REQUEST FOR HEARING
PLANNING COMMISSION: OAK HILL, TENNESSEE

Date Submitted: 08/10/22 PC Meeting Date: 10/04/22

The undersigned hereby requests consideration for a decision of the Planning

Commission of Oak Hill, Tennessee, wherein Baird Graham
Owner/Developer/Architect/Engineer
of the property located at: 1167 Travelers Ridge Drive Nashville, TN 37220

Lot Number(s): 39 Subdivision: Inns of Granny White

The property is in Zoning District _____, in accordance with plans, application, and all data filed with the City of Oak Hill.

Radnor Lake Natural Area Impact Zone	Y	or	(N)
Steep Slope	(Y)	or	N
Plat/Subdivision	Y	or	(N)

Project Explanation: Building New Single family Home

Planning Commission Meeting Date: 10/04/22

Baird Graham
Applicant Name (Name)

921 Robertson Academy Road Nashville, TN 37220
Applicant Address

615-804-7008
Applicant Phone Number

baird@bgc-construction.com
Applicant Email Address

Applicant (Signature)

City of Oak Hill (Signature)

Parcel No. _____ Case No. _____

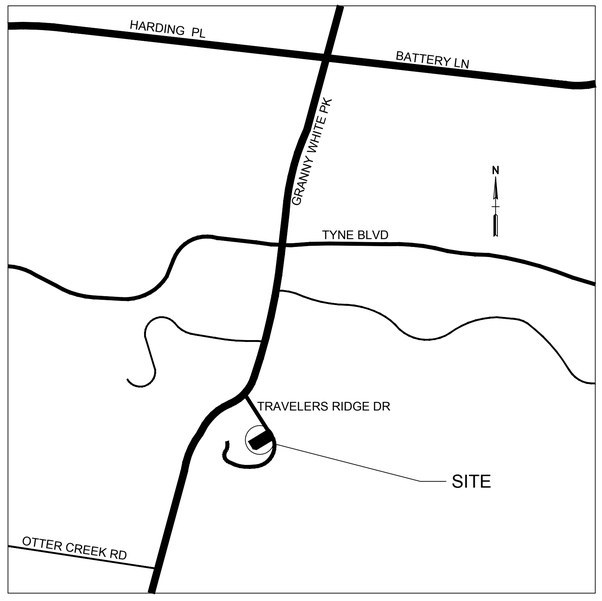
Fee Amount: $ 1250.00

SITE - GRADING PLANS

NEW RESIDENCE

1167 TRAVELERS RIDGE DRIVE
CITY of OAK HILL
Nashville-Davidson County, Tennessee
34th Councilmanic District

Sheet Index



Location Map
(NTS)

Civil Engineer
Tony Snyder
Snyder Engineering pllc
228 Spence Lane
Nashville, Tennessee 37210
615-383-1699
tonysnyder@comcast.net

Surveyor
Campbell McRae & Associates Inc.
P.O.Box 41153
Nashville, Tennessee 37204
Phone 615-298-2424 cmas@att.net

Architect
Zinc Architecture
5820 Fredricksburg Drive
Nashville, Tennessee 37215
www. zincarch.com

UTILITIES

Electric Service
Nashville Electric Service
1214 Church St.
Nashville, Tennessee 37246
Joe Valleley 615-747-3261

Water Service
Metro Water Service
1600 2nd Ave. N
Nashville, Tennessee 37208
Christian Thompson -615-862-7229

Sewer Service
Metro Water Service
1600 2nd Ave. N
Nashville, Tennessee 37208
615-862-4598

Gas Service
Piedmont Natural Gas
800-752-7504

Tennessee One Call 800-351-1111

Snyder Engineering pllc
CIVIL ENGINEERING SERVICES
228 Spence Lane Phone 615-383-1699
Nashville, TN 37210 tonysnyder@comcast.net

09/13/2022

TITLE SHEET

New Residence
1167 Travelers Ridge Drive
Nashville, Tennessee 37220
Map 145 Parcel 073

DR.	CHK.	DATE	DESCRIPTION

FILE NO. 1113-21

TREE TABLE
PRE-DEVELOPMENT INVENTORY

TREE #	DBH	DRIP ZONE
1	12"	25'
2	8"	20'
3	12"	20'
4	12"	25'
5	12"	20'
6	8"	25'
7	8"	15'
8	8"	25'
9	12"	20'
10	8"	15'
11	8"	15'
12	8"	15'
13	12"	20'
14	18"	25'
15	24"	25'
16	12"	25'
17	8"	20'
18	8"	20'
19	8"	15'
20	24"	30'
21	8"	15'
22	12"	20'
23	8"	10'
24	12"	DEAD
25	12"	20'
26	8"	20'
27	8"	15'
28	12"	20'
29	12"	20'
30	8"	10'
31	8"	20'
32	12"	15'
33	8"	10'
34	24"	25'
35	8"	15'
36	8"	15'
37	8"	10'
38	12"	20'
39	18"	25'
40	8"	15'
41	12"	20'
42	12"	25'
43	8"	20'
44	8"	20'
45	8"	20'
46	8"	15'
47	24"	30'
48	18"	DEAD
49	24"	25'
50	8"	10'
51	8"	20'
52	8"	10'
53	12"	15'
54	12"	10'
55	12"	10'
56	8"	15'
57	12"	15'
58	8"	15'
59	8"	20'
60	8"	15'
61	12"	20'
62	12"	20'
63	12"	15'
64	12"	20'
65	12"	10'
66	8"	25'
67	18"	25'
68	12"	10'
69	12"	20'
70	8"	15'
71	12"	10'
72	8"	10'
73	12"	10'
74	12"	20'
75	12"	15'
76	8"	25'
77	12"	15'
78	8"	20'
79	8"	20'
80	8"	15'
81	12"	25'
82	3"	5'
83	3"	7
84	3"	5'
85	3"	5'
86	3"	6'
87	3"	5'
88	3"	7'
89	3"	4'
90	3"	5'
91	8"	5'
92	3"	4'
93	3"	6'
94	3"	7'
95	3"	5'
96	3"	4'
97	3"	5'
98	3"	5'
99	3"	4'
100	3"	6'

TREE TABLE
PRE-DEVELOPMENT INVENTORY

TREE #	DBH	DRIP ZONE
101	3"	7'
102	3"	5'
103	12"	32'
104	3"	5'
105	3"	7
106	3"	5'
107	3"	5'
108	3"	6'
109	8"	5'
110	3"	7'
111	3"	4'
112	3"	5'
113	3"	5'
114	3"	4'
115	3"	6'
116	3"	7'
117	3"	5'
118	3"	4'
119	3"	5'
120	3"	5'
121	3"	4'
122	3"	6'
123	3"	7'
124	3"	5'
125	3"	4'
126	3"	6'
127	3"	7'
128	3"	5'
129	3"	4'
130	3"	5'
131	3"	5'
132	3"	4'
133	3"	6'
134	3"	7'
135	3"	5'
136	10"	16'
137	8"	14'
138	3"	4'
139	3"	6'
140	3"	7'
141	3"	5'
142	3"	4'
143	3"	5'
144	3"	5'
145	3"	4'
146	3"	6'
147	3"	7'
148	12"	20'
149	8"	4'
150	3"	6'
151	3"	7'
152	3"	5'
153	3"	4'
154	3"	5'
155	3"	5'
156	3"	4'
157	3"	6'
158	3"	7'
159	3"	5'
160	3"	5'
161	3"	4'
162	8"	5'
163	3"	5'
164	3"	4'
165	11"	6'
166	3"	7'
167	3"	5'
168	3"	7'
169	12"	28'
170	3"	5'
171	3"	4'
172	3"	5'
173	3"	4'
174	3"	6'
175	3"	7'
176	3"	5'
177	3"	3'
178	3"	8'

TN GRID NAD 83

SUMMARY OF PRE-DEVELOPMENT TREE CANOPY COVER AS A PERCENTAGE OF THE LOT SIZE

TOTAL LOT AREA
50073.20 S.F.
PRE-DEVELOPMENT TREE CANOPY COVERAGE
47308 S.F.

47308 / 50073.20 = 0.94

TREE PROTECTION:

ANY HOLDER OF A PERMIT ISSUED FROM THE CITY OF OAK HILL TENNESSEE FOR LAND DISTURBANCE ACTIVITIES AT A SITE, AND ALL SUBCONTRACTORS WORKING FOR A PERMIT HOLDER, UNLESS OTHERWISE EXEMPT, SHALL WHOLLY ABIDE BY CITY OF OAK HILL MUNICIPAL CODE TITLE 14, SECTIONS 901-909 FOR WOODLAND AND TREE PROTECTION.

BARRICADES SHALL BE INSTALLED A MINIMUM OF TEN FEET (10') FROM A PROTECTED TREE OR AT THE DESIGNATED PROTECTED ROOT ZONE AS SHOWN ON THE APPROVED SITE PLAN.

THE CODE COMPLIANCE OFFICER MAY ALLOW MINOR MODIFICATIONS TO THIS STANDARD BASED UPON SPECIFIC SITE CONFIGURATION ISSUES.

ALL PERMIT APPLICATIONS SHALL INCLUDE A CERTIFIED ARBORIST'S REPORT FOR AFFECTED TREES.

PROPERTY IS ZONED RESIDENTIAL "C" WITHIN THE JURISDICTION OF THE CITY OF OAK HILL, TN.
SETBACKS FOR RESIDENTIAL "C" ZONING TAKEN FROM THE CITY OF OAK HILL, TN OFFICIAL ZONING MAP ADOPTED BY ORDINANCE 02-90 ON FEBRUARY 27, 2018.
MINIMUM LOT AREA = 1 ACRE
MAXIMUM LOT COVERAGE = 30% UP TO 18,000 SF
MAXIMUM HEIGHT = 2 STORIES MAX; ZONE 1 = 28', ZONE 2 = 36', ZONE 3 = 28'
MINIMUM YARD REQUIREMENTS:
FRONT = WHICHEVER IS GREATER, 75' OR THE AVERAGE OF 4 LOTS, WHICH ARE MOST ADJACENT, WITH LIKE-FACING HOMES THEREON (PER SECTION 14-121.1 OF ZONING ORDINANCE)
SIDE = 30'
REAR = 60'
MINIMUM FRONT LOT LINE = 100'
MAXIMUM LOT DEPTH/LOT WIDTH RATIO = 4:1
VERIFY SETBACKS WITH CODES BEFORE DESIGN OR CONSTRUCTION DECISIONS ARE MADE.
BY GRAPHIC SCALING FROM THE LATEST F.E.M.A. / FLOOD INSURANCE RATE MAP THIS PROPERTY IS NOT LOCATED IN A F.E.M.A. / F.I.R.M SPECIAL FLOOD HAZARD AREA.
MAP 47037C PANEL 0358F"
EFFECTIVE DATE : 4-5-17

CONTOURS ARE SHOWN AT 2 FOOT INTERVALS ARE WERE GENERATED FROM A COMBINATION OF A RADIAL TOPOGRAPHIC SURVEY PERFORMED ON SITE USING EDM EQUIPMENT AND A TOPCON HIPER-SR DUAL FREQUECY GPS RECEIVER TIED TO THE T.D.O.T. GNSS REFERENCE NETWORK AND FROM DIGITAL ELEVATION MODELS FROM TNLIDAR FLOWN IN 2016. TILE #1716629NE & 1716629SE
ELEVATION DATUM NAVD 88, GEOID 12A

FRONT SETBACK:

$\frac{76.1' + 61.1' + 51.7' + 77.1'}{4}$ = 66.5' = AVG. OF ADJACENT HOMES

66.5' < 75'

REQUIRED SETBACK = 75'

PREPARED BY:
CAMPBELL, McRAE & ASSOCIATES, SURVEYING, INC.
P.O. BOX 41153
NASHVILLE, TN., 37204
PH. 615-298-2424
EMAIL cmas@att.net

I HEREBY CERTIFY THAT THIS IS A CATEGORY I SURVEY WITH THE RATIO OF PRECISION OF THE UNADJUSTED SURVEY BEING 1: 22,000. THIS SURVEY WAS DONE IN COMPLIANCE WITH THE CURRENT STANDARDS OF PRACTICE ADOPTED BY THE TENNESSEE STATE BOARD OF EXAMINERS FOR LAND SURVEYORS.

JOHN ALAN HOOD
TN. R.L.S.#1838

BOUNDARY SURVEY
LOT 39 REVISED PLAN OF
INNS OF GRANNY WHITE
R.O.D.C., TN.
BOOK 6250, PAGE 450
AMENDED IN
BOOK 6900, PAGE 125
R.O.D.C., TN

PROPERTY LOCATED
34TH COUNCIL DISTRICT OF
NASHVILLE, DAVIDSON COUNTY
TENNESSEE,
IN THE CITY OF OAK HILL
ON THE WESTERLY MARGIN OF
TRAVELLERS RIDGE DRIVE,
SOUTH OF GRANNY WHITE PIKE

PROPERTY ADDRESS:
1167 TRAVELERS RIDGE DRIVE
NASHVILLE, TN 37220

DEED REFERENCE:
INSTRUMENT # 20210416-0051064
R.O.D.C., TN.

PARCEL ID
14507007300
P.A.D.C., TN.

DATE: 8-29-2022

SCALE: 1" = 40'

PREPARED FOR:
SABALO DEVELOPMENT, LLC

Snyder Engineering, pllc
CIVIL ENGINEERING SERVICES
228 Spence Lane
Nashville, TN 37210
Phone 615-383-1699
tonysnyder@comcast.net
Fax 615-297-7184

STATE OF TENNESSEE
ANTHONY L. SNYDER
REGISTERED ENGINEER
AGRICULTURAL
09/13/2022

EXISTING CONDITIONS

NEW RESIDENCE
1167 Travelers Ridge Drive
Nashville, TN 37220
34th Council Distric
Parcel ID 14507007300
City of Oak Hill
Davidson County, TN

DR.	CHK.	DATE	DESCRIPTION

FILE NO. 1113-21

2

N

EXISTING DWELLING #1171

8"

DRAINAGE EASEMENT

N.A.V.D. 88 CONC. DRAIN (O)

SITE BENCHMARK
TOP OF MANHOLE
ELEV 755.74
NAVD 88

TO GRANNY WHITE PK

OHE

TRAVELERS RIDGE DRIVE (50')

6" SA

6" W

S 29°22'19" E 160.00'

40

ROBINSON,
PHILLIP R.
ET UX
BOOK 6602,
PAGE 935
R.O.D.C., TN.
PARCEL ID
14507007400
P.A.D.C., TN

10'

2.5' X 25' U.A.E.

10'

20' DRAINAGE EASEMENT

N 60°37'41" E 320.00'

30'

75' ZONING SETBACK

2-STORY RESIDENCE

PATIO

RAIN GARDEN

COVERED PORCH

GARAGE BELOW

CONCRETE DRIVE

CONC. CURB

5' MIN.

I.R.(N)

PARCEL ID
14507007300
P.A.D.C., TN
AREA: 50073.20
S.F. OR
1.15 ACRES±

LOT COVERAGE = 7,980 SF
LOT SIZE = 50,073 SF (1.15 AC)
30% OF 50,073 SF = 15,022 SF

RESUBDIVISION OF LOTS
34 & 35,
INNS OF GRANNY WHITE
BOOK 6900, PAGE 412
R.O.D.C., TN

IOANNIDES,
SOCRATES A.
INSTRUMENT#
20040223-0020115
R.O.D.C., TN.
PARCEL ID
14507006900
P.A.D.C., TN

20' SANITARY SEWER EASEMENT

N 29°22'19" W 120.00'

60'

20'

60'

30'

S 60°37'41" W 263.66'

I.R.(N)

C.M.(O)
ELEV. 827.58

N 83°59'53" W
69.10'

WILLIAMSON FAMILY
REVOCABLE LIVING TRUST
INSTRUMENT#
20150901-0088439
R.O.D.C., TN.
PARCEL ID
14507007000
P.A.D.C., TN

MOSLEY, TIMOTHY L. &
LYNDA LEROUE
BOOK 8973,
PAGE 874
R.O.D.C., TN.
PARCEL ID
14507007100
P.A.D.C., TN

STOUT, RICHARD H. &
KATHERINE M.
INSTRUMENT#
20101026-0085719
R.O.D.C., TN.
PARCEL ID
14507007200
P.A.D.C., TN

EXISTING DWELLING #1155

77.1'

I.R.(N)

OHE

TRAVELERS COURT (50')

0 20 40 60
SCALE: FEET

Snyder Engineering, pllc
CIVIL ENGINEERING SERVICES
228 Spence Lane
Nashville, TN 37210
Phone 615-383-1699
tonysnyder@comcast.net
Fax 615-297-7184

09-20-2022

SITE PLAN

NEW RESIDENCE

1167 Travelers Ridge Drive
Nashville, TN 37220
34th Council Distric

Parcel ID 14507007300
City of Oak Hill
Davidson County, TN

DR.	CHK.	DATE	DESCRIPTION
.	.	.	.

FILE NO. 113-21

3

N

PROPERTY LINE DITCH
SEE NOTE 1

PUDE

CLEAN-OUT (TYP)

ROOF DOWNSPOUT
UNDERDRAIN COLLECTION

RETAINING WALL
TW EL 793.00
BW EL 789.00
LEVEL ALONG FULL LENGTH

1ST FLOOR FFE 791.30

PATIO FFE 791.00

AREA DRAIN (TYP)

GARAGE FFE 782.00

PAVED
DRIVEWAY

RETAINING WALL
TW EL 772.00
BW EL 768.00
FULL LENGTH

RAIN GARDEN

8" TRENCH DRAIN
FULL WIDTH
WITH RIPRAP
OUTLET

DRAINAGE EASEMENT

EXISTING CONC DITCH

PROPOSED 16 LF OF 30" RCP AT 9.06%
INLET EL 764.60
OUTLET EL 763.15
HEADWALLS REQUIRED
MATCH INVERTS WITH CONC. DITCH

SEE METRO NASHVILLE
ROADWAY TRENCH REPAIR
DETAILS WHERE PAVEMENT
IS CUT.

SITE BENCHMARK
TOP OF MANHOLE
ELEV. 755.74
NAVD 88

8" TRENCH DRAIN
FULL WIDTH

4" MOUNTABLE CONCRETE CURB

PROPERTY LINE DITCH
SEE NOTE 1

RETAINING WALL
TW EL 793.00
BW EL 789.00

RETAINING WALL
TW EL 786.00
BW EL 781.00

RETAINING WALL
TW EL 784.00
BW EL 781.00

RETAINING WALL
TW EL 784.00
BW EL 781.00

NOTE 1:
PROPERTY LINE DITCHES TO BE STABILIZED AT THE TIME OF CONSTRUCTION. USE SMARTDITCH 12" TRAPEZOIDAL HDPE CHANNELS OR APPROVED EQUAL FOR NORTH SIDE DITCH. SOUTH SIDE DITCH TO BE SODDED.

NOTE: GEOTECHNICAL ENGINEER SHALL BE ONSITE PER THE STEEP SLOPE ORDINANCE SECTION 14-238 TO MONITOR CONSTRUCTION. ENGINEER SHALL SUBMIT A GEOTECHNICAL CERTIFICATION LETTER CERTIFYING THE STABILITY OF THE SLOPE AND THE STRUCTURE TO THE CITY OF OAK HILL UPON COMPLETION OF CONSTRUCTION AND PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

0 10 20 30
SCALE: FEET

Snyder Engineering, pllc
CIVIL ENGINEERING SERVICES
228 Spence Lane
Nashville, TN 37210
Phone 615-383-1699
Fax 615-297-7184
tonysnyder@comcast.net

TONY L. SNYDER
REGISTERED ENGINEER
AGRICULTURE
No. 22099
STATE OF TENNESSEE

09-20-2022

GRADING AND UTILITY PLAN

NEW RESIDENCE
Parcel ID 14507007300
City of Oak Hill
Davidson County, TN

1167 Travelers Ridge Drive
Nashville, TN 37220
34th Council Distric

DR.	CHK.	DATE	DESCRIPTION

FILE NO. 1113-21

4

NET ADDITIONAL IMPERVIOUS AREA = 7,980 SF

TOTAL AREA (INP + PERV) DRAINING TO RAIN GARDEN = 8,967 SF

ADDED IMPERVIOUS AREA MITIGATED BY EXISTING TREES:

20% OF 8,967 SF = 1,793 SF

1,793 SF / 50 SF PER TREE = 36 TREES

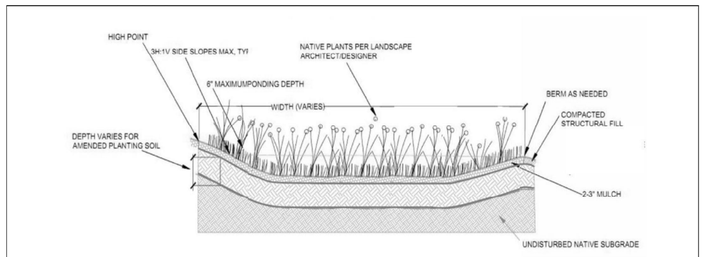
BY INSPECTION THERE ARE MORE THAN 36 TREES REMAINING THAT ARE AT LEAST 6" DBH.

