT.

COMMERCIAL BUILDING WATER SERVICE LAYOUT



PLAN

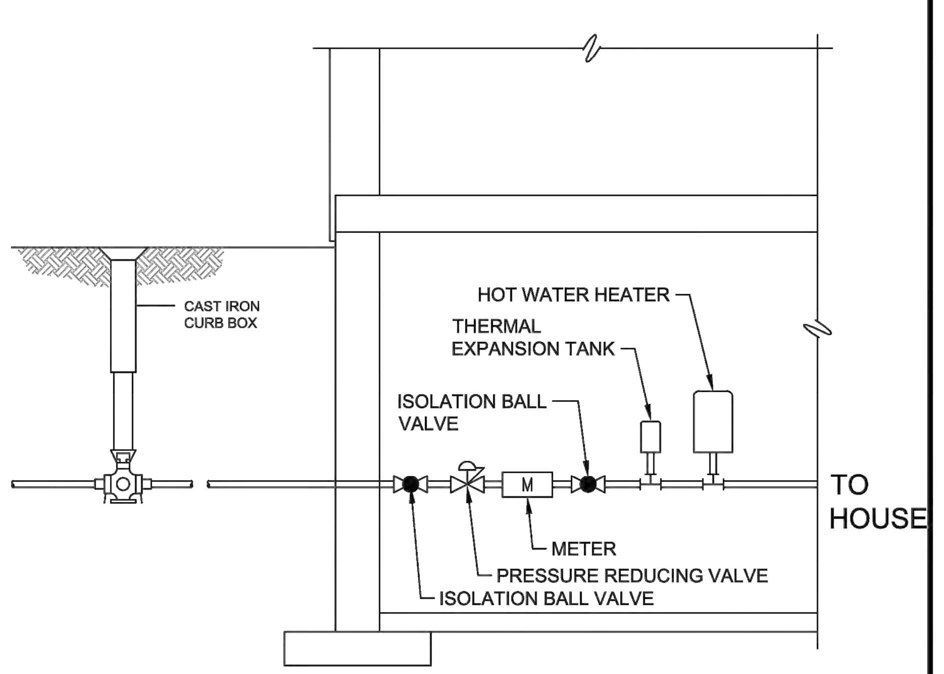
SERVICE PIPE	CORP. STOP	CURB STOP	SERVICE BOX
1"	1"	1"	2 1/2"
1 1/4"	1 1/4"	1 1/4"	3"
1 1/2"	1 1/4"X 1 1/2"	1 1/2"	3"
2"	1 1/2"X 2"	2"	3"



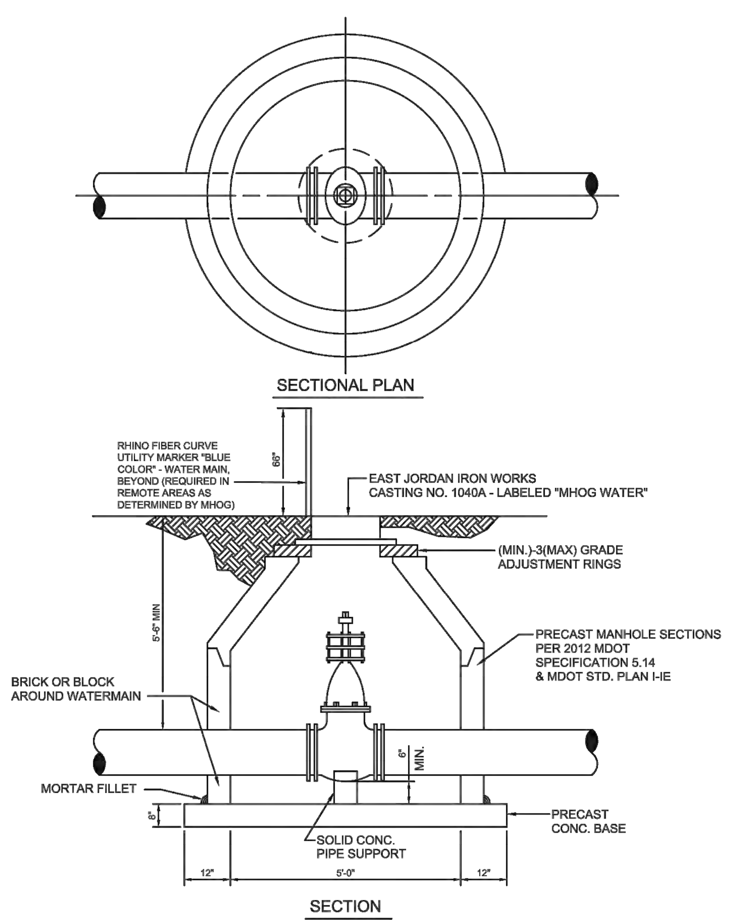
CURB STOP IN PAVEMENT

SECTION

WATER SERVICE LATERAL

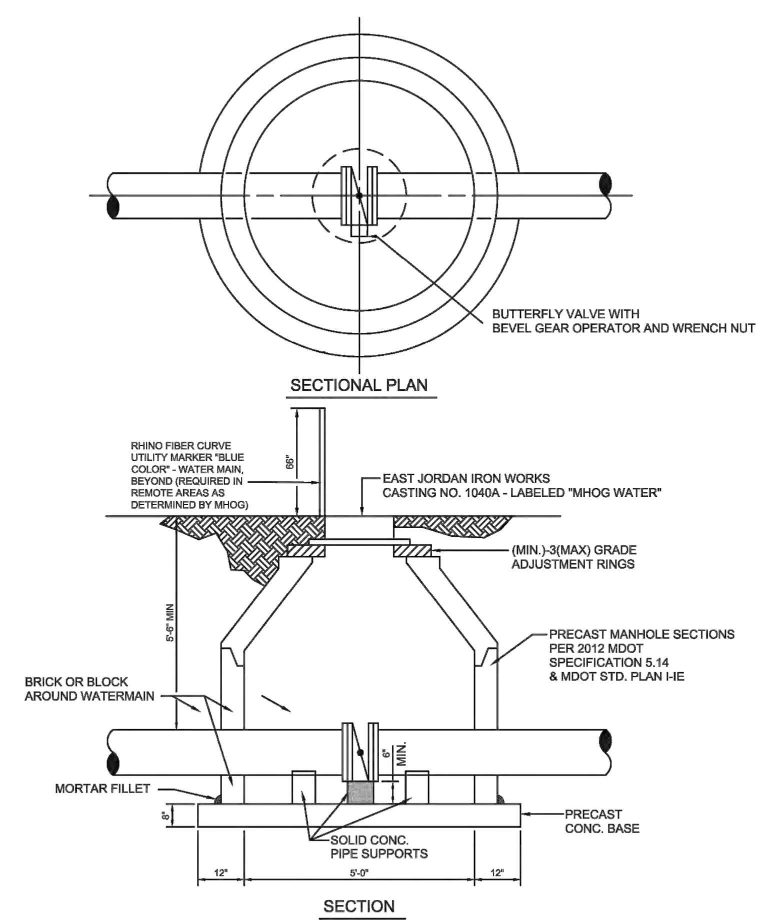


PRIVATE RESIDENCE
PRESSURE REDUCING VALVE (PRV)



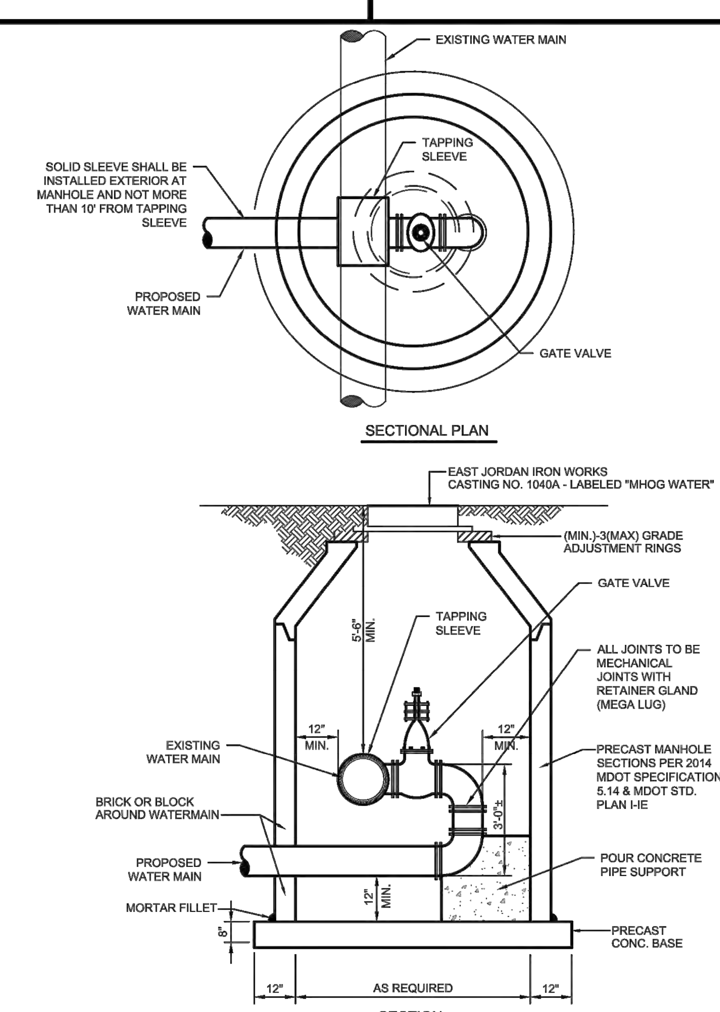
NOTES:
1. ALL LIFT HOLES AND JOINTS SHALL BE MORTARED BOTH INSIDE AND OUTSIDE.
2. BLOCK MANHOLES TO BE USED ONLY WITH ENGINEERS PERMISSION.
3. NO STEPS PERMITTED.

VALVE AND GATE WELL



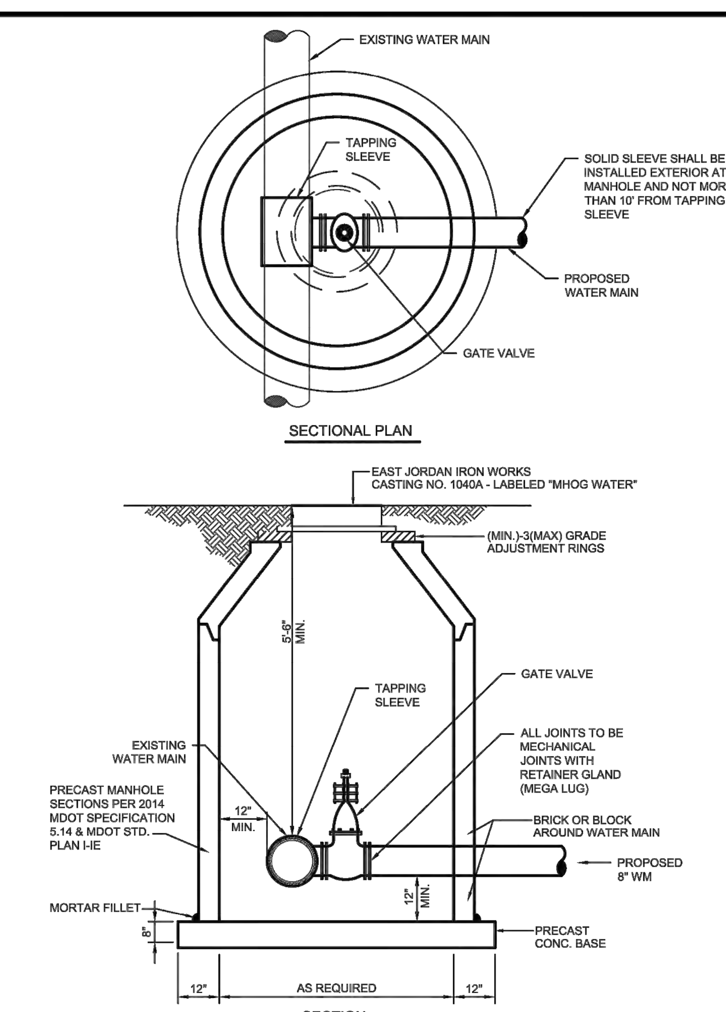
NOTES:
1. ALL LIFT HOLES AND JOINTS SHALL BE MORTARED BOTH INSIDE AND OUTSIDE.
2. BLOCK MANHOLES TO BE USED ONLY WITH ENGINEERS PERMISSION.
3. NO STEPS PERMITTED.

BUTTERFLY VALVE AND WELL



NOTES:
1. ALL LIFT HOLES AND JOINTS SHALL BE MORTARED BOTH INSIDE AND OUTSIDE.
2. BLOCK MANHOLES TO BE USED ONLY WITH ENGINEERS PERMISSION.
3. NO STEPS PERMITTED.

REVERSE TAP GATE WELL



NOTES:
1. ALL LIFT HOLES AND JOINTS SHALL BE MORTARED BOTH INSIDE AND OUTSIDE.
2. BLOCK MANHOLES TO BE USED ONLY WITH ENGINEERS PERMISSION.
3. NO STEPS PERMITTED.

REGULAR TAP GATE WELL

Tuesday, February 26, 2019 4:02:14 PM DRAWING: P:\IER\12719\200-12719-00-000\CAD\SheetFiles\Mhog-std.DWG

MARION HOWELL OCEOLA GENOA
Sewer and Water Authority

STANDARD DETAILS

Scale: NONE
Issued Date JANUARY - 2014
UPDATED: MAY 2015
UPDATED: FEBRUARY 2016
UPDATED: APRIL 2016
UPDATED: OCTOBER 2017
UPDATED: FEBRUARY 2019

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 (TOLL FREE) FOR THE LOCATION OF UNDERGROUND FACILITIES

BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.546.4836 FAX 517.548.1670

PROJECT: BIBLE BAPTIST CHURCH

PREPARED FOR: BIBLE BAPTIST CHURCH
2258 EAST HIGHLAND ROAD
HOWELL, MI 48843
517-715-9233

TITLE: MHOG STANDARD WATERMAIN DETAILS (1)

NO	BY	REVISION PER	DATE
3	ST	PER TWP REVIEW	4/21/22
2	ST	PER TWP REVIEW	3/16/22
1	ST	PER TWP REVIEW	2/23/22

DESIGNED BY: ST
DRAWN BY: JS
CHECKED BY:
SCALE
JOB NO. 21-542
DATE 12/01/2021
SHEET NO. 15

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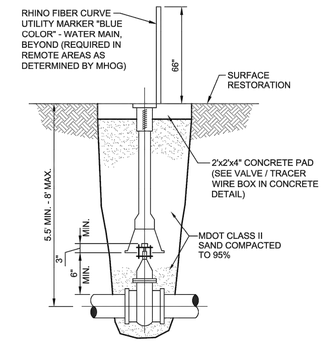
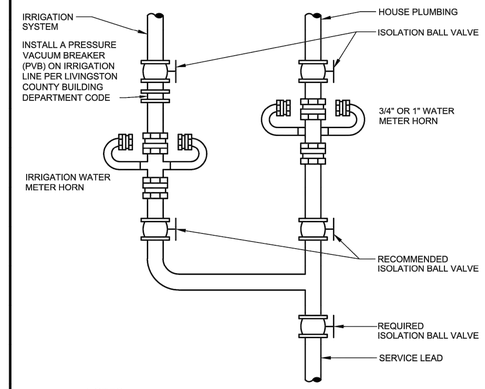


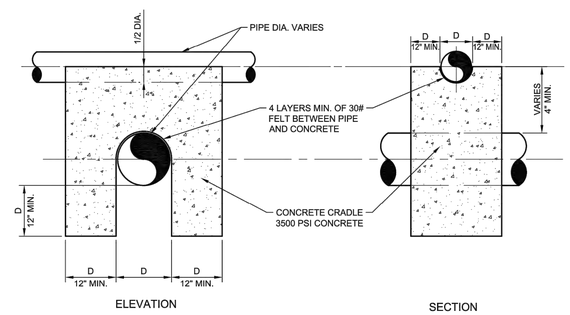
NOTES:
1. VALVE BOX SHALL NOT REST ON VALVE OR MAIN LINE PIPE.
2. A VALVE STEM EXTENSION WITH CENTERING RING IS REQUIRED FOR VALVES BURIED DEEPER THAN 6'.

GATE VALVE AND BOX



NOTES:
1. ALL METERS ARE TO BE INSTALLED HORIZONTALLY IN A DRY, CLEAN, SANITARY LOCATION THAT IS READILY ACCESSIBLE. THIS DRAWING IS NOT TO SCALE & IS ONLY A REPRESENTATION OF HOW THE METERS SHOULD BE INSTALLED. THE SECOND METER IS OPTIONAL FOR IRRIGATION USAGE. METERS SHOULD NOT BE INSTALLED IN LINE (ONE RIGHT AFTER THE OTHER).
2. PROPERTIES DESIGNATED "HIGH HAZARD" PER THE MHOG CROSS CONNECTION RULES MANUAL WILL REQUIRE THE INSTALLATION OF A REDUCED PRESSURE ZONE (RPZ) BACK FLOW PREVENTION DEVICE.

TYPICAL METER HORN INSTALLATION



ELEVATION

SECTION

CONCRETE CRADLE DETAIL

SCALE: NONE

MHOG CASTING DETAIL

NO SCALE

MARION HOWELL OCEOLA GENOA
Sewer and Water Authority

STANDARD DETAILS

Scale: NONE
Issued Date JANUARY - 2014

UPDATED: MAY 2015
UPDATED: FEBRUARY 2016
UPDATED: APRIL 2016
UPDATED: OCTOBER 2017
UPDATED: FEBRUARY 2019

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. NO GUARANTEE IS EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL INSPECT THE SITE TO DETERMINE ADDITIONAL UTILITIES AND THE LOCATION AND ELEVATION OF EXISTING UTILITIES AND PROPOSED UTILITIES CROSSING THE SITE. IF ANY CONFLICTS ARE FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY CONFLICTS ARE EVIDENT BETWEEN THE LOCATION OR DEPTH OVERS SHOWN ON THE PLANS FROM THE PLANS.

3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171 (TOLL FREE)
It's the Law!

BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.546.4836 FAX 517.548.1670

PROJECT
BIBLE BAPTIST CHURCH

PREPARED FOR
BIBLE BAPTIST CHURCH
2258 EAST HIGHLAND ROAD
HOWELL, MI 48843
517-715-9233

TITLE
MHOG STANDARD WATERMAIN DETAILS (2)

NO	BY	REVISION PER	DATE
3	ST	PER TWP REVIEW	4/21/22
2	ST	PER TWP REVIEW	3/16/22
1	ST	PER TWP REVIEW	2/23/22

DESIGNED BY: ST
DRAWN BY: JS
CHECKED BY:
SCALE
JOB NO. 21-542
DATE 2/1/2022
SHEET NO. 16

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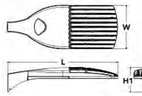
D-Series Size 1
LED Area Luminaire

Catalog Number
Notes
Type

Specifications

EPA:	1.01 ft² (0.09 m²)
Length:	33" (84.0 cm)
Width:	13" (33.0 cm)
Height H1:	7-1/2" (19.0 cm)
Height H2:	3-1/2" (8.9 cm)
Weight (max):	27 lbs (12.2 kg)



Introduction
The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive statement even as it blends seamlessly with its environment. The D-Series distills the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. It is ideal for replacing up to 750W metal halide in pedestrian and area lighting applications with typical energy savings of 65% and expected service life of over 100,000 hours.

