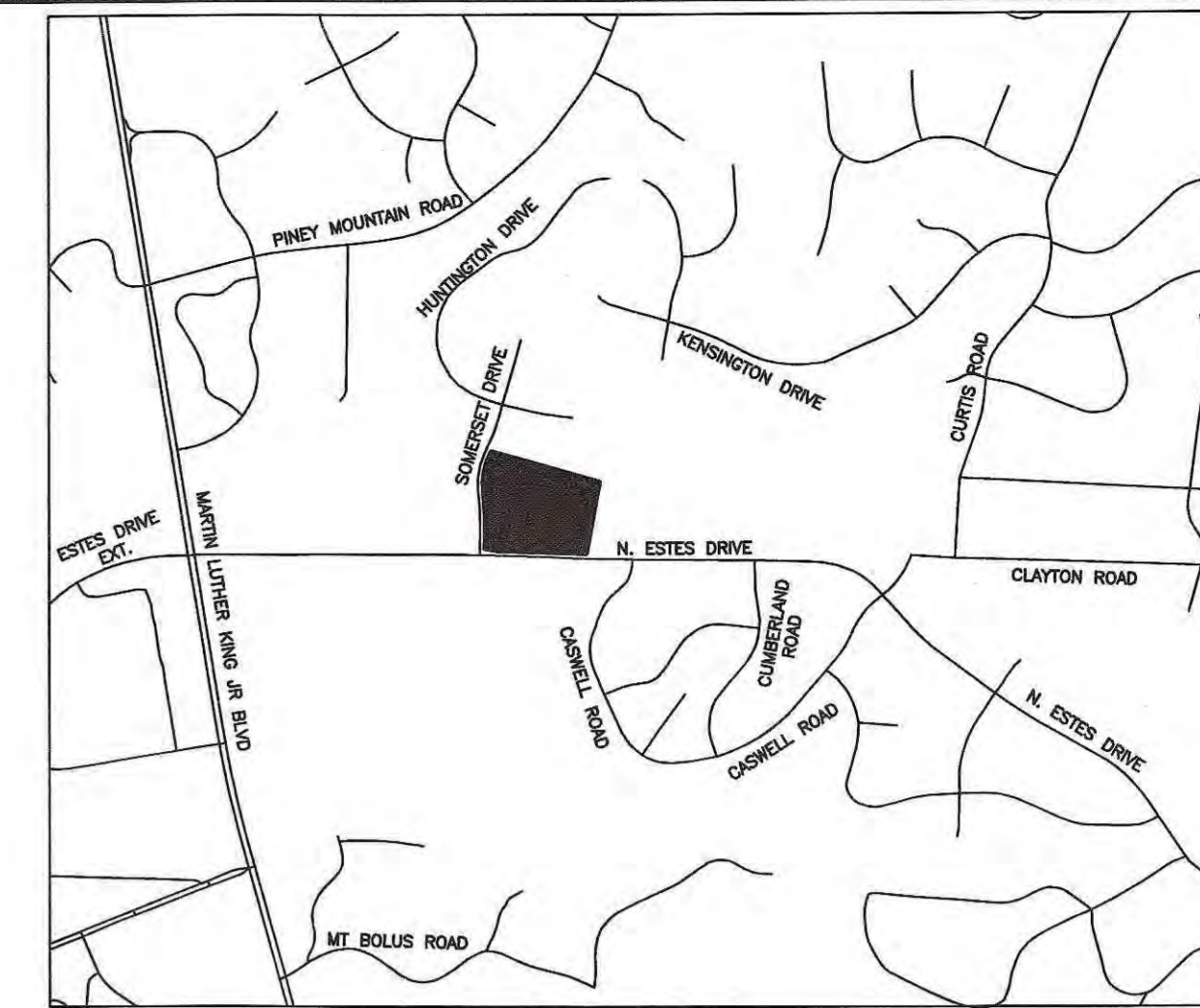
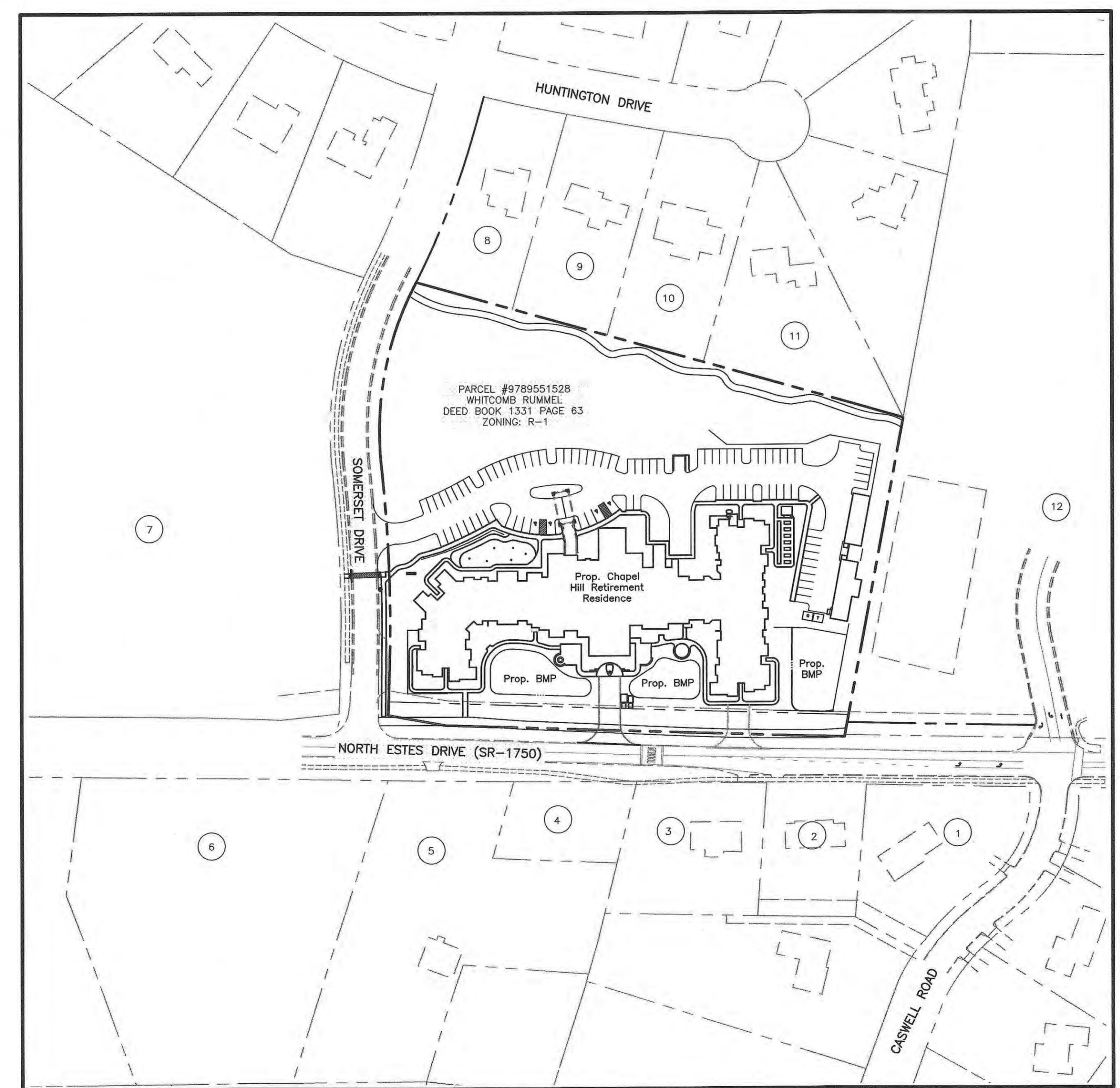


TOWN OF CHAPEL HILL, ORANGE COUNTY, NORTH CAROLINA
SPECIAL USE PERMIT
FOR
**CHAPEL HILL
RETIREMENT RESIDENCE**
SEPTEMBER 28, 2016



LOCATION MAP
Not to Scale

- Special Use Permit Notes:**
- Development**
- Construction Deadline: That construction begin two years from date of approval and to be completed four years from date of approval.
 - Community Design Commission Approval: That the applicant obtain Community Design Commission approval of final plans for building elevations, alternate buffers, and lighting prior to issuance of a Zoning Compliance Permit. [LUMO 8.4.6]
 - Utility/Lighting Plan Approval: That the final utility/lighting plan shall be approved by Orange Water and Sewer Authority, Duke Energy or other local utility service providers, and the Town Manager before issuance of a Zoning Compliance Permit. The property owner shall be responsible for assuring that these utilities can continue to serve the development. In addition, detailed construction drawings shall be submitted to OWASA for review/approval prior to issuance of a Zoning Compliance Permit. [LUMO 4.5.3]
- Engineering**
- Prior to a Certificate of Occupancy, a fee in-lieu for associated improvements along North Estes Drive shall be coordinated and paid to the Town of Chapel Hill. Prior to a Zoning Compliance Permit submit detailed construction estimate for approval by the North Carolina Department of Transportation and the Town of Chapel Hill.
 - Prior to a Certificate of Occupancy construct the parking lot to Town standard for dimensions and pavement design. The plans should show the minimum heavy duty pavement design as 3 inches of asphalt on 10 inches of C&G.
 - Prior to a Certificate of Occupancy construct a 5 feet wide concrete sidewalk located at least 3 feet behind the curb to Town standard with street lighting along the Somerset Drive site frontage from Estes Drive to the proposed driveway. If the pedestrian path along the northern property line is approved, extend the sidewalk and street lights along the street frontage to the path. Prior to a Zoning Compliance Permit provide detailed construction plans for approval by the Town of Chapel Hill.
 - Prior to a Certificate of Occupancy dedicate public right-of-way along the North Estes Drive frontage to provide for the proposed improvements along North Estes Drive.
 - Prior to a Certificate of Occupancy provide Town of Chapel Hill standard sight distance triangles at the proposed driveway.
 - Prior to a Zoning Compliance Permit, submit a Construction Management Plan to address hours of construction, construction worker parking, material staging areas, construction trailer location, and construction vehicle haul routes for approval by the Town of Chapel Hill Planning and Sustainability Department.
 - Prior to Zoning Compliance Permit the design and location of the proposed fire access from Estes Drive is subject to the approval of The Town and North Carolina Department of Transportation.
- Long Range Transportation**
- Prior to issuance of a Zoning Compliance Permit, it will be necessary to submit a Transportation Management Plan, subject to Town Manager approval.
- Sustainability**
- Energy Management Plan: That the final plan application include an Energy Management Plan (EMP) to be approved by the Town Manager prior to issuance of a Zoning Compliance Permit. The plan shall: a) consider utilizing sustainable energy, currently defined as solar, wind, geothermal, biofuels, hydroelectric power; b) consider purchase of carbon offset credits and green power production through coordination with the NC GreenPower program; c) provide for 20 percent more efficiency that also ensures indoor air quality and adequate access to natural lighting, and allows for the proposed utilization of sustainable energy in the project; and (d) that, if requested, the property owner reports to the Town of Chapel Hill the actual energy performance of the plan, as implemented, during the period ending one year after occupancy.
 - Energy Efficiency: That the final plans shall incorporate a "20 percent more energy efficient" feature relative to the 2010 energy efficiency standard of the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE), as amended and in effect at the time of Special Use Permit issuance. Comparable standards generally recognized as applicable to building energy consumption, as amended and in effect at the time of building permit issuance, may be used by the applicant when incorporating the "20 percent more energy efficient" feature into the final plans.
 - LEED Certified Construction: LEED certification will not be pursued as part of this project.
- Fire**
- A secure key box, mounted on the address side of the building, near the main entrance, shall be provided to ensure adequate access to building based on life safety and/or fire protection needs. The Town of Chapel Hill requires a SUPRA key box. Contact Town of Chapel Hill Fire Department for order form.