AREA TO BE TREATED = 8,967 - 1,793 = 7,174 SF

DEPTH OF SOIL MEDIA = 36 INCHES

REQUIRED RAIN GARDEN SURFACE AREA = 361 SF

RAIN GARDEN SURFACE AREA PROVIDED = 390 SF

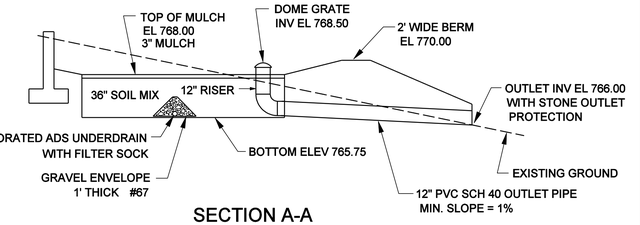


CONSTRUCTION STEPS:

1. Locate rain garden(s) where downspouts or driveway runoff can enter garden flowing away from the home. Locate at least 10 feet from foundations, not within the public right of way, away from utility lines, not over septic fields, and not near a steep bluff edge.
2. Measure the area draining to the planned garden and determine required rain garden surface area from the table on the next page and your planned excavation depth.
3. Optionally, perform infiltration test according to Section B. If the rate is less than 0.25 in/hr an underdrain will be necessary. If the rate is more than 0.50 in/hr the size of the garden may be decreased 10% for every 0.50 in/hr infiltration rate increase above 0.50 in/hr.
4. Measure elevations and stake out the garden to the required dimensions insuring positive flow into garden, the overflow elevation allows for six inches of ponding, and the perimeter of the garden is higher than the overflow point. If the garden is on a gentle slope a berm at least two feet wide can be constructed on the downhill side and/or the garden can be dug into the hillside taking greater care for erosion control at the garden inlet(s).
5. Remove turf or other vegetation in the area of the rain garden. Excavate garden being careful not to compact soils in the bottom of the garden. Level bottom of garden as much as possible to maximize infiltration area.
6. Mix compost, topsoil, and some of the excavated subsoil together to make the 'amended soil'. The soil mix should be 1/3 compost, 2/3 native soil (topsoil and subsoil combined).
7. Fill rain garden with the amended soil, leaving the surface eight inches below your highest surrounding surface. Eight inches allows for 6 inches ponding and 2" of mulch. The surface of the rain garden should be as close to level as possible.
8. Build a berm at the downhill edge and sides of the rain garden with the remaining subsoil. The top of the berm needs to be level, and set at the maximum ponding elevation.
9. Plant the rain garden using a selection of plants from elsewhere in this manual.
10. Mulch the surface of the rain garden with two to three inches of non-floating organic mulch. The best choice is finely shredded hardwood mulch. Pinestraw is also an option.
11. Water all plants thoroughly. As in any new garden or flower bed, regular watering will likely be needed to establish plants during the first growing season.
12. During construction build the inlet feature as a pipe directly connected to a downspout or use a rock lined swale with a gentle slope. Use of an impermeable liner under the rocks at the end of the swale near the house is recommended to keep water from soaking in at that point. Test the drainage of water from the source to the garden prior to finishing.
13. Create an overflow at least 10 feet from your property edge and insure it is protected from erosion.

METRO NASHVILLE DEPARTMENT OF WATER SERVICES	NAME/ADDRESS:	RAIN GARDEN SPECIFICATIONS PAGE 1 OF 2

SEE NOTES THIS SHEET FOR SOIL MIX MAKE-UP.
SEE NOTES THIS SHEET FOR MULCH MAKE-UP.
LANDSCAPE ARCHITECT TO PROVIDE PLANTIING PLAN.



SECTION A-A
RAIN GARDEN DETAIL

Snyder Engineering, pllc
CIVIL ENGINEERING SERVICES
228 Spence Lane
Nashville, TN 37210
Phone 615-383-1699
Fax 615-297-7184
tonysnyder@comcast.net

SITE TO EL NA

09-20-2022

RAIN GARDEN DETAIL

NEW RESIDENCE

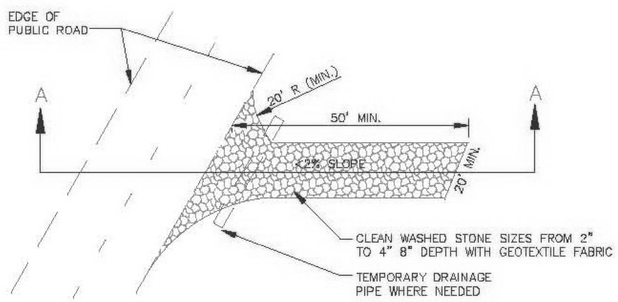
1167 Travelers Ridge Drive
Nashville, TN 37220
34th Council Distric

Parcel ID 145070073
City of Oak Hill
Davidson County, TN

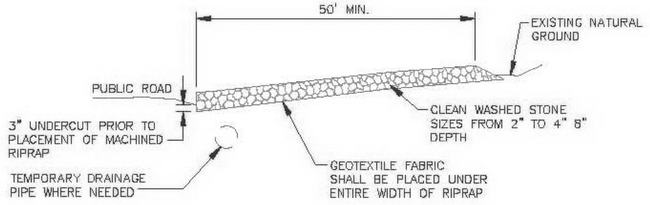
DR.	CHK.	DATE	DESCRIPTION
.	.	.	.

FILE NO. 113-21

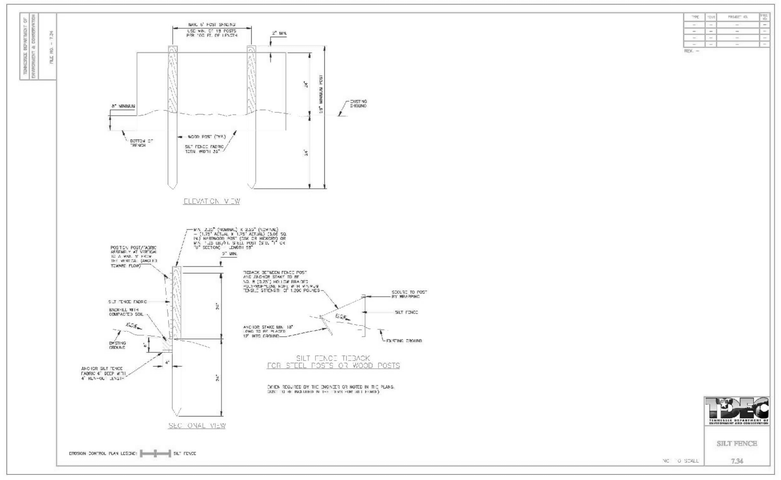
5

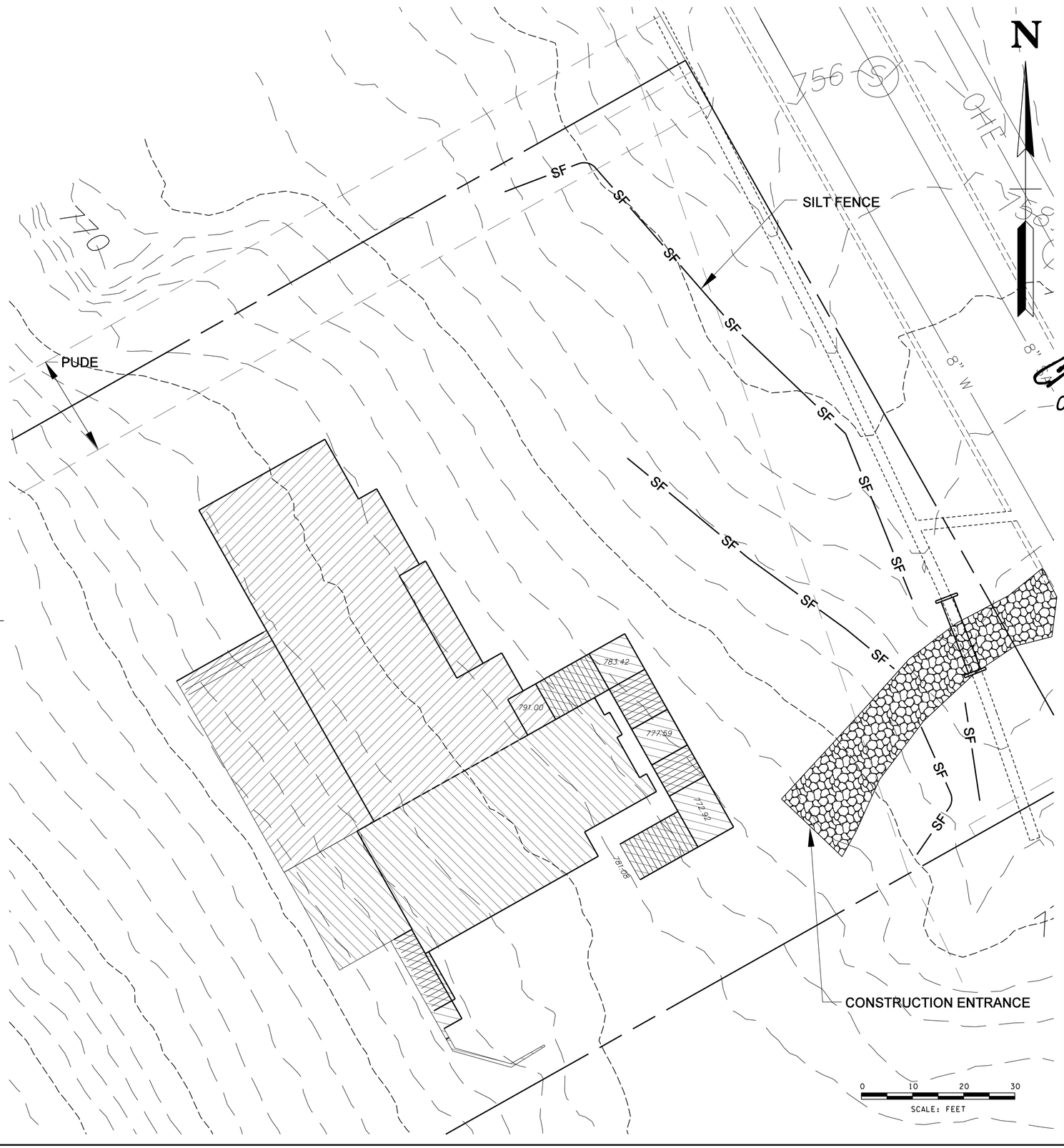


PLAN VIEW OF TEMPORARY CONSTRUCTION ROAD



SECTION A–A





Snyder Engineering, pllc
CIVIL ENGINEERING SERVICES
228 Spence Lane
Nashville, TN 37210
Phone 615-383-1699
Fax 615-297-7184
tonysnyder@comcast.net

08-30-2022

EROSION CONTROL PLAN

NEW RESIDENCE
1167 Travelers Ridge Drive
Nashville, TN 37220
34th Council Distric
Parcel ID 145070073
City of Oak Hill
Davidson County, T

DR.	CHK.	DATE	DESCRIPTION
.	.	.	.

FILE NO. 113-21

6

N

SITE BENCHMARK
TOP OF MANHOLE
ELEV. 755.74
NAVD 88

DRAINAGE EASEMENT

EXISTING CONC DITCH

PUDE

LIMITS OF DISTURBANCE
17,577 SF
0.404 AC

SCALE: FEET
0 10 20 30

Snyder Engineering, pllc
CIVIL ENGINEERING SERVICES
228 Spence Lane
Nashville, TN 37210
Phone 615-383-1699
Fax 615-297-7184
tonysnyder@comcast.net

09-20-2022

LIMITS OF DISTURBANCE

NEW RESIDENCE
1167 Travelers Ridge Drive
Nashville, TN 37220
34th Council Distric

Parcel ID 145070073007300
City of Oak Hill
Davidson County, TN

DR.	CHK.	DATE	DESCRIPTION
.	.	.	.

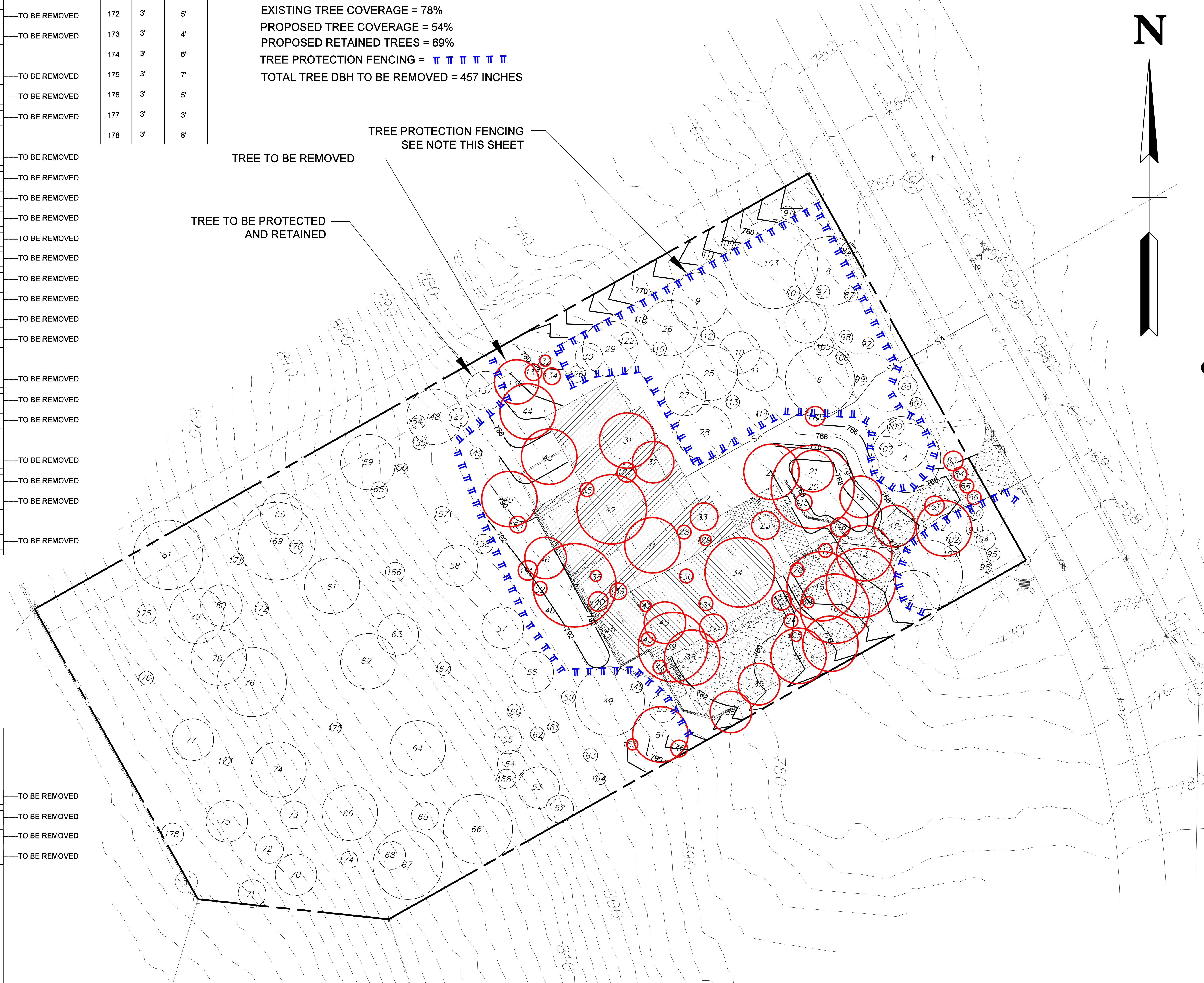
FILE NO. 1113-21

7

TREE LIST

TREE #	DBH	DRIP ZONE	
1	12"	25'	
2	8"	20'	------TO BE REMOVED *
3	12"	20'	
4	12"	25'	
5	12"	20'	
6	8"	25'	
7	8"	15'	
8	8"	25'	
9	12"	20'	
10	8"	15'	
11	8"	15'	
12	8"	15'	------TO BE REMOVED *
13	12"	20'	------TO BE REMOVED *
14	18"	25'	------TO BE REMOVED *
15	24"	25'	------TO BE REMOVED *
16	12"	25'	------TO BE REMOVED *
17	8"	20'	------TO BE REMOVED *
18	8"	20'	------TO BE REMOVED
19	8"	15'	------TO BE REMOVED *
20	24"	30'	------TO BE REMOVED *
21	8"	15'	------TO BE REMOVED *
22	12"	20'	------TO BE REMOVED *
23	8"	10'	------TO BE REMOVED
24	12"	DEAD	
25	12"	20'	
26	8"	20'	
27	8"	15'	
28	12"	20'	
29	12"	20'	
30	8"	10'	
31	8"	20'	------TO BE REMOVED
32	12"	15'	------TO BE REMOVED
33	8"	10'	------TO BE REMOVED
34	24"	25'	------TO BE REMOVED
35	8"	15'	------TO BE REMOVED
36	8"	15'	------TO BE REMOVED
37	8"	10'	------TO BE REMOVED
38	12"	20'	------TO BE REMOVED
39	18"	25'	------TO BE REMOVED
40	8"	15'	------TO BE REMOVED
41	12"	20'	------TO BE REMOVED
42	12"	25'	------TO BE REMOVED
43	8"	20'	------TO BE REMOVED
44	8"	20'	------TO BE REMOVED
45	8"	20'	------TO BE REMOVED
46	8"	15'	------TO BE REMOVED
47	24"	30'	------TO BE REMOVED
48	18"	DEAD	
49	24"	25'	
50	8"	10'	
51	8"	20'	------TO BE REMOVED
52	8"	10'	
53	12"	15'	
54	12"	10'	
55	12"	10'	
56	8"	15'	
57	12"	15'	
58	8"	15'	
59	8"	20'	
60	8"	15'	
61	12"	20'	
62	12"	20'	
63	12"	15'	
64	12"	20'	
65	12"	10'	
66	8"	25'	
67	18"	25'	
68	12"	10'	
69	12"	20'	
70	8"	15'	
71	12"	10'	
72	8"	10'	
73	12"	10'	
74	12"	20'	
75	12"	15'	
76	8"	25'	
77	12"	15'	
78	8"	20'	
79	8"	20'	
80	8"	15'	
81	12"	25'	
82	3"	5'	
83	3"	7	
84	3"	5'	
85	3"	5'	
86	3"	6'	
87	3"	5'	
88	3"	7'	
89	3"	4'	
90	3"	5'	
91	8"	5'	
92	3"	4'	
93	3"	6'	
94	3"	7'	
95	3"	5'	
96	3"	4'	
97	3"	5'	
98	3"	5'	
99	3"	4'	
100	3"	6'	
101	3"	7'	
102	3"	5'	
103	12"	32'	
104	3"	5'	
105	3"	7	
106	3"	5'	
107	3"	5'	
108	3"	6'	
109	8"	5'	
110	3"	7'	
111	3"	4'	
112	3"	5'	
113	3"	5'	
114	3"	4'	
115	3"	6'	------TO BE REMOVED
116	3"	7'	------TO BE REMOVED
117	3"	5'	------TO BE REMOVED
118	3"	4'	
119	3"	5'	
120	3"	5'	------TO BE REMOVED
121	3"	4'	------TO BE REMOVED
122	3"	6'	
123	3"	7'	------TO BE REMOVED
124	3"	5'	------TO BE REMOVED
125	3"	4'	------TO BE REMOVED
126	3"	6'	
127	3"	7'	------TO BE REMOVED
128	3"	5'	------TO BE REMOVED
129	3"	4'	------TO BE REMOVED
130	3"	5'	------TO BE REMOVED
131	3"	5'	------TO BE REMOVED
132	3"	4'	------TO BE REMOVED
133	3"	6'	------TO BE REMOVED
134	3"	7'	------TO BE REMOVED
135	3"	5'	------TO BE REMOVED
136	10"	16'	------TO BE REMOVED
137	8"	14'	
138	3"	4'	------TO BE REMOVED
139	3"	6'	------TO BE REMOVED
140	3"	7'	------TO BE REMOVED
141	3"	5'	
142	3"	4'	------TO BE REMOVED
143	3"	5'	------TO BE REMOVED
144	3"	5'	------TO BE REMOVED
145	3"	4'	
146	3"	6'	------TO BE REMOVED
147	3"	7'	
148	12"	20'	
149	8"	4'	
150	3"	6'	------TO BE REMOVED
151	3"	7'	------TO BE REMOVED
152	3"	5'	------TO BE REMOVED
153	3"	4'	------TO BE REMOVED
154	3"	5'	
155	3"	5'	
156	3"	4'	
157	3"	6'	
158	3"	7'	
159	3"	5'	
160	3"	5'	
161	3"	4'	
162	8"	5'	
163	3"	5'	
164	3"	4'	
165	11"	6'	
166	3"	7'	
167	3"	5'	
168	3"	7'	
169	12"	28'	
170	3"	5'	
171	3"	4'	
172	3"	5'	
173	3"	4'	
174	3"	6'	
175	3"	7'	
176	3"	5'	
177	3"	3'	
178	3"	8'	

* DESIGNATES TREES THAT ARE 8" DBH OR GREATED TO BE REMOVED IN THE FRONT YARD (11 TREES)
LOT AREA = 50,073 SF (1.15 AC)
EXISTING TREE COVERAGE = 78%
PROPOSED TREE COVERAGE = 54%
PROPOSED RETAINED TREES = 69%
TREE PROTECTION FENCING = π π π π π π
TOTAL TREE DBH TO BE REMOVED = 457 INCHES



NOTE:
TREE PROTECTION FENCING TO INCLUDE 4' HIGH CHAIN LINK FENCE WITH METAL POSTS AT 8' MIN. SPACING 6' LONG WITH 2' IN-GROUND EMBEDMENT.