Ordering Information
EXAMPLE: DSX1 LED P7 40K T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

DSX1 LED

Series	LEDs	Color temperature	Distribution	Voltage	Mounting
DSX1 LED	**Forward optics** P1 P4[1] P7[1] P2 P5[1] P8[1] P3 P6[1] P9[1] **Rotated optics** P10[1] P12[1] P11[1] P13[1,2]	30K 3000 K 40K 4000 K 50K 5000 K	T1S Type I short (Automotive) T2S Type II short T2M Type II medium T3S Type III short T3M Type III medium T4M Type IV medium TFTM Forward throw medium T5VS Type V very short T5S Type V short T5M Type V medium T5W Type V wide BLC Backlight control[3] LCCO Left corner cutoff[3] RCCO Right corner cutoff[3]	MVOLT[7] 120V[7] 277V[7] 480V[7,8,9] 208[7] 240[7] 277[7] 347[7] 480[7]	**Shipped included** SPA Square pole mounting RPA Round pole mounting[4] WBA Wall bracket[5] SPUMBA Square pole universal mounting adapter[6] RPUMBA Round pole universal mounting adapter[6] **Shipped separately** KMA8 DDBXD U Mast arm mounting bracket adapter (specify finish)[6]

Control options	Other options	Finish
Shipped installed NLTAIR2 nLight AIR generation 2 enabled[7] PIRBNH Network, high/low motion/ambient sensor[10] PER NEMA twist-lock receptacle only (controls ordered separately)[11] PER5 Five pin receptacle only (controls ordered separately)[11,12] PER7 Seven-pin receptacle only (controls ordered separately)[11,12] DMG 0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)[7] DS Dual switching[13,14,15]	PIR High/low, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 5fc[16,17] PIRHN High/low, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 5fc[16,17] PIR1FC3V High/low, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc[16,17,18] PIRHN1FC3V Network, high/low motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc[16,17,18] FAO Field adjustable output[19,20]	**Shipped installed** HS House-side shield[21] SF Single fuse (120, 277, 347V)[7] DF Double fuse (208, 240, 480V)[7] LNS Left notched optics[7] RNS Right notched optics[7] NA NEMA ambient operation[7] BAA Buy American Act Compliant **Shipped separately** BS Bird spikes[22] EGS External glare shield	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DDBTXD Textured dark bronze DBLKTXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white

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WST LED
Architectural Wall Sconce

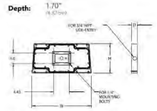
Catalog Number
Notes
Type

Specifications
Luminaire

Height:	8-1/2" (21.6 cm)
Width:	17" (43.2 cm)
Depth:	10-3/16" (25.9 cm)
Weight:	20 lbs (9.1 kg)

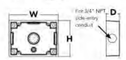
Optional Back Box (PBBW)

Height:	8.49" (215.9 mm)
Width:	17.01" (432.1 mm)
Depth:	1.70" (43.2 mm)



Optional Back Box (BBW)

Height:	4" (101.6 mm)
Width:	5-1/2" (140.0 mm)
Depth:	1-1/2" (38.1 mm)



Capable Luminaire
This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency.
- This luminaire is A+ Certified when ordered with DTL® controls marked by a shaded background. DTL DLL equipped luminaires meet the A+ specification for luminaire to photocontrol interoperability1.
- This luminaire is part of an A+ Certified solution for ROAM® or XPoint™ Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers and control options marked by a shaded background.

To learn more about A+, visit.

See ordering tree for details.

A+ Certified Solutions for ROAM require the order of one ROAM node per luminaire. Sold Separately:

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Schedule

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Lumens Per Lamp	Light Loss Factor	Wattage
	A	5	Lithonia Lighting	DSX1 LED P4 40K T5W MVOLT	DSX1 LED P4 40K T5W MVOLT	LED	14943	0.9	250
	B	8	Lithonia Lighting	DSX1 LED P4 40K T2M MVOLT	DSX1 LED P4 40K T2M MVOLT	LED	14457	0.9	125
	C	6	Lithonia Lighting	DSX1 LED P4 40K TFTM MVOLT	DSX1 LED P4 40K TFTM MVOLT	LED	14487	0.9	125
	D	2	Lithonia Lighting	WST LED P2 40K VW MVOLT	WST LED P2 40K VW MVOLT	LED	3511	0.9	25

Statistics

Description	Symbol	Avg	Max	Min	Avg/Min	Max/Min
Grade @ 0'	+	0.4 fc	7.3 fc	0.0 fc	N/A	N/A
North Parking and Drives	✳	1.7 fc	4.9 fc	0.3 fc	5.7:1	16.3:1
Property Line	+	0.0 fc	0.0 fc	0.0 fc	N/A	N/A
South Parking	✳	2.1 fc	5.3 fc	0.5 fc	4.2:1	10.6:1

General Note
1. SEE DRAWING FOR LUMINAIRE MOUNTING HEIGHT.
2. CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 0' - 0"
3. LIGHTING ALTERNATES REQUIRE NEW PHOTOMETRIC CALCULATION AND RESUBMISSION TO CITY FOR APPROVAL.

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

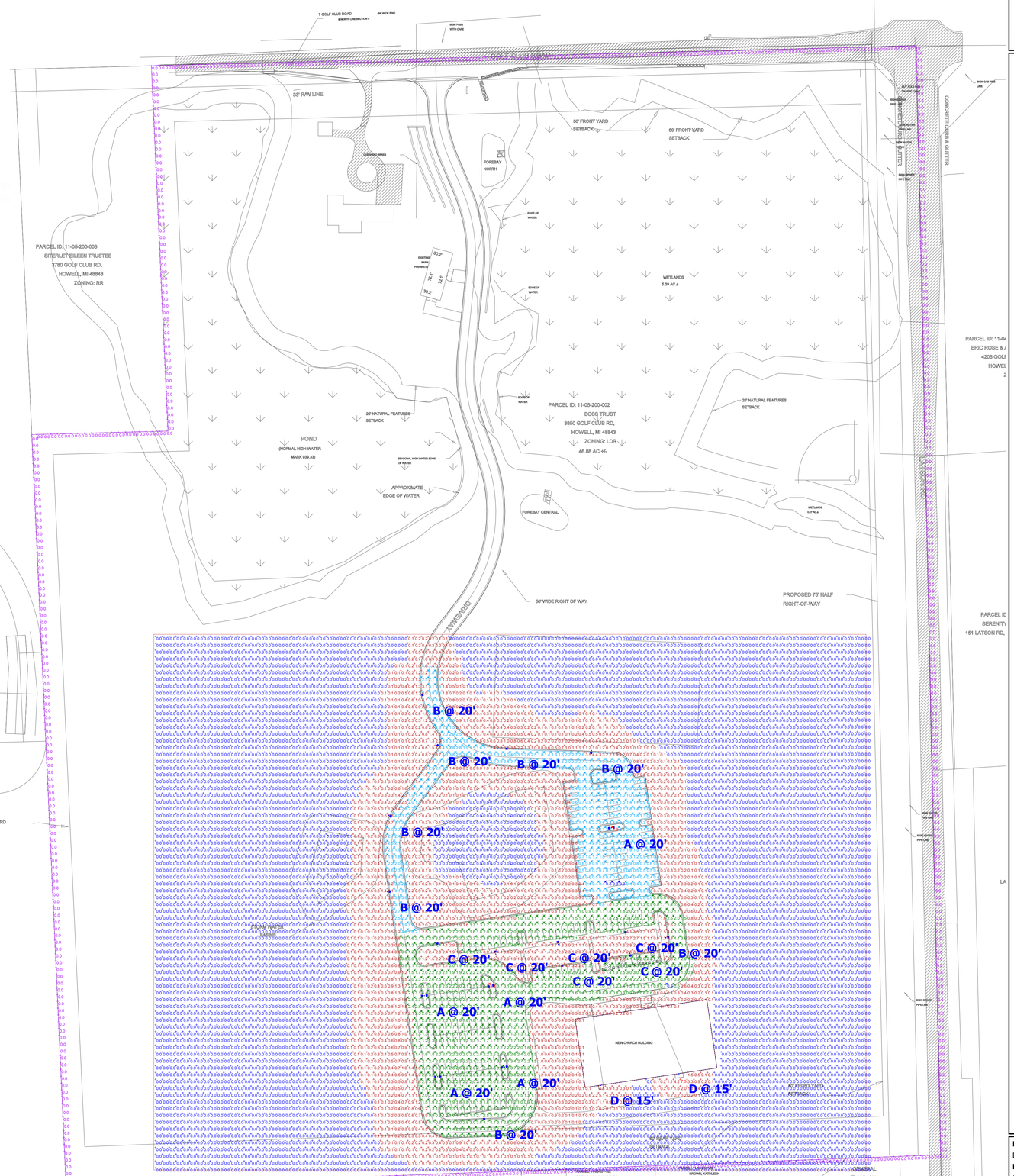
THESE LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER AND/OR ARCHITECT IS RESPONSIBLE TO REVIEW FOR MICHIGAN ENERGY CODE AND LIGHTING QUALITY COMPLIANCE.

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

FOR ORDERING INQUIRIES CONTACT GASSER BUSH AT QUOTES@GASSERBUSH.COM OR 734-266-6705.

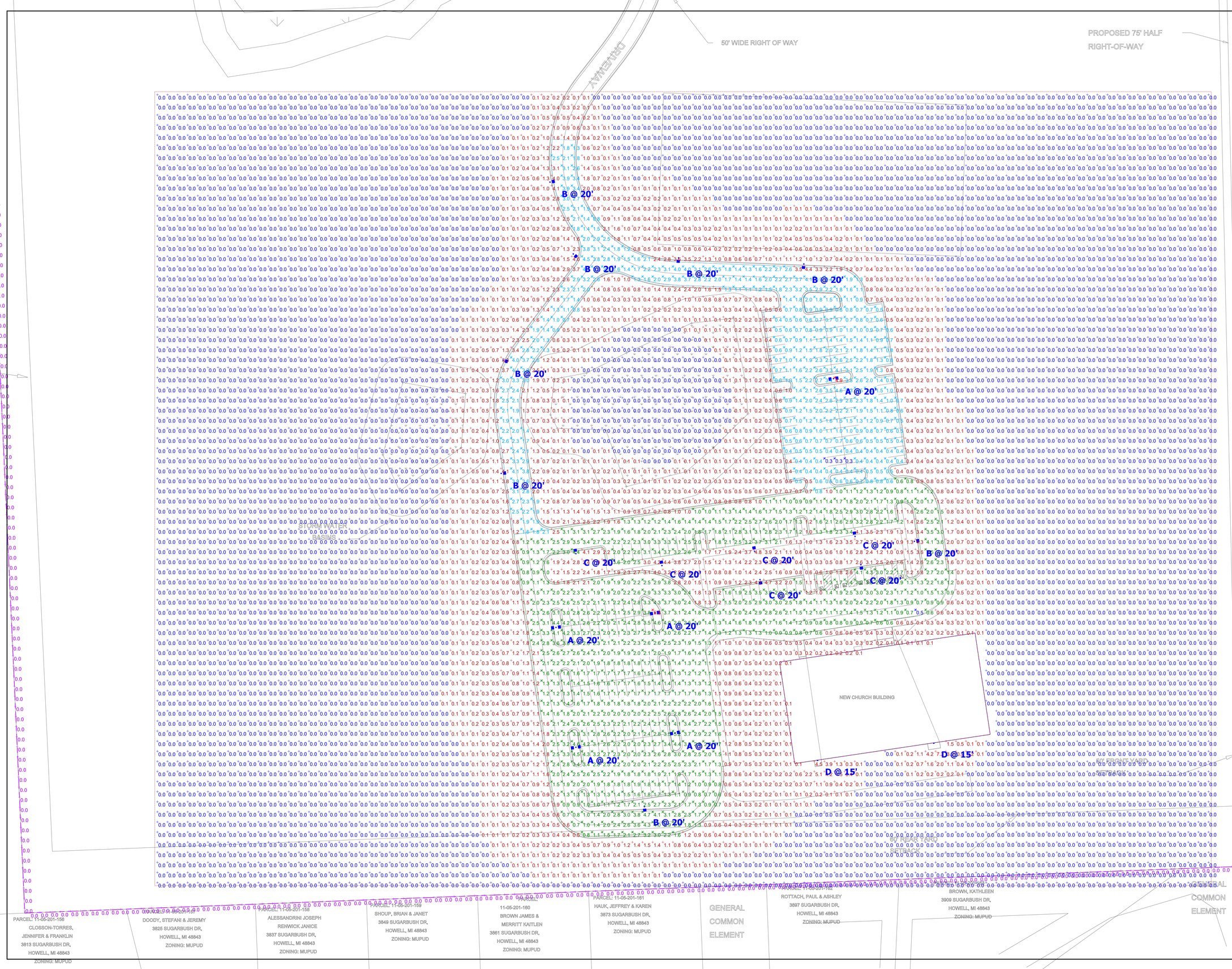
THIS DRAWING WAS GENERATED FROM AN ELECTRONIC IMAGE FOR ESTIMATION PURPOSE ONLY. LAYOUT TO BE VERIFIED IN FIELD BY OTHERS.

MOUNTING HEIGHT IS MEASURED FROM GRADE TO FACE OF FIXTURE. POLE HEIGHT SHOULD BE CALCULATED AS THE MOUNTING HEIGHT LESS BASE HEIGHT.



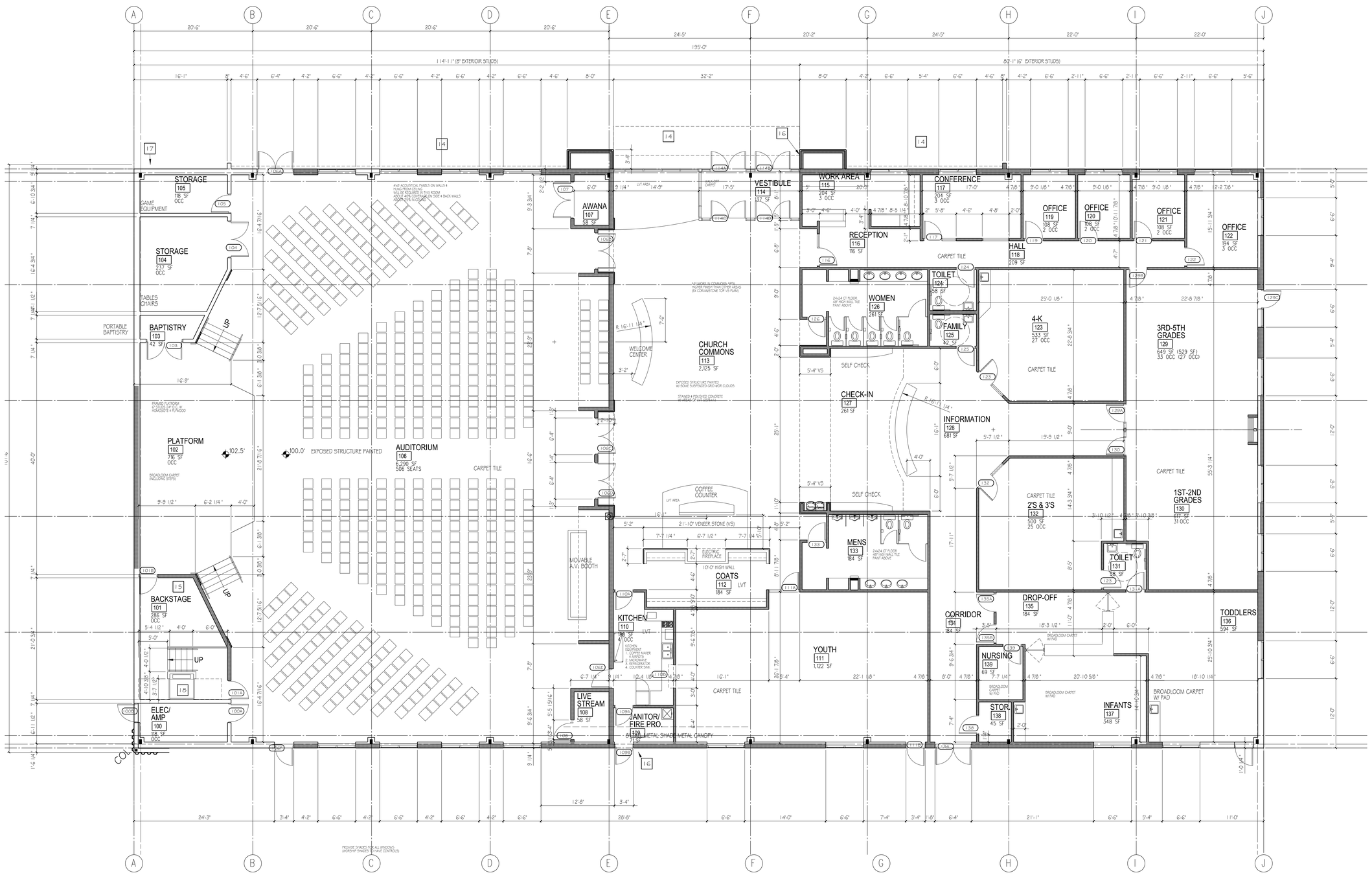
BIBLE BAPTIST CHURCH
PHOTOMETRIC PLAN
PREPARED FOR: BOSS ENGINEERING
GASSER BUSH ASSOCIATES
WWW.GASSERBUSH.COM

Designer
DS
Date
01/26/2022
Scale
Not to Scale
Drawing No.
#22-71359 V1
1 of 2



BIBLE BAPTIST CHURCH
PHOTOMETRIC PLAN
PREPARED FOR: BOSS ENGINEERING
GASSER BUSH ASSOCIATES
WWW.GASSERBUSH.COM

Designer
DS
Date
01/26/2022
Scale
Not to Scale
Drawing No.
#22-71359 V1



Floor Plan
Scale: 1/8" = 1'-0"