INDEX MAP
Scale: 1" = 100'

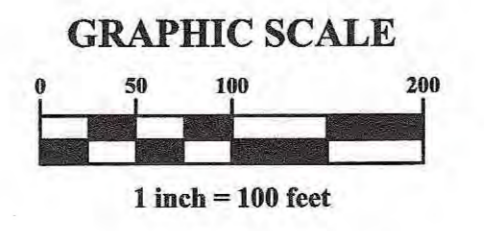
ADJOINING PROPERTY OWNERSHIP TABLE	
① N/F CAROLYN BAUCOM & DANIEL BRUCE DB 4754 PG 339 PID 9789556110 Zoning: R-1	⑦ N/F WHITCOMB RUMMEL DB 1331 PG 63 PID 9789455646 Zoning: R-1
② N/F MICHAEL ALBRITTON & JESSICA GUICE DB 5178 PG 393 PID 9789554170 Zoning: R-1	⑧ N/F DAVID & CHERYL FLUPUS DB 892 PG 64 PID 9789550975 Zoning: R-1
③ N/F PAUL BAKER DB 4586 PG 108 PID 9789553131 Zoning: R-1	⑨ N/F HELEN & GEORGE TOUCHEN DB 754 PG 615 PID 9789552904 Zoning: R-1
④ N/F JEFFERY & LISA ROMERO DB 5167 PG 423 PID 9789551221 Zoning: R-1	⑩ N/F JACQUELINE MACDONALD DB 4098 PG 313 PID 9789553920 Zoning: R-1
⑤ N/F MICHAEL & ALTON HARRIS, ETAL DB 1564 PG 1950 PID 9789550006 Zoning: R-1	⑪ N/F GOLD AVRAM TRUSTEE DB 5498 PG 175 PID 9789554945 Zoning: R-1
⑥ N/F LUCY DAVIS & FRED EMERSON, ETAL DB 1874 PG 50 PID 9789456088 Zoning: R-1	⑫ N/F PHILLIPS JUNIOR HIGH DB 160 PG 651 PID 9789654784 Zoning: R-1

ENGINEER
EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
301 McCullough Dr., Ste. 109, Charlotte, NC 28262
Phone: 704.548.0333 Fax: 704.548.0334
emht.com

Contact
Frank Cantrell, PE
301 McCullough Drive, Suite 109
Charlotte, NC 28262
Tel: (704) 548-0333
Fax: (704) 548-0334
fcantrell@emht.com

DEVELOPER
HAWTHORN RETIREMENT GROUP
9310 NE Vancouver Mall Drive, Suite 200
Vancouver, WA 98662
Tel: (360) 213-1550

ARCHITECT
Daniel Roach
Daniel Roach Architect
3150 Kettle Court SE
Salem, OR 97301
Tel: (503) 399-1090



Sheet Index

Sheet Number	Sheet Title
C1.0	Cover Sheet
C1.1	Area Map
C2.0	Existing Conditions and Demolition Plan
C2.1	Slope Analysis Plan
C3.0	Site and Streetscape Plan
C3.1	North Estes Dr Alternate Plan
C3.2	Solid Waste Plan
C4.0	Grading and Erosion Control Plan
C5.0	Stormwater Management Plan
C6.0	Utility Plan
L1.0	Landscape Protection Plan
L1.1	Planting Plan
CM1.0	Construction Management Plan
F1.0	Fire Plan
A1.0	Architectural Site Plan
A1.1	Building Elevations
A1.2	Sections
A1.3	Site Details

**PRELIMINARY
NOT TO BE USED
FOR CONSTRUCTION**

NORTH CAROLINA
EVANS, MECHWART, HAMBLETON & TILTON, INC.
REGISTERED PROFESSIONAL ENGINEERS
No. F-1016
DATE OF APPROVAL: 9/28/2016
SEAL: 039811
FRANK L. CANTRELL

HAWTHORN RETIREMENT GROUP
 9310 NE Vancouver Mall Dr., Suite 200
 Vancouver, WA 98662-8210
 Tel: (360) 213-1550
 60125 NE East Vancouver, WA 98661

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 Evans, Mechwart, Hambleton & Tilton, Inc.
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 Phone: 704.548.0333 Fax: 704.548.0334
 emht.com

TOWN OF CHAPEL HILL, ORANGE COUNTY, NORTH CAROLINA
SPECIAL USE PERMIT
CHAPEL HILL RETIREMENT RESIDENCE
COVER SHEET

MARK	DATE	DESCRIPTION
	7/29/16	REVISED PER TOWN COMMENTS

DATE: September 28, 2016

SCALE: As Noted

JOB NO.: 2014-1832

SHEET: **C1.0**

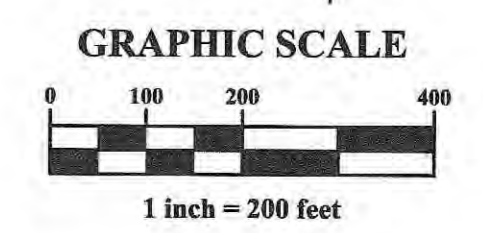
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 Date: 9/27/2016 10:54 AM Lutz, Sonja

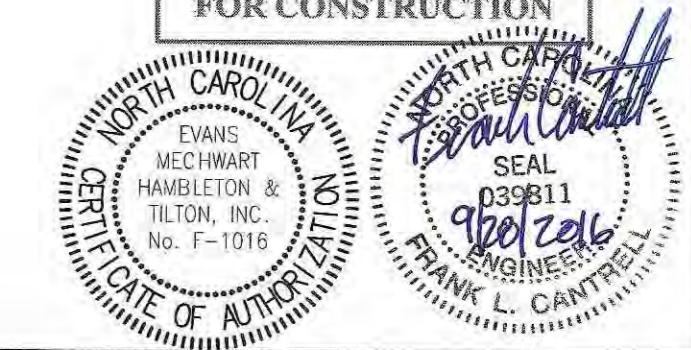


LEGEND

	R-1 - Residential 1, 3 units/ac
	R-2 - Residential 2A, 3.5 units/ac
	R-5 - High Residential, 15 units/ac
	OI-4 - Office & Institutional 4
	Proposed Site



**PRELIMINARY
NOT TO BE USED
FOR CONSTRUCTION**



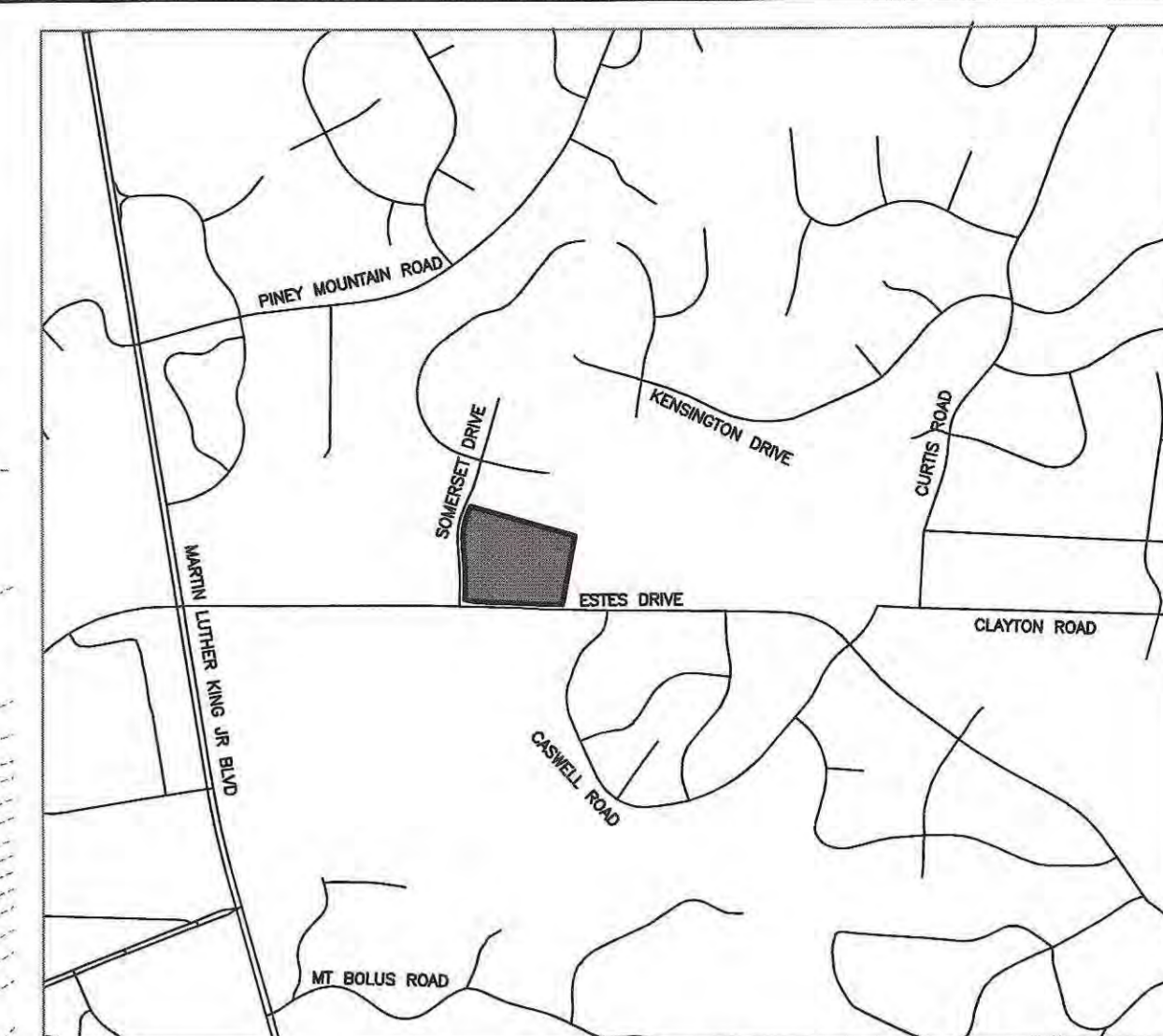
**HAWTHORN
RETIREMENT GROUP**
 8310 NE Vancouver Mall Dr. Suite 200
 Vancouver, WA 98685-8210
 (800) 215-1500 Fax: (503) 215-1540
 6715 NE East Vancouver, WA 98681

TOWN OF CHAPEL HILL, ORANGE COUNTY, NORTH CAROLINA
 SPECIAL USE PERMIT
**CHAPEL HILL RETIREMENT
 RESIDENCE
 AREA MAP**

EMHT
 Evans, Mechwart, Hamilton & Tibon, Inc.
 Engineers • Surveyors • Planners • Scientists
 10000 University Blvd., Suite 100
 Raleigh, NC 27617
 Phone: 704.504.0333
 emht.com

MARK	DATE	DESCRIPTION	REVISIONS
1	7/29/16	Revised per Town Comments	

DATE	September 28, 2016
SCALE	1" = 200'
JOB NO.	2014-1832
SHEET	C1.1



LOCATION MAP
Not to Scale

LEGEND

EXISTING	
---	Right of way
---	Property Line
---	Parcel Line
---	Existing Building Setback
---	Easement
---	Contours
---	Building
---	Pavement
---	Curb
X	Fence
o	Sign
o	Bollard
STM	Storm Service
CB	Catch Basin
SM	Storm Manhole
SAN	Sanitary Service
C/O/C	Sanitary Cleanout
SM	Sanitary Manhole
WM	Watermain
FC	Fire hydrant
WV	Water Valve
OHE	Overhead Electric Line
⊕	Telephone Pole
⊕	Guy Wire
⊕	Electric Transformer
⊕	Light Pole
⊕	Ex. Trees
⊕	Tree Protection

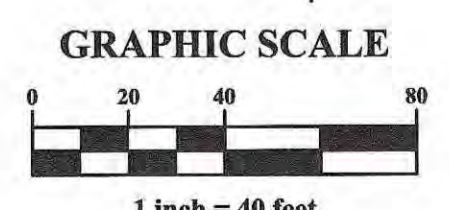
Soil Survey Legend

Symbol	Unit Name	Hydrologic Soil Group
EnB	Enon loam, 2 to 6 percent slopes	C
EnC	Enon loam, 6 to 12 percent slopes	C

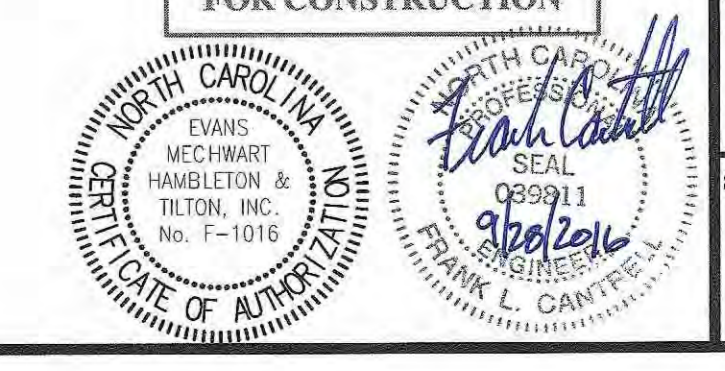
Soil Boundary

FEMA Notes
The proposed site is located outside of the 100-year floodplain according to the Federal Emergency Management Agency's Flood Insurance Map 371097890015, dated February 02, 2007, shown herein no subject tract lies within any annual chance floodplain area.

