

Permit #: 23

Permit Date: 01/27/23

Permit Type: Planning Commission

Case Number: PC 23-02

PC Meeting Date: k. 1st Tuesday of December

BZA Meeting Date:

Assigned Meeting Date: 12/05/2023

Special Meeting Date:

Applicant Is: Owner

Applicant Name: Todd Sorensen

Applicant Address: 100 Woodward Hills Pl

Applicant City, State, ZIP: Brentwood, TN 37027

Applicant Phone Number: 6155047301

Applicant Email: tsorensen1228@gmail.com

Description: Work in the steep slope that is now in place that was constructed without PC approval. This work includes: construction related to new pool/pool deck/pool fence, retaining walls, stream buffer encroachment, tree work, and stormwater redirection.

Project Cost: 1250

Square Feet: 0

Lot Area: 0

Lot Coverage: 0

Heat/cooled area: 0

Proposed Height(ft.): 0

#of stories: 0

Lot Depth/Width Ratio:

Avg. front setback of adjacent homes:

Zoning District: Zone D

Radnor Lake Impact Zone: No

Steep Slope: Yes

Plat/Subdivison: No

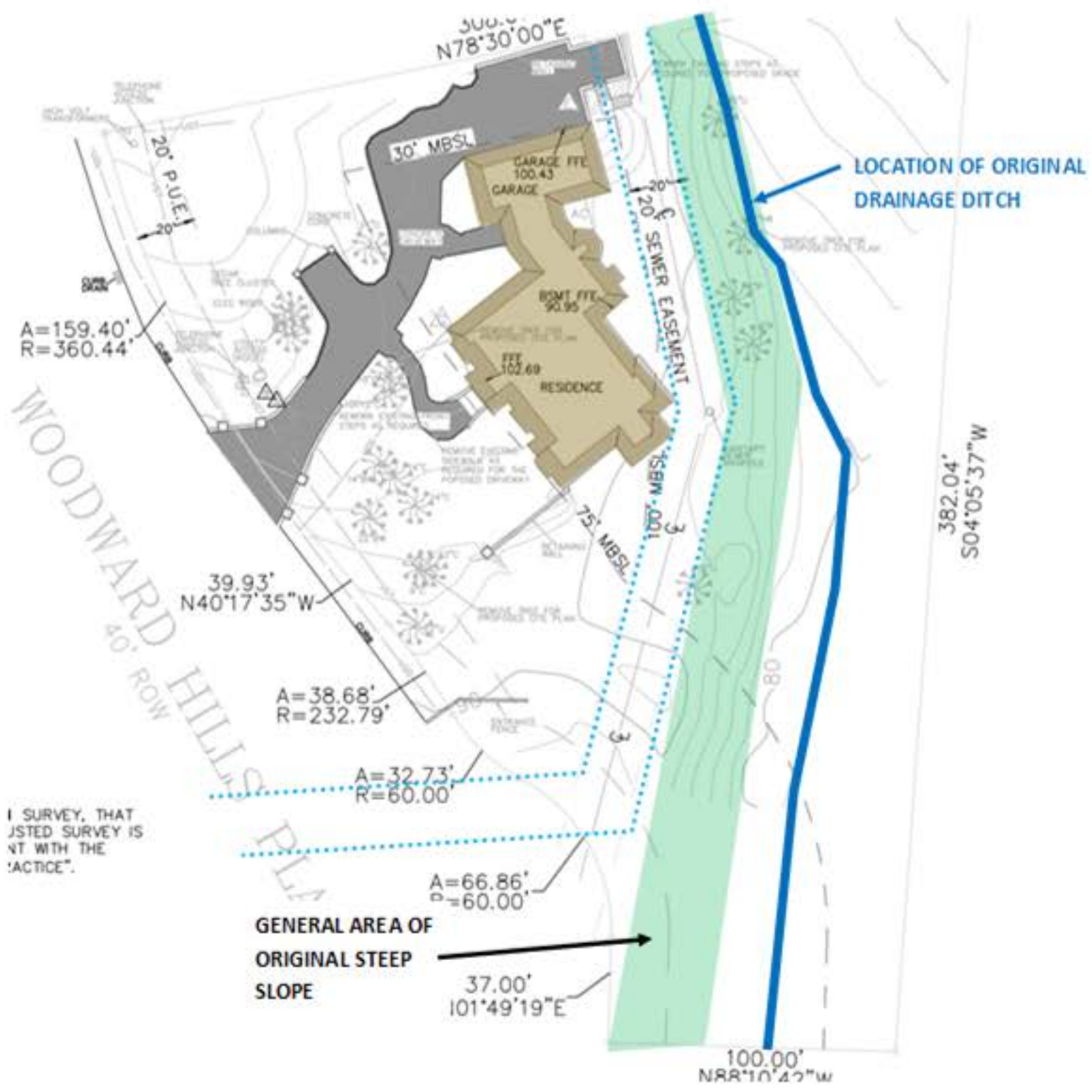
Status: Open

Assigned To: Stephen Snow

Property

Parcel #	Address	Legal Description	Owner Name	Owner Phone	Zoning
15916000100	100 WOODWARD HILLS PL	P/O LOT 1 WOODWARD HILLS	SORENSEN, TODD J. & RACHELLE A. REVOCABLE LIVING TR		

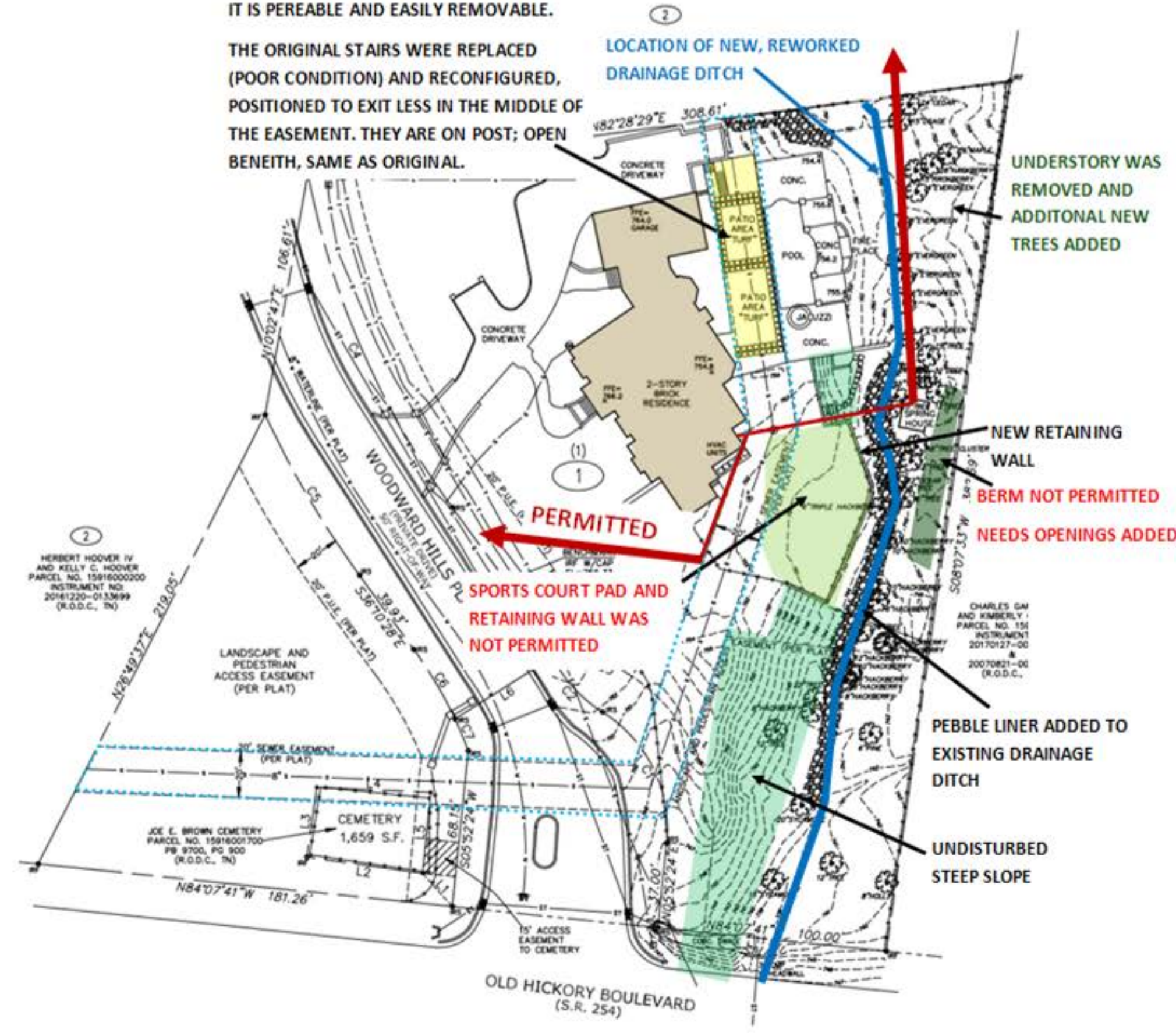
Fees



SITE BEFORE IMPROVEMENTS

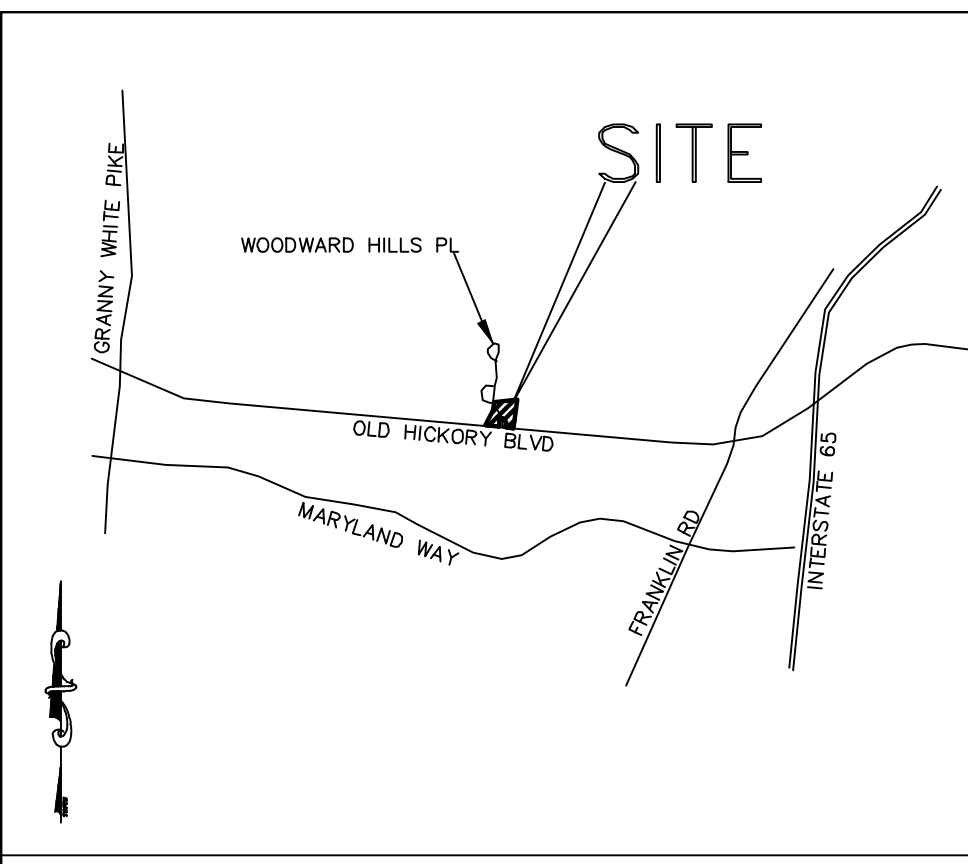
AREA IN YELLOW IS ARTIFICIAL TURF ON GRAVEL FILL WITH LOOSE STEPPING STONES. IT IS PEREABLE AND EASILY REMOVABLE.