GENERAL NOTES

1. ALL DIMENSIONS ARE TO FACE OF FINISHED SURFACE OR COLUMN CENTER LINE UNLESS NOTED OTHERWISE
2. COORDINATE w/ MECH. & ELEC DRAWINGS FOR ALL FLOOR/WALL/ROOF PENETRATIONS NOT SHOWN ON ARCHITECTURAL PLANS, COORDINATE WITH C.M.
3. FIELD PAINT ALL MECHANICAL GRILLES & CABINETS TO MATCH ADJACENT SURFACES
4. SITE DATUM: MAIN LEVEL FINISH FLOOR
   ASSUMED= 100'-0"
   ACTUAL = XXX'-X"
5. PROVIDE BLOCKING IN WALLS FOR ALL HANDRAILS CABINETS, BRACKETS, AVL EQUIPMENT AS REQUIRED (PROVIDE NON-COM WHERE REQUIRED)
6. PROVIDE FIRESTOPPING AS REQUIRED AT ALL PENETRATIONS OF RATED ASSEMBLIES
7. PROVIDE PROPER FLASHING AT ALL PENETRATIONS, DOORS, WINDOWS, & DISSIMILIAR MATERIAL JOINTS

KEY NOTES

1. 36" GRAB BAR
2. 42" GRAB BAR
3. 18" VERTICAL GRAB BAR
4. TOILET PAPER DISPENSER
5. PAPER TOWEL DISPENSER
6. RECESSED PAPER TOWEL DISPENSER & DISPOSAL UNIT
7. FEMININE NAPKIN DISPOSAL
8. 2x3 FRAMED MIRROR
9. FRAMELESS MIRROR- SEE ELEVATION FOR SIZE
10. URINAL SCREEN W/ CONT BRACKET
11. BABY CHANGER
12. COAT ROD & SHELF-MOUNT ROD @ 54" AFF
13. BULKHEAD ABOVE- SEE REFLECTED CEILING PLAN
14. CANOPY ABOVE
15. FIRE EXTINGUISHER w/ BRACKET
16. KNOX BOX
17. FIRE DEPARTMENT CONNECTION
18. ELEVATOR LIFT

WALL TYPES

NOTE:REFER TO SECTIONS & DETAILS FOR EXTERIOR WALLS

A	6" STUDS @ A1	5/8" GYPSUM WALLBOARD 3 5/8" METAL STUDS @ 16" O.C. 3" ACOUSTICAL BLANKETS 5/8" GYPSUM WALLBOARD
B	6" STUDS @ b1	5/8" GYPSUM WALLBOARD 3 5/8" METAL STUDS @ 16" O.C. 5/8" GYPSUM WALLBOARD
C		5/8" GYPSUM WALLBOARD 3 5/8" METAL STUDS @ 16" O.C. (ALL SHAFT WALLS & BULKHEADS)
D		

NOTES:
1. REFER TO STRUCTURAL DRAWING FOR CROSS BRACING LOCATIONS
2. GYPSUM WALLBOARD TO EXTEND DECK ABOVE CEILING UNLESS NOTED OTHERWISE
3. ALL EXPOSED CMU CORNERS TO BE BULLNOSE CORNERS
4. ALL WALLS TO BE EXTENDED TIGHT TO STRUCTURE ABOVE W/ SLIP TRACK U.N.O.
5. ALL WOOD FRAMING & SHEATHING IN A IIB CONSTRUCTION IS REQUIRED TO BE NON-COMBUSTIBLE
6. PROVIDE DAMPERS AS REQUIRED IN ALL RATED ASSEMBLIES. COORDINATE WITH MECHANICAL CONTRACTOR
7. PROVIDE CONTROL JOINTS IN GYPSUM WALLBOARD 30'-0" O.C. MAX AT ALL WALLS
8. WATER RESISTANT GYPSUM WALLBOARD IN TOILET ROOMS & KITCHENS FROM FLOOR TO 4'-0" AFF MIN

Mark	Description	Date
	FOR INITIAL BUDGETING	01/04/22
	SITE PLAN APPROVAL	01/24/22
	30% BUDGETING	02/28/22
	130% UPDATED PLAN & ELEVATIONS	03/31/22

Building Design & Documentation © 2021-2023 Jeffrey Parker Architects Inc.

Jeffrey Parker architects
ARCHITECTURE PLANNING ENGINEERING
855 28th Street SE
Grand Rapids MI 49508
Phone: 616-241-0090
Fax: 616-241-0098

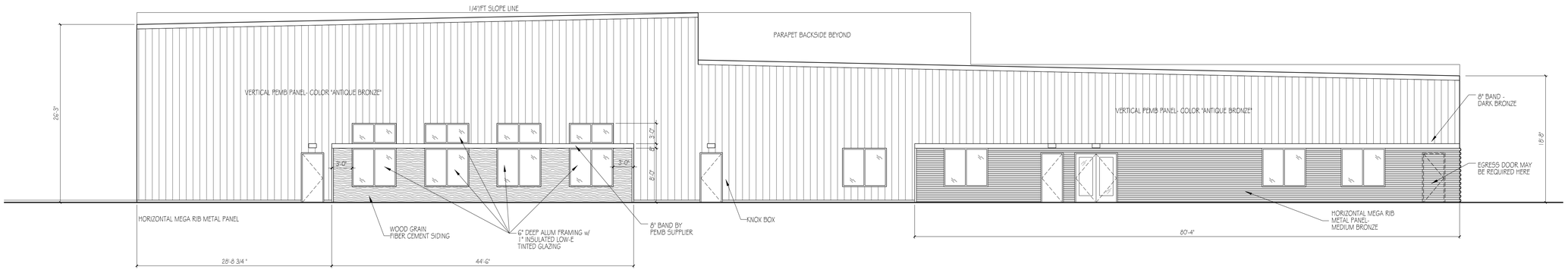
New Facility For:
Bible Baptist Church
Howell, Michigan

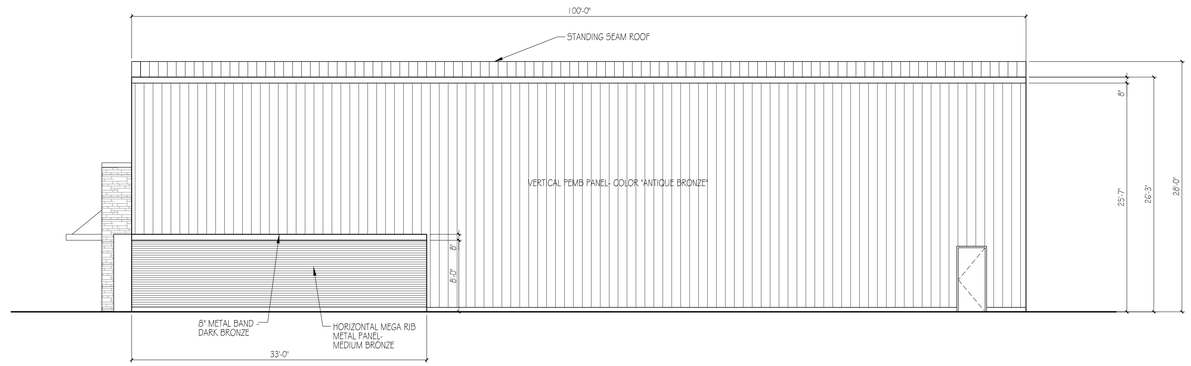
Floor Plan

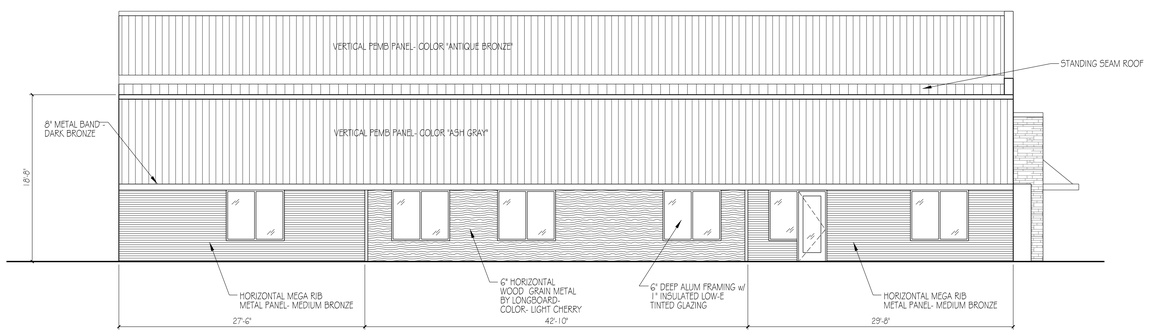
Issued
-

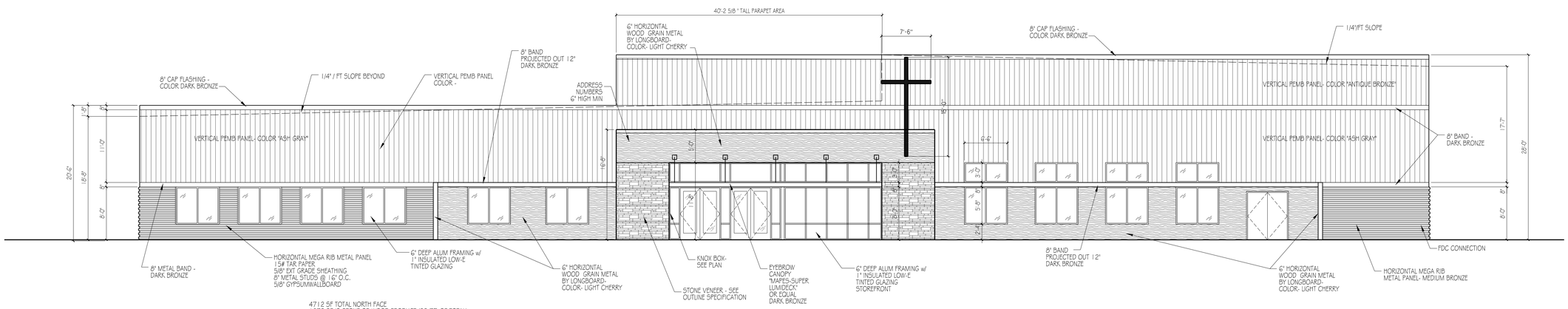
Project No.
21111

Drawing No.
A1.0









4712 SF TOTAL NORTH FACE
1870 SF IS STONE OR WOOD PRODUCT (39.7% OF TOTAL)

Mark	Description	Date
	FOR INITIAL BUDGETING	01/04/22
	SITE PLAN APPROVAL	01/24/22
	30% BUDGETING	02/28/22
	ELEVATION UPDATED	4/18/22

Building Design & Documentation © 2021-2023 Jeffrey Parker Architects Inc.

Jeffrey Parker architects
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855 28th Street SE
Grand Rapids MI 49508
Phone: 616-241-0090
Fax: 616-241-0098

New Facility For:
Bible Baptist Church
Howell, Michigan

Issued
-

Drawing No.

Project No.
21111

BIBLE BAPTIST CHURCH

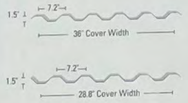
BUILDING GREEN FOR THE LONG HAUL

Longboard® is architectural grade aluminum with a high performance powder coat finish. The Longboard® line of products can help projects earn credits in various green building rating sources. Many architects and designers have turned to Longboard® for a maintenance free alternative to wood.

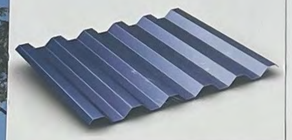
LEED QUALIFIED | AAMA 2604 | 100% RECYCLABLE | VOC FREE

Mega-Rib

Mega-Rib is a 7.2 panel that provides optimum strength and spanning capabilities. Mega-Rib is equally well suited for industrial and commercial applications.



Note: Mega-Rib is also available with a 28.8" coverage, which is standard for 26 gauge panels. Please specify if 36" coverage is required.



Details
- Minimum slope: 1:12
- Tape sealant required on all slopes.
- Adelanto standard coverage for 26 gauge is 36". All other locations, standard 26 gauge coverage is 28.8". specify if 36" coverage is required
- Can be installed vertically or horizontally

Panel Options
- Coating: Kynar 500® (PVDF)
- Substrate:
  - Standard 24 gauge Galvalume®
  - Optional 22 gauge Galvalume
  - Optional 26 gauge Galvalume (narrow coverage)
  - Optional 28 gauge Galvalume (full coverage Adelanto only)
  - Optional 18 and 20 gauge (painted Galvalume) (limited availability)

Testing Data
- Fire Rating: Class A
- Uplift Test: UL580 Class 90
- Air Infiltration: ASTM E1680
- Water Infiltration: ASTM E1646
- Class 4 Impact Resistance: UL2218
- Florida State Approval: 1832.8, 1747.6
- Fire Resistance: UL263
- Miami Dade Approval: NOA# 15-1013.06
- ICC-ES Approval: ESR-5896
- For any available Test Data, Section Properties or Load Tables, please visit our download section at www.mcelroymetal.com

4/20/22, 10:17 AM — Notes - Evernote

Bible Baptist Worship Facility - Exterior Finishes

Please refer to updated building elevations and colored rendering.

1. Stone Veneer
Dutch Quality Stone - Weather Ledge - Fallbrook
(see physical sample and brochure page)

2. Woodgrain Metal Siding
Longboard by RCI - Light Cherry
(see physical sample and brochure)

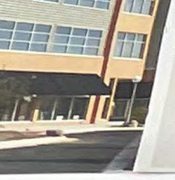
3. Mega-Rib Horizontal Metal Siding
Mega-Rib by RCI - Medium Bronze
(see physical sample and brochure page)

4. Metal Trim Accent Bands
Custom Metal by RCI or Chief - Dark Bronze
(see physical sample)

5. Pre-Engineered Metal Building Siding
Chief Buildings - Premium Architectural (AP) Panel
(see physical sample and brochure)
- Antique Bronze
  - north elevation, 20-26' high (highest section)
  - south and west elevations
- Ash Gray
  - north elevation, 8'-20' high (mid section)
  - east elevation, above 8'

VARIATION FROM THIS SAMPLE SHOULD BE EXPECTED.

This sample does not represent the complete stone size and color range. To view the complete range, lay out 20-60 square feet of stone.



- Can be installed vertically or horizontally

Panel Options

- Coating: Kynar 500® (PVDF)
- Substrate:
  - Standard 24 gauge Galvalume®
  - Optional 22 gauge Galvalume
  - Optional 26 gauge Galvalume (narrow coverage)
  - Optional 26 gauge Galvalume (full coverage Adelanto only)

UL2218

- Florida State Approval: 1832.8, 1747.6
- Fire Resistance: UL263
- Miami Dade Approval: NOA# 15-1013.06
- ICC-ES Approval: ESR-5896
- For any available Test Data, Section Properties or Load Tables, please visit our download section at www.mcelroymetal.com

MEGA RIB – MEDIUM BRONZE

CHIEF PANEL – ASH GRAY

CHIEF PANEL – ANTIQUE BRONZE

MEMBER MBMA

1821 S. North Road P.O. Box 2078 Grand Island, NE 68802-2078 (800) 845-1767 fax: (308) 389-7282 http://www.chief

MEMORANDUM

TO: Members of the Genoa Charter Township Board

FROM: Greg Tatara, Utility Director

DATE: February 23, 2021

RE: 2022 - 2026 Intergovernmental Operations Contract Including Howell Township Sanitary Sewer System

MANAGER REVIEW: _____

In February 2022, the Genoa Township Board, as well as the Genoa-Oceola Sewer and Water Authority Board and MHOG Sewer and Water Authority Board, approved a resolution to add Howell Township Sanitary System to our joint sewer and water operations budget. Since that time, we have developed an amended and restated Utility Service Agreement that fully incorporates Howell Township Sanitary Sewer as part of our Service network. Please find attached a copy of that updated agreement. This agreement has also been approved by Howell Township Board of Trustees, the Genoa-Oceola Authority Board, and the MHOG Authority Board. We are confident that by adding Howell Township to our operations, we will increase our pool of operators, lower the costs for each system we operate, and further improve efficiency while also improving the service and performance of the systems we operate. For those reasons, we are asking the Genoa Township Board to approve the agreement as presented.

- Moved by_____, supported by_____ to Approve the 2022 – 2026 Amended and Restated the Utility Service Agreement adding Howell Township Sanitary Sewer System Operations.

AMENDED AND RESTATED
UTILITY SERVICES AGREEMENT

THIS AGREEMENT is made as of _____, 2022, by the Marion, Howell, Oceola and Genoa Sewer and Water Authority ("MHOG"), whose principal office is located at 1577 N. Latson Road, Howell, Michigan 48843, the Genoa-Oceola Sewer and Water Authority whose principal office is located at 2911 Dorr Road, Brighton, MI 48116 ("G-O"), Howell Township ("Howell"), whose principal office is located at 3525 Byron Road, Howell, MI 48855, and Genoa Charter Township ("Genoa"), whose principal office is located at 2911 Dorr Road, Brighton, Michigan 48116. This Amended and Restated Agreement shall be effective as of June 1, 2022 (the "Effective Date") with billing to begin June 1, 2022 and services to Howell to begin on July 1, 2022.

ARTICLE I - RECITALS

WHEREAS, MHOG, G-O and Genoa entered into an Amended and Restated Utility Services Agreement on March 1, 2021 (the "Agreement") and the parties now wish to amend the Agreement to include Howell and for the sake of clarity agree to restate the Agreement; and

WHEREAS, MHOG, GO, and Genoa have passed resolutions to extend operation and include Howell in the joint operations agreement; and

WHEREAS, Genoa owns and operates (i) the Oak Pointe Sanitary Sewer System, (ii) the Oak Pointe Water Supply System, and (iii) the Lake Edgewood Sanitary Sewer System; and

WHEREAS, the Townships of Marion, Howell, Oceola, and Genoa have organized MHOG pursuant to the provisions of Act 233, Michigan Public Acts of 1955, as amended for the purpose of acquiring, owning, managing, and operating a water supply system; and

WHEREAS, the Townships of Genoa and Oceola have organized the G-O pursuant to the provisions of Act 233, Michigan Public Acts of 1955, as amended for the purpose of acquiring, owning, managing, and operating a sanitary sewer collection and treatment system; and

WHEREAS, Howell owns and operates the Howell Township Sanitary Sewer System, and

WHEREAS, (i) Genoa's Oak Pointe Sanitary Sewer collection system, (ii) Genoa's Oak Pointe Water System, (iii) Genoa's Lake Edgewood Sanitary Sewer System, (iv) the water production and distribution system operated by MHOG, and (v) the sanitary sewer collection and treatment system operated by G-O, and (vi) the sanitary sewer collection and treatment system operated by Howell shall, for the purpose of this Agreement, collectively be referred to as the "Systems"; and

WHEREAS, Genoa, MHOG, G-O and Howell have concluded that the operation of the Systems is needed to promote and improve the health and welfare of the residents of the users of such Systems; and

WHEREAS, Genoa, MHOG, G-O, and Howell have concluded that combined operational services which share administrative, billing, operational staff and equipment over the six Systems will result in improved operation, efficiency, and cost savings for the residents served by the Systems; and

WHEREAS, Genoa operates a Utility Department with a separate DPW Fund (the "DPW Fund") that provides utility services to the Systems, the staff of the Utility Department is referred to herein as the "Utilities Staff" and while the Utility Department is often referred to as the "MHOG Utility Department" in conducting its business, for the purposes of this Agreement it shall be referred to as the "Utility Department";

NOW, THEREFORE, in consideration of the promises below and other valuable consideration the receipt of which is hereby acknowledged, the Agreement is hereby amended and restated as follows:

ARTICLE II - OPERATION OF THE SYSTEMS

Beginning on the Commencement Date (as defined below) and during the term of the Agreement, Genoa agrees to provide, through the Utility Department, the staff, vehicles, supplies and materials needed to operate the Systems. The Utility Department agrees to operate the Systems in accordance with the terms and conditions of this Agreement, applicable law, and the permits, licenses, manufacturer's protocols, and specifications applicable to the operation and maintenance of the Systems. The Utilities Staff shall take direction from the governing board of each respective System with respect to the specific operation of each such System, and the ultimate responsibility for the operation of each such System shall remain with the governing body of each respective System. Each party hereby agrees that it will cooperate in good faith with the other and its agents, employees, representatives, officers, contractors, and subcontractors to facilitate the performance of the mutual obligations set forth in this Agreement.

