

VILLAGE OF BARRINGTON HILLS

Board of Health NOTICE OF MEETING



Tuesday, July 15, 2014 ~ 7:30 pm
Training Room - 112 Algonquin Road

AGENDA

1. Organizational
 - 1.1 Call to Order
 - 1.2 Roll Call

2. [Recommend] Septic Variance
 - 2.1 66 Brinker Road
 - 2.2 39 Brinker Road

3. Public Comment

4. Trustee's Report

5. Adjournment

Chairman: Gwynne Johnston

Next Regular Meeting Tuesday, August 12, 2014

NOTICE AS POSTED

July 11, 2014

Mr. Peder Finnberg
Heritage Land Consultants
758 Ridgeview Drive
McHenry, IL 60050

850 Forest Edge Drive, Vernon Hills, IL 60061
TEL 847.478.9700 ■ FAX 847.478.9701

820 Lakeside Drive, Suite 5, Gurnee, IL 60031
TEL 847.855.1100 ■ FAX 847.855.1115

www.gha-engineers.com

Re: Septic Review- 66 Brinker Road
Review #3

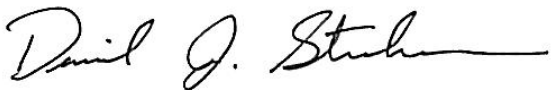
Dear Mr. Finnberg:

Our office has reviewed the permit submittal for the proposed five-bedroom residence at the above referenced address. Based on our review additional revisions are needed prior to approval. Our review is based on HLC Project # 2014-110 SEP, revised July 7, 2014. Original comments remaining to be addressed are included below for reference with additional commentary in bold.

1. A Type V (mound) system has been proposed in order to meet the required 24" separation from the limiting layer, found to be at a 14" depth within the proposed septic area. Based on the Village Code a variance from the Board of Health would be required to allow a mound system. The next two regular Board of Health meetings are scheduled for Tuesday, July 15th and Tuesday, August 12th. The applicant should contact the Village Clerk to request that this item be placed on an upcoming agenda.
It is understood that this item will be on the Board of Health agenda for Tuesday, July 15th.
3. Provide a handrail and/or suitable barrier for the portions of the retaining wall that exceed 3' in height (adjacent to the proposed residence). In addition, if not already submitted with the architectural plan submittal a structural engineering plan signed and sealed by a structural engineer shall be provided for portions of the wall exceeding 3' in height.
Comment not addressed.

The above review comments are provided based on the engineering information provided. Additional comments may be generated as the final plans and associated materials are submitted. Please include with the final engineering submittal a cover letter with a written response to each of the above comments.

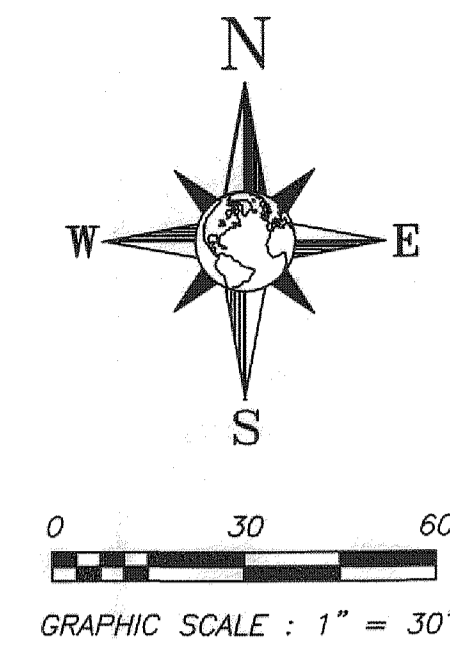
Sincerely,
Gewalt Hamilton Associates, Inc.



Daniel J. Strahan, P.E., CFM
Village Engineer

cc: Wendi Frisen, VBH
Scott Osterhaus, Osterhaus McCarthy, LLC, Owner's representative

SITE PLAN & SEPTIC SYSTEM DESIGN



LEGEND

- Ⓐ = 82 L.F. - 4" P.V.C. (SCHED #40) W/SEALED JTS. AT 2.0% MIN.
- Ⓑ = 750 GALLON SEPTIC TANK
- Ⓒ = 750 GALLON CLASS 1 AEROBIC UNIT (CLEARSTREAM, MULTI-FLO, OR EQUAL)
- Ⓓ = 3+104 L.F. - 4" P.V.C. (ASTM 3034) AT 1.0% MIN. SLOPE
- Ⓔ = LIFT STATION (SEE DETAIL)
- Ⓕ = 42 L.F. - 2" P.V.C. SOLID PLASTIC DISCHARGE PIPE, RUN INSIDE HEADER LINE WHERE POSSIBLE. PREVENT SIPHON IN FIRST DROP BOX.
- = L.F. SEPTIC FIELD 4" PERFORATED PLASTIC PIPE LAID LEVEL IN 36" WIDE TRENCHES, 20" DEEP. USE APPROVED DROP BOXES.
- = L.F. CURTAIN DRAIN AND 160 L.F. 4" SOLID PLASTIC PIPE, PITCH DOWNHILL AT 0.5% MIN. SLOPE AND DISCHARGE TO SEWER LINE. CONNECT ALL GUTTER DOWNSPOUTS AND FOOTING TILE SUMP PUMP TO CURTAIN DRAIN.
- = PROPOSED PIPE INVERT ELEVATION
- ⊠ = SOIL PROFILE BORING
- = PROPOSED FINISH CONTOUR
- = EXISTING CONTOUR
- X—X— = SILT FENCE
- = CONSTRUCTION FENCE
- = TREE PROTECTION FENCE
- = EXISTING TREE TO REMAIN

SPECIAL NOTES

- THIS DESIGN IS BASED UPON (1) THE FIELD CONDITIONS AS THEY WERE ON THE DAY THE PERCOLATION TEST OR TYPING, AND/OR TOPOGRAPHIC INFORMATION WERE OBTAINED, AND (2) DATA FURNISHED BY THE OWNER OR GENERAL CONTRACTOR OR THEIR REPRESENTATIVE REGARDING BUILDING SIZE, NUMBER OF BEDROOMS, AND/OR PEOPLE WITHIN THE UNIT TO BE SERVED.
- ANY DEVIATIONS FROM THESE DESIGN CONDITIONS SUCH AS (1) CHANGING THE NUMBER OF BEDROOMS AND/OR PEOPLE TO BE SERVED, (2) REDUCING THE PERCOLATION CAPACITY OF THE SOILS - BY RUNNING HEAVY EQUIPMENT OVER OR STOCK PILING BUILDING MATERIAL OR EXCAVATED SOIL ON THE SEEPAGE FIELD AREA, (3) REDUCING THE EFFECTIVE SEEPAGE FIELD BY - SIGNIFICANTLY CHANGING, ACTUALLY REDUCING, OR COVERING THE SEEPAGE FIELD WITH PAVEMENT, (4) DIVERTING GROUND WATER INTO OR OVER THE SEEPAGE FIELD, OR (5) INTRODUCING OILS AND/OR GREASES INTO THE SEEPAGE FIELD - WILL VOID THIS DESIGN.