THE ORIGINAL STAIRS WERE REPLACED (POOR CONDITION) AND RECONFIGURED, POSITIONED TO EXIT LESS IN THE MIDDLE OF THE EASEMENT. THEY ARE ON POST; OPEN BENEITH, SAME AS ORIGINAL.



SITE AS-BUILT WITH IMPROVEMENTS

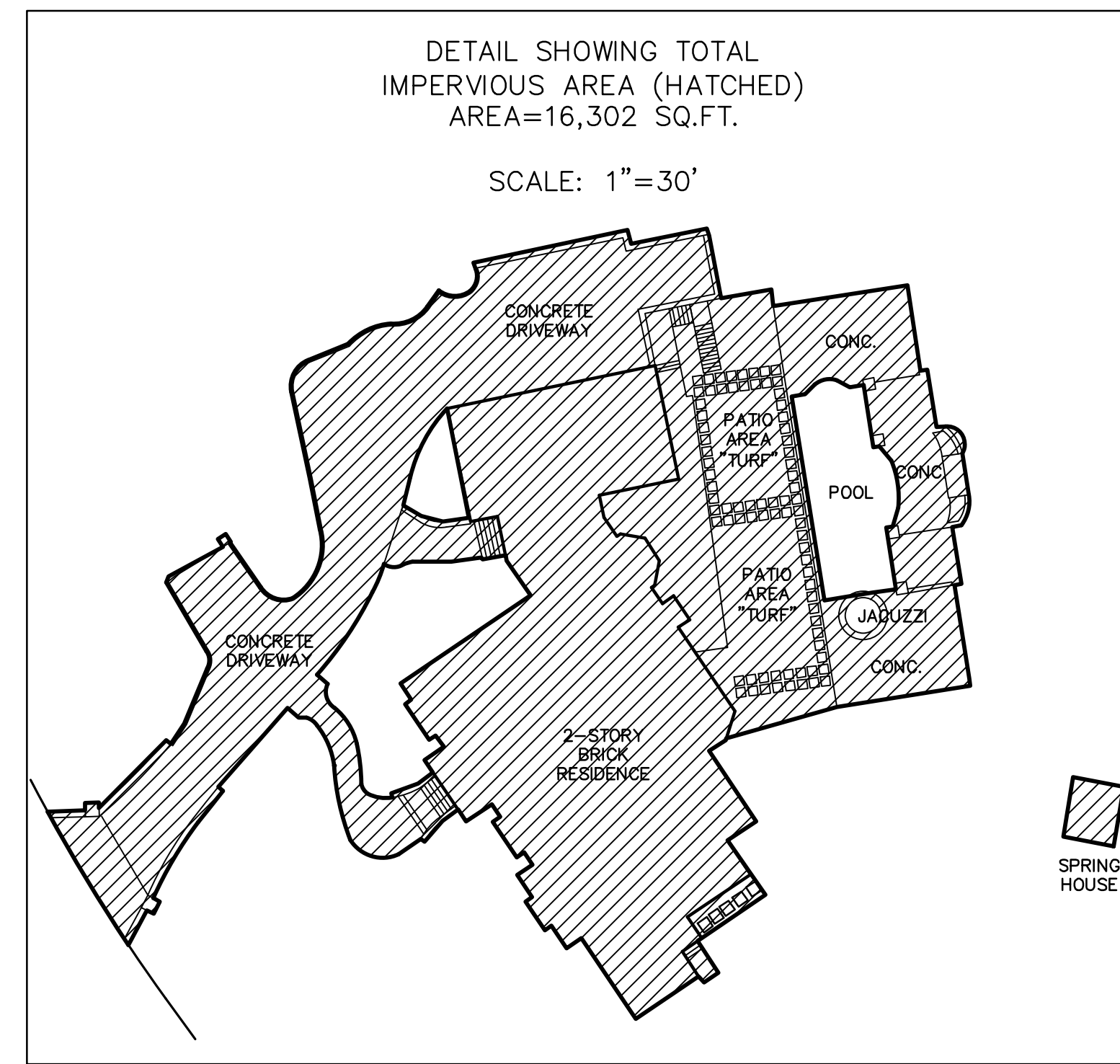
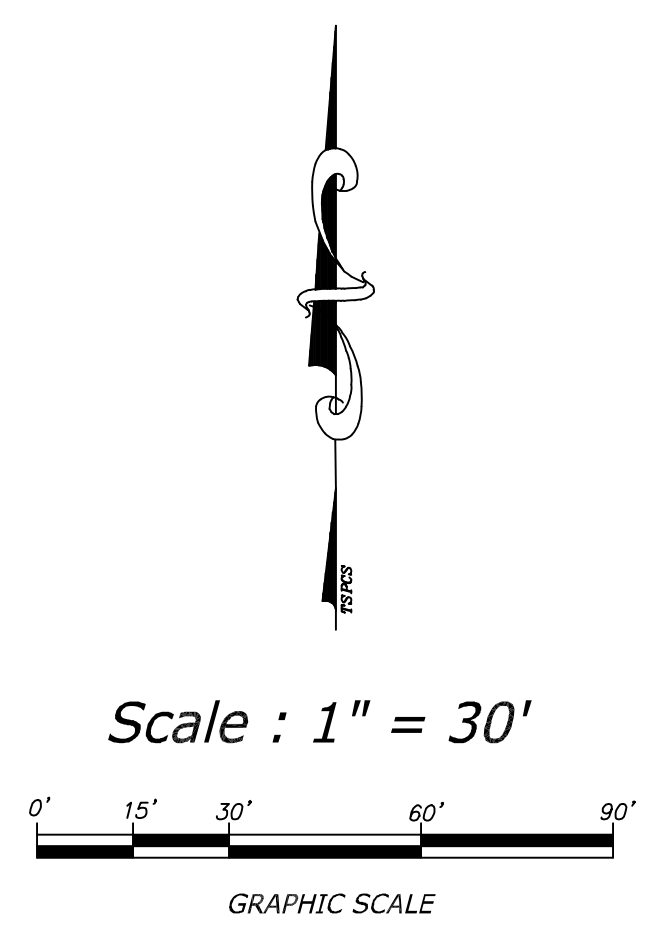
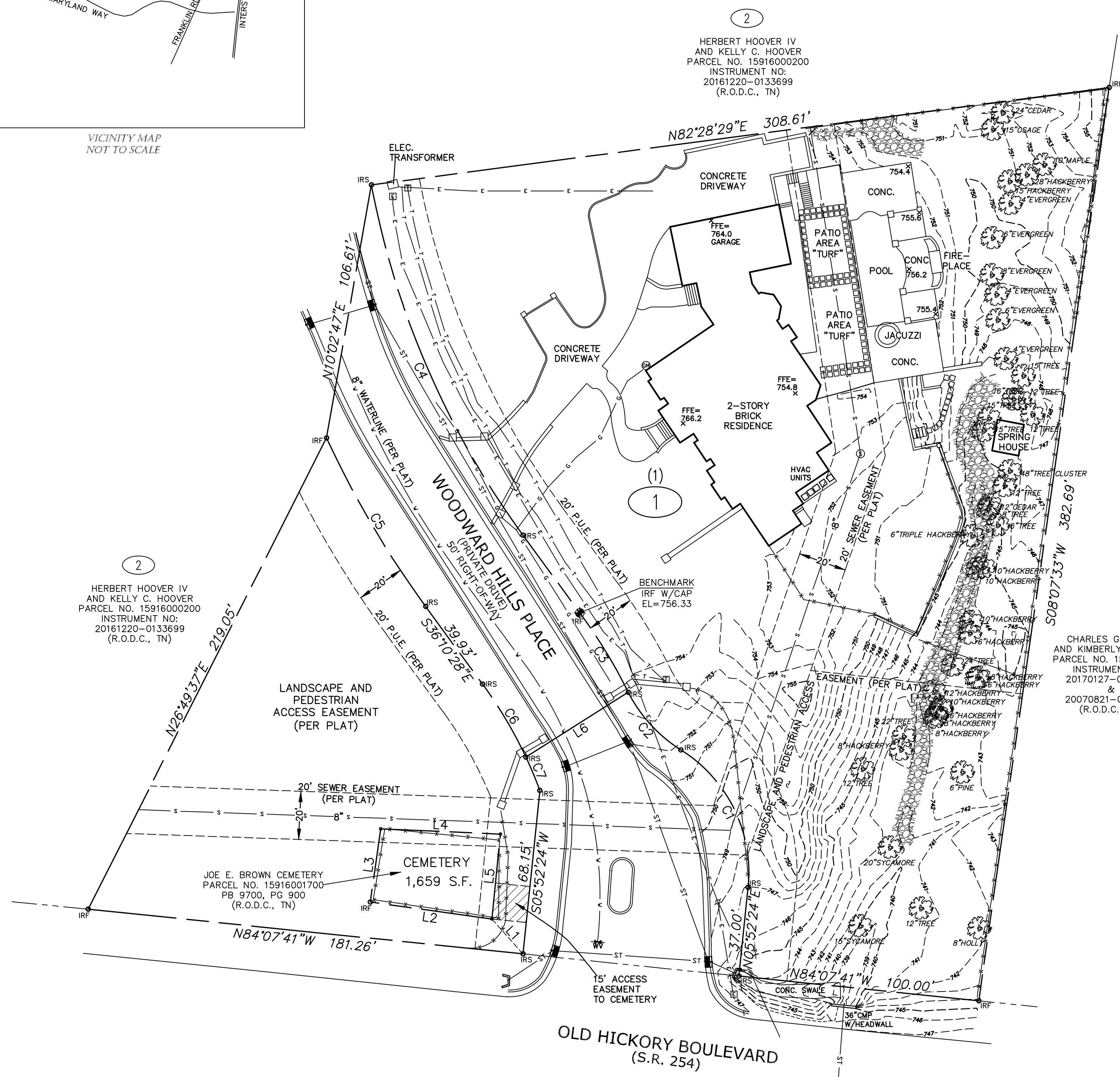
THIS SURVEY, THAT JUSTED SURVEY IS NOT WITH THE 'ACTICE'.