Note: The proposed site is located outside the limits of the Resource Conservation District and the Jordan Buffer.



PRELIMINARY
NOT TO BE USED
FOR CONSTRUCTION



Demolition Notes

- The location of all utilities shown on these plans shall be verified in the field. Contractor is responsible for contacting North Carolina "One Call" (811) for assistance in locating existing utilities. Call at least 48 hours prior to digging.
- Prior to beginning any work in the street or right-of-way it will be necessary to contact Larry Tucker (919-969-5084) in the Town of Chapel Hill Engineering and Design Services Division to apply for an engineering construction permit.
- Contractor is responsible for demolition, removal and disposal of all infrastructure including, but not limited to, sanitary and storm sewer, water lines, gas and electrical services, cable systems, utility poles, buildings and foundations that may interfere with proposed construction.
- Contractor is responsible for coordination with appropriate utility personnel at the Town of Chapel Hill, OWASA, Duke Energy, PSNC and other providers for steps required for temporary or permanent shut down of services as required for demolition.
- All demolition debris becomes property of the contractor once off-site. It is the responsibility of the contractor to properly dispose of or recycle demolition materials in accordance with the Solid Waste Management Plan.
- Contractor shall maintain access and utility services to all adjacent businesses and residences throughout building demolition and construction.
- Contractor shall report any discrepancies to engineer/owner rep immediately.
- Contractor shall hold a preconstruction/pre-demolition meeting with Orange County Solid Waste Staff (919-996-2788) prior to any demolition.

- Removal of existing hydrants, water and/or sewer services shall be completed in accordance with OWASA standards and specifications.
- Construction Waste:
 - All existing structures 500 square feet and larger in size shall be assessed prior to demolition to ensure compliance with the county's Regulated Recyclable Materials Ordinance (RRMO) and to assess the potential for de-construction and/or the re-use of salvageable materials.
 - By Orange County ordinance, clean wood waste, scrap metal, and corrugated cardboard present in construction or demolition waste must be recycled.
 - By Orange County ordinance, all haulers of mixed construction and demolition waste that includes and regulated recyclable materials shall be licensed by Orange County.
 - Prior to any demolition or construction activity on the site the applicant shall hold a pre-demolition/pre-construction conference with the Solid Waste Staff. This may be the same pre-construction meeting held with other development/enforcement officials.
 - The presence of any Asbestos Containing Materials (ACMs) and/or other hazardous materials in construction and demolition waste shall be handled in accordance with any and all local, state, and federal regulations and guidelines.

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REVISIONS

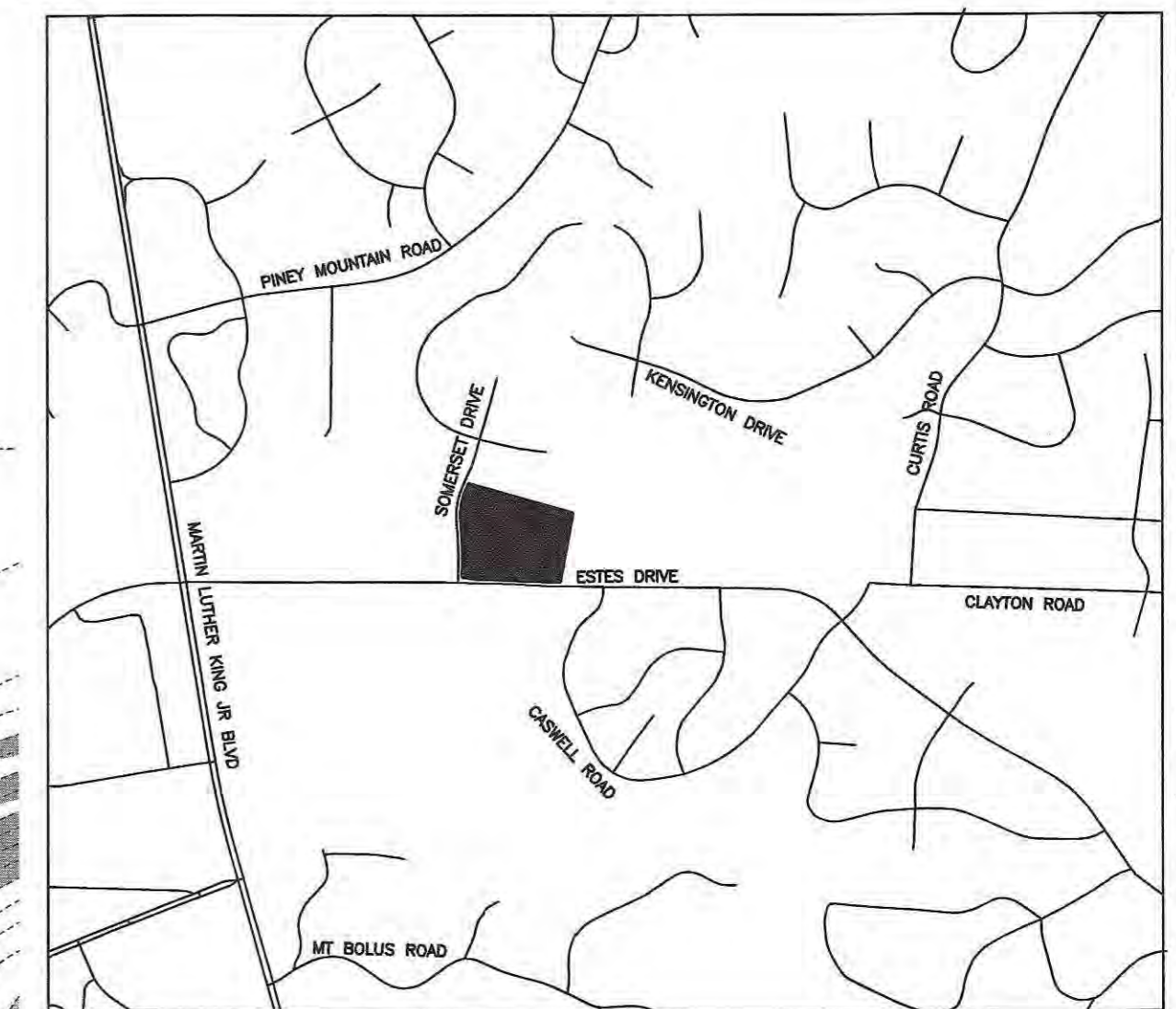
NO.	DATE	DESCRIPTION
1	7/29/16	Revised per Town Comments

HAWTHORN
RETIREMENT GROUP
8310 NE Vancouver Mall Dr., Suite 200
Vancouver, WA 98686-5210, 1-800-842-1540
6715 NE 83rd, Vancouver, WA 98661

TOWN OF CHAPEL HILL, ORANGE COUNTY, NORTH CAROLINA
SPECIAL USE PERMIT
CHAPEL HILL RETIREMENT RESIDENCE
EXISTING CONDITIONS AND DEMOLITION PLAN

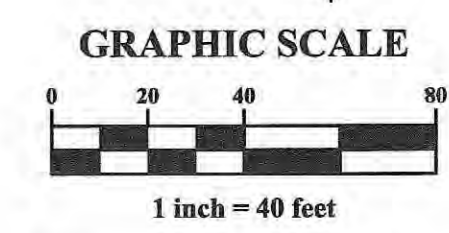
EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
801 McClellan Street, Raleigh, NC 27601
Phone: 919.887.5348
emht.com

DATE
September 28, 2016
SCALE
1" = 40'
JOB NO.
2014-1832
SHEET
C2.0



Slope Analysis Table

Number	Minimum Slope	Maximum Slope	Color
1	0.00%	15.00%	Lightest Gray
2	8.00%	15.00%	Light Gray
3	15.00%	25.00%	Medium Gray
4	25.00%	100.00%	Darkest Gray



PRELIMINARY
NOT TO BE USED
FOR CONSTRUCTION



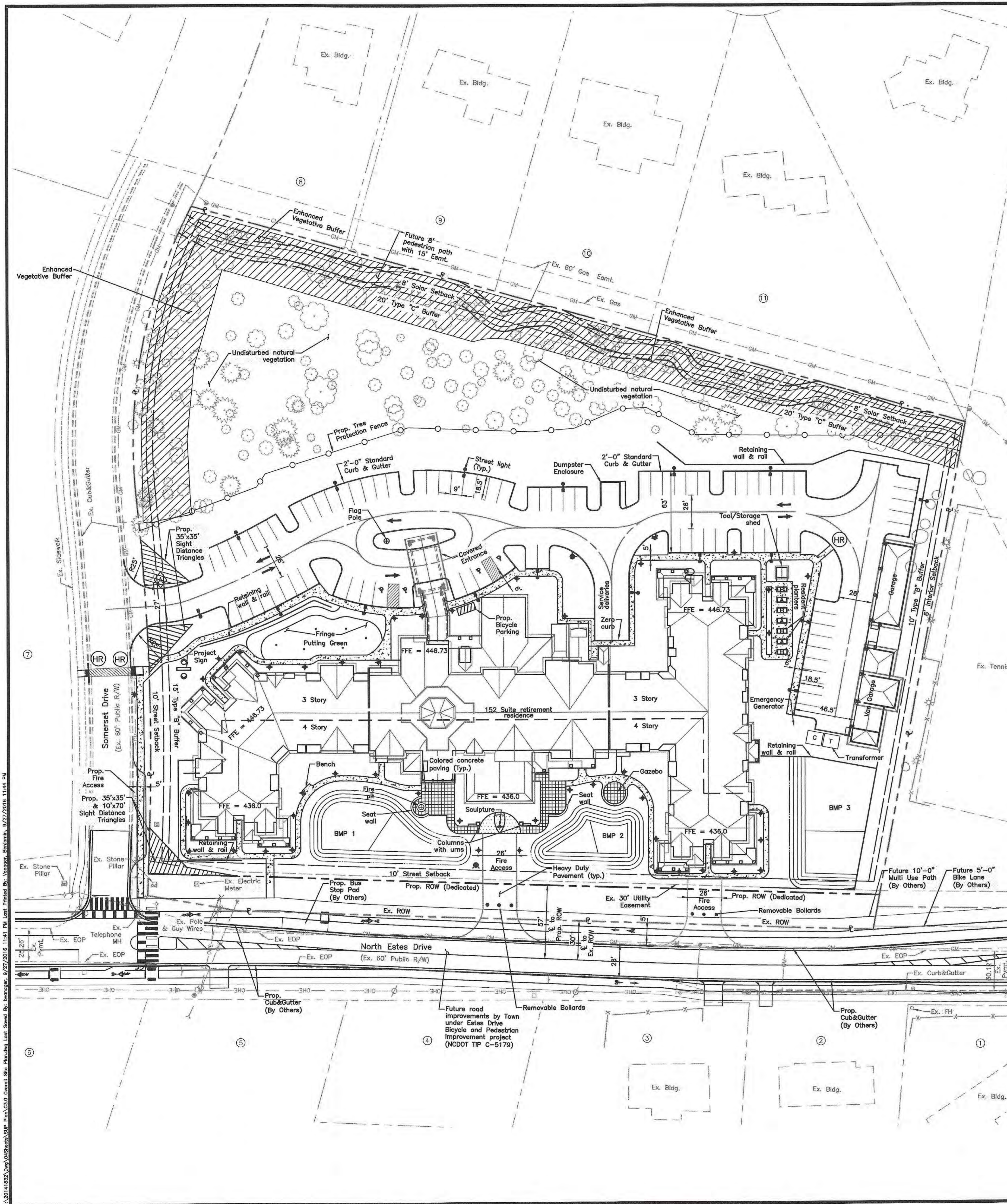
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MARK	DATE	DESCRIPTION	REVISIONS
1	7/29/16	Revised per Town Comments	

HA WTHORIN
RETIREMENT GROUP
9310 NE Vancouver Mall Dr., Suite 200
Vancouver, WA 98682-3210
(509) 546-6666 Fax: (509) 546-6660
www.hawthorin.com

TOWN OF CHAPEL HILL, ORANGE COUNTY, NORTH CAROLINA
SPECIAL USE PERMIT
CHAPEL HILL RETIREMENT RESIDENCE
SLOPE ANALYSIS PLAN