0 20 40 60
SCALE: FEET

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09-13-2022

TREE REMOVAL AND PROTECTION PLAN

NEW RESIDENCE

1167 Travelers Ridge Drive
Nashville, TN 37220
34th Council Distric
Parcel ID 14507007300
City of Oak Hill
Davidson County, TN

DR.	CHK.	DATE	DESCRIPTION
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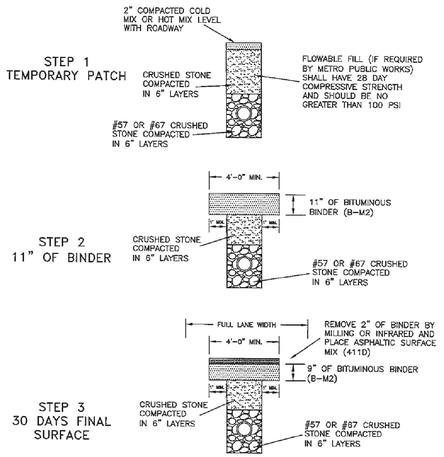

NOT TO SCALE

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY DEPARTMENT OF PUBLIC WORKS	FLUSH TRENCH REPAIR WITH STONE	DWG. NO. ST-270a
DIR. OF ENG.: [signature] DATE: 7/15/15		REVISED: 04/01/08 REVISED: 11/17/08 REVISED: 03/24/10 REVISED: 07/15/15

GENERAL NOTES

1. PRIOR TO PLACEMENT OF CRUSHED STONE OR FLOWABLE FILL THE DEPARTMENT OF PUBLIC WORKS PERMITS OFFICE WILL BE NOTIFIED AND AN INSPECTION OF THE TRENCH WILL BE MADE BY A REPRESENTATIVE OF THE DEPARTMENT OF PUBLIC WORKS PERMITS OFFICE. AT THE COMPLETION OF THE INSTALLATION OF THE CRUSHED STONE OR FLOWABLE FILL, THE DEPARTMENT OF PUBLIC WORKS PERMITS OFFICE WILL BE NOTIFIED AND AN INSPECTION OF THE BACKFILL WILL BE MADE BY A REPRESENTATIVE OF THE DEPARTMENT OF PUBLIC WORKS. AFTER ACCEPTANCE OF THE BACKFILL BY THE REPRESENTATIVE OF THE DEPARTMENT OF PUBLIC WORKS PERMITS OFFICE, THE ASPHALT PAVEMENT CAN BE APPLIED.
2. INSPECTION PERSONNEL OF THE DEPARTMENT OF PUBLIC WORKS SHALL BE NOTIFIED BY CONTRACTOR/PERMITEE AT LEAST TWO (2) DAYS PRIOR TO REQUEST FOR INSPECTION.
3. THE WORK PERFORMED SHALL BE FREE FROM WORKMANSHIP DEFECTS FOR A PERIOD OF ONE (1) YEAR AFTER THE DATE OF ACCEPTANCE BY THE DEPARTMENT OF PUBLIC WORKS PERMIT OFFICE.
4. EXISTING PAVEMENTS, BASES, CURBS & GUTTERS AND SIDEWALKS SHALL BE CUT AND BROUGHT TO A NEAT LINE BY USE OF AN AIR HAMMER, SAW OR OTHER SUITABLE EQUIPMENT. EXPANSION JOINTS REMOVED SHALL BE REPLACED
5. THE MINIMUM WIDTH TO BE TRIMMED ON EACH SIDE OF THE TRENCH LINE, AS SEEN IN THE SECTION MAY BE WAIVED OR AMENDED UPON APPROVAL OF THE METRO DEPARTMENT OF PUBLIC WORKS, HOWEVER, A MINIMUM WIDTH OF REPLACEMENT SHALL BE 4'-0" TO ALLOW FOR A ROLLER.
6. IF PERMANENT PAVEMENT REPAIRS CANNOT BE MADE WITHIN THREE (3) DAYS, THEN TEMPORARY REPLACEMENT SHALL BE MADE WITH 2" COLD MIX. PERMANENT PAVEMENT REPAIR TO BE COMPLETED WITHIN THE REQUIRED TIME PERIOD AS PER METRO CODE 13.20.
7. ALL EXCAVATIONS MADE WITHIN PUBLIC RIGHT-OF-WAY REQUIRE EXCAVATIONS AND STREET CLOSURE PERMITS FROM THE DEPARTMENT OF PUBLIC WORKS PRIOR TO COMMENCING WORK AS PER METRO CODE 13.20.
8. FLOWABLE FILL WILL BE REQUIRED ON ALL ARTERIALS, COLLECTORS AND DOWNTOWN STREETS. FLOWABLE FILL SHALL MEET THE REQUIREMENTS IN TENNESSEE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTION 204, EXCEPT AS MODIFIED BY PUBLIC WORKS TECHNICAL SPECIFICATIONS 02225, LATEST REVISION.
9. IN THE EVENT OF ANY CONFLICT, DISCREPANCY, OR INCONSISTENCY AMONG THE PLANS AND THESE STANDARD DETAILS, THE REQUIREMENTS OF THE STANDARD DETAILS SHALL GOVERN.
10. ALL REPAIRS SHALL INCLUDE FULL LANE WIDTH RESURFACING EXCEPT WHEN UTILIZING INFRARED TECHNOLOGY. SEE INFRARED SPECIFICATIONS ATTACHED. THERE WILL BE A MAXIMUM OF 40 FT LONGITUDINAL REPAIR WHEN USING INFRARED TECHNOLOGY ON AN EXCAVATED PATCH.
11. ALL REPAIRS SHALL UTILIZE A 1-FOOT CUTBACK ON ALL SIDES EXCEPT THE EDGE OF PAVEMENT.

NOT TO SCALE

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY DEPARTMENT OF PUBLIC WORKS	FLUSH TRENCH REPAIR WITH STONE NOTES	DWG. NO. ST-270a
DIR. OF ENG.: [signature] DATE: 7/15/15		REVISED: 04/01/08 REVISED: 11/17/08 REVISED: 03/24/10 REVISED: 07/15/15

GENERAL NOTES CONTINUED:

12. NEW UTILITY CUTS WILL BE MILLED AND PAVED TO ANY EXISTING UTILITY CUT OR DAMAGED PAVEMENT WITHIN 10-FEET. IF EXISTING CUT OR DAMAGED PAVEMENT IS LESS THAN 10-FEET IN LENGTH, THE EXISTING CUT OR DAMAGED PAVEMENT SHALL ALSO BE MILLED AND PAVED.
13. ASPHALT REPAIR ADJACENT TO CURB AND GUTTER ALONG A ROADWAY GREATER THAN 24-INCHES SHALL HAVE FULL LANE WIDTH PAVING.
14. WHEN GRADED STONE (I.E. #57, #67, #78 STONE) IS USED THERE IS GENERALLY NO COMPACTION EQUIPMENT REQUIRED. THE MATERIAL DOES, HOWEVER, NEED TO BE PUT IN THE TRENCH IN APPROXIMATELY 12-INCH LIFTS.
15. GRADED STONE PLACED IN TRENCH SHOULD BE CAPPED WITH 8 TO 12-INCHES OF PUG MIX (MIX IS ESSENTIALLY TYPE A BASE, GRADE D, OR MORE COMMONLY KNOWN AS "CRUSHER RUN"). SEE TDOT STANDARD SPECIFICATION 303.07.
16. TYPE "A" BASE, GRADE "D" CAN BE USED FOR THE ENTIRE BACKFILL AND COMPACTED BY MECHANICAL METHODS IN NO MORE THAN 6-INCH LIFTS AS PROVIDED IN SECTION 204.11 OF TDOT STANDARD SPECIFICATIONS.
17. THE PUG MIX SHOULD BE COMPACTED IN 6-INCH LIFTS WITH A STEEL SHELL ROLLER OR OTHER MECHANICAL VIBRATORY COMPACTION EQUIPMENT. SEE TDOT STANDARD SPECIFICATIONS 303.08 AND 303.09. MATERIAL SHOULD BE ALLOWED TO CURE UNTIL ALL THE MOISTURE IS GONE FROM STONE (USUALLY 24-48 HOURS).
18. THE TRENCH SHOULD THEN HAVE 11-INCHES OF BINDER PLACED LEVEL WITH THE ROADWAY IN A MINIMUM OF TWO (2) LIFTS AND COMPACTED WITH MECHANICAL COMPACTION EQUIPMENT.
19. THE BINDER SURFACE SHALL BE MILLED OR HEATED USING INFRARED TECHNOLOGY TWO 2-INCHES IN DEPTH AND REPLACED WITH TWO (2) INCHES OF SURFACE MIX AND COMPACTED WITH MECHANICAL COMPACTION EQUIPMENT.
20. INTERSECTION REPAIRS WILL ONLY REQUIRE FULL LANE WIDTH PAVING.
22. ANY DISTURBED PAVEMENT MARKINGS MUST BE RESTORED TO CURRENT METRO STANDARDS.
23. DIAGONAL REPAIRS WILL BE REQUIRED TO BE SQUARED OFF AND MILLED AND PAVED. NO INFRARED TECHNOLOGY ALLOWED ON THIS TYPE OF REPAIR.
24. ALL LONGITUDINAL REPAIRS MORE THAN 40 FT IN LENGTH WILL BE REQUIRED TO BE MILLED AND PAVED.
25. FOR ANY DISCREPANCIES OR VARIATIONS FROM SPECIFICATIONS, OBTAIN APPROVAL FROM THE DEPARTMENT OF PUBLIC WORKS.
26. ALL FILL SHALL MEET MANUFACTURING SPECIFICATIONS, IF APPLICABLE.

NOT TO SCALE

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY DEPARTMENT OF PUBLIC WORKS	FLUSH TRENCH REPAIR WITH STONE NOTES	DWG. NO. ST-270a
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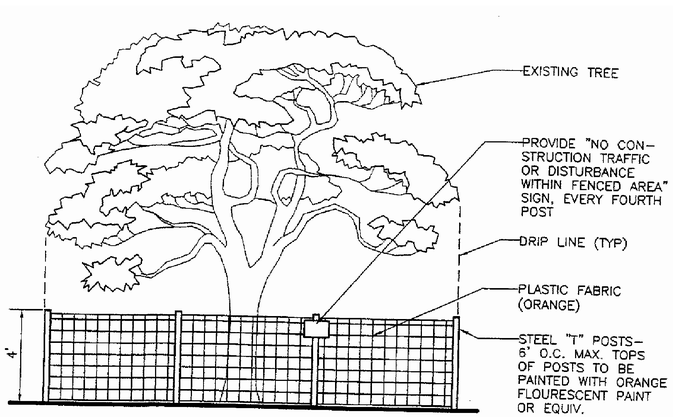
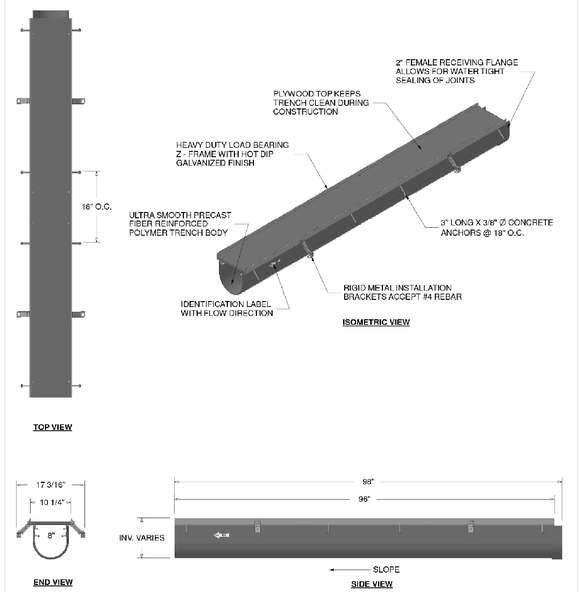


POSTS TO BE PLANTED AT DRIPLINE - INDICATE LOCATION ON ALL PLANS IN SITE SUBMITTAL

TREE PROTECTION DETAIL

DTPFs-HDG15ZJA **8" PRECAST TRENCH DRAIN** R2



TRENCH MATERIAL	FIBER REINFORCED POLYMER
FRAME MATERIAL	STEEL PER ASTM A-36
FRAME COATING	HOT DIP GALVANIZED
ANCHOR STUDS	3" X 3/8" Ø
INSTALL DEVICE	RIGID STAMPED METAL FOR #4 BARS
LOAD RATING	HEAVY DUTY
SLOPE	0.5% TYP (CUSTOM SLOPE AVAILABLE)

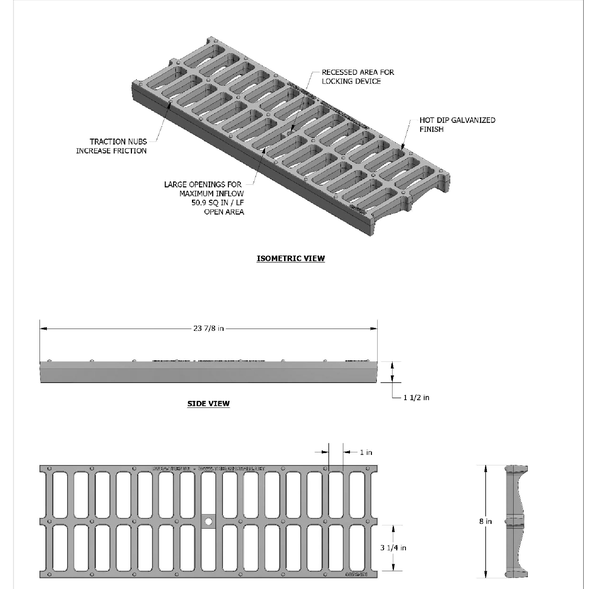
STANDARD TOLERANCES
0 = ±0.25
0.0 = ±0.05
0.00 = ±0.13

NOTE:
ALL TRENCHES ARE FACTORY ASSEMBLED AND READY FOR SITE INSTALLATION

Dura Trench

574c Industrial Way N.
Dallas, GA 30132
PH: 770-505-0575
www.trenchdrain.net

08B24DG **8" SLOTTED DUCTILE IRON GRATE** R2



MATERIAL	DUCTILE IRON 65-45-12
COATING	HOT DIP GALVANIZED
LOCKING	BOLT AND TOGGLE
LOAD RATING	DIN CLASS E
ADA / HEEL GUARD	NO

STANDARD TOLERANCES
0 = ±0.25
0.0 = ±0.05
0.00 = ±0.13

Dura Trench
manufactured by Ede'mar

574c Industrial Way N.
Dallas, GA 30132
PH: 770-505-0575
www.trenchdrain.net

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CIVIL ENGINEERING SERVICES
228 Spence Lane Nashville, TN 37210
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TONY L. SNYDER REGISTERED ENGINEER AGRICULTURAL No. 22059 STATE OF TENNESSEE
09-20-2022

DETAILS

NEW RESIDENCE
1167 Travelers Ridge Drive
Nashville, TN 37220
Parcel ID 145070073
City of Oak Hill
34th Council Distric
Davidson County, TN

DR.	CHK.	DATE	DESCRIPTION

FILE NO. 1113-21

9

TN GRID
NAD 83

SUMMARY OF
PRE-DEVELOPMENT
TREE CANOPY COVER
AS A PERCENTAGE OF
THE LOT SIZE

TOTAL LOT AREA
50073.20 S.F.
PRE-DEVELOPMENT
TREE CANOPY COVERAGE
47308 S.F.

47308 / 50073.20 = 0.94

TREE PROTECTION:

ANY HOLDER OF A PERMIT ISSUED FROM THE CITY OF OAK HILL TENNESSEE FOR LAND DISTURBANCE ACTIVITIES AT A SITE, AND ALL SUBCONTRACTORS WORKING FOR A PERMIT HOLDER, UNLESS OTHERWISE EXEMPT, SHALL WHOLLY ABIDE BY: CITY OF OAK HILL MUNICIPAL CODE TITLE 14, SECTIONS 501-909 FOR WOODLAND AND TREE PROTECTION.

BARRICADES SHALL BE INSTALLED A MINIMUM OF TEN FEET (10') FROM A PROTECTED TREE OR AT THE DESIGNATED PROTECTED ROOT ZONE AS SHOWN ON THE APPROVED SITE PLAN.

THE CODE COMPLIANCE OFFICER MAY ALLOW MINOR MODIFICATIONS TO THIS STANDARD BASED UPON SPECIFIC SITE CONFIGURATION ISSUES.

ALL PERMIT APPLICATIONS SHALL INCLUDE A CERTIFIED ARBORIST'S REPORT FOR AFFECTED TREES.

PROPERTY IS ZONED RESIDENTIAL "C" WITHIN THE JURISDICTION OF THE CITY OF OAK HILL, TN. SETBACKS FOR RESIDENTIAL "C" ZONING TAKEN FROM THE CITY OF OAK HILL, TN OFFICIAL ZONING MAP ADOPTED BY ORDINANCE 02-90 ON FEBRUARY 27, 2018.

MINIMUM LOT AREA = 1 ACRE
MAXIMUM LOT COVERAGE = 15246 S.F. OR 35%
MAXIMUM HEATED/COOLED SPACE = 60% UP TO 9500
MAXIMUM HEIGHT = 2 1/2 STORIES / 36'
MINIMUM YARD REQUIREMENTS:
FRONT = WHICHEVER IS GREATER, 75' OR THE AVERAGE OF 4 LOTS, WHICH ARE MOST ADJACENT, WITH LIKE-FACING HOMES THEREON (PER SECTION 14-121.F OF ZONING ORDINANCE)

CONTEXTUAL SETBACK SUMMARY
77.1 + 51.7 + 61.1 + 76.1 / 4 = 66.5

SIDE = 30'
REAR = 60'

MINIMUM FRONT LOT LINE = 100'
MAXIMUM LOT DEPTH/LOT WIDTH RATIO = 4:1

VERIFY SETBACKS WITH CODES BEFORE DESIGN OR CONSTRUCTION DECISIONS ARE MADE.

BY GRAPHIC SCALING FROM THE LATEST F.E.M.A. / FLOOD INSURANCE RATE MAP THIS PROPERTY IS NOT LOCATED IN A F.E.M.A. / F.I.R.M SPECIAL FLOOD HAZARD AREA. MAP 47037C PANEL 0358"H" EFFECTIVE DATE : 4-5-17

LEGEND
W=WATER LINE (RECORD)
S= SEWER LINE (RECORD)
OHL=OVERHEAD LINES
E/P =EDGE PAVEMENT
U/P =UTILITY POLE
F.H. =FIRE HYDRANT
M.B.S.L. =MINIMUM BUILDING SETBACK LINE

CONTOURS ARE SHOWN AT 2 FOOT INTERVALS ARE WERE GENERATED FROM A COMBINA OF A RADIAL TOPOGRAPHIC SURVEY PERFORMED ON SITE USING EDM EQUIPMENT AND A TOPCON HIPER-SR DUAL FREQUECY GPS RECEIVER TIED TO THE T.D.O.T. GNSS REFERENCE NETWORK AND FROM DIGITAL ELEVATION MODELS FROM TNLIDAR FLOWN IN 2016. TILE #1716629NE & 1716629SE ELEVATION DATUM NAVD 88, GEOID 12A

TREE TABLE

PRE-DEVELOPMENT INVENTORY TREE #	DBH	DRIP ZONE	REMOVED & REPLACED CAL-IPER	QTY
1	12"	25'		
2	8"	20'		
3	12"	20'		
4	12"	25'		
5	12"	20'		
6	8"	25'		
7	8"	15'		
8	8"	25'		
9	12"	20'		
10	8"	15'		
11	8"	15'		
12	8"	15'		
13	12"	20'	5"	3
14	18"	25'	5"	4
15	24"	25'	5"	5
16	12"	25'		
17	8"	20'	5"	2
18	8"	20'	5"	2
19	9"	15'	5"	2
20	24"	30'	5"	5
21	8"	15'	5"	2
22	12"	20'		
23	8"	10'	5"	2
24	12"	DEAD	-	-
25	12"	20'		
26	8"	20'		
27	8"	15'		
28	12"	20'		
29	12"	20'		
30	8"	10'		
31	8"	20'	5"	2
32	12"	15'	5"	3
33	8"	10'	5"	2
34	24"	25'	5"	5
35	8"	15'	5"	2
36	8"	15'	5"	2
37	8"	10'	5"	2
38	12"	20'	5"	3
39	18"	25'	5"	4
40	8"	15'	5"	2
41	12"	20'	5"	3
42	12"	25'	5"	3
43	8"	20'	5"	2
44	8"	20'		
45	8"	20'		
46	8"	15'		
47	24"	30'	5"	5
48	18"	DEAD	-	-
49	24"	25'		
50	8"	10'		
51	8"	20'		
52	8"	10'		
53	12"	15'		
54	12"	10'		
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56	8"	15'		
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58	8"	15'		
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74	12"	20'		
75	12"	15'		
76	8"	25'		
77	12"	15'		
78	8"	20'		
79	8"	20'		
80	8"	15'		
81	12"	25'		
82	3"	5'		
83	3"	7'	5"	1
84	3"	5'	5"	1
85	3"	5'	5"	1
86	3"	6'	5"	1
87	3"	5'		
88	3"	7'		
89	3"	4'		
90	3"	5'		
91	8"	5'		
92	3"	4'		
93	3"	6'		
94	3"	7'		
95	3"	5'		
96	3"	4'		
97	3"	5'		
98	3"	5'		
99	3"	4'		
100	3"	6'		
101	3"	7'	5"	1
102	3"	5'		
103	12"	32'		
104	3"	6'		
105	3"	7'		
106	3"	5'		
107	3"	5'		
108	3"	6'		
109	8"	5'		
110	3"	7'		
111	3"	4'		
112	3"	5'		
113	3"	5'		
114	3"	4'		
115	3"	6'		
116	3"	7'	5"	1
117	3"	5'	5"	1
118	3"	4'		
119	3"	5'		
120	3"	5'	5"	1
121	3"	4'	5"	1
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123	3"	7'	5"	1
124	3"	5'		
125	3"	4'		
126	3"	6'		
127	3"	7'	5"	1
128	3"	5'	5"	1
129	3"	4'	5"	1
130	3"	5'	5"	1
131	3"	5'	5"	1
132	3"	4'		
133	3"	6'		
134	3"	7'		
135	3"	5'	5"	1
136	10"	16'		
137	8"	14'		
138	3"	4'	5"	1
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142	3"	4'	5"	1
143	3"	5'	5"	1
144	3"	5'		
145	3"	4'		
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147	3"	7'		
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151	3"	7'		
152	3"	5'		
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154	3"	5'		
155	3"	5'		
156	3"	4'		
157	3"	6'		
158	3"	7'		
159	3"	5'		
160	3"	5'		
161	3"	4'		
162	8"	5'		
163	3"	5'		
164	3"	4'		
165	11"	6'		
166	3"	7'		
167	3"	5'		
168	3"	7'		
169	12"	28'		
170	3"	5'		
171	3"	4'		
172	3"	5'		
173	3"	4'		
174	3"	6'		
175	3"	7'		
176	3"	5'		
177	3"	3'		
178	3"	8'		

PREPARED BY:
CAMPBELL, McRAE
& ASSOCIATES,
SURVEYING, INC.
P.O. BOX 41153
NASHVILLE, TN, 37204
PH. 615-298-2424
EMAIL cmas@att.net

JOHN ALAN HOOD
REGISTERED
LAND SURVEYOR
AGRICULTURE
TENNESSEE
1838

I HEREBY CERTIFY THAT THIS IS A CATEGORY 1 SURVEY WITH THE RATIO OF PRECISION OF THE UNADJUSTED SURVEY BEING 1: 22,000. THIS SURVEY WAS DONE IN COMPLIANCE WITH THE CURRENT STANDARDS OF PRACTICE ADOPTED BY THE TENNESSEE STATE BOARD OF EXAMINERS FOR LAND SURVEYORS.