VICINITY MAP
NOT TO SCALE

- STANDARD LEGEND**
- IRF = IRON ROD (FOUND)
 - IRS = IRON ROD (SET)
 - P.U.E. = PUBLIC UTILITY EASEMENT
 - ROCK LAID DRAINAGE DITCH
 - BENCHMARK
 - GAS METER
 - COMMUNICATIONS BOX
 - ELECTRIC BOX
 - SEWER MANHOLE
 - UNDERGROUND ELECTRIC
 - UNDERGROUND COMMUNICATIONS
 - UNDERGROUND GAS
 - UNDERGROUND STORM DRAIN
 - UNDERGROUND SANITARY SEWER

NOTE:
UNDERGROUND ELECTRIC, COMMUNICATIONS, GAS, AND PARTIAL SEWER WERE PLOTTED PER FIELD LOCATIONS OF PIN FLAGS SET BY OTHERS.



STANDARD NOTES

1. THE HORIZONTAL LOCATION AND TOPOGRAPHIC DATA SHOWN ON THIS SURVEY WAS GATHERED USING STANDARD RADIAL SURVEYING TECHNIQUES WITH AN ELECTRONIC TOTAL STATION AND DATA COLLECTOR AND IS BASED UPON A POSITIONAL SOLUTION DERIVED FROM TDDT GLOBAL POSITIONING SYSTEM (GPS) OBSERVATIONS. (HORIZONTAL = NAD83; VERTICAL = NAVD 88)
2. THE WITHIN DESCRIBED TRACT LIES WITHIN AN AREA DESIGNATED AS ZONE "X" (UNSHADED) AS EVIDENCED ON FEMA MAP NUMBER 47037C0366H ON THE FLOOD INSURANCE RATE MAPS FOR NASHVILLE AND DAVIDSON COUNTY, TENNESSEE (DATED REVISED APRIL 5, 2017).
3. OWNERSHIP INFORMATION INDICATED HEREON IS AS IDENTIFIED IN COUNTY RECORDS.
4. THIS SURVEYOR HAS NOT PHYSICALLY LOCATED ALL UNDERGROUND UTILITIES. ABOVE GRADE AND UNDERGROUND UTILITIES SHOWN WERE TAKEN FROM VISIBLE APPURTENANCES AT THE SITE, PUBLIC RECORDS, AND/OR MAPS PREPARED BY OTHERS. THIS SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION AS INDICATED. THEREFORE, RELIANCE UPON THE TYPE, SIZE AND LOCATION OF ALL UNDERGROUND UTILITIES SHOULD BE DONE SO WITH THIS CIRCUMSTANCE CONSIDERED. DETAILED VERIFICATION OF EXISTENCE, LOCATION AND DEPTH SHOULD ALSO BE MADE PRIOR TO ANY DECISION RELATIVE THERETO IS MADE. AVAILABILITY AND COST OF SERVICE SHOULD BE CONFIRMED WITH THE APPROPRIATE UTILITY COMPANY.
5. IN TENNESSEE IT IS A REQUIREMENT OF THE "UNDERGROUND UTILITY DAMAGE PREVENTION ACT" THAT ANYONE WHO ENGAGES IN EXCAVATION MUST NOTIFY ALL KNOWN UNDERGROUND UTILITY OWNER(S) NO LESS THAN THREE NOR MORE THAN TEN WORKING DAYS PRIOR TO THE DATE OF THEIR INTENT TO EXCAVATE AND ALSO TO AVOID ANY HAZARD OR CONFLICT. THE TENNESSEE ONE CALL TELEPHONE NUMBER IS 1-800-351-1111. UTILITIES WERE NOT CHECKED DURING THE COURSE OF THIS SURVEY.
6. THE WITHIN PLAT AND SURVEY WERE PREPARED WITHOUT BENEFIT OF CURRENT EVIDENCE OF SOURCE OF TITLE FOR THE SUBJECT TRACT OR ADJOINERS AND ARE THEREFORE SUBJECT TO ANY STATEMENT OF FACTS REVEALED BY EXAMINATION OF SUCH DOCUMENTS.
7. THE SURVEYOR'S LIABILITY FOR THIS DOCUMENT SHALL BE LIMITED TO THOSE PARTIES IDENTIFIED IN THE CERTIFICATION AND DOES NOT EXTEND TO ANY UNNAMED PARTY.
8. LOT 1 - TOTAL AREA = 101,316 SQ.FT. OR 2.326 AC.±
9. LOT 1 - TOTAL IMPERVIOUS AREA = 16,302 SQ.FT. OR 0.374 AC.±

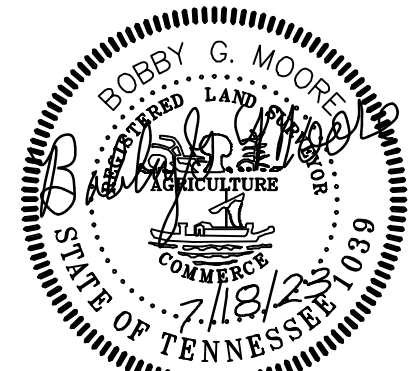
CURVE	DELTA ANGLE	RADIUS	ARC LENGTH	CHORD BEARING	CHORD LENGTH
C1	63°51'12"	60.00'	66.87'	N26°03'02"W	63.46'
C2	31°15'33"	60.00'	32.73'	N42°20'51"W	32.33'
C3	9°47'06"	226.18'	38.63'	N31°24'52"W	38.58'
C4	25°30'09"	358.69'	159.65'	N23°23'07"W	158.34'
C5	11°28'29"	405.44'	81.20'	S30°27'23"E	81.06'
C6	11°03'28"	182.79'	35.28'	S30°39'54"E	35.22'
C7	4°42'09"	182.79'	15.00'	S22°47'05"E	15.00'

LINE	BEARING	DISTANCE
L1	N41°45'03"W	19.42'
L2	N82°04'16"W	50.88'
L3	N08°01'21"E	30.68'
L4	S87°27'50"E	49.72'
L5	S05°47'02"W	35.37'
L6	N57°40'42"E	50.29'

Surveyor's Certificate:
I hereby certify that to the best of my professional knowledge and belief that the hereon shown "As-Built Survey" is true and correct.

By: *Bobby G. Moore*
Bobby G. Moore RLS Number 1039

Date: 7/18/23



PLAT AND DEED REFERENCES
LOT 1 - REVISED FINAL PLAT - WOODWARD HILLS, BOOK 9700, PAGE 900, (R.O.D.C., TN)
AMENDMENT - BOOK 11766, PAGE 32, (R.O.D.C., TN)

H & H LAND SURVEYING, INC.
612A FITZHUGH BOULEVARD
SMYRNA, TENNESSEE 37167
(615) 831-0756 (FAX) 355-6928
H & H Project No. 2023-0271

AS-BUILT SURVEY

THE TODD J. SORENSEN REVOCABLE LIVING TRUST
AND THE RACHELLE A. SORENSEN
REVOCABLE LIVING TRUST PROPERTY
Instrument No. 20190409-0032024, R.O.D.C., TN

Parcel ID: 15916000100
100 Woodward Hills Place
Brentwood, Davidson County, Tennessee, 37027

SHEET 1 OF 1 SCALE: 1" = 30' DATE: JULY 18, 2023

WEST PARK DRIVE

HICKORY BOULEVARD STATE ROUTE 254

OLD HICKORY BOULEVARD STATE ROUTE 254

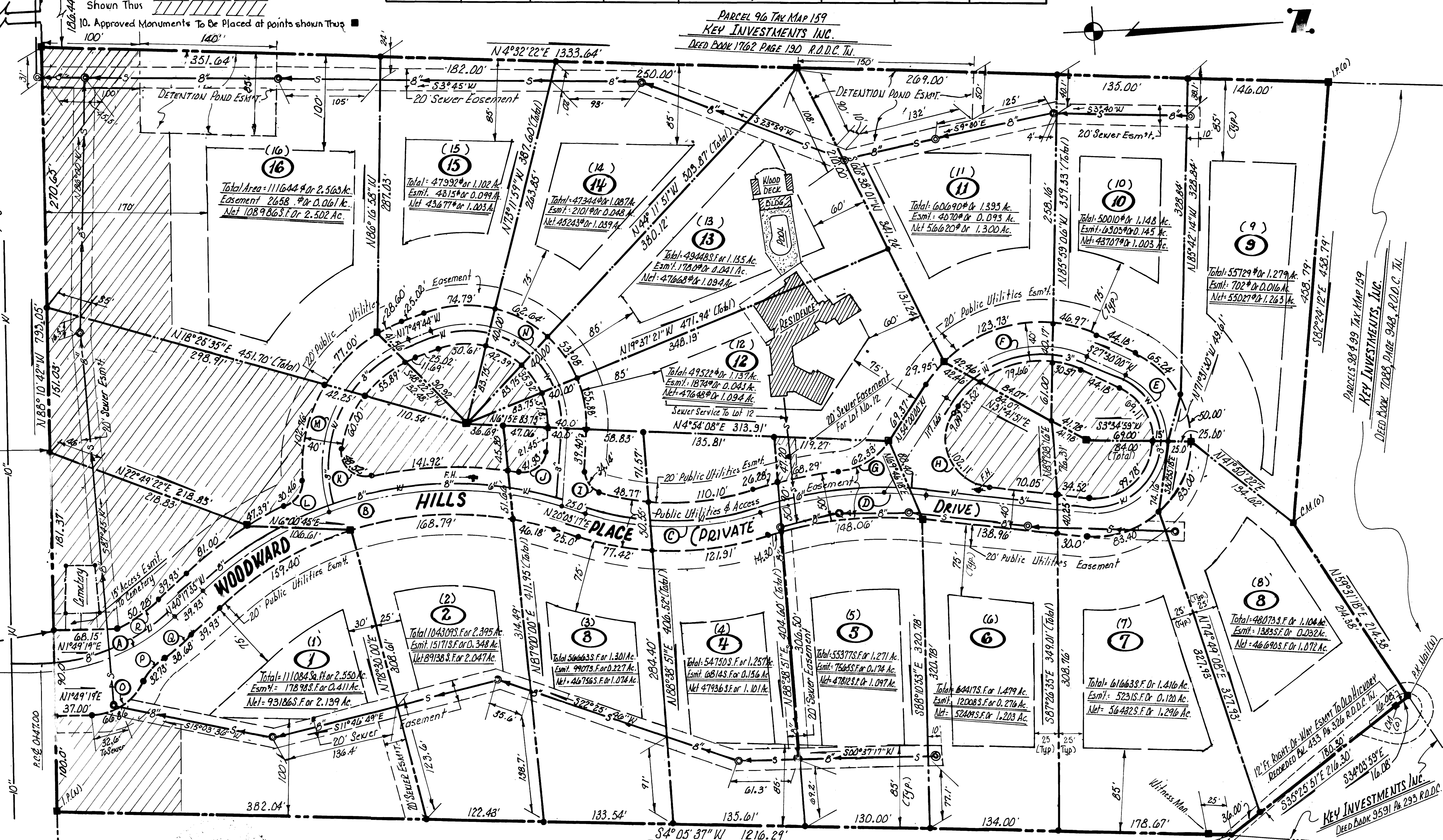
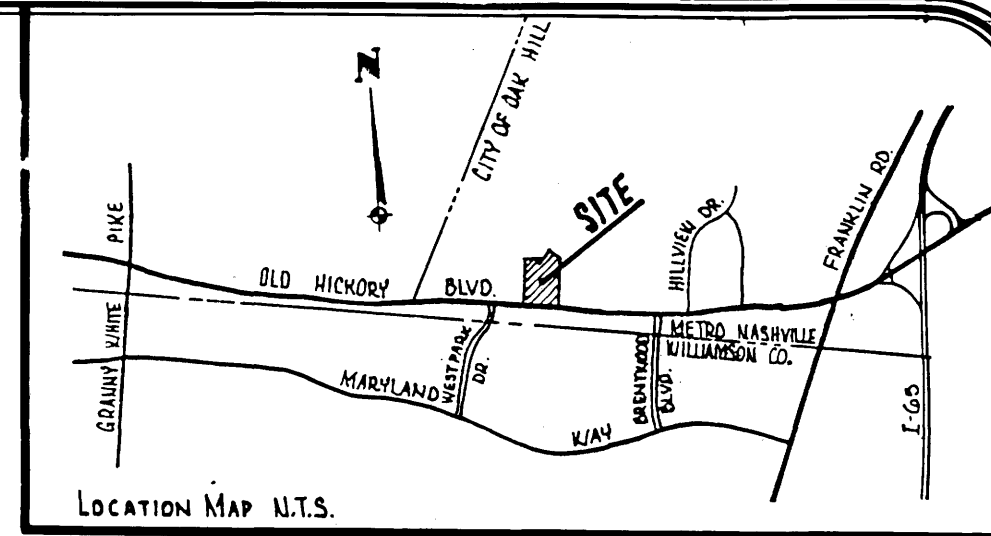
WOODWARD HILLS
SCALE: 1" = 50'