GENERAL NOTES

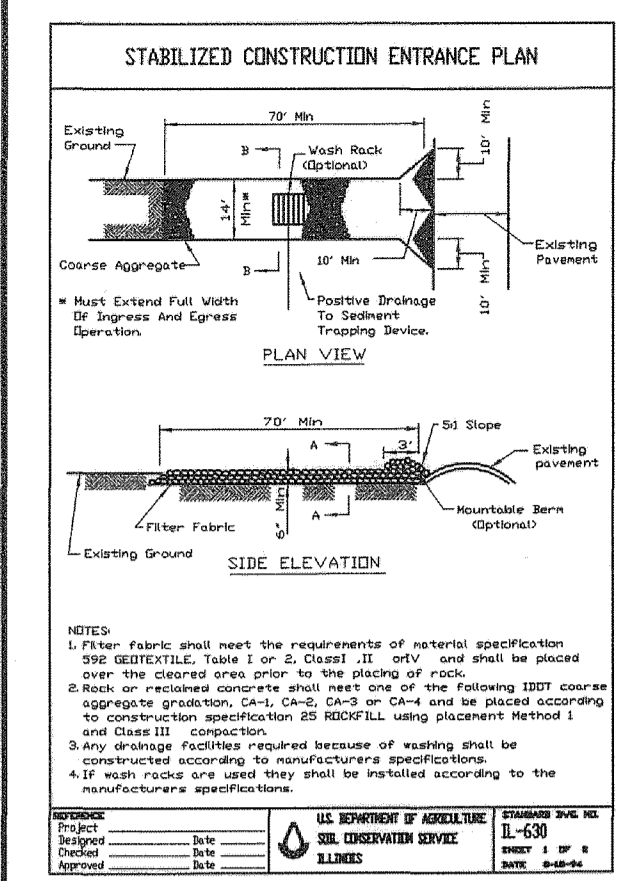
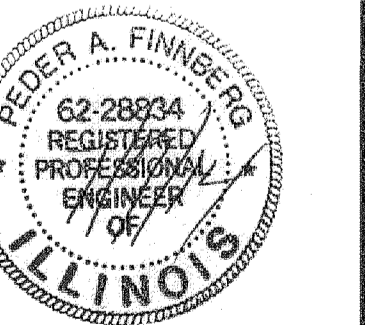
- THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES, AND HAVE ALL EXISTING UTILITY INSTALLATIONS LOCATED AND STAKED PRIOR TO CONSTRUCTION.
- ALL BACKFILL USED FOR THE SEEPAGE FIELD TRENCHES SHALL BE POROUS TOPSOIL CONTAINING LITTLE OR NO CLAY.
- THE CONTRACTOR SHALL VERIFY ALL EXISTING FIELD CONDITIONS SUCH AS WELL LOCATIONS, HOUSE AND ANY EXISTING SEPTIC FIELD LOCATIONS, ALL ELEVATIONS PRIOR TO INITIATING ANY CONSTRUCTION.
- ALL DOWNSPOUTS AND SUMP PUMP SHALL DISCHARGE AWAY FROM THE SEEPAGE FIELD, OR INTO A CURTAIN DRAIN.
- ALL INSTALLATIONS SHALL CONFORM TO THE APPROPRIATE REGULATORY AGENCY REQUIREMENTS.
- PRIOR TO THE START OF ANY BUILDING CONSTRUCTION ACTIVITY A TEMPORARY FENCE SHALL BE CONSTRUCTED AROUND THE PROPOSED SEEPAGE FIELD AREA.
- NO SEEPAGE FIELD CONSTRUCTION, OR PLACING OF TOPSOIL IS PERMITTED UPON WET OR FROZEN GROUND.
- NO LAWN IRRIGATION SYSTEMS MAY BE INSTALLED WITHIN 25' OF THE SEPTIC SEEPAGE FIELD AREA.
- SEPTIC CONTRACTOR IS TO NOTIFY DESIGN ENGINEER AND VILLAGE REPRESENTATIVE 48-HOURS IN ADVANCE OF CONSTRUCTION TO REVIEW AND INSPECT INSTALLATION PRIOR TO COMMENCEMENT OF ANY BACKFILLING.
- ABANDONED SEPTIC TANKS SHALL BE COMPLETELY PUMPED, THE FLOOR AND WALLS SHALL BE CRACKED OR CRUMBLED SO THE TANK WILL NOT HOLD WATER AND THE TANK SHALL BE FILLED WITH GRANULAR COMPACTED FILL.
- THE INSTALLER AND/OR SUPPLIER OF THE AERATION UNIT SHALL PROVIDE THE HOMEOWNER WITH THE REQUIRED WARRANTY INFORMATION AND OWNERS MANUALS FOR THE AERATION UNIT. IT IS THE HOMEOWNER'S RESPONSIBILITY TO READ THESE MANUALS AND USE THE SYSTEM AS IT WAS INTENDED AND IN A RESPONSIBLE MANNER. THE INSTALLER AND/OR SUPPLIER SHALL SERVICE THE UNIT ACCORDING TO THE WARRANTY TERMS OF THE PARTICULAR UNIT. AFTER THE INITIAL WARRANTY PERIOD, IT IS THE INSTALLER OR APPROVED SERVICE ORGANIZATION'S RESPONSIBILITY TO OFFER A CONTINUED MAINTENANCE CONTRACT TO THE HOMEOWNER. IT IS THE HOMEOWNER'S RESPONSIBILITY TO PURCHASE SAID MAINTENANCE CONTRACT FROM AN APPROVED SERVICE COMPANY FOR THE PARTICULAR UNIT TO INSURE THE CONTINUED SATISFACTORY OPERATION OF THE AERATION UNIT.
- EXISTING WELL TO BE CAPPED, SEALED, AND ABANDONED ACCORDING TO ALL APPLICABLE STATE, COUNTY, AND LOCAL CODES AND ORDINANCES.

VILLAGE OF BARRINGTON HILLS NOTES

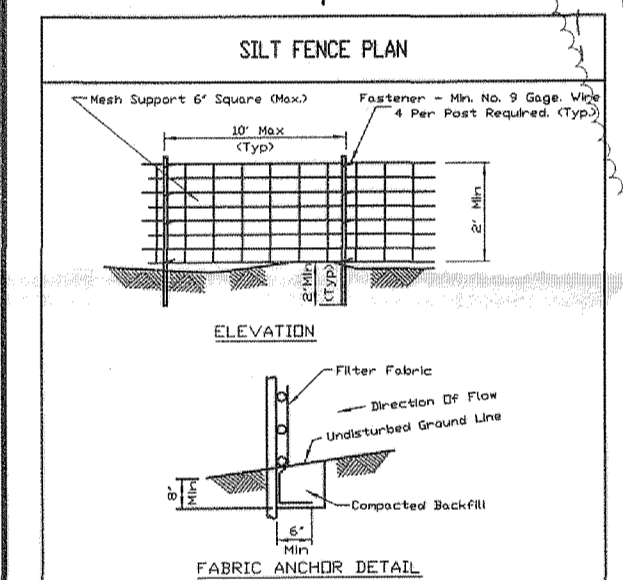
- THE DESIGN ENGINEER SHALL APPROVE THE LAYOUT OF THE SEPTIC SYSTEM INSTALLATION PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION.
- THE DESIGN ENGINEER AND VILLAGE REPRESENTATIVE SHALL REVIEW THE SEPTIC SYSTEM INSTALLATION PRIOR TO COMMENCEMENT OF ANY BACKFILLING.
- THE INSTALLER SHALL NOTIFY THE DESIGN ENGINEER OF THE PRECISE TIME SCHEDULE FOR THIS PROJECT 2 DAYS IN ADVANCE OF INITIATING ANY CONSTRUCTION, AND SHALL UPDATE THE ENGINEER OF ANY DELAYS DUE TO WEATHER.
- THE CONTRACTOR SHALL PROVIDE QUALIFIED PERSONNEL TO INSPECT THE SITE IN ACCORDANCE WITH THE CONDITIONS OF THE PERMIT. SPECIFICALLY, AT LEAST ONCE EVERY 7 CALENDAR DAYS, AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OR GREATER, OR EQUIVALENT SNOWFALL, THE CONTRACTOR SHALL INSPECT DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED. STRUCTURAL CONTROL MEASURES, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. RECORDS SHALL BE KEPT ON FILE WITH THE CONTRACTOR AND SHALL BE MADE AVAILABLE TO THE VILLAGE UPON REQUEST.