DATE: September 28, 2016
SCALE: 1" = 40'
JOB NO.: 2014-1832
SHEET: C2.1



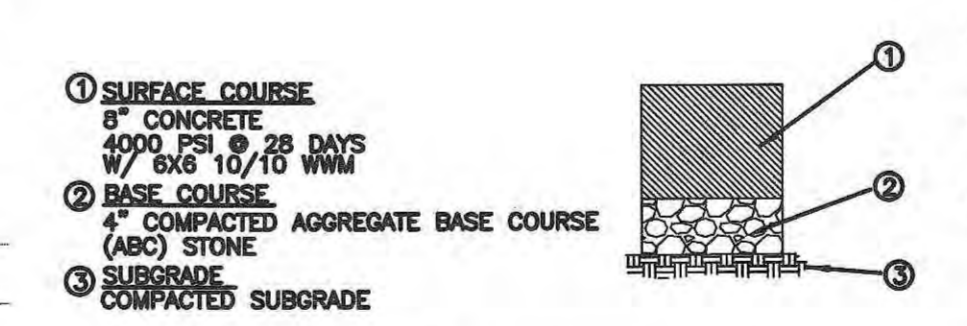
Development Data

Existing Tax Parcel No	978951528
Jurisdiction	Town of Chapel Hill
Site Acreage	6.44 Acres (±280,439 SF)
Zoning	R-1 (Residential 1)
Proposed:	R-5-C (Residential 5 Conditional)
Proposed Use:	Independent Senior Living Facility
Building Data	
Proposed Number of Units:	152 Suites
Floor Area Ratio	
Allowable:	.303 x 2 = .606
Provided:	138,673 SF/280,439 SF = 0.494
Density	
Allowable:	15 Units/Acre X 2 = 30 Units/Acre
Provided:	152 Units/6.44 Acres = 23.60 Units/Acre
Maximum Building Height	39'
Setback Height Allowable:	48'-4"
Setback Height Provided:	
Core Height Allowable:	60'
Core Height Provided:	53'-9.5"
Number of Building Stories	3-4 split (3 from front view, 4 from North Estes Drive)
Setbacks/Yards	
Required:	Street Setback: 20' Solar Setback: 8' Interior Setback: 6'
Provided:	(Modification) Street Setback: 10' (along N. Estes Dr and Somerset Dr) Solar Setback: 8' Interior Setback: 6'
Buffers	
Required:	(Modification) 20' Type C Buffer Adjacent to Residential 30' Type D Buffer Adjacent to N. Estes Dr (Modification) 20' Type C Buffer Adjacent to Somerset Dr (Modification) 10' Type B Buffer Adjacent to School
Provided:	20' Type C Buffer Adjacent to Residential 15' Type B Buffer Adjacent to N. Estes Dr 10' Type B Buffer Adjacent to School
Parking	
Auto Parking	
Required:	0.5 space per Senior Unit (minimum) 152 Senior Units x 0.5 = 76 (minimum) 0.7 space per Senior Unit (maximum) 152 Suites x 0.70 = 107 Spaces
Provided:	99 Spaces 4 Spaces (handicap) 12 Spaces (covered) 83 Spaces (open)
Bike Parking	
Required:	10% x 99 Auto Spaces = 10 2 (20% of required) (inside building) 8 (80% of required) (outside building)
Provided:	2 2 (Note: Long term bike parking shall be located inside the building (See Architectural))
Tree Save Area	
Required:	280,439 SF x 30% = 84,132 SF
Provided:	95522 SF (35%) (See sheet L1.0)
Recreation Area	
Required:	280,439 SF x 0.050 = 14,021 SF
Provided:	30,100 SF
Solid Waste Provided	
Impervious/Pervious Area	
Impervious Area:	37.5%
Pervious Area:	62.5%

LEGEND

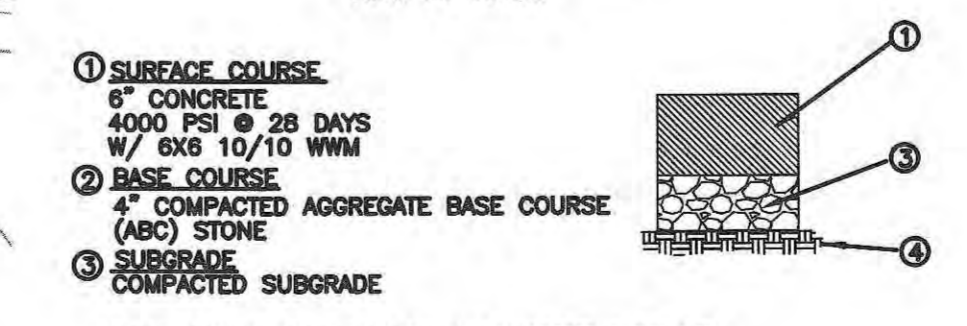
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[Symbol]	[Symbol]	Property Line
[Symbol]	[Symbol]	Parcel Line
[Symbol]	[Symbol]	Building Setback
[Symbol]	[Symbol]	Easement
[Symbol]	[Symbol]	Building
[Symbol]	[Symbol]	Pavement
[Symbol]	[Symbol]	Prop. Rip Rap
[Symbol]	[Symbol]	Curb
[Symbol]	[Symbol]	Fence
[Symbol]	[Symbol]	Guardrail
[Symbol]	[Symbol]	Sign
[Symbol]	[Symbol]	Flag pole
[Symbol]	[Symbol]	Bollard
[Symbol]	[Symbol]	Well
[Symbol]	[Symbol]	Treeline
[Symbol]	[Symbol]	Tree(s)
[Symbol]	[Symbol]	Communication Line
[Symbol]	[Symbol]	Fiber Optic
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[Symbol]	[Symbol]	Flag Light
[Symbol]	[Symbol]	Mounted Light
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[Symbol]	[Symbol]	Proposed Sidewalk
[Symbol]	[Symbol]	35' Undisturbed Buffer
[Symbol]	[Symbol]	Enhanced Vegetative Buffer
[Symbol]	[Symbol]	Handicap Ramp
[Symbol]	[Symbol]	Tree Protection
[Symbol]	[Symbol]	STOP SIGN
[Symbol]	[Symbol]	R1-1
[Symbol]	[Symbol]	30" x 30"

- ### General Notes
- This property is not located in a flood hazard area as defined by the USDOH and Urban Development Ref: FIRM panel #3710978001J dated Feb 2, 2007
 - Prior to any work in the public right-of-way, contact Larry Tucker (919-969-5084) with Town of Chapel Hill Engineering to apply for an Engineering Construction Permit.
 - Seven calendar days prior to any proposed street lane closure, contact Ernie Rogers (919-969-5100) with Town of Chapel Hill Traffic Engineering to apply for a Lane Closure Permit.
 - All damage to Town maintained streets due to project construction will be required to be repaired at no cost to the Town prior to issuance of a certificate of occupancy.
 - Signage shall comply with MUTCD, ICC A 117.1 and NC requirements
 - See Sheet A1.3 for Site Details
 - Refuse, corrugated cardboard and commingled recycling will be by a private contractor.
- ADA ACCESSIBLE ROUTE INSTRUCTIONS TO CONTRACTOR**
Contractors shall exercise appropriate care and precision in construction of ADA accessible components indicated on this sheet. These components, as constructed, must comply with State and Federal accessibility rules and regulations. Finished surfaces along the accessible route of travel from parking space, public transportation, pedestrian access, inter-building access, to points of accessible building entrance/egress, shall comply with ADA & building code requirements. These include, but are not limited to the following:
Parking spaces and parking aisles - slopes shall not exceed 2.0% in any direction.
Curb ramps - slope shall not exceed 8.3% for a maximum of six (6) feet. Landings - shall be provided at each end of ramps, shall provide positive drainage, and shall not exceed 2.0% slope in any direction.
Path of travel along accessible route - shall provide a 36 inch or greater unobstructed width of travel. (car overhangs cannot reduce this minimum width), the slope shall be no greater than 5.0% in the direction of travel, and shall not exceed 2.0% in cross slope.
Doorways - shall have a "level" landing area on the exterior side up the door that is sloped no more than 2.0% for positive drainage. This landing area shall be no less than 60 inches (5 feet) long, except where otherwise permitted by ADA standards for alternative doorway opening conditions (see ICC/ANSI A117.1-2003 and other references incorporated by code). Contractor to warp existing asphalt to ensure slopes are ADA accessible (see note this sheet). Contractor shall ensure no ponding occurs due to pavement modifications.
Curb cuts and accessible routes shall comply with ICC A117.1 2009 Ed. Cross slopes limited to 2%. Call for inspection before placement of concrete. Slopes greater than 5% require construction as a ramp.



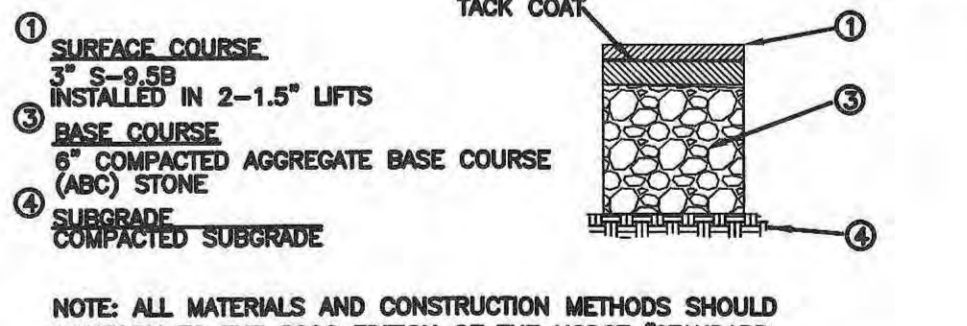
NOTE TO OWNER/DEVELOPER: PAVEMENT SECTION IS A GENERAL RECOMMENDATION ONLY. A LICENSED GEOTECHNICAL ENGINEER SHALL MAKE A FINAL DETERMINATION ON PAVEMENT SECTION DESIGN BASED ON UPON ACTUAL FIELD CONDITIONS. GEOTECHNICAL ENGINEER TO BE RETAINED BY OWNER.

TYPICAL HEAVY DUTY 8" CONCRETE PAVEMENT SECTION
Not To Scale



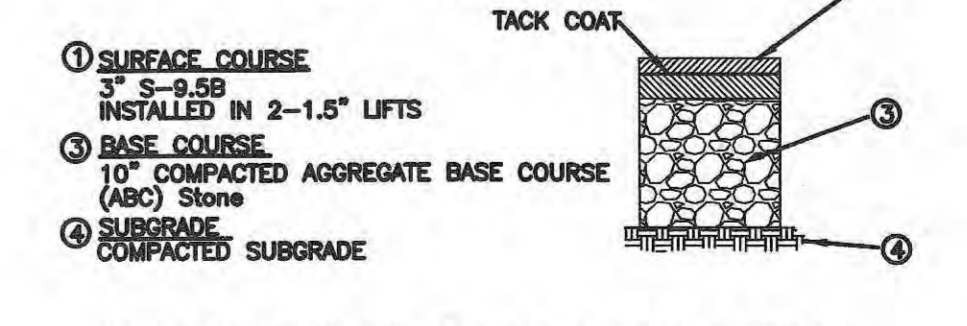
NOTE CONTRACTOR TO STAMP CONCRETE SURFACE.
NOTE TO OWNER/DEVELOPER: PAVEMENT SECTION IS A GENERAL RECOMMENDATION ONLY. A LICENSED GEOTECHNICAL ENGINEER SHALL MAKE A FINAL DETERMINATION ON PAVEMENT SECTION DESIGN BASED ON UPON ACTUAL FIELD CONDITIONS. GEOTECHNICAL ENGINEER TO BE RETAINED BY OWNER.

TYPICAL STAMPED CONCRETE ENTRANCE SECTION
Not To Scale



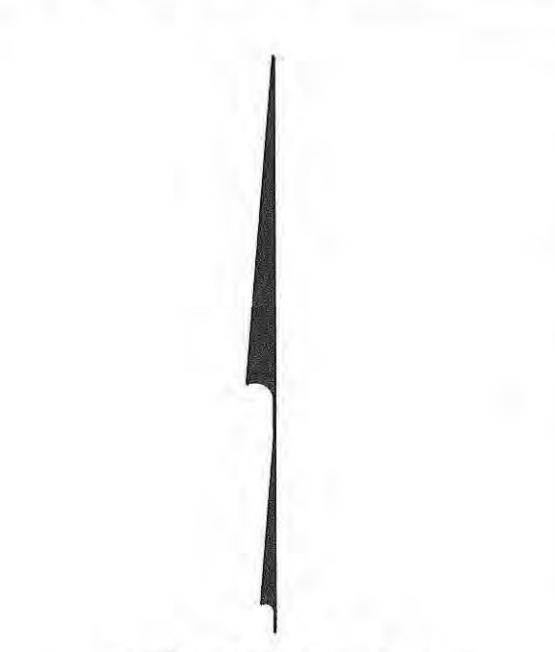
NOTE: ALL MATERIALS AND CONSTRUCTION METHODS SHOULD CONFORM TO THE 2008 EDITION OF THE NCDOT "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES."
NOTE TO OWNER/DEVELOPER: PAVEMENT SECTION IS A GENERAL RECOMMENDATION ONLY. A LICENSED GEOTECHNICAL ENGINEER SHALL MAKE A FINAL DETERMINATION ON PAVEMENT SECTION DESIGN BASED ON UPON ACTUAL FIELD CONDITIONS. GEOTECHNICAL ENGINEER TO BE RETAINED BY OWNER.