NOTES

- This survey meets the requirements of a Category I Land Survey as per Chapter 0820-3 of the Standards of Practice adopted by the Board of Examiners for Surveyors for the State of Tennessee dated September 29, 1989, revised January 4, 1992.
- Bearings based on deed.
- All distances based on a field-run survey, using EDM equipment and are adjusted for temperature.
- Parcel numbers shown thus (00) pertain to Property Map 159-16.
- Property is within the jurisdiction of the City of Oak Hill, Tennessee. Property zoned Residential A, front and Residential B, back with a Residential Planned Unit Overlay.
- Minimum building setback lines are as follows unless otherwise noted: front - 75 feet, rear - 85 feet, side - 25 feet.
- Existing residence to remain on Lots 12 and 13, if this residence is removed in the future and Lots 12 and 13 are conveyed to separate owners, the setback shown will apply.
- According to F.E.M.A. Maps Community 47037C Panel 0241 F, dated 2-6-98, this site is not within a flood hazard area. (Panel Not Printed)

- Landscape & Pedestrian Access Easement Shown Thus
- Approved Monuments To Be Placed at points shown Thus

$\Delta 38^{\circ}30'28''$ $R: 207.79'$ $L: 72.58'$ $L: 139.65'$ $Ch: 137.034'$ $N12^{\circ}02'21''W$ $Int Arc: \phi$	$\Delta 35^{\circ}00'22''$ $R: 301.25'$ $T: 95.00'$ $L: 184.05'$ $Ch: 181.205'$ $N2^{\circ}33'06''E$ $Total \phi Data$	$\Delta 198^{\circ}30'0''$ $R: 74.32'$ $T: 460.00'$ $L: 211.17'$ $Ch: 147.885'$ $N71^{\circ}45'00''W$ $Total \phi Data$	$\Delta 51^{\circ}01'08''$ $R: 70.00'$ $T: 33.40'$ $L: 62.33'$ $Ch: 60.292'$ $S28^{\circ}29'26''E$ $Total \phi Data$	$\Delta 78^{\circ}15'05''$ $R: 25.00'$ $T: 20.84'$ $L: 34.14'$ $Ch: 31.651'$ $S57^{\circ}07'28''W$ $Return Data$	$\Delta 111^{\circ}11'15''$ $R: 25.00'$ $T: 36.50'$ $L: 48.52'$ $Ch: 41.253'$ $N46^{\circ}11'05''E$ $Return Data$	$\Delta 89^{\circ}10'19''$ $R: 141.02'$ $T: 139.00'$ $L: 219.48'$ $Ch: 197.991'$ $N62^{\circ}24'51''W$ $\phi Data$	$\Delta 65^{\circ}50'53''$ $R: 60.00'$ $T: 37.38'$ $L: 66.86'$ $Ch: 63.455'$ $N30^{\circ}06'07''W$ $R.O.W. Esmt.$	$\Delta 93^{\circ}11'16''$ $R: 232.79'$ $T: 19.89'$ $L: 38.68'$ $Ch: 38.639'$ $N35^{\circ}31'52''W$ $R.O.W. Esmt.$
$\Delta 60^{\circ}20'50''$ $R: 380.44'$ $T: 221.19'$ $L: 400.70'$ $Ch: 382.487'$ $N10^{\circ}07'08''W$ $Total \phi Data$	$\Delta 23^{\circ}57'05''$ $R: 415.89'$ $T: 87.69'$ $L: 172.81'$ $Ch: 171.553'$ $N2^{\circ}58'32''W$ $Total \phi Data$	$\Delta 81^{\circ}30'00''$ $R: 116.06'$ $T: 100.00'$ $L: 165.08'$ $Ch: 151.513'$ $S13^{\circ}15'00''E$ $Total \phi Data$	$\Delta 117^{\circ}00'00''$ $R: 50.00'$ $T: 81.59'$ $L: 102.11'$ $Ch: 85.264'$ $N67^{\circ}30'00''E$ $Return Data$	$\Delta 96^{\circ}06'19''$ $R: 25.00'$ $T: 27.82'$ $L: 41.93'$ $Ch: 37.188'$ $S35^{\circ}41'51''E$ $Return Data$	$\Delta 69^{\circ}48'47''$ $R: 25.00'$ $T: 17.45'$ $L: 30.46'$ $Ch: 28.612'$ $S57^{\circ}03'21''E$ $Return Data$	$\Delta 114^{\circ}04'41''$ $R: 103.75'$ $T: 160.00'$ $L: 206.57'$ $Ch: 174.102'$ $N39^{\circ}12'40''E$ $\phi Data$	$\Delta 31^{\circ}15'17''$ $R: 60.00'$ $T: 16.78'$ $L: 32.73'$ $Ch: 32.326'$ $N46^{\circ}23'56''W$	$\Delta 15^{\circ}45'32''$ $R: 182.79'$ $T: 25.30'$ $L: 50.28'$ $Ch: 50.116'$ $S32^{\circ}24'46''E$



* Book 10976 Page 481, R.O.D.C. TN.
 OWNERS CERTIFICATE
 I (we) hereby certify that I am (we are) the owner(s) of the property shown hereon as evidenced in Book #, Page #, R.O.D.C., Tennessee and adopt the plan of subdivision in our professional opinion that the hereon shown subdivision plat represents a Category "1" Survey having an unadjusted ratio of precision of 1:8000 and is true and correct. Approved monuments have been placed as indicated. All side lot lines are at right angles or radial to a street unless otherwise noted to produce less area than hereby established until otherwise approved by the Metropolitan Planning Commission and under no condition shall such lot or lots be made to produce less area than prescribed by the restrictive covenants as on record in Book Page #, R.O.D.C., Tennessee, running with the title to the property.
 NAME: **WOODWARD HILLS DEVELOPMENT COMPANY**
 By: *James M. Ward* DATE: **12/30/98**

SURVEYOR'S CERTIFICATE
 We hereby certify to the best of our knowledge, information and belief and in our professional opinion that the hereon shown subdivision plat represents a Category "1" Survey having an unadjusted ratio of precision of 1:8000 and is true and correct. Approved monuments have been placed as indicated. All side lot lines are at right angles or radial to a street unless otherwise noted to produce less area than hereby established until otherwise approved by the Metropolitan Planning Commission and under no condition shall such lot or lots be made to produce less area than prescribed by the restrictive covenants as on record in Book Page #, R.O.D.C., Tennessee, running with the title to the property.
 RAGAN-SMITH ASSOCIATES, INC.
 By: *Ragan Smith* DATE: **Dec. 30, 1998**
 Tenn. Registered Surveyor No. **502**

COMMISSION APPROVAL
 Approved by the City of Oak Hill Planning Commission
 By: *Ryan P. Metcalfe* DATE: **January 21, 1999**

RECORD
 Recorded **April 26, 1999**
 in Book **9700** Page **900**
 of the Registers Office of Davidson County, Tennessee

PARCEL 100 TAX MAP 159
GARY FOLTYNEWICZ PROPERTY
 DEED BOOK 1762 PAGE 190 R.O.D.C. TN.

CORRESPONDENCE TO
 Woodward Hills Development Co.
 Attn: James M. Ward
 1020 Old Hickory Blvd.
 Brentwood, Tenn. 37027

OWNER
 Woodward Hills Development Co.
 Attn: James M. Ward
 1020 Old Hickory Blvd.
 Brentwood, Tenn. 37027

ENGINEERS
 Ragan-Smith-Associates, Inc.
 Attn: Roger H. Fuqua V.P.
 P.O. Box 60070
 Nashville, Tenn. 37206-0070
 Ph: 244 8591
 Fax: 244 6739

REVISOR
 Ragan-Smith-Associates, Inc.
 Attn: Roger H. Fuqua V.P.
 P.O. Box 60070
 Nashville, Tenn. 37206-0070
 Ph: 244 8591
 Fax: 244 6739

REVISIONS
 97-080
 5569
 Revised Jan. 1999 Dec. 30, 1998
 Revised March 9, 1999

WOODWARD HILLS
 CITY OF OAK HILL, DAVIDSON COUNTY, TENNESSEE
 SURVEYORS **WOODWARD HILLS DEVELOPMENT COMPANY** OWNER/DEVELOPER
 SCALE: 1" = 60'
 RAGAN-SMITH ASSOCIATES, INC.
 PLANNERS/CIVIL ENGINEERS/LANDSCAPE ARCHITECTS/SURVEYORS
 315 WOODLAND STREET
 NASHVILLE, TENNESSEE 37206

Sorensen Residence Plans Review Letter

**100 Woodward Hills Place
Brentwood, TN 37027**

PREPARED FOR

**Todd Sorensen
100 Woodward Hills Place
Brentwood, TN 37027**

May 11, 2022



Purpose:

This letter presents the Civil Engineering review of the plan set titled “Sorensen Residence” dated July 16, 2020. The survey of the property was conducted by Arrowhead Survey dated January 24, 2014, any reference to site information and elevations are in reference to said survey. The site plan and architectural plan set were provided by J. Terry Bates and Associates, any reference to site features and proposed grading within this letter are in reference to said plan set. Below you will find our professional opinion on the design and construction of the project located at 100 Woodward Place within the jurisdiction of the City of Oak Hill.