PREPARED BY AND/OR UNDER THE DIRECT SUPERVISION OF:

Freder A. Finberg
FREDER A. FINBERG, P.E.
 LICENSED PROFESSIONAL ENGINEER
 ILLINOIS NO. 62-28834
 EXPIRES: 11-30-15

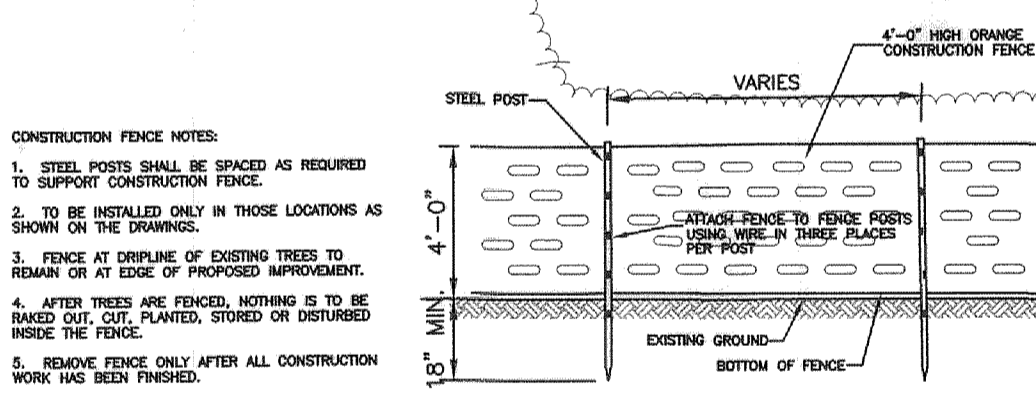


NOTES:
 1. Filter fabric must meet the requirements of material specifications.
 2. The filter fabric must be installed in a trench 2' wide and 2' deep.
 3. Back or precast concrete shall meet or exceed the following 2800 psi concrete grade. Cast-in-place concrete shall be placed according to manufacturer's specifications.
 4. All pipe and fittings shall be installed according to the manufacturer's specifications.

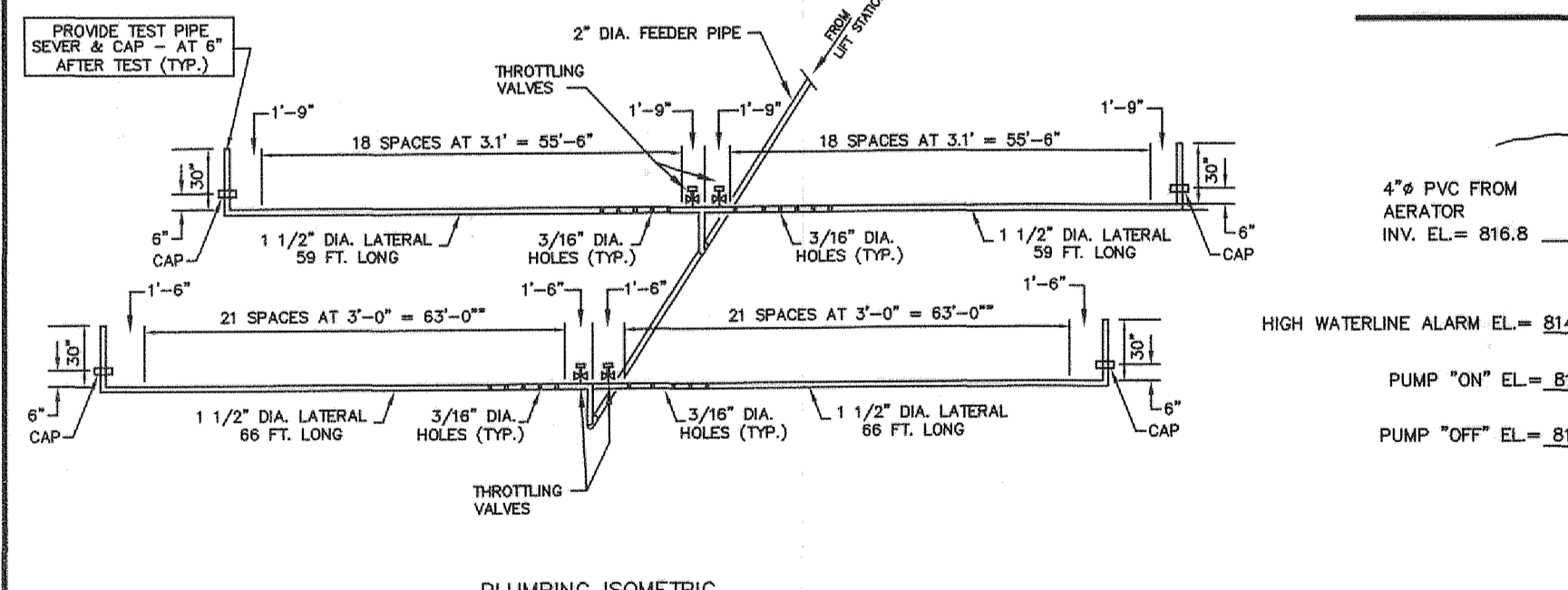


NOTES:
 1. The top and bottom wire of mesh support shall be on one side.
 2. Temporary silt fence shall be installed prior to any grading work.
 3. Fabric fabric must meet the requirements of material specifications.
 4. Fabric must be installed in a trench 2' wide and 2' deep.
 5. Fabric must be installed in a trench 2' wide and 2' deep.
 6. Fabric must be installed in a trench 2' wide and 2' deep.

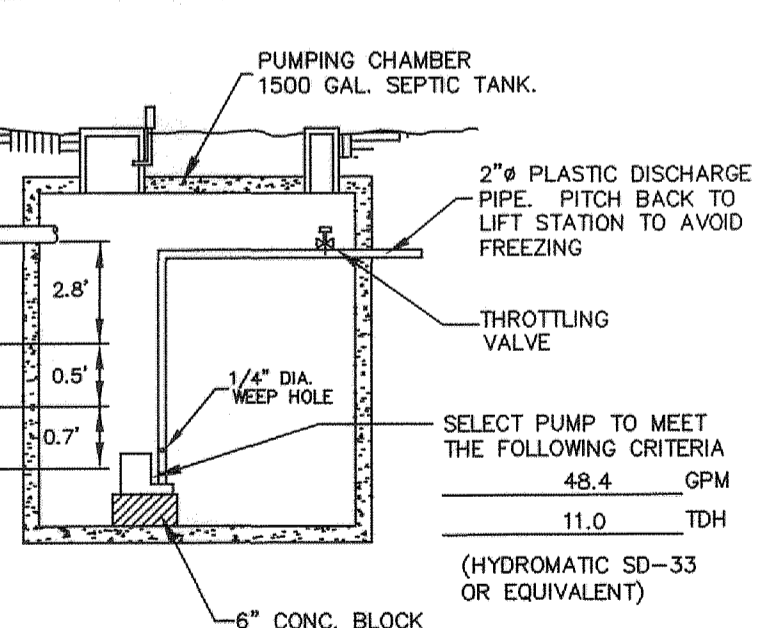
TREE PROTECTION & CONSTRUCTION FENCE DETAIL