TYPICAL LIGHT DUTY PAVEMENT SECTION
Not To Scale



NOTE: ALL MATERIALS AND CONSTRUCTION METHODS SHOULD CONFORM TO THE 2008 EDITION OF THE NCDOT "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES."
NOTE TO OWNER/DEVELOPER: PAVEMENT SECTION IS A GENERAL RECOMMENDATION ONLY. A LICENSED GEOTECHNICAL ENGINEER SHALL MAKE A FINAL DETERMINATION ON PAVEMENT SECTION DESIGN BASED ON UPON ACTUAL FIELD CONDITIONS. GEOTECHNICAL ENGINEER TO BE RETAINED BY OWNER.

TYPICAL HEAVY DUTY PAVEMENT SECTION
Not To Scale



PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

Professional Engineer Seal for Frank L. Campbell, State of North Carolina, License No. 9282. The seal includes the text 'NORTH CAROLINA STATE BOARD OF PROFESSIONAL ENGINEERS' and 'FRANK L. CAMPBELL'.

HAWTHORN RETIREMENT GROUP
9310 NE Vancouver Hall Dr., Suite 200
Vancouver, WA 98665-6710
Phone: 503.251.1540
Fax: 503.251.1546

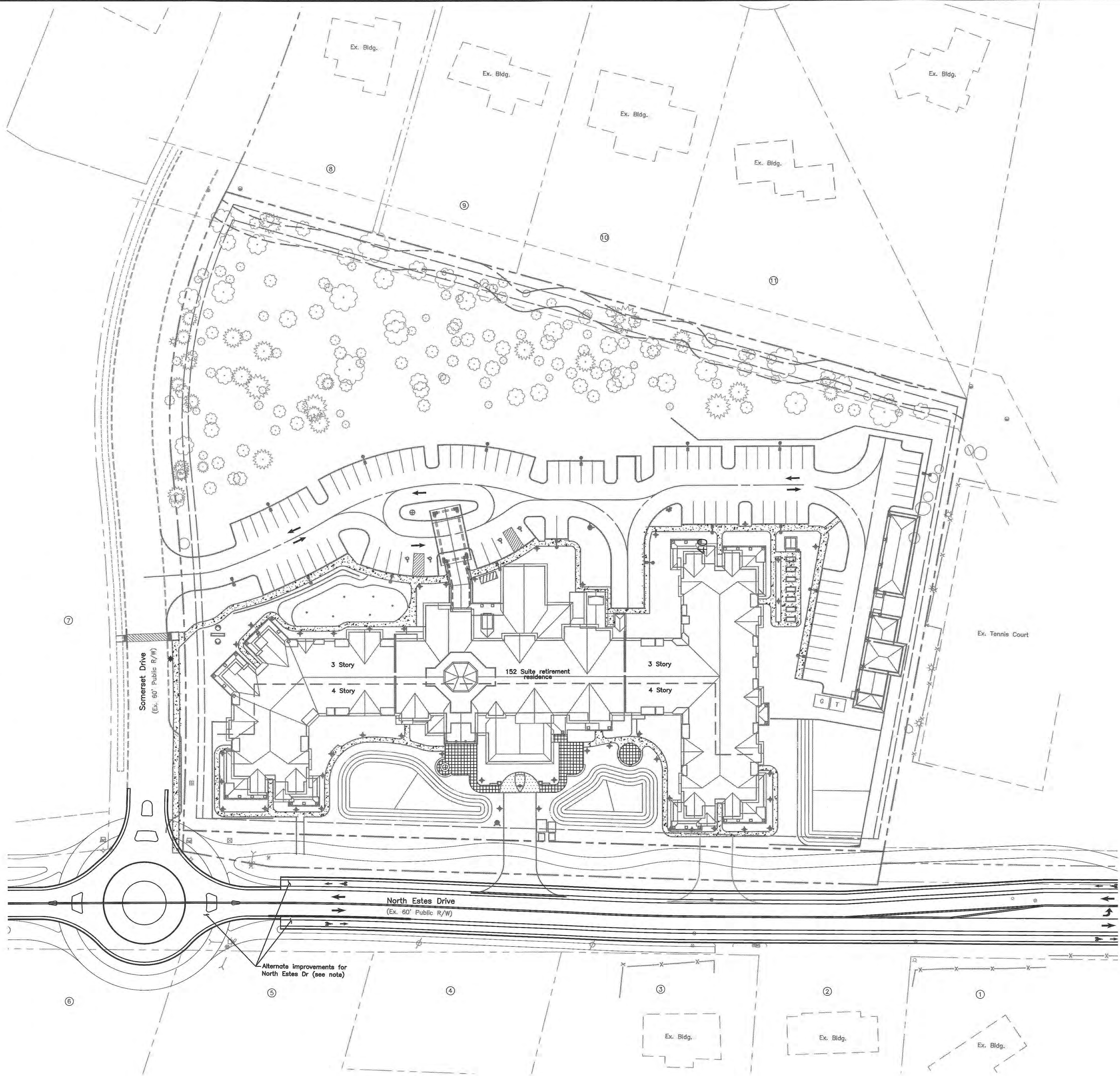
CHAPEL HILL RETIREMENT RESIDENCE
SITE AND STREETScape PLAN

TOWN OF CHAPEL HILL, ORANGE COUNTY, NORTH CAROLINA
SPECIAL USE PERMIT

DATE: September 28, 2016
SCALE: 1" = 40'
JOB NO.: 2014-1832
SHEET: C3.0

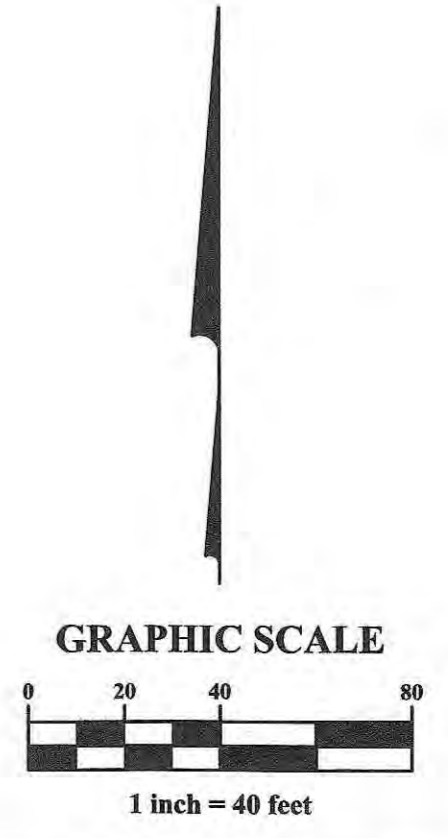
REVISIONS:
DATE: 11/29/16
DESCRIPTION: Revised per Town Comments

A:\2014\1832\Drawings\Site Plan\C3.1 North Estes Alternate Plans.dwg Plot Date: 9/27/2016 11:02 AM User: J. G. Smith Printed By: J. G. Smith 9/27/2016 11:44 PM



LEGEND		
PROPOSED	EXISTING	
		Right of way
		Property Line
		Parcel Line
		Building Setback
		Easement
		Building
		Pavement
		Prop. Rip Rap
		Curb
		Fence
		Guardrail
		Sign
		Flag pole
		Bollard
		Well
		Treeline
		Tree(s)
		Communication Line
		Fiber Optic
		Fiber Optic Box
		Underground Electric Line
		Overhead Electric Line
		Overhead Utility Wire
		Telephone Pole
		Guy Wire
		Electric Transformer
		Light Pole
		Entrance Light
		Flag Light
		Mounted Light
		Fire Hydrant
		Proposed Sidewalk

Note
 The roundabout and other alternate improvements on North Estes Drive are shown on this plan at the request of The Town of Chapel Hill. No engineering design for the Chapel Hill Retirement Residence has been based on the alternate improvements shown.
 All future road improvements on North Estes Drive as shown are based on Preliminary Engineering drawings provided by Stewart Inc. and are subject to change based upon final engineering.



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EVANS
 MECHAMET
 HAMILTON &
 TILTON, INC.
 No. F-1016

SEAL
 633811
 9/28/2016
 FRANK L. GANTTIEL

MARK	DATE	DESCRIPTION

REVISIONS
 7/29/16 Revised per Town Comments

TOWN OF CHAPEL HILL, ORANGE COUNTY, NORTH CAROLINA
 SPECIAL USE PERMIT
CHAPEL HILL RETIREMENT RESIDENCE
 NORTH ESTES DR ALTERNATE PLAN

EMHT
 Evans, Mecham, Hamilton & Tilton, Inc.
 Engineers • Surveyors • Planners • Scientists
 501 McEachern Blvd., Suite 100, Chapel Hill, NC 27514
 Phone: 919.966.4444
 emht.com

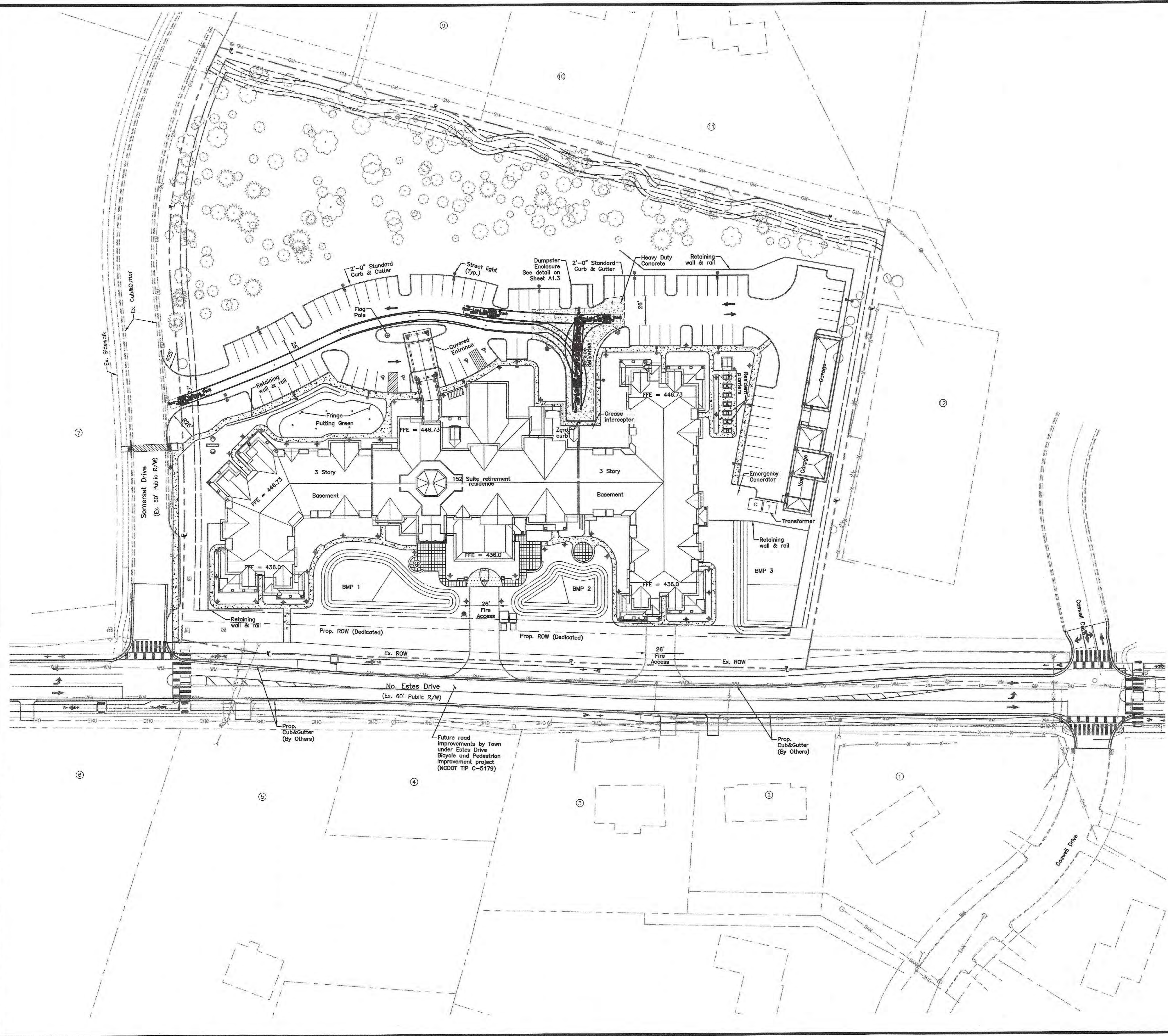
DATE
September 28, 2016

SCALE
1" = 40'