Review and Recommendations:

Mr. John Jacoby reviewed the plan set regarding proposed impervious cover and stormwater drainage patterns to ensure proper design was in place to collect and convey stormwater from the project site. Per the grading plan sheet AS1.2, attached, the overall concept includes the addition of rear additions to the existing structure and rear hardscapes inclusive of a pool, pool deck, and concrete paving. In review of the plan stormwater is conveyed via overland flow to the rear of the property where it is discharged from the site via an existing swale within the public right-of-way along Old Hickory Boulevard. It is our professional opinion that the stormwater discharge from the project site will not adversely impact downstream properties. However, these assumptions are based on visual observation only. If complaints become present from downstream properties it is recommended that a stormwater analysis be conducted comparing the pre vs. post development stormwater discharge from the project site.

In addition to the plan review a site visit was conducted on May 3, 2022. The purpose of the site visit was to ensure that the construction on site was in accordance with the architectural plan set. Upon review it was determined that the site was constructed in accordance with the approved plan set. Photos are attached to this report for verification.

Conclusion:

In conclusion to our review, it is our professional opinion that the project has been completed in accordance with the City of Oak Hill requirements and conforms to the steep slope regulations. Currently, we do not believe that further analysis is necessary. If complaint arise from downstream properties, it will be necessary to perform a more in-depth analysis of stormwater discharge from the site.

If you have any questions, please do not hesitate to call me at (615) 927-6980 or email me at jjacoby@benesch.com.

Regards,

A handwritten signature in black ink that reads "John Jacoby".

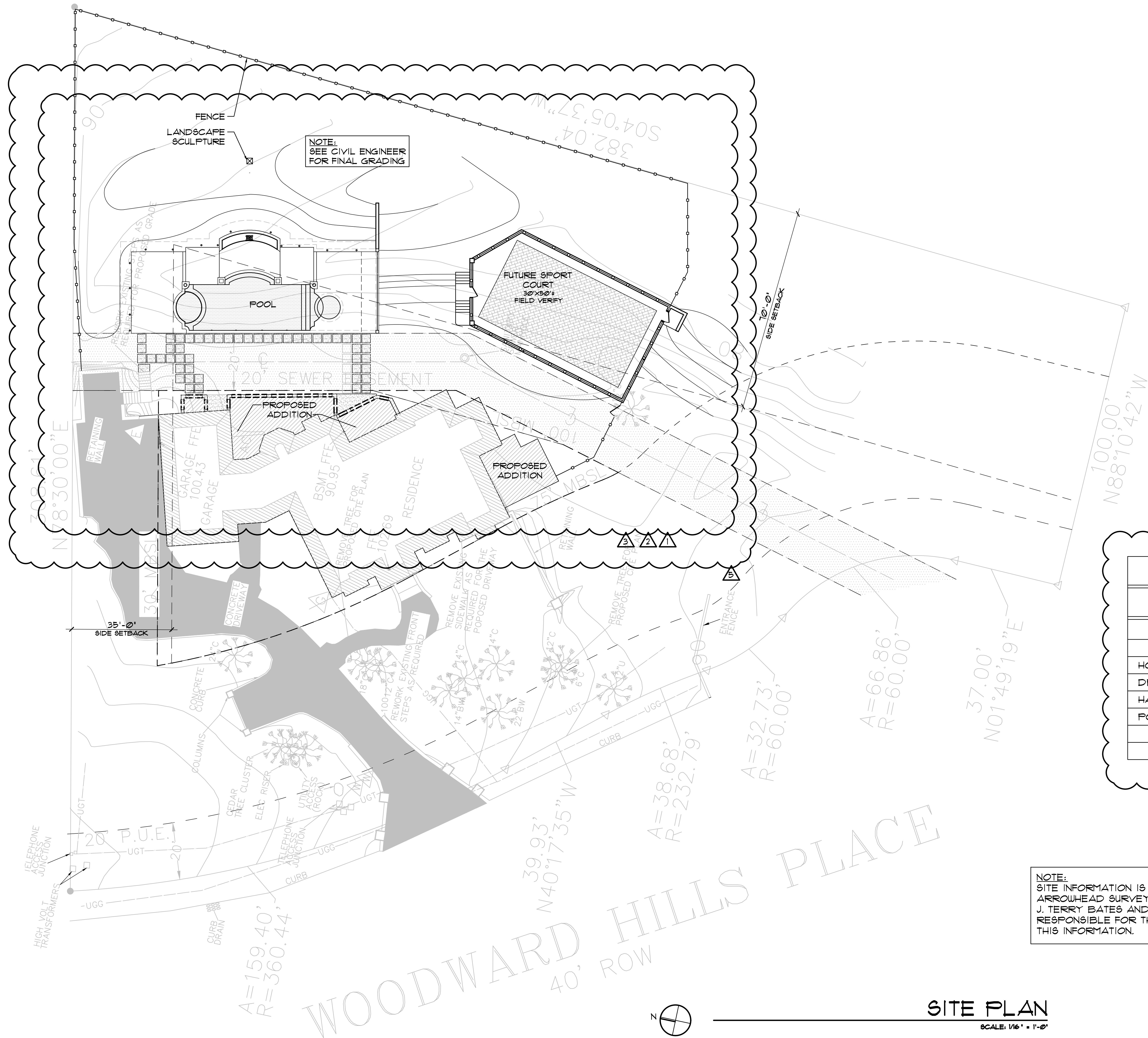
John Jacoby, PE











WOODWARD HILLS PLACE
40' ROW

NOTE:
SITE INFORMATION IS TAKEN FROM DATA SUPPLIED BY
ARROWHEAD SURVEY ON A DRAWING DATED 1/24/14.
J. TERRY BATES AND ASSOCIATES, INC. SHALL NOT BE HELD
RESPONSIBLE FOR THE ACCURACY AND/OR COMPLETENESS OF
THIS INFORMATION.

LOT COVERAGE		
2.36 ACRES (102,801.6 SQ. FT.)		
ALLOWABLE : 26,136 OR 30% (30,840 SF)		
IMPERVIOUS AREA CALCULATIONS		
	PRE-CONSTRUCTION	POST-CONSTRUCTION
HOUSE	5,551.22 SQ. FT.	6,545.85 SQ. FT.
DRIVE	4,960.09 SQ. FT.	4,960.09 SQ. FT.
HARDSCAPE	344.46 SQ. FT.	868.05 SQ. FT.
POOL + DECK	-	2482.58 SQ. FT.
TOTAL	10,855.11 SQ. FT. (10.6%)	14,856.51 SQ. FT. (14.5%)
14.5% COVERAGE ON 102,801.6 SQ. FT.		

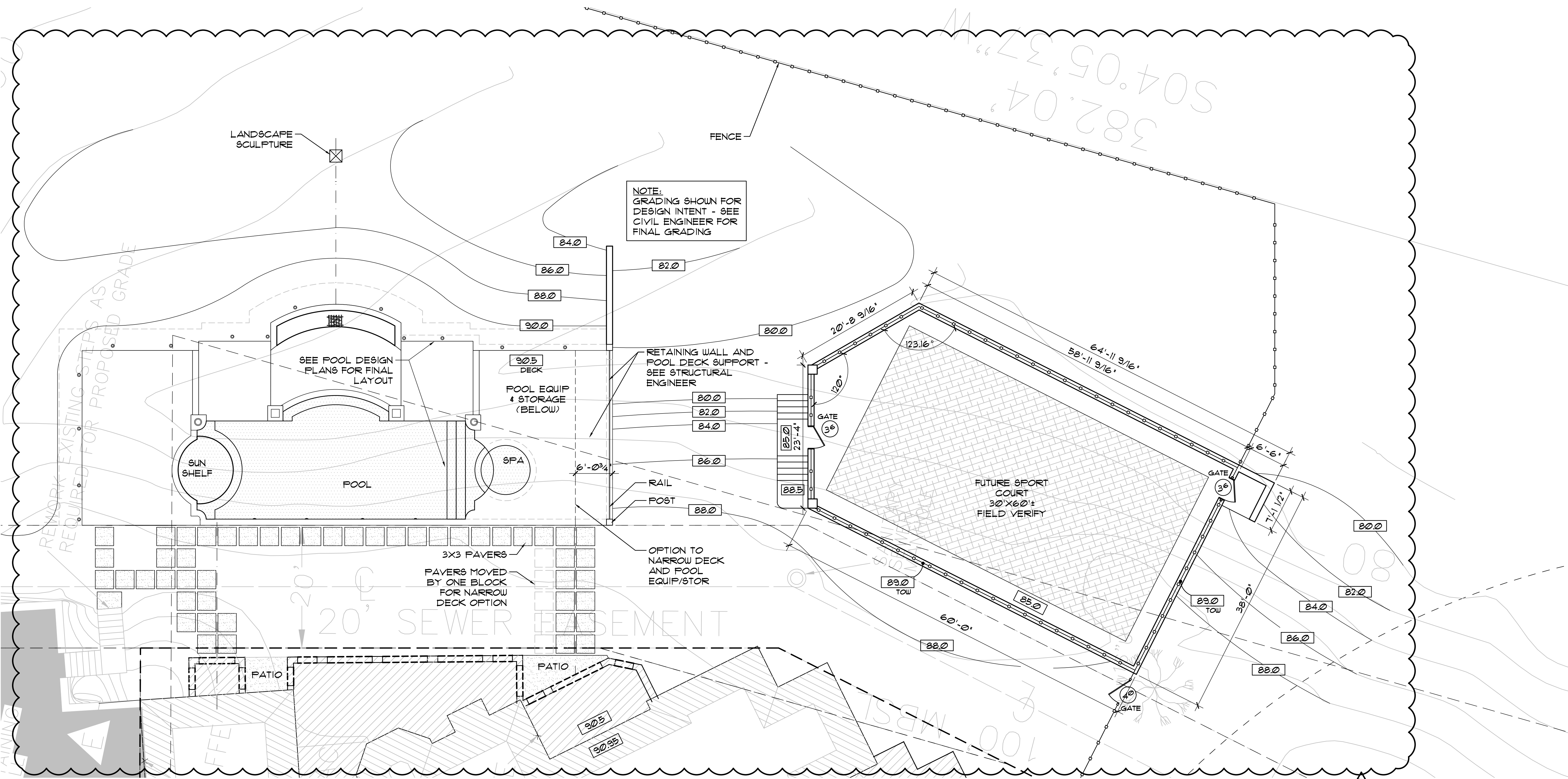
SITE PLAN
SCALE: 1/16" = 1'-0"

