

Nutrient Management Plan

Prepared For:

York County Grounds Maintenance
Scott Ashworth
105 Service Drive
Yorktown, VA 23692

Prepared By:
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Soil Horizons, LLC
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Certification Code: # 386

Total Plan Acreage: 131.48

County: York

Hydrologic Unit Code	Acreage
CB21	70.83
CB22	9.49
JL38	4.53
YO67	21.58
YO69	25.05

Plan Effective: 3/1/22
Plan Expires: 3/1/25

Planner Signature



The purpose of this Nutrient Management Plan is to ensure minimum movement of nitrogen and phosphorus from the specified area of application to surface and groundwater where they can potentially have a detrimental effect on water quality as well as ensuring that plants have optimum soil nutrient availability for good productivity and quality. By following this soil test based plan you are helping to protect local waters and the Chesapeake Bay.

If you have questions, please contact your plan writer, local Virginia Cooperative Extension Agent, or the Department of Conservation and Recreation Nutrient Management Program.



Nutrient Management Plan for: York County Grounds Maintenance

Superintendent Information

Project Name	York County
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Certification Code	386

Location Information

Physical Address	105 Service Drive
City State Zip	Yorktown, VA 23692
<u>VAHU6 Watershed Code</u>	CB21, CB22, JL38, YO67, YO69
County	York

Acreage

Total	131.48
Plan Start Date	3/1/22
Plan End Date	3/1/25

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The York County Grounds Maintenance agrees to comply with all requirements set forth in the Nutrient Management Training and Certification Regulations, 4 VAC 50-85 et seq., and to follow recommendations for turf fertilization and management as described in the Virginia Nutrient Management Standards and Criteria, Revised July 2014. This includes implementing the Department of Conservation and Recreation's approved Nutrient Management Plan and maintaining fertilization records. All nutrient applications performed by York County staff and contractors shall comply with the provisions of this Nutrient Management Plan upon receipt of the approved plan.

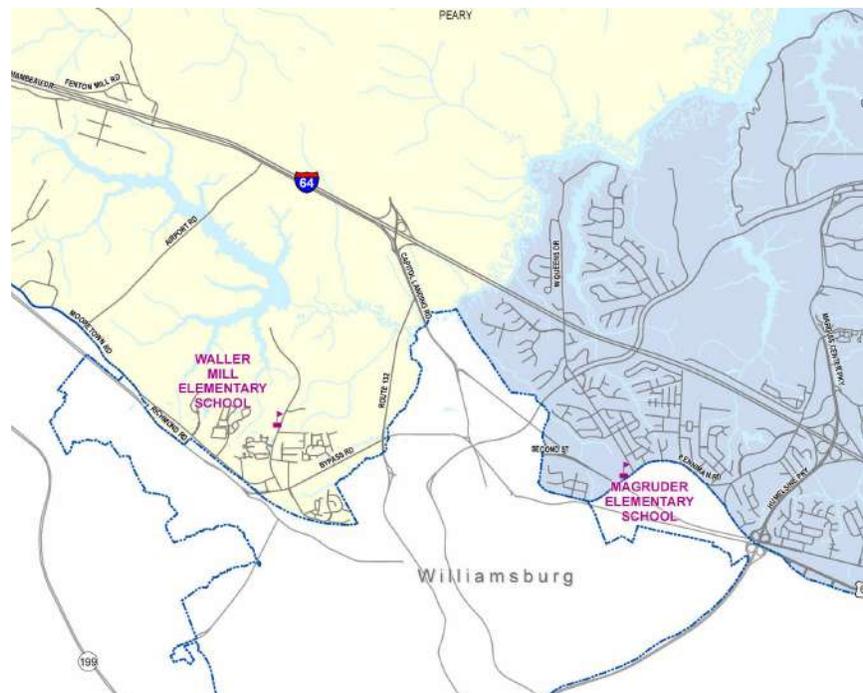
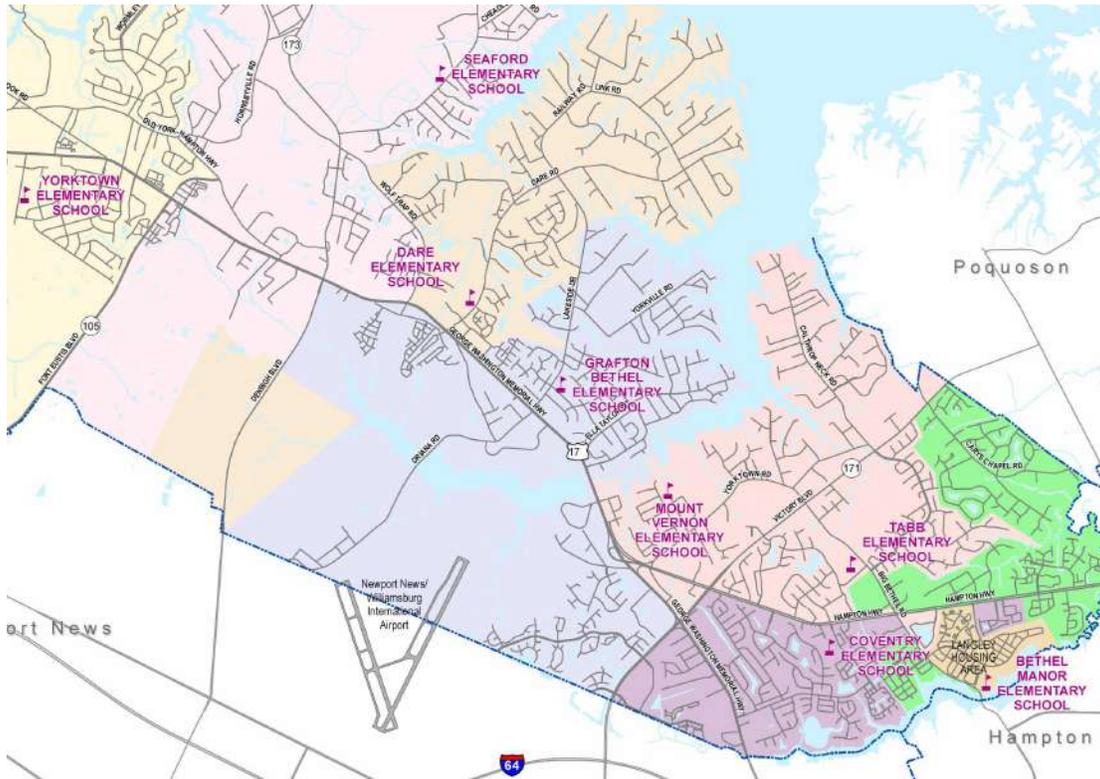
1. Site Description and Supporting Information

York County is a county in the eastern part of the Commonwealth of Virginia, located on the north side of the Virginia Peninsula, with the York River as its northern border. Watersheds within York County include the Lower-Chesapeake Bay – Poquoson River, the Northwest Branch Back River, the Warwick River, Queens Creek, and the York River – Sarah Creek. The county seat is the unincorporated town of Yorktown.