JOHN ALAN HOOD
TN. R.L.S.#1838

BOUNDARY SURVEY
LOT 39 REVISED PLAN OF
INNS OF GRANNY WHITE
R.O.D.C., TN.
BOOK 6250, PAGE 450
AMENDED IN
BOOK 6900, PAGE 125
R.O.D.C., TN

PROPERTY LOCATED
34TH COUNCIL DISTRICT OF
NASHVILLE, DAVIDSON COUNTY
TENNESSEE,
IN THE CITY OF OAK HILL
ON THE WESTERLY MARGIN OF
TRAVELLERS RIDGE DRIVE,
SOUTH OF GRANNY WHITE PIKE

PROPERTY ADDRESS:
1167 TRAVELERS RIDGE DRIVE
NASHVILLE, TN 37220

DEED REFERENCE:
INSTRUMENT # 20210416-0051064
R.O.D.C., TN.

PARCEL ID
14507007300
P.A.D.C., TN.

DATE: 8-29-2022

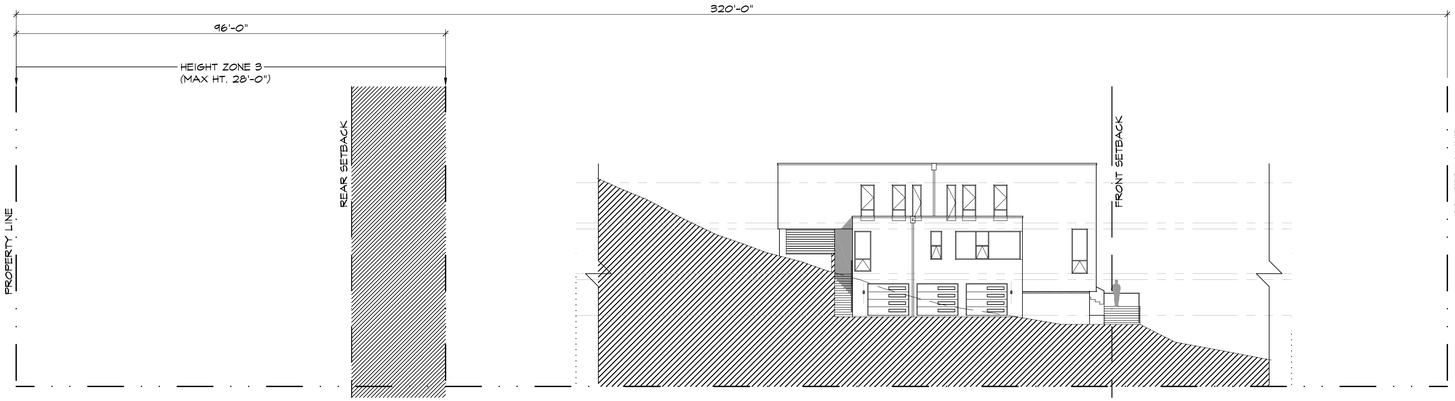
SCALE: 1" = 40'

PREPARED FOR:
SABALO DEVELOPMENT, LLC

bgc construction
travelers ridge

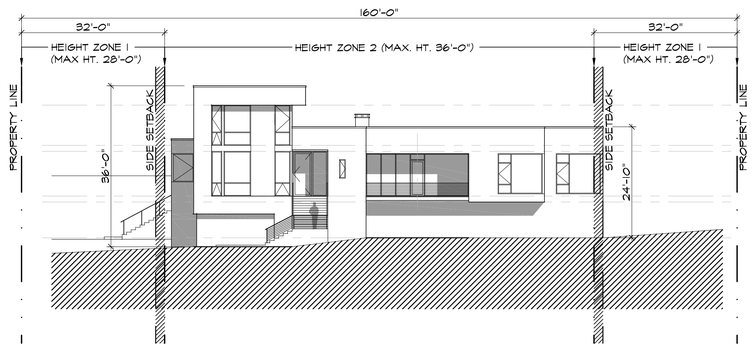
1167 TRAVELERS RIDGE NASHVILLE, TN 37220

MAY 24, 2021



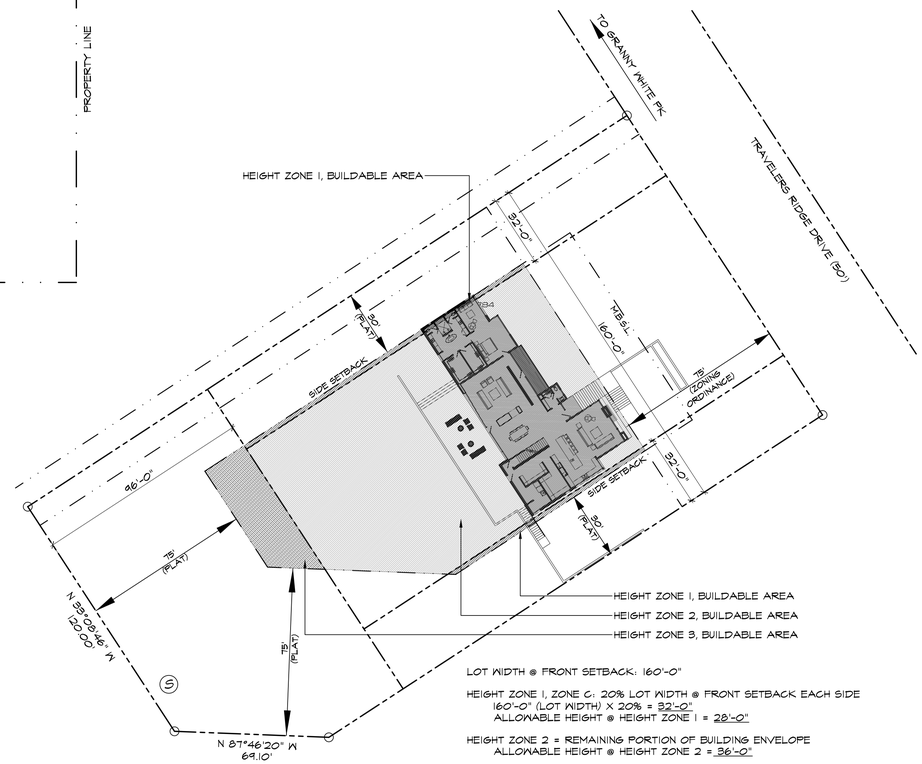
HEIGHT ZONE 3 DIAGRAM

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



HEIGHT ZONE 1 & 2 DIAGRAM

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



LOT WIDTH @ FRONT SETBACK: 160'-0"

HEIGHT ZONE 1, ZONE C: 20% LOT WIDTH @ FRONT SETBACK EACH SIDE
160'-0" (LOT WIDTH) X 20% = 32'-0"
ALLOWABLE HEIGHT @ HEIGHT ZONE 1 = 28'-0"

HEIGHT ZONE 2 = REMAINING PORTION OF BUILDING ENVELOPE
ALLOWABLE HEIGHT @ HEIGHT ZONE 2 = 36'-0"

HEIGHT ZONE 3, ZONE C: 30% LOT DEPTH APPLIED ALONG REAR PROPERTY LINE
320'-0" (LOT DEPTH) X 30% = 96'-0"
ALLOWABLE HEIGHT @ HEIGHT ZONE 3 = 28'-0"

HEIGHT ZONE CALCULATION / PLAN

SCALE: 1/32" = 1'-0"

SHEET INDEX

PROJECT NOTES

AREAS:

FIRST FLOOR:	3,475 GROSS SQUARE FEET (CONDITIONED)
SECOND FLOOR:	1,533 GROSS SQUARE FEET (CONDITIONED)
GARAGE:	1,026 GROSS SQUARE FEET

CITY OF OAK HILL INFORMATION

ZONING AREA: RESIDENTIAL 'C'
GROSS FLOOR AREA RATIO:
TOTAL BUILDING AREA: 6,034 GROSS SQ FT
TOTAL LOT AREA: 50,073.20 SQ FT
GROSS FAR: 6,034 / 50,073.20 = 0.12 (12%)
ALLOWABLE GROSS FAR: 18%

ZINC ARCHITECTURE
5820 FREDERICKSBURG DRIVE
NASHVILLE, TN 37215
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PROJECT No. 2109

bgc
travelers ridge
1167 travelers ridge
nashville, tn 37220

MAY 24, 2021
ISSUE FOR PERMIT

REVISIONS

NO.	DATE	DESCRIPTION
	09.18.2022	CITY OF OAK HILL ZONING COMMENTS

COVER & INDEX
ZONING INFO

SHEET No:
G01

DATE: 05.24.2021

ISSUE FOR PERMIT 05.24.21

TYPICAL HATCHES

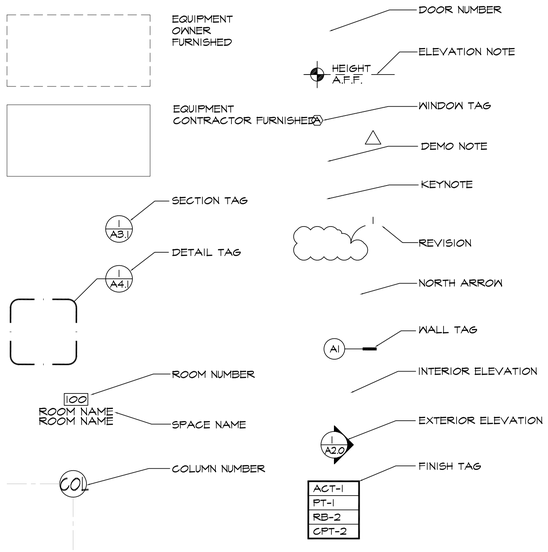
ELEVATION

- CERAMIC TILE/ QUARRY TILE
- BRICK
- METAL PANEL
- CMU RUNNING BOND
- GLAZING

SECTION

- EARTH
- CUT STONE
- GRANULAR FILL
- WOOD BLOCKING
- STEEL (LARGE SCALE)
- SPRAY FOAM INSULATION
- FINISHED WOOD
- PLYWOOD (LARGE SCALE)
- CONCRETE
- INSULATION
- PLYWOOD (SMALL SCALE)
- RIGID INSUL.
- CONCRETE BLOCK
- GYPSUM BD/ PLASTER
- MINERAL FIBER INSUL.

ARCHITECTURAL SYMBOLS



ARCHITECTURAL ABBREVIATIONS

ABV.	ABOVE	FPL	FIREPLACE	OA	OVERALL	TEL	TELEPHONE
A.F.F.	ABOVE FINISHED FLOOR	FWC	FABRIC WALL COVERING	OH	OVERHEAD	TV	TELEVISION
ACC.	ACCESS	FLEX.	FLEXIBLE	O.F.C.I.	OWNER FURNISHED CONTRACTOR INSTALLED	T.F.C.I.	TENANT FURNISHED CONTRACTOR INSTALLED
ACC. FL.	ACCESS FLOOR	FLR.	FLOOR	O.F.O.I.	OWNER FURNISHED OWNER INSTALLED	T.F.T.I.	TENANT FURNISHED TENANT INSTALLED
ACC. PNL.	ACCESS PANEL	FD.	FLOOR DRAIN	PTD.	PAINTED	THK.	THICK
ACOUS.	ACOUSTICAL	FTG.	FOOTING	PR.	PAIR	T&G	TONGUE AND GROOVE
A.C.T.	ACOUSTICAL TILE	FDN.	FOUNDATION	PNL.	PANEL	T.O.S.	TOP OF SLAB/STEEL
ADJ.	ADJUSTABLE	FURR.	FURRING/FURRED	PKG.	PARKING	T.O.W.	TOP OF WALL
ALT.	ALTERNATE	FV	FIELD VERIFY	PART.	PARTITION	T.O.C.	TOP OF CONCRETE
ALUM.	ALUMINUM	GA	GAUGE	PVMT.	PAVEMENT	TEMP.	TEMPORARY
ANOD.	ANODIZED	GALV.	GALVANIZED	PED.	PEDESTAL	T.	TEMPERED
APPROX.	APPROXIMATE	G.C.	GENERAL CONTRACTOR	PERF.	PERFORATE	TINT.	TINTED
ARCH.	ARCHITECTURAL	GL	GLASS/GLAZING	PLAS.	PLASTIC	TYP.	TYPICAL
AUTO.	AUTOMATIC	GYP.	GYPSUM	PL.	PLATE	TB	TOWEL BAR
BSMT.	BASEMENT	GYP. BD.	GYPSUM BOARD	PLAST.	PLASTER	TR	TREAD
BRG.	BEARING	HDW.	HARDWARE	P. LAM.	PLASTIC LAMINATE	TS	TUBE STEEL
BRG. PL.	BEARING PLATE	HDR.	HEADER	PLY. WD.	PLYWOOD	UNFIN.	UNFINISHED
BLKG.	BLOCKING	HTG.	HEATING	PT.	POINT	UON	UNLESS OTHERWISE NOTED
BD	BOARD	HVAC.	HEATING / VENTILATION / AIR CONDITIONING	P.V.C.	POLYVINYL CHLORIDE	V.J.	VEE JOINT
BLDG.	BUILDING	HT.	HEIGHT	PSF.	POUNDS PER SQUARE FOOT	VARN.	VARNISH
B.U.R.	BUILT UP ROOF	HEX.	HEXAGONAL	PSI.	POUNDS PER SQUARE INCH	VER.	VERIFY
CAB.	CABINET	HP	HIGH POINT	PL.	PROPERTY LINE	VEST.	VESTIBULE
CSMT.	CASEMENT	HC	HOLLOW CORE	QT.	QUARRY TILE	VERT.	VERTICAL
CTR.	CENTER	HM	HOLLOW METAL	RAD.	RADIUS	V.C.T.	VINYL COMPOSITION TILE
CLG.	CEILING	HB	HOSE BIB	REF.	REFERENCE	VIF	VERIFY IN FIELD
CLG. HEIGHT	CEILING HEIGHT	HORIZ.	HORIZONTAL	REFR.	REFRIGERATOR	V.W.C.	VINYL WALL COVERING
C.T.	CERAMIC TILE	INCL.	INCLUDE	REINF.	REINFORCED	V.T.	VINYL TILE
COL.	COLUMN	I.A.	INSIDE DIAMETER	REQD.	REQUIRED	V.B.	VINYL BASE
CIR.	CIRCLE	INSUL.	INSULATE / INSULATION	RESIL.	RESILIENT	V.F.	VINYL FABRIC
CONC.	CONCRETE	INT.	INTERIOR	RET.	RETURN	WSCT.	WAINSCOT
CMU	CONCRETE MASONRY UNIT	JT	JOINT	RA.	RETURN AIR	WC	WATER CLOSET
CONT.	CONTINUOUS	KIT	KITCHEN	RB	RUBBER BASE	WWM.	WELDED WIRE MESH
C.J.	CONTROL JOINT	LAM.	LAMINATE	REV.	REVERSE/REVISION	WWF.	WELDED WIRE FABRIC
DTL.	DETAIL	LAV	LAVATORY	R.O.W.	RIGHT OF WAY	W/O	WITHOUT
DIAG.	DIAGONAL	LB	LAG BOLT	R	RISER	WG	WIRED GLASS
DIAM.	DIAMETER	LGT. WT.	LIGHT WEIGHT	RD	ROOF DRAIN	WD	WOOD
DIM.	DIMENSION	MFR.	MANUFACTURING	RM	ROOM	WT	WEIGHT
DEPT.	DEPARTMENT	MAS.	MASONRY	R.O.	ROUGH OPENING	@	AT
DISP.	DISPENSER	MO	MASONRY OPENING	SCHED.	SCHEDULE	CL	CENTER LINE
DBL.	DOUBLE	MAX.	MAXIMUM	SECT.	SECTION	C	CHANNEL
DH.	DOUBLE HUNG	MECH.	MECHANICAL	SHT.	SHEET	ø	DIAMETER
DS	DOWNSPOUT	MEM.	MEMBRANE	SHWR.	SHOWER	PL	PLATE
DWG.	DRAWING	MTL.	METAL	SIM.	SIMILAR	±	PLUS OR MINUS
DF	DRINKING FOUNTAIN	MIN.	MINIMUM	SPKR.	SPEAKER	#	POUND / NUMBER
EA	EACH	MIRR.	MIRROR	SPEC.	SPECIFICATION		
EWC	ELECTRIC WATER COOLER	MISC.	MISCELLANEOUS	SQ.	SQUARE		
ELEC.	ELECTRIC	MTD.	MOUNTED	SQ. FT.	SQUARE FEET		
EMER.	EMERGENCY	MULL.	MULLION	SS.	STAINLESS STEEL /		
ELEV.	ELEVATION	NAT.	NATURAL	STD.	STANDARD		
ENCL.	ENCLOSURE	NRC.	NOISE REDUCTION COEFFICIENT	STL.	STEEL		
E.O.S.	EDGE OF SLAB	N.R.	NOISE REDUCTION	STOR.	STORAGE		
EQ.	EQUAL	NOM.	NOMINAL	STRUCT.	STRUCTURAL		
EQUIP.	EQUIPMENT	NFHB.	NON FREEZE HOSE BIB	SUSP.	SUSPENDED		
EXIST.	EXISTING	N.I.C.	NOT IN CONTRACT	SYM.	SYMMETRICAL		
E.J.	EXPANSION JOINT	N.T.S.	NOT TO SCALE	SYS.	SYSTEM		
EXP.	EXPOSED	O.C.	ON CENTER	S.T.C.	SOUND TRANSMISSION CLASS		
EXT.	EXTERIOR	OPNG.	OPENING				
F.F.	FINISH FLOOR	OPP.	OPPOSITE				
FE	FIRE EXTINGUISHER	OD	OUTSIDE DIAMETER				
FEC	FIRE EXTINGUISHER CABINET	OPH	OPPOSITE HAND				
FHS	FIRE HOSE STATION						

NOTES

ROOFING

CONTRACTOR TO COORDINATE THE FINAL SELECTION OF ROOFING MATERIAL WITH THE OWNER

ALL ROOF SHEATHING TO BE 5/8" CDX PLYWOOD WITH EDGE CLIPS AND TWO LAYERS OF 15 POUND ROOF FELT.

ALL VALLEYS TO BE OVERLAPPED ROOFING.

ALL ROOFING NAILS TO BE RUST-RESISTANT GALVANIZED OR BETTER. PROVIDE MANUFACTURER'S WARRANTY TO OWNER.

CONTRACTOR TO PROPOSE SYSTEM OF PRE-FINISHED GUTTERS AND DOWNSPOUTS TO UNDERGROUND DRAINAGE.

SPECIALTY SYSTEMS

CONTRACTOR TO COORDINATE ALARM SYSTEM REQUIREMENTS WITH OWNER AND OWNER'S ALARM SYSTEM PROVIDER. COORDINATE TIMING OF INSTALL WITH APPROPRIATE PROJECT PROGRESS.

COORDINATE CABLE AND LOW VOLTAGE WIRING REQUIREMENTS WITH OWNER. PROVIDE DATA AND CABLE OUTLETS AS DICTATED BY OWNER.

PROVIDE AND WIRE FOR DOORBELL AT ENTRANCE DOOR(S). COORDINATE SELECTION CHIMES AND DOORBELL BUTTON WITH OWNER.

MECHANICAL SYSTEMS

PRIOR TO INSTALLATION OF THE SYSTEM, ARCHITECT AND OWNER SHALL REVIEW AND APPROVE A LAYOUT DRAWING SHOWING DUCT RUNS, UNIT LOCATIONS, RETURN AIR LOCATIONS AND REGISTER LOCATIONS.

SYSTEM DESIGN SHALL BE IN KEEPING WITH STANDARD CUSTOM GRADE RESIDENTIAL CONSTRUCTION. COORDINATE TYPE, SIZE AND NUMBER OF UNITS NECESSARY WITH ARCHITECT AND OWNER. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ARCHITECT FOR APPROVAL.

ELECTRICAL SYSTEM

THIS IS A "PERFORMANCE SPECIFICATION". THE CONTRACTOR SHALL EXAMINE THE DRAWINGS TO ASCERTAIN THE POWER AND LOAD REQUIREMENTS AND SHALL DESIGN THE ELECTRICAL SYSTEM AND THE SIZE OF ALL EQUIPMENT, MATERIALS, AND WIRING.

CONTRACTOR TO COORDINATE THE DESIGN OF THE MAIN ELECTRICAL SYSTEM WITH THE REQUIREMENTS OF THE SUBDIVISION (WHERE APPLICABLE).

OUTLETS AND SWITCHES MAY BE SHOWN ON DRAWINGS TO ILLUSTRATE DESIGN INTENT. CONTRACTOR SHALL VERIFY CODE REQUIREMENTS AND COORDINATE ADJUSTMENTS WITH ARCHITECT.

