MATCH LINE "A" - SEE SHEET 6A

MATCH LINE "B" - SEE SHEET 6A

TREE PRESERVATION AREA

APPROXIMATE LOCATION OF AMENITY AREA

APPROX. LOCATION OF BIKE RACKS

AMENITY AREA

PROP. 30' STM. ESMT.

PROP. 10' SAN. ESMT.

PROP. 20' SAN. ESMT.

PROP. TOWNHOUSES

TOWNHOUSE PARCEL
±4.94 ACRES

SENIOR LIVING PARCEL
±2.24 ACRES

PROPOSED BUILDING

COVERED WALK

ORCHARD STREET

FARR AVENUE

FARR AVENUE TO BE DESIGNED AND CONSTRUCTED BY OTHERS

4' LINEAR PARK PLANTER STRIP

6' SIDEWALK

5' SIDEWALK

5' BIKE LANE

LOADING SPACE

PARKING GARAGE ENTRANCE

PROP. RETAINING WALL

BROWN'S FAIRFAX MAZDA
PROPOSED DEVELOPMENT
(SUP SUB 01-20191106)

LANDSCAPE KEY:

- EXISTING TREE TO BE PRESERVED
- COUNTS TOWARDS PARKING LOT REQUIREMENTS
- STREET TREE IN ROW NO CANOPY CREDIT
- CANOPY TREE - DECIDUOUS
- UNDERSTORY TREE - DECIDUOUS
- UNDERSTORY TREE - EVERGREEN
- SHRUB

VIRGINIA STATE GRID NORTH
NAD 83

30 15 0 30 60
HORIZONTAL GRAPHIC SCALE
1" = 30'

ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT CITY OF FAIRFAX STANDARDS AND SPECIFICATIONS

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COMMONWEALTH OF VIRGINIA
LAURIE B. DONNACHIE
Lic. No. 0406001880
2020-04-10
LANDSCAPE ARCHITECT

NORTHFAX WEST
MASTER DEVELOPMENT PLAN
CITY OF FAIRFAX, VIRGINIA

MARK	DATE	DESCRIPTION

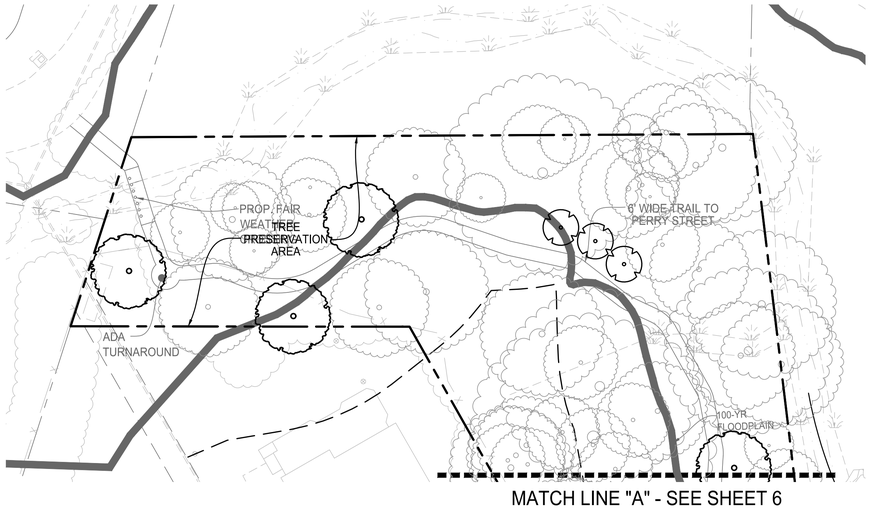
PROJECT No.: 13139.005.00
DRAWING No.: 109632
DATE: 11-21-2019
DESIGN: LBD
DRAWN: LBD
CHECKED: LBD

SHEET TITLE:

CONCEPTUAL LANDSCAPE PLAN

SHEET No.
6

SCALE: 1"=30'



MATCH LINE "A" - SEE SHEET 6

TRANSITIONAL YARDS

TRANSITIONAL YARD 3 - NORTH

LINEAR FEET		585'	
REQUIRED			**PROVIDED**
WIDTH OF LANDSCAPE STRIP		15'	15'
FENCE OR WALL HEIGHT		6'	6' FENCE
			NONE WALL
CANOPY TREE	(4 per 100 feet)	23	3
UNDERSTORY TREE	(4 per 100 feet)	23	17
UNDERSTORY TREE - EXISTING			20
SHRUB	(4 per 100 feet)	23	23
SEE SHEET 1 FOR MODIFICATION REQUEST			

TRANSITIONAL YARD 3 - NORTHEAST

LINEAR FEET		232'	
REQUIRED			**PROVIDED**
WIDTH OF LANDSCAPE STRIP		15'	10'
FENCE OR WALL HEIGHT		6'	6' FENCE
			NONE WALL
CANOPY TREE	(4 per 100 feet)	9	4
UNDERSTORY TREE	(4 per 100 feet)	9	10
SHRUB	(4 per 100 feet)	9	24
SEE SHEET 1 FOR MODIFICATION REQUEST			

TRANSITIONAL YARD 3 - SOUTHEAST

LINEAR FEET		327'	
REQUIRED			**PROVIDED**
WIDTH OF LANDSCAPE STRIP		15'	0'
FENCE OR WALL HEIGHT		6'	NONE FENCE
			NONE WALL
CANOPY TREE	(4 per 100 feet)	13	0
UNDERSTORY TREE	(4 per 100 feet)	13	0
SHRUB	(4 per 100 feet)	13	0
SEE SHEET 1 FOR MODIFICATION REQUEST			

TRANSITIONAL YARD 3 - SOUTHWEST

LINEAR FEET		75'	
REQUIRED			**PROVIDED**
WIDTH OF LANDSCAPE STRIP		15'	15'
FENCE OR WALL HEIGHT		6'	6' FENCE
			NONE WALL
CANOPY TREE	(4 per 100 feet)	3	3
UNDERSTORY TREE	(4 per 100 feet)	3	3
SHRUB	(4 per 100 feet)	3	8
NO MODIFICATION NEEDED			

TRANSITIONAL YARD 3 - WEST

LINEAR FEET		400'	
REQUIRED			**PROVIDED**
WIDTH OF LANDSCAPE STRIP		15'	8.5'
FENCE OR WALL HEIGHT		6'	6' FENCE
			1.0 - 2.1' WALL
CANOPY TREE	(4 per 100 feet)	16	16
UNDERSTORY TREE	(4 per 100 feet)	16	16
SHRUB	(4 per 100 feet)	16	28
SEE SHEET 1 FOR MODIFICATION REQUEST			

NOTES:
1. EASTERN AND NORTHWESTERN TRANSITIONAL YARD PROVIDED BY EXISTING VEGETATION AND/OR FUTURE DEVELOPMENT PARCEL.
2. WHERE WALLS ARE LOCATED INSIDE THE TRANSITIONAL YARD A FENCE WILL BE ADDED IN ORDER TO MEET THE 6' HEIGHT REQUIREMENT.

10-YEAR TREE CANOPY CALCULATIONS

TREE CANOPY REQUIRED

SITE AREA (DOES NOT INCLUDE ROW)	457,030 SF
TREE CANOPY COVERAGE REQUIRED PER ZO 4.5.6.A.	**10 %**
TOTAL CANOPY AREA REQUIRED	45,703 SF

TREE CANOPY PROVIDED

PLANT TYPE	STOCK SIZE	QUANTITY	CANOPY PER TREE	CANOPY PER TYPE
CANOPY TREE	2" CALIPER	42	200 SF	8,400 SF
UNDERSTORY TREE	2" CALIPER	108	100 SF	10,800 SF
SUBTOTAL CANOPY AREA PROVIDED THROUGH TREE PLANTING				19,200 SF
SUBTOTAL CANOPY AREA PROVIDED THROUGH TREE PRESERVATION				37,000 SF
TOTAL CANOPY AREA PROVIDED				56,200 SF
TOTAL CANOPY COVERAGE PROVIDED				**12.3 %**

NOTE: THE FOLLOWING TREES ARE PROPOSED WITHIN THE ROW AND THEREFORE NOT INCLUDED IN THE ABOVE TREE CANOPY CALCULATIONS

CANOPY TREE	2" CALIPER	18	— —	— —

STREET TREES REQUIRED:
MINIMUM 10' WIDE LANDSCAPE STRIP ALONG ALL STREETS
1 CANOPY TREE PER 40 LINEAR FEET ALONG ALL STREETS

STREET TREES PROVIDED: PER CITY PROVIDED DESIGN
4' WIDE LANDSCAPE STRIP ALONG ALL PUBLIC AND PRIVATE STREETS
CANOPY TREES GREATER THAN EVERY 40 FEET
SEE SHEET 1 FOR MODIFICATION REQUEST.

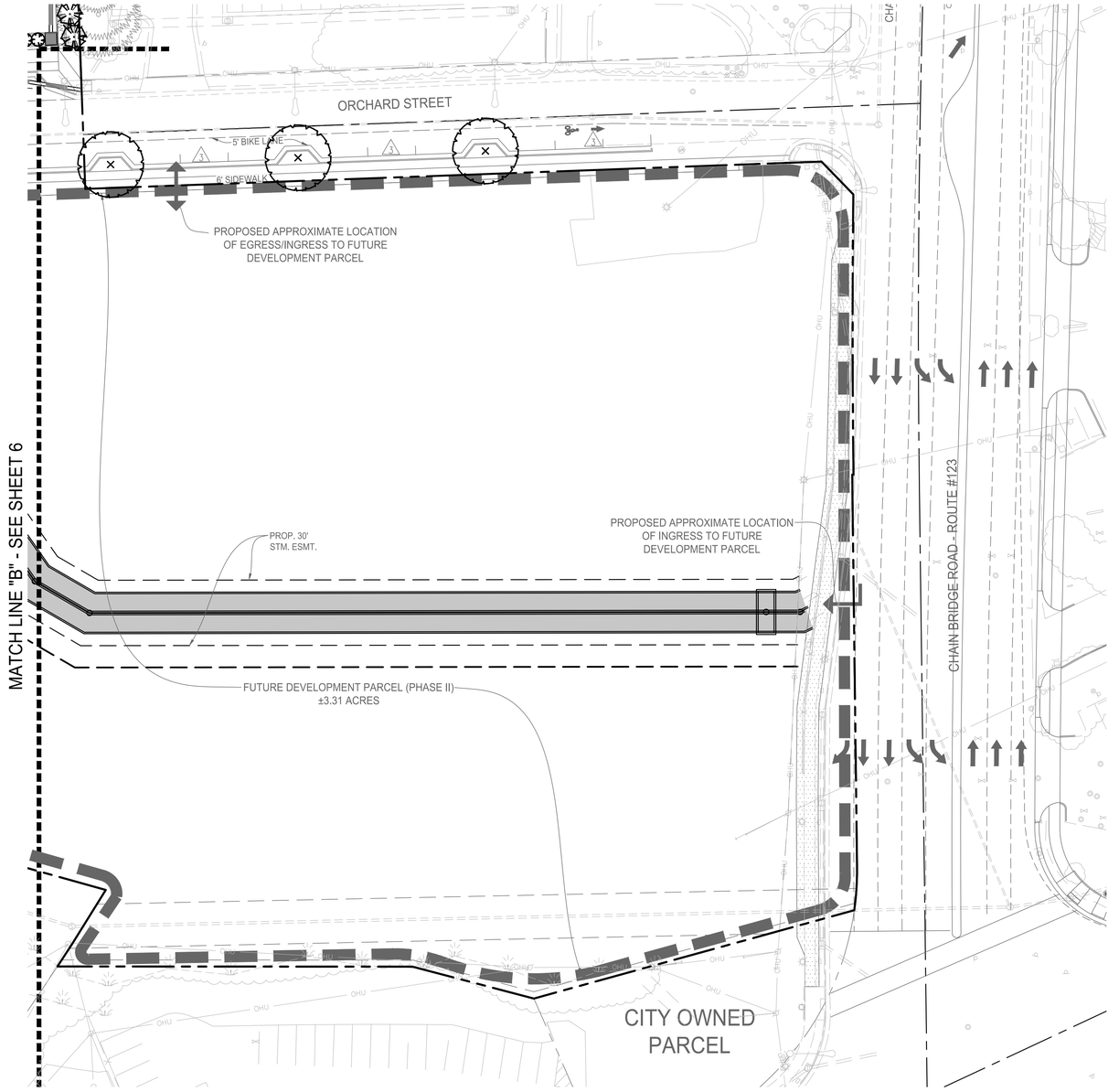
INTERIOR PARKING LOT LANDSCAPING REQUIRED:
1 CANOPY TREE FOR EVERY 10 SPACES

INTERIOR PARKING LOT LANDSCAPING PROVIDED:
2 CANOPY TREES FOR 13 SPACES
SEE SHEET 1 FOR MODIFICATION REQUEST.

PROPOSED VEGETATION
PROPOSED TREE SPECIES MAY INCLUDE BUT NOT LIMITED TO: RED MAPLE, SWAMP WHITE OAK, SHADBUSH SERVICEBERRY, AMERICAN HOLLY, AND EASTERN RED CEDAR.