JOB NO.
2014-1832

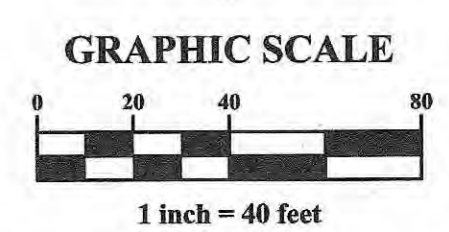
SHEET
C3.1

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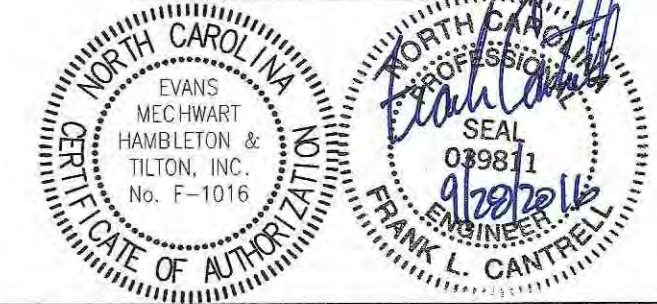


LEGEND		
PROPOSED	EXISTING	
		Right of way
		Property Line
		Parcel Line
		Building Setback
		Easement
		Building
		Pavement
		Prop. Rip Rap
		Curb
		Fence
		Guardrail
		Sign
		Flag pole
		Bollard
		Well
		Treeline
		Tree(s)
		Communication Line
		Fiber Optic
		Fiber Optic Box
		Underground Electric Line
		Overhead Electric Line
		Overhead Utility Wire
		Telephone Pole
		Guy Wire
		Electric Transformer
		Light Pole
		Entrance Light
		Flag Light
		Mounted Light
		Fire Hydrant

- Solid Waste Notes**
- All existing structures 500 square feet and larger in size shall be assessed prior to demolition to ensure compliance with the county's Regulated Recyclable Materials Ordinance (RRMO) and to assess the potential for de-construction and/or the re-use of salvagable materials.
 - By Orange County ordinance, clean wood waste, scrap metal, and corrugated cardboard present in construction or demolition waste must be recycled.
 - By Orange County ordinance, all haulers of mixed construction and demolition waste that includes any regulated recyclable materials shall be licensed by Orange County.
 - Prior to any demolition or construction activity on the site the applicant shall hold a pre-demolition/pre-construction conference with the Solid Waste staff (919-996-2788). This may be the same pre-construction meeting held with other development/enforcement officials.
 - The presence of any Asbestos Containing Materials (ACMs) and/or other hazardous materials in construction and demolition waste shall be handled in accordance with all local, state, and federal regulations and guidelines.
 - If any vehicles are parked in the refuse or recyclables collection vehicle access area, the containers will not receive service until the next scheduled collection day.
 - Mixed recycling will be in roll out carts to be collected by private waste collection contractor. Owner acknowledges that rights are being waived for public collection of mixed recyclables by Orange County and that payment of annual fee with real estate taxes will still be required.
 - Trash will be in a trash compactor and cardboard will be in a recycling dumpster to be collected by a private waste collection contractor.
 - All construction waste materials shall be recycled whenever possible. Contractors shall retain pickup slips to record/validate recycling as may be required for environmental credits.
 - Trash and recycle collection includes 1 - 6 CY garbage dumpster, 1-4 CY recycling compactor and 3 recycling bins.
 - The owner, or their designee, shall be responsible for maintaining a fire watch during construction and demolition where materials subject to spontaneous combustion or other hazardous construction or demolition is occurring.
 - All construction and demolition shall be conducted in compliance with the current edition of chapter 14 of the NC FPC.



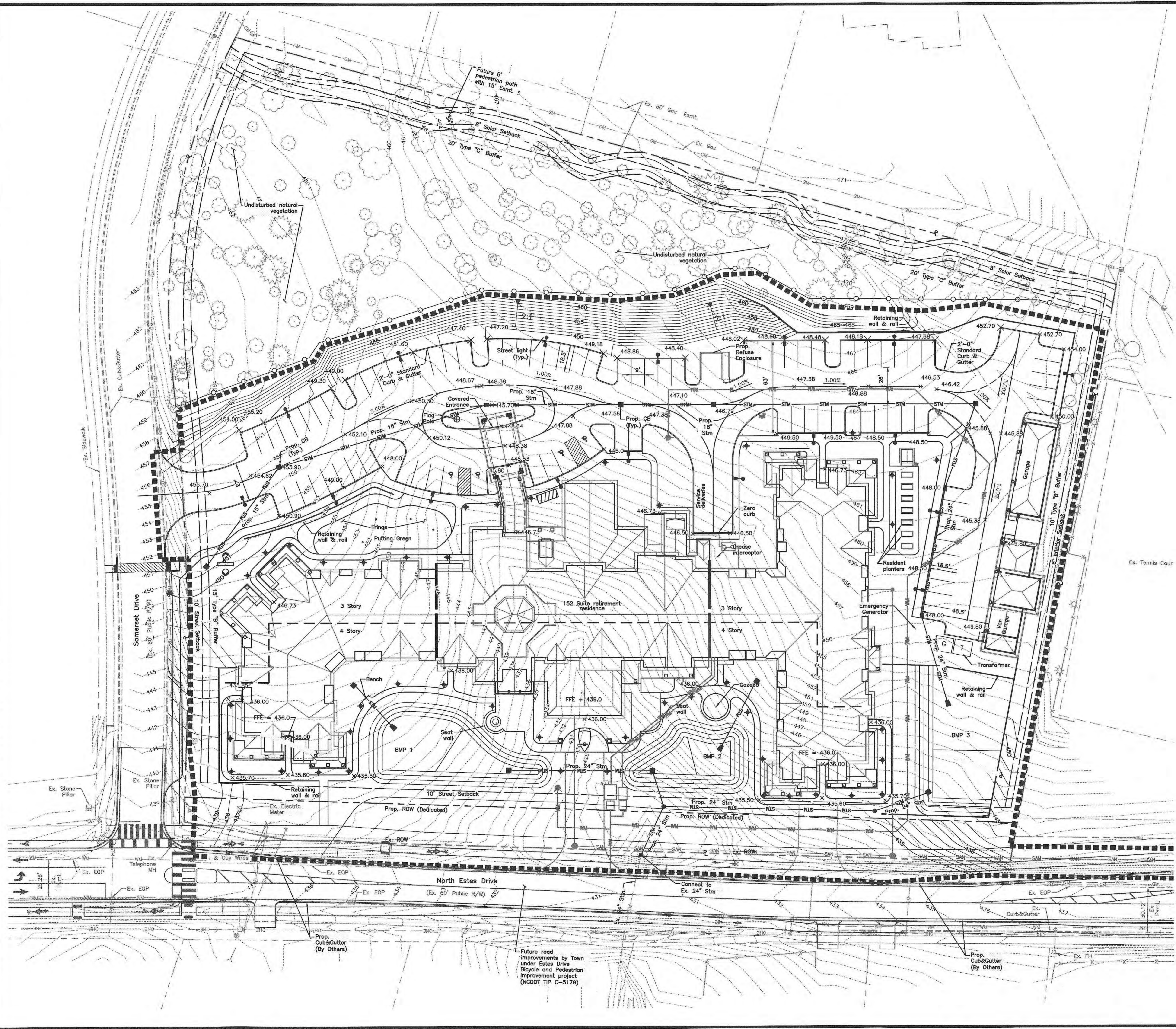
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HAWTHORN GROUP
 RETIREMENT RESIDENCE
 CHAPEL HILL, ORANGE COUNTY, NORTH CAROLINA
 RETIREMENT RESIDENCE
 SOLID WASTE PLAN

DATE: September 28, 2016
 SCALE: 1" = 40'
 JOB NO.: 2014-1832
 SHEET: C3.2

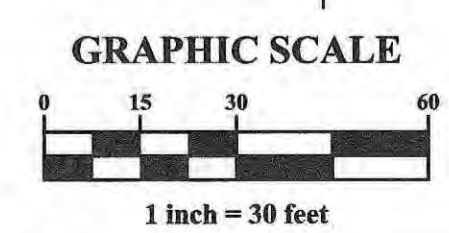
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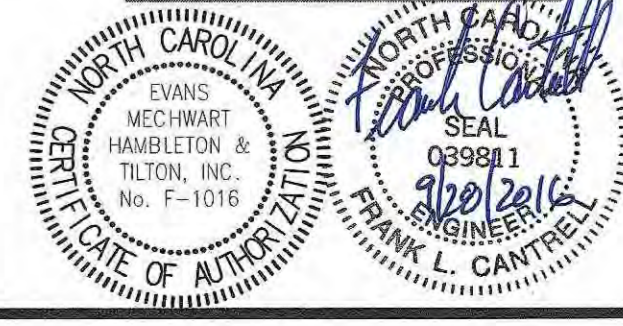
GRADING LEGEND	
	Proposed Storm Sewer
	Existing Storm Sewer
	Proposed Sanitary Sewer
	Existing Sanitary Sewer
	Proposed Water Line
	Existing Water Line
	Proposed Contour
	Existing Contour
	Proposed Headwall/Endwall
	Proposed Perforated Under Drain
	Proposed Catch Basin
	Proposed Curb & Gutter Inlet
	Proposed Double Curb & Gutter Inlet
	Proposed Water Service Meter
	Proposed Yard Drain
	Proposed Sanitary Service Cleanout
	Light Pole
	Entrance Light
	Flag Light
	Mounted Light
	Proposed Fire Hydrant
	Proposed Top of Casting at Back of Curb
	Proposed Top of Curb/Proposed Grade
	Proposed Pavement Shot
	Proposed Top of Wall
	Proposed Bottom of Wall/Finished Grade
	Existing Top of Casting
	Existing Top of Curb
	Existing Pavement Shot
	Proposed Storm Drainage Easement
	Grade Break Line
	Tree Protection
	Limits of Disturbance

- Grading/Stormwater Notes**
- The proposed elevators, which may require sumps if hydraulic, will be required to be equipped with oil separators and plumbed to the sanitary sewer system.
 - All storm drainage pipes shown are to be Class III reinforced concrete (RCP) unless noted otherwise.
 - All storm drainage construction shall be in accordance with the Town of Chapel Hill latest standards and specifications.
 - Downspouts shall be sized according to building code and shown on the architectural plans. Roof leaders to tie to the proposed storm drain system underground.
 - All damage to streets maintained by the town of chapel hill due to project construction shall be repaired at no cost to the town prior to a certificate of occupancy being issued.

Disturbed Area = 5.30 Ac



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HA WTHORN RETIREMENT GROUP <small>8310 NE Vancouver Mall Dr., Suite 200 Vancouver, WA 98686-0210 503.281.1400 6715 NE 68th, Vancouver, WA 98681</small>	REVISIONS <table border="1"> <tr> <th>MARK</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	MARK	DATE	DESCRIPTION			
	MARK	DATE	DESCRIPTION				
EMHT <small>Evans, Mechwart, Hambleton & Tilton, Inc. Engineers • Surveyors • Planners • Scientists 7015 Wake Forest Road, Raleigh, NC 27609 Phone: 919.561.0000 emht.com</small>	DATE: September 28, 2016 SCALE: 1" = 30' JOB NO.: 2014-1832 SHEET: C4.0						



PRE-TRIBUTARY AREA PLAN
Scale: 1"=60'



POST-TRIBUTARY AREA PLAN
Scale: 1"=60'

DRAINAGE PATTERNS:

Existing Conditions:
The existing site drainage generally flows overland from North to South to the existing culvert crossing along the southern property line and down to the existing streams/ditches on the southern side of N Estes Drive

Proposed Conditions:
The proposed development will include a drainage system on the West and East side of the existing stream, that will convey the stormwater runoff from rooftops, sidewalks, lawns and roadways to three BMP's. The three sandfilter's will discharge the development stormwater to the existing culvert crossing N Estes Drive along the southern property line, all conforming with the Town of Chapel Hill and NCDENR Stormwater Management Regulations.