GENERAL CONCRETE

ALL CONCRETE SHALL BE STANDARD WEIGHT 3,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS UNLESS OTHERWISE NOTED.

CONSTRUCTION OR CONTROL JOINTS SHALL BE PROVIDED IN SLABS ON GRADESO THAT THE MAXIMUM AREA BETWEEN JOINTS SHALL BE 800 SQUARE FEET (OR LESS) AND THE LENGTH NOT MORE THAN TWICE THE WIDTH. VERIFY PROPOSED LAYOUT WITH ARCHITECT.

REINFORCING BARS SHALL BE DEFORMED BILLET STEEL BARS COMPLYING WITH ASTM A615, MINIMUM GRADE 60.

WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-82 AND A-185. LAP FABRIC WITH A MINIMUM OF 6" AT EACH SPLICE.

CONCRETE FOOTINGS

IF, AFTER EXCAVATION, THE CONDITION OF THE SOIL INDICATES A SAFE BEARING CAPACITY OF LESS THAN 2500 PSF, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND THE FOOTING DESIGN SHALL BE RE-DESIGNED, IF NECESSARY. ALL FOOTINGS SHALL BEAR ON ORIGINAL UNDISTURBED SOIL WHERE POSSIBLE.

ALL REINFORCING STEEL SHALL BE OF AMERICAN MANUFACTURE CONFORMING TO LOCAL BUILDING ORDINANCES, AND ASTM STANDARDS. WHERE SPLICED, REBARS SHALL LAP 40 BAR DIAMETERS WITH A MINIMUM OF 2'-0". ALL REINFORCING STEEL IN FOOTINGS SHALL BE LOCATED 3" CLEAR FROM BOTTOM AND SIDES OF FOOTING.

ALL AGGREGATES TO BE HARDROCK TO MEET ASTM C33

GENERAL

THESE DRAWINGS ARE ISSUED WITHOUT SPECIFICATIONS. ALL MATERIALS AND WORKMANSHIP SHALL BE EQUAL OR ABOVE ACCEPTED STANDARDS FOR CUSTOM GRADE RESIDENTIAL CONSTRUCTION.

THE DRAWINGS ARE INTENDED TO ESTABLISH THE DESIGN INTENT BUT NOT COMPLETELY DEFINE THE MEANS AND MANNER OF CONSTRUCTION.

CONTRACTOR SHALL INCLUDE IN HIS CONTRACT PROPOSAL REASONABLE ALLOWANCES FOR ITEMS, EQUIPMENT, OR MATERIALS NOT YET SPECIFIED OR SELECTED. SEE ALLOWANCE SCHEDULE IF PRESENT.

CONTRACTOR SHALL NOTIFY ARCHITECT OF ANY INCONSISTENCIES OR CONFLICTS IN THE DRAWINGS.

CONTRACTOR SHALL COORDINATE ANY SITE AND LANDSCAPE WORK WITH THE OWNER OR OWNER'S REPRESENTATIVE.

CONTRACTOR SHALL EMPLOY A LICENSED SURVEYOR FOR PROPER HOUSE SITING. OWNER SHALL APPROVE HOUSE LOCATION PRIOR TO BEGINNING ANY CONSTRUCTION.

CLEARING AND GRUBBING SHALL ONLY OCCUR IN HOUSE FOOTPRINT, DRIVEWAY, AND RE-GRADING AREAS. OWNER WILL MARK OR TAG ANY TREES TO BE LEFT UNDISTURBED.

ALL DISTURBED TOPSOIL TO BE STORED ON SITE.

ALL CONCRETE BLOCK AND BRICK SHALL HAVE SAWED JOINTS FOR ANGLED CUTS.

ALL PERIMETER AND PIER TERMITE SHIELDS SHALL BE METAL OR PLASTIC.

CONTRACTOR TO ENSURE THAT ALL FINISH FLOORS (CERAMIC TILE, STONE TILE, HARDWOOD, ETC.) THEIR RESPECTIVE SUBSTRATES, AND ANY FLOOR HEATING SYSTEMS SHALL RESULT IN A FLUSH SURFACE THROUGHOUT. VERIFY FINAL SELECTION OF ALL FINISH MATERIALS AND FLOOR HEATING REQUIREMENTS WITH OWNER PRIOR TO FRAMING.

CONCEAL ALL PIPING BEHIND DRYWALL. WHERE PIPING IS TOO LARGE, OBTAIN ARCHITECT'S APPROVAL FOR WALLS TO BE FURRED OUT TO CONCEAL PIPING.

PROVIDE CHASES FOR MECHANICAL DUCTWORK. OBTAIN ARCHITECT'S APPROVAL FOR WALLS TO BE FURRED OUT TO CONCEAL DUCTWORK.

PROVIDE DOUBLE STUDS AND BLOCKING WHERE REQUIRED TO SUPPORT EQUIPMENT AND/OR MISCELLANEOUS ITEMS.

DO NOT SCALE DRAWINGS! IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM THE ARCHITECT BEFORE CONTINUING WITH CONSTRUCTION.

CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL EQUIPMENT WITH THE OWNER.

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND COORDINATE WITH ALL TRADES / SUBCONTRACTORS.

CONTRACTOR SHALL VERIFY THE LOCATION(S) OF ALL EQUIPMENT AS WELL AS DIMENSIONS OF EQUIPMENT.

CONTRACTOR SHALL COORDINATE AND VERIFY ALL DIMENSIONS AND CONDITIONS WITH SHOP DRAWINGS PRIOR TO SUBMITTAL OF PRODUCT DATA TO THE ARCHITECT FOR APPROVAL.

CONTRACTOR SHALL BE FULLY LICENSED AND INSURED TO PERFORM THE WORK, AND SHALL PROVIDE CERTIFICATES TO THE OWNER AS PROOF THEREOF.

ALL WORK SHALL CONFORM TO APPLICABLE FEDERAL, STATE AND LOCAL CODES, ORDINANCES, REGULATIONS, AND RESTRICTIONS. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND APPROVALS.

CONTRACTOR SHALL BE RESPONSIBLE FOR THE SCHEDULING OF SUBCONTRACTORS AND THEIR ADHERENCE TO THE DRAWINGS AND THE SCOPE OF THE WORK.

ALL WORK SHALL CONFORM TO INDUSTRY STANDARDS AND MANUFACTURER'S REQUIREMENTS AS MINIMUM CRITERIA OF ACCEPTABILITY.

CONTRACTOR SHALL SUBMIT SAMPLES OF FINISH ITEMS FOR OWNER'S APPROVAL PRIOR TO THE ORDERING, FABRICATION OR INSTALLATION OF THE WORK IN THAT CATEGORY.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY SHORING NECESSARY DURING CONSTRUCTION TO INSURE STRUCTURAL INTEGRITY OF THE BUILDING.

CONTRACTOR SHALL PROVIDE ADEQUATE TEMPORARY PROTECTION FROM THE ELEMENTS DURING CONSTRUCTION AT ROOF AND EXTERIOR OPENINGS.

MAINTAIN JOB SITE CLEAR OF TRASH AND DEBRIS. REMOVE ALL WASTE MATERIAL PRIOR TO SUBSTANTIAL COMPLETION AND FINAL ACCEPTANCE.

CONTRACTOR SHALL PERFORM A THOROUGH AND PROFESSIONAL CLEANING PRIOR TO SUBSTANTIAL COMPLETION.

CONTRACTOR SHALL PRESENT A MANUAL TO THE OWNER UPON COMPLETION CONTAINING ALL PRODUCT OPERATING, PERFORMANCE, AND WARRANTY INFORMATION.

PROVIDE STONE, BRICK, OR PRE-FINISHED METAL THRESHOLDS AT ALL EXTERIOR DOORS. 4" TYPICAL STEP DOWN FROM FINISH FLOOR TO TERRACE, STOOP, OR LANDING.

SOIL POISONING TO BE BY A LICENSED PEST CONTROL COMPANY. PROVIDE LETTER OF ACCEPTANCE TO OWNER ALONG WITH A LIFETIME GUARANTEE.

PROVIDE PERIMETER TRENCH AND POSITIVE DRAIN IN CRAWL SPACE. PROVIDE 4" OUTLET AT LOW POINT (IF APPLICABLE).

PROVIDE 4" PERIMETER DRAIN ON EXTERIOR WITH OUTLET AT LOW POINT MINIMUM 5'-0" FROM HOUSE.

SHOP DRAWINGS SHALL BE PRESENTED TO THE ARCHITECT AND/OR OWNER FOR APPROVAL ON THE FOLLOWING.
A. WOOD TRUSSES (IF APPLICABLE)
B. CABINETS
C. IRON RAILINGS AND DECORATIVE METAL WORK
D. INTERIOR HANDRAILS AND BALUSTERS

ALL VENTING AND ROOF PENETRATIONS SHALL OCCUR ONLY ON THE REAR OR SIDE HIPS (IF APPLICABLE) OF THE HOUSE. VENTS SHALL BE AS NOTED ON PLAN OR AS DETERMINED BY ROOFING CONTRACTOR.

ALL DRYWALL SHALL BE GLUED OR MACHINE SCREWED TO STUDS. DRYWALL SHALL BE:
5/8" THICK USG ON CEILINGS
1/2" THICK USG ON WALLS

FINAL GRADING AND DRAINAGE TO PROVIDE PROPER WATER RUNOFF SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNLESS SUPERCEDED BY THE LANDSCAPE PLAN OR LANDSCAPE ARCHITECT.

CONTRACTOR TO PROVIDE THE FOLLOWING AT OWNER'S COST (INCLUDE IN CONTRACT): EROSION CONTROL, TEMPORARY UTILITIES, PROPER PROJECT SAFETY MEASURES, AND CURRENT SET OF BUILDING PLANS ON SITE AT ALL TIMES.

ALL PAY REQUESTS SHALL BE REVIEWED AND APPROVED BY THE ARCHITECT & OWNER.

ZINC ARCHITECTURE
5820 FREDERICKSBURG DRIVE
NASHVILLE, TN 37215
P. 615.419.2775
WWW.ZINCARCH.COM

PROJECT No. 2109

bgc
travelers ridge
1167 travelers ridge
nashville, tn 37220

MAY 24, 2021
ISSUE FOR PERMIT

REVISIONS

NO.	DATE	DESCRIPTION

NOTES, SYMBOLS & ABBREVIATIONS

SHEET No:

G02

DATE: 05.24.2021

SITE PLAN
1/16 0 8' 16' 32'

ZINC ARCHITECTURE
5820 FREDERICKSBURG DRIVE
NASHVILLE, TN 37215
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WWW.ZINCARCH.COM

PROJECT No. 2109

bgc
travelers ridge
1167 travelers ridge
nashville, tn 37220

MAY 24, 2021
ISSUE FOR PERMIT

REVISIONS

NO.	DATE	DESCRIPTION

SITE PLAN

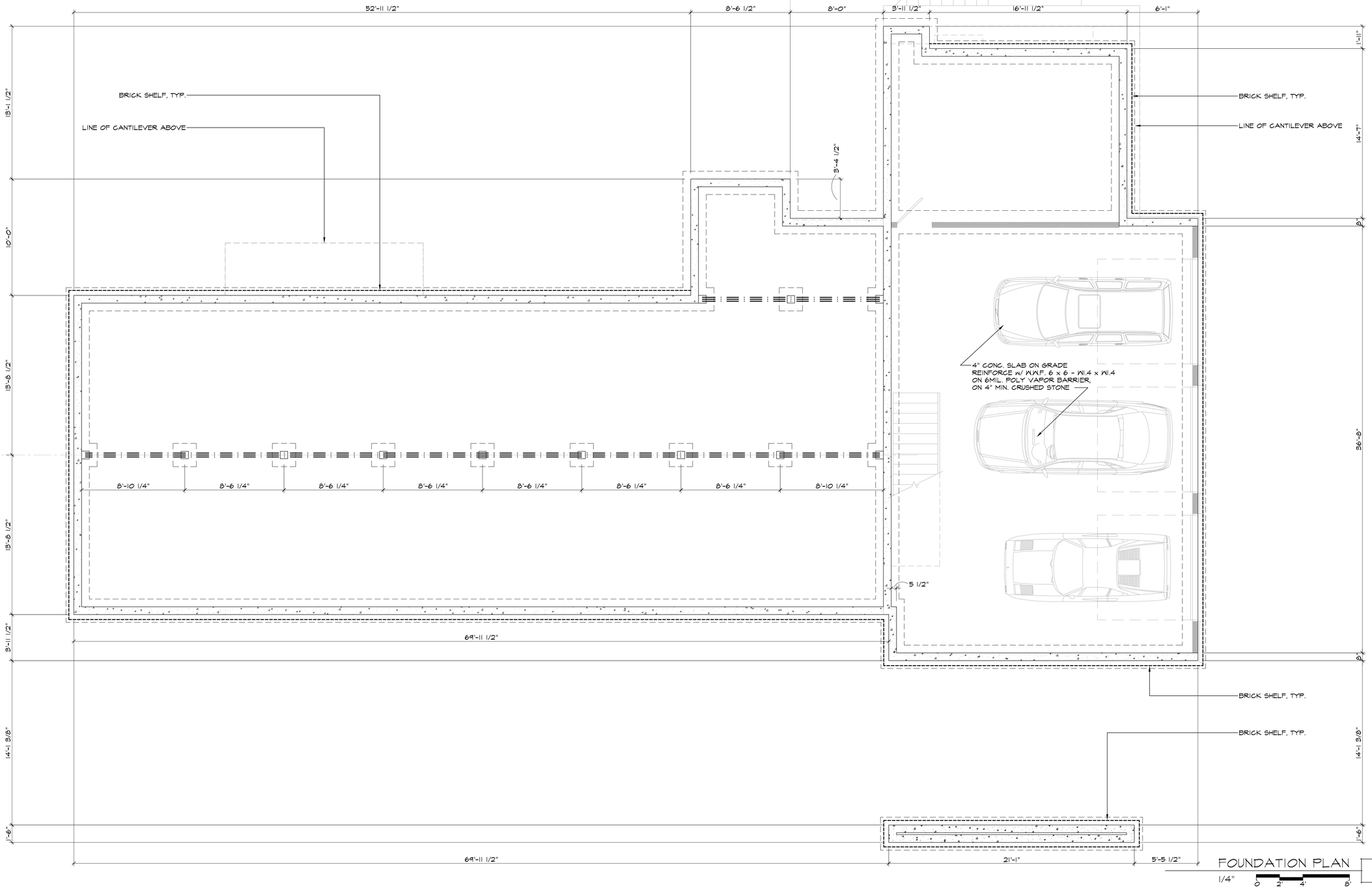
SHEET No:

A-SITE

DATE: 05.24.2021

GENERAL NOTES:

1. ALL WALLS 8" REINFORCED CONCRETE
2. CONTRACTOR TO COORDINATE LOCATION OF H.V.A.C. UNITS & ASSOCIATED CONC. PADS W/ ARCHITECT
3. CRAWL SPACE IS UNVENTED: PROVIDE CONTINUOUSLY OPERATED MECHANICAL EXHAUST VENTILATION AT A RATE EQUAL TO 1 CFM FOR EACH 50 SQ. FT. OF CRAWL SPACE FLOOR AREA, INCLUDE AN AIR PATHWAY / TRANSFER GRILLE TO CONDITIONED SPACE. INSULATE PERIMETER WALLS OF CRAWL SPACE WITH 2" MIN. R-10 RIGID INSULATION
4. PROVIDE AT LEAST ONE INSULATED, PAINTED, LOCKABLE STEEL CRAWLSPACE ACCESS DOOR, SIZED TO ALLOW FOR INSTALLATION / REMOVAL OF LARGEST PIECE OF EQUIPMENT IN CRAWLSPACE.



FOUNDATION PLAN

1/4" 0 2' 4' 8'

ZINC ARCHITECTURE

5820 FREDERICKSBURG DRIVE
NASHVILLE, TN 37215
P. 8154192779
WWW.ZINCARCH.COM

PROJECT No. 2109

bgc
travelers ridge
1167 travelers ridge
nashville, tn 37220

MAY 24, 2021
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REVISIONS

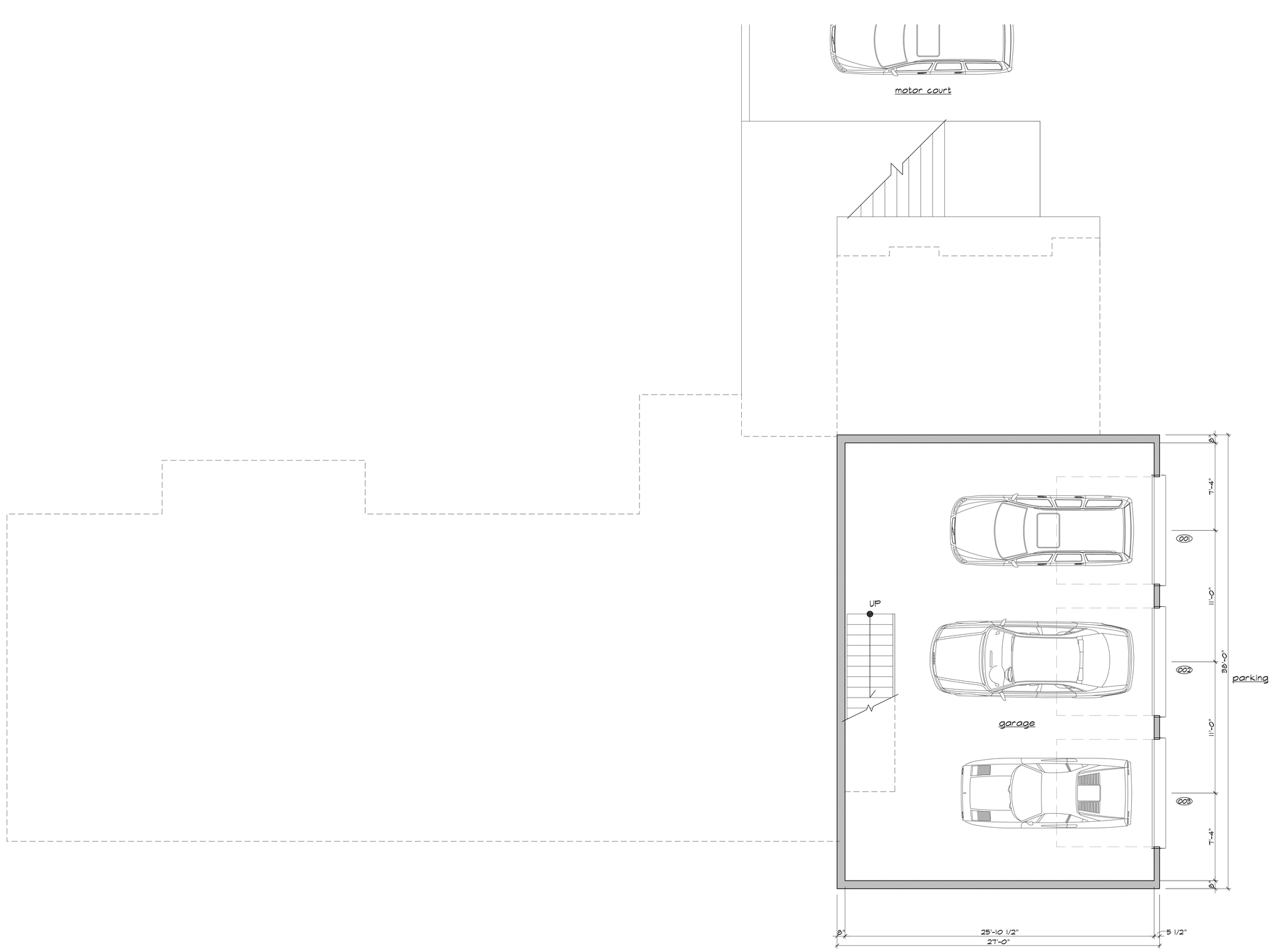
NO.	DATE	DESCRIPTION

FOUNDATION PLAN

SHEET No:

A000

DATE: 06.21.2021



LOWER LEVEL PLAN
1/4" 0 2' 4' 8'