PROPOSED SHRUB SPECIES MAY INCLUDE BUT NOT BE LIMITED TO: REDOSIER DOGWOOD, WINTERBERRY HOLLY, VIRGINIA SWEETSPIRE, SWEET PEPPERBUSH, AND NORTHERN SPICEBUSH.

THESE SPECIES ARE SUBJECT TO CHANGE BASED ON AVAILBILITY AT THE TIME OF SITE PLAN PROCESS AND FINAL ENGINEERING. TREE AND SHRUB LOCATIONS SUBJECT TO CHANGE AT THE TIME OF SITE PLAN AND FINAL ENGINEERING.



VIRGINIA STATE GRID NORTH
NAD 83

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1" = 30'

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CONCEPTUAL LANDSCAPE PLAN

SHEET No.
6A

SCALE: 1"=30'

ccl General Landscape Specification Summary - Short Form (Rev. 4/19)

Specification: This is a summary of christopher consultants, ltd. general landscape specification. All work shall follow the procedures outlined in the specifications and details contained herein, which are designed to exceed current industry standards. Should there exist a discrepancy between this specification and the included construction details, the written specification shall take precedence.

References: In lieu of providing comprehensive proprietary specifications, the following are referenced to be general default specifications with the following modifications. These modifications and the construction details shown in this plan set shall take precedence over the general referenced specifications.

- "Landscape Specification Guidelines" Landscape Contractors Association of MD, DC, VA - Most current edition.
- "American Standard for Nursery Stock - ANSI Z60.1" by AmericanHort - Most Current Edition
- "TT-77 Recommended Turfgrass Cultivars for Certified Sod Production in Maryland" - Maryland Turfgrass Council
- ""Landscape Architecture/Design Specifications for Compost Use" - US Composting Council

If there are discrepancies or contradictions in specification sections or details, the stricter specification shall take precedence. A Request for Information (RFI) can also be submitted for clarification.

List of Plant Material: The contractor will verify plant quantities prior to bidding and any discrepancies shall be brought to the attention of the Owner's Representative. The Contractor shall furnish and install all plant materials required to complete the work as shown on the drawings. Quantities in the planting schedule shall take precedence over quantities graphically shown on the plan. Substitutions shall not be made without the written approval of the Owner's Representative.

Plant Identification: All trees shall be true to name as on plant schedule or shown on planting plans and shall be correctly labeled individually or in groups by genus, species, variety and cultivar. Labels are to remain intact until site is approved through agency inspection, substantial completion approval, or per Owner's Representative's instruction.

Plant Quality: All plant materials shall conform to the size and form standards set forth in the latest edition of AmericanHort's "American Standard for Nursery Stock - ANSI Z60.1". Above Ground: Trees shall be healthy with the color, shape, size, and distribution of trunk, stems, branches, buds and leaves typical of the plant specified. Any signs of stress, improper handling (wounds or broken branches), insect or disease damage, or dead/distorted branches should not be present. Trees shall have one central leader (unless otherwise specified) and grafts should be fully closed and visible above the soil line. Below Ground: A minimum of 3 structural roots should be reasonably distributed around the trunk (reject a tree with structural roots only on one side), the root crown should not be more than 2 inches below the soil line, the top 2 structural roots should not be more than 3 inches below the soil line when measured 4 inches away from the trunk. The top of the other structural root should not be more than 5 inches below the surface. The root system should be free of potentially stem-girdling or kinked roots above the root collar and main structural roots.

Inspection: Plants are to be inspected upon delivery to contractor by a contractor's representative and/or owner's representative. Trees not presenting proper form, incorrect variety, signs of poor health or over-stress, and girdling roots are to be rejected.

Storage & Transport: Plant materials should be protected from dessication during transport via breathable fabric covering the canopy and by watering rootball/pot thoroughly immediately prior to transport. Plant materials should be installed on day of delivery to site. If that is not possible, a temporary storage area can be constructed on-site. Plants are not to be stored on bare asphalt. If storage area is asphalt, cover bare asphalt with a layer of woodchips. Storage should be in shade, and plants be regularly watered at root-ball level, and spaced so foliage from one plant does not interfere with foliage of another. Tall plant materials are to remain upright during storage. Longer term storage plants are to be heeled-in or stored in mulch to the top of the container/root ball. Plant materials shall not be stored on-site for more than two weeks. Plants stored improperly or for too long may be subject to rejection and replacement dependent on ultimate planting condition.

Planting: Plantings shall be installed in accordance with details and specifications on this sheet. Details and specifications for other specific landscape items, such as tree preservation or erosion control may be found elsewhere in this drawing set on their own respective sheet. For items not specifically addressed by this plan set, refer to the latest edition of the "Landscape Specification Guidelines" developed by the Landscape Contractors Association of MD, DC, and VA. Should there be any ambiguities or questions, please utilize the formal RFI/Submittal process.

Trees: The planting hole diameter is to be at a minimum three times the diameter of the root ball. The depth of the planting hole shall be dug so that the shoulder of the root ball is level with the existing grade leaving the root flare slightly higher. When planting on a slope, the depth of the hole shall be dug so that the bottom of the root flare is at the level of the existing grade at the sides of the hole. If the planting hole is mechanically dug, the hole is to be scarified by slightly enlarging hole by hand digging the sides and bottom to prevent glazing. The sides of the hole should be vertical or sloping outwards. Holes are not to be dug when soil is saturated. For balled and burlapped trees, the wire root ball cage is to be removed and burlap is to be cut and completely removed from the top and a minimum of 8" to 12" down the side of the root ball. Do not fold burlap down into hole, it must be removed. Any synthetic materials are to be completely removed from the trunk and root ball. Backfill in lifts using the same soil dug to create the hole, being careful not to over-compact the soil. Inoculate backfill soil or rootball with an approved balanced (Endo/Ecto) commercial mycorrhizae application. Do not amend or add fertilizer unless expressly specified to do so or is part of the approved mycorrhizae innoculant product. Do not place any soil on top of root ball. Trees are to be mulched to full depth specified immediately after planting. A ½" layer of approved compost is to be placed under the mulch layer. Do not place mulch against tree trunk.

Staking: Staking (if any) is to be installed per the accompanying details, utilizing tree webbing straps with grommets to prevent wire from coming in contact with the tree. While not preferred, full tree webbing systems are also permissible if approved through submittal, and installed per manufacturer's instructions. Wire is to be tensioned to allow for 1/2 inch of deflection up or down, and tension shall be rechecked and adjusted on a regular basis. Staking is to be removed as soon as possible after one year. GARDEN HOSE IS NOT TO BE UTILIZED FOR STAKING.

Irrigation: For permanent systems, irrigation should be largely installed prior to plant installation to avoid having to disturb planting beds or move plants to accommodate the installation of the irrigation system. For sites with no permanent irrigation system, Trees are to be irrigated until established by the use of temporary water bags through one growing year or until established. Shrubs, perennial beds, and lawns are to be thoroughly hand-watered or by movable temporary irrigation (sprinklers or drip hose) as necessary to reflect local weather conditions. Watering is to be deep into the soil and infrequent, as opposed to light surficial watering performed often.

Shrubs: For container shrubs, the planting hole is to be dug 3 times the width of the intact container. The container is to be completely removed and the sides of the soil/root clump scarified with a sterile sharp knife. They shall be planted so that the top of the soil level of the container is no more than 1.5" above the original grade. For balled and burlapped shrubs, remove as much burlap as possible from the top and sides of the rootball. Do not fold burlap into hole. Plant with the root flare slightly higher than the surrounding grade. Backfill with soil dug to create the hole. Do not cover top of root ball/clump.

Ground Covers/Perennials: Beds are to be prepared by tilling well to a minimum depth of 6", and soils shall be amended by incorporating 1" of compost meeting the US Composting Council reference specification, 1" of worm castings and/or well decomposed commercially produced compost, or a Class A biosolid also meeting the referenced US Composting Council specification prior to planting. Apply 3" of shredded non-dyed hardwood mulch immediately after planting.

Compacted or Poorly Drained Soils: For sites with heavily compacted or poorly draining soils, alternate planting methods will need to be employed. Contact project Landscape Architect for additional planting details and specifications should either unforeseen condition be encountered.

Conflicts with Existing Roots: Proposed landscape may be shown to be planted in the Critical Root Zones of existing large trees. Should, in the course of planting, large woody roots be discovered belonging to adjacent large trees that are to be preserved, shift the planting location of the tree to be planted to avoid cutting the woody root. Should a suitable planting location not be found within the proximity of where a proposed tree is to be planted, contact the project landscape architect for alternate planting location and recording of the discrepancy for landscape inspection/approval purposes.

Irrigation: New plant materials are to be watered as necessary to maintain health. If no permanent irrigation system is installed, trees are to be watered until established through the use of temporary water bags. Shrubs, perennials, and ground covers shall be hand-watered. Infrequent deep watering is preferred to more frequent quick/shallow watering.

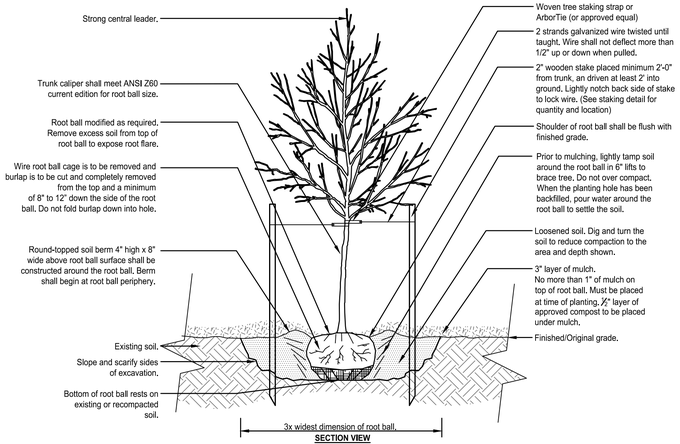
Lawn Areas:

Seeded Lawn Area: Areas to be seeded shall have planting soil tilled to a depth of 6" and free of stones greater than 1" diameter or length. Any amendments that are to be added should be tilled into soil prior to seeding. A seed mix composition chart shall be submitted for review prior to installation. Unless specified by the Owner's Representative, the seed mix must contain a minimum of three cultivars or types of grass in the blend, chosen from the recommended cultivars list of the most recent "TT-77 Recommended Turfgrass Cultivars for Certified Sod Production in Maryland" document produced by the University of Maryland and the Maryland Turfgrass Council. Use of cultivars also appearing on the Turfgrass Water Conservation Alliance approved list is encouraged. Seeds coatings that aid in germination, moisture retention and prevent loss to bird consumption are acceptable. Seeded areas are to be covered by a light and loose layer of rapidly degradable mulch such as straw or hydraulically applied cellulose. Use of erosion control blankets or any synthetic webbing is not permissible for lawn areas unless specified by the Owner's Representative.

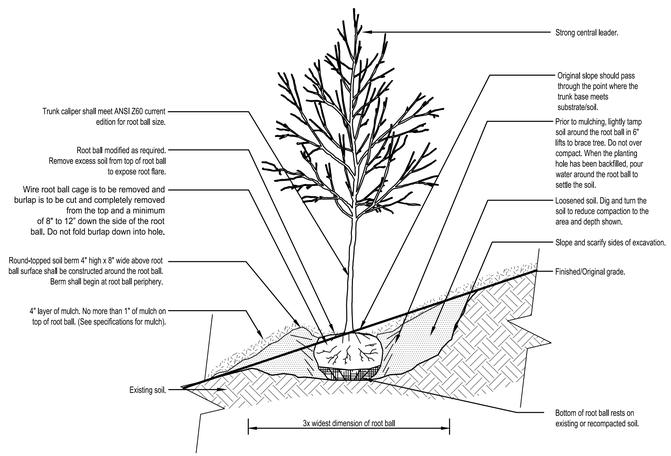
Sodded Lawn Area: Unless a proprietary sod is specified by the Owner's Representative, sod must be of a Maryland or Virginia certified variety suited to the specific growing requirements of where it is to be installed. Grower and variety to be submitted to Owner's Representative for review prior to ordering. Certification documentation for all sod is to be provided to the Owner's Representative upon delivery. For installation on slopes, the Contractor shall use biodegradable sod spikes to secure sod in place. Metal sod staples are not to be utilized for installation.

Invasive Species: Existing invasive species are to be removed utilizing appropriate approved methods including in the invasive species management plan (if applicable) prior to the installation of new plant materials, and is subject to inspection, and is a factor in the Certification of Installation.

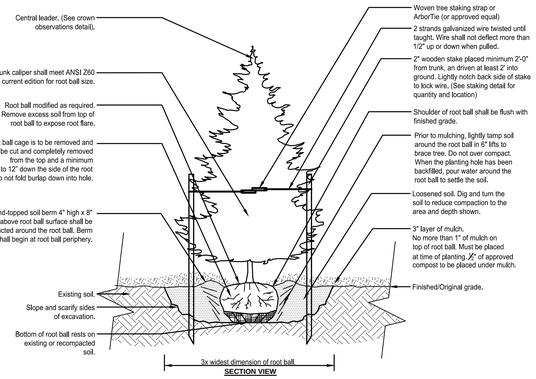
NOTE: These specifications and details are based on those developed by the Urban Tree Foundation, and have been improved to reflect current research into effective planting. The ISA has also replaced their own details and now reference the UTF details. The specifications and details illustrated in this plan set exceed the standards set in the ISA, LCA, and local jurisdictional planting details and specifications.