BMP's provided are shown for general conformance with the Town of Chapel Hill Requirements. Size, shape and type of proposed BMP's are subject to change and will be finalized with details as part of final engineering/construction documents, subject to Town of Chapel Hill engineering approval.

STORMWATER SUMMARY:

Volume Reduction:
The site is currently wooded on Type C soils. Sand filters are being used as the infiltration BMP for the site and will provide groundwater recharge to the maximum extent practical to meet the 2-year storm runoff reduction requirement.

Water Quality:
Three sand filters will be used to treat water quality. The tributary area to the west and middle sand filters are less than an acre. The tributary area to the east sand filter is 3.14 acres of onsite runoff and 4.33 acres of offsite/undeveloped runoff. Since most of the offsite/undeveloped runoff is from vegetated land, the majority of the runoff volume will be from the 4.33 acre development. Sand filters have a maximum tributary area of 5 acres, however, since most of the runoff will come from the 4 acre development, we feel this is the appropriate BMP for the east basin.

Peak Flow Rate Control:
The 1-year, 2-year, and 25-year peak flow rates will be mitigated by the three sand filters and an underground detention system. An underground system is required upstream of the east sand filter since the sand filter does not have sufficient volume on its own. The underground system will attenuate the peak flow sufficiently enough to insure that the sand filter doesn't overflow for the design storms and meet the allowable release rate requirements at the ultimate outfall.

Outlet:
The existing outlet for the site is a 24" culvert at Estes Road. A capacity analysis will be provided to insure Estes Road is not overtopped prematurely and additional detention added to the site if necessary.

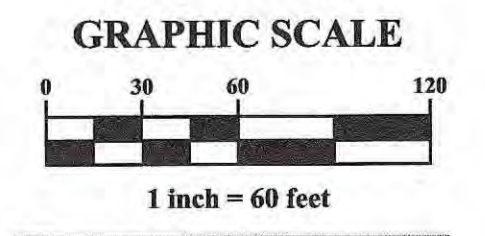
Nutrient Management:
The site is in the Jordan Lake watershed. The mandatory 40% reduction in nitrogen and phosphorus will be achieved onsite using sand filters. The additional mitigation to meet Jordan Lake requirements will be provided by credits achieved from private mitigation banks or NC DENR if no local banks have credit available.

Floodplain:
There are no FEMA floodplains on the site

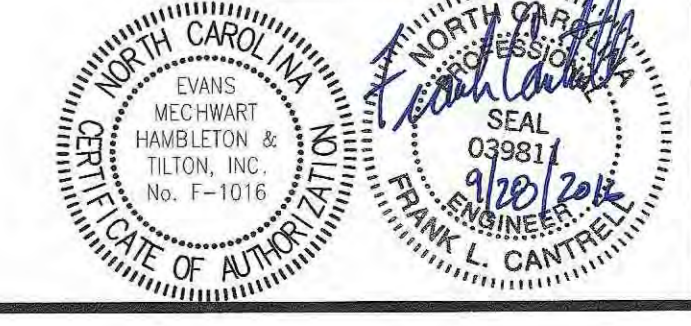
Pre-development	
Undeveloped Area Onsite/Offsite	
Area = 2.98 Acres	
TC = 16.6 MIN	
RCN = 72	
Developed Area	
Area = 4.99 Acres	
TC = 14.6 MIN	
RCN = 70	
Post-development	
Sandfilter 1 Stormwater Summary	
25-year Used Volume=	9,009 cu-ft
Provided Volume=	12,638 cu-ft
Sandfilter 2 Stormwater Summary	
25-year Used Volume=	5,704 cu-ft
Provided Volume=	8,740 cu-ft
Sandfilter 3 Stormwater Summary	
25-year Used Volume=	17,110 cu-ft
Provided Volume=	19,126 cu-ft

NOTE:
A 5 min Tc Path was used for all onsite Post-Tributary Analysis.

NOTE:
All roof drains from the building must discharge into the stormwater treatment basins.



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HAWTHORN RETIREMENT GROUP
Retirement Services
10000 W. 86th St., Suite 200
Vancouver, WA 98682-8210
(360) 213-1550 Fax: (360) 213-1540
enr.com

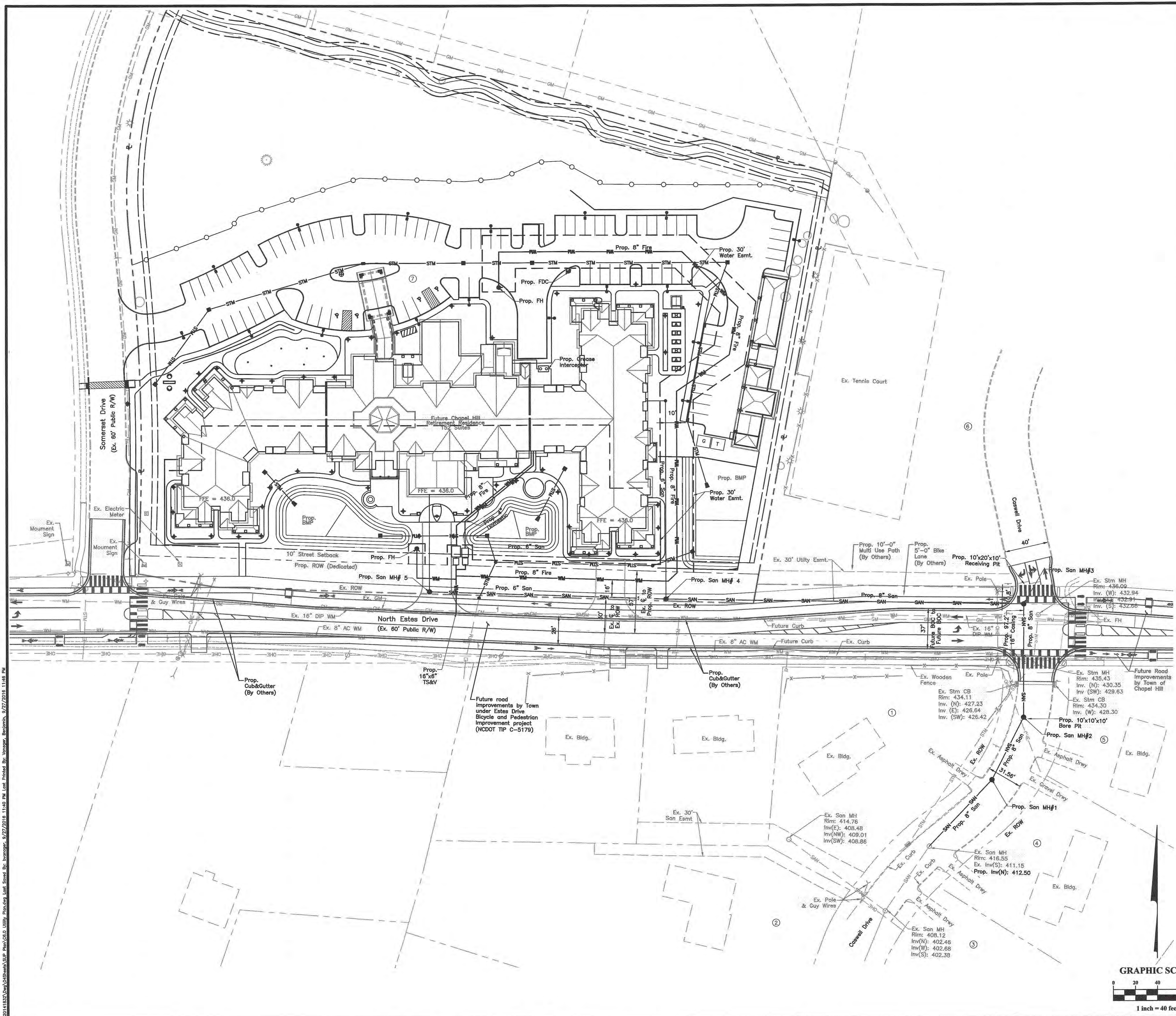
CHapel Hill Retirement Residence Stormwater Management Plan

EMHIT
Evans, Mechwart, Hambleton & Tilton, Inc.
301 MacCawville Ave., Ste. 129, Cary, NC 27513
Phone: 919.460.0533 Fax: 919.460.0533 enr.com

MARK	DATE	DESCRIPTION
1	7/29/16	Revised per Town Comments

DATE: September 28, 2016
SCALE: As Noted
JOB NO.: 2014-1832
SHEET: C5.0

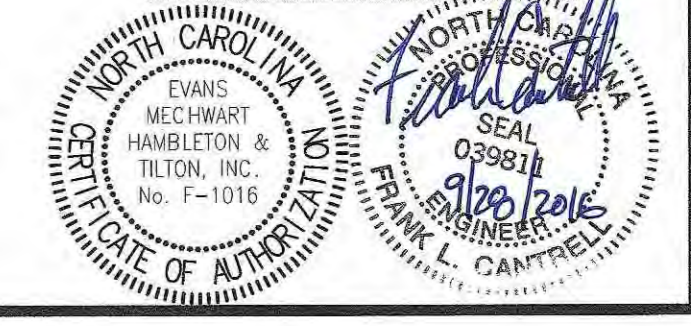
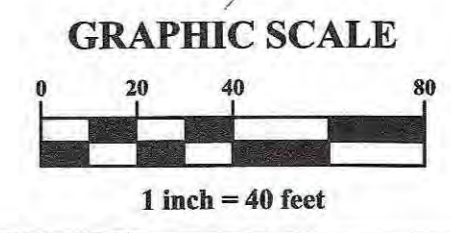
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PROPOSED	EXISTING	DESCRIPTION
---	---	Right of way
---	---	Property Line
---	---	Building Setback
---	---	Easement
---	---	Building
---	---	Pavement
---	---	Curb
---	---	Fence
---	---	Sign
---	---	Bollard
---	---	Treeline
---	---	Tree(s)
---	---	Telephone Pole
---	---	Guy Wire
---	---	Electric Transformer
---	---	Light Pole
---	---	Yard Light Pole
---	---	Sanitary Sewer
---	---	Grease Interceptor
---	---	Water main or Fire Main
---	---	Backflow Preventer
---	---	Valve
---	---	Water Meter
---	---	Storm Sewer
---	---	Gas Main