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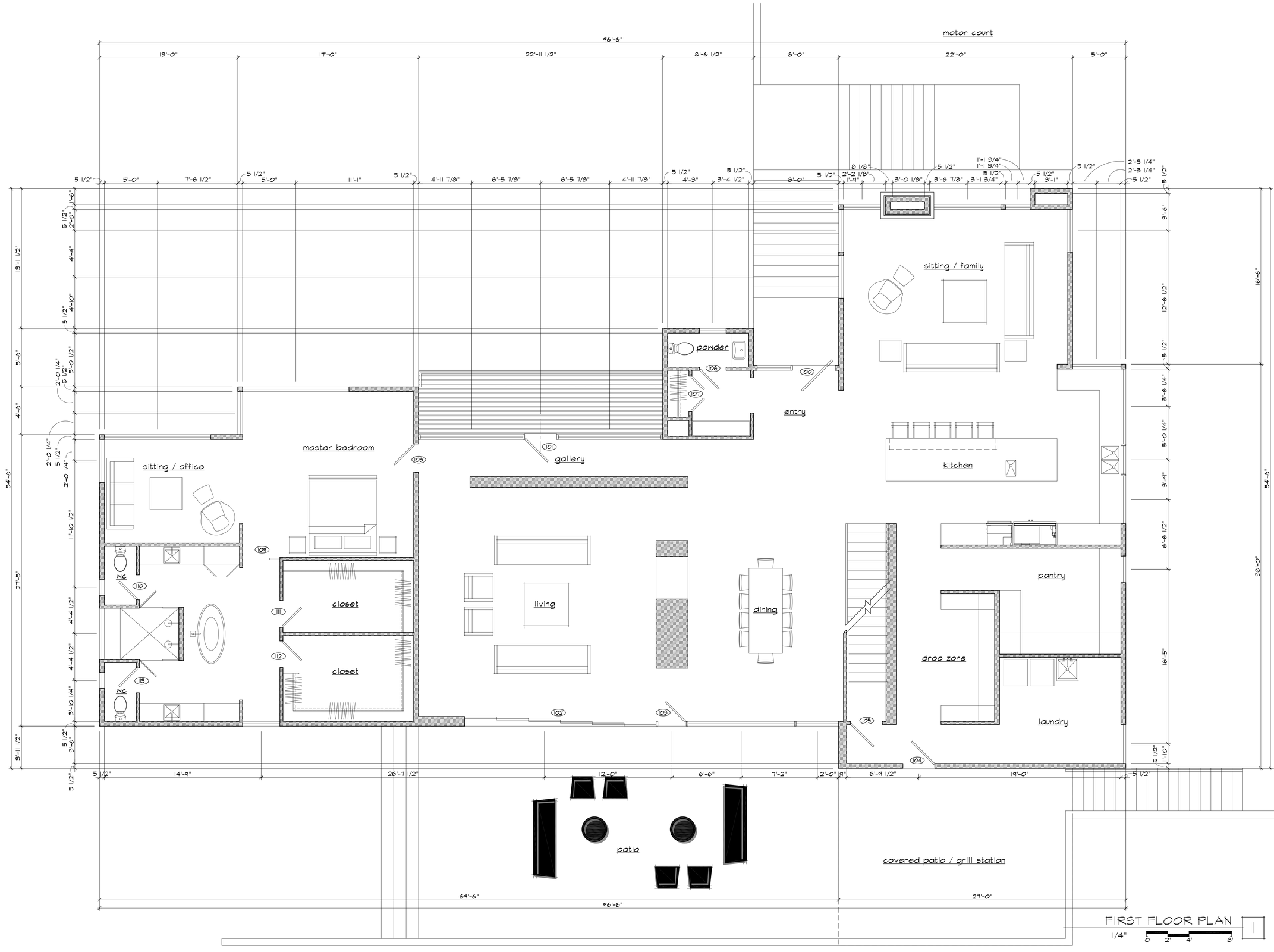
NO.	DATE	DESCRIPTION

LOWER LEVEL PLAN

SHEET No:
A100

DATE: 05.24.2021



FIRST FLOOR PLAN
1/4" 0 2' 4' 8'

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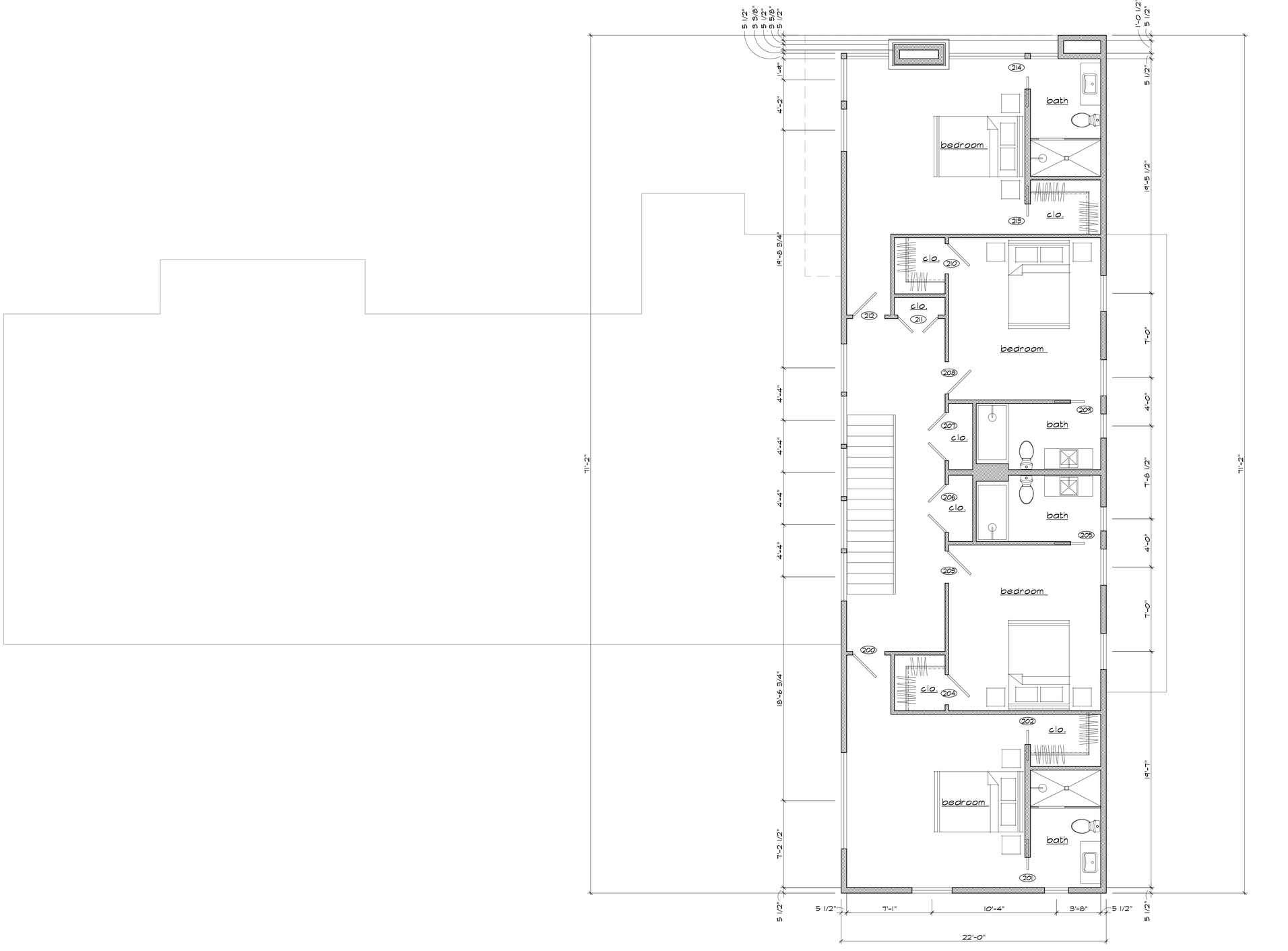
FIRST FLOOR PLAN

SHEET No:

A101

DATE: 05.24.2021



SECOND FLOOR PLAN

1/4" 0 2' 4' 8'

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SECOND FLOOR PLAN

SHEET No:

A102

DATE: 05.24.2021

ROOF PLAN

1/4" 0 2' 4' 8'

ZINC ARCHITECTURE

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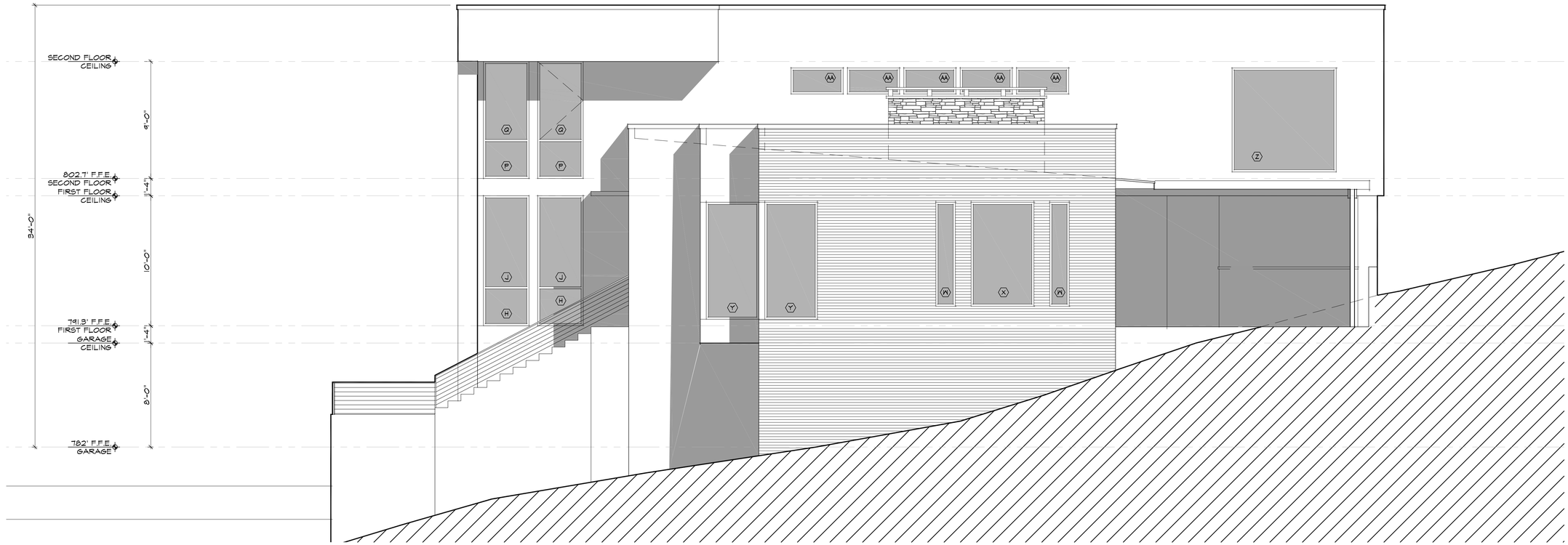
NO.	DATE	DESCRIPTION

ROOF PLAN

SHEET No:

A103

DATE: 05.24.2021



NORTH ELEVATION 2

1/4" 0 2' 4' 8'

EAST ELEVATION 1

1/4" 0 2' 4' 8'

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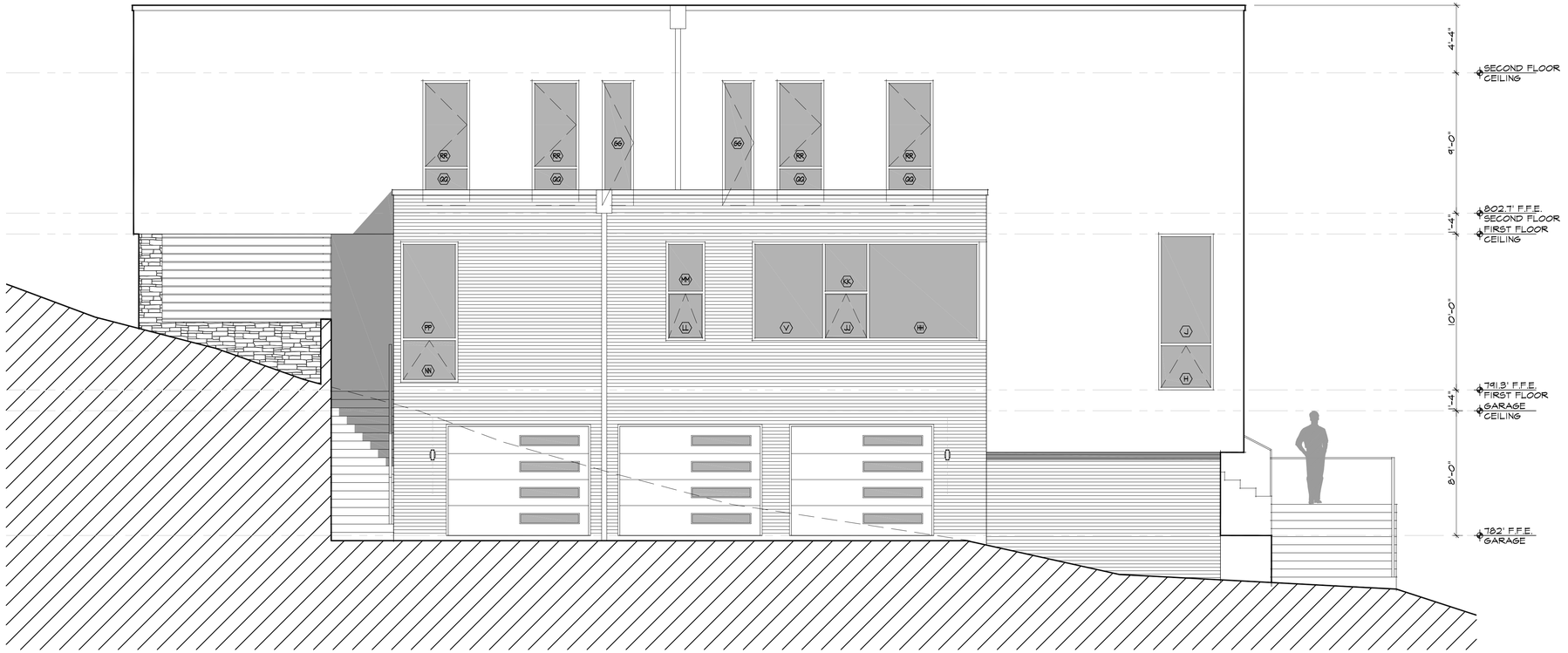
NO.	DATE	DESCRIPTION

EXTERIOR ELEVATIONS

SHEET No:

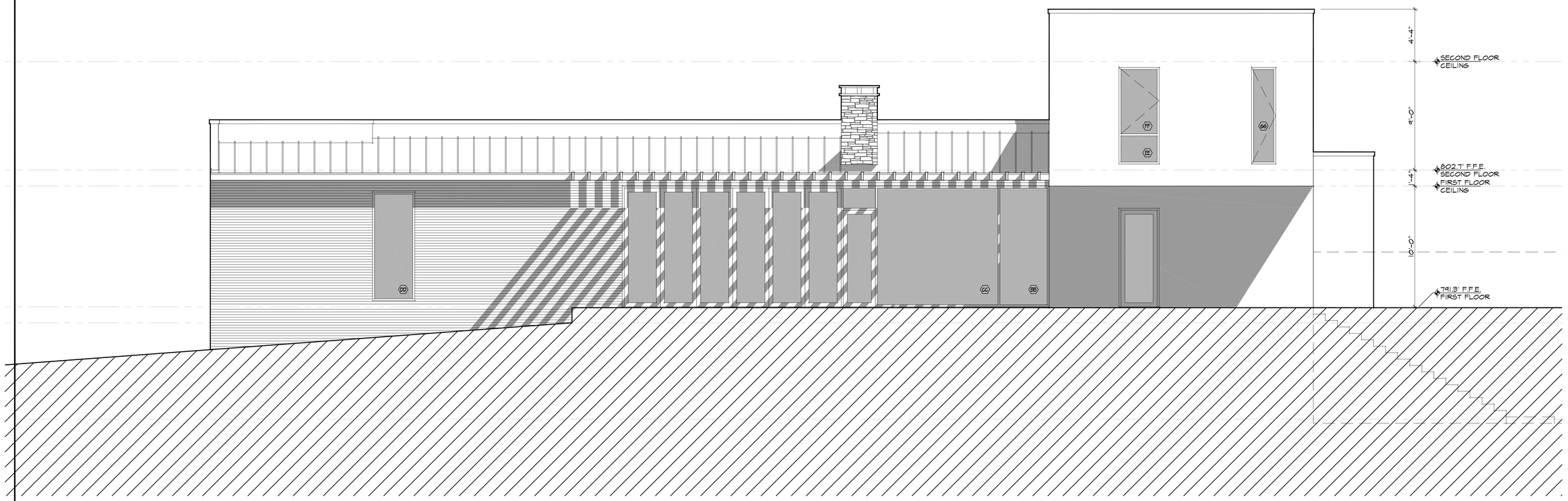
A200

DATE: 05.24.2021



SOUTH ELEVATION 2

1/4" 0 2' 4' 8'



WEST ELEVATION 1

1/4" 0 2' 4' 8'

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NO.	DATE	DESCRIPTION

EXTERIOR ELEVATIONS

SHEET No:

A201

DATE: 05.24.2021

WINDOW SCHEDULE

TAG	WIDTH	HEIGHT	OPERATION	INTERIOR FINISH	EXTERIOR FINISH	MODEL No.	QUANTITY	COMMENTS
A	7'-0"	9'-0"	FIXED	WD	CLAD	-	-	-
B	3'-0"	2'-0"	FIXED	WD	CLAD	-	-	-
C	3'-0"	5'-0"	CASEMENT	WD	CLAD	-	-	EGRESS
D	9'-6"	9'-6	FIXED	WD	CLAD	-	-	-
E	3'-0"	9'-6"	FIXED	WD	CLAD	-	-	-
F	1'-4"	4'-0"	CASEMENT	WD	CLAD	-	-	-
G	3'-0"	10'-0"	FIXED	WD	CLAD	-	-	SIDELIGHT
H	3'-0"	3'-0"	AWNING	WD	CLAD	-	-	-
J	3'-0"	7'-0"	FIXED	WD	CLAD	-	-	-
K	5'-8"	3'-0"	FIXED	WD	CLAD	-	-	-
L	5'-8"	7'-0"	FIXED	WD	CLAD	-	-	-
M	2'-0"	3'-0"	AWNING	WD	CLAD	-	-	-
N	2'-0"	7'-0"	FIXED	WD	CLAD	-	-	-
P	3'-0"	3'-0"	FIXED	WD	CLAD	-	-	-
Q	3'-0"	6'-0"	CASEMENT	WD	CLAD	-	-	EGRESS
R	5'-8"	3'-0"	FIXED	WD	CLAD	-	-	-
S	5'-8"	6'-0"	FIXED	WD	CLAD	-	-	-
T	2'-0"	3'-0"	AWNING	WD	CLAD	-	-	-
U	2'-0"	6'-0"	CASEMENT	WD	CLAD	-	-	-
V	4'-4"	6'-0"	CASEMENT	WD	CLAD	-	-	-
W	1'-6"	8'-0"	CASEMENT	WD	CLAD	-	-	-
X	4'-8"	8'-0"	FIXED	WD	CLAD	-	-	-
Y	4'-0"	9'-0"	FIXED	WD	CLAD	-	-	-
Z	8'-0"	8'-0"	FIXED	WD	CLAD	-	-	-
AA	4'-0"	2'-0"	FIXED	WD	CLAD	-	-	-
BB	4'-0"	10'-0"	FIXED	WD	CLAD	-	-	-
CC	10'-0"	10'-0"	FIXED	WD	CLAD	-	-	-
DD	3'-6"	9'-0"	FIXED	WD	CLAD	-	-	-
EE	3'-4"	2'-6"	FIXED	WD	CLAD	-	-	-
FF	3'-4"	5'-6"	CASEMENT	WD	CLAD	-	-	EGRESS
GG	2'-0"	8'-0"	CASEMENT	WD	CLAD	-	-	-
HH	6'-10"	6'-0"	FIXED	WD	CLAD	-	-	-
JJ	2'-8"	3'-0"	AWNING	WD	CLAD	-	-	-
KK	2'-8"	3'-0"	FIXED	WD	CLAD	-	-	-
LL	2'-6"	3'-0"	AWNING	WD	CLAD	-	-	-
MM	2'-6"	3'-0"	FIXED	WD	CLAD	-	-	-
NN	3'-8"	2'-6"	AWNING	WD	CLAD	-	-	-
PP	3'-8"	6'-6"	FIXED	WD	CLAD	-	-	-
QQ	3'-0"	2'-6"	FIXED	WD	CLAD	-	-	-
RR	3'-0"	5'-6"	CASEMENT	WD	CLAD	-	-	EGRESS

LOWER LEVEL DOOR SCHEDULE

DOOR NO.	DOOR					HDW	NOTES
	WIDTH	HEIGHT	THICKNESS	TYPE	MATERIAL		
001	9'-0	7'-0"	2"	EXT	WD	GARAGE DOOR	SEE ELEVATIONS FOR STYLE
002	9'-0	7'-0"	2"	EXT	WD	GARAGE DOOR	SEE ELEVATIONS FOR STYLE
003	9'-0	7'-0"	2"	EXT	WD	GARAGE DOOR	SEE ELEVATIONS FOR STYLE

FIRST FLOOR DOOR SCHEDULE

DOOR NO.	DOOR					HDW	NOTES
	WIDTH	HEIGHT	THICKNESS	TYPE	MATERIAL		
100	4'-0"	10'-0"	1 3/4"	EXT	WD	ENTRY SET & DEADBOLT	PIVOT DOOR HARDWARE
101	3'-0"	8'-0"	1-3/4"	EXT	WD	ENTRY SET & DEADBOLT	-
102	18'-0"	10'-0"	1-3/4"	EXT	WD	-	SIX PANEL POCKETING DOOR
103	2'-8"	8'-0"	1-3/4"	EXT	WD	ENTRY SET & DEADBOLT	-
104	3'-0"	8'-0"	1-3/4"	EXT	WD	ENTRY SET & DEADBOLT	-
105	3'-0"	8'-0"	1-3/4"	INT	WD	PASSAGE & DEADBOLT	-
106	2'-6"	8'-0"	1-3/4"	INT	WD	PRIVACY	-
107	PR. 1'-8"	8'-0"	1-3/4"	INT	WD	PASSAGE	-
108	2'-8"	8'-0"	1-3/4"	INT	WD	PRIVIACY	-
109	3'-6"	10'-0"	1-3/4"	INT	WD	POCKET DOOR	FLUSH WITH CEILING
110	2'-4"	8'-0"	1-3/4"	INT	WD	PRIVACY	-
111	2'-6"	8'-0"	1-3/4"	INT	WD	-	-
112	2'-6"	8'-0"	1-3/4"	INT	WD	-	-
113	2'-4"	8'-0"	1-3/4"	INT	WD	PRIVACY	-

SECOND FLOOR DOOR SCHEDULE

DOOR NO.	DOOR					HDW	NOTES
	WIDTH	HEIGHT	THICKNESS	TYPE	MATERIAL		
200	2'-8"	8'-0"	1 3/4"	INT	WD	PRIVACY	-
201	2'-6"	9'-0"	1-3/4"	INT	WD	PRIVACY / POCKET DR	FLUSH WITH CEILING
202	2'-6"	9'-0"	1-3/4"	INT	WD	PASSAGE / POCKET DR	FLUSH WITH CEILING
203	2'-8"	8'-0"	1-3/4"	INT	WD	PRIVACY	-
204	2'-6"	8'-0"	1-3/4"	INT	WD	PASSAGE	-
205	2'-6"	9'-0"	1-3/4"	INT	WD	PRIVACY / POCKET DR	FLUSH WITH CEILING
206	PR. 2'-0"	8'-0"	1-3/4"	INT	WD	PASSAGE	-
207	PR. 2'-0"	8'-0"	1-3/4"	INT	WD	PASSAGE	-
208	2'-8"	8'-0"	1-3/4"	INT	WD	PRIVIACY	-
209	2'-6"	9'-0"	1-3/4"	INT	WD	PRIVACY / POCKET DR	FLUSH WITH CEILING
210	2'-6"	8'-0"	1-3/4"	INT	WD	PASSAGE	-
211	PR. 1'-8"	8'-0"	1-3/4"	INT	WD	PASSAGE	-
212	2'-8"	8'-0"	1-3/4"	INT	WD	PRIVACY	-
213	2'-6"	9'-0"	1-3/4"	INT	WD	PASSAGE / POCKET DR	FLUSH WITH CEILING
214	2'-6"	9'-0"	1-3/4"	INT	WD	PRIVACY / POCKET DR	FLUSH WITH CEILING

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NO.	DATE	DESCRIPTION

DOOR & WINDOW SCHEDULES

SHEET No:

A700

DATE: 05.24.2021

AG&E American Geotechnical and Environmental, Inc.