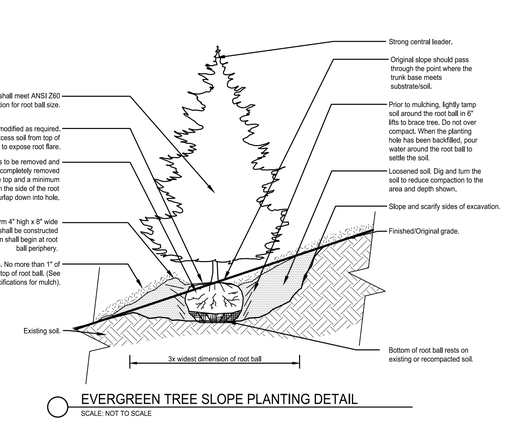
DECIDUOUS TREE PLANTING DETAIL
SCALE: NOT TO SCALE



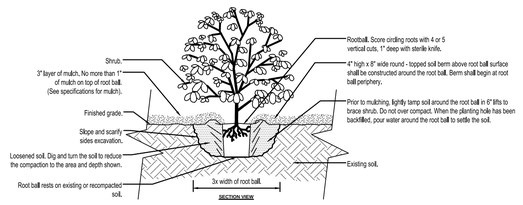
DECIDUOUS TREE SLOPE PLANTING DETAIL
SCALE: NOT TO SCALE



EVERGREEN TREE PLANTING DETAIL
SCALE: NOT TO SCALE

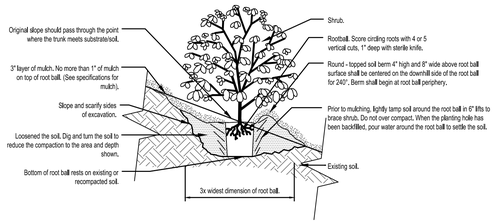


EVERGREEN TREE SLOPE PLANTING DETAIL
SCALE: NOT TO SCALE



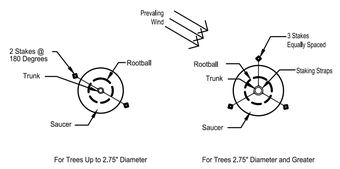
Notes:
1. For ball and burlapped shrubs, remove completely as much burlap as possible, minimum halfway down the side of the rootball. Do not fold burlap down into hole,
2. See specifications for further requirements related to this detail.

SHRUB PLANTING DETAIL
SCALE: NOT TO SCALE



Notes:
1. For ball and burlapped shrubs, remove completely as much burlap as possible, minimum halfway down the side of the rootball. Do not fold burlap down into hole.
2. See written specifications for further requirements related to this detail.

SHRUB SLOPE PLANTING DETAIL
SCALE: NOT TO SCALE



Notes:
1. Utilize only Arbor-tie or approved equall or staking straps against tree trunks.
2. Reference manufacturer's detail of approved system for installation instructions.
3. Wire tension (if used) should not allow greater than 1/2" of play in any direction.
4. Staking should be removed on year after planting or as instructed.

TREE STAKING DETAIL
SCALE: NOT TO SCALE

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NORTHFAX WEST
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CITY OF FAIRFAX, VIRGINIA

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PROJECT No.: 13139.005.00
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DESIGN: LBD
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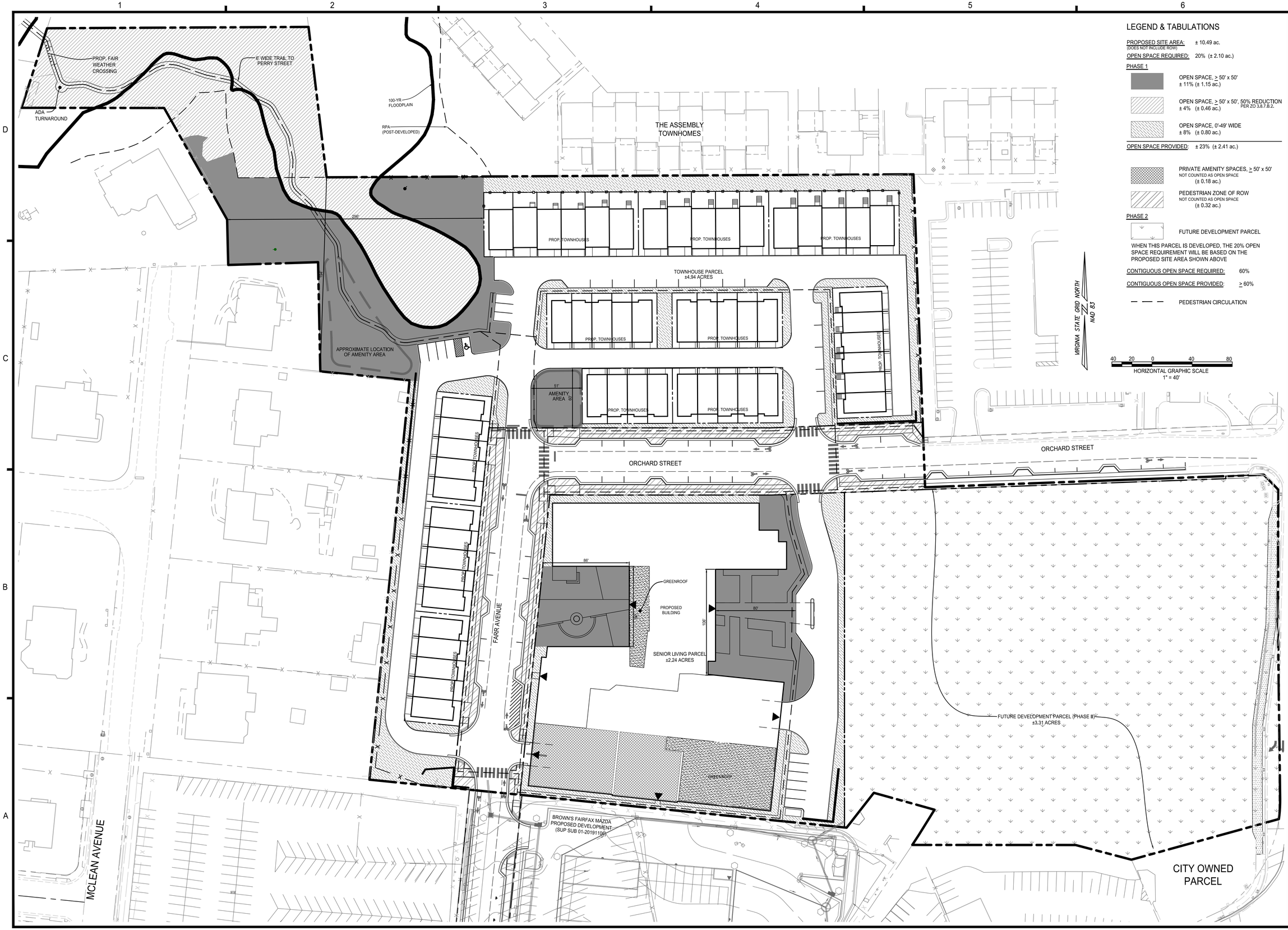
CHECKED: LBD

SHEET TITLE:

LANDSCAPE SPECS-DETAILS

SHEET No.
6B

SCALE: N/A



LEGEND & TABULATIONS

PROPOSED SITE AREA: (DOES NOT INCLUDE ROW) ± 10.49 ac.

OPEN SPACE REQUIRED: 20% (± 2.10 ac.)

PHASE 1

- OPEN SPACE, > 50' x 50' ± 11% (± 1.15 ac.)
- OPEN SPACE, > 50' x 50', 50% REDUCTION PER ZO 3.8.7.B.2. ± 4% (± 0.46 ac.)
- OPEN SPACE, 0'-49' WIDE ± 8% (± 0.80 ac.)

OPEN SPACE PROVIDED: ± 23% (± 2.41 ac.)

- PRIVATE AMENITY SPACES, > 50' x 50' NOT COUNTED AS OPEN SPACE (± 0.18 ac.)
- PEDESTRIAN ZONE OF ROW NOT COUNTED AS OPEN SPACE (± 0.32 ac.)

PHASE 2

- FUTURE DEVELOPMENT PARCEL

WHEN THIS PARCEL IS DEVELOPED, THE 20% OPEN SPACE REQUIREMENT WILL BE BASED ON THE PROPOSED SITE AREA SHOWN ABOVE

CONTIGUOUS OPEN SPACE REQUIRED: 60%

CONTIGUOUS OPEN SPACE PROVIDED: > 60%

- PEDESTRIAN CIRCULATION

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DRAWN: LBD
CHECKED: LBD

SHEET TITLE:

OPEN SPACE & CIRCULATION PLAN

SHEET No.
7

SCALE: 1"=40'

OFFSITE SANITARY FLOW ESTIMATES:

AREA #1
EXISTING DEVELOPMENT ESTIMATES:
RESIDENTIAL= 162 DWELLING UNITS

FLOW ESTIMATES:
162 UNITS x 350 GPD/UNIT = 56,700 GPD

TOTAL FLOW = 56,700 GPD

TOTAL PEAK FLOW = 226,800 GPD = 0.23 MGD

AREA #2
EXISTING DEVELOPMENT ESTIMATES:
HOTEL= 152 ROOMS

FLOW ESTIMATES:
152 UNITS x 130 GPD/UNIT = 19,760 GPD

TOTAL FLOW = 19,760 GPD

TOTAL PEAK FLOW = 79,040 GPD = 0.08 MGD

AREA #3
EXISTING DEVELOPMENT ESTIMATES:
RESIDENTIAL= 53 DWELLING UNITS

FLOW ESTIMATES:
53 UNITS x 350 GPD/UNIT = 18,550 GPD

TOTAL FLOW = 18,550 GPD

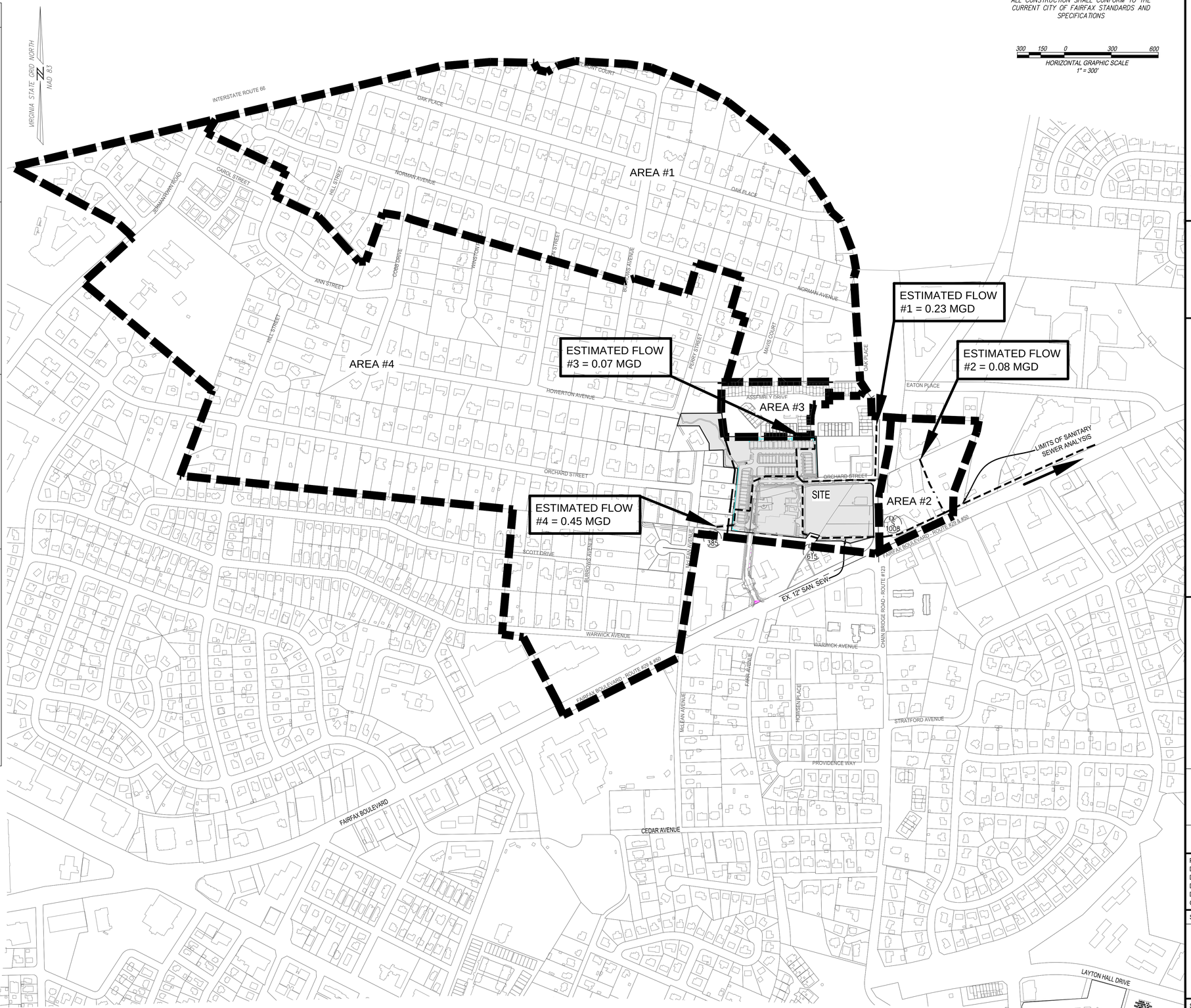
TOTAL PEAK FLOW = 74,200 GPD = 0.07 MGD

AREA #4
EXISTING DEVELOPMENT ESTIMATES:
RESIDENTIAL= 256 DWELLING UNITS
OFFICE/RETAIL = 113,830 SF

FLOW ESTIMATES:
256 UNITS x 350 GPD/UNIT = 89,600 GPD
113,830 SF OFFICE/RETAIL x 200 GPD/1000 SF = 22,766 GPD

TOTAL FLOW = 112,366 GPD

TOTAL PEAK FLOW = 449,464 GPD = 0.45 MGD



NOTES:
1. SEE SHEET 9 FOR SANITARY SEWER ANALYSIS.
2. SEE THE NARRATIVE TITLED "ANALYSIS OF EXISTING 12" SEWER" NARRATIVE ON SHEET 9 FOR FLOW ASSUMPTIONS.
3. A PEAK FACTOR OF 4.0 WAS USED FOR ALL OFFSITE SANITARY FLOWS.