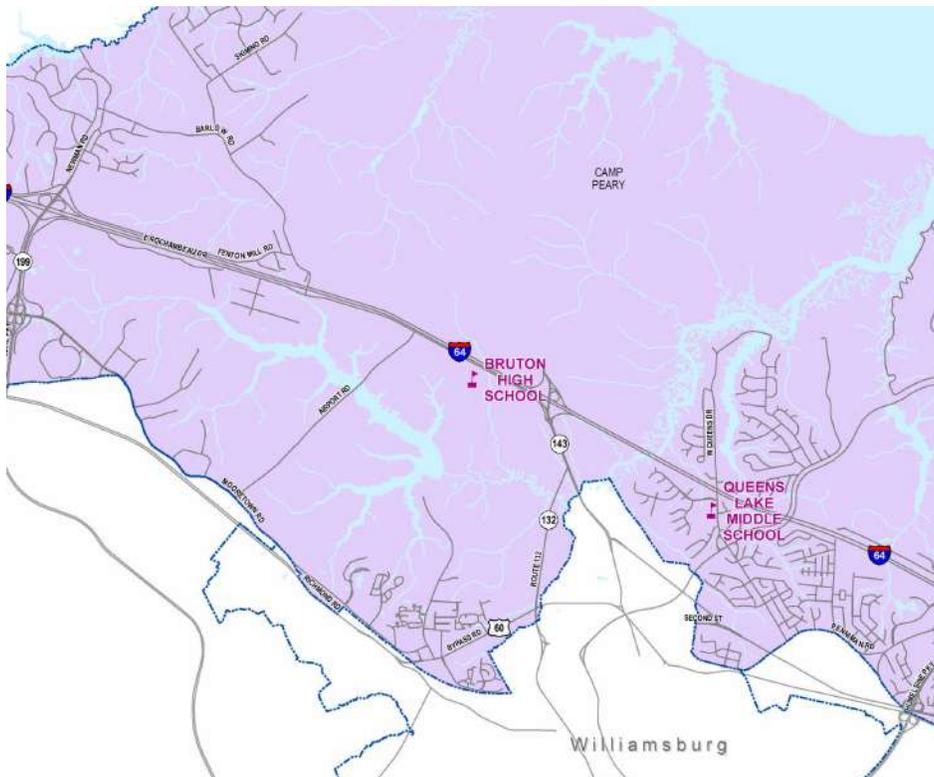
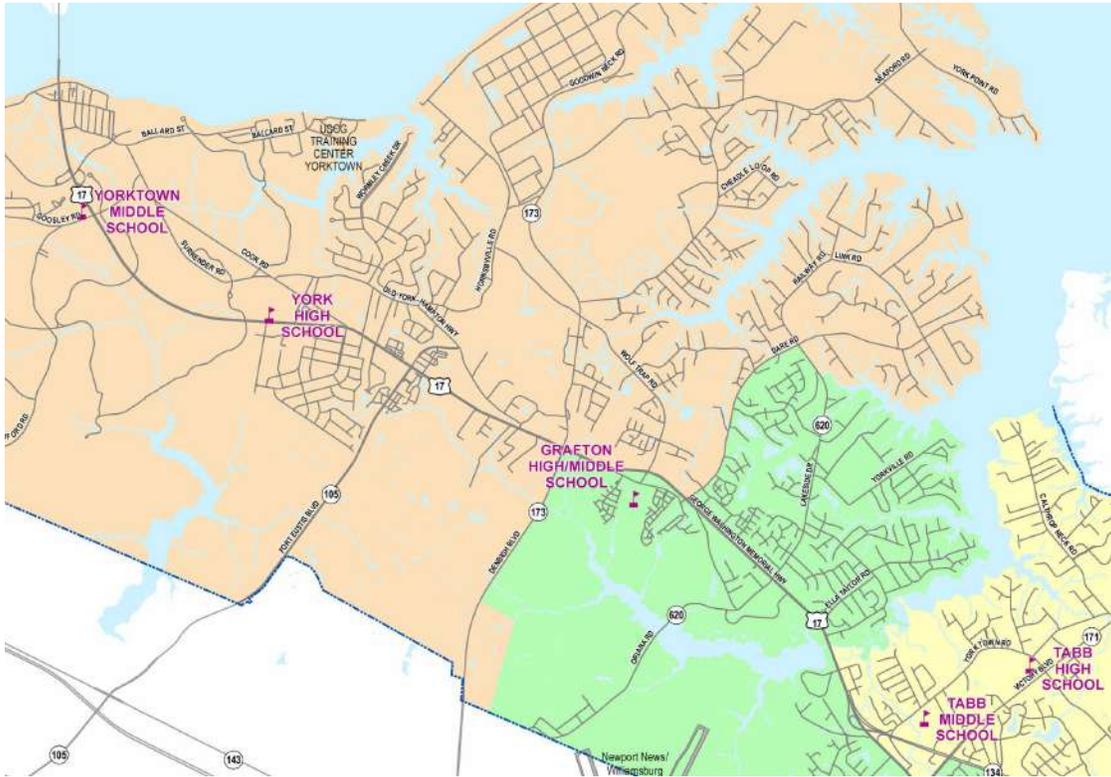
Discharges from municipal separate storm sewer systems (MS4s) are regulated under the Virginia Stormwater Management Act, the Virginia Stormwater Management Program (VSMP) Permit regulations, and the Clean Water Act as point source discharges. The permits are administered and issued by the Virginia Department of Environmental Quality. York County operates a MS4 program administered by the Department of Public Works. Per the conditions of the MS4 permit, York County shall implement approved nutrient management plans in accordance with § 10.1-104.2 of the Code of Virginia on all county owned or operated lands where nutrients are applied to a contiguous area greater than one acre. As a result, this plan contains thirty (30) managed turf sites. The county recognizes the importance of nutrient management as a fundamental way to protect water quality.

This plan consists primarily of public school athletic fields, parks, and turf areas around administrative buildings. Fertilized turf is managed to promote growth and establishment of the dominant turf-type at each site. All bermudagrass athletic fields may be managed for fall overseeded, bermudagrass. Football fields are irrigated. Fescue athletic fields and grounds are not irrigated. The primary source of irrigation water at each site originates from the municipal water supply. All athletic fields were constructed from predominately silt/clay based soils. Landscape beds are located around administrative buildings, but do not receive any additional nutrients aside from what is applied to the adjacent turf. Within the boundaries of each location, York County maintains turf areas that do not receive fertilization or irrigation. The unfertilized portions of each site are not included in this plan.