ARTICLE III - SCOPE OF SERVICES

When performing services pursuant to this Agreement for the Systems, Utility Department personnel described below shall report to and be subject to direction of the appropriate governing Board of the respective System, although such personnel shall remain employees of Genoa and not of the Systems. As described above, the ultimate responsibility for the operation of each such System shall remain with the governing body of each respective System.

Section 3.1 - Administrative and Support Services

Administrative staff to be employed by the Utility Department and assigned to the Systems shall consist of a Utility Director, a Deputy Utility Director – Water, a Deputy Utility Director – Wastewater, and such other personnel as shall be necessary to perform the utility services described in this Agreement. A description of the duties to be carried out by the administrative staff is set forth in **Exhibit 1**.

Section 3.2 - Operation and Maintenance Services

Operation and maintenance staff to be employed by the Utility Department and assigned to the Systems shall consist of the necessary plant, collection and distribution system personnel. A description of the duties to be carried out by the operation and maintenance staff with regard to water systems is set forth in **Exhibit 2a** and with regard to sanitary sewer systems is set forth in **Exhibit 2b.**

Section 3.3 - Meter Service, Reading, Billing and Receipting Services

Meter reading, billing, and receipting staff to be employed by the Utility Department and assigned to the Systems shall consist of the necessary staff to bill, read, and receipt water and sanitary sewer service. A description of the duties to be carried out by the billing services staff is in set forth in **Exhibit 3**.

Section 3.4 - Staffing Levels

The proposed staffing level to conduct and maintain the various services described in this Agreement is presented in Utility Department Organization Chart shown in **Exhibit 4.** The parties to this Agreement acknowledge that during the term of this Agreement, staffing levels will vary pending the season, level of effort required, attenuation, termination, disability, availability of employable personnel, or other circumstances. The parties acknowledge that the Utility Department shall have the right to modify staffing levels to provide the appropriate level of service to the Systems subject to the following conditions: (i) any modifications that do not result in an increase of the DPW Fund Budget can be made by the Utility Department, (ii) any modifications that result in an increase of the overall DPW Fund Budget by 5% or less on an annual basis may be made by the Utility Department with prior notification to the governing boards of the Systems, and (iii) any modifications that result in an increase of the overall DPW Fund Budget by more than 5% on an annual basis may be made only with the prior written approval of the governing boards of each of the Systems except, that modifications in staffing levels made pursuant to the inclusion of additional systems pursuant to Section 5.7 shall not require additional approvals.

Section 3.5 - Vehicle, Supply, and Material Levels

During the term of this Agreement, the Utility Department agrees to provide vehicles, supplies, equipment and materials necessary to perform the essential duties outlined in this Agreement. A summary of the vehicles, supplies, and materials initially to be provided is set forth in **Exhibit 5**. The parties to this Agreement acknowledge that during the term of this Agreement vehicle, supply, and material levels will vary pending changes in scope of services, staffing levels, and regulations. The parties acknowledge that the Utility Department shall have the right to modify these levels to provide the appropriate level of service to the Systems subject to the following conditions: (i) any modifications that do not result in an increase of the DPW Fund Budget can be made by the Utility Department, (ii) any modifications that result in an increase of the overall DPW Fund Budget by 5% or less on an annual basis may be made by the Utility Department with prior notification to the governing boards of the Systems, and (iii) any modifications that result in an increase of the overall DPW Fund Budget by more than 5% on an

annual basis may be made by only with the prior written approval of the governing boards of each of the Systems except, that modifications made pursuant to the inclusion of additional systems pursuant to Section 5.7 shall not require additional approvals.

ARTICLE IV - CAPITAL PROJECTS

The Utility Staff may propose capital improvements in order to comply with changes in law, to reduce costs, to increase energy efficiency, to meet System demands, or to improve the Systems operations. The Utility Department will not be relieved of its responsibilities to perform under this Agreement, if the recommendations of the Utility Staff are not implemented by the System's governing boards, unless the failure by such governing boards to implement such recommendations prevents the Utility Department from complying with its obligations hereunder or under applicable law.

ARTICLE V - PAYMENT FOR SERVICES

The Utility Department shall receive compensation for providing staff, vehicles, supplies and material necessary to provide the administrative, operational, maintenance and billing services contemplated by this Agreement, and the Systems shall be billed monthly based on the methodology presented below.

Section 5.1 - DPW Fund Budget

During the term of this Agreement, Genoa shall maintain a separate DPW Fund Budget (the "DPW Fund Budget") to track revenues and expenses associated with the staff, vehicles, supplies and materials and other expenses required to perform the administrative, operational, maintenance and billing services outlined in this Agreement. The fiscal operating year for the Utility Department is April 1 through March 31st. The 2022-2023 DPW Fund Budget is presented in **Exhibit 6**. The DPW Fund Budget shall be established annually and shall balance.

The Utility Department Accountants shall prepare, at a minimum, quarterly budget to actual reports for presentation to System's governing boards. Failure to present reports less than semi-annually shall constitute a default of this Agreement.

Section 5.1.1 - Revenue

Revenue to the DPW Fund shall include: (i) receipted funds from the Systems for providing administrative, operational, and billing services, (ii) receipted funds collected from the billing of systems for which full operational services are not performed (iii) charges to Developers for new development costs, (iv) interest income and other miscellaneous revenue streams not otherwise described, and (v) charges for vactor truck services provided to the various systems. **Exhibit 6** contains a proforma breakdown of the various revenues for the fiscal year ending March 31, 2022.

Section 5.1.2 - Expenses

Expenses to the DPW Fund shall include the payments made from the fund for labor costs for Utility Department employees (direct costs, benefits and indirect costs),

insurance, taxes, fuel, repairs, vehicle purchases, outside consultants, computers, software, equipment, tools, vactor services, and other items required to properly provide the services described in this Agreement, as well as any legal services and accounting services related to employees of the Utility Department or services provided by the Utility Department to the Systems pursuant to this Agreement. Budgeted expenses for the fiscal year ending March 31, 2023 are listed in **Exhibit 6**.

Section 5.2 - Calculation of Labor and Equipment Compensation

The parties agree that for the fiscal year 2022-2023, the operational costs for the Systems shall be allocated based on the 2022 allocation percentages presented in **Exhibit 7**. Beginning on April 1, 2022, and in each subsequent year, the allocation percentage calculation shall be based on the formula presented in **Exhibit 7**. In January of each year, the Utilities Staff will re-evaluate the System allocations based on changes in the number of customers, piping, pump stations, consolidation of systems, as illustrated in the formula. The Utilities Staff will then present the revised allocation to the governing boards of the Systems in January or February of each year and such revised allocation shall be considered for approval by the governing board of each System prior to the end of February of each year. The governing boards of the System shall use their best efforts to approve any proposed revised allocation, shall promptly state the basis for any rejection of any such allocation, and shall bargain in good faith to ensure that a fair allocation is agreed upon no later than February 1st of each year. In the event that the revised allocation is not approved by the governing board of each System as set forth above, then the then current allocation shall remain in effect for the fiscal year beginning on the following April 1. Set forth in **Exhibit 8** is a calendar illustrating the timing for the determination of the DPW's annual budget and annual allocation of costs to the Systems.

Section 5.3 - Base Payment for Services

The Utility Department shall invoice the Systems monthly for services provided by the approved allocation percentage of the annual DPW Fund Budget, minus the fixed billing revenue. **Exhibit 6** documents how fiscal year 2022-2023 will be invoiced. Each subsequent year shall be invoiced in a similar manner. All such invoices for services shall be paid within 45 days after the invoice has been sent.

Section 5.4 - Surpluses and Shortfalls

As the annual monthly payments are based on the total anticipated expenses of the DPW Fund Budget, surpluses and deficits may result at the end of the budget year for things such as employee departure, insurance adjustments, fuel prices, mechanical failures, utility service interruption or acts of nature. This adjustment will occur in August of each calendar year of this Agreement following completion of the annual audit of the DPW Fund. Surpluses or deficits will be adjusted back to each System based on the allocation percentage unless one or more Systems causes a substantial or disproportionate change in the DPW Fund Budget, in which case such System shall bear the resulting change in cost. An example of an event that might cause a disproportionate change includes, but is not limited to, serious mechanical failures of a system, power outages, system failures, or acts of God (lightning, fire, flood, etc) that cause the Utility Department to incur significant additional cost to keep such system operational.

Section 5.5 - Annual Budget Adjustment

Based on the allocation percentages described above, annual budget adjustments will be presented to the System's governing boards in February for each effective year of this Agreement. The Utility Department will make reasonable attempts to maintain and reduce operational costs for the Systems. Comments will be received from the System's governing boards, and a final budget will be presented in March of each year. Subject to Section 6.3 below, the final budget for each year shall be binding on each of the parties to this Agreement. Set forth in **Exhibit 8** is a calendar illustrating the timing for the determination of the annual budget for the DPW Fund.

Section 5.6 - Additional Payments by the Governing Boards

The parties acknowledge that the governing boards of the Systems shall each pay directly for services and products not covered by this Agreement including: utilities (gas, electric, and other utilities), chemicals, repair parts, outside contractor services, licenses fees and permits, laboratory testing, MXU radio read units and SCADA systems, and specialized tools and supplies for each system. Additionally, specialized tools and materials required for the operation of a specific System will be the responsibility of that respective System.

Section 5.7 - Procedures for the DPW Providing Services to Additional Systems

During the term of this Agreement, the Utility Department may be requested to provide services to additional utility systems or governing bodies. Providing services to additional systems may result in improved operation, efficiency, and cost savings for the residents served by the Systems. As a result, the following procedures will be utilized to evaluate requests by third parties to receive utility services from the Utility Department:

Section 5.7.1 - Notification of Request

The Utility Staff shall provide notice to each party to this Agreement of a request from an outside party to have the Utility Department provide utility services to such outside party.

Section 5.7.2 - Preliminary Staffing and Financial Assessment

Following the request notification, the Utilities Staff shall perform a preliminary evaluation of the potential staffing and financial impacts to the existing DPW Fund Budget. If improved operation and cost savings for the existing DPW Fund are not projected with the preliminary evaluation, then utility services will not be provided to the outside party.

Section 5.7.3 - Approval by Governing Boards

A preliminary staffing and financial evaluation that projects improved operation and cost savings will be presented to each governing board of the Systems. Prior to providing such utility services to the requesting third party, the governing board of each System will need to approve by resolution the services that will be performed, the costs

that will be charged to such third party and the manner in which the staff and legal costs associated with providing utility services to such third party will be paid. Additionally, the governing board of each System will also be required to approve any revision to the DPW Fund Budget that exceeds by 5% the then current DPW Fund Budget and any revisions to the allocation of costs provided by Section 5.2 of this Agreement.

Section 5.7.4 - Billing Only Duties

Should the services requested by the third party consist only of performing billing duties that do not significantly impact staffing levels or costs, the Utilities Staff can perform such billing duties without the staffing and financial assessment described above.

Section 5.8 – Reserve Funds

Section 5.8.1 – Fund Balance

The target fund balance in the DPW Fund at the end of each fiscal year during the Term of this Agreement shall be $75,000 following the annual audit of the DPW Fund, with the exception of the vehicle reserve fund, which shall be maintained as described in Section 5.8.2. To the extent that the DPW Fund has a balance of more than $75,000 following the annual audit of the DPW Fund, then the amount exceeding $75,000 shall be returned to the parties hereto based on the same allocations on which such funds were paid to the DPW Fund. In the event that the DPW Fund balance falls below $50,000 at the end of any fiscal year following the annual audit of the DPW Fund, Genoa may adjust the budget for the following year to replenish the DPW Fund Budget to the target fund amount.

Section 5.8.2 – Vehicle Reserve Fund

As part of the DPW Budget, Genoa shall maintain a segregated DPW vehicle reserve fund. This fund shall be used for replacement of the vehicle fleet as the fleet ages and repair costs and safety concerns warrant replacement of the vehicles. For fiscal year 2022- 2023 and thereafter, the fund balance in the vehicle reserve fund shall not exceed $150,000.

ARTICLE VI - TERM AND TERMINATION

Section 6.1 - Term

This Agreement began on April 1, 2011 (the "Commencement Date") and the initial term ran through March 31, 2016, the agreement was renewed on April 1, 2016 and ran through March 31, 2021 and was again renewed on April 1, 2021 with a term ending on March 31, 2026. The term of this Agreement shall remain unchanged except for the addition of Howell and the terms and conditions of this Amended and Restated Agreement shall be effective upon the Effective Date. Thereafter, this Agreement will automatically renew for successive five (5) year terms each, unless written notice of termination is provided by a party to this Agreement to the other parties not more than 180 days and not less than 90 days prior to the end of the then current term. In such event this Agreement shall only terminate as to the terminating party(ies) provided

that the remaining parties can agree on an amended budget under Section 5.1 above and new allocation percentages under Section 5.2 above. In the event that a party elects to terminate this Agreement without cause, and that party creates employment positions (or third party contractor positions) to operate its Systems, that party shall provide first preference for any such positions to any Utilities Staff that are, or will be, displaced (or laid off) as a result of that party's election to terminate. In the event that any Utilities Staff are laid off as a result of a party terminating this Agreement without cause and said Utilities Staff are not hired by the terminating party, then the terminating party shall, on a quarterly basis, reimburse Genoa for all unemployment costs incurred by Genoa as a result of said layoff(s) for a period of one (1) year from the effective date of said termination.

Section 6.2 - Events of Default and Remedies

The failure of any party to comply with any material term of this Agreement shall constitute a default. Upon default by a party, the complaining party shall send written Notice of Default to the defaulting party with a copy to the other parties. Such notice shall clearly specify the nature of the default and provide the defaulting party sixty (60) days to cure the default. If the default is capable of being cured within sixty (60) days, but is not cured within the sixty (60) days, the Agreement shall, at the option of the non-defaulting party(ies), terminate at midnight of the sixtieth (60th) day following receipt of the Notice of Default. In the case of default that cannot be cured within sixty (60) days, the Agreement shall not terminate so long as the defaulting party has given written notice of the extension to the other parties and the defaulting party has commenced and is diligently pursuing a remedy, provided, however, that if the defaulting party has failed to give notice or failed to commence or pursue a remedy, the termination of this Agreement as to the defaulting party shall be at the option of the non-defaulting party(ies). Evidence of such remedy and its diligent pursuit shall be provided from the party determined to be in default to the satisfaction of the non-defaulting party(ies), and in any event such extension may not extend for more than one hundred eighty (180) days. Any termination under this paragraph shall only be effective as to the defaulting party and this Agreement shall remain in full force and effect as to the non-defaulting parties, provided that the non-defaulting parties can agree on an amended budget under Section 5.1 above and new allocation percentages under Section 5.2 above.

In the event of the termination of this Agreement under the terms outlined above, the defaulting party shall pay Genoa for the services provided and invoiced up to the effective date of termination. Payment shall be made within thirty (30) days of the date of termination. Additionally, the non-breaching party or parties shall retain and may pursue all other remedies that may be available under applicable law.

Section 6.3 - Additional Option to Terminate as a Result of the Annual DPW Fund Budget

In addition to the other termination options under this Agreement, the parties to this Agreement shall have the right to terminate this Agreement in the event that the annual budget presented by the Utility Department in March of each year, pursuant to Section 5.5 of this Agreement, exceeds by more than 10% the DPW Fund Budget for the then current fiscal year. Any modifications previously approved by the governing boards of the Systems (including, but not limited to, modifications approved under Sections 3.4, 3.5 and 5.7.3 of this Agreement) shall

be excluded from the calculation of whether the 10% threshold has been exceeded. In order for a party to terminate this Agreement pursuant to this Section, such party must provide written notice to the other parties to this Agreement no later than April 15 following the presentation of the annual budget and in such case, the then current DPW Fund Budget shall remain in place and this Agreement shall terminate on the following June 30.

ARTICLE VII - INSURANCE

Section 7.1 - Insurance Provided by Genoa Township

Genoa shall provide and maintain the following levels of insurance coverage at all times during the term of this Agreement:

(1) General Liability and Vehicle Liability Insurance with a combined single limit in the amount of $5,000,000.

(2) Worker's Compensation Insurance in compliance with the laws of the State of Michigan, covering Township employees engaged in the performance of services, to the required statutory amount.

(3) Sewer Backup Coverage in the amount of $250,000.

Section 7.2 - MHOG Insurance

MHOG shall provide and maintain the following levels of insurance coverage at all times during the term of this Agreement:

(1) General Liability Insurance with a combined single limit in the amount of $5,000,000.

(2) Property insurance in amounts sufficient to cover real property owned by MHOG.

Section 7.3 - G-O Insurance

G-O shall provide and maintain the following levels of insurance coverage at all times during the term of this Agreement:

(1) General Liability Insurance with a combined single limit in the amount of $5,000,000.

(2) Property insurance in amounts sufficient to cover real property owned by G-O.

(3) Sewer Backup Coverage in the amount of $250,000.

Section 7.4 - Howell Township

Howell Township shall provide and maintain the following levels of insurance coverage at all times during the term of this Agreement:

(1) General Liability Insurance with a combined single limit in the amount of $5,000,000.

(2) Property insurance in amounts sufficient to cover real property owned by G-O.

(3) Sewer Backup Coverage in the amount of $250,000.

ARTICLE VIII - DISPUTE RESOLUTION

Section 8.1 - Appointment of Panel

The parties agree that any and all claims, controversies or actions arising out of the terms, provisions or subject matter of this Agreement shall be referred to a panel (the "Panel") consisting of three (3) representatives (the "Representatives"). The Utility Staff shall appoint one representative to the Panel, the governing bodies of the Systems shall collectively appoint one representative to the Panel and the two representatives shall mutually agree on a third representative for the Panel. Such appointments shall be made by the parties within fifteen (15) days of written notice of a dispute or claim.