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NORTHFAX WEST
MASTER DEVELOPMENT PLAN
CITY OF FAIRFAX, VIRGINIA

MARK	DATE	DESCRIPTION

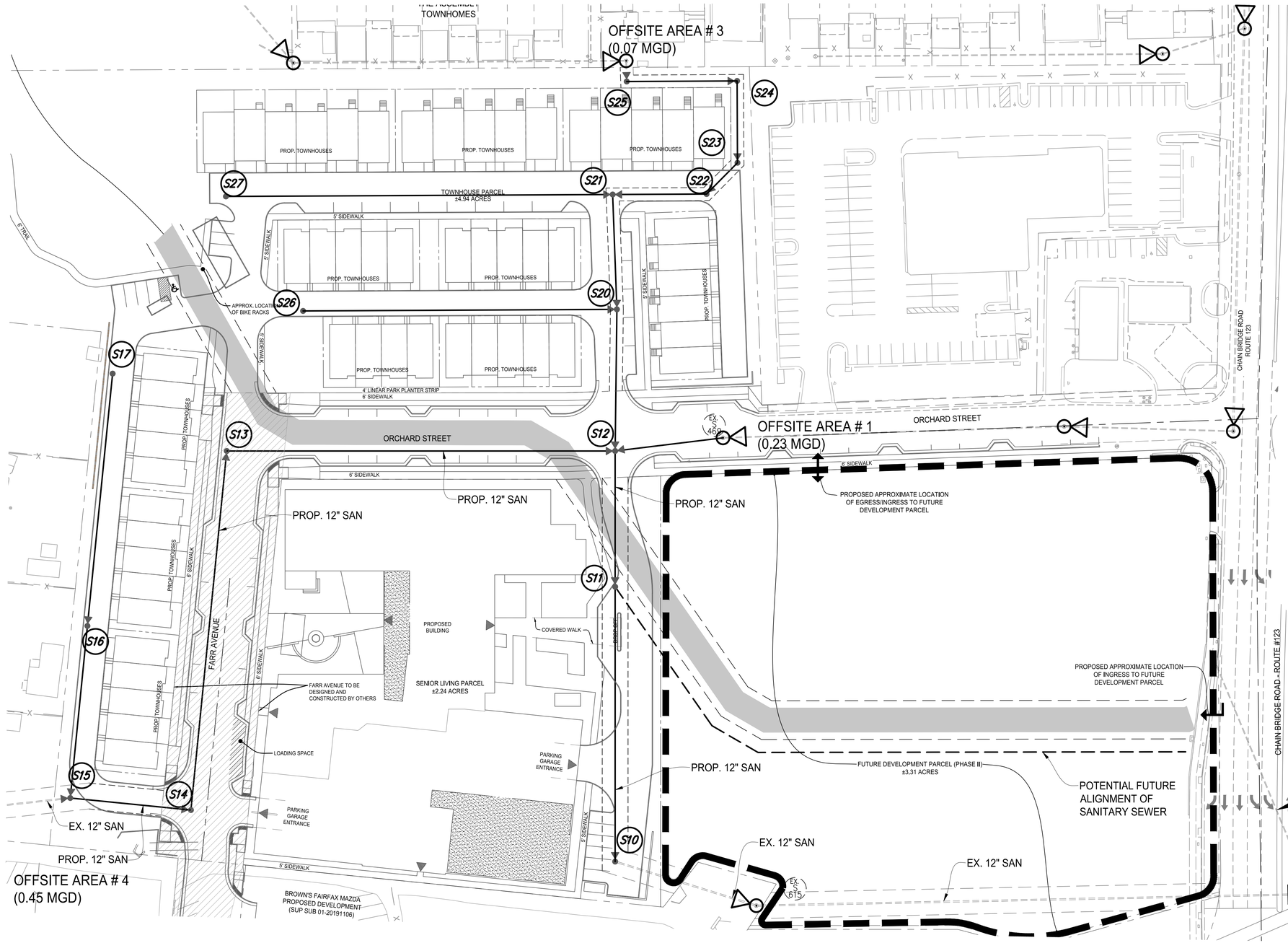
PROJECT No.: 13139.005.00
DRAWING No.: 109632
DATE: 11-21-2019
DESIGN: EG
DRAWN: JS
CHECKED: KMW

SHEET TITLE:

SANITARY SEWER OFF-SITE MAP

SHEET No.
8

SCALE: 1"=300'



HORIZONTAL GRAPHIC SCALE
1" = 40'

SANITARY SEWER ANALYSIS

THE PURPOSE OF THIS ANALYSIS IS TO DEMONSTRATE THE CAPACITY AND HYDRAULIC ADEQUACY OF THE DOWN STREAM SANITARY SEWER MAIN.

EXISTING CONDITIONS:
CURRENTLY, THE EXISTING SITE CONSISTS OF TWO (2) 1-STORY BRICK & FRAME BUILDINGS, ONE (1) 4-STORY OFFICE BUILDING, AND ONE GASOLINE STATION WITH CONVENIENCE STORE. THE TWO (2) 1-STORY BRICK & FRAME BUILDINGS CONNECT TO EXISTING SANITARY LINE AT ORCHARD STREET. WHILE THE OFFICE BUILDING AND GASOLINE STORE CONNECT TO EXISTING SANITARY MAIN AT CHAIN BRIDGE ROAD AND ENTER INTO ORCHARD STREET (INTO THE PROJECT SITE). THE EXISTING SANITARY SEWER CONTINUE TOWARDS THE SOUTH INTO EXISTING MANHOLE S615 AND RUNS ACROSS THE CHAIN BRIDGE ROAD TO A 12-INCH SEWER MAIN INTO EXISTING MANHOLE S1008.

THE UPSTREAM FOR THIS SEWER-SHED IS SHOWN ON SHEET 8, DESIGNATED AS ESTIMATED FLOW #1, #3 AND #4.

PROPOSED CONDITIONS:
THE ON-SITE LATERALS WILL BE DEMOLISHED TO MAKE ROOM FOR THE NEW BUILDING. NEW LATERALS AND SANITARY MAIN WILL BE CONSTRUCTED. EXISTING SANITARY MAIN FROM THE WEST WILL BE REROUTED TO EX. S469. ALSO THE EXISTING SANITARY LINE FROM THE NORTH SIDE WILL BE REROUTED TO CONNECT TO THE PROPOSED MANHOLE S22.

CAPACITY AND HYDRAULIC ANALYSIS:
THE SANITARY SEWER WAS ANALYZED FROM THE ON-SITE 10-INCH AND 12-INCH SEWER TO EXISTING MANHOLE S469 AND THEN TO THE OUTFALL TO EXISTING MANHOLE S-S1.

THE VOLUME OF FLOW USED IN THIS ANALYSIS HAS BEEN COMPUTED IN ACCORDANCE WITH STATE CODE 9VAC25-790-460 AND 9VAC25-790-310. SEE COMPUTATIONS ON THIS SHEET.

CONCLUSION:
IT IS OUR CONCLUSION THAT THE PROPOSED ON-SITE 10-INCH AND 12-INCH SEWER AND EXISTING DOWNSTREAM 12-INCH SEWER HAS CAPACITY AND HYDRAULIC ADEQUACY WITH THE ADDED REDEVELOPMENT FLOWS.

A SEPARATE SANITARY SEWER ANALYSIS WILL BE COMPLETED FOR THE FUTURE DEVELOPMENT PARCEL ONCE THE PROGRAM IS KNOWN.

LEGEND

- : PROPOSED SANITARY MANHOLE AND FLOW DIRECTION
- : PROPOSED SANITARY SEWER
- S10 : PROPOSED SANITARY STRUCTURE NUMBER
- : EXISTING SANITARY MANHOLE AND FLOW DIRECTION
- : EX. SANITARY SEWER
- EX. 7885 : EX. SANITARY STRUCTURE NUMBER

CONTRIBUTING SEWAGE FLOW ESTIMATE:

Discharge Facility	No. of Units	No. of People	No. of Dwellings	Average Flow for Dwellings (100 gpd/person)	No. of Beds	Average Flow per Bed (200 gpd/Bed)	Ultimate Floor Space	Average Flow per 1000 sf (250 gpd/1,000sf)	Total Incremetal Flow (gpd)	Total Cummulative Flow (gpd	Sanitary From	Sanitary To
Townhouses	15	5	75	7500					7,500	7,500	S15	S14
Townhouses	41	5	205	20500					20,500	28,000	S12	S11
Senior Living					200	40,000			40,200	68,200	S11	S10
Future Development							114,000	28500	114,000	182,200	EX.S615	EX.S1008

SANITARY COMPUTATION:

	FROM	TO	UPPER INV	LOWER INV	L (FT)	SLOPE (%)	DIA (IN)	MATERIAL	N	CAPACITY (cfs)	CAPACITY (MGD)	DESIGN FLOW (cfs)	DESIGN FLOW (MGD)	V (ft/s)	Assumptions	Inc (MGD)	Peak Flow Factor	Design Inc (MGD)
	EX. S385	S15	349.36	348.79	110.02	0.52	12	PVC	0.011	3.27	2.11	0.70	0.450	3.1	PEAK FLOW FROM OFFSITE AREA #4 = 0.45 MGD			0.450
	S15	S14	348.69	348.22	94.00	0.50	12	PVC	0.011	3.20	2.07	0.73	0.473	3.1		0.006	4.0	0.023
	S14	S13	348.12	346.72	279.62	0.50	12	PVC	0.011	3.20	2.07	0.73	0.473	3.1				0.000
	S13	S12	346.62	345.12	301.06	0.50	12	PVC	0.011	3.20	2.07	0.73	0.473	3.1				0.000
	S12	S11	342.60	341.57	115.23	0.89	12	PVC	0.011	4.27	2.76	0.93	0.604	4.1	PEAK FLOW FROM OFFSITE AREA #3 = 0.07 MGD	0.015	4.0	0.132
	S11	S10	341.47	339.69	212.93	0.84	12	PVC	0.011	4.15	2.68	1.48	0.955	4.6	PEAK FLOW FROM OFFSITE AREA #1 = 0.23 MGD	0.030	4.0	0.351
	S10	EX. S615	339.59	337.15	114.70	2.13	12	RCP	0.015	4.85	3.13	1.48	0.955	5.0				0.000
	EX. S615	EX. S1008	336.89	332.59	430.00	1.00	12	RCP	0.015	3.32	2.15	2.01	1.297	4.2		0.086	4.0	0.342

Notes:
1. See contributing sewage flow estimates on sheet 8.
2. All velocities shown are calculated per a partial flow analysis.
3. A peak factor fo 4.0 was used on all flows.
4. The lower invert of EX. S1008 is an assumed elevation and will need to be surveyed.