J. TERRY BATES & ASSOCIATES, INC
ARCHITECTS PLANNERS
1705 19TH AVENUE SOUTH
NASHVILLE, TENNESSEE 37212
615-298-7288

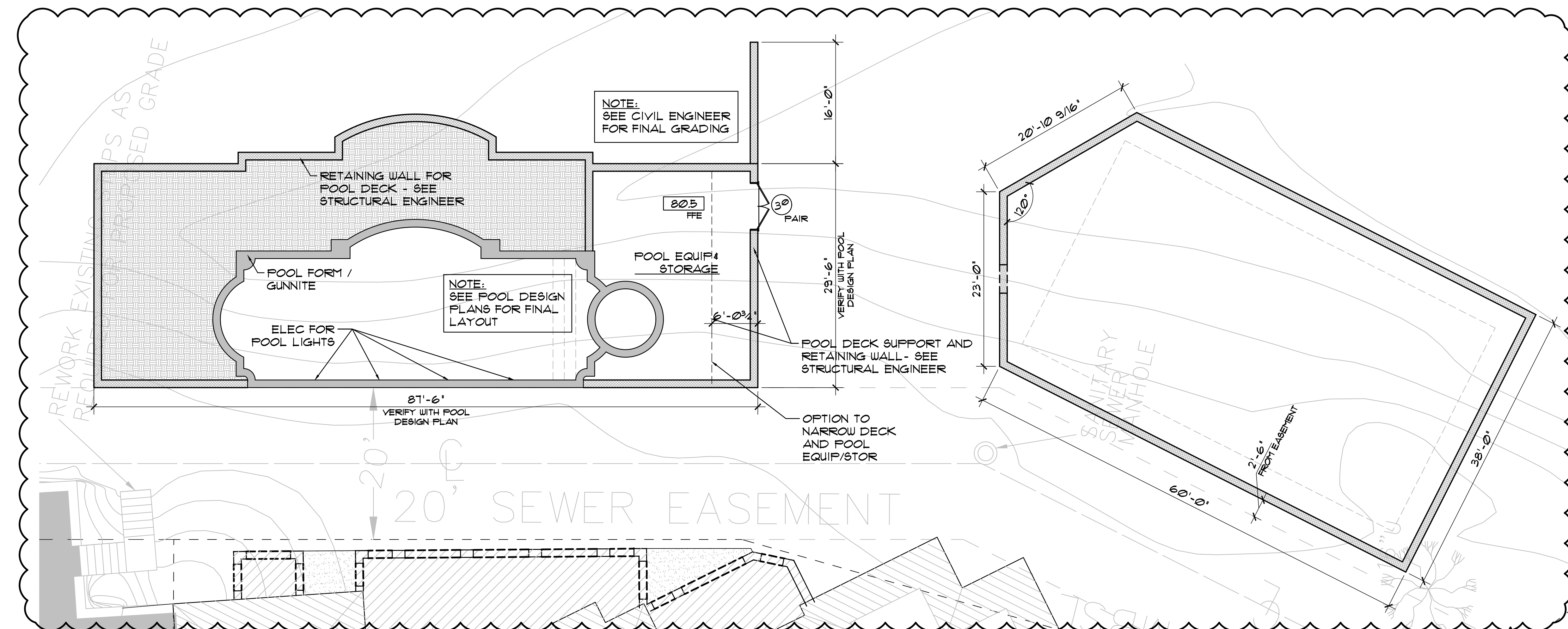
SORENSEN RESIDENCE
100 WOODWARD HILLS PLACE
BRENTWOOD, TENNESSEE
(CITY OF OAK HILL)

DRAWN BY:
CHECKED BY:
DATE:
16 JULY 2020
REVISIONS:
1 20 AUG 2020
2 24 AUG 2020
3 26 AUG 2020
4 27 OCT 2020
5 18 NOV 2020

DRAWING NO.
AS1.01
SITE PLAN



ENLARGED POOL PLAN / SCHEMATIC GRADING
SCALE: 1/8" = 1'-0"



ENLARGED FOUNDATION PLAN
SCALE: 1/8" = 1'-0"

NOTE:
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THIS INFORMATION.

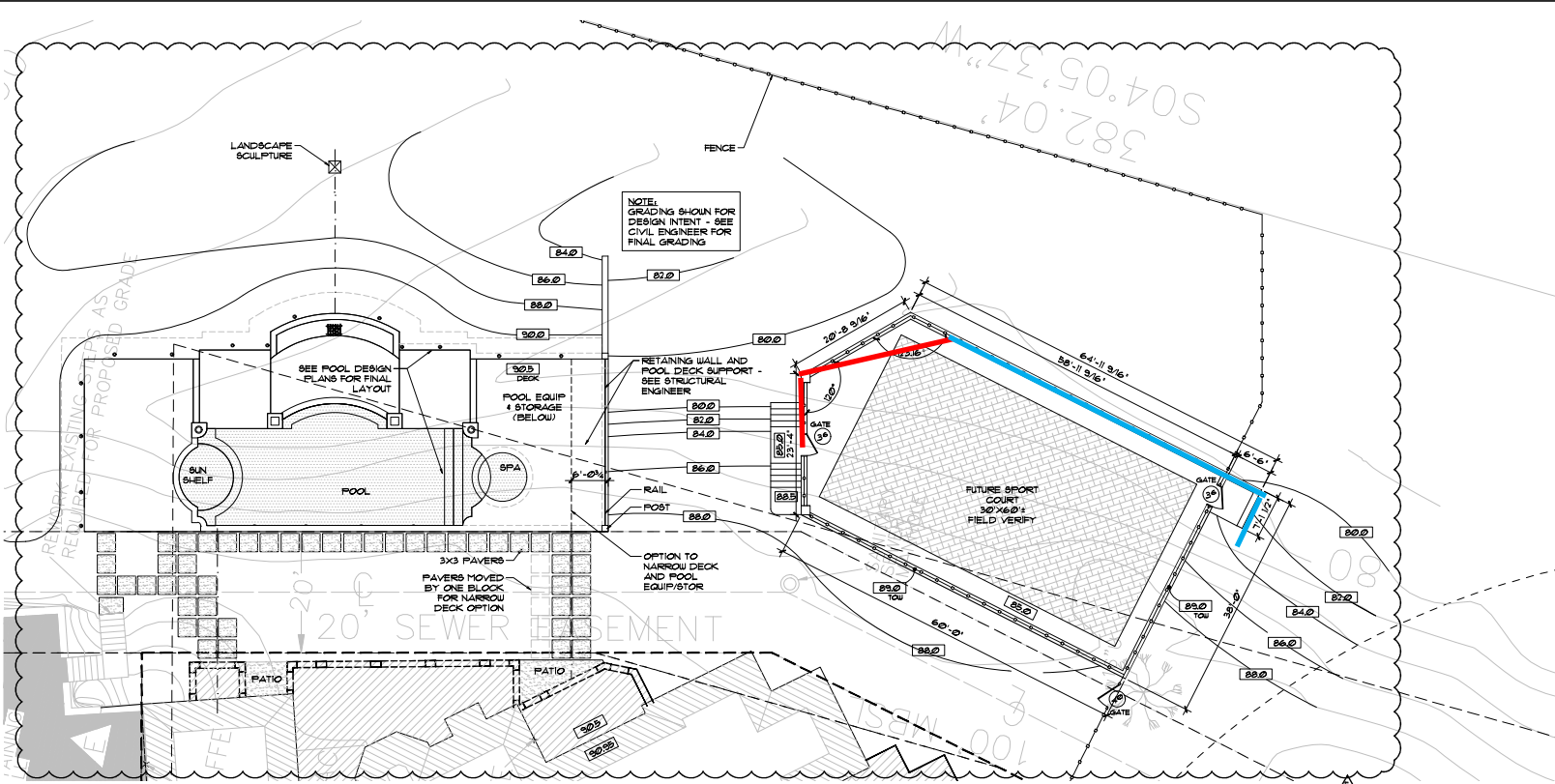
Sorensen – 100 Woodward Hills Pl
Engineer Drawings for Retaining Wall at Future Sport Court Area

The attached are the drawings provided by our landscaper as it relates to the retaining wall at the future sport court area.

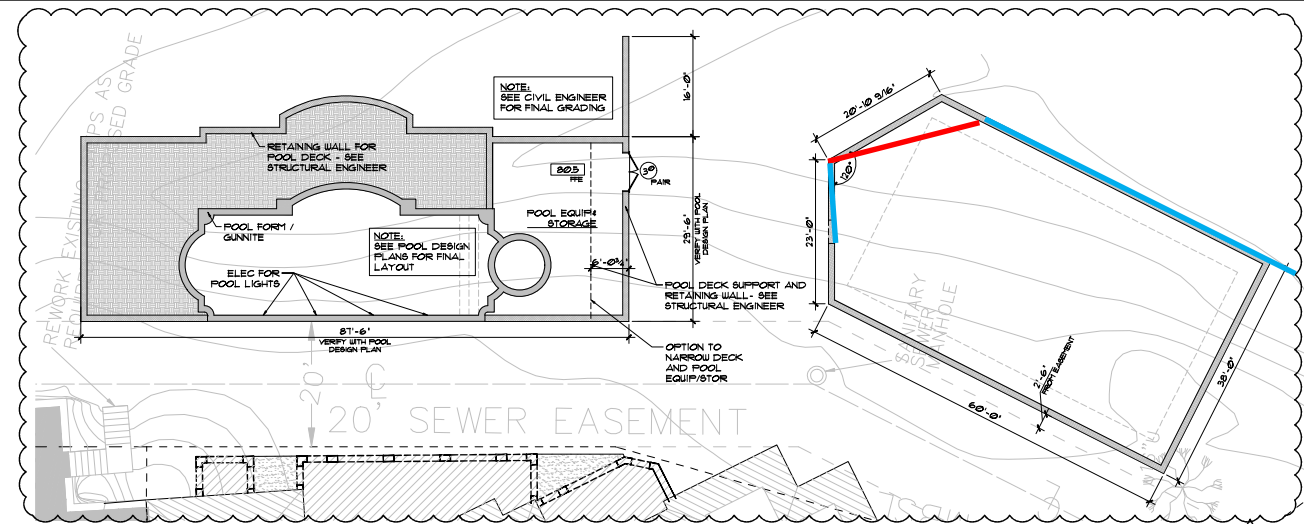
The retaining wall was constructed in the 4 sections marked with a blue and red lines on the site plan (2 pages – attached). The wall is constructed according to the Geogrid Installation described in the attached diagram and description, with 6' wide Geogrid every 2 rows. Footers as follows the entire length of the wall:

1. North End (closest to pool) – Footer is 1/2" compacted gravel 12" wide and 12" deep
2. North Section – Wall was pulled back and rounded from original design so as not to interrupt flow from storm run off. Footer is concrete with rebar stubbed up – 18" wide and 12" deep. Bottom 2 rows of block in this section are anchored to the concrete footer and filled with concrete;
3. South Section - Footer is 1/2" compacted gravel 12" wide and 12" deep; and
4. South End – Footer is 1/2" compacted gravel 12" wide and 12" deep, stepped up every 2 rows.