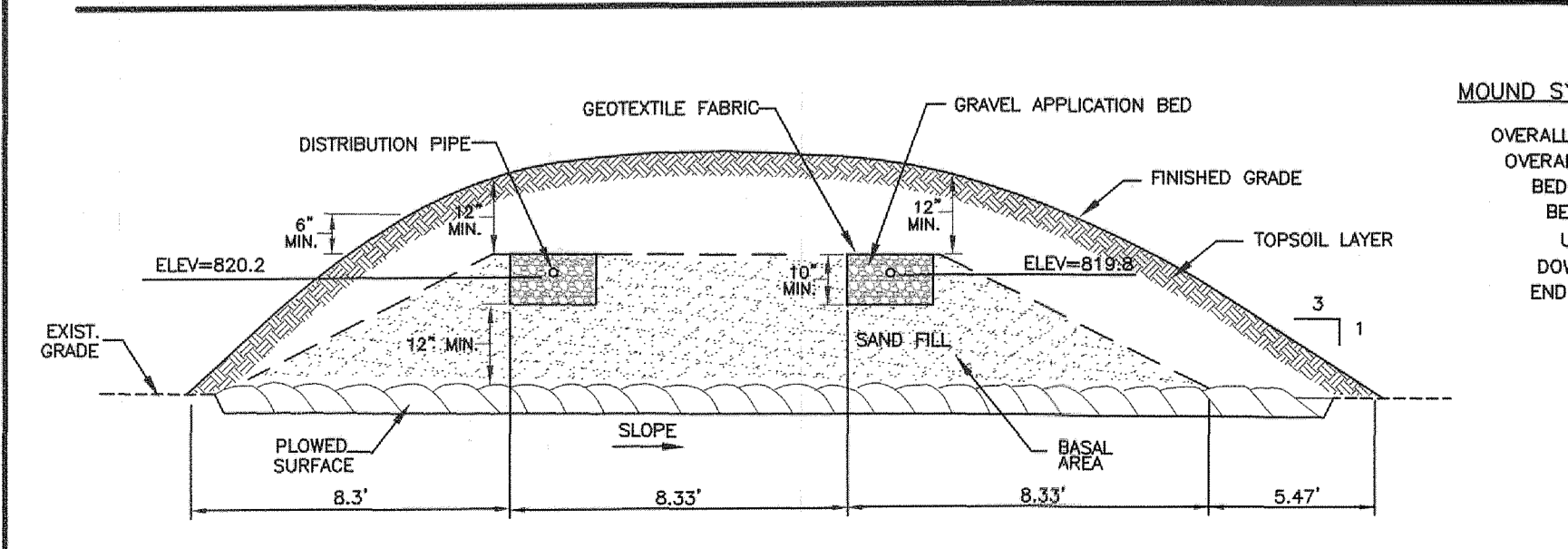
CONSTRUCTION FENCE NOTES:
 1. STEEL POSTS SHALL BE SPACED AS REQUIRED TO SUPPORT CONSTRUCTION FENCE.
 2. TO BE INSTALLED ONLY IN THOSE LOCATIONS AS SHOWN ON THE DRAWING.
 3. FENCE AT OUTLINE OF EXISTING TREES TO REMAIN OR AT EDGE OF PROPOSED IMPROVEMENT.
 4. FENCE SHALL BE REMOVED, NOTICES TO BE MAILED OUT, USE, PLANTED, STORED OR DISBURSED INSIDE THE FENCE.
 5. REMOVE FENCE ONLY AFTER ALL CONSTRUCTION WORK HAS BEEN FINISHED.



LIFT STATION DETAIL



MOUND SEPTIC SYSTEM: MULTIPLE BED, SLOPING SITE



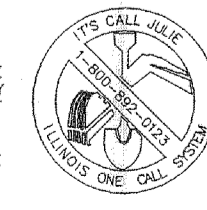
MOUND SYSTEM DIMENSIONS

OVERALL LENGTH = 151.8 FT.
 OVERALL WIDTH = 30.5 FT.
 BED LENGTH = 118 + 132 FT.
 BED WIDTH = 4 FT. + 4 FT.
 UPSLOPE = 8.3 FT.
 DOWNSLOPE = 9.8 FT.
 END SLOPES = 9.9 FT.

FORCE MAIN MUST CONNECT TO THE DISTRIBUTION PIPE FROM THE UPSLOPE OR ENDSLOPE. THE FORCE MAIN CANNOT BE LOCATED IN THE DOWNSLOPE AREA ON LANDSLOPES OF 2% OR GREATER. OBSERVATION PIPES MAY BE INSTALLED IN THE APPLICATION BED.

CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UTILITIES AT 800-892-0122 AND MUST OBTAIN A DIG NUMBER AT LEAST 72 HOURS PRIOR TO ANY WORK BEING DONE.

HLC SEPTIC DESIGN IS A SERIES OF HERITAGE LAND CONSULTANTS, LLC, AN ILLINOIS LIMITED LIABILITY COMPANY.
 ILLINOIS PROFESSIONAL LAND SURVEYOR AND PROFESSIONAL ENGINEERING DESIGN FIRM CORPORATION LICENSE NO. 184.004955 EXPIRES: 04-30-2015



REVISION #2	7-7-2014	PER VILLAGE REVIEW	PAF
REVISION #1	6-18-2014	PER VILLAGE REVIEW	PAF

SITE PLAN & SEPTIC SYSTEM DESIGN			
LOTS 14, 15, 16 & 19 IN GOOSE LAKE SUBDIVISION			
PAF SEPTIC DESIGN		SCALE: 1" = 30'	DATE: 6-3-2014
CLIENT:	OSTERHAUS MCCARTHY, LLC	ADDRESS:	66 BRINKER ROAD BARRINGTON HILLS, IL
CHECKED BY:	PAF	JOB NUMBER:	2014-110 SEP



June 9, 2014

850 Forest Edge Drive, Vernon Hills, IL 60061
TEL 847.478.9700 ■ FAX 847.478.9701

820 Lakeside Drive, Suite 5, Gurnee, IL 60031
TEL 847.855.1100 ■ FAX 847.855.1115

www.gha-engineers.com

Mr. Jon M. Tack
RST Engineering, Inc.
847 Victoria Drive
Woodstock, IL 60098

Re: Septic System Replacement - 39 Brinker Road
Review #1

Dear Mr. Tack:

Our office has reviewed the permit submittal for the proposed septic system replacement at the above referenced address. Based on our review additional information and revision is needed prior to approval. Our review is based on RST Job No. 14-016, dated April 21, 2014 and received by the Village of Barrington Hills on May 21, 2014.

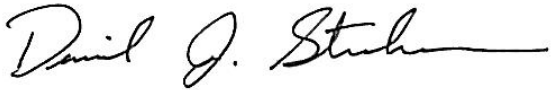
It is noted that unauthorized fill was placed on the site in 2007. The property owner followed up with a permit application and several plan revisions were submitted that included the unauthorized fill along with proposed modifications to the pond on the property, but these plans never received final approval. The unauthorized fill appears to have affected surface drainage and limited the amount of suitable soil remaining for this property as well as the property at 45 Brinker Road.