Section 8.2 - Additional Remedies and Arbitration

Notwithstanding the provisions of Section 8.1, if the claim or dispute is not resolved by the good faith negotiations of the Representatives within sixty (60) days of appointment, any of the parties to this Agreement, subject to the following, may seek any remedies available at law and/or in equity to resolve the dispute. Additionally, the parties to this Agreement may, if they mutually agree in writing, submit any claims, disputes or other matters in question arising out of or relating to this Agreement or breach thereof to arbitration in accordance with the Arbitration Rules of the American Arbitration Association currently in effect, or such other rules of arbitration to which they may mutually agree. The arbitration shall be conducted in a location selected by mutual agreement of the parties. The costs of the arbitrator shall be shared equally by the parties. Each party shall be responsible for the costs of its own legal counsel, witnesses and documents it submits to the arbitrator. The arbitrator shall have no authority to change any provision of this Agreement, and the arbitrator's sole authority shall be to interpret or apply the provisions of this Agreement in accordance with the laws of the State of Michigan. If the parties mutually agree to settle a claim, dispute or other matters in question between them by arbitration, the award rendered by the arbitrator(s) shall be final and judgment may be entered upon it in accordance with the applicable law and any court having jurisdiction thereof. Any and all awards shall be in writing and shall give the arbitrator's supporting reasons for the award. It is expressly understood and agreed that any agreement to submit a particular claim, dispute or matter to arbitration shall apply only to that claim, dispute or matter and shall not be binding upon any other claims, disputes or matters which may arise between the parties.

Section 8.3 - Covenant to Continue Work

During resolution of any dispute under this Article, Genoa and the System's governing boards shall each continue to perform their respective obligations under this Agreement without interruption or delay.

ARTICLE IX - MISCELLANEOUS

Section 9.1 - Assignment

This Agreement is binding on the parties hereto, and their permitted successors and assigns. The parties agree not to transfer or assign their respective interests in this Agreement without the written consent of the other parties hereto.

Section 9.2 - Choice of Law and Forum

This Agreement shall be subject to and governed by the laws of the State of Michigan. The parties agree that the venue for the bringing of any legal or equitable action under this Agreement shall be established in accordance with the statutes of the State of Michigan and/or Michigan Court Rules. In the event that any action is brought under this Agreement in Federal Court, the venue for such action shall be the Federal Judicial District of Michigan, Eastern District, Southern Division.

Section 9.3 - Entire Agreement

This Agreement and the attached exhibits represent the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior representations, negotiations or agreements whether written or oral.

Section 9.4 - Notices

All notices shall be in writing and shall be deemed given when mailed by first class mail or delivered in person. Notices to be given to Genoa Charter Township will be addressed to:

Genoa Charter Township
2911 Dorr Road
Brighton, MI 48116
Attention: Supervisor

Notices to be given to MHOG will be addressed to:

MHOG Sewer and Water Authority
1577 N. Latson Road
Howell, MI 48843
Attention: Secretary

Notices to be given to Genoa-Oceola will be addressed to:

Genoa-Oceola Sewer and Water Authority
2911 Dorr Road
Brighton, MI 48116
Attention: Secretary

Notices to be given to Howell Township will be addressed to:

Howell Township
3525 Byron Road
Howell, MI 48855
Attention: Supervisor

Section 9.5 - Severability

Should any part of this Agreement for any reason be declared invalid or void, such declaration will not affect the remaining parts of this Agreement, which will remain in full force and effect as if the Agreement had been executed with the invalid portion eliminated.

Section 9.6 - Amendment or Modification of Agreement

No change in or modification, termination or discharge of this Agreement, in any form whatsoever, shall be valid or enforceable unless it is in writing and signed by the party to be charged therewith or its duly Authorized Representative.

Section 9.7 - Third Party Beneficiaries

Except as expressly provided herein, this Agreement does not create, and is not intended to create, by implication or otherwise, any direct or indirect obligation, duty, promise, benefit, or any other right in favor of any person other than the parties.

Section 9.8 - Counterparts

This Agreement may be executed in several counterparts each of which shall be deemed one and the same agreement. It shall be binding upon and inure the benefit of the parties to it and their respective successors and assigns.

Section 9.9 - Required Taxes, Insurances, Fees and Documents

Genoa agrees that it will operate legally and pay all federal, state, local, social security, Medicare and unemployment taxes, liability and workers' compensation insurance premiums, and license or permit fees necessary to conduct business.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed and delivered, by their respective duly authorized officers, all as the day and year first above written.

Date:_____

_____

By: Bob Hanvey
Chairman

GENOA-OCEOLA SEWER AND WATER AUTHORITY

Date:_____

_____

By: William J. Bamber
Chairman

GENOA CHARTER TOWNSHIP

Date:_____

_____

By: Bill Rogers
Its: Supervisor

HOWELL TOWNSHIP

Date: April 11, 2022

_____

By: Mike Coddington
Its: Supervisor

EXHIBITS

Exhibit 1 – Duties of Support Services Division

Exhibit 2a –Duties of Water Division

Exhibit 2b –Duties of Wastewater Division

Exhibit 3 – Utility Billing Services Statement of Duties under Support Services Division

Exhibit 4 – Utility Department Staff Organization Chart

Exhibit 5 - Vehicle, Supply, and Material Summary

Exhibit 6 – FY 2023 Genoa Charter Township DPW Fund Budget Worksheet

Exhibit 7 – FY 2023 System Labor and Equipment Allocation Percentage

Exhibit 8 – Timetable for Allocation of Budget

Exhibit 1
Duties of Administrative Services

Exhibit 1

Utility Department Support Services Division
Statement of Duties

The Utility Department Support Services Division (SSD) shall perform such duties and responsibilities as directed from time to time by the System Boards. The following duties and responsibilities shall be performed by the SSD Staff, unless otherwise directed by the System Board:

Attend all System Board and Committee meetings. Currently the MHOG and GO Boards meet once per month, the Oak Pointe and Lake Edgewood systems are reviewed as necessary, and the Howell Township Sewer Committee meets once per month.

Approve chemical and supply orders from the plant and facilities operator.

Approve all invoices associated with operation of the System and allocate the expense to the appropriate line item within the System O&M Fund or the DPW Fund.

Oversee compliance of the DPW Operation and Maintenance Staff with the contract conditions (i.e. assure fire hydrants are pumped out on time, perform spot inspections, upkeep of plant maintenance, pump stations are checked in).

Oversee compliance of the Meter Service, Reading, Billing, and Receipting Staff (Except Howell Twp. shall continue to perform its own billing as it has in the past) with the contract conditions (ie. Meters maintained and read, bills sent out).

Bid subcontracted maintenance items such as lawn mowing and make recommendations to the System Board or Committee.

Make recommendations to the System Board(s) or Committee(s) considering capital improvements required to meet demand or flow conditions within the System or to provide improved monitoring, pressure modifications, or improved reliability and/or redundancy.

Make recommendations to the System Board(s) or Committee(s) regarding proposed capital improvements proposed by developers and townships.

Work with the accountant and consulting engineer on capital improvement plans.

Serve as a liaison between the System and the Michigan Department of Environment Great Lakes and Energy (EGLE). Address regulatory inquiries, inspections, violations and compliance.

Provide the System Board or Committee with staff recommendations on consulting engineering proposals.

Serve as a liaison with the public and press in the event of a system failure, water main break, sanitary sewer overflow, etc. Complete correspondence with the EGLE for system failure events as necessary.

Provide a status report at the System Board or Committee Meetings.

Provide annual estimated budget expenses for each line item in the System's Operation and Maintenance Fund.

Oversee the operation of the Systems.

Hire operations personnel as necessary to complete the services outlined in **Exhibits 2 and 3**.

Oversee the general welfare of the Systems.

Coordinate and oversee the review of construction plans prepared by consulting engineers.

Review reports and plans prepared by consulting engineers and make recommendations to the System Board or Committee.

Recommend annual maintenance activities to the System Boards and Committees.

Oversee the submittal of construction plans to EGLE for permits.

Oversee the maintenance of electronic copies of conforming to construction record drawings.

Maintain and update GIS System for the DPW showing the System's distribution and collection lines, including water hydrants and valves and sanitary sewer structures.

Oversee the maintenance of an up to date model of the MHOG water distribution system.

Provide recommendations to the System Board(s) or Committee(s) on distribution system or collection system improvements.

Oversee the development of a system wide database and management of the system data, including conforming to construction record drawings, water system production and distribution data, sanitary system treatment and collection system data, and customers connected to the Systems.

Host, Maintain, and Update the MHOG.org website with customer information for the MHOG System, Genoa-Oceola System, Howell Township and Genoa Township Systems.

Serve as a host for maintenance tracking software to document inventory, work orders, and system components.

Oversee new development so that it is constructed in conformance with the approved Design Standards and Connection Manual.

Host and maintain a GIS database of utility system components.

Serve as a liason with the public, press, and media.

Exhibit 2a
Water System Operation and Maintenance Duties

Exhibit 2a

Water Division
Statement of Duties

Overview

The duties described are of a professional nature and shall be performed in accordance with the degree of skill and care ordinarily exercised by member of the Operator's Profession. Qualified, and where required, certified staff shall be provided.

Plant Operation

Operate the Water Treatment Plant in conformance with State Laws and Regulations including but not limited to:

- Staffing to meet production demand
- Maintenance of equipment including routine cleaning and lubrication
- Equipment Inspections and Adjustments
- Laboratory Analysis and Testing
- Data management and record keeping
- Preparation and prompt delivery of all applicable and required filings including monthly MRO Reports, NPDES Reports, Consumer Confidence Report, & Backflow and Cross Connection Reports to regulatory agencies and consumers as required by law
- Maintenance of wells and well houses including recommended preventative maintenance and emergency power service
- Maintenance of controls and instrumentation
- Coordination of Lime residual removal
- Maintain Buildings and Grounds including:
  - Recommending necessary painting projects to Authority Board
  - Bidding and hiring of lawn and snow removal services
  - Coordinating waste disposal services
- Performing other duties as necessary to maintain quality service

Distribution System

Operate the Water Distribution System in conformance with State Laws and Regulations including but not limited to:

Maintenance of water towers including altitude valves, emergency communication, temperature and level sensors, cathodic protection, periodic paint and coating inspections, and recommendations for painting and maintenance projects.

Utilize the computer and SCADA monitoring system and coordinate repairs as necessary.

Maintenance of pressure reducing valves including checking operation, verify operation and coordination of repairs.

Maintenance of Fire Hydrants including annual flushing, repairs as necessary, painting as necessary, and tracking in a GIS System.

Coordinate the repair of valve boxes, curb stops, and valves as necessary.

Performing and/or coordinating emergency repairs of water distribution components and lines

Conducting regulatory and public notifications, advisories, and recommended course of actions regarding interruption in service or boil water notices.

Conduct record management and maintenance of treatment and flow data.

Record management of work orders for meter service and customer repairs.

Coordinate with local and state agencies on right-of-way projects impacting the water Systems, including protection, relocation, and interruption of service.

Perform MISS DIG services

Performing other duties as necessary to maintain quality service

Staff will ensure permits remain in effect and will address regulatory inquiries, inspections, and violations.

Administrative and operations staff will serve as Authority liaisons with the public, presenting a professional image of the Authority. Administrative staff will address public concerns regarding employee presentation and service.

Staff will perform its best effort with regard security of the facilities by locking facilities, utilizing alarm systems, tracking of keys, and tracking facility access by outside personnel. Staff will also make recommendations to the Governing Board regarding the implementation of security improvements.

Staff will make every effort to reduce energy usage in the facilities through use of energy saving devices and utilization of energy best management practices.

Staff serving the system will be encouraged to obtain training and obtain certifications to improve operational knowledge which will result in improved service to customers.

A 24 hour 1-800 emergency call center will be provided to answer customer and system after hour emergencies and dispatch of on-call personnel.

Exhibit 2b
Wastewater System Operation and Maintenance Duties

Exhibit 2b

Utilities Staff
Waste Water Division
Statement of Duties

Overview

The duties described are of a professional nature and shall be performed in accordance with the degree of skill and care ordinarily exercised by member of the Operator's Profession. Qualified, and where required, certified staff shall be provided.

Plant Operation

Operate the Wastewater Treatment Plant in conformance with State Laws and Regulations including but not limited to:

- Staffing to meet daily treatment NPDES Permit Requirements
- Maintenance of treatment equipment including routine cleaning and lubrication
- Equipment inspections and adjustments
- Laboratory analysis and testing
- Data management and record keeping
- Preparation and prompt delivery of all applicable and required filings including monthly MRO Reports, CMR Reports, DMR Reports to regulatory agencies as required by law
- Maintenance of controls and instrumentation
- Coordination of Biosolids residual removal
- Maintain Buildings and Grounds including:
  - Recommending necessary projects to Township Board
  - Snow Removal
- Performing other duties as necessary to maintain quality service

Collection System

Operate the Wastewater Collections System in conformance with State Laws and Regulations including but not limited to:

- Maintenance of pump stations
- Recommendations to Governing Boards on pump replacements, upgrades, and repairs
- Maintenance and repair of air release valves.

- Repair of valve boxes, and valves as necessary. Performing and/or coordinating emergency repairs of wastewater collection components and lines

- Conducting regulatory and public notifications, advisories, and SSO Events

- Conduct record management and maintenance of pump station flow and runtime data.

- Coordinate with local and state agencies on right-of-way projects impacting Utilities including protection, relocation, and interruption of service.

- MHOG will perform routine cleaning activities for all sewers, collection systems components and pump stations as part of the included services.

- MHOG will coordinate non-routine or large scale sewer and pump station cleaning activities at the expense of the associated utility.

- Perform MISS DIG services

- Performing other duties as necessary to maintain quality service

Miscellaneous Services

Staff will comply with permit renewal deadlines and will address regulatory inquiries, inspections, and violations.

Administrative and operations staff will serve as Township liaisons with the public, presenting a professional image of the Authority. Administrative staff will address public concerns regarding employee presentation and service.

Staff will perform its best effort with regard security of the facilities by locking facilities, tracking of keys, and tracking facility access by outside personnel. Staff will also make recommendations to the Township Board regarding the implementation of security improvements.

Staff will make every effort to reduce energy usage in the facilities through use of energy saving devices and utilization of energy best management practices.

Staff serving the system will be encouraged to obtain training and obtain certifications to improve operational knowledge which will result in improved service to customers.

A 24- hour 1-800 emergency call center will be provided to answer customer and system after hour emergencies and dispatch of on-call personnel.

Exhibit 3
Utility Billing Services Statement of Duties

Exhibit 3

Meter Service, Reading, Billing and Receipting Services
Under Support Services Division
Statement of Duties

Meter Installation - Permanent

Receive and File Meter Sales Forms
- Schedule with Customers Order and Pick-up of Specialty Meters (>1-inch)

Maintain inventory of meters
Schedule appointments with customers for meter installations
Perform Meter Installs
- Obtain Backflow Certificate
- Install Meter and Reading Device
- GPS Location for Vehicle Based Reading Unit
- Complete Work Order with Meter and Head Numbers for Input into Billing Software

Utilize Work Order to Set-Up a New Customer Account or Update for Irrigation Install
- For commercial account, select hazard classification and add to Hydrocorp Inc. list for Backflow and Cross Connection Inspection
- Input GPS Points
- Input Backflow Control Device for residential and irrigation accounts
- File Installation Paperwork
- Locating curb stops for builders and homeowners.

Meter Installation – Seasonal

Schedule Spring Installation for Water Only Seasonal Irrigation or Recreational Meters (~50 Meters Total)
- Send out notification letters to each account
- Require backflow device test during installation

Install meters at scheduled times
- Turn on water services
- Test radio read device
- Obtain Backflow Certificate

Schedule Fall Removal for Water Only Seasonal Irrigation or Recreational Meters (~50 Meters Total)
- Send out notification letters to each account of winterization responsibilities
- Remove meters
- Obtain final reads on each account
- Shut down water services

Meter Reading & Billing

R-Type MXU accounts are loaded into vehicle based reading route
M-Type MXU accounts are loaded into handheld reading unit and /or future vehicle based unit
Radio reads are obtained in the field
Audit of non-reads by MXU units are added to manual read accounts
Each non-read manual is visited to obtain a read
Non reads are added to repair list and letters are sent to customer requesting appointments.
Each read is audited by:

Verifying of account information
Each read is compared to previous quarter
Contact made with each customer with read outside normal range, accounts are noted when a homeowner is gone during the winter months.
Research reads that show no usage.
Identify if there is a leak. If leak is found, determine if sewer or water only.
Adjust accounts as necessary
Identify Repairs and Perform Site Visits, including but not limited to:

- Assisting Homeowners with identifying leaks
- Change out of meter heads
-Researching as to why a home or business may not have irrigation usage over summer. (Irrigation System may have bypass installed).

Following of Audit, meter reads are posted to accounts
Following posting of accounts, bills are printed
Printed bills are separated and sorted for post office
Bills are placed in batches for apartment complexes, condos, etc… to save on postage
Postage is calculated, and payment and delivery of bills is made to post office.
Copy of Howell Township's meter reads are forwarded to Howell Township along with all supporting documents.

Post Meter Reading and Billing

As referenced above, between billing cycles:

Non-reads are scheduled for maintenance which may include:

Installation of an external MXU
Re-wiring from reading unit to meter
Change out of faulty or clogged meter
Change out of meter head

Frequently, the above task require preparation of mailings to customers to obtain home access

Record any account or equipment changes in Billing Software.
Transfer of Delinquent balances to Place on Tax Rolls

Handling of All Bankruptcy Accounts which includes:

Chapter 7 – If is debt discharged balances are written off

Chapter 13 – Balance that is owed at time of filling is transferred to an additional account with payments being applied from Trustee only.

All bankruptcy amounts must be broken down into water and sewer dollars.

Obtaining Final Reads and Preparation Final Bills from Property Sales

Final bills are printed once a month, however, the majority of final bills are faxed directly to the title company that is holding escrow, this is done daily.

Answering of customer account changes and complaints, questions on bills and scheduling of inspections for leaks.

Provide assistance to customers accessing & making Payments using MHOG's on-line bill paying web site by taking verbal Credit or Debit card payments from customers over the Phone.

Miscellaneous Services

Tracking and service shut-off of foreclosures

Cross Connection Program and Consumer Confidence Reports

Software Upgrades & Annual Maintenance & Software Support Fees

Response to Township request for usage history

Preparation of billing reports for commercial account audits

Preparing Billing Summaries & Account Receivable Reports by District & Township

Entering any adjustments on customer accounts, example: NSF Checks, removing payment.

Keeping track of all meters installed for each subdivision or complex. Any meters not installed yet are checked to make sure lot is still vacant.

Maintaining list of all paid and unpaid meter packages, always checked before meter package is installed in new home.

Bill Collection (Except Howell Twp.)