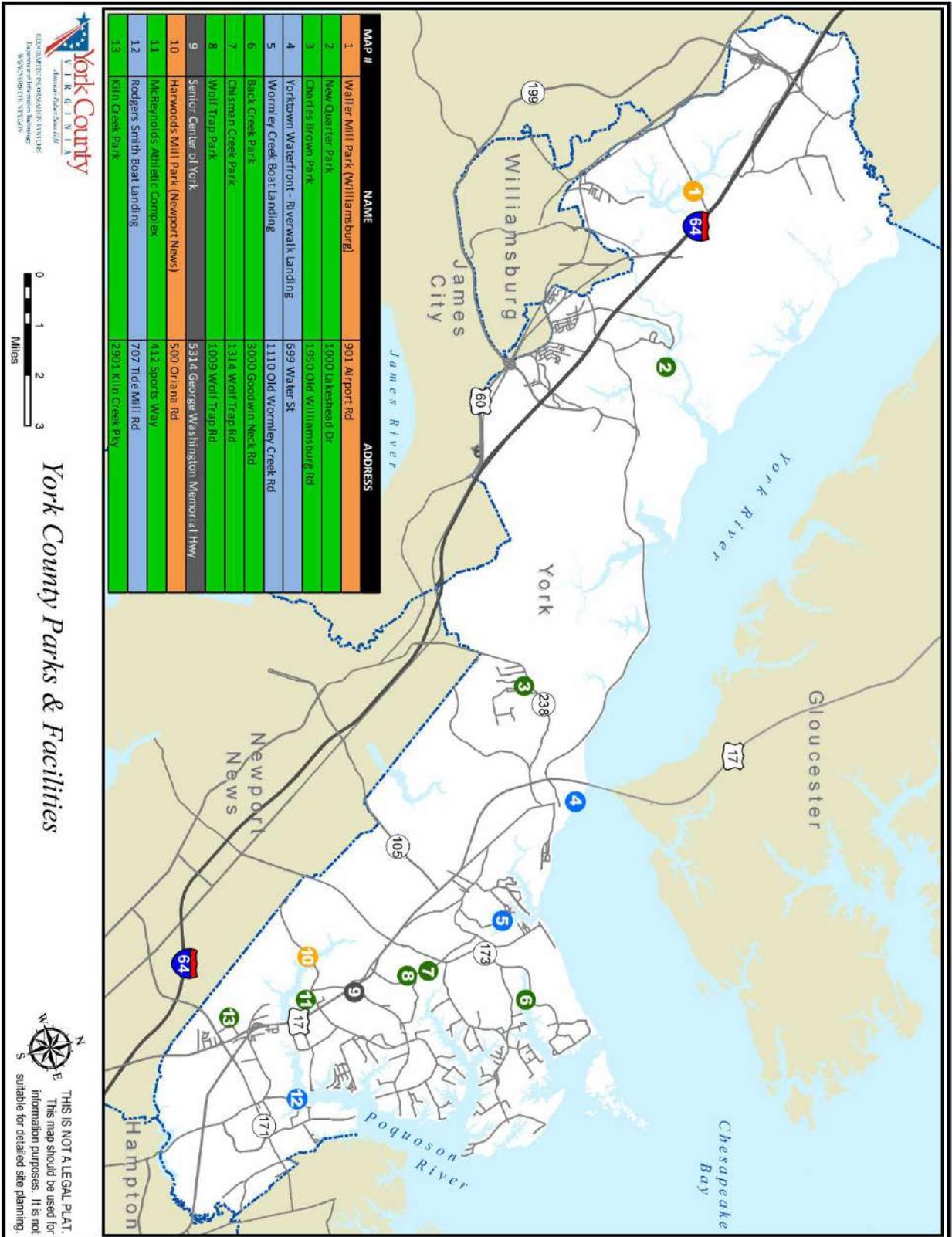
York County Elementary School Locations



York County Middle and High School Locations



York County Parks and Recreation Facilities

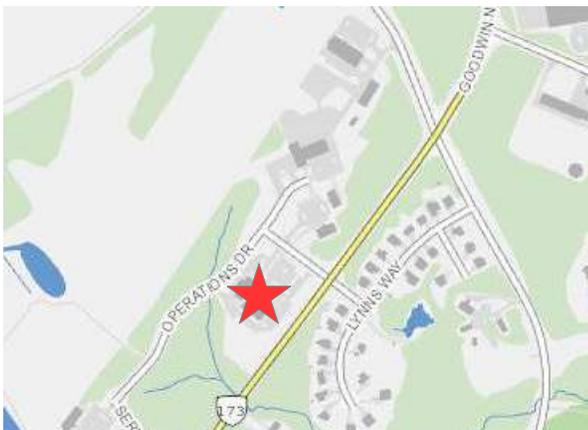


York County Public Library Locations



* Yorktown Library currently under construction

York County General Services Building Location



Yorktown Administrative Building Locations



A. Site Descriptions

York County is responsible for grounds management at thirty one separate locations, containing eighty three separate athletic fields and/or grounds:

<u>Site</u>	<u>Address</u>	<u>Coordinates</u>	<u>HUC</u>	<u>Area SF</u>	<u>Soil Test ID</u>	<u>Turf Type</u>
Bethel Manor Elementary Football	1797 First St., Langley AFB, VA 23665	37° 5' 40", 76° 25' 25"	CB22	48,803	YC081	Bermuda
Bruton High School Football Softball Baseball Practice	185 East Rochambeau Dr., Williamsburg, VA 23188	37° 18' 34", 76° 41' 34"	YO67	105,000 84,118 93,100 67,377	YC001 YC002 YC003 YC004	Bermuda Bermuda Fescue Bermuda
Charles Brown Park (baseball)	1950 Old Williamsburg Rd., Lackey, VA 23690	37° 13' 47", 76° 33' 3"	JL38	162,083	YC031	Fescue
Chisman Creek Park Softball 1 Softball 2	1314 Wolftrap Rd., Yorktown, VA 23692	37° 10' 47", 76° 27' 37"	CB21	84,118 84,118	YC036 YC037	Bermuda Bermuda
York-Poquoson Courthouse Coventry Elementary Baseball Soccer	300 Ballard St., Yorktown, VA 23690 200 Owen Davis Blvd, Yorktown, VA 23693	37° 13' 58", 76° 30' 40" 37° 6' 19", 76° 26' 22"	YO69 CB22	78,089 65,887 79,921	YC016 YC078 YC079	Fescue Bermuda Bermuda
Dare Elementary School Baseball Practice Soccer	300 Dare Rd., Yorktown, VA 23692	37° 9' 49", 76° 27' 30"	CB21	50,625 28,000 88,200	YC047 YC048 YC049	Bermuda Bermuda Bermuda
Grafton High/Middle School Baseball 1 Baseball 2 Football Practice Softball 1 Softball 2	403 Grafton Dr., Yorktown, VA 23692	37° 9' 49", 76° 28' 15"	CB21	90,000 62,500 105,000 64,800 40,000 16,200	YC041 YC042 YC043 YC044 YC045 YC046	Bermuda Bermuda Bermuda Bermuda Bermuda Bermuda
Grafton Bethel Elementary Baseball Softball	410 Lakeside Dr., Yorktown, VA 23692	37° 8' 49", 76° 27' 10"	CB21	37,074 44,461	YC050 YC051	Bermuda Bermuda
Kiln Creek Park Baseball Softball Soccer	2901 Kiln Creek Pkwy., Yorktown, VA 23693	37° 7' 18", 76° 27' 50"	CB21	105,635 76,250 93,100	YC082 YC083 YC084	Bermuda Fescue Bermuda
Magruder Elementary School	700 Penniman Rd., Williamsburg, VA 23185	37° 16' 2", 76° 40' 28"	YO67			

<u>Site</u>	<u>Address</u>	<u>Coordinates</u>	<u>HUC</u>	<u>Area SF</u>	<u>Soil Test ID</u>	<u>Turf Type</u>
Soccer				71,750	YC010	Bermuda
Baseball				84,118	YC011	Bermuda
Mount Vernon Elementary School	310 Mt. Vernon Dr., Yorktown, VA 23693	37° 7' 56", 76° 26' 53"	CB21			
Baseball				34,476	YC067	Bermuda
Soccer				76,000	YC068	Bermuda
Practice				42,097	YC069	Bermuda
New Quarter Park (Softball)	1000 Lakeside Dr., Williamsburg, VA 23185	37° 17' 38", 76° 38' 39"	YO69	84,118	YC014	Fescue
Queens Lake Middle School	124 West Queens Dr., Williamsburg, VA 23185	37° 16' 60", 76° 40' 26"	YO67			
Soccer1				72,000	YC005	Bermuda
Baseball				104,483	YC006	Bermuda
Softball				69,743	YC007	Bermuda
Soccer2				21,600	YC008	Bermuda
Practice				16,500	YC009	Bermuda
Seaford Elementary School	1105 Seaford Rd., Seaford, VA 23696	37° 11' 12", 76° 26' 43"	CB21			
Softball				21,671	YC033	Bermuda
Baseball				31,584	YC034	Bermuda
Football				57,600	YC035	Bermuda
Tabb Elementary School	3711 Big Bethel Rd., Yorktown, VA 23693	37° 6' 48", 76° 25' 57"	CB22			
Soccer				47,780	YC074	Bermuda
Baseball				41,193	YC075	Bermuda
Practice				56,569	YC076	Bermuda
Tabb High School	4431 Big Bethel Rd., Yorktown, VA 23693	37° 7' 26", 76° 26' 9"	CB21			
Softball				33,662	YC070	Bermuda
Baseball				99,289	YC071	Bermuda
Football				93,296	YC072	Bermuda
Soccer				80,500	YC073	Bermuda
Tabb Library	100 Long Green Blvd., Yorktown, VA 23693	37° 6' 50", 76° 26' 48"	CB22	53,619	YC080	Fescue
Tabb Middle School	300 Yorktown Rd., Yorktown, VA 23693	37° 7' 24", 76° 27' 4"	CB21			
Baseball				104,483	YC064	Bermuda
Softball				52,772	YC065	Bermuda
Soccer				83,600	YC066	Bermuda
Waller Mill Elementary	314 Waller Mill Rd., Williamsburg, VA 23185	37° 17' 35", 76° 42' 46"	YO67			
Baseball				78,218	YC012	Bermuda
Soccer				72,000	YC013	Bermuda
Wolf Trap Park	1009 Wolftrap Rd., Yorktown, VA 23692	37° 10' 24", 76° 27' 45"	CB21			
Soccer 1				77,000	YC038	Bermuda
Soccer 2				77,000	YC039	Bermuda
Soccer 3				77,000	YC040	Bermuda