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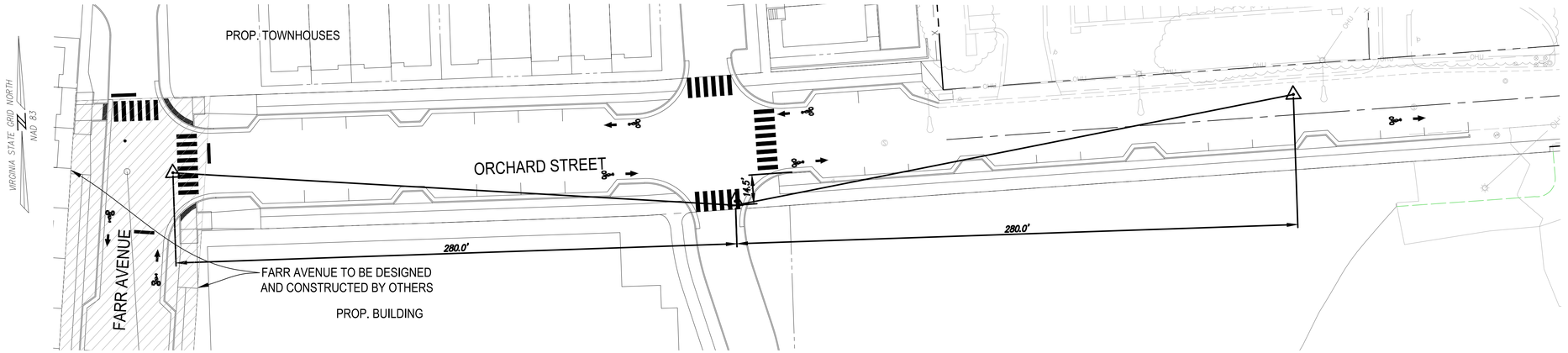
SHEET TITLE:

SANITARY SEWER ANALYSIS

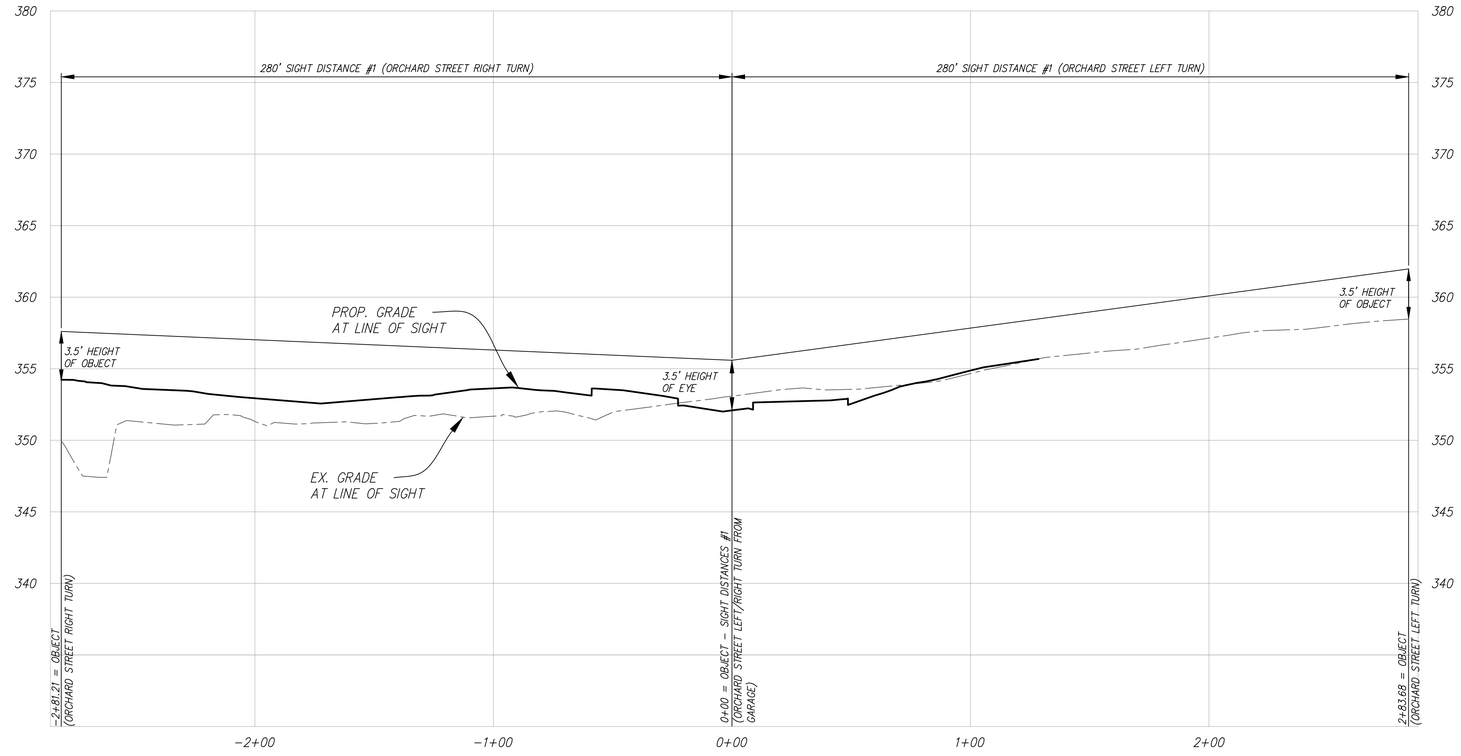
SHEET No.
9

SCALE: 1"=40'

ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT FAIRFAX CITY AND VIRGINIA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS



30 15 0 30 60
GRAPHIC SCALE
1" = 30'



ORCHARD STREET SIGHT DISTANCE #1 (FROM PRIVATE STREET)
POSTED SPEED: 25 MPH

5 2.5 0 5 10
VERTICAL GRAPHIC SCALE
1" = 5'

30 15 0 30 60
HORIZONTAL GRAPHIC SCALE
1" = 30'

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SHEET TITLE:

SIGHT DISTANCE

SHEET No.
10

SCALE: SEE DWGS.

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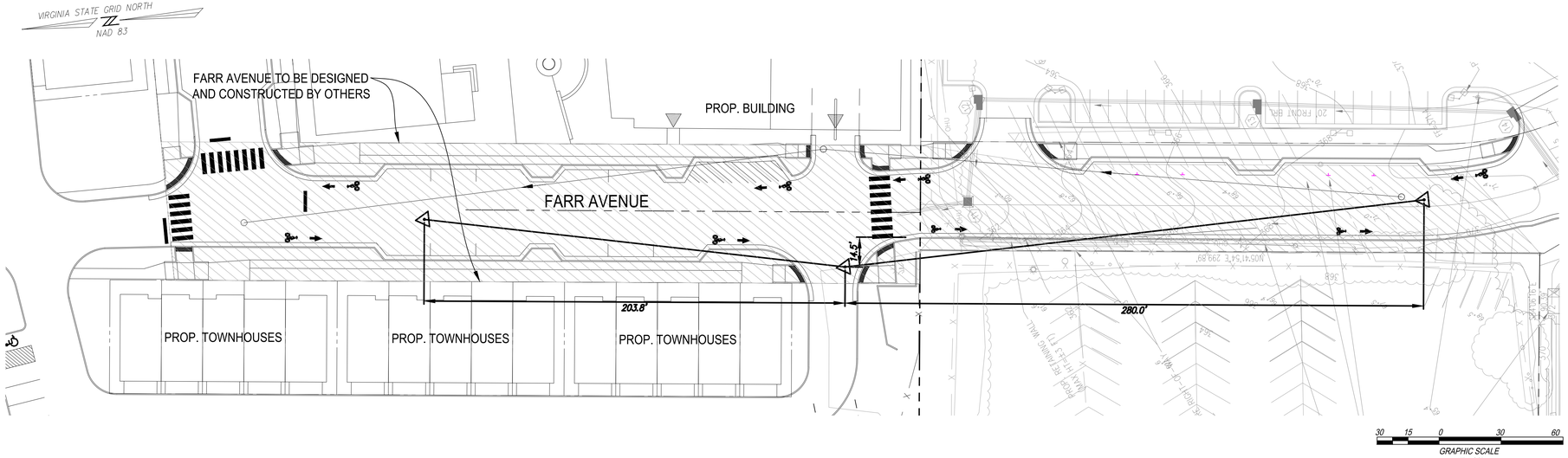

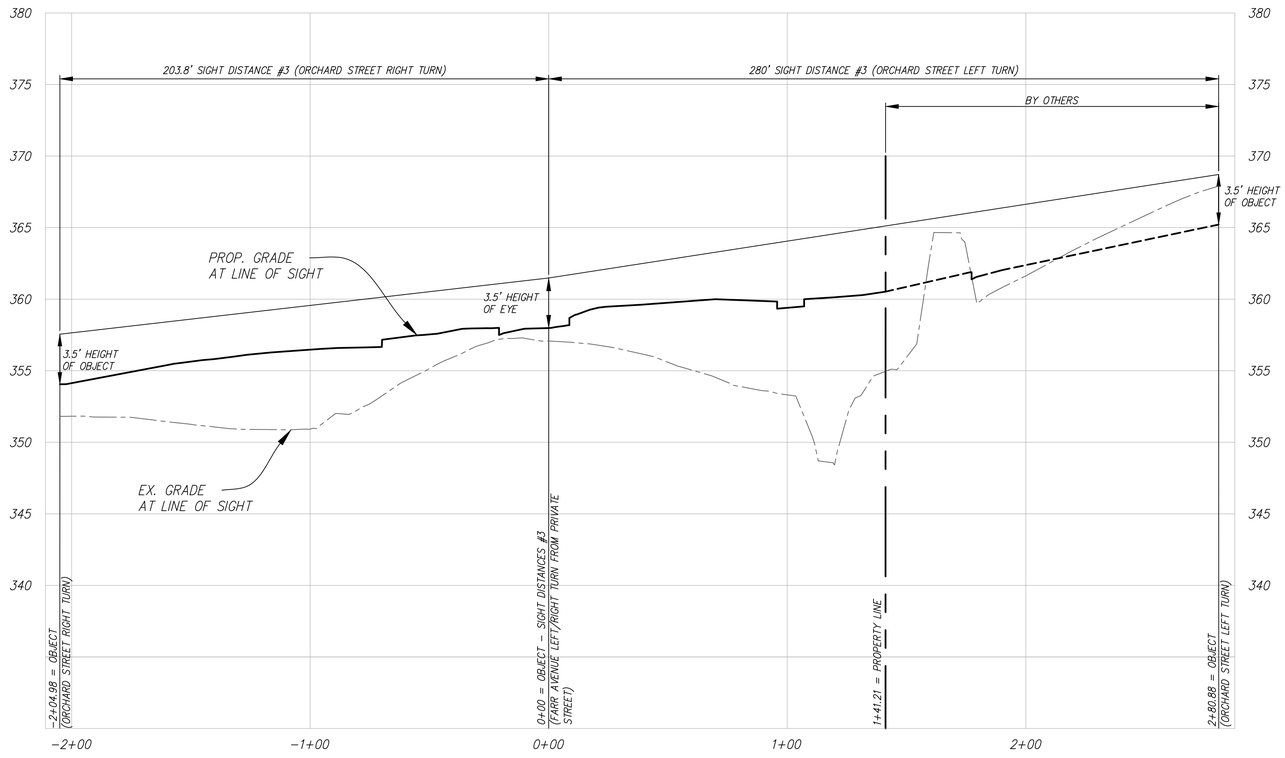

FARR AVENUE SIGHT DISTANCE #3 (FROM PRIVATE STREET)
POSTED SPEED: 25 MPH

5 2.5 0 5 10
VERTICAL GRAPHIC SCALE
1" = 5'

30 15 0 30 60
HORIZONTAL GRAPHIC SCALE
1" = 30'

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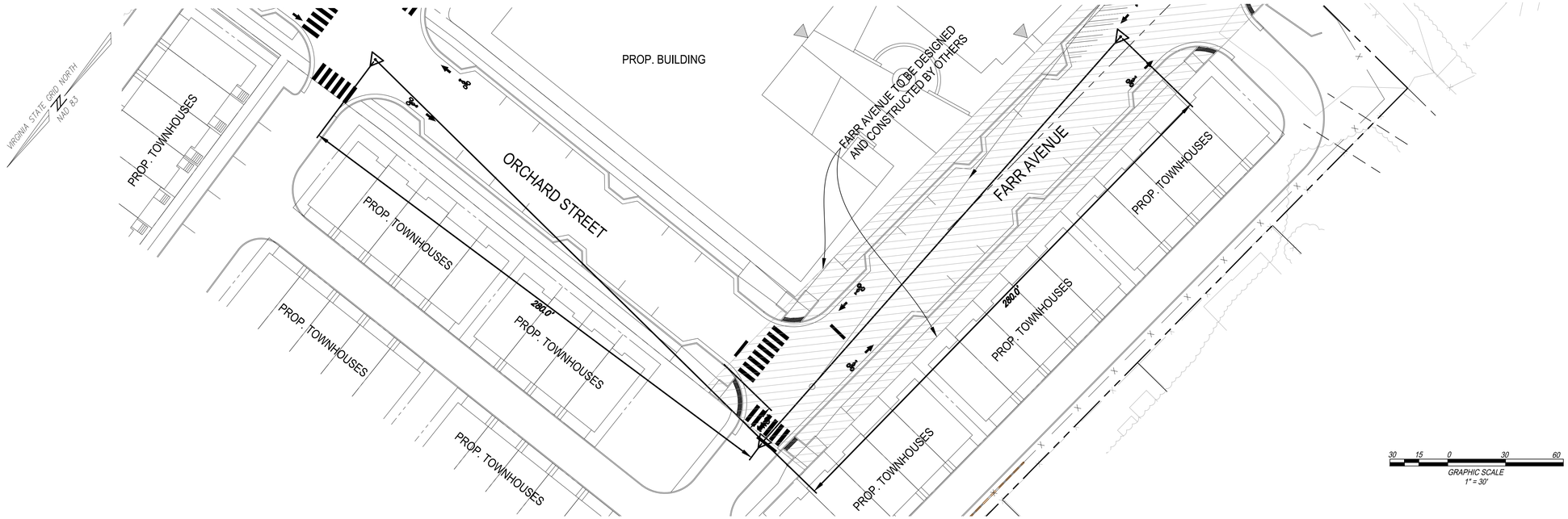
DESIGN: EG
DRAWN: JS
CHECKED: KMW