1. A Type IV (at-grade) system has been proposed in order to meet the required 24" separation from the limiting layer, found to be at a 17" depth within the proposed septic area. **Based on the Village Code a variance from the Board of Health would be required to allow the proposed at-grade system.** The next two regular Board of Health meetings are scheduled for Tuesday, July 15th and Tuesday, August 12th. The applicant should contact the Village Clerk to request that this item be placed on an upcoming agenda.
2. An "unofficial" soils report was received prior to application of the permit, but the final soils report has not been received. Provide a copy of this information for review.
3. Indicate invert elevations and slopes for the proposed curtain drain system.
4. It is recommended that the septic system shift to the northeast to take advantage of the minimal suitable soils that remain on the site.
5. It appears that the design calculations are based on the methodology developed by the Lake County Health Department for at-grade systems. This methodology is acceptable pending

approval of a variance by the Board of Health, but if this is the case, it is recommended that a LCHD worksheet be provided for the system to demonstrate compliance with this criteria.

The above review comments are provided based on the engineering information provided. Additional comments may be generated as the final plans and associated materials are submitted. Please include with the final engineering submittal a cover letter with a written response to each of the above comments.

Sincerely,
Gewalt Hamilton Associates, Inc.

A handwritten signature in black ink, appearing to read "Daniel J. Strahan". The signature is fluid and cursive, with a long horizontal stroke at the end.

Daniel J. Strahan, P.E., CFM
Village Engineer

cc: Wendi Frisen, VBH
Fred Hoffman, Owner 39 Brinker Road

DESIGN CRITERIA

(AT-GRADE) SEWAGE DISPOSAL SYSTEM
 EXISTING 5 BEDROOM RESIDENCE
 LINEAR LOADING RATE = 6 GPD PER LINEAL FT.
 SOIL LOADING RATE = 0.27 GPD PER SQ. FT.
 5 BEDROOMS @ 200 GPD PER BEDROOM = 1000 GPD
 MAX WIDTH OF STONE BED = 6' / 0.27 = 22.2 FT. EFFECTIVE (2 @ 20' PROVIDED) → TOTAL WIDTH = 24'
 1000 GPD / 22' GROUND AREA = 45.45 SQ. FT. OF ABSORPTION AREA REQUIRED → Round to 50' x 50' = 2500 SQ. FT.
 3720 SQ. FT. OF ABSORPTION AREA PROVIDED
 3720 SQ. FT. OF WATER PROVIDED
 WILSON CO. ILL.

SEPTIC SYSTEM NOTES:

- THE SEPTIC SYSTEM INSTALLER SHALL CONTACT THE DESIGNER PRIOR TO ONSET OF CONSTRUCTION TO RESOLVE ANY DISCREPANCIES IF IDENTIFIED.
- THE AREA IN WHICH THE SEPTIC SYSTEM IS TO BE INSTALLED SHALL BE IDENTIFIED AND SHALL NOT BE CUT, EXCAVATED, FILLED, OR OTHERWISE ALTERED IN ANY WAY EXCEPT AS SPECIFIED IN THE APPROVED PLAN. THE AREA SHALL BE PROTECTED FROM CONSTRUCTION TRAFFIC AND ACTIVITIES THAT MIGHT COMPACT THE SOIL.
- THE PROPOSED SEEPAGE AREA SHALL HAVE A BARRIER OF SUBSTANTIAL QUALITY TO PREVENT TRAFFICKING OR DISTURBANCES OF THE SEEPAGE AREA PRIOR TO RELEASE OF PERMIT, AND UNTIL THE SEEPAGE SYSTEM IS APPROVED AND BACKFILLED.
- ANY REMOVAL OF TREES GREATER THAN OR EQUAL TO SIX INCHES IN DIAMETER SHALL BE BY CUTTING NEAR THE SURFACE. STUMPS MAY BE REMOVED BY GRINDING OR CUTTING, BUT SHALL NOT BE UPROOTED.
- CHISEL POINT SEPTIC FIELD AREA TO 6" DEEP ALONG CONTOUR WHEN TRENCH DEPTH IS LESS THAN 12" INTO EXISTING GRADE.
- SEPTIC SYSTEM HAS NOT BEEN SIZED TO ACCOMMODATE HOT TUB USE.
- SEPTIC FIELD HAS BEEN DETERMINED TO BE OUT OF FLOOD HAZARD.
- SEPTIC TANK MUST HAVE ACCESS RISER TO GROUND SURFACE.
- SEPTIC TANK HAS NOT BEEN SIZED TO ACCOMMODATE GARBAGE DISPOSAL.
- LIFT STATION MUST HAVE ACCESS RISER TO EXTEND 6" ABOVE NORMAL GROUND SURFACE. FORCE MAIN TO PITCH BACK TO TANK. PIPE FITTINGS SHALL BE LONG SOCKET SOLVENT WELD PRESSURE TYPE. QUICK DISCONNECT TO BE PROVIDED IN DISCHARGE PIPING. CORROSION RESISTANT ROPE OR CABLE TO BE AFFIXED TO PUMP. PROVIDE AUDIO VISUAL ALARM. ALARM TO BE SET TO PROVIDE 200 GAL/BDRM RESERVE CAPACITY. DOSE AS SPECIFIED ON DESIGN. PROVIDE 1/4" WEEP HOLE BETWEEN LIFT STATION OUTLET AND GATE VALVE.
- SEWER LINES 4" PVC SCH 40 OR CAST IRON. HEADER LINES 4" SCH 40 PVC. FORCE MAIN/LATERAL 2" SCH 40 PVC.
- ALL SEWER LINES/HEADER LINES SHALL BE BEDDED PRIOR TO BACKFILLING.
- ALL CONSTRUCTION MATERIALS SHALL CONFORM TO THE LOCAL PUBLIC HEALTH ORDINANCE.
- UNLESS SPECIFIED, NO CESSPOOLS, STORMWATER DRYWELLS, OR LEACH PITS WERE IDENTIFIED WITHIN REQUIRED ORDINANCE SETBACKS.
- UNLESS SPECIFIED, NO UTILITIES WERE NOTED TO BE IN CONFLICT WITH THE PROPOSED SEPTIC SYSTEM DESIGN. THE SEPTIC SYSTEM INSTALLATION CONTRACTOR IS REQUIRED TO CONTACT J.U.L.I.E. PRIOR TO ONSET OF CONSTRUCTION. UTILITIES SERVICES SHALL NOT CROSS SEPTIC AREA.
- FILL IF PROPOSED, AS INDICATED WILL NOT NEGATIVELY AFFECT SURFACE WATER RUNOFF FROM TO NEIGHBORING PROPERTIES. PROPOSED FILL TO BE 6" TOPSOIL, REMAINDER COARSE GRADED SAND OR POROUS EARTH FILL MEETING ORDINANCE REQUIREMENTS.
- CLEAR WATER FROM FOOTING DRAINS, AIR CONDITIONERS, DE-HUMIDIFIER, DOWN SPOUTS, PERIPHERAL DRAIN TILE, AND ANY OTHER CLEAR WATER SHALL NOT BE DISCHARGED INTO OR ONTO THE SEPTIC FIELD.