<u>Site</u>	<u>Address</u>	<u>Coordinates</u>	<u>HUC</u>	<u>Area SF</u>	<u>Soil Test ID</u>	<u>Turf Type</u>
York County Sports Complex	4311 George Washington Hwy., Yorktown, VA 23692	37° 8' 40", 76° 27' 54"	CB21			
Baseball 1				52,056	YC052	Bermuda
Baseball 2				52,056	YC053	Bermuda
Baseball 3				52,056	YC054	Bermuda
Baseball 4				52,056	YC055	Bermuda
Baseball 5				52,056	YC056	Bermuda
Softball 1				95,000	YC057	Bermuda
Soccer 1				91,000	YC058	Bermuda
Soccer 2				110,000	YC059	Bermuda
Soccer 3				140,000	YC060	Bermuda
Soccer 4				91,000	YC061	Bermuda
Soccer 5				91,000	YC062	Bermuda
Softball 2				95,000	YC063	Bermuda
York High School	9300 George Washington Hwy., Yorktown, VA 23692	37° 12' 15", 76° 30' 2"	YO69			
Baseball				129,664	YC023	Fescue
Soccer/Softball				105,718	YC026	Bermuda
Soccer/Practice				151,575	YC027	Bermuda
Yorktown Elementary School	131 Siege Lane, Yorktown, VA 23692	37° 12' 1", 76° 30' 14"	YO69			
Baseball				69,011	YC028	Bermuda
Soccer				59,615	YC029	Bermuda
Yorktown Middle School	11201 George Washington Hwy., Yorktown, VA 23692	37° 13' 31", 76° 31' 3"	YO69			
Football				106,954	YC020	Bermuda
Softball				84,118	YC021	Bermuda
Baseball				104,483	YC022	Bermuda
York Hall	Ballard St. & Main St., Yorktown, VA 23690	37° 14' 9", 76° 30' 33"	YO69	15,033	YC017	Fescue
York County Admin	224 Ballard St., Yorktown, VA 23690	37° 14' 4", 76° 30' 39"	YO69	21,622	YC015	Fescue
Yorktown Post Office	126 Ballard St., Yorktown, VA 23690	37° 14' 11", 76° 30' 33"	YO69	5,373	YC019	Fescue
General Services Admin	102 County Dr., Yorktown, VA 23692	37° 10' 60", 76° 27' 55"	JL38	35,132	YC032	Fescue
Yorktown Library – under construction	8500 George Washington Hwy., Yorktown, VA 23692	37° 13' 32", 76° 31' 4"	CB22	19,822	YC077	Fescue
Yorktown Riverwalk	Yorktown, VA 23690	37° 14' 18", 76° 30' 31"	YO69	75,832	YC018	Fescue

B. Fertilization Season

The recommended nutrient management application season for nitrogen fertilizers to cool season turfgrasses begins six weeks prior to the last spring average killing frost date and ends six weeks past the first fall average killing frost date. The acceptable nitrogen fertilizer application season for non-overseeded warm season turfgrass begins no earlier than the last spring average killing frost date and ends no later than one month prior to the first fall average killing frost date. Applications of inorganic nutrient sources, liquid manure, liquid sewage sludge, or liquid industrial waste are not to occur on frozen or snow-covered ground.

	Killing Frost Dates	Cool Season Applications	Warm Season Applications
Spring	April 10	February 27	April 10
Fall	November 2	December 14	October 2

C. Environmentally Sensitive Sites

An environmentally sensitive site is any area which is particularly susceptible to nutrient loss to groundwater or surface water since it contains or drains to areas which contain sinkholes, or where at least 33% of the area in a specific management area contains one or any combination of the following features:

1. Soils with high potential for leaching based on soil texture or excessive drainage;
2. Shallow soils less than 41 inches deep likely to be located over fractured or limestone bedrock;
3. Subsurface tile drains; (none reported by York County facilities management staff)
4. Soils with high potential for subsurface lateral flow based on soil texture and poor drainage;
5. Floodplains as identified by soils prone to frequent flooding in county soil surveys; or
6. Lands with slopes greater than 15%

Soil survey information was obtained from the Soil Survey of James City and York Counties and the City of Williamsburg (websoilsurvey.sc.egov.usda.gov) and is included on each site map. The majority of the management areas occur within disturbed urban soils where the soils have been altered or obscured by construction, excavation/fill and do not exhibit environmentally sensitive conditions. In some cases the soil survey may indicate the presence of native soils prone to flooding or poor drainage: Augusta, Betheria, Chickahominy, Dogue, Johnston, Nimmo, and Tomotley. In undisturbed conditions, these soils exhibit a seasonal high water table at or near the surface in the winter months and/or have the potential for frequent flooding. Although field construction has significantly altered native soil conditions in these areas, special attention should be given to the timing of fertilizer applications to avoid nutrient loss due to flooding and seasonal high water tables.

Management Areas with the Potential for Environmentally Sensitive Sites:

- Charles Brown Park
- General Service Building
- Seaford Elementary School
- Grafton High School/Middle School
- Dare Elementary School
- Tabb Elementary School
- Yorktown Library (site under construction)
- Coventry Elementary School
- Kiln Creek Park