September 14, 2022

Mr. Baird Graham
BGC Construction
2510 Franklin Pike
Nashville, Tennessee 37204

RE: Site Plan Review
Lot 39, Inns of Granny White Subdivision
City of Oak Hill, Tennessee
AG & E File Number: 2022-025

Dear Mr. Graham:

As requested, we have reviewed the Site Grading Plan and the retaining wall design for the above referenced building lot.

The Site Grading Plan was prepared by Snyder Engineering, dated September 13, 2022. This plan complies with the Geotechnical Engineering Study we prepared on May 27, 2022.

We have also prepared the structural plans and details for the retaining walls. These details are enclosed with this letter.

Thank you for the opportunity to be of service to you in this matter. If you should have any questions concerning this or any other matter, please feel free to contact us at your convenience.

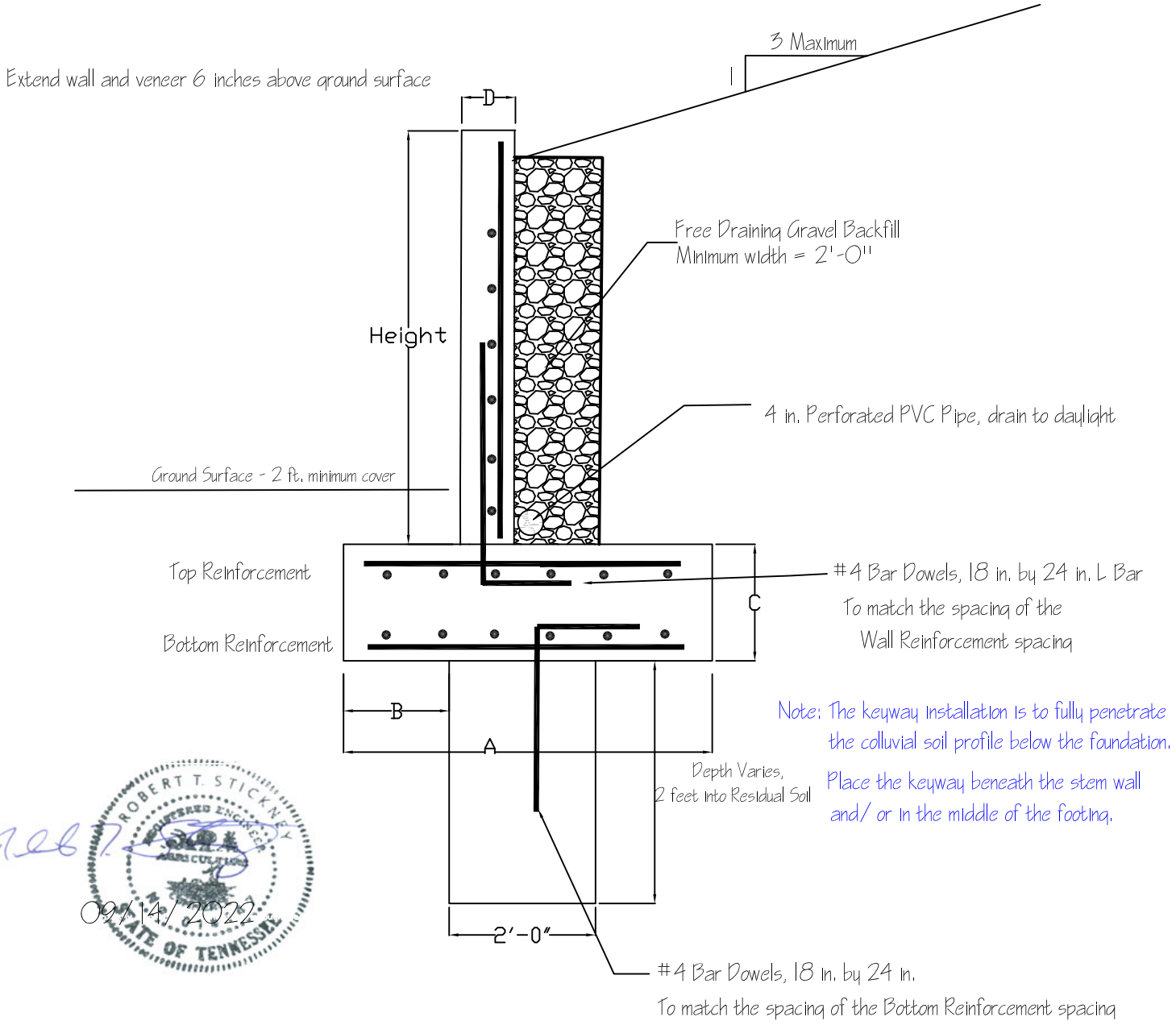
Sincerely yours,

AMERICAN GEOTECHNICAL & ENVIRONMENTAL, INC.

Robert T. Stickney, P.E.
President

Enclosure

P. O. Box 681237 • Franklin, TN 37068-1237
(615) 791-9768 • Email: agande@comcast.net



Note: The keyway installation is to fully penetrate the colluvial soil profile below the foundation. Place the keyway beneath the stem wall and/ or in the middle of the footing.

ROBERT T. STICKNEY
REGISTERED ENGINEER
STATE OF TENNESSEE

09/14/2022

Height	A	B	C	Top Reinforcement Each Way	Bottom Reinforcement Each Way	D	Wall Reinforcement Each Way
4' 0"	3' 5"	1' 4"	1' 0"	#4 @ 9" o/ c	#4 @ 9" o/ c	8"	#4 @ 9" o/ c
6' 0"	4' 5"	1' 10"	1' 0"	#4 @ 9" o/ c	#4 @ 9" o/ c	8"	#4 @ 9" o/ c

Notes: All concrete shall be Class "A" Concrete with a minimum strength of 3,500 psi.
Reinforcing steel to conform to ASTM A 615, Grade 60
Construction joints will be provided at a maximum spacing of 30 feet.
Minimum splice length for #4 bars = 20 inches
Provide Min. 3 inches of Cover for the reinforcing steel

RETAINING WALL DETAIL

Lot 39, Travelers Ridge
Nashville, Tennessee

PROJECT NO. 2022-025
SCALE
FIGURE NO. 1

AG & E

This Wall in File: c:\users\bobst\documents\retainpro project files\lot 39 travelers ridge.rpx

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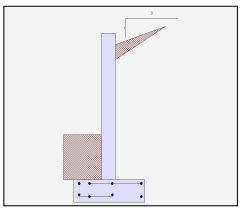
Cantilevered Retaining Wall

Code: IBC 2012,ACI 318-11,ACI 530-11



Criteria

Retained Height	=	6.00 ft
Wall height above soil	=	0.50 ft
Slope Behind Wall	=	3.00
Height of Soil over Toe	=	24.00 in
Water height over heel	=	0.0 ft

Load Factors

Building Code	IBC 2012,ACI
Dead Load	1.200
Live Load	1.600
Earth, H	1.600
Wind, W	1.000
Seismic, E	1.000

Soil Data and Lateral Earth Pressure

Allow Soil Bearing	=	3,000.0 psf	Soil Density, Heel	=	120.00 pcf
Equivalent Fluid Pressure Method			Soil Density, Toe	=	120.00 pcf
Active Heel Pressure	=	32.0 psf/ft	Footing||Soil Friction	=	0.400
	=		Soil height to ignore for passive pressure	=	12.00 in
Passive Pressure	=	250.0 psf/ft			

Surcharge Loads

Surcharge Over Heel Used To Resist Sliding & Overturning	=	0.0 psf	Surcharge Over Toe Used for Sliding & Overturning	=	0.0

Axial Load Applied to Stem

Axial Dead Load	=	0.0 lbs	Axial Load Eccentricity	=	0.0 in
Axial Live Load	=	0.0 lbs			

Lateral Load Applied to Stem

Lateral Load	=	0.0 #/ft
...Height to Top	=	0.00 ft
...Height to Bottom	=	0.00 ft
Load Type	=	Wind (W) (Service Level)

Wind on Exposed Stem

Wind on Exposed Stem (Service Level)	=	0.0 psf

Adjacent Footing Load

Adjacent Footing Load	=	0.0 lbs	Footing Type		Line Load
Footing Width	=	0.00 ft	Base Above/Below Soil		
Eccentricity	=	0.00 in	at Back of Wall	=	0.0 ft
Wall to Ftg CL Dist	=	0.00 ft	Poisson's Ratio	=	0.300

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Cantilevered Retaining Wall

Code: IBC 2012,ACI 318-11,ACI 530-11

Wall Design Summary

Stability Ratios

Overturning	=	2.42	OK
Sliding	=	2.26	OK

Soil Bearing

Total Bearing Load	=	2,543 lbs	
...resultant ecc.	=	6.49 in	
Soil Pressure @ Toe	=	1,451 psf	OK
Soil Pressure @ Heel	=	37 psf	OK
Allowable	=	3,000 psf	
Soil Pressure Less Than Allowable			
ACI Factored @ Toe	=	2,031 psf	
ACI Factored @ Heel	=	52 psf	
Footing Shear @ Toe	=	7.9 psi	OK
Footing Shear @ Heel	=	7.6 psi	OK
Allowable	=	82.2 psi	

Sliding

Resisting Forces

Vertical Forces	Force	
Soil Over Heel (above water table, if any)	1,020.0	lbs
Soil Over Heel (below water table, if any)	0.0	
Water Over Heel	0.0	
Buoyant Force	0.0	
Sloped Soil Over Heel	40.1	
Surcharge Over Heel	0.0	
Adjacent Footing Load	0.0	
Axial Dead Load on Stem	0.0	
Axial Live Load on Stem *	Omit	
Soil Over Toe	320.0	
Surcharge Over Toe	0.0	
Stem Weight(s)	650.0	
Earth @ Stem Transitions	0.0	
Footing Weight	512.5	
Key Weight	0.0	
Vert. Component **	0.0	
Total Vertical Loads	2,542.6	lbs

Sliding Forces

Lateral Forces	Force	
Heel Active Pressure (above water table, if any)	893.3	lbs
Heel Active Pressure (below water table, if any)	0.0	
Hydrostatic Force	0.0	
* Heel Active Pressure	893.3	
Surcharge over Heel	0.0	
Adjacent Footing	0.0	
Surcharge Over Toe	0.0	
Load @ Stem Above Soil	0.0	
Added Lateral Load	0.0	
Seismic Load	0.0	
Seismic-Self-weight	0.0	
Lateral on Key	0.0	
Totals =	893.3	lbs

*Includes water table effect

* Axial live load NOT included in total displayed , or used for overturning or sliding resistance, but is included for soil pressure calculations.

Sliding Calcs

Lateral Sliding Force	=	893.3	lbs	
less 100% Passive Force	=	- 1,000.0	lbs	
less 100% Friction Force	=	- 1,017.1	lbs	
Added Force Req'd	=	0.0	lbs	OK
....for 1.5 Stability	=	0.0	lbs	OK

Vertical component of active lateral soil pressure IS NOT considered in the calculation of soil bearing pressures.

Overturning

Resisting Moments

Resisting Moments	Force		Distance		Moment	
Soil Over Heel (above water table, if any)	1,020.0	lbs	2.71	ft	2,762.5	ft-#
Soil Over Heel (below water table, if any)	0.0					
Water Table	0.0					
Soil Over Heel	1,020.0		2.71		2,762.5	
Sloped Soil Over Heel	40.1		2.94		118.2	
Surcharge Over Heel	0.0					
Adjacent Footing Load	0.0					
Axial Dead Load on Stem	0.0					
Axial Live Load on Stem *	0.0					
Soil Over Toe	320.0		0.67		213.3	
Surcharge Over Toe	0.0					
Stem Weight(s)	650.0		1.67		1,083.3	
Earth @ Stem Transitions	0.0					
Footing Weight	512.5		1.71		875.5	
Key Weight	0.0		1.33			
Vert. Component	0.0					
Total Vertical Loads	2,542.6	lbs				
Resisting Moment					**5,052.9**	ft-#
Eccentricity					**-6.5**	in

* Axial live load NOT included in total displayed, or used for overturning or sliding resistance, but is included for soil pressure calculations.

Overturning

Overturning Moments

Overturning Moments	Force		Distance		Moment	
Heel Active Pressure (above water table, if any)	893.3	lbs	2.33	ft	2,225.1	ft-#
Heel Active Pressure (below water table, if any)	0.0					
Hydrostatic Force	0.0					
Buoyant Force	0.0					
Surcharge over Heel	0.0					
Adjacent Footing	0.0					
Surcharge Over Toe	0.0					
Load @ Stem Above Soil	0.0					
Added Lateral Load	0.0					
Seismic Load	0.0					
Seismic-Self-weight	0.0					
Totals =	893.3	lbs				
Overturning Moment					2,084.5	ft-#

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Cantilevered Retaining Wall

Code: IBC 2012,ACI 318-11,ACI 530-11

Stem Design Summary

			Bottom
			Stem OK
Design Height Above Ftg	ft	=	0.00
Wall Material Above "Ht"		=	Concrete
Design Method		=	LRFD
Thickness		=	8.00
Rebar Size		=	# 4
Rebar Spacing		=	9.00
Rebar Placed at		=	Edge
Design Data			
fb/FB + fa/Fa		=	**0.258**
Total Force @ Section			
Service Level	lbs	=	
Strength Level	lbs	=	921.6
Moment....Actual			
Service Level	ft-#	=	
Strength Level	ft-#	=	1,843.2
Moment.....Allowable		=	7,122.4
Shear.....Actual			
Service Level	psi	=	
Strength Level	psi	=	12.3
Shear.....Allowable	psi	=	75.0
Anet	in2	=	
Rebar Depth 'd'	in	=	6.25
Masonry Data			
f'm	psi	=	
Fs	psi	=	
Solid Grouting		=	
Modular Ratio 'n'		=	
Wall Weight	psf	=	100.0
Short Term Factor		=	
Equiv. Solid Thick.		=	
Masonry Block Type		=	Medium Weight
Masonry Design Method		=	ASD
Concrete Data			
f'c	psi	=	2,500.0
Fy	psi	=	60,000.0

Concrete Stem Rebar Area Details

Bottom Stem	Vertical Reinforcing	Horizontal Reinforcing	
As (based on applied moment) :	0.0691 in2/ft		
(4/3) * As :	0.0921 in2/ft	Min Stem T&S Reinf Area 1.248 in2	
200bd/fy : 200(12)(6.25)/60000 :	0.25 in2/ft	Min Stem T&S Reinf Area per ft of stem Height : 0.192 in2/ft	
0.0018bh : 0.0018(12)(8) :	0.1728 in2/ft	Horizontal Reinforcing Options :	
	==========	One layer of :	Two layers of :
Required Area :	0.1728 in2/ft	#4@ 12.50 in	#4@ 25.00 in
Provided Area :	0.2667 in2/ft	#5@ 19.38 in	#5@ 38.75 in
Maximum Area :	0.8467 in2/ft	#6@ 27.50 in	#6@ 55.00 in

Footing Data

Toe Width	=	1.33 ft	f'c		=	3,000	psi
Heel Width	=	2.08	Fy		=	60,000	psi
Total Footing Width	=	3.42 ft	Footing Concrete Density		=	150.00	pcf
Footing Thickness	=	12.00 in	Min. As %		=	0.0018	
Key Width	=	0.00 in	Rebar Cover	@ Top	=	2.00	in
Key Depth	=	0.00 in		@ Bottom	=	3.00	in
Key Distance from Toe	=	1.33 ft					

Footing Design Results

		Toe	Heel	
Factored Pressure	=	2,031	52	psf
Mu' : Upward	=	18,923	327	ft-#
Mu' : Downward	=	4,992	1,093	ft-#
Mu: Design	=	1,161	-48	ft-#
Actual 1-Way Shear	=	7.88	7.65	psi
Allow 1-Way Shear	=	82.16	82.16	psi

Toe Reinforcing	=	# 4 @ 9.00 in
Heel Reinforcing	=	# 4 @ 9.00 in
Key Reinforcing	=	None Spec'd

Other Acceptable Sizes & Spacings

Toe: #4@ 9.25 in, #5@ 14.35 in, #6@ 20.37 in, #7@ 27.77 in, #8@ 36.57 in, #9@ 46

Heel: #4@ 9.25 in, #5@ 14.35 in, #6@ 20.37 in, #7@ 27.77 in, #8@ 36.57 in, #9@ 46

Key: No key defined

Min footing T&S reinf Area	0.89	in2
Min footing T&S reinf Area per fo	0.26	in2 /ft

If one layer of horizontal bars:	If two layers of horizontal bars:
#4@ 9.26 in	#4@ 18.52 in
#5@ 14.35 in	#5@ 28.70 in
#6@ 20.37 in	#6@ 40.74 in

Footing Torsion, Tu	=	0.00 ft-lbs
Footing Allow. Torsion, phi Tu	=	0.00 ft-lbs

If torsion exceeds allowable, provide supplemental design for footing torsion.

Tilt

Horizontal Deflection at Top of Wall due to settlement of soil

(Deflection due to wall bending not considered)

Soil Spring Reaction Modulus	250.0	pci
Horizontal Defl @ Top of Wall (approximate only)	0.077	in

The above calculation is not valid if the heel soil bearing pressure exceeds that of the toe,
because the wall would then tend to rotate into the retained soil.

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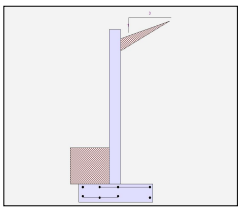
Cantilevered Retaining Wall

Code: IBC 2012,ACI 318-11,ACI 530-11



Criteria

Retained Height	=	8.00 ft
Wall height above soil	=	0.50 ft
Slope Behind Wall	=	3.00
Height of Soil over Toe	=	24.00 in
Water height over heel	=	0.0 ft

Load Factors

Building Code	IBC 2012,ACI
Dead Load	1.200
Live Load	1.600
Earth, H	1.600
Wind, W	1.000
Seismic, E	1.000

Soil Data and Lateral Earth Pressure

Allow Soil Bearing	=	3,000.0 psf	Soil Density, Heel	=	120.00 pcf
Equivalent Fluid Pressure Method			Soil Density, Toe	=	120.00 pcf
Active Heel Pressure	=	32.0 psf/ft	Footing||Soil Friction	=	0.400
	=		Soil height to ignore for passive pressure	=	12.00 in
Passive Pressure	=	250.0 psf/ft			

Surcharge Loads

Surcharge Over Heel Used To Resist Sliding & Overturning	=	0.0 psf	Surcharge Over Toe Used for Sliding & Overturning	=	0.0

Axial Load Applied to Stem

Axial Dead Load	=	0.0 lbs	Axial Load Eccentricity	=	0.0 in
Axial Live Load	=	0.0 lbs			

Lateral Load Applied to Stem

Lateral Load	=	0.0 #/ft
...Height to Top	=	0.00 ft
...Height to Bottom	=	0.00 ft
Load Type	=	Wind (W) (Service Level)

Wind on Exposed Stem

Wind on Exposed Stem (Service Level)	=	0.0 psf

Adjacent Footing Load

Adjacent Footing Load	=	0.0 lbs	Footing Type		Line Load
Footing Width	=	0.00 ft	Base Above/Below Soil		
Eccentricity	=	0.00 in	at Back of Wall	=	0.0 ft
Wall to Ftg CL Dist	=	0.00 ft	Poisson's Ratio	=	0.300

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Cantilevered Retaining Wall

Code: IBC 2012,ACI 318-11,ACI 530-11

Wall Design Summary

Stability Ratios

Overturning	=	2.32	OK
Sliding	=	1.71	OK

Soil Bearing

Total Bearing Load	=	3,866 lbs	
...resultant ecc.	=	8.22 in	
Soil Pressure @ Toe	=	1,690 psf	OK
Soil Pressure @ Heel	=	61 psf	OK
Allowable	=	3,000 psf	
Soil Pressure Less Than Allowable			
ACI Factored @ Toe	=	2,366 psf	
ACI Factored @ Heel	=	85 psf	
Footing Shear @ Toe	=	16.7 psi	OK
Footing Shear @ Heel	=	13.4 psi	OK
Allowable	=	82.2 psi	

Sliding

Resisting Forces

Vertical Forces	Force	
Soil Over Heel (above water table, if any)	1,840.0	lbs
Soil Over Heel (below water table, if any)	0.0	
Water Over Heel	0.0	
Buoyant Force	0.0	
Sloped Soil Over Heel	73.5	
Surcharge Over Heel	0.0	
Adjacent Footing Load	0.0	
Axial Dead Load on Stem	0.0	
Axial Live Load on Stem *	Omit	
Soil Over Toe	440.0	
Surcharge Over Toe	0.0	
Stem Weight(s)	850.0	
Earth @ Stem Transitions	0.0	
Footing Weight	662.5	
Key Weight	0.0	
Vert. Component **	0.0	
Total Vertical Loads	3,866.0	lbs

Sliding Forces

Lateral Forces	Force	
Heel Active Pressure (above water table, if any)	1,486.5	lbs
Heel Active Pressure (below water table, if any)	0.0	
Hydrostatic Force	0.0	
* Heel Active Pressure	1,486.5	
Surcharge over Heel	0.0	
Adjacent Footing	0.0	
Surcharge Over Toe	0.0	
Load @ Stem Above Soil	0.0	
Added Lateral Load	0.0	
Seismic Load	0.0	
Seismic-Self-weight	0.0	
Lateral on Key	0.0	
Totals =	1,486.5	lbs

*Includes water table effect

* Axial live load NOT included in total displayed , or used for overturning
or sliding resistance, but is included for soil pressure calculations.