PUMP SPECIFICATION CALCULATIONS

HEAD LOSS
 DISTAL HEAD: 2.0' OF IN-LINE PRESSURE @ 3/16" HOLES
 FORCE MAIN FRICTION LOSS (2" FORCE MAIN)
 2.62 PER 100' OF FORCE MAIN = 2.62 X 1.7 = 4.45 + 20% = 6.3
 STATIC HEAD (LATERAL INVERT ELEV. - PUMP ELEV.) 832.1 - 823.5 = 8.6
 TOTAL HEAD LOSS: 2.0 + 5.3 + 8.6 = 15.9

PUMP CAPACITY
 62 3/16" HOLES IN 2" LATERAL @ 0.59 GAL/MIN = 36.58 GAL/MIN
 36.58 GAL/MIN + 2 GAL/MIN (1/4" WEEP HOLES) = 37.58 GAL/MIN
 TOTAL OF 37.58 GAL/MIN TO BE PROVIDED BY PUMP
 PUMP MUST PROVIDE 37.58 GAL/MIN @ 15.9' OF HEAD

PRESSURE HEAD ADJUSTMENT
 THE PRESSURE HEAD MUST BE ADJUSTED TO MATCH THAT SPECIFIED IN THE DESIGN. THE PRESSURE HEAD IS MEASURED AS THE HEIGHT LIQUID WILL RISE ABOVE THE TURN UP ELBOW WHEN THE PUMP IS RUNNING. TO ADJUST HEAD:
 *GLUE A FOUR FOOT LENGTH OF PIPE (PREFERABLY CLEAR) TO A THREADED ADAPTER THAT WILL SCREW ONTO THE TURN UP ADAPTERS
 *REPLACE THE TURN UP CAP WITH THE PIPE ADAPTER