2. Site Maps

Bruton High School



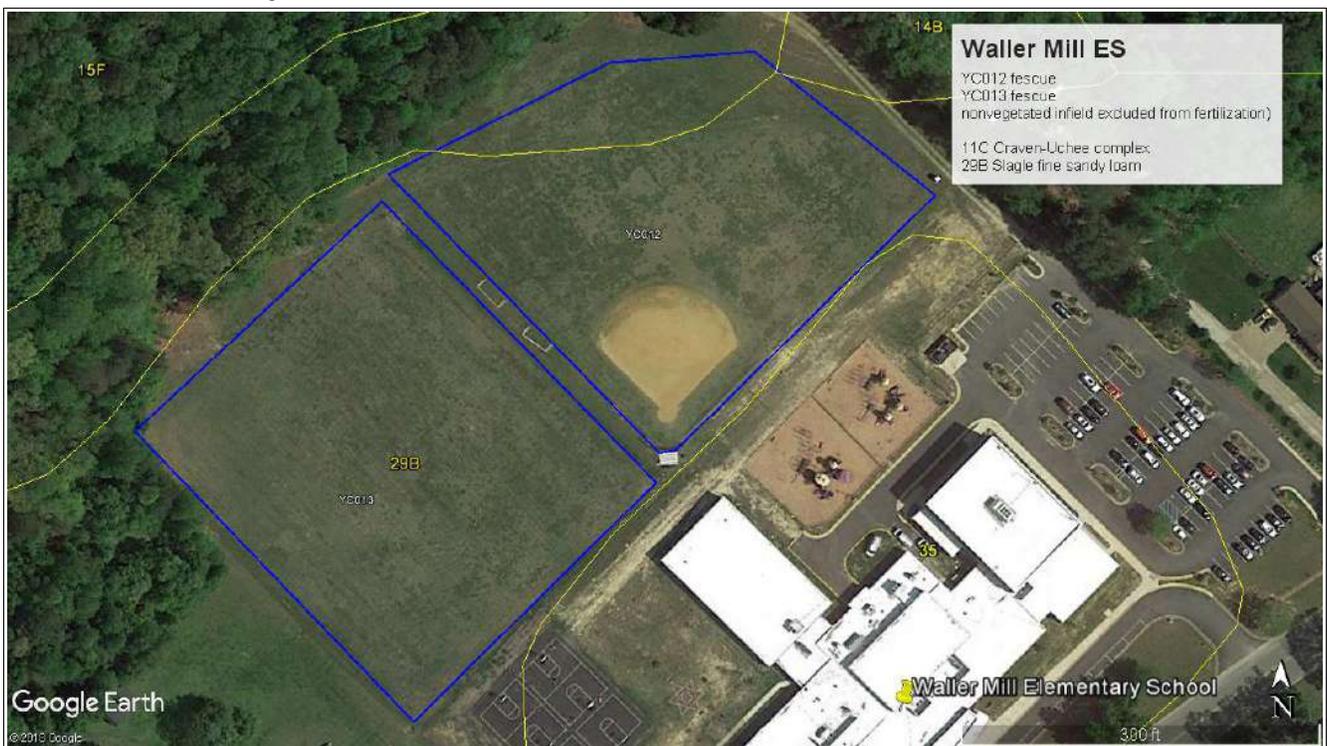
Queens Lake Middle School



Magruder Elementary School



Waller Mill Elementary School



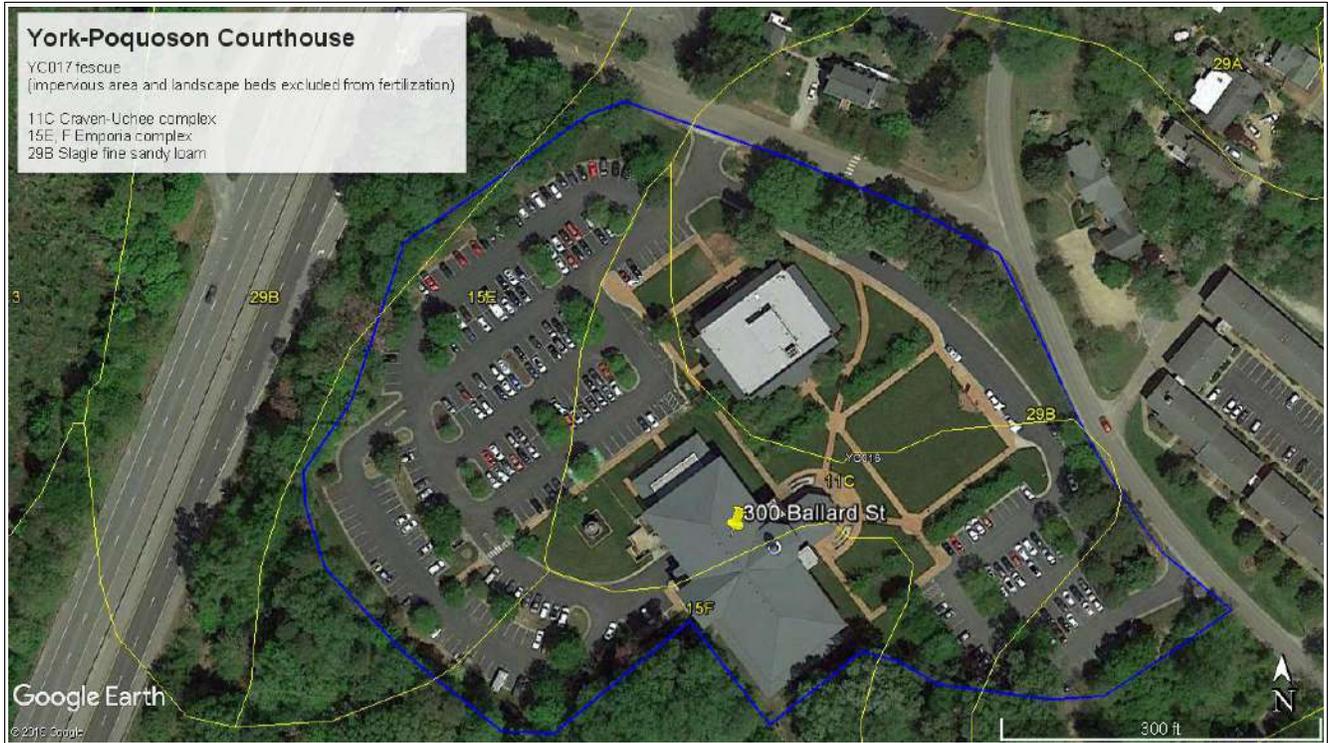
New Quarter Park



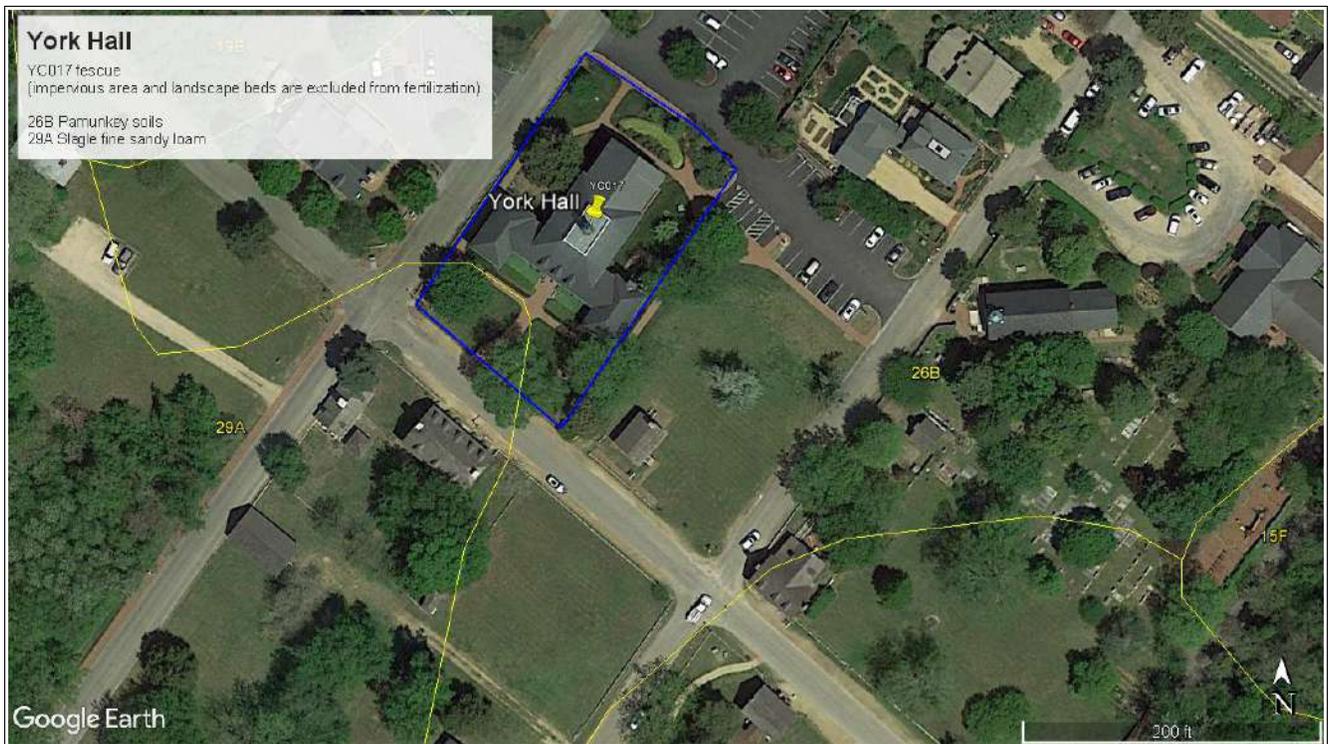
York County Administration



York-Poquoson Courthouse



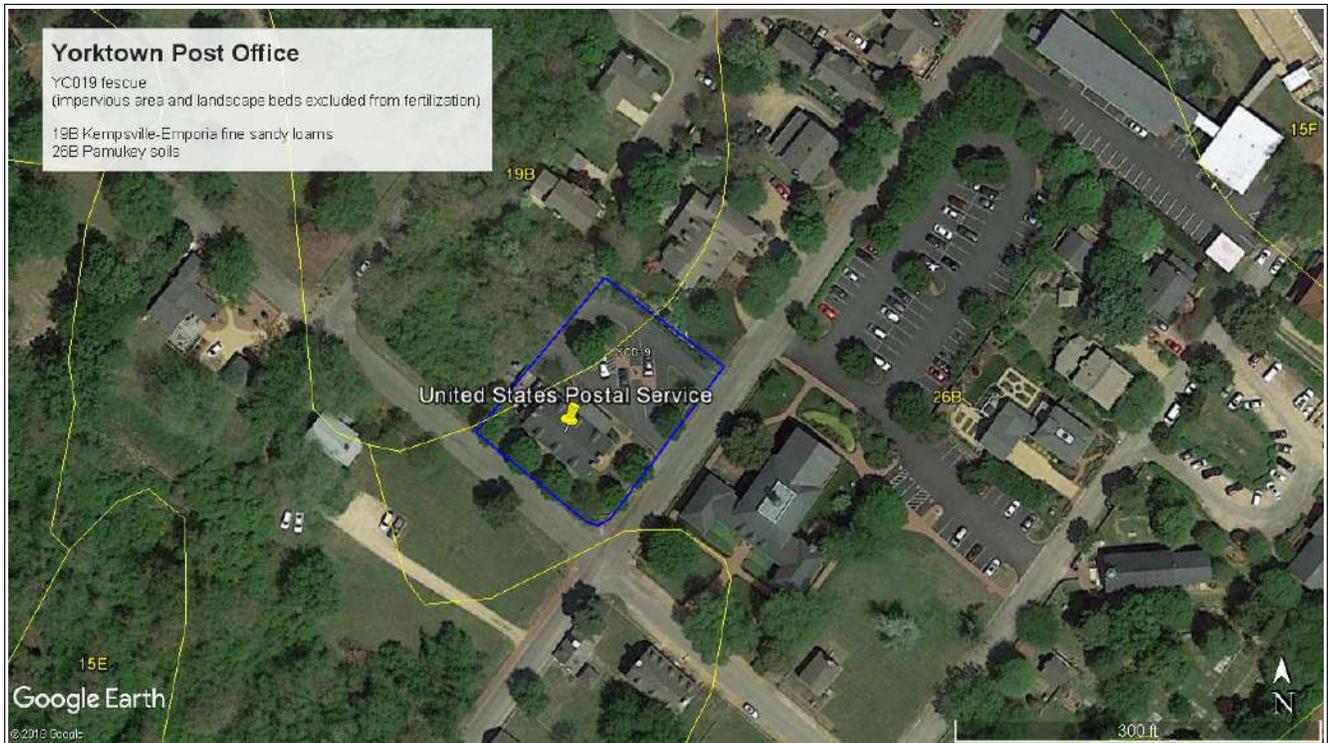
York Hall



Yorktown Riverwalk



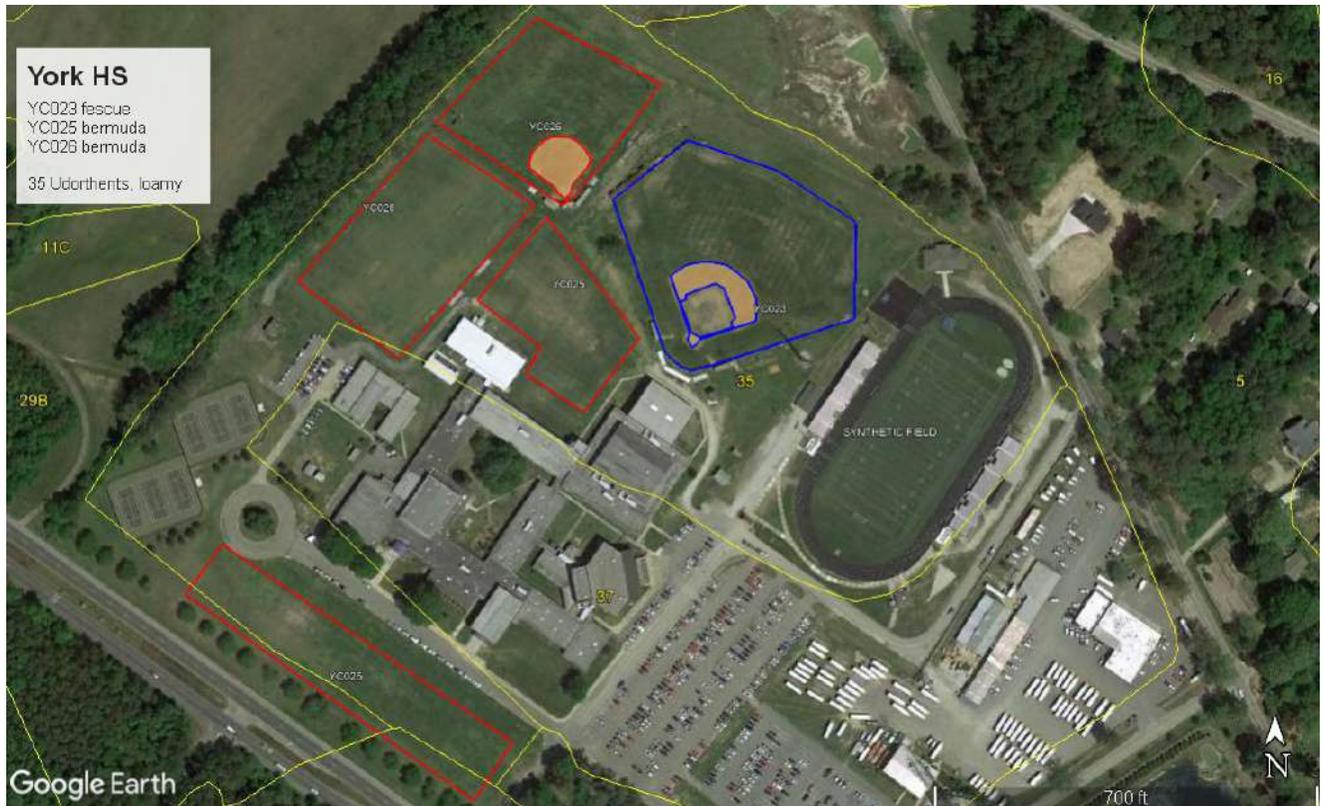
Yorktown Post Office



Yorktown Middle School



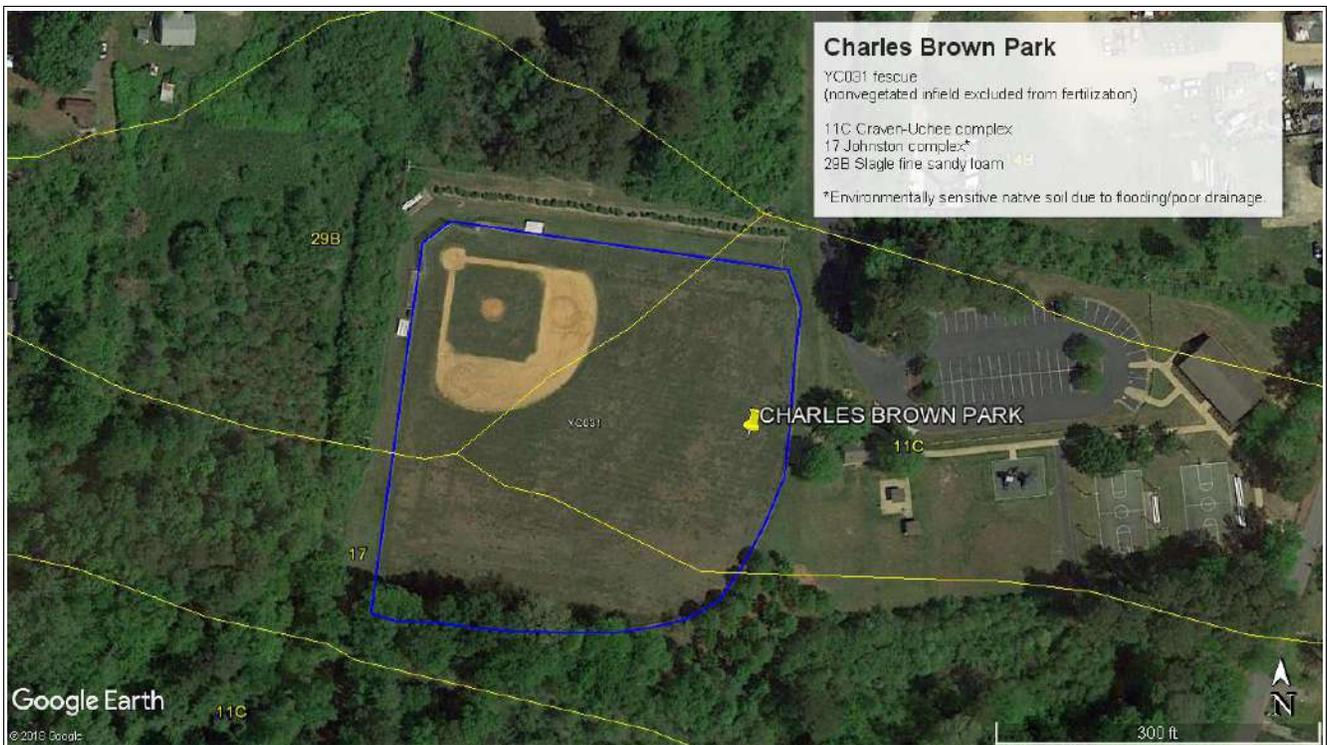
York High School



Yorktown Elementary School



Charles Brown Park



General Services Admin. Building



Seaford Elementary School



Chisman Creek Park



Wolf Trap Park



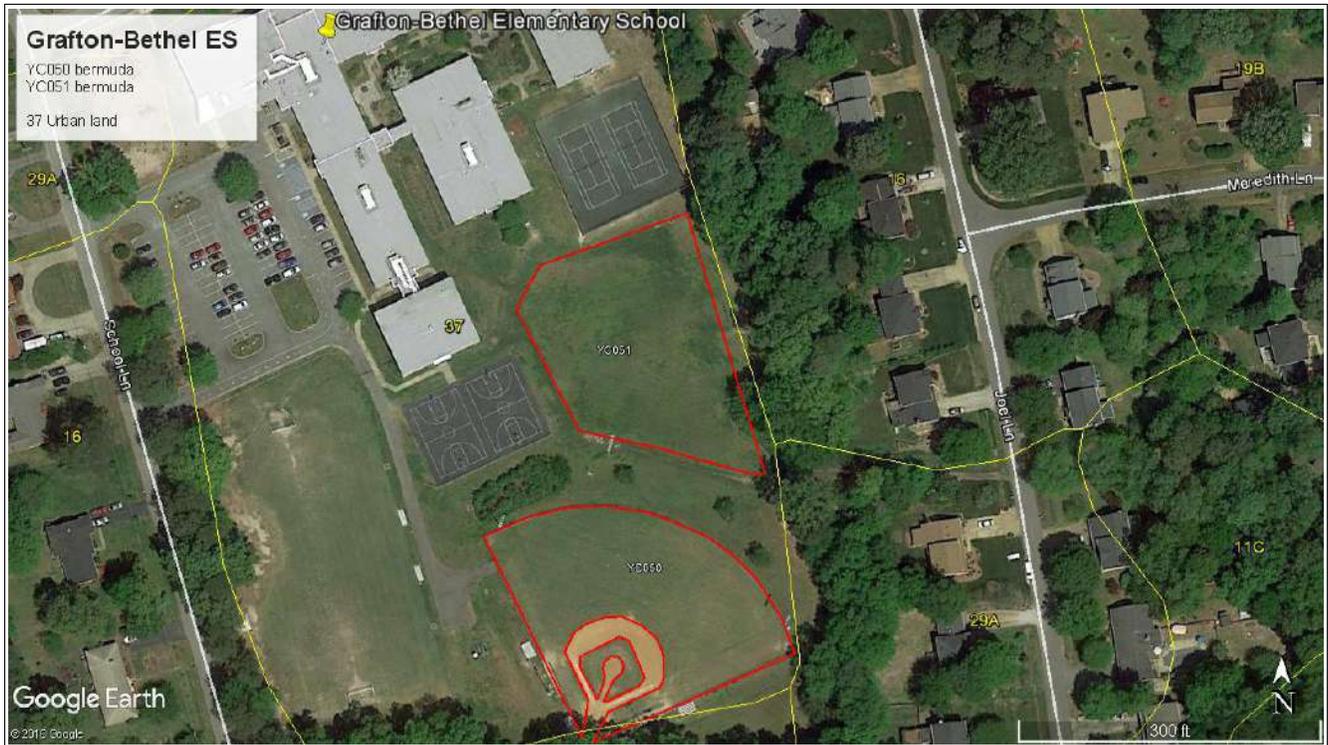
Grafton High/Middle School



Dare Elementary School

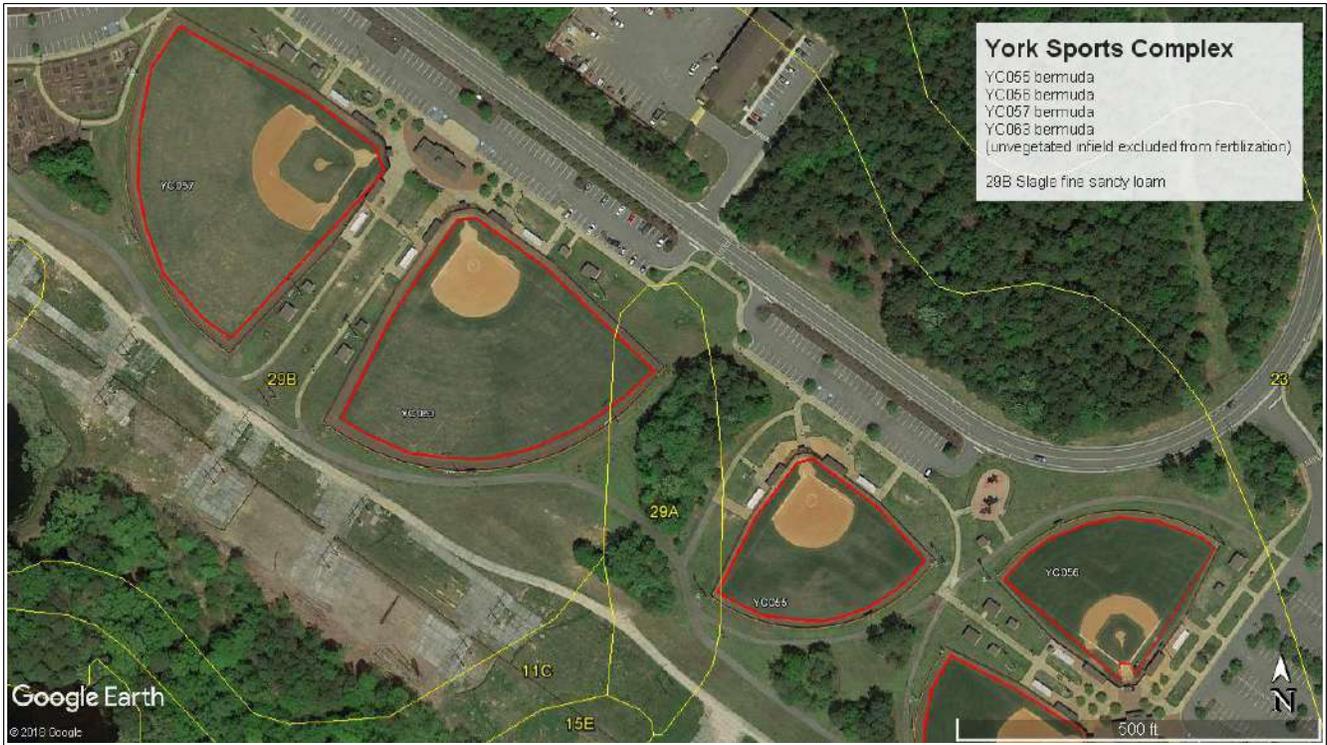


Grafton-Bethel Elementary School



York County Sports Complex





Tabb Middle School



Mount Vernon Elementary School



Tabb High School



Tabb Elementary School



Yorktown Library