- Utility Notes**
- Standards and Specifications - All construction shall be in accordance with OWASA Standards and Specifications dated August, 2003, latest revised version.
 - Please be advised that OWASA approval of this project is for compliance with OWASA Policies, Standards, and Specifications only. All other matters pertaining to this project are the responsibility of the Design Engineer. The issuance of this letter does not preclude the Developer, Project Engineer, Contractor, or other Agents or Parties acting on their behalf from full compliance with OWASA current Standards, Specifications, and Procedures or from complying with any and all statutes, rules, regulations, and ordinances which may be imposed by other government agencies (local, state, and federal) which may have jurisdiction. Violations will result in the OWASA Project approval being rescinded.
 - Preconstruction Conference - A preconstruction conference with the OWASA Construction Inspector is required before beginning any water or sewer utility construction.
 - Contact the National One Call Before You Dig 811 to have OWASA facilities located before beginning any excavation.
 - Field Changes are not considered approved by OWASA unless revised plans have been submitted to OWASA for review and approval. Contractors that proceed with construction prior to this approval do so at their own risk.
 - Sewer Statement - Sewer lines under construction shall be plugged with a mechanical plug at the first manhole upstream from the point of connection. Plug shall be placed in the outlet connection and secured with steel cable. Plug shall remain in place until acceptance of lines by OWASA. Before any construction is to begin on the site, Contractor shall protect all existing OWASA Sewer Manholes with iron fence post and orange tree protection fencing. Water, stone, dirt, or any other debris shall not be allowed to enter the OWASA Sanitary Sewer System during flushing operations or at any other time. Construction taking place in the vicinity of any existing OWASA sewer lines or manholes shall not cause any inflow of surface water or debris to enter the OWASA Sanitary Sewer System. Existing OWASA manholes located in construction sites are to be kept clear and accessible to OWASA personnel at all times. The Owner and/or Contractor shall be responsible for any damages incurred to the OWASA Sanitary Sewer System and any fines imposed by the State of North Carolina Division Of Water Quality due to sewer spills or overflows.
 - Water Valves - Existing valves shall be operated by OWASA personnel only. Valves that separate purified approved water and unapproved water are to remain closed at all times. Valves may be temporarily opened for locating and flushing by the OWASA Inspector only.
 - Protection of Existing OWASA Facilities - Before any construction is to begin on the site, Contractor shall protect all OWASA Meter Vaults, Fire Hydrants, Valve Boxes, and Manholes with iron fence post and orange tree protection fencing. All existing OWASA facilities are to be kept clear and accessible to OWASA personnel at all times.
 - Sewer Use Ordinance - Discharge from this project must be in compliance with the OWASA Sewer Use Ordinance. A grease interceptor shall be provided when in the opinion of OWASA it is necessary for the proper handling of wastewater containing excessive amounts of grease. All interception units must be of the type and capacity which is certified by the Project Engineer as meeting the requirements of OWASA.
 - Sewer Services - Each building connected to the sewer system shall be served by a separate building sewer of not less than 4 inch diameter. Sewer services located within public right-of-ways or OWASA sewer easements must be constructed of ductile iron pipe from the top up to and including the first clean-out. Except for dead end manholes, all 4 inch sewer services must be topped into the sewer main. All 6 inch services must be connected to a manhole.
 - Existing Valves - Contractor responsible for verifying that existing valve at the point of connection to the OWASA system is adequate for performing and passing hydrostatic pressure and leakage test. Contractor, at his expense, may optionally replace valve or install a new valve for the purpose of performing a pressure test for new main installation. If Contractor elects to pressure test against existing valve, Contractor accepts responsibility for ensuring passing pressure test in accordance with OWASA requirements. In any case, no claim whatsoever shall be made against OWASA for failure of pressure test.
 - Dechlorination Requirements - The Contractor shall be responsible for neutralization of chlorinated water at the point of discharge from the main being tested. This shall occur following chlorination to disinfect a main or any other time when elevated levels of chlorine could potentially be discharged into the environment by the Contractor. At the time the disinfection and purify testing procedures are discussed with the OWASA Construction Inspector, the procedure for dechlorination will be covered. Absolutely no flushing, disinfection, or purify sampling is to take place without prior approval of a sampling plan by the OWASA Inspector.
 - Cross-Connection Control Ordinance - Backflow Prevention will be required in accordance with OWASA Cross-Connection Control Ordinance and Manual.
 - Fire Protection Systems - Pressure testing, chlorination, and purify testing shall be completed before the installation of the RPDA unit.
 - Remote Read-out Devices - RPDA devices located inside buildings must be equipped with an AMR Meter to be purchased from OWASA and installed by the Contractor. Meter purchase will include an OWASA provided box that is to be mounted on the outside of the building (see OWASA Detail 515.03). The box contains an ERT (transmitter) and a remote read-out device.
 - Existing water and/or sewer lines encountered during construction must be supported in a manner acceptable to the OWASA Construction Inspector. The OWASA Construction Inspector under the direction of the OWASA Engineering Manager may require existing pipes to be replaced with new ductile iron pipe.
 - Water outages necessary for the connection of new construction to existing pipelines must be coordinated in advance with the OWASA Construction Inspector and the affected parties in accordance with OWASA Policy. A two week notice is required.

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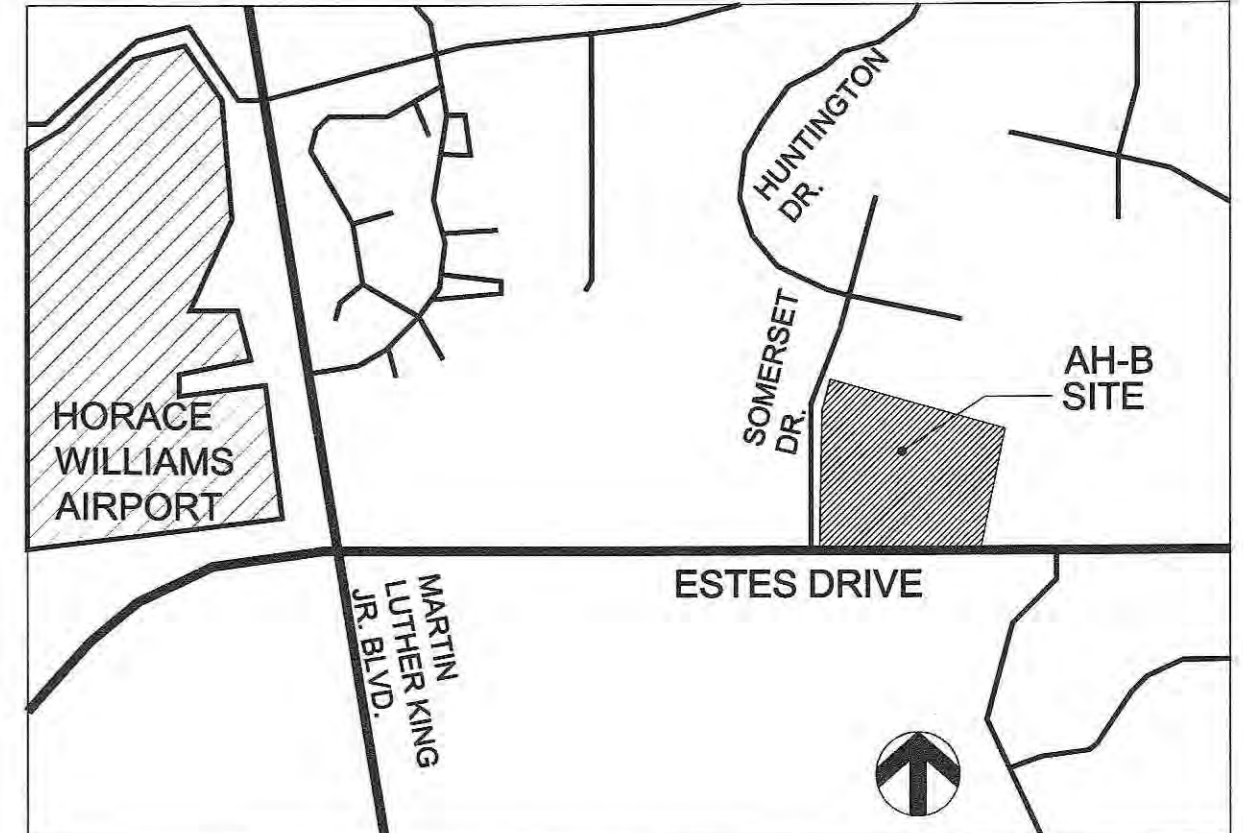
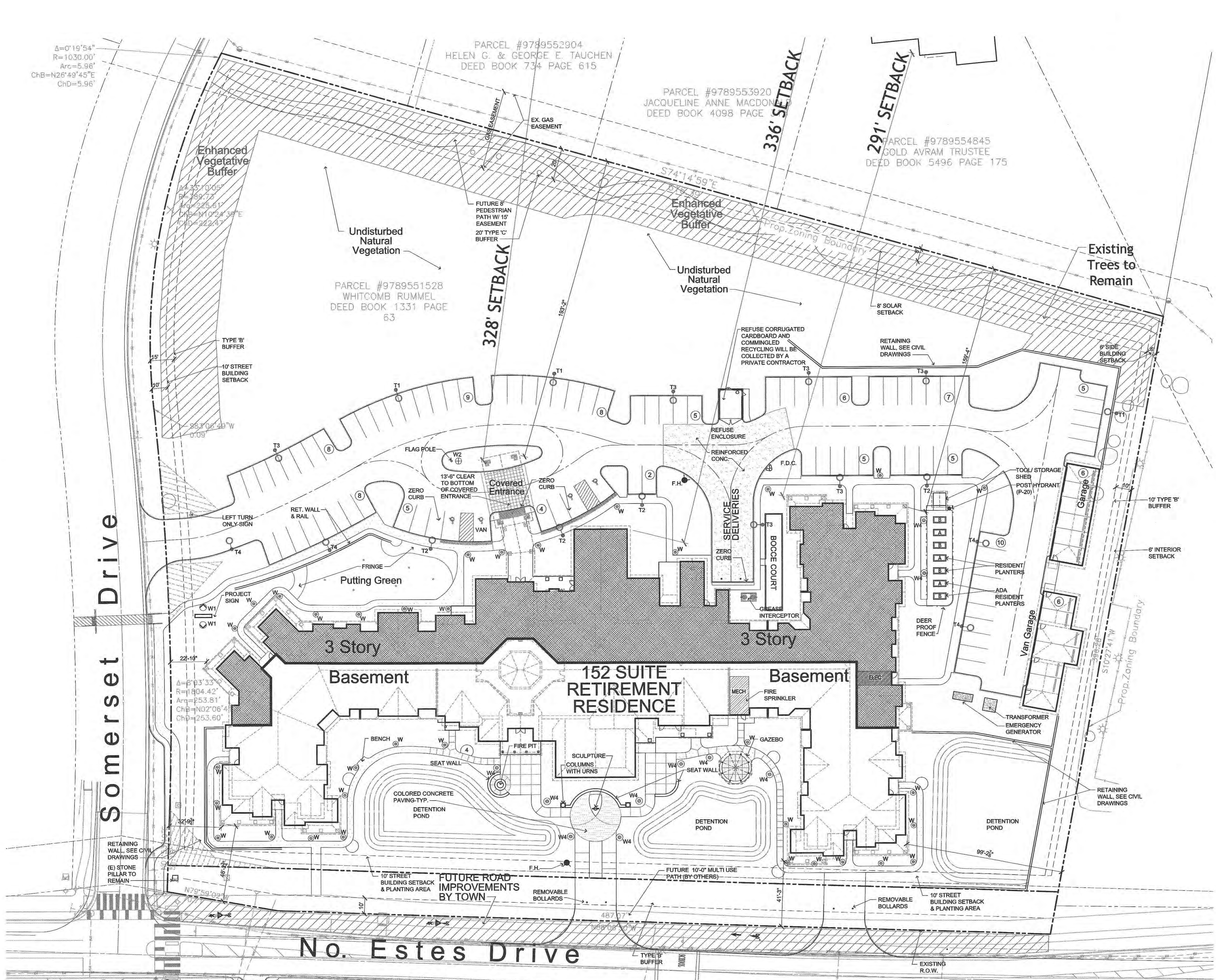
HAWTHORN RETIREMENT GROUP
 8301 NE Vancouver Mall Dr., Suite 200
 Vancouver, WA 98682-2710
 (509) 215-1550 Fax: (509) 215-1540
 6715 NE 58th - Vancouver, WA 98681

CHAPEL HILL RETIREMENT RESIDENCE UTILITY PLAN

TOWN OF CHAPEL HILL, ORANGE COUNTY, NORTH CAROLINA
 SPECIAL USE PERMIT

DATE: September 28, 2016
 SCALE: 1" = 40'
 JOB NO.: 2014-1832
 SHEET: C6.0

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PROPOSED AH-B SEGMENT TO AIRPORT HAZARD OVERLAY DISTANCE ORDINANCE 3.6.1.

PROJECT STATISTICS:

PROJECT AREA:
 TOTAL AREA 6.437 Acres Net 280,439 SQ. FT.
 Total Building Coverage: 47,464 SQ FT 16.9%

Area Calculations:

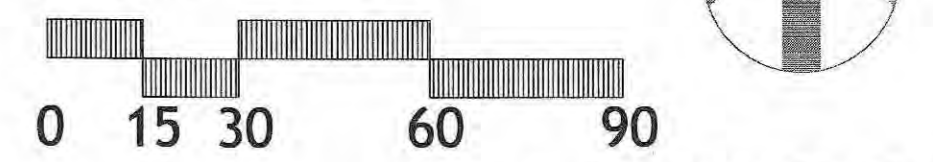
Retirement Building:	44,379 SQ. FT.	15.8%
Out Buildings:	3,085 SQ. FT.	1.1%
Drives:	39,857 SQ. FT.	14.2%
Walks & Patios:	18,112 SQ. FT.	6.4%
Landscaped Openspace:	175,006 SQ. FT.	62.5%

Pervious / Impervious Area
 Impervious Area: 37.5% Pervious Area: 62.5%

PARKING:
 Retirement Project:
 83 Open Spaces
 12 Covered Spaces
 4 Accessible Spaces
 99 Total Spaces

Site Plan

DATE: 09/28/2016
 SCALE: 1" = 30'-0"



HAWTHORN
 RETIREMENT GROUP
 9310 NE Vancouver Mall Dr., Suite 200
 Vancouver, WA 98662-8210
 (360) 213-1550 Fax (360) 213-1540

A1.0

Daniel Roach architect

Chapel Hill Retirement Residence

Chapel Hill, NC