 *TURN THE POWER ON TO ALLOW THE LIQUID TO RISE IN THE PIPE
 *ADJUST THE GATE OR GLOBE VALVE IN THE PUMPING TANK UNTIL THE EFFLUENT REACHES THE DESIRED HEIGHT IN THE PIPE. REMEMBER TO INCLUDE THE DISTANCE BELOW THE GROUND SURFACE TO THE LATERAL LINE WHEN MEASURING

CONTRACTOR NOTES:

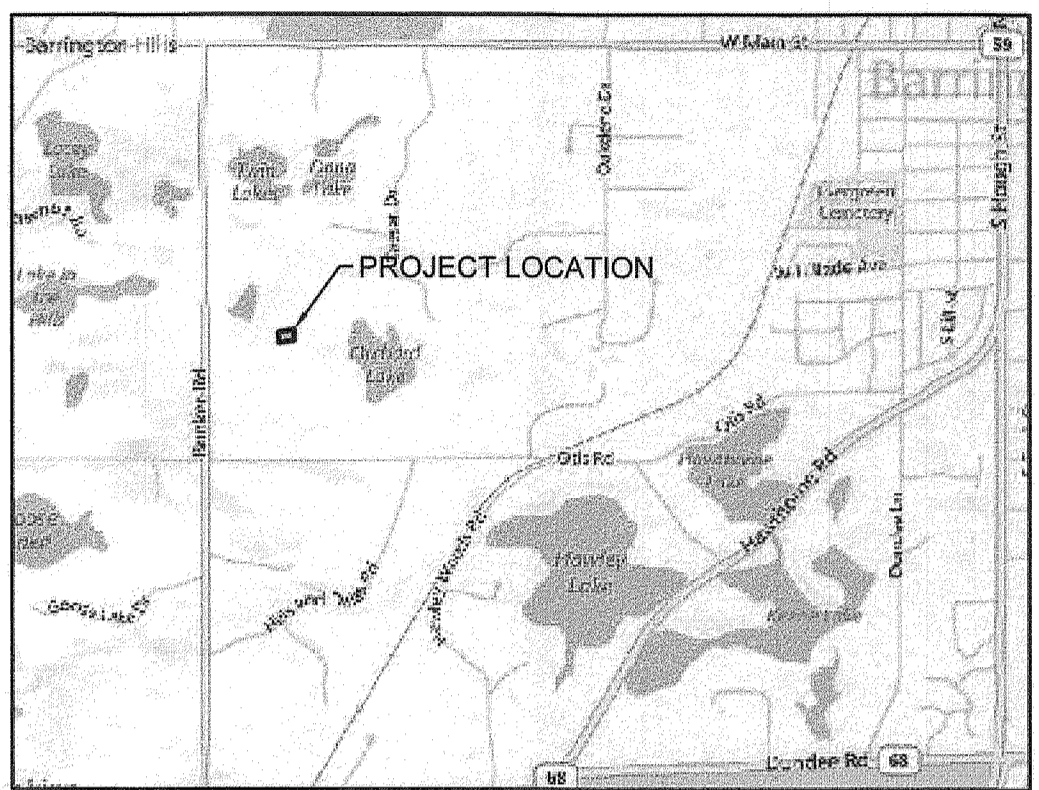
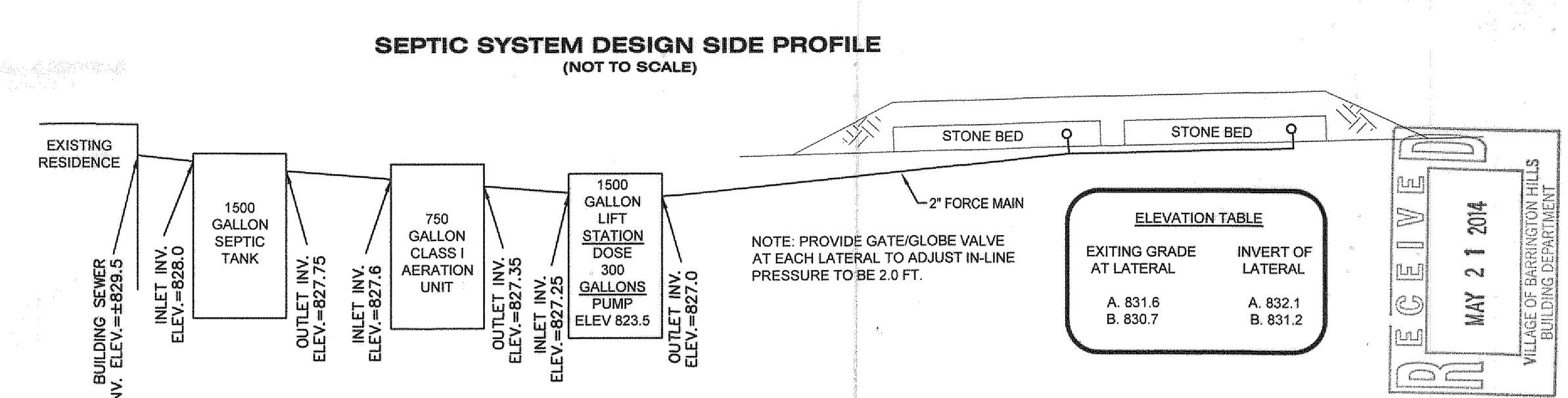
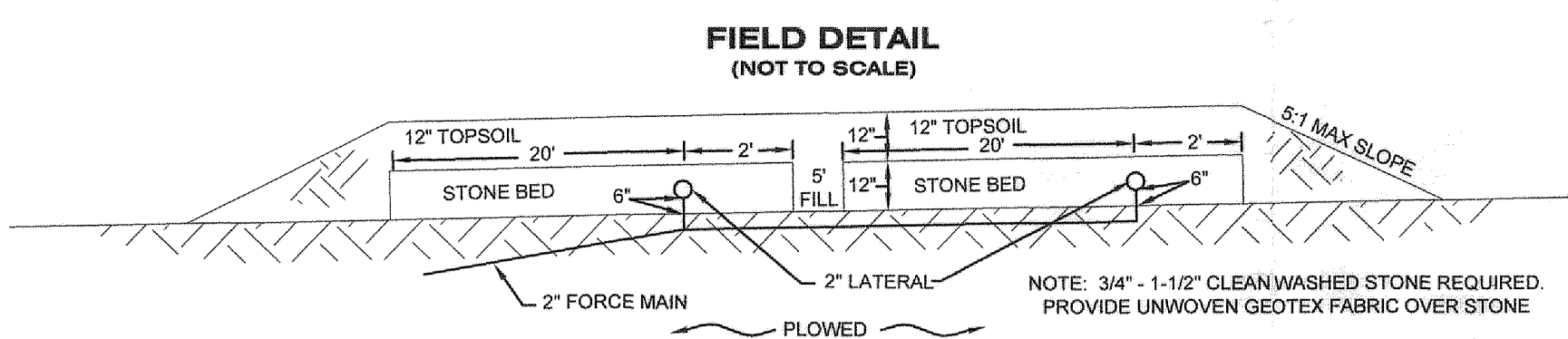
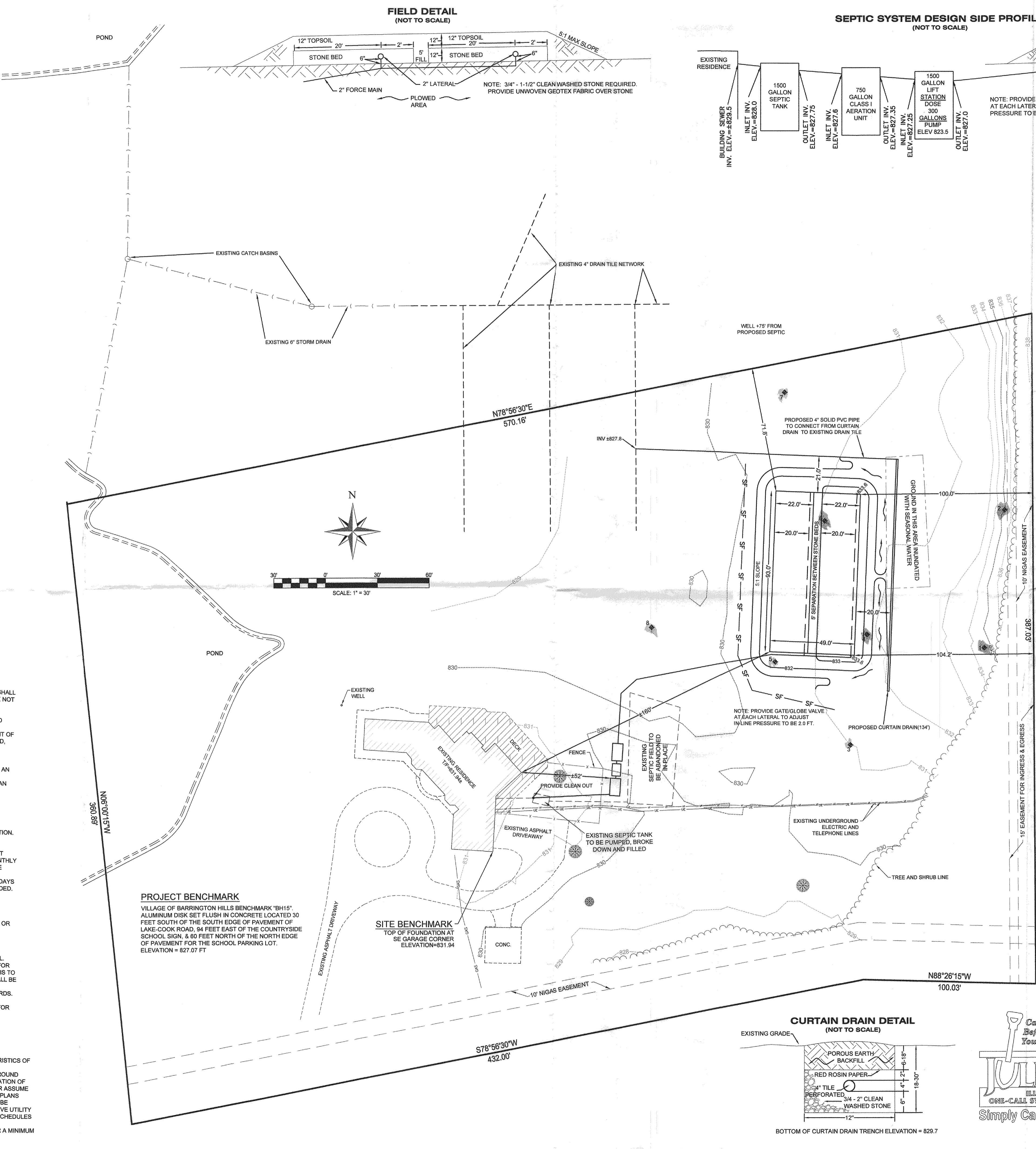
- LATERAL A:**
 31 3/16" HOLES REQUIRED IN LATERAL. FORCE MAIN TO CONTACT LATERAL AT LATERAL END. HOLES TO START AND FINISH 1.5' FROM LATERAL ENDS. HOLES TO BE DRILLED 3.0' APART.
- LATERAL B:**
 31 3/16" HOLES REQUIRED IN LATERAL. FORCE MAIN TO CONTACT LATERAL AT LATERAL END. HOLES TO START AND FINISH 1.5' FROM LATERAL ENDS. HOLES TO BE DRILLED 3.0' APART.
- UTILIZE DEEP SOCKET HIGH PRESSURE FITTINGS. 2" FORCE MAIN TO FEED 2" LATERAL.
 CHISEL PLOW FIELD AREA ALONG CONTOURS TO A DEPTH OF 6" PRIOR TO INSTALLATION.