<u>Opening mail</u>

- Matching check to payment stub
- No stub included – look up information and write ticket
- From closing companies - looking up to make sure new owner is set up on system

<u>Posting payments</u>

<u>Balancing posting</u>

- Add checks and cash to balance to posting amount
- Write out deposit ticket
- Run posting reports
- Commit batch after balancing

- Put reports into Utility Receipts binders

Deposit to bank

Customer relations

- Taking payments over the counter
- Taking phone calls from customer
- Solving problems for customers
- Collect NSF's

Payments on line

- Retrieve via Email from Billing Software total amount submitted the day before
- Run posting reports
- Next day verify monies in bank match on line payment total
- Commit batch
- Put reports into Utility Receipts binders

Delinquents to Tax Rolls

- Work with Billing Specialist to transfer delinquents to tax rolls
- Special handling of paid delinquents from Sept – Nov
- Disburse delinquent amounts paid to individual townships so they can mark their tax roll accordingly

Balancing Account and Distributing Funds

-Make Excel Sheets from G/L Distribution Daily Reports, to give breakdown of sewer & water by district
-Using spreadsheet enter Deposit totals into Quick Books
-Enter any fees (Merchant Fees) etc
-Do Journal Entries - Non Sufficient Fund's (NSF's)
-adjustments to statement
-Any refunds made on finals throughout the month
-Do checks for distribution
-Once Chart of Account Balances, print and distribute checks to each district
-Reconcile Account for the month

Close communication is required between the persons billing (finals), receipting (NSF's) and balancing throughout the month to insure balancing at the end of the month.

Exhibit 4
Utilities Department Staff Organization Chart

Exhibit 4
MHOG Utility Department
Organizational Structure

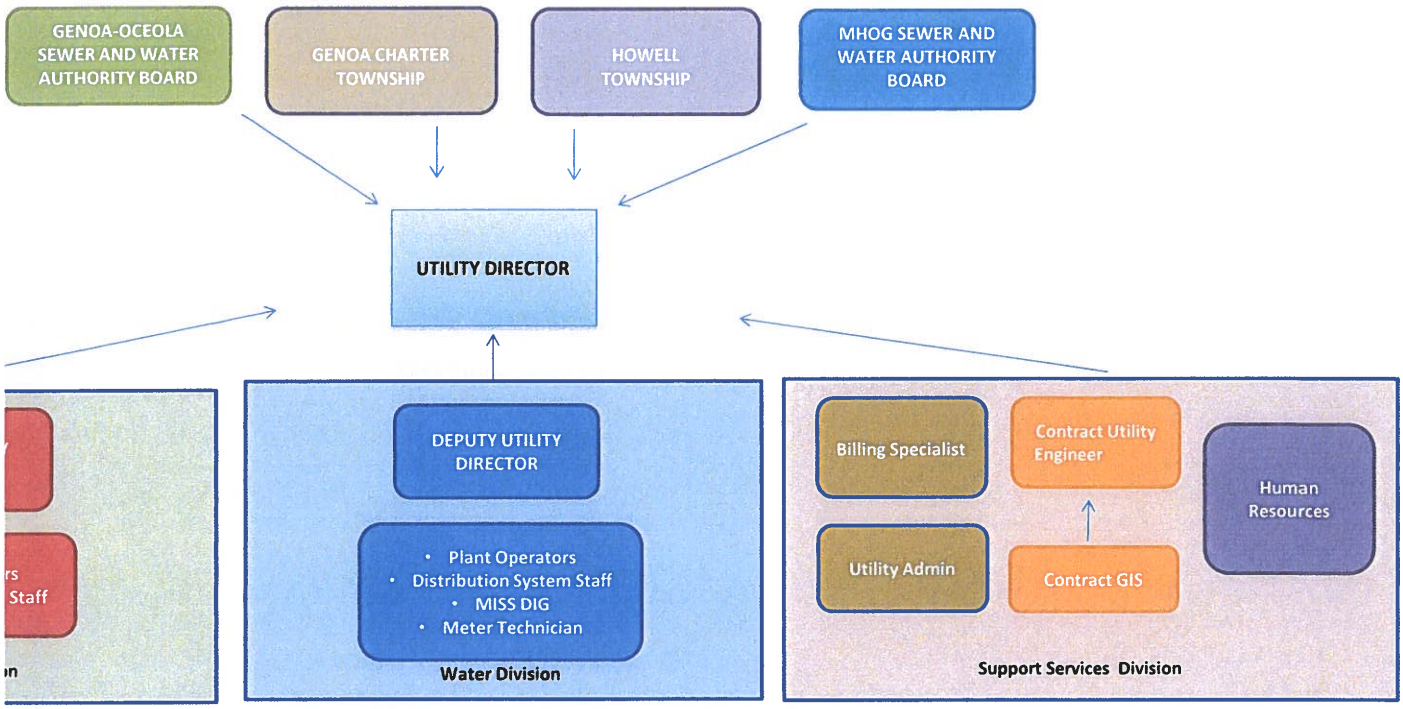


Exhibit 5
Vehicle, Supply and Material Summary

Exhibit 5

Vehicle, Supply, and Material Levels

Vehicles

A minimum of 26 vehicles will be provided to service the systems. Specialized vehicles will include:

One Ton Crane Truck - (1)
Plow Truck - (3)
Truck with 80 Gallon Fuel Tank and Transfer Pump - (2)
Vacuum Extraction Van (Grinder Van) – (1)
Vactor Truck – (1)
F-750 (or Equivalent) Crane Truck (1)

Supplies and Materials

Safety equipment including:

- Confined space entrance equipment including gas detectors,
- Individual PPE
- Traffic safety vests
- Eye protection
- Other job specific safety requirements

Paper and Office supplies

Computers and Software

Uniform Shirts

Meter Reading Equipment

Billing Software

GIS Software

Map Work Order Management System (Central Square® Software)

E-mail for Staff

Mobile Phone Systems

MISS DIG Accounts and Marking Equipment

MHOG Website

Exhibit 6
2023 Genoa Charter Township DPW Fund
Budget Worksheet

DRAFT GENOA TOWNSHIP - DPW FUND #233
BUDGET TO ACTUAL REPORT FOR 9-MOS ENDING 12/31/21
PROPOSED AMMENDED BUDGET FOR FY ENDING 3/31/22
PROPOSED BUDGET FOR FY ENDING 3/31/23 - HOWELL TOWNSHIP

ACCOUNT#	ACCOUNT DESCRIPTION	APPROVED BUDGET FOR YEAR ENDING 3/31/22	ACTUAL FOR 9 MOS ENDING 12/31/21	PROPOSED AMENDED BUDGET FOR THE YEAR ENDING 3/31/22	CURRENT PROPOSED BUDGET FOR YEAR ENDING 3/31/2023	HOWELL PROPOSED BUDGET FOR YEAR ENDING 3/31/2023	NOTES
REVENUES							
233-000-400-000	*FEES - EXCLUDING OPER LABOR*						
233-000-626-005	MARION SEWER (BILLING ONLY)	22,500	17,769	23,692	23,000	23,000	Additional Customers with Development
233-000-626-008	LAKE EDGEWOOD WATER (BILLING ONLY)	4,150	3,059	4,078	4,150	4,150	Hold
233-000-626-009	HOWELL TOWNSHIP BILLING	-	-	-	-	-	
	SUBTOTAL - FEES EXCLUDING OPER LABOR	**26,650**	**20,828**	**27,770**	**27,150**	**27,150**	

							Increase W/O Howell Twp.	*Increase W Howell Twp.*	*Diff.*	*Mo. Fee April - May*	Monthly Fee June - Mar
233-000-626-010	*FEES - INCLUDING OPER LABOR*										
233-000-626-012	OAK POINTE WATER	238,200	178,650	238,200	260,455	257,722	$22,255	$19,522	($2,732)	$ 23,322.07	$ 21,107.83
233-000-626-011	OAK POINTE SEWER	280,919	210,689	280,919	307,178	302,733	$26,259	$21,814	($4,445)	$ 27,505.86	$ 24,772.12
233-000-626-013	MHOG WATER	1,241,561	931,171	1,241,561	1,357,745	1,359,502	$116,184	$117,941	$1,756	$ 121,577.43	$ 111,634.68
233-000-626-014	LAKE EDGEWOOD SEWER	145,732	109,299	145,732	159,276	157,140	$13,544	$11,408	($2,136)	$ 14,262.17	$ 12,861.55
233-000-626-015	GENOA/OCEOLA SEWER	797,605	598,204	797,605	872,148	861,187	$74,543	$63,582	($10,961)	$ 78,095.32	$ 70,499.68
233-000-626-###	HOWELL TOWNSHIP	-	-	-	-	238,870	$0	$238,870	$238,870	$ -	$ 23,886.99
	SUBTOTAL - FEES INCLUDING OPER LABOR	**2,704,017**	**2,028,013**	**2,704,017**	**2,956,803**	**3,177,154**					

							Estimated Percentages
233-000-626-016	*VACTOR TRUCK*						
233-000-626-017	OAK POINTE WATER	1,604	989	1,604	1,604	1,964	3%
233-000-626-018	OAK POINTE SEWER	14,546	8,971	14,546	14,546	9,165	14%
233-000-626-019	MHOG WATER	13,178	8,127	13,178	13,178	4,582	7%
233-000-626-020	LAKE EDGEWOOD SEWER	4,209	2,596	4,209	4,209	5,237	8%
233-000-626-021	GENOA/OCEOLA SEWER	29,844	18,405	29,844	29,844	26,185	40%
233-000-626-022	HOWELL TOWNSHIP	2,082	1,284	2,082	2,082	18,329	28%
	SUBTOTAL - VACTOR TRUCK REVENUE	**65,462**	**40,372**	**65,462**	**65,462**	**65,462**	100%

233-000-672-001	*OTHER INCOME*	5,000	17,218	17,218	5,000	5,000	
233-000-628-003	CONSTRUCTION FEES	8,000	43,163	45,000	8,000	8,000	New Development and Growth MHOG Fees
233-000-665-001	INTEREST INCOME	50	-	-	50	50	
233-000-581-001	HOWELL TOWNSHIP	20,000	22,376	30,000	20,000	5,000	Become part of normal operation
	SUBTOTAL - OTHER INCOME	**33,050**	**82,757**	**92,218**	**33,050**	**18,050**	
	TOTAL REVENUE	**2,829,179**	**2,171,970**	**2,889,467**	**3,082,465**	**3,287,816**	
EXPENDITURES							
233-600-801-071	*ACCOUNTING*						
233-600-801-072	AUDIT SERVICES	3,000	3,000	3,000	3,500	3,500	2023 Possible Price Increase
233-600-801-073	ACCOUNTING SERVICES	6,000	5,060	7,500	7,000	8,000	2023 Possible Price Increase Plus Addn. Monitoring with Addn. System
	TOTAL ACCOUNTING EXPENSES	**9,000**	**8,060**	**10,500**	**10,500**	**11,500**	
233-601-860-001	*AUTO/TRUCK EXPENSES*						
233-601-862-001	FUEL	41,738	46,242	55,000	55,650	64,999	Two addn. vehicles plus increased fuel prices, plus emergency fuel tanks
233-601-991-009	LOAN PAYBACK	40,000	30,000	40,000	60,000	60,000	Increase to complet full loan payback by 2025
233-601-932-001	ROUTINE MAINTENANCE	25,831	19,823	26,500	28,425	29,375	Additional Vehicles to maintain
233-601-936-001	DEDUCTIBLE/BODY DAMAGE REPAIR	2,000	3,028	3,028	2,000	2,000	Deductable for vehicle damage
233-601-981-002	AUTO INSURANCE	20,048	15,036	21,000	20,144	21,800	Additional Vehicles
233-601-981-001	VEHICLE PURCHASES	-	-	-	-	-	Pay for trucks from loan and reserves
	TOTAL AUTO/TRUCK EXPENSES	**129,617**	**114,129**	**145,528**	**166,219**	**178,174**	
233-602-803-009	*ADMINISTRATIVE EXPENSES*						
233-602-801-004	RECEIPTING	32,525	24,394	32,525	33,176	33,176	2% Increase for 2022
233-602-940-001	OFFICE RENT & SUPPLY	25,670	19,253	25,670	26,183	26,183	2% Increase for 2022
	TOTAL ADMINISTRATIVE EXPENSES	**58,195**	**43,647**	**58,195**	**59,359**	**59,359**	
233-603-948-001	*COMPUTER/SW EXPENSES*						
233-603-948-002	COMPUTER HARDWARE EXPENSES	1,000	2,000	2,000	2,000	2,000	New computers
233-603-948-003	COMPUTER SOFTWARE EXPENSES	10,000	7,944	7,900	10,000	10,000	Ongoing BSA, NearMap& Other Software Licenses
233-603-950-001	AIR CARDS/JETPACKS	7,000	5,672	7,000	7,000	7,000	Mobile Wireless Technology for Data Recording
	TOTAL COMPUTER/SW EXPENSES	**18,000**	**15,616**	**16,900**	**19,000**	**19,000**	
233-604-910-001	*PROFESSIONAL DEVELOPMENT*						
233-604-910-002	EMPLOYEE	12,600	2,369	4,000	12,600	13,650	Additional Staff- assume 100% utilization
233-604-910-003	INTERNAL TRAINING	4,000	3,320	3,500	4,000	4,000	Safety Training Program
	TOTAL PROFESSIONAL DEVELOPMENT	**16,600**	**5,689**	**7,500**	**16,600**	**17,650**	
233-606-959-001	*CONTINGENCY*	-	-	-	-	-	
233-608-709-001	*EMPLOYER'S PAYROLL TAXES*	118,075	91,075	121,433	130,000	138,000	Additional Staff
233-609-977-003	*GIS*						
233-609-977-005	ANNUAL LUCITY DUES	11,250	11,531	11,531	11,500	11,500	Annual software license
233-609-977-006	ARC GIS ON-LINE LICENSES	9,600	-	9,600	9,600	9,600	Annual GIS License
233-609-977-007	ROUTINE GIS MAINTENANCE	20,000	14,663	17,000	20,000	24,000	Add in Howell Township Updates
233-609-948-005	HARDWARE (TABLETS)	1,500	-	200	1,500	2,000	Additional Tablet
	TOTAL GIS	**42,350**	**26,194**	**38,331**	**42,600**	**47,100**	
233-612-840-005	*INSURANCE*						
233-612-840-006	BC/BS MICHIGAN	308,801	226,827	302,436	325,907	358,138	Additional Staff Plus Increases
233-612-840-007	EHIM	82,233	46,591	62,121	86,678	95,568	Additional Staff Plus Increases
233-612-836-001	WELLNESS PROGRAM	7,260	1,533	3,000	7,260	7,865	Additional Staff Plus Increases
233-612-844-001	LIFE/DISABILITY	11,681	11,706	15,608	11,681	12,749	Additional Staff Plus Increases
233-612-844-002	WORKERS COMPENSATION	30,772	24,686	32,914	33,617	35,827	Additional Staff Plus Increases
233-612-936-003	PROPERTY/LIABILITY INSURANCE	38,918	40,559	40,559	40,559	42,000	Additional Staff Plus Increases
233-612-844-003	DENTAL INSURANCE	27,211	19,475	26,000	29,101	32,880	Additional Staff Plus Increases
	TOTAL INSURANCE	**506,876**	**371,377**	**482,638**	**534,802**	**585,026**	
233-613-804-001	*LEGAL FEES*	1,500	209	209	1,500	1,500	Hold
233-615-742-001	*CREDIT CARD FEES*	23,000	12,841	17,200	20,000	20,000	Lower, more ACH Payments
233-616-742-001	*EMPLOYEE RECRUITING*						
233-616-742-003	ADVERTISING	1,000	-	2,500	1,000	2,500	Annual Hire Mojo Membership
233-616-742-004	BACKGROUND CHECK	500	-	-	500	500	New Staff in 2023
233-616-742-005	PRE-EMPLOYMENT PHYSICALS/DRUG SCREEN	1,000	-	-	1,000	1,500	Additional Staff
233-616-742-006	CDL PHYSICALS AND DRUG TESTING	650	440	650	650	900	Ongoing Expense
	TOTAL EMPLOYEE RECRUITING	**3,150**	**440**	**3,150**	**3,150**	**5,400**	
233-617-751-008	*OFFICE EXPENSES*						
233-617-934-001	FURNITURE/CAPITAL	-	-	-	-	-	None Planned
233-617-750-099	SUPPLIES	3,500	2,623	3,500	3,500	3,500	Printing Bills
233-617-851-001	POSTAGE & SHIPPING	10,000	5,953	8,000	10,000	10,000	Postage for Mailing Bills
	TOTAL OFFICE	**13,500**	**8,576**	**11,500**	**13,500**	**13,500**	
233-618-965-001	*OTHER EXPENSES*	-	-	-	-	-	

DRAFT GENOA TOWNSHIP - DPW FUND #233
BUDGET TO ACTUAL REPORT FOR 9-MOS ENDING 12/31/21
PROPOSED AMMENDED BUDGET FOR FY ENDING 3/31/22
PROPOSED BUDGET FOR FY ENDING 3/31/23 - HOWELL TOWNSHIP

ACCOUNT#	ACCOUNT DESCRIPTION	APPROVED BUDGET FOR YEAR ENDING 3/31/22	ACTUAL FOR 9 MOS ENDING 12/31/21	PROPOSED AMENDED BUDGET FOR THE YEAR ENDING 3/31/22	CURRENT PROPOSED BUDGET FOR YEAR ENDING 3/31/2023	HOWELL PROPOSED BUDGET FOR YEAR ENDING 3/31/2023	NOTES
233-630-702-001	*SALARIES*						
233-627-715-001	RETIREMENT	*148,131*	112,617	*152,000*	163,515	174,120	Additional Staff
233-630-702-002	STRAIGHT TIME	1,389,123	*1,013,375*	1,351,166	1,532,468	1,606,645	Additional Staff
233-630-702-007	OVERTIME	112,806	88,876	118,501	123,884	156,234	Additional Staff
233-630-702-011	CONTRACT ENGINEER	79,040	34,936	46,581	81,411	81,411	Additional Staff
	TOTAL SALARIES	1,729,099	1,249,804	1,668,248	1,901,278	2,018,411	
233-640-753-001	*SUPPLIES & TOOLS*	1,500	6,662	8,000	5,000	5,000	Meter reading equipment
233-651-853-001	*TELEPHONE*						
233-651-853-003	ANSWERING SERVICE	*3,500*	3,117	*4,200*	3,500	3,750	Based on # of calls
233-651-853-004	CELL PHONE ALLOWANCE	23,460	*17,320*	23,100	23,970	26,010	Additional Staff
233-651-853-005	CELL PHONES	2,000	1,251	1,668	2,000	2,000	Staff phones
233-651-853-007	CUSTOMER LINE	550	977	1,300	550	550	1-800 number for customers
	TOTAL TELEPHONE	29,510	22,665	30,268	30,020	32,310	
233-699-995-861	*TRANSFERS TO EQUIPMENT RESERVES*	40,000	30,000	40,000	40,000	45,000	Additional Vehicles
233-699-995-862	TRANSFERS TO PERSONNEL RESERVES	1,000	*750*	1,000	1,000	1,000	Hole
233-705-767-001	*UNIFORMS & PROTECTIVE CLOTHING*						
233-705-767-002	UNIFORMS	*8,625*	6,780	*8,500*	8,625	9,275	Increase costs for logos, clothing
233-705-767-003	PANT/BOOT ALLOWANCE/SAFETY CLOTH	13,850	*6,138*	8,184	13,850	15,150	Additional Staff
	TOTAL UNIFORMS & PROTECTIVE CLOTH.	22,475	12,918	16,684	22,475	24,425	
233-706-767-006	*VACTOR TRUCK*						
233-706-932-050	VT - FUEL	*3,500*	1,890	*2,900*	3,500	3,500	Fuel for Truck
233-706-932-051	VT - EQUIPMENT/TOOLS	1,000	*259*	259	1,000	1,000	Nozzles, Clamps, Etc
233-706-932-052	VT - ANNUAL LOAN PAYMENT	50,962	38,222	50,962	50,962	50,962	Payback to GO New User
233-706-934-040	VT - REPAIRS	10,000	-	8,000	10,000	10,000	Repairs to Truck, 6 Yrs Old
	TOTAL VACTOR TRUCK	65,462	40,371	62,121	65,462	65,462	
	TOTAL EXPENDITURES	2,828,909	2,061,023	2,739,405	3,082,465	3,287,816	
	CHANGE IN FUND BALANCE	270	110,947	150,062	-	-	
	BEGINNING FUND BALANCE	202,691	202,691	202,691	225,063	225,063	
	REFUNDS TO W/S DISTRICTS	(127,690)	(127,690)	(127,690)	(150,063)	(150,063)	
	ENDING FUND BALANCE	75,271	185,948	225,063	75,000	75,000	

Exhibit 7
2023 System Labor and Equipment Allocation Percentage

FY 2022 System Labor Equipment Percentage Calculation
Including Howell Twp.