Fill behind wall was done with gravel base and top soil 12-18" deep.



ENLARGED POOL PLAN / SCHEMATIC GRADING
 SCALE: 1/8" = 1'-0"



ENLARGED FOUNDATION PLAN
 SCALE: 1/8" = 1'-0"

NOTE:
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 THIS INFORMATION.

North End



North Section

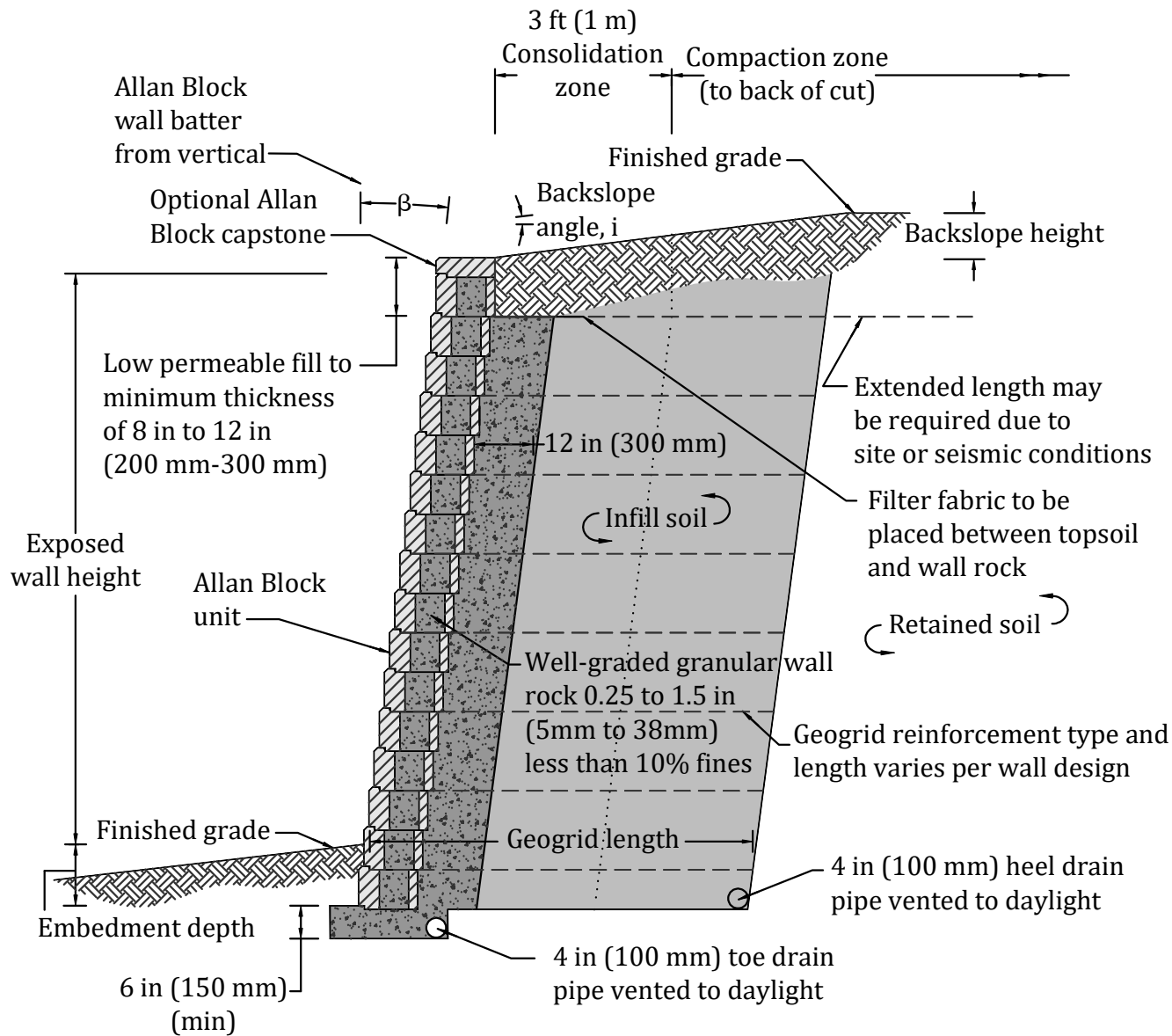


South Section



South End





Designed By:

Title:

AB-02 TYPICAL REINFORCED GEOGRID WALL

Date:

Checked By:



ALLAN
BLOCK
allanblock.com

The purpose of this drawing is for preliminary design only. This should not be used for final design or construction without the certification of a professional engineer registered in the state in which the wall will be built. The accuracy and use of details contained in this document are the sole responsibility of the user. The user must verify each detail for accuracy as they pertain to their particular project.

© 2021 Allan Block

Project No:

Scale:

Not to Scale

Drawing No:

Geogrid Installation

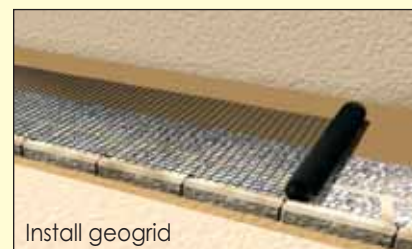


allanblock.com

**Install geogrid
on every other
course as needed.**

Install Reinforcement

- Once the base course is complete, begin installing the first layer of AB Reinforcement Grid by placing the edge of the geogrid against the back of the raised front lip and rolling it out along the wall. Refer to your approved plans for exact size and location.
- Stack the next course of blocks so that the vertical seams are offset from the blocks below by at least 1/4 the length of the block.
- Sight down the wall line to check for alignment. Blocks may be adjusted slightly to form straight lines or smooth flowing curves.
- Pull on the back of the geogrid to remove any slack. If necessary, stake it in place. Never drive or compact directly on the geogrid. This will cause damage to the geogrid.



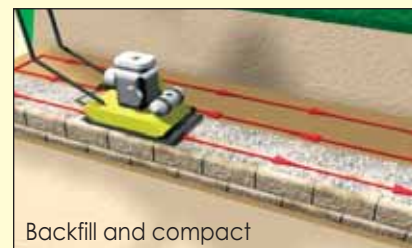
Install geogrid



Install next course

Backfilling and Compaction

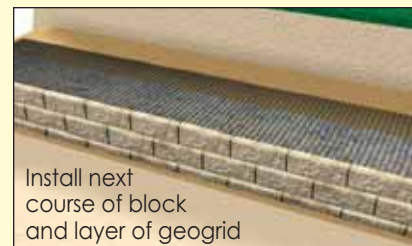
- Install wall rock in the block cores and 12 in. (300 mm) behind the block. Use infill or approved on-site soils to backfill behind the wall rock to the height of the block.
- The wall rock and infill soils behind the wall must be properly compacted using a plate compactor. Compact in lifts of 8 in. (200 mm) or less, this time starting on the block and working in a path that runs parallel to the block and towards the back of the excavated area. **Always make a minimum of two passes with a plate compactor. Compaction should be continued to achieve solid, movement-free soil.**
- Remove all excess material from the top surface of all blocks. This prepares a clean, smooth surface for placement of the next course.



Backfill and compact

Additional Courses

- Continue installing your next courses of block using the steps shown above. Per your approved plans, install geogrid on every other course of the wall.
- Using these steps complete the wall to the desired height. On the last course, fill behind the blocks with organic soils in place of infill or approved on-site soils. This will assist in any plantings above the wall and also to direct water from running behind the blocks. See page 41 for information on finishing wall options.



Install next
course of block
and layer of geogrid

Reinforcement Chart

Match your wall to the conditions below to find which width and the number of layers of AB Reinforcement Grid you will need. To determine the number of rolls needed, multiply the length of your wall (in feet) by the number of layers needed, and then divide by 50 (the length of a roll of geogrid). Typically most soils will be considered clay, for sand conditions outlined in the table the soil must be a clean, granular material. See page 7 for information on soil types and descriptions.

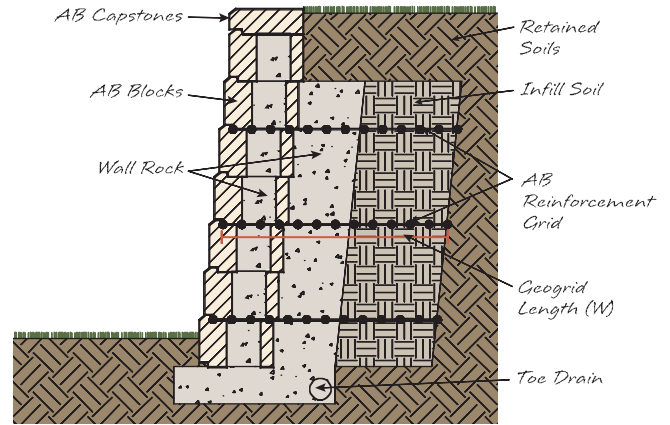





Table 4

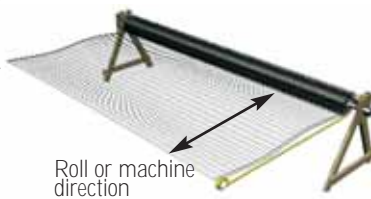
		Soil Reinforcement Chart for Residential Wall Applications							
CONDITION ABOVE WALL	WALL HEIGHT	AB Stones of the AB Collection only				AB and AB Europa Collection (excl. AB Stones)			
		CLAY SOIL		SANDY SOIL		CLAY SOIL		SANDY SOIL	
		No. of Layers	Width (W)	No. of Layers	Width (W)	No. of Layers	Width (W)	No. of Layers	Width (W)
 Level	3ft (0.9 m)	0	0	0	0	0	0	0	0
	4ft (1.2 m)	2	3 ft	0	0	2	3 ft	0	0
	5ft (1.5 m)	3	3 ft	0	0	3	3 ft	3	3 ft
	6ft (1.8 m)	4	4 ft	4	4 ft	4	4 ft	4	4 ft
 Surcharge* 125 psf	2ft (0.6 m)	0	0	0	0	0	0	0	0
	3ft (0.9 m)	2	3 ft	0	0	2	3 ft	0	0
	4ft (1.2 m)	2	3 ft	0	0	2	3 ft	2	3 ft
	5ft (1.5 m)	3	3 ft	3	3 ft	3	3 ft	3	3 ft
 Slope 3:1	3ft (0.9 m)	2	3 ft	0	0	2	3 ft	0	0
	4ft (1.2 m)	2	3 ft	0	0	2	3 ft	2	3 ft
	5ft (1.5 m)	3	4 ft	0	0	3	4 ft	3	3 ft
	6ft (1.8 m)	4	4 ft	4	4 ft	4	4 ft	4	4 ft

Example

Using a block from the AB Collection, a 5 ft high wall (1.5 m) built in sandy soil with a level surface above the wall requires three layers of geogrid, 3 ft wide (0.9 m).