STORMWATER MANAGEMENT PLAN NOTES:

- THE EXISTING DRAINAGE PATTERN IS TO BE MAINTAINED BY GRADING THE PROPERTY IN SUBSTANTIAL COMPLIANCE WITH THE PLAN INCLUDING THE INSTALLATION OF SWALES AS INDICATED. SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. AREAS OF THE DEVELOPMENT SITE THAT ARE NOT TO BE GRADED SHALL BE PROTECTED FROM CONSTRUCTION TRAFFIC OR OTHER DISTURBANCE UNTIL FINAL SEEDING IS PERFORMED.
- PROPERTIES AND CHANNELS ADJOINING THE DEVELOPMENT SITE SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION.
- SOIL EROSION AND SEDIMENT CONTROL FEATURES SHALL BE CONSTRUCTED PRIOR TO THE COMMENCEMENT OF HYDROLOGIC DISTURBANCE OF UPLAND AREAS AND REMAIN UNTIL THE PROPERTY IS FINAL GRADED, SEEDED, AND GRASS TAKING.
- DISTURBED AREAS SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT MEASURES WITHIN SEVEN (7) CALENDAR DAYS FOLLOWING THE END OF ACTIVE HYDROLOGIC DISTURBANCE.
- ALL STORM SEWERS THAT ARE OR WILL BE FUNCTIONING DURING CONSTRUCTION SHALL BE PROTECTED BY AN APPROPRIATE SEDIMENT CONTROL MEASURE.
- ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN AN EFFECTIVE WORKING CONDITION. ANY AREAS WITH A SLOPE OF GREATER THAN 8% MUST HAVE SEEDING IN COMBINATION WITH EROSION CONTROL MEASURES, SOIL, OR AN EQUIVALENT CONTROL MEASURE SHALL BE APPLIED.
- IF DE-WATERING SERVICES ARE USED, ADJOINING PROPERTIES AND DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION. CHANNELS SHALL BE ROUTED THROUGH AN EFFECTIVE SEDIMENT CONTROL MEASURE (e.g. SEDIMENT TRAP, SEDIMENT BASIN, OR OTHER APPROPRIATE MEASURES).
- ALL EROSION AND SEDIMENT CONTROL MEASURES MUST BE MAINTAINED IN AN EFFECTIVE WORKING CONDITION. SEDIMENT CONTROL MEASURES SHALL BE REPAIRED, REPLACED, AND MAINTAINED AFTER A SINGULAR OR CUMULATIVE RAINFALL EVENT(S) OF 0.5 INCHES OR MORE OVER A 24 HOUR PERIOD. INSPECTION AND MAINTENANCE RECORDS FOR THE EROSION AND SEDIMENT CONTROL MEASURES ARE REQUIRED TO BE KEPT ON-SITE. COPIES OF THE INSPECTION RECORDS ARE REQUIRED TO BE SUBMITTED TO THE COUNTY IN A MONTHLY INSPECTION REPORT. ADDITIONAL EROSION CONTROL PROVISIONS TO THOSE SHOWN ON THE PLANS MAY BE REQUIRED BY THE ENFORCEMENT OFFICER AS WARRANTED BY SITE CONDITIONS.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ARE REQUIRED TO BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED. TRAPPED SEDIMENT AND OTHER DISTURBED SOIL AREAS SHALL BE PERMANENTLY STABILIZED.
- SOIL STOCKPILES SHALL NOT BE LOCATED IN A FLOOD-PRONE AREA OR DESIGNATED BUFFER PROTECTING WATERS OF THE UNITED STATES OR ISOLATED WATERS OF COOK COUNTY.
- THE CONTRACTOR SHALL PROVIDE ADEQUATE RECEIPTS FOR THE DEPOSITION OF ALL CONSTRUCTION MATERIAL DEBRIS GENERATED DURING THE DEVELOPMENT PROCESS. THE CONTRACTOR SHALL NOT CAUSE OR PERMIT THE DUMPING, DEPOSITING, DROPPING, THROWING, DISCARDING OR LEAVING OF CONSTRUCTION MATERIAL DEBRIS UPON OR INTO AND DEVELOPMENT SITE, CHANNEL, WATERS OF THE UNITED STATES OR ISOLATED WATERS OF COOK COUNTY. THE CONTRACTOR SHALL MAINTAIN THE DEVELOPMENT SITE FREE OF CONSTRUCTION MATERIAL DEBRIS. THE SOIL AND EROSION CONTROL PROVISIONS ARE REQUIRED TO BE CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATIONS OF THE ILLINOIS URBAN MANUAL. FIELD TILE SYSTEMS DEVELOPED FOR THE DEVELOPMENT MUST BE RECONNECTED BY THOSE RESPONSIBLE FOR THEIR DISTURBANCE UNLESS THE APPROVED ENGINEERING PLANS INDICATE HOWE THE FIELD TILE SYSTEM IS TO BE CONNECTED TO THE PROPOSED STORMWATER MANAGEMENT SYSTEM. ALL ABANDONED FIELD TILES SHALL BE REMOVED IN THEIR ENTIRETY.
- THE AMOUNT OF MATERIAL USED FOR GRADING/EXCAVATING OF THE PROPOSED PROJECT IS >100 CUBIC YARDS. SPOIL MATERIAL TO BE USED FOR GRADING ASSOCIATED WITH THE PROJECT. GRADING SHALL BE DONE IN ACCORDANCE WITH THE PROPOSED GRADING PLAN AS SHOWN. EXCESS SPOIL MATERIAL NOT NECESSARY FOR THE PROPOSED GRADING TO BE REMOVED FROM SITE.

GENERAL NOTES:

- SURVEY PROVIDED BY CLIENT AND PREPARED BY T.K.D. LAND SURVEYORS, INC. DATED APRIL 27, 2012.
- RST ENGINEERING, INC. HAS NOT MADE AN EVALUATION OF THE STRUCTURAL AND HYDROLOGIC CHARACTERISTICS OF THE EXISTING SOIL CONDITIONS.
- WHEN THE PLANS OR SPECIAL PROVISIONS INCLUDE INFORMATION PERTAINING TO THE LOCATION UNDERGROUND UTILITY FACILITIES, SUCH INFORMATION REPRESENTS ONLY THE OPINION OF THE ENGINEER AS TO THE LOCATION OF SUCH UTILITIES AND IS ONLY INCLUDED FOR THE CONVENIENCE OF THE BIDDER. THE ENGINEER AND OWNER ASSUME NO RESPONSIBILITY IN RESPECT TO THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN ON THE PLANS RELATIVE TO THE LOCATION OF UNDERGROUND UTILITY FACILITIES OR THE MANNER IN WHICH THEY ARE TO BE REMOVED OR ADJUSTED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULES OF THE UTILITY COMPANIES FOR REMOVING OR ADJUSTING THEM.
- CONTRACTOR RESPONSIBLE FOR CONTACTING J.U.L.I.E. AT (800) 892-0123 AND MUST ACQUIRE A DIG NUMBER A MINIMUM OF 72 HOURS PRIOR TO ANY WORK BEING DONE.



ELEVATION TABLE

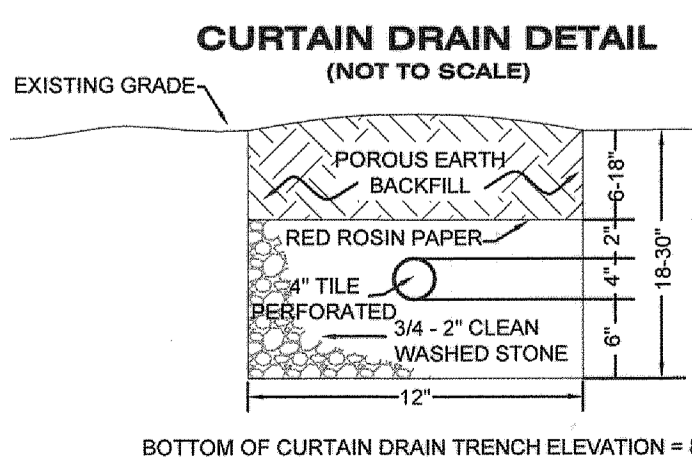
EXISTING GRADE AT LATERAL	INVERT OF LATERAL
A 831.8	A 832.1
B 830.7	B 831.2

RECEIVED
 MAY 21 2014
 VILLAGE OF BARRINGTON HILLS
 ENGINEERING DEPARTMENT

SEEDING CHART

STABILIZATION TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
PERMANENT												
TEMPORARY												

NOTE: (A) SEED TO BE UTILIZED FOR THIS PROJECT ON ALL DISTURBED AREAS



RST ENGINEERING, INC.
 847 VICTORIA DRIVE, SUITE 40098
 PH: (815) 790-0231 or (815) 529-4077
 www.rsteng.com

REVISIONS

DATE	DESCRIPTION

LICENSED PROFESSIONAL ENGINEER
 JON M. TACK
 022-048232
 JOHN M. RABER, P.E.
 0096071000
 Lic. No. 052-946562 Exp. 11/30/2015

John M. Raber L.E.H.P.
 Lic. No. 0183-00258 Exp. 5/1/16

SEPTIC SYSTEM DESIGN
 39 BRINKER ROAD
 BARRINGTON HILLS, IL
 CLIENT: FRED HOFFMAN
 LEGAL: PART SECTION 3 TOWNSHIP 42N RANGE 9E
 SCALE: HORIZONTAL SCALE
 PIN: 01-03-301-042

Drawn By: **DJS**
 Designed By: **JMR**
 Date: **04-21-14**
 Checked By: **JMT**
 Page #: **1 of 1**
 Job Number: **14-016**