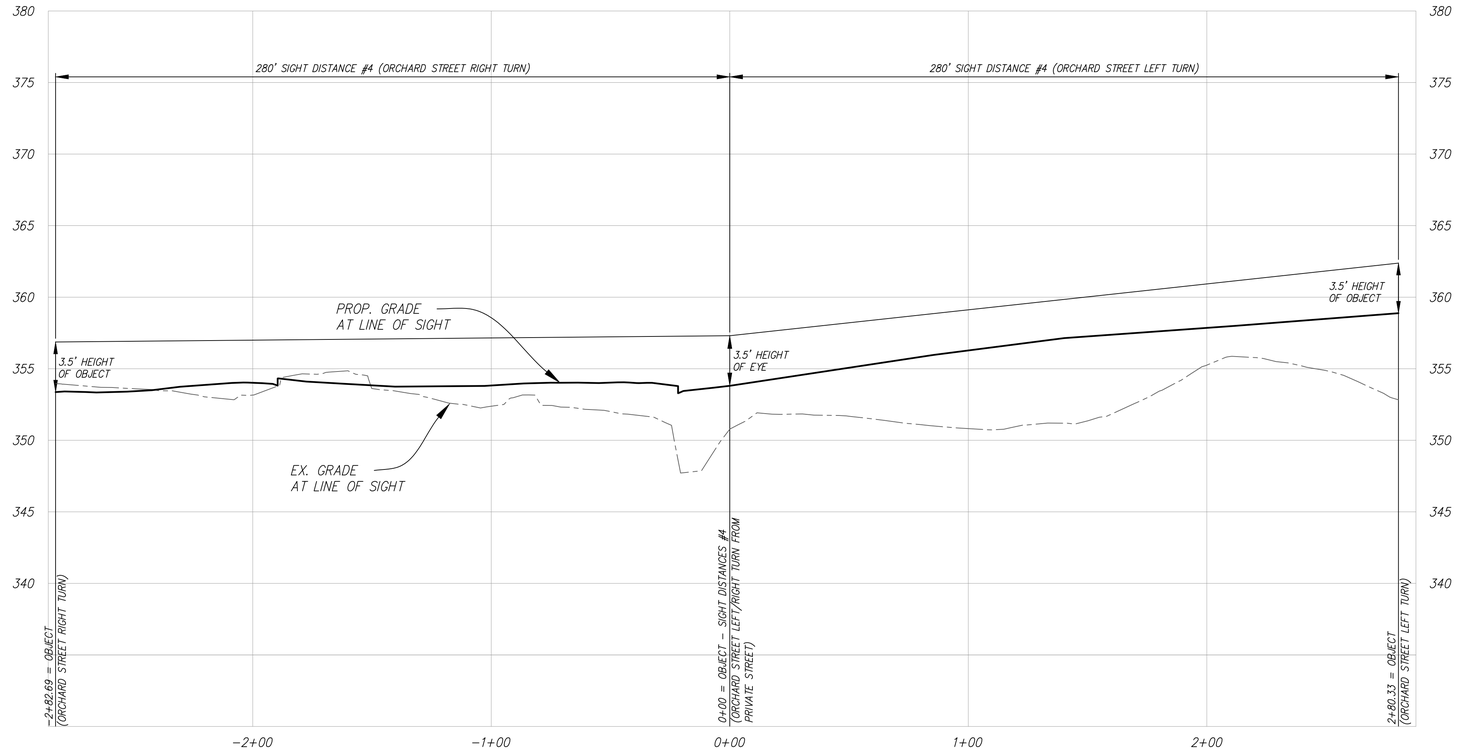
SHEET TITLE:

SIGHT DISTANCE

SHEET No.
11

SCALE: SEE DWGS.





ORCHARD STREET SIGHT DISTANCE #4 (FROM PRIVATE STREET)

POSTED SPEED: 25 MPH

5 2.5 0 5 10
VERTICAL GRAPHIC SCALE
1" = 5'

30 15 0 30 60
HORIZONTAL GRAPHIC SCALE
1" = 30'

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SHEET TITLE:

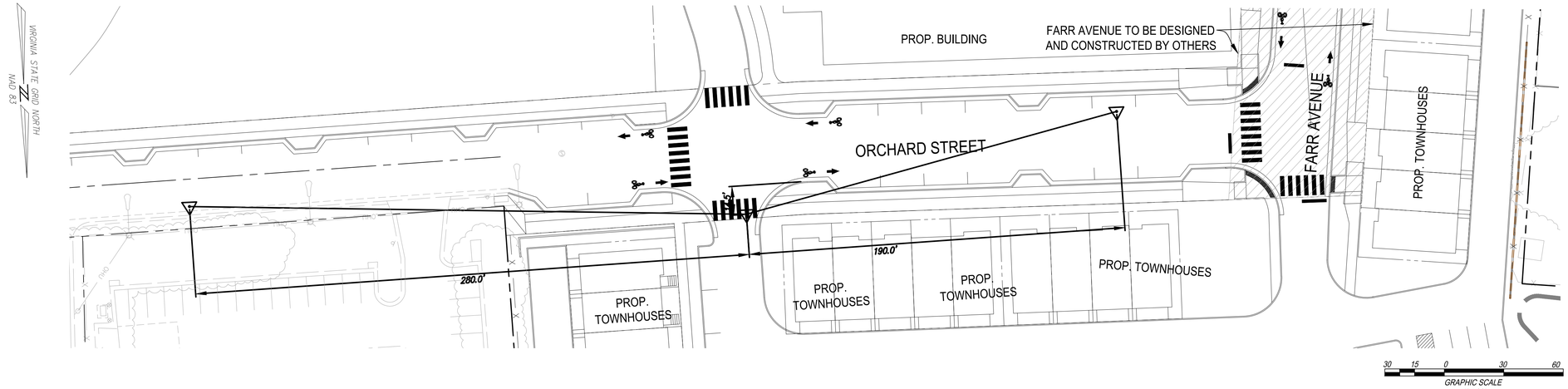
SIGHT DISTANCE

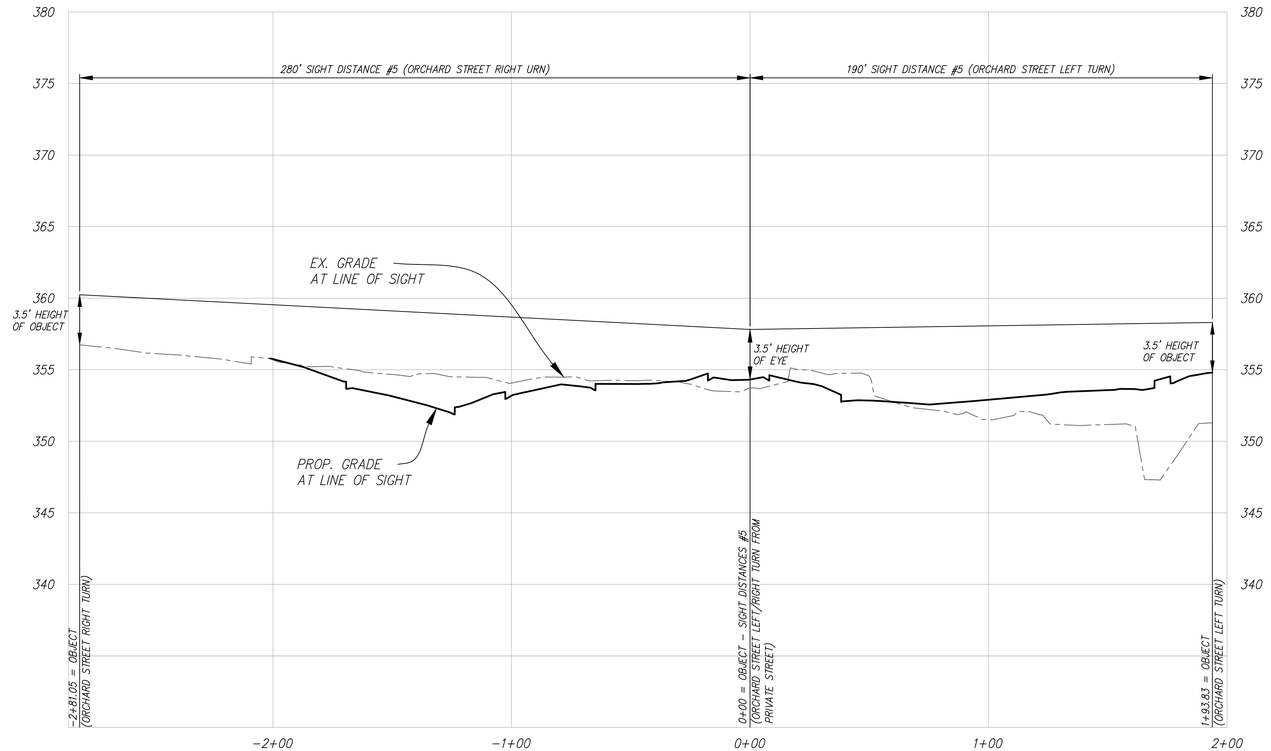
SHEET No.

12

SCALE: SEE DWGS.

ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT FAIRFAX CITY AND VIRGINIA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS





ORCHARD STREET SIGHT DISTANCE #5 (FROM PRIVATE STREET)

POSTED SPEED: 25 MPH

5 2.5 0 5 10
VERTICAL GRAPHIC SCALE
1" = 5'

30 15 0 30 60
HORIZONTAL GRAPHIC SCALE
1" = 30'

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SHEET TITLE:

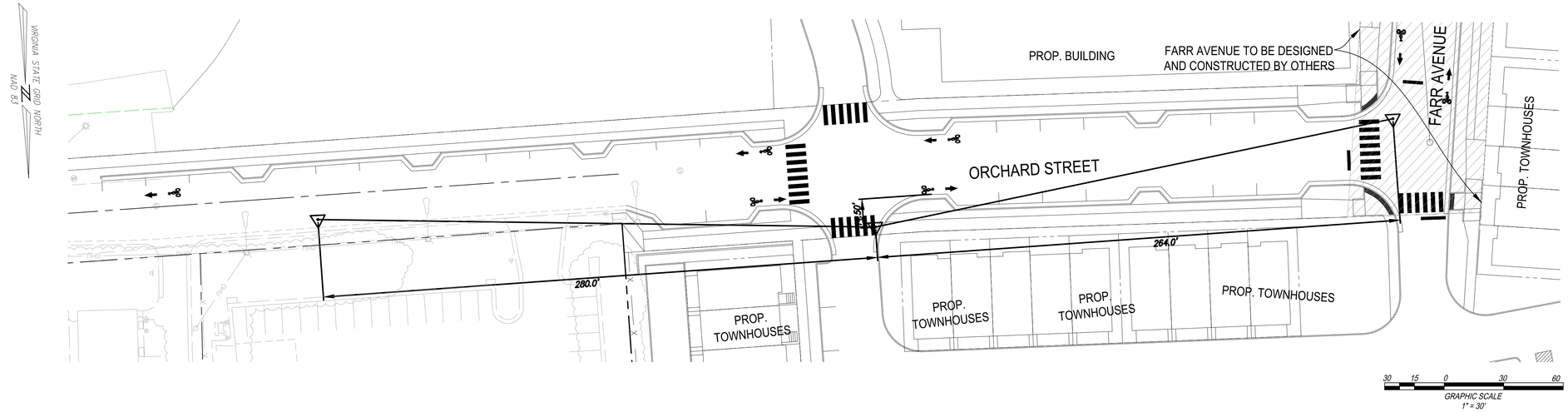
SIGHT DISTANCE

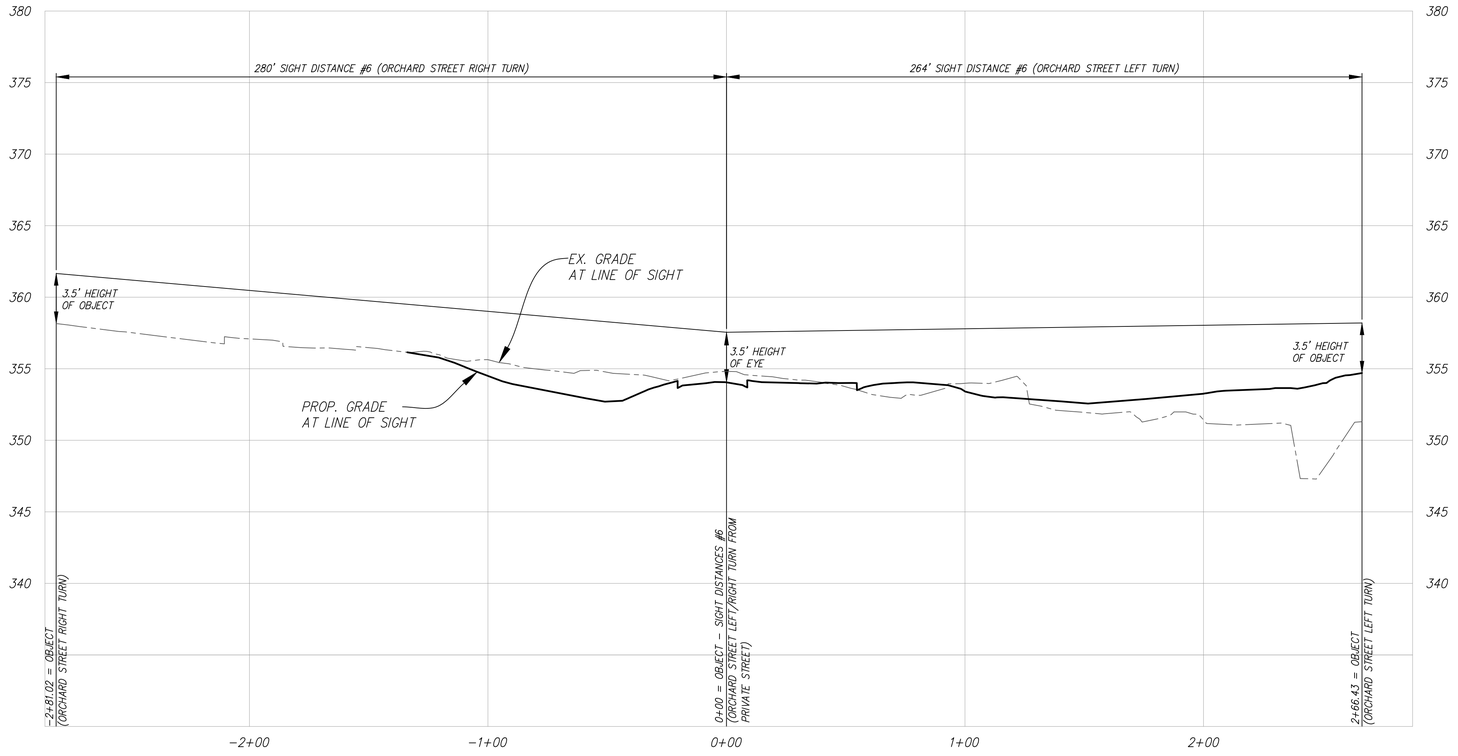
SHEET No.

13

SCALE: SEE DWGS.

ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT FAIRFAX CITY AND VIRGINIA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS





ORCHARD STREET SIGHT DISTANCE #6 (FROM PRIVATE STREET)

POSTED SPEED: 25 MPH

5 2.5 0 5 10
VERTICAL GRAPHIC SCALE
1" = 5'

30 15 0 30 60
HORIZONTAL GRAPHIC SCALE
1" = 30'

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SHEET TITLE:

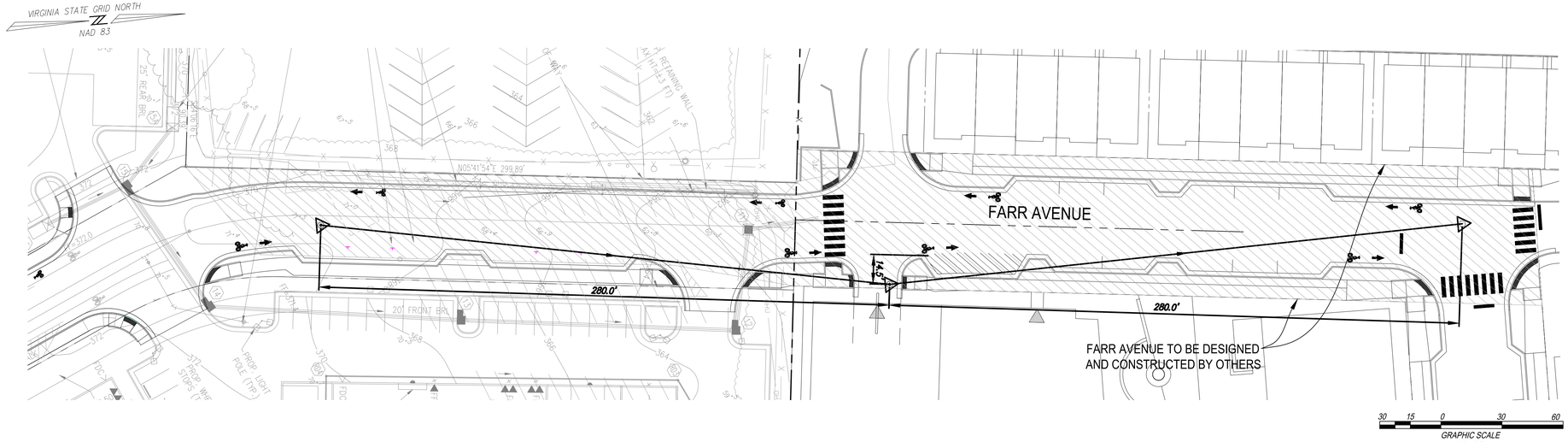
SIGHT DISTANCE

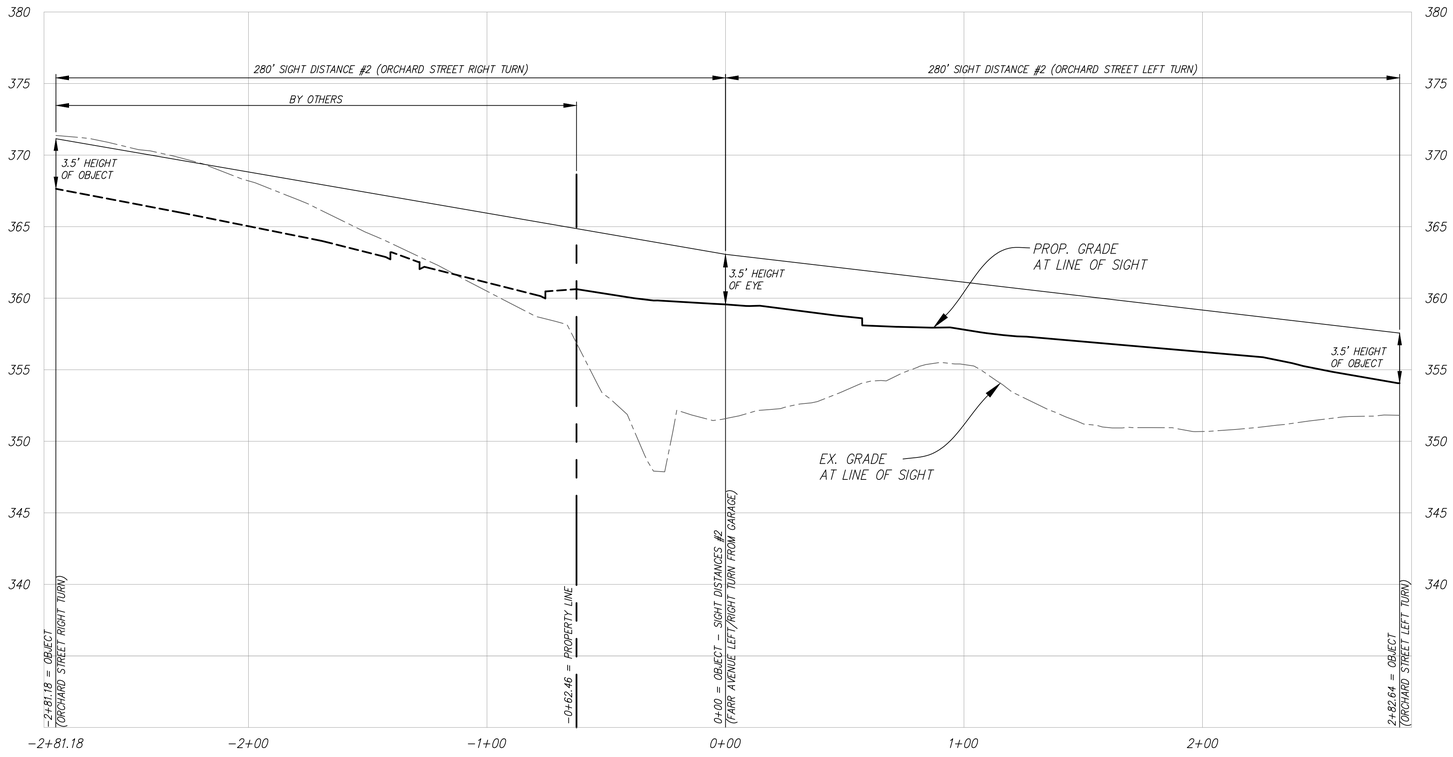
SHEET No.

14

SCALE: SEE DWGS.

ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT FAIRFAX CITY AND VIRGINIA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS





FARR AVENUE SIGHT DISTANCE #2 (FROM GARAGE)
POSTED SPEED: 25 MPH

5 2.5 0 5 10
VERTICAL GRAPHIC SCALE
1" = 5'

30 15 0 30 60
HORIZONTAL GRAPHIC SCALE
1" = 30'

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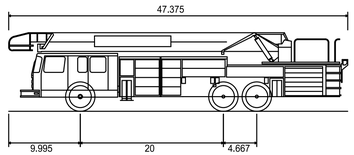
SHEET TITLE:

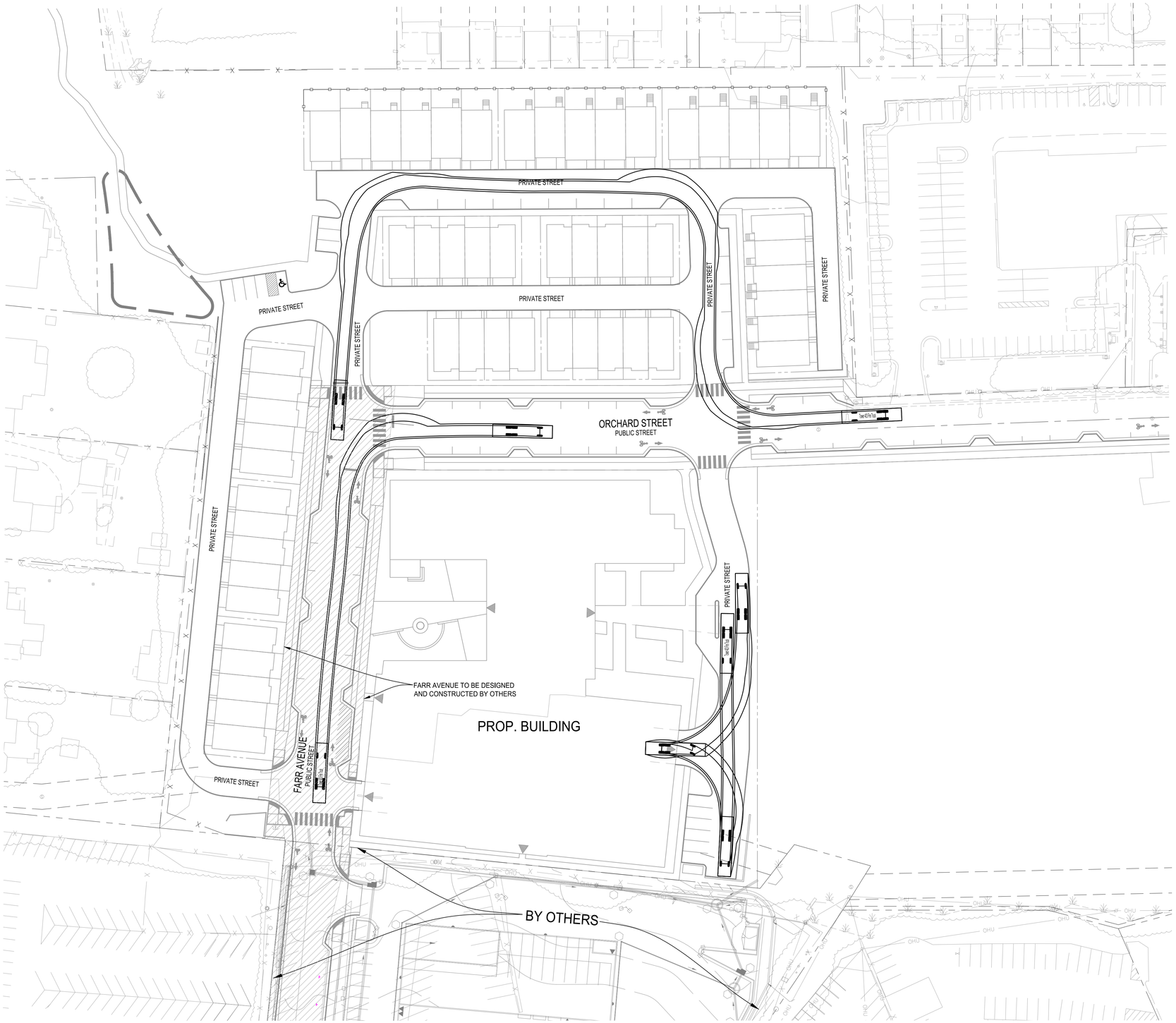
SIGHT DISTANCE

SHEET No.
15

SCALE: SEE DWGS.