Coventry Elementary School



Tabb Library



Bethel Manor Elementary School



Kiln Creek Park



3. Soil Test Summary and Results

Soil samples were taken from fertilized turf areas at each field and/or location. Each composite sample consisted of several sub-samples from the upper 4 inches of soil. These sub-samples were taken in a random manner to minimize the variability that is present in the sampling area. Sub-samples were thoroughly mixed, breaking apart clumps and removing all foreign matter such as roots, stalks, rocks, etc.

Soil samples were analyzed by Waypoint Analytical. Standard soil test results provide values for pH, Calculated Cation Exchange Capacity, Phosphorous, Calcium, Magnesium, Potassium, Copper, Iron, Boron, Manganese, and Calculated Cation Saturation. The soil samples collected are valid for the life of this plan (three years) or upon a major renovation or redesign of the campus grounds, whichever occurs sooner.

Customer Name: **York County**
 Testing Lab: **Waypoint Analytical**
 Sample Date: **11/1/21**
 Planner Name, Cert. #: **Angela C. Whitehead, #386**

A. Bruton High School, 349,595 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC001 bermuda	6.7	6.89	0	76	32	H	0.75	89	63	M	1.5
YC002 fescue	5.5	6.79	70	31	11	M	1.5	117	83	M+	1
YC003 fescue	5.3	6.78	70	30	10	M-	2	105	75	M	1.5
YC004 bermuda	5.8	6.81	50	14	3	L	2.5	122	87	M+	1

- Water soluble Nitrogen applications may not exceed 2.4 lbs/1000ft² annually to cool season, non-intensively managed athletic fields. Water soluble Nitrogen applications may not exceed 4.5 lbs/1000ft² annually to overseeded warm season athletic fields.

B. Queens Lake Middle School, 284,326 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC005 bermuda	5.8	6.83	50	27	9	M-	2	94	67	M	1.5
YC006 bermuda	6.0	6.85	40	28	10	M-	2	105	75	M	1.5
YC007 bermuda	6.1	6.85	40	31	11	M	1.5	134	95	H-	1
YC008 bermuda	5.9	6.84	50	39	15	M	1.5	93	66	M	1.5
YC009 bermuda	5.6	6.82	60	13	3	L	2.5	90	64	M	1.5

- Water soluble Nitrogen applications may not exceed 4.5 lbs/1000ft² annually to overseeded warm season athletic fields.