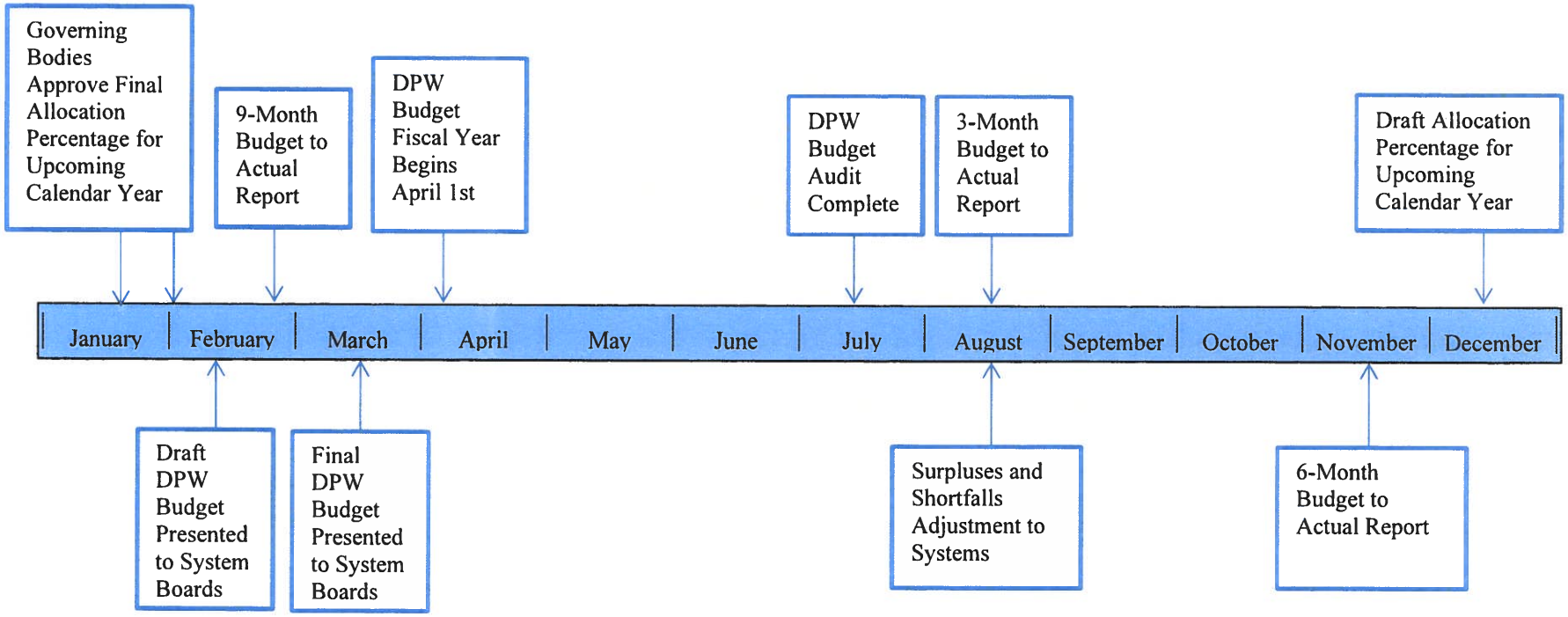
System	Billed Connections	%	Mile of Pipe	%	Avg. Daily Flow (2020)	%	Storage / Pump Station with Daily Checks	%	Full Time Staff Equivalents to Operate	%	Annual Budget	%	Grinder Pumps or Hydrants	%	Total Avg.
MHOG	5,829	40.66%	143.42	44.88%	1,784,000	46.42%	8	33.47%	8	29.09%	$2,932,824	32.49%	1,638	68.14%	42.16%
Genoa-Oceola	4,841	33.77%	92.35	28.90%	1,333,000	34.69%	6.9	28.87%	8	29.09%	$2,433,861	26.96%	99	4.12%	26.63%
Oak Pointe Sewer	1,365	9.52%	27.8	8.70%	0	0.00%	2	8.37%	2.5	9.09%	$1,054,280	11.68%	436	18.14%	9.36%
Oak Pointe Water	937	6.54%	15.43	4.83%	326,000	8.48%	3	12.55%	3.3	12.00%	$489,010	5.42%	144	5.99%	7.97%
Lake Edgewood	515	3.59%	11.18	3.50%	125,000	3.25%	1	4.18%	3.2	11.64%	$381,100	4.22%	87	3.62%	4.86%
Howell Township	*848*	5.92%	29.40	9.20%	275,000	7.16%	3	12.55%	2.5	9.09%	$1,737,000	19.24%	0	0.00%	9.02%
Total	**14,335**	**100.00%**	**320**	**100.00%**	**3,843,000**	**100.00%**	**24**	**100.00%**	**27.5**	100.00%	**9,028,075**	100.00%	**2,404**	100.00%	**100.00%**

System	Existing Allocation %	Proposed Percentage	Difference
MHOG	45.57%	42.16%	-3.41%
Genoa-Oceola	29.24%	26.63%	-2.61%
Oak Pointe Sewer	10.77%	9.36%	-1.41%
Oak Pointe Water	9.04%	7.97%	-1.07%
Lake Edgewood	5.38%	4.86%	-0.52%
Howell Township	0.00%	9.02%	**9.02%**

R:\DPW Budget\2023 Budget\DPW BUDGET WORKSHEET 3-9-22 Final Salaries

Exhibit 8
Timetable for Allocation of Budget

Exhibit 8
Annual Budget Timeline Requirements



MEMORANDUM

TO: Township Board

FROM: Michael Archinal

DATE: 5/11/2022

RE: Timberview Private Drive

This project involves four properties. The first property (4200 Timberview) has access immediately off the approach. The remaining three properties are served off of the remainder of the drive. Public Act 188 requires that costs associated with a special assessment be spread amongst the subject properties on a benefit basis. The assessment for 4200 is a function of 25% of the administrative fee ($2,000/4=$500) and 25% of the cost of reconstructing the approach ($10,265/4=$2,566) for a total of $3,066.

75% of the administrative fee, 75% of the approach costs and the balance of the project will be paid by the other three properties.

RIGHT-WAY
ASPHALT SPECIALISTS, INC.

No 9020

P.O. Box 13 Pinckney, MI 48169
517-223-7560 • Fax 517-223-7612

Page 1 of 1

CONTRACT PROPOSAL

Date 4-26-22

PROPOSAL SUBMITTED TO	WORK TO BE PERFORMED AT
Name JANET BEHRENDT	Street SHARED PRIVATE DRIVE
Street 4180 TIMBERVIEW	City ____ State ____ Zip ____
City LOWELL State MI Zip 48843	Phone ____ Fax ____
Phone 616-986-0570 Fax ____	Proposed Start Date TO BE SCHEDULED

Right Way Asphalt Specialist, Inc. hereby propose to furnish all materials and perform all labor necessary, at premises set forth above, for the completion of:

REMOVE/REPLACE APPROACH - OPTION I

1) REMOVE EXISTING ASPHALT DRIVEWAY APPROACH, TAKE MATERIAL OFF SITE, SAWCUT AT ROAD.
2) DELIVER 20 TONS OF 21A CRUSHED CONCRETE TO BUILD SUBGRADE.
3) INSTALL FINISH SUBGRADE WITH EXISTING AGGREGATE AND 21A C.C., COMPACT WITH VIBRATORY ROLLER.
4) INSTALL 3½" COMPACTED, 2 LIFTS OF MDOT 1100L AND 36A HOT ASPHALT MIX TO SAME AREA 2,565 SQ FT
5) ROLL AND COMPACT EACH LIFT OF ASPHALT TO UNIFORM DENSITY, PACK EDGES

COST: $10,265.00

RESURFACE DRIVEWAY APPROACH - OPTION II

1) SAWCUT PRIVATE DRIVE AT ROAD AND RESIDENTIAL DRIVE, REMOVE ASPHALT TO CREATE BUTT JOINT.
2) CLEAN DRIVEWAY, APPLY SS-1H BOND COAT FOR ADHERING OF NEW ASPHALT
3) INSTALL 1½" RESURFACE WITH MDOT 36A HOT ASPHALT MIX TO APPROACH AREA, 2,565 SQ FT.
4) ROLL AND COMPACT ASPHALT TO UNIFORM DENSITY, PACK EDGES.

COST: $5,850.00

* ALL WORK PERFORMED GUARANTEED ONE YEAR *

TERMS OF PROPOSAL

All materials are guaranteed to be as specified and to carry supplier's warranty. All work to be completed in a neat and workmanlike manner. Any alteration or deviation from the above specified involving extra labor and/or material cost will be executed only upon written order from owner or this authorized agent and will become and extra charge over the below agreed upon amount. Agreements made with mechanics or subcontractor on the job are not recognized. No statements, arrangement or understanding, expressed or implied not contained herein will be recognized. We propose to furnish and install the above complete in accordance with the above specification for the sum of ____ dollars ($ ____).

Payments to be made as follows:

TOTAL AMOUNT OPTION CHOSEN
DEPOSIT 30%
BALANCE ____

Balance of payment to be made as follows: UPON COMPLETION

Net 30 days/1.5% per month on unpaid balance.

Respectfully Submitted [signature] 4-26-22 **Per** RIGHT WAY ASPHALT, INC.

Note - This proposal may be withdrawn by us if not accepted within 60 days.

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.

Date Accepted ____ Signature ____

All New

RIGHT-WAY
ASPHALT SPECIALISTS, INC.

No 9001

P.O. Box 13 Pinckney, MI 48169
517-223-7560 • Fax 517-223-7612

Page 1 of 1

CONTRACT PROPOSAL

Date 4-2-22

PROPOSAL SUBMITTED TO	WORK TO BE PERFORMED AT
Name JANET BEHRENDT	Street SHARED PRIVATE DRIVE
Street 4180 TIMBERVIEW	City _____ State ___ Zip _____
City HOWELL State MI Zip 48843	Phone _____ Fax _____
Phone 810-986-0570 Fax _____	Proposed Start Date TO BE SCHEDULED

Right Way Asphalt Specialist, Inc. hereby propose to furnish all materials and perform all labor necessary, at premises set forth above, for the completion of: REMOVE/REPLACE DRIVE

1) REMOVE ENTIRE EXISTING ASPHALT PRIVATE DRIVE, TAKE MATERIAL OFF SITE, SAW CUT ENDS OF DRIVEWAYS
2) DELIVER 50 TONS OF 21A CRUSHED CONCRETE TO BUILD SUBGRADE
3) INSTALL FINISH SUBGRADE WITH EXISTING AGGREGATE AND 21A.CC, COMPACT WITH VIBRATORY ROLLER.
4) INSTALL 3½" COMPACTED, 2 LIFTS OF MDOT 1100L & 36A HOT ASPHALT MIX TO ENTIRE DRIVEWAY AREA, 6,650 SQ.FT.
5) ROLL AND COMPACT EACH LIFT OF ASPHALT TO UNIFORM DENSITY, PACK EDGES.
6) CLEAN UP SITE DUE TO ANY WORK PERFORMED

* ALL WORK PERFORMED GUARANTEED ONE YEAR *

TERMS OF PROPOSAL

All materials are guaranteed to be as specified and to carry supplier's warranty. All work to be completed in a neat and workmanlike manner. Any alteration or deviation from the above specified involving extra labor and/or material cost will be executed only upon written order from owner or this authorized agent and will become and extra charge over the below agreed upon amount. Agreements made with mechanics or subcontractor on the job are not recognized. No statements, arrangement or understanding, expressed or implied not contained herein will be recognized. We propose to furnish and install the above complete in accordance with the above specification
for the sum of TWENTY FIVE THOUSAND NINE HUNDRED FIFTY AND 00/100 dollars ($ 25,950.00)

Payments to be made as follows:

TOTAL AMOUNT	$25,950.00
DEPOST	8,500.00
BALANCE	$17,450.00

Balance of payment to be made as follows: UPON COMPLETION

Net 30 days/1.5% per month on unpaid balance.

Respectfully Submitted [signature] 4-2-22 Per RIGHT-WAY ASPHALT, INC.

Note - This proposal may be withdrawn by us if not accepted within 60 days.

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.

Date Accepted _____ Signature _____

Amy Scott Staby
4190 Timberview dr Howell Mi

Mark and Janet Behrendt 4180 Timberview Dr Howell
Dave and Christi Getty 4170 Timberview Dr Howell 48843

Let me know if there is anything else you need . Thank you

Amy Staby

Resolution #1 – Timberview Private Drive Road Improvement
Special Assessment Project (Winter 2022)

GENOA CHARTER TOWNSHIP

At a regular meeting of the Township Board of the Genoa Charter Township, Livingston County, Michigan, (the "Township") held at the Township Hall on May 16, 2022 at 6:30 p.m., there were

PRESENT:

ABSENT:

The following preamble and resolution were offered by and seconded by .

Resolution to Proceed with the
Project and Direct
Preparation of the Plans and Cost Estimates

WHEREAS, the Township Manager reported that petitions have been filed for the Timberview Private Drive Road Improvement Project (the "Project") under the authority of Act No 188, Michigan Public Acts of 1954, as amended;

WHEREAS, the Supervisor reported that the Assessor has checked the signatures on the petitions by record owners of land within the Township contained within the district described above and had prepared and filed a report setting forth the percentage of record owners of lands by frontage within the district who signed the petitions which amounted to more than fifty percent (50%); and

WHEREAS, the creation of a Special Assessment District for the Timberview Private Drive Road Improvement Project is appropriate pursuant to Section 2 of Act No. 188, Michigan Public Acts of 1954.

NOW, THEREFORE, BE IT RESOLVED THAT:

1. In accordance with Act No. 188, Michigan Public Acts of 1954, as amended, and the laws of the State of Michigan, the Township Supervisor is directed to have plans prepared illustrating the Project, the location of the Project, and an estimate of the cost of the Project.

2. The plans and estimates identified in paragraph 1, when prepared, shall be filed with the Township Manager.

A vote on the foregoing resolution was taken and was as follows:

YES:

NO:

ABSENT:

CLERK'S CERTIFICATE

The undersigned, being the duly qualified and acting Clerk of the Township, hereby certifies that (1) the foregoing is a true and complete copy of a resolution duly adopted by the Township Board at a meeting of the Township Board on May 16, 2022, at which meeting a quorum was present and remained throughout; (2) the original thereof is on file in the records in Township Manager's officer and my office; (3) the meeting was conducted, and public notice thereof was given, pursuant to and in full compliance with the Open Meetings Act (Act No. 267, Public Acts of Michigan, 1976, as amended); and (4) minutes of such meeting were kept and will be or have been made available as required thereby.

_____

Paulette A. Skolarus, Clerk
Genoa Charter Township

Resolution #2 – Timberview Private Drive Road Improvement
Special Assessment Project (Winter 2022)

GENOA CHARTER TOWNSHIP

At a regular meeting of the Township Board of Genoa Charter Township of Livingston County, Michigan (the "Township") held at the Township Hall on May 16, 2022 at 6:30 p.m. there were

PRESENT:

ABSENT:

The following preamble and resolution were offered by and seconded by .

Resolution to Approve the Project,
Scheduling the First Hearing
And Directing the Issuance of Statutory Notices

WHEREAS, the Board of Trustees of the Township has approved the Timberview Private Drive Road Improvement Project (Winter 2022) within the Township as described in Exhibit A (the "Project");

WHEREAS, preliminary plans and cost estimates for the Project have been filed with the Township Manager;

WHEREAS, the Board of Trustees of the Township has determined to proceed with the Project in accordance with Act No. 188, Michigan Public Acts of 1954, as amended;

WHEREAS, the Board of Trustees of the Township has determined to advance the costs of the Project from Township funds and to use special assessments to raise the money necessary to reimburse the Township in advance of such funds;

WHEREAS, the special assessment district for the Project has been tentatively determined by the Township Manager and is described in Exhibit B;

NOW, THEREREFORE, BE IT RESOLVED THAT:

The Board of Trustees of the Township hereby tentatively declares its intention to proceed with the Project.

1. The Board of Trustees of the Township hereby declares its intention to make the improvement and tentatively designates the special assessment district against which the cost of the improvement and maintenance is to be assessed as described in Exhibit B.
2. In accordance with Act No. 188, Michigan Public Acts of 1954, as amended, and the laws of the State of Michigan, there shall be a public hearing on the Project and the proposed Special Assessment District for the Project which is known as the "Timberview Private Drive Road Improvement Special Assessment District (Winter 2022)."
3. The public hearing will be held on June 6, 2022 at 6:30 p.m., at the offices of Genoa Charter Township, Livingston County, Michigan.
4. The Township Manager is directed to mail, by first class mail, a notice of the public hearing to each owner of or party in interest in property to be assessed, whose name appears upon the last Township tax assessment records. The last Township tax assessment records means the last assessment roll for ad valorem tax purposes which has been reviewed by the Township Board of Review, as supplemented by any subsequent changes in the names or addresses of such owners or parties listed thereon. The notice to be mailed by the Township Manager shall be similar to the notice attached as Exhibit C and shall be mailed by first class mail on or

before May 17, 2022. Following the mailing of the notices, the Township Manager shall complete an affidavit of mailing similar to the affidavit set forth in Exhibit D.

5. The Township Manager is directed to publish a notice of the public hearing in the Livingston County Daily Press & Argus, a newspaper of general circulation within the Township. The notice shall be published twice, once on or before May 22, 2022 and once on or before May 29, 2022. The notice shall be in a form substantially similar to the notice attached as Exhibit C.