Sliding Calcs

Lateral Sliding Force	=		1,486.5 lbs	
less 100% Passive Force	=	-	1,000.0 lbs	
less 100% Friction Force	=	-	1,546.4 lbs	
Added Force Req'd	=		0.0 lbs	OK
....for 1.5 Stability	=		0.0 lbs	OK

Vertical component of active lateral soil pressure IS NOT considered in
the calculation of soil bearing pressures.

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Overturning

Resisting Moments

Resisting Moments	Force		Distance		Moment	
Soil Over Heel (above water table, if any)	1,840.0	lbs	3.46	ft	6,363.3	ft-#
Soil Over Heel (below water table, if any)	0.0					
Water Table	0.0					
Soil Over Heel	1,840.0		3.46		6,363.3	
Sloped Soil Over Heel	73.5		3.78		277.6	
Surcharge Over Heel	0.0					
Adjacent Footing Load	0.0					
Axial Dead Load on Stem	0.0					
Axial Live Load on Stem *	0.0					
Soil Over Toe	440.0		0.92		403.3	
Surcharge Over Toe	0.0					
Stem Weight(s)	850.0		2.17		1,841.7	
Earth @ Stem Transitions	0.0					
Footing Weight	662.5		2.21		1,463.0	
Key Weight	0.0		1.83			
Vert. Component	0.0					
Total Vertical Loads	3,866.0	lbs				
Resisting Moment					**10,348.9**	ft-#
Eccentricity					**-8.2**	in

* Axial live load NOT included in total displayed, or used for overturning or sliding resistance, but is included for soil pressure calculations.

Overturning

Overturning Moments

Overturning Moments	Force		Distance		Moment	
Heel Active Pressure (above water table, if any)	1,486.5	lbs	3.00	ft	4,776.2	ft-#
Heel Active Pressure (below water table, if any)	0.0					
Hydrostatic Force	0.0					
Buoyant Force	0.0					
Surcharge over Heel	0.0					
Adjacent Footing	0.0					
Surcharge Over Toe	0.0					
Load @ Stem Above Soil	0.0					
Added Lateral Load	0.0					
Seismic Load	0.0					
Seismic-Self-weight	0.0					
Totals =	1,486.5	lbs				
Overturning Moment					4,459.6	ft-#

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Cantilevered Retaining Wall

Code: IBC 2012,ACI 318-11,ACI 530-11

Stem Design Summary

			Bottom
			Stem OK
Design Height Above Ftg	ft	=	0.00
Wall Material Above "Ht"		=	Concrete
Design Method		=	LRFD
Thickness		=	8.00
Rebar Size		=	# 4
Rebar Spacing		=	9.00
Rebar Placed at		=	Edge
Design Data			
fb/FB + fa/Fa		=	**0.613**
Total Force @ Section			
Service Level	lbs	=	
Strength Level	lbs	=	1,638.4
Moment....Actual			
Service Level	ft-#	=	
Strength Level	ft-#	=	4,369.1
Moment.....Allowable		=	7,122.4
Shear.....Actual			
Service Level	psi	=	
Strength Level	psi	=	21.8
Shear.....Allowable	psi	=	75.0
Anet	in2	=	
Rebar Depth 'd'	in	=	6.25
Masonry Data			
f'm	psi	=	
Fs	psi	=	
Solid Grouting		=	
Modular Ratio 'n'		=	
Wall Weight	psf	=	100.0
Short Term Factor		=	
Equiv. Solid Thick.		=	
Masonry Block Type		=	Medium Weight
Masonry Design Method		=	ASD
Concrete Data			
f'c	psi	=	2,500.0
Fy	psi	=	60,000.0

Concrete Stem Rebar Area Details

Bottom Stem	Vertical Reinforcing	Horizontal Reinforcing
As (based on applied moment) :	0.1637 in2/ft	
(4/3) * As :	0.2183 in2/ft	Min Stem T&S Reinf Area 1.632 in2
200bd/fy : 200(12)(6.25)/60000 :	0.25 in2/ft	Min Stem T&S Reinf Area per ft of stem Height : 0.192 in2/ft
0.0018bh : 0.0018(12)(8) :	0.1728 in2/ft	Horizontal Reinforcing Options :
	==========	One layer of : Two layers of :
Required Area :	0.2183 in2/ft	#4@ 12.50 in #4@ 25.00 in
Provided Area :	0.2667 in2/ft	#5@ 19.38 in #5@ 38.75 in
Maximum Area :	0.8467 in2/ft	#6@ 27.50 in #6@ 55.00 in

Footing Data

Toe Width	=	1.83 ft	f'c	=	3,000	psi
Heel Width	=	2.58	Fy	=	60,000	psi
Total Footing Width	=	4.42 ft	Footing Concrete Density	=	150.00	pcf
Footing Thickness	=	12.00 in	Min. As %	=	0.0018	
Key Width	=	0.00 in	Rebar Cover @ Top	=	2.00	in
Key Depth	=	0.00 in	@ Bottom	=	3.00	in
Key Distance from Toe	=	1.83 ft				

Footing Design Results

		Toe	Heel	
Factored Pressure	=	2,366	85	psf
Mu' : Upward	=	41,345	762	ft-#
Mu' : Downward	=	9,438	2,559	ft-#
Mu: Design	=	2,659	-308	ft-#
Actual 1-Way Shear	=	16.67	13.42	psi
Allow 1-Way Shear	=	82.16	82.16	psi

Toe Reinforcing	=	# 4 @ 9.00 in
Heel Reinforcing	=	# 4 @ 9.00 in
Key Reinforcing	=	None Spec'd

Other Acceptable Sizes & Spacings

Toe: #4@ 9.25 in, #5@ 14.35 in, #6@ 20.37 in, #7@ 27.77 in, #8@ 36.57 in, #9@ 46

Heel: #4@ 9.25 in, #5@ 14.35 in, #6@ 20.37 in, #7@ 27.77 in, #8@ 36.57 in, #9@ 46

Key: No key defined

Min footing T&S reinf Area	1.14	in2
Min footing T&S reinf Area per fo	0.26	in2 /ft

If one layer of horizontal bars:	If two layers of horizontal bars:
#4@ 9.26 in	#4@ 18.52 in
#5@ 14.35 in	#5@ 28.70 in
#6@ 20.37 in	#6@ 40.74 in

Footing Torsion, Tu	=	0.00 ft-lbs
Footing Allow. Torsion, phi Tu	=	0.00 ft-lbs

If torsion exceeds allowable, provide supplemental design for footing torsion.

Tilt

Horizontal Deflection at Top of Wall due to settlement of soil

(Deflection due to wall bending not considered)

Soil Spring Reaction Modulus	250.0	pci
Horizontal Defl @ Top of Wall (approximate only)	0.090	in

The above calculation is not valid if the heel soil bearing pressure exceeds that of the toe, because the wall would then tend to rotate into the retained soil.

Kimley»Horn

MEMORANDUM

To:	Mr. Stephen Snow
From:	Zac Dufour, P.E.
	Kimley-Horn and Associates, Inc.
Date:	September 14, 2022
Subject:	PC Case 22-27, 1167 Travelers Ridge

We have completed our review of the revised Steep Slope site plan for the proposed new home located at 1167 Travelers Ridge. Please see below for engineering comments.

Comments

1. Removing trees greater than 8" in the front yard will require BZA approval.
   a. Variance will be needed for removal of trees within the front yard. VARIANCE APPL. SUBMITTED
2. Update Sheet 2 to show proper bulk standards. See markup.
   a. Revised. ✓
3. Provide tree survey of all trees 3" in diameter and greater.
   a. Provided. ✓
4. Verify front setback based on average of 4 closest lots.
   a. Verified and provided. ✓
5. Rear setback is 60'.
   a. Revised. ✓
6. Bold numbers in center of lot on Sheet 3 are not correct. Update to current bulk standards.
   a. Revised. ✓
7. Remove plat reference to setback lines.
   a. Removed. ✓
8. Driveway must be 5' off of property line. Add dimensions.
   a. Dimensions provided. ✓
9. Provide street cut areas around utility connections for sanitary and water, reference metro street cut detail and provide detail on plans.
   a. **Provided and noted. Show sawcut area and limits of disturbance for water line connection.** PROVIDED, SEE SHEET 4
10. Provide more spot grades in driveway and around outside of house.
    a. **Outstanding comment. Need more spot grades around the house and driveway.** PROVIDED SHEET 4
11. Label proposed contours.
    a. Provided. ✓
12. Provide more grades on wall in rear of house.
    a. Provided. ✓
13. Retaining wall engineering drawings and calculations are required for walls over 4' in height.
    a. **Wall drawings have been provided. Structural calculations must be provided as well.** TO BE PROVIDED BY OWNER
14. Provide proposed grading in front of house to match architectural plans – there appears to be about a 20' difference between existing grade and FFE.

FRONT RIGHT CORNER OF HOUSE EXIST. & PROPOSED GRADE IS 778.00. MAIN FLOOR FFE IS 791.30. DIFFERENCE IS 13.30 FEET. ~~IT IS~~ THE GROUND LINE SHOWN ON THE ARCH. PLANS IS ~~NOT CORRECT~~ SLIGHTLY OFF.

   a. **Architectural plans have been provided. Additional proposed ground grades will help understand the amount of exposed foundation around the exterior of the house.** THE EXPOSED FOUNDATION IS 13.3 FEET MAXIMUM.

15. Show cleanouts on the MFD.
   a. **MFD has been replaced with a rain garden. Show cleanouts or structures along the 6" pipe run leading to the rain garden.** DONE ✓
16. Is the pipe in the patio intended to be a trench drain? If so label and provide a detail. Need to make sure this water is captured and routed to the MFD.
   a. This appears to just be a pipe to connect downspout to rain garden. YES ✓
17. MFD is sized for 5275 but the added impervious area is 7995. MFD must be oversized to account for impervious bypass.
   a. Rain Garden is sized for full impervious area. ✓
18. Is there a way to grade the driveway and maybe install trench drains to capture more of the driveway area and route it to the MFD?
   a. **Show drainage area to rain garden. Is some of the driveway going towards the rain garden. Rain garden must be sized for the drainage area not just for the added impervious area.** DONE ✓
19. Add a trench drain at the bottom of the driveway to capture water and route to ditch. Add detail for the trench drain.
   a. **This has not been added. 2% cross slope is less than the longitudinal slope of the driveway so not all of the runoff will sheet flow into the roadside ditch.** TRENCH DRAIN ADDED. ✓
20. Provide outlet protection for the daylight end of the MFD pipe.
   a. **Show outlet protection for rain garden. How will rain garden outlet – must provide underdrains and show outlet for underdrains.** DONE ✓
   b. **Provide site specific detail for the rain garden with elevations of each layer and materials.** DONE ✓
21. Show downspout locations and routing to MFDs.
   a. Provided. ✓
22. Note trees that are to be removed on the plans.
   a. Provided. ✓
23. Tabulate the trees that are to be removed in a table and provide the total caliper inches that are to be removed.
   a. Provided. ✓
24. Need to draw in the drip line of all trees. Any proposed improvements or grading that gets into these drip lines needs to have the tree removed and be accounted for in the removal.
   a. Provided. ✓
25. Need to show tree protection fencing around all trees that are to be saved. Provide detail of tree protection fencing.
   a. Provided. Show detail for tree protection fence. DONE ✓
26. Need to provide tree canopy coverage exhibit showing the exiting canopy on the lot and the % of lot canopy coverage. Show proposed canopy that is to be removed. Include table from the tree ordinance.
   a. Provided. ✓
27. Provide architectural floor plans and elevations.
   a. Provided. ✓
28. Provide an elevation exhibit showing conformance to the recently updated building height regulations. Show actual height to top of roof line. Show the calculated dimensions of the Zone 1, Zone 2 and Zone 3 areas on a plan view exhibit. Show Zone 3 on the side elevation.
   a. **Not provided.** PROVIDED ✓
29. Provide Gross Floor Area Ratio on plans.
   a. **Not provided.** PROVIDED ✓

30. Provide a statement from geotechnical engineer stating that they have reviewed the current site and grading plans and they comply with the geotechnical recommendations.
    a. Provided.
31. Provide a statement from structural engineer stating that they have reviewed the current site, grading plans and geotechnical report and the structural drawings are consistent with all other plans.
    a. Provided.
32. Geotechnical engineer shall be on site during construction to observe conditions and report on the conditions with respect to the initial study, boring data, lab testing and provide any updated recommendations based on any deviations. Geotechnical engineer shall provide a certification letter upon completion of construction prior to the issuance of a certification of occupancy. The certification letter shall speak to the construction methods, geotechnical recommendations that were followed during construction, geotechnical engineer observations during construction and any deviations from the original recommendations that were made.
    a. Noted.
33. Add steep slope geotechnical requirements per the Steep Slope Ordinance Section 14-238. Add note, "Geotechnical Engineer shall be on site during construction to monitor construction. Engineer shall submit a geotechnical certification letter certifying the stability of the slope and the structure to the City of Oak Hill upon completion of construction and prior to the issuance of a certificate of occupancy."
    a. Provided.
34. Additional comments may be forthcoming from the Geotechnical engineering review.

You must provide a comment response letter for all of the above comments to be considered for the October Planning Commission.

All revised plans, calculations, and any other supporting documentation along with the full comment response letter must be submitted in email by September 20, 2022.

c: File

Kimley»Horn

MEMORANDUM

To:	Mr. Stephen Snow
From:	Zac Dufour, P.E.
	Kimley-Horn and Associates, Inc.
Date:	August 30, 2022
Subject:	PC Case 22-27, 1167 Travelers Ridge

We have completed our review of the Steep Slope site plan for the proposed new home located at 1167 Travelers Ridge. Please see below for engineering comments.

Comments

1. Removing trees greater than 8" in the front yard will require BZA approval.
2. Update Sheet 2 to show proper bulk standards. See markup.
3. Provide tree survey of all trees 3" in diameter and greater.
4. Verify front setback based on average of 4 closest lots.
5. Rear setback is 60'.
6. Bold numbers in center of lot on Sheet 3 are not correct. Update to current bulk standards.
7. Remove plat reference to setback lines.
8. Driveway must be 5' off of property line. Add dimensions.
9. Provide street cut areas around utility connections for sanitary and water, reference metro street cut detail and provide detail on plans.
10. Provide more spot grades in driveway and around outside of house.
11. Label proposed contours.
12. Provide more grades on wall in rear of house.
13. Retaining wall engineering drawings and calculations are required for walls over 4' in height.
14. Provide proposed grading in front of house to match architectural plans – there appears to be about a 20' difference between existing grade and FFE.
15. Show cleanouts on the MFD.
16. Is the pipe in the patio intended to be a trench drain? If so label and provide a detail. Need to make sure this water is captured and routed to the MFD.
17. MFD is sized for 5275 but the added impervious area is 7995. MFD must be oversized to account for impervious bypass.
18. Is there a way to grade the driveway and maybe install trench drains to capture more of the driveway area and route it to the MFD?
19. Add a trench drain at the bottom of the driveway to capture water and route to ditch. Add detail for the trench drain.
20. Provide outlet protection for the daylight end of the MFD pipe.
21. Show downspout locations and routing to MFDs.
22. Note trees that are to be removed on the plans.
23. Tabulate the trees that are to be removed in a table and provide the total caliper inches that are to be removed.

24. Need to draw in the drip line of all trees. Any proposed improvements or grading that gets into these drip lines needs to have the tree removed and be accounted for in the removal.
25. Need to show tree protection fencing around all trees that are to be saved. Provide detail of tree protection fencing.
26. Need to provide tree canopy coverage exhibit showing the exiting canopy on the lot and the % of lot canopy coverage. Show proposed canopy that is to be removed. Include table from the tree ordinance.
27. Provide architectural floor plans and elevations.
28. Provide an elevation exhibit showing conformance to the recently updated building height regulations. Show actual height to top of roof line. Show the calculated dimensions of the Zone 1, Zone 2 and Zone 3 areas on a plan view exhibit. Show Zone 3 on the side elevation.
29. Provide Gross Floor Area Ratio on plans.
30. Provide a statement from geotechnical engineer stating that they have reviewed the current site and grading plans and they comply with the geotechnical recommendations.
31. Provide a statement from structural engineer stating that they have reviewed the current site, grading plans and geotechnical report and the structural drawings are consistent with all other plans.
32. Geotechnical engineer shall be on site during construction to observe conditions and report on the conditions with respect to the initial study, boring data, lab testing and provide any updated recommendations based on any deviations. Geotechnical engineer shall provide a certification letter upon completion of construction prior to the issuance of a certification of occupancy. The certification letter shall speak to the construction methods, geotechnical recommendations that were followed during construction, geotechnical engineer observations during construction and any deviations from the original recommendations that were made.
33. Add steep slope geotechnical requirements per the Steep Slope Ordinance Section 14-238. Add note, “Geotechnical Engineer shall be on site during construction to monitor construction. Engineer shall submit a geotechnical certification letter certifying the stability of the slope and the structure to the City of Oak Hill upon completion of construction and prior to the issuance of a certificate of occupancy.”
34. Additional comments may be forthcoming from the Geotechnical engineering review.

Please provide revised plans, calculations, any other supporting documentation and a comment response letter by September 13, 2022 via email.

c: File

GEO-TECHNOLOGY ASSOCIATES, INC.
GEOTECHNICAL AND
ENVIRONMENTAL CONSULTANTS

A Practicing Geoprofessional Business Association Member Firm

October 2, 2022

Mr. Stephen Snow
Code Enforcement Officer
City of Oak Hill

Re: Report of Geotechnical Review Services
Lot 39 – Inns of Granny White Subdivision
1167 Travelers Ridge
Oak Hill, Tennessee

Mr. Snow:

At your request, Geo-Technology Associates, Inc. (GTA) has reviewed geotechnical information provided for the development of 1167 Travelers Ridge. The planned improvement is to include a residential construction and its associated driveway. The purpose of our review is to evaluate the information provided in the geotechnical report as it relates to the geotechnical aspects of design and the appropriate standard of care.

PROJECT UNDERSTANDING

The following information was provided for review :

- Report titled, "Geotechnical Engineering Study, Lot 39, Inns of Granny White Subdivision, City of Oak Hill, Tennessee," prepared by American Geotechnical and Environmental, Inc. dated May 7, 2022
- Site – Grading Plans prepared by Snyder Engineering, PLLC dated August 30, 2022

The planned improvement will include a one- to two-story, residential structure. Based on the drawings provided, the first level will have a finished floor elevation of 791.3; with a garage level established at 782.0.

According to the site plan, the ground surface elevation across the proposed building areas varies from about elevation 790 within the western limits of the proposed structure to elevation 774 in the eastern limits of the proposed structure.

REVIEW AND CONCLUSIONS

American Geotechnical and Environmental, Inc (AG&E) observed the excavation of five test pits to explore the subsurface conditions at the site. Each of the test pits encountered topsoil underlain by colluvial soils extending to depths of 5.6 feet to 9.0 feet below existing site grades. The colluvial soils consist of two layers. The upper layer is a brown cherty silty clay that is underlain by brown to yellowish brown silty clays that contain some chert fragments and some slickenside faces at depths of 3.7 to 8.2 feet. Slickenside faces are secondary structures in the soil that have been smoothed, or polished, by movement of the soil. The lower stratum of colluvial soil extends to depths of 5.6 to 9.0 feet; beneath the colluvial soil is residual silty clays.

Bedrock was not explored, however, based on the review of the available geologic maps, "*Geologic Map of the Oak Hill Quadrangle, Tennessee*" (Tennessee Division of Geology 1972). The site is underlain buy limestone of the Leipers and Catheys Formations, which consist of thin- to medium-bedded shaly limestone.

Due to the presence of the colluvial soils, AG&E performed numerous slope stability analysis to assess the stability of the subgrade as a result of the proposed construction. The slope stability analysis yielded unfavorable results based on standard shallow foundation construction. Accordingly, the analysis we performed based on a revised foundation construction. Specifically, AG&E recommends that the proposed foundation excavations extend to a depth necessary to completely penetrate the colluvial soil and bear at least 2 feet into the underlying residual soils.

Accordingly, the foundation installation may require excavations on the order of 8 feet to 11 feet to completely penetrate the colluvial soils and expose the residual soils.

We recommend that AG&E be on site during foundation excavations to confirm that foundation excavations completely penetrate the colluvial soil and extend at least 2 feet into the underlying residual soil.

In our opinion, the AG&E, Inc.'s geotechnical report fulfills the geotechnical requirements for development.

We trust that this letter meets your immediate needs. If you require additional information, please let us know.

Sincerely,

Geo-Technology Associates, Inc.

Daniel D. Terranova, PE