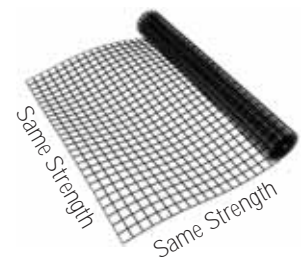
Larger Geogrid Rolls

Large roll geogrids are strongest along the roll or machine direction and are cut to the design length. They are best suited for walls over 6 ft. (1.8 m) high.



AB Reinforcement Grid™

AB Reinforcement Grid is biaxial which means it has the same strength in both directions and can be simply rolled out along the wall. It is available in 3 ft. and 4 ft. rolls and is 50 ft. long (0.9 m and 1.2 m by 15 m) and is best used for residential walls under 6 ft. (1.8 m) tall as outlined in the table above.



When placing geogrid along curving walls, the geogrid should follow the back of the lip. Simply slit the geogrid with a utility knife and either feather out or overlap to follow the curve. See page 29 for more information.

Outside Curves



Inside Curves

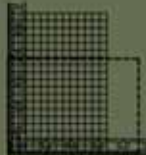


When placing geogrid at corners, simply lay the geogrid into the corner and cut to fit with a utility knife. See page 30 for more information.

Inside Corners



Outside Corners



REINFORCEMENT GRID™



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Patterned Walls



allanblock.com

Add distinction to your landscape.

AB Collection
AB Ashlar Blend Pattern

Excavate and Install Base Course

The base course should always use a full course of full-sized blocks. This will speed the leveling and installation of the first course.

- Refer to page 19 for a detailed description on how to install the base course. Basic steps include: site prep and excavation, installing base material, base course, wall rock, backfill materials and compacting.

Install Reinforcement

- Check your approved plans for exact size and course location for the AB Reinforcement Grid.
- Install the first layer of geogrid by placing the edge of the geogrid against the back of the raised front lip and rolling it out along the wall.

Install the Multiple-Course Pattern

- The example shown here uses a 2 course pattern. See page 25 for more information on pattern options.
- Stack the first course of the pattern on top of the geogrid and the base course.
- Check blocks for level, and make adjustments as needed. Pull on the back of the geogrid to remove any slack. If necessary, stake in place.
- Install the wall rock in the block cores and 12 in. (300 mm) behind the blocks to the height of the blocks.
- Compact inside the block cores using a shovel handle. Check blocks for level. See page 24 for more information on compaction in the block cores.
- Use infill or approved on-site soils to backfill behind the wall rock in 8 in. (200 mm) lifts or less. The top of the blocks will not always match up with each lift of soil. Check blocks for level.



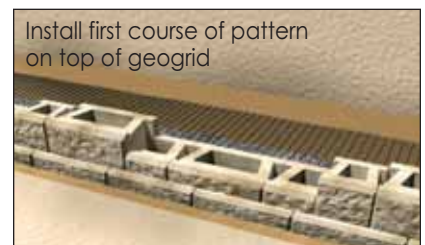
Bi-Axial AB Reinforcement Grid™



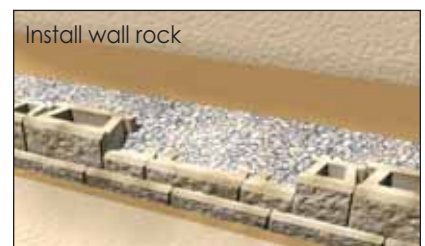
AB Europa Collection
AB Abbey Blend Pattern



Install geogrid

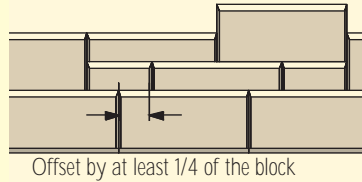


Install first course of pattern on top of geogrid



Install wall rock

- Using a plate compactor, compact the wall rock and infill materials behind the block in 8 in. (200 mm) lifts or less. Compact directly behind the blocks in a path parallel to the wall, working from the back of the wall to the back of the excavated area. Always make a minimum of two passes with a plate compactor.
- Install the remainder of the 2 course pattern. Install wall rock in the block cores and behind the blocks as before so they are level with the top course of the blocks. Use infill or approved on-soils to backfill behind wall rock. Check blocks for level. If using a custom pattern, remember to offset the vertical seams by at least 1/4 of the block whenever possible.

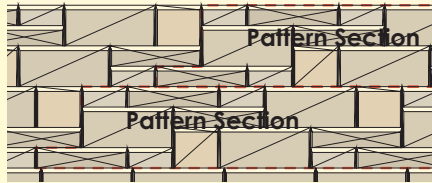


- With the first multiple-course pattern completed, use a plate compactor to compact the wall rock in the block cores and directly behind the blocks. The first pass of the plate compactor should be directly over the top of the block cores.
- Compact in a path parallel to the wall, working from the front of the block to the back of the excavated area. Make a minimum of two passes with a plate compactor. Check blocks for level.

NOTE: Keep all heavy equipment at least 3 ft. (0.9 m) away from the back of the wall.

Install the Second Multiple-Course Pattern

- Refer to your approved plans to determine if reinforcement will be required. If so, repeat the previous process to install geogrid between the patterns.
- Install the next pattern section as done in the previous steps. Each additional pattern will need to be offset from the pattern below to avoid a repetitive look. Remember to offset the vertical seams by at least 1/4 of the block whenever possible.
- Two course patterns should be selected for most projects. Three course patterns can be used for gravity walls or to top off a reinforced wall where geogrid is not required within the top three courses.



Ending and Topping off the Wall

- Finishing a patterned wall is the same as finishing a standard wall. See page 41 for finishing wall options. The only requirement is that a multiple course pattern must be completed so that the top course of the blocks forms a level surface.
- On the last course, fill behind the blocks with organic soils in place of infill or approved on-site soils. This will assist in any plantings above the wall and also to direct water from running behind the blocks.

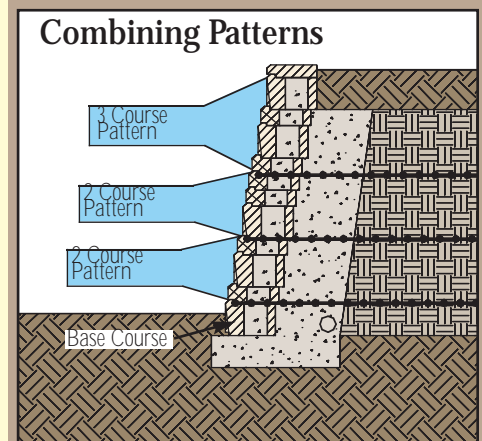
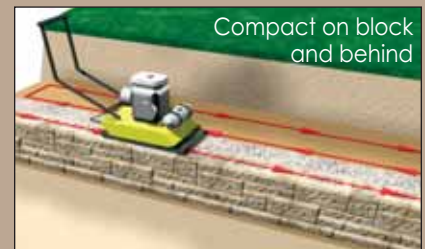
Compacting Patterned Walls

Compaction in the block cores needs to be done regularly when working with patterned walls. This can be done by using the end of a shovel to compact the wall rock, adding additional rock if necessary.



At each 8 in. (200 mm) lift, compact the block cores with the end of a shovel, and the area directly behind the block with a plate compactor per the procedures described in this guide.

At the conclusion of each pattern, the top of the wall will be level. Run the plate compactor over the top of the blocks to consolidate the wall rock. Place geogrid if required, and begin the next pattern.



Patterned Walls Cont.



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Tips for Building Patterned Walls

Patterned walls resemble hand-laid stone walls, and will require a certain level of detail and craftsmanship to construct. Some custom fitting of blocks will be required. Plan on taking a little extra time to build, particularly when building one for the first time.

Ending Patterned Walls

Patterned walls may be ended with step-down or turn-ins. When ending a patterned wall you will need to modify the pattern and randomly adjust as necessary to create the look desired.

Curves

When building curves, the 2 course pattern is easier to work with than the 3 course pattern. To build tighter inside or outside curves see page 28.

Additional Construction Tips

- When building an AB Ashlar Blend wall, if an AB Junior Lite is not available, the AB Lite Stones must be cut to produce 2 AB Half Lites. Pre-cut the desired number of blocks to help speed installation.
- Offset each new pattern from the pattern below to maintain the "random" appearance.
- With walls that have numerous inside and outside curves, use a 2 course pattern to ease the installation process.



Ending Patterned Walls

Cutting A Block In Half




Wall Patterns

The AB Collection and the AB Europa Collection can be used to create a variety of pre-set and random patterns. A pre-set pattern is repeated every two or three courses of block. A single course consists of a full size block, approximately 8 in. (200 mm) high. Random patterns used on a reinforced wall require a level surface every 2 courses for proper installation of geogrid. Check your approved plans for geogrid placement.

Note: Walls with curves should always use the 2 course pattern to minimize cutting and fitting. For walls requiring geogrid use the 2 course pattern to allow for proper geogrid placement.

Standard Patterns - Uses all blocks in the collection. Patterns are 10 ft. sections (3 m)


2 course



16 in. (400 mm)

Blocks Required	AB Europa Collection	AB Collection
	6 AB Dover 4 AB Palermo 8 AB Barcelona 8 AB Bordeaux	6 AB Classic 4 AB Jumbo Junior 8 AB Lite Stone 8 AB Junior Lite*

3 course For straight walls only or walls with no geogrid




24 in. (610 mm)

Blocks Required	AB Europa Collection	AB Collection
	10 AB Dover 10 AB Palermo 10 AB Barcelona 4 AB Bordeaux	10 AB Classic 10 AB Jumbo Junior 10 AB Lite Stone 4 AB Junior Lite*

* Use an AB Lite Stone cut in half to create an AB Half Lite if AB Junior Lite is not available.

Lite Patterns - Uses the small blocks in the collection. Patterns are 10 ft. sections (3 m)


2 course



16 in. (400 mm)

Blocks Required	AB Europa Collection	AB Collection
	7 AB Palermo 15 AB Barcelona 12 AB Bordeaux	7 AB Jumbo Junior 15 AB Lite Stone 12 AB Junior Lite*

3 course



24 in. (610 mm)

Blocks Required	AB Europa Collection	AB Collection
	14 AB Palermo 19 AB Barcelona 18 AB Bordeaux	14 AB Jumbo Junior 19 AB Lite Stone 18 AB Junior Lite*

* Use an AB Lite Stone cut in half to create an AB Half Lite if AB Junior Lite is not available.

Note: Maximum recommended gravity wall height for Lite Patterns is 3 ft (0.9 m).

Note: A base course of full size blocks (AB Classic or AB Dover) needs to be included. For each 10 ft. (3.0 m) of wall length you will need 7 full size blocks. For 10 ft. (3.0 m) of wall length for AB Capstones, you will need 7 AB Caps.