Copy of Tower 403 Fire Truck	
Overall Length	47.375ft
Overall Width	10.083ft
Overall Body Height	12.125ft
Min Body Ground Clearance	1.512ft
Track Width	7.667ft
Lock-to-lock time	4.00s
Wall to Wall Turning Radius	54.980ft



FIRE TRUCK TURNING MOVEMENTS

SCALE: 1"=40'

40 20 0 40 80

HORIZONTAL GRAPHIC SCALE
1" = 40'

ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT FAIRFAX CITY AND VIRGINIA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS

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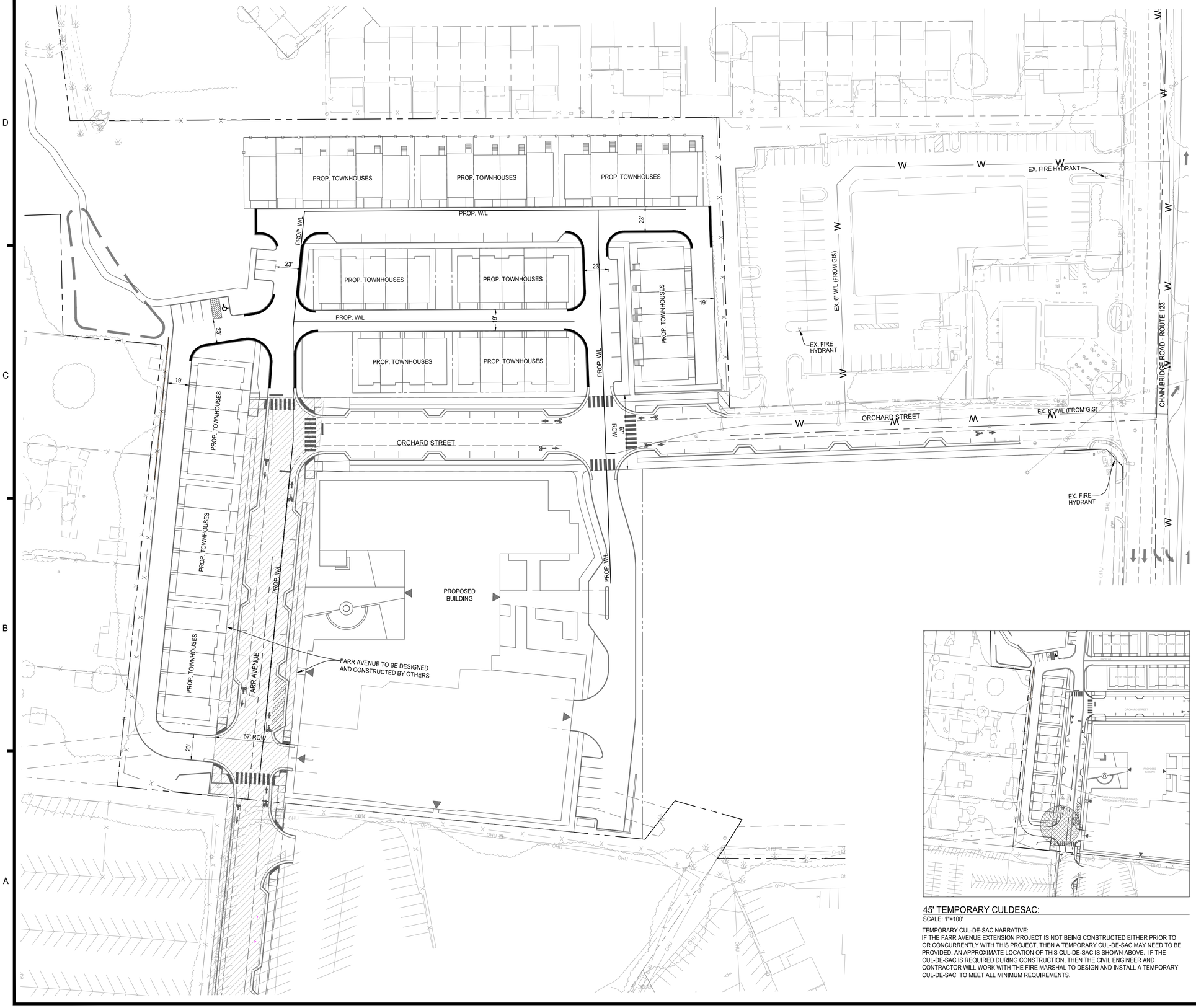
DATE: 11-21-2019
DESIGN: EG
DRAWN: JS
CHECKED: KMW

SHEET TITLE:

TURNING MOVEMENTS

SHEET No.
16

SCALE: 1"=40'



LEGEND

- : PROPOSED R.O.W.
- : BUILDING ENTRANCE
- FDC : PROPOSED FIRE DEPARTMENT CONNECTION
- : PROPOSED FIRE LANE
- : PROPOSED WATERLINE
- : EXISTING WATERLINE
- : EXISTING FIRE HYDRANT

VIRGINIA STATE GRID NORTH
NAD 83

SENIOR LIVING BUILDING:

BUILDING TYPE:	7 STORY
OCCUPANCY TYPE:	RESIDENTIAL R-2
CONSTRUCTION TYPE:	1-B
SPRINKLER TYPE:	FULLY SPRINKLED, NFPA 13
BUILDING AREA:	230,000 SF

BUILDING HEIGHT: REFER TO ARCHITECTURAL EXTERIOR ELEVATIONS

TOWNHOUSE:

BUILDING TYPE:	TOWNHOUSE
OCCUPANCY TYPE:	RESIDENTIAL R-3
CONSTRUCTION TYPE:	5-B
SPRINKLER TYPE:	NFPA 13R

BUILDING HEIGHT: REFER TO ARCHITECTURAL EXTERIOR ELEVATIONS

45' TEMPORARY CULDESAC:

SCALE: 1"=100'

TEMPORARY CUL-DE-SAC NARRATIVE:
IF THE FARR AVENUE EXTENSION PROJECT IS NOT BEING CONSTRUCTED EITHER PRIOR TO OR CONCURRENTLY WITH THIS PROJECT, THEN A TEMPORARY CUL-DE-SAC MAY NEED TO BE PROVIDED. AN APPROXIMATE LOCATION OF THIS CUL-DE-SAC IS SHOWN ABOVE. IF THE CUL-DE-SAC IS REQUIRED DURING CONSTRUCTION, THEN THE CIVIL ENGINEER AND CONTRACTOR WILL WORK WITH THE FIRE MARSHAL TO DESIGN AND INSTALL A TEMPORARY CUL-DE-SAC TO MEET ALL MINIMUM REQUIREMENTS.

ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT CITY OF FAIRFAX STANDARDS AND SPECIFICATIONS

40 20 0 40 80
HORIZONTAL GRAPHIC SCALE
1" = 40'

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SHEET TITLE:

FIRE SERVICE PLAN

SHEET No.
17

SCALE: 1"=40'

100-YR FLOODPLAIN
(PRE-DEVELOPED)

EX. RPA
LINE

100-YR FLOODPLAIN
(PRE-DEVELOPED)

McLEAN AVENUE
VARIABLE WIDTH PUBLIC
RIGHT-OF-WAY

ORCHARD STREET
50' PUBLIC RIGHT-OF-WAY
D.B. 401 PG. 312

ORCHARD STREET
50' PUBLIC RIGHT-OF-WAY
D.B. 407 PG. 115

McLEAN COURT
50' RIGHT-OF-WAY

CHAIN BRIDGE ROAD - ROUTE #123
VARIABLE WIDTH PUBLIC RIGHT-OF-WAY
CITY OF FAIRFAX PROJ. #0029-151-105

FAIRFAX BOULEVARD - ROUTE #50
VARIABLE WIDTH PUBLIC RIGHT-OF-WAY
CITY OF FAIRFAX PROJ. #0029-151-105

VIRGINIA STATE GRID NORTH
NAD 83

50 25 0 50 100
HORIZONTAL GRAPHIC SCALE
1" = 50'

ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT CITY OF FAIRFAX STANDARDS AND SPECIFICATIONS

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CHECKED: KMW

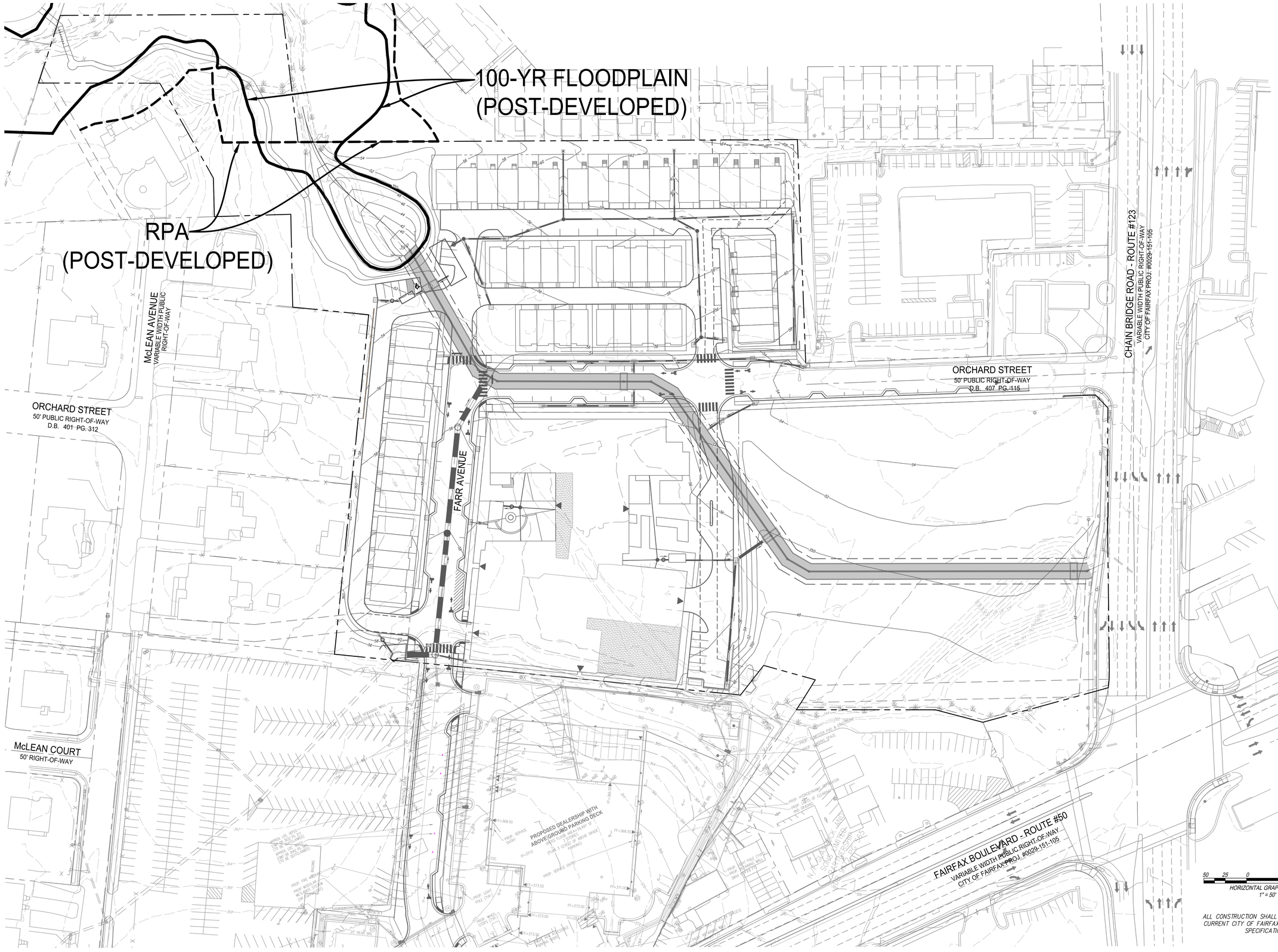
SHEET TITLE:

FLOODPLAIN AND RPA (PRE-DEVELOPED)

SHEET No.

18

SCALE: 1"=50'



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engineering surveying land planning

COMMONWEALTH OF VIRGINIA
ELI GOLDMAN
Lic. No.55868
4/10/20
PROFESSIONAL ENGINEER

NORTHFAX WEST
MASTER DEVELOPMENT PLAN
CITY OF FAIRFAX, VIRGINIA

MARK	DATE	DESCRIPTION

PROJECT No.: 13139.005.00
DRAWING No.: 109632
DATE: 11-21-2019
DESIGN: EG
DRAWN: JS
CHECKED: KMW

SHEET TITLE:

FOODPLAIN AND RPA (POST-DEVELOPED)

SHEET No.

18A

SCALE: 1"=50'