A vote on the foregoing resolution was taken as was as follows:

YES:

NO:

ABSENT:

CLERK'S CERTIFICATE

The Undersigned, being duly qualified and acting Clerk of the Township, hereby certifies that (1) the foregoing is a true and complete copy of a resolution duly adopted by the Board of Trustees at the May 16, 2022 meeting of the Township Board, at which meeting a quorum was present and remained throughout; (2) the original thereof is on file in the records of the Township Manager's office and my office; (3) the meeting was conducted, and public notice thereof was given, pursuant to and in full compliance with the Open Meetings Act (Act. No. 267, Public Acts of Michigan, 1976, as amended); and (4) minutes of such meeting were kept and will be or have been made available as required thereby.

_____

Paulette A Skolarus
Genoa Charter Township Clerk
May 16, 2022

EXHIBIT A

TIMBERVIEW PRIVATE DRIVE ROAD IMPROVEMENT PROJECT (WINTER 2022)
DESCRIPTION OF PROJECT
A TEN-YEAR SPECIAL ASSESSMENT DISTRICT
WITH PROJECTED COSTS AS FOLLOWS:

- Total cost of the project: $34,884
- Total parcels: 4
- Homeowners representing over 50% of property have signed petitions
- Total amount per parcel: 3 parcels @ $11,628.00, 1 parcel @ $3471.63

TIMBERVIEW PRIVATE ROAD 2022	
PROJECT COST*	$35,950
ADMIN.	$2,000
4200 Timberview Dr.	(3,066)
TOTAL	$34,884
INTEREST %	2
PROPERTIES	3

	YEAR	PAYMENT	TO INTEREST	TO PRINCIPAL	OUTSTANDING
1	2021	$1,395.36	$232.56	$1,162.80	$10,465.20
2	2022	$1,372.10	$209.30	$1,162.80	$9,302.40
3	2023	$1,348.85	$186.05	$1,162.80	$8,139.60
4	2024	$1,325.59	$162.79	$1,162.80	$6,976.80
5	2025	$1,302.34	$139.54	$1,162.80	$5,814.00
6	2026	$1,279.08	$116.28	$1,162.80	$4,651.20
7	2027	$1,255.82	$93.02	$1,162.80	$3,488.40
8	2028	$1,232.57	$69.77	$1,162.80	$2,325.60
9	2029	$1,209.31	$46.51	$1,162.80	$1,162.80
10	2030	$1,186.06	$23.26	$1,162.80	$0.00
		$12,907.08	$1,279.08	$11,628.00	

4200 TIMBERVIEW		$3,066			
	YEAR	PAYMENT	TO INTEREST	TO PRINCIPAL	OUTSTANDING
1	2021	$371.50	$64.90	$306.60	$2,759.40
2	2022	$339.05	$32.45	$306.60	$2,452.80
3	2023	$317.42	$10.82	$306.60	$2,146.20
4	2024	$604.06	$297.46	$306.60	$1,839.60
5	2025	$306.60	$0.00	$306.60	$1,533.00
6	2026	$306.60	$0.00	$306.60	$1,226.40
7	2027	$306.60	$0.00	$306.60	$919.80
8	2028	$306.60	$0.00	$306.60	$613.20
9	2029	$306.60	$0.00	$306.60	$306.60
10	2030	$306.60	$0.00	$306.60	$0.00
		$3,471.63	$405.63	$3,066.00	

The project (the "Project") will consist of:

- Pulverize existing asphalt and haul away for road and private driveway approach
- Enhance existing aggregate base with 21 a crushed concrete
- Fine grade and compact
- Pave with 3 ½ inches compacted bituminous 36A asphalt
- Roll and compact

EXHIBIT B

The Project (Timberview Private Drive Road Improvement Winter 2022) is being designed to serve the properties in the Special Assessment District, which district is illustrated on the map (included) and includes the specific properties that are identified by the following permanent parcel numbers:

4711-33-100-021 4711-33-100-024 4711-33-100-031 4711-33-101-016

EXHIBIT C

GENOA CHARTER TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN
NOTICE OF PUBLIC HEARING
UPON A PROPOSED TIMBERVIEW PRIVATE DRIVE ROAD IMPROVEMENT PROJECT
AND SPECIAL ASSESSMENT DISTRICT (Winter 2022)

NOTICE IS HEREBY GIVEN:

(1) The Township Board of Genoa Charter Township, Livingston County, Michigan, in accordance with the laws of the State of Michigan, will hold a Public Hearing on June 6, 2022 at 6:30 p.m., at the Genoa Charter Township Offices, 2911 Dorr Road, Brighton, Michigan 48116, to review the following proposed special assessment district and to hear any objections thereto and to the proposed project.

GENOA CHARTER TOWNSHIP – TIMBERVIEW DRIVE ROAD IMPROVEMENT PROJECT
AND SPECIAL ASSESSMENT DISTRICT (Winter 2022)
(A ten-year program with costs as follows)

- Total cost of the project: $34,884
- Total parcels: 4
- Homeowners representing over 50% of property have signed petitions
- Total amount per parcel: 3 parcels @ $11,628.00, 1 parcel @ $3471.63

TIMBERVIEW PRIVATE ROAD 2022	
PROJECT COST*	$35,950
ADMIN.	$2,000
4200 Timberview Dr.	(3,066)
TOTAL	$34,884
INTEREST %	2
PROPERTIES	3

	YEAR	PAYMENT	TO INTEREST	TO PRINCIPAL	OUTSTANDING
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2	2022	$1,372.10	$209.30	$1,162.80	$9,302.40
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5	2025	$1,302.34	$139.54	$1,162.80	$5,814.00
6	2026	$1,279.08	$116.28	$1,162.80	$4,651.20
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8	2028	$1,232.57	$69.77	$1,162.80	$2,325.60
9	2029	$1,209.31	$46.51	$1,162.80	$1,162.80
10	2030	$1,186.06	$23.26	$1,162.80	$0.00
		$12,907.08	$1,279.08	$11,628.00	

4200 TIMBERVIEW		$3,066			
	YEAR	PAYMENT	TO INTEREST	TO PRINCIPAL	OUTSTANDING
1	2021	$371.50	$64.90	$306.60	$2,759.40
2	2022	$339.05	$32.45	$306.60	$2,452.80
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4	2024	$604.06	$297.46	$306.60	$1,839.60
5	2025	$306.60	$0.00	$306.60	$1,533.00
6	2026	$306.60	$0.00	$306.60	$1,226.40
7	2027	$306.60	$0.00	$306.60	$919.80
8	2028	$306.60	$0.00	$306.60	$613.20
9	2029	$306.60	$0.00	$306.60	$306.60
10	2030	$306.60	$0.00	$306.60	$0.00
		$3,471.63	$405.63	$3,066.00	

The project (the "Project") will consist of:

- Pulverize existing asphalt and haul away for road and private driveway approach
- Enhance existing aggregate base with 21 a crushed concrete
- Fine grade and compact
- Pave with 3 ½ inches compacted bituminous 36A asphalt
- Roll and compact

(2) The Project is being designed to serve the properties in the Special Assessment District, which district is illustrated on the map and includes the specific properties that are identified by the following parcel numbers: 4711-33-100-021, 4711-33-100-024, 4711-33-100-031, 4711-33-101-016

(3) The Township plans to impose special assessments on the properties located in the Special Assessment District to pay for the costs of the Project.

(4) The preliminary plans and cost estimates for the proposed project and the boundaries of the Special Assessment District are now on file in the office of the Township Manager and Township Clerk for public inspection. The Township Board has received petitions signed by more than 50 percent of property owners within the proposed district. Pursuant to the provisions of Public Act 188 of 1954, record owners of land have the right to file written objections to the Project with the Township Board. Any person objecting to the proposed Project or the proposed Special Assessment District shall file an objection in writing with the Township Manager before the close of the June 6, 2022 hearing or within such further times as the Township Board may grant.

This notice is given by order of the Genoa Charter Township Board.

Dated: May 17, 2022

Michael C. Archinal
Genoa Charter Township Manager

(Press/Argus 5/22/22 – 5/29/22)

EXHIBIT D

AFFIDAVIT OF MAILING

STATE OF MICHIGAN)

COUNTY OF LIVINGSTON)

Michael C. Archinal, being first duly sworn, deposes and says that he personally prepared for mailing, and did on May 17, 2022, send by first-class mail, the notice of hearing, a true copy of which is attached hereto, to each record owner of or party in interest in all property to be assessed for the improvement described therein, as shown on the last local tax assessment records of the Township of Genoa; that he personally compared the address on each envelope against the list of property owners as shown on the current tax assessment rolls of the Township; that each envelope contained therein such notice and was securely sealed with postage fully prepaid for first-class mail delivery and plainly addressed; and that he personally placed all of such envelopes in a United States Post Office receptacle on the above date.

_____

Michael C. Archinal
Genoa Charter Township Manager

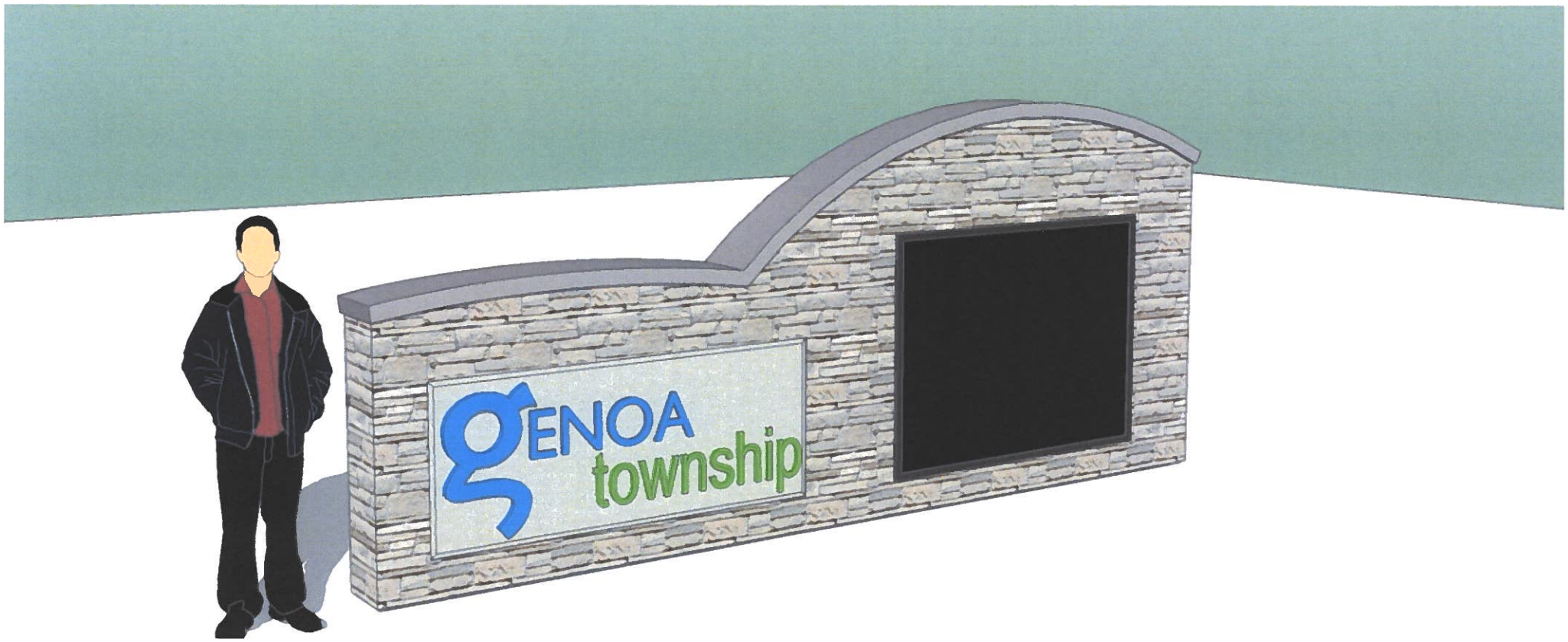
2022/2027 CIP

#249 BUILDING AND GROUNDS

	22/23	23/24	24/25	25/26	26/27
Township Hall Concrete Replacement	$ 45,487				
Township Hall Drive/Parking Light Replacement	$ 55,000				
Parking Lot Sealcoat and Restripe		$ 25,000			
Dorr Road LED Sign	$ 27,000				
Township Hall Carpet Replacement				$ 30,000	
Office Lighting			$ 25,000		
Window Replacement					$ 85,000
Cemetery Maintenance	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000
TOTAL APPROPRIATIONS	$ 133,487	$ 31,000	$ 31,000	$ 36,000	$ 91,000

TOTAL REVENUES	$ 150,000	$ 150,000	$ 160,000	$ 160,000	$ 170,000
NET REVENUES/APPROPRIATIIONS	$ 16,513	$ 119,000	$ 129,000	$ 124,000	$ 79,000
BEGINNING FUND BALANCE	$ 200,682	$ 213,366	$ 236,241	$ 254,091	$ 301,891
ENDING FUND BALANCE	$ 217,195	$ 332,366	$ 365,241	$ 378,091	$ 380,891

Estimated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Mike Archinal

From: Kathleen Murphy
Sent: Monday, April 25, 2022 11:41 AM
To: Mike Archinal
Cc: Bill Rogers
Subject: FW: Submissions Due for May 2 Board Meeting

From: Polly <pskolarus@genoa.org>
Sent: Monday, April 25, 2022 11:11 AM
To: Kathleen Murphy <kathleen@genoa.org>
Subject: RE: Submissions Due for May 2 Board Meeting

Kathleen, Please add a request to the board to reimburse the legal fee of $5,000.00 to the Township Clerk as a result of the not guilty verdict of April 25, 2022. Note: This request must be approved by Mike or Bill to be placed on the Agenda. Thanks, Polly

Paulette Skolarus, Clerk

Genoa Charter Township
2911 Dorr Rd
Brighton, MI 48116
(810)227-5225

polly@genoa.org
www.genoa.org

From: Kathleen Murphy <kathleen@genoa.org>
Sent: Monday, April 25, 2022 10:57 AM
To: Adam VanTassell <Adam@genoa.org>; Amy Ruthig <amy@genoa.org>; Bill Rogers <Bill@genoa.org>; Cindy Overby <Cindy@genoa.org>; Dave Miller <davem@mhog.org>; Denise Schniers <denise@genoa.org>; Duffy Rojewski <Duffy@genoa.org>; Greg Tatara <greg@mhog.org>; Jenifer Kern <jenifer@mhog.org>; Joe Seward <jseward@sph-pllc.com>; Kelly VanMarter <Kelly@genoa.org>; Kim Lane <kim@mhog.org>; Mary Krencicki <mary@genoa.org>; Mike Archinal <Mike@genoa.org>; Polly <pskolarus@genoa.org>; Robin Hunt <Robin@genoa.org>
Subject: Submissions Due for May 2 Board Meeting

Good morning,

This is a reminder that submissions for Monday's (May 2) Board meeting are due to Bill by 1 p.m. Wednesday. If you have any questions, please see Mike.

Thank you,

Kathleen

Kathleen Murphy
Administrative Assistant

Genoa Charter Township
2911 Dorr Road, Brighton, Michigan 48116
Phone: (810) 227-5225, Fax: (810) 227-3420
E-mail: kathleen@genoa.org, Url: www.genoa.org

Board Correspondence

To Board 5/2/22

COMCAST

Sent Certified Mail/Return Receipt

April 14, 2022

Ms. Polly Skolarus, Clerk
Township of Genoa
2911 Dorr Rd.
Brighton, MI 48116

Dear Ms. Skolarus:

Comcast of Florida/Michigan/New Mexico/Pennsylvania/Washington, LLC is pleased to have provided cable television service to the Township of Genoa. We value the good working relationship we have with the Township and its elected officials.

As you may know, our franchise to provide cable television service will expire on March 16, 2025. Although Michigan's Public Act 480 of 2006 controls the renewal process, the purpose of this letter is to preserve our rights to the formal renewal process under Section 626 of the Federal Cable Act in the event the State statute is amended, repealed or otherwise modified before our current franchise expires.

Accordingly, if there is a change in the State law or other circumstances requiring renewal under Federal law procedures, Comcast hereby gives notice that it will seek renewal of its cable television franchise pursuant to the provisions of 47 U.S.C. 546 and request commencement of renewal proceedings pursuant to 47 U.S.C. 546(a) if that becomes necessary in the future due to a change in State law. We intend to renew the current Franchise in the manner provided by State law. This letter is simply a reservation of our rights under the Federal Cable Act in the event State law changes. Comcast is not asking you to take specific action at this time.

As always, please do not hesitate to contact me at 734-359-2308 should you have any questions regarding this letter or our service in general.

Sincerely,

Kyle V. Mazurek
Manager of External Affairs
Comcast, Heartland Region
41112 Concept Drive
Plymouth, MI 48170

Mike Archinal

From: Dan Wholihan <dwhol@sbcglobal.net>
Sent: Tuesday, May 10, 2022 11:26 AM
To: Bill Rogers; Terry Croft; Mike Archinal
Subject: Reimbursement for Ms Skolarus

Hi Bill, Mike and Terry:

It's been a busy year which has kept me from township meetings lately, but I still try and follow what is going on. If you can put my comment in the upcoming packet, I'll appreciate it.

Dear Township Board:

I oppose the township paying $5000 to Ms Skolarus to reimburse her for her legal fees. As an attorney, I understand the system and respect the verdict of "not guilty." I also understand that under the current system, probable cause is required for charges and that there was probable cause in this case.

I was at the Board of Canvasser's meeting where these problems were discovered. If the ballots did not go into illegal containers, there would not have been an investigation by MSP or charges from the LC Prosecutor's office. The underlying problem is that there was a major discrepancy in absentee precincts that could not have been rectified because of statutes. When ballots are in the wrong bag, they are considered "unrecountable" and can not be recounted. I do not care for that statute, but that is the way it is.

Election integrity is a major issue in elections this year. In most of Livingston County, that is not an issue, but there's been multiple issues here in our township. In the 2016 recount that I worked, the unbalanced and "unrecountable" precincts in Livingston County were right here in Genoa Township.

Lastly, most defendants do not get reimbursed for criminal matters. If there was abuse of power by our Prosecutor, I would be on board with an reimbursement, no matter who the defendant is. The not guilty verdict here was largely due to testimony from Ms Skolarus's deputy. While that is an understandable case of reasonable doubt for a jury, it also proves that these problems and this illegality happened under the watch of our current clerk. I do not believe Ms Skolarus belongs in jail, but I also do not believe that we as taxpayers should pay for legal costs that she brought on herself due to what is at best gross incompetence. It may have not risen to the level of a criminal conviction, but it is bad enough where we should not pay for this. She can afford and should be able to pay her own attorney fees.

Thank you:

Dan Wholihan
PO Box 1182
Brighton, MI 48116
(Genoa Township precinct 8)