C. Magruder Elementary School, 155,868 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC010 bermuda	5.8	6.8	60	48	19	H-	1	143	102	H-	1
YC011 bermuda	5.7	6.78	60	27	9	M-	2	121	86	M+	1

- Water soluble Nitrogen applications may not exceed 4.5 lbs/1000ft² annually to overseeded warm season athletic fields.

D. Waller Mill Elementary, 150,218 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC012 fescue	5.9	6.81	50	18	5	L+	2	133	94	H-	1
YC013 fescue	5.8	6.84	50	31	11	M	1.5	145	103	H-	1

- Water soluble Nitrogen applications may not exceed 2.4 lbs/1000ft² annually to cool season, non-intensively managed athletic fields.

E. New Quarter Park, 84,118 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC014 fescue	5.5	6.78	70	15	4	L	2.5	105	75	M	1.5

- Water soluble Nitrogen applications may not exceed 2.4 lbs/1000ft² annually to cool season, non-intensively managed athletic fields.

F. York County Administration, 21,622 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC015 fescue	6.2	6.81	40	237	120	VH	0	105	75	M	1.5

- Nitrogen applications (all sources) may not exceed 3.5 lbs/1000ft² annually to cool season lawn areas.
- No additions of phosphorous are recommended under this plan where soil tests indicate very high soil phosphorous levels.

G. York-Poquoson Courthouse, 78,089 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC016 fescue	5.7	6.73	70	56	22	H-	1	143	102	H-	1

- Nitrogen applications (all sources) may not exceed 3.5 lbs/1000ft² annually to cool season lawn areas.

H. York Hall, 15,033 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC017 fescue	6.4	6.83	30	78	32	H	0.75	124	88	H-	1

- Nitrogen applications (all sources) may not exceed 3.5 lbs/1000ft² annually to cool season lawn areas.

I. Yorktown Riverwalk, 75,832 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC018 fescue	6.9	6.91	0	78	32	H	0.75	124	88	H-	1

- Nitrogen applications (all sources) may not exceed 3.5 lbs/1000ft² annually to cool season lawn areas.

J. Post Office – Yorktown, 5,373 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC019 fescue	5.3	6.7	90	93	39	H	0.75	96	68	M	1.5

- Nitrogen applications (all sources) may not exceed 3.5 lbs/1000ft² annually to cool season lawn areas.

K. Yorktown Middle School, 295,555 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC020 bermuda	5.9	6.83	50	22	7	M-	2	156	111	H	0.75
YC021 bermuda	6.1	6.84	40	53	21	H-	1	168	119	H	0.75
YC022 bermuda	6.3	6.85	30	87	37	H	0.75	284	202	VH	0

- Water soluble Nitrogen applications may not exceed 4.5 lbs/1000ft² annually to overseeded warm season athletic fields.
- Additional K₂O may be made annually to increase plant vigor and relieve traffic stress on damaged turf during times of extreme use.

L. York High School, 386,957 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC023 fescue	6.5	6.88	0	54	21	H-	1	153	109	H	0.75
YC025 bermuda	6.2	6.88	40	17	5	L+	2	166	118	H	0.75
YC026 bermuda	5.6	6.83	60	37	14	M	1.5	122	87	M+	1

- Water soluble Nitrogen applications may not exceed 2.4 lbs/1000ft² annually to cool season, non-intensively managed athletic fields. Water soluble Nitrogen applications may not exceed 4.5 lbs/1000ft² annually to overseeded warm season athletic fields.

M. Yorktown Elementary School, 128,626 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC028 bermuda	6.2	6.86	40	38	14	M	1.5	138	98	H-	1
YC029 bermuda	5.3	6.79	70	63	26	H-	1	113	80	M+	1

- Water soluble Nitrogen applications may not exceed 4.5 lbs/1000ft² annually to overseeded warm season athletic fields.

N. Charles Brown Park, 162, 083 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC031 fescue	5.6	6.81	60	32	11	M	1.5	131	93	H-	1

- Water soluble Nitrogen applications may not exceed 2.4 lbs/1000ft² annually to cool season, non-intensively managed athletic fields.

O. General Services Administration Building, 35,132 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC032 fescue	5.0	6.7	90	58	23	H-	1	78	55	M	1.5

- Water soluble Nitrogen applications may not exceed 2.4 lbs/1000ft² annually to cool season, non-intensively managed athletic fields.

P. Seaford Elementary School, 110,855 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC033 bermuda	5.7	6.81	50	15	4	L	2.5	119	84	M+	1
YC034 bermuda	5.6	6.82	60	19	5	L+	2	106	75	M	1.5
YC035 bermuda	6.3	6.86	30	66	27	H-	1	150	107	H	0.75

- Water soluble Nitrogen applications may not exceed 4.5 lbs/1000ft² annually to overseeded warm season athletic fields.

Q. Chisman Creek Park, 246,325 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC036 bermuda	6.5	6.83	0	43	16	M+	1	156	111	H	0.75
YC037 bermuda	6.4	6.83	30	37	14	M	1.5	145	103	H-	1

- Water soluble Nitrogen applications may not exceed 4.5 lbs/1000ft² annually to overseeded warm season athletic fields.

R. Wolf Trap Park, 231,000 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC038 bermuda	5.8	6.73	70	30	10	M-	2	218	155	H+	0.5
YC039 bermuda	5.9	6.73	70	48	19	H-	1	236	168	VH	0
YC040 bermuda	5.9	6.7	80	31	11	M	1.5	203	144	H+	0.5

- Water soluble Nitrogen applications may not exceed 4.5 lbs/1000ft² annually to overseeded warm season athletic fields.
- Additional K₂O may be made annually to increase plant vigor and relieve traffic stress on damaged turf during times of extreme use.

S. Grafton High/Middle Schools, 378,500 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC041 bermuda	5.7	6.79	60	99	42	H	0.75	143	102	H-	1
YC042 bermuda	6.2	6.84	40	26	9	M-	2	133	94	H-	1
YC043 bermuda	6.0	6.82	40	51	20	H-	1	123	87	M+	1
YC044 bermuda	5.6	6.79	70	24	8	M-	2	92	65	M	1.5
YC045 bermuda	5.5	6.78	70	101	43	H+	0.5	166	118	H	0.75
YC046 bermuda	5.9	6.82	50	123	53	H+	0.5	164	116	H	0.75

- Water soluble Nitrogen applications may not exceed 4.5 lbs/1000ft² annually to overseeded warm season athletic fields.

T. Dare Elementary School, 166,825 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC047 bermuda	5.4	6.76	70	24	8	M-	2	152	108	H	0.75
YC048 bermuda	5.9	6.85	50	30	10	M-	2	152	108	H	0.75
YC049 bermuda	5.3	6.79	70	51	20	H-	1	100	71	M	1.5

- Water soluble Nitrogen applications may not exceed 4.5 lbs/1000ft² annually to overseeded warm season athletic fields.

U. Grafton-Bethel Elementary School, 81,535 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC050 bermuda	5.6	6.82	60	53	21	H-	1	178	126	H	0.75
YC051 bermuda	5.6	6.77	70	52	21	H-	1	185	131	H	0.75

- Water soluble Nitrogen applications may not exceed 4.5 lbs/1000ft² annually to overseeded warm season athletic fields.

V. York County Sports Complex, 973,280 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC052 bermuda	5.9	6.81	50	25	8	M-	2	187	133	H	0.75
YC053 bermuda	5.8	6.8	60	33	12	M	1.5	237	168	VH	0
YC054 bermuda	5.8	6.74	70	42	16	M+	1	175	124	H	0.75
YC055 bermuda	5.7	6.8	60	24	8	M-	2	180	128	H	0.75
YC056 bermuda	5.8	6.79	60	22	7	M-	2	199	141	H+	0.5
YC057 bermuda	5.8	6.82	50	22	7	M-	2	126	89	H-	1
YC058 bermuda	6.1	6.84	40	15	4	L	2.5	159	113	H	0.75
YC059 bermuda	6.1	6.84	40	19	5	L+	2	137	97	H-	1
YC060 bermuda	6.1	6.84	40	19	5	L+	2	169	120	H	0.75
YC061 bermuda	5.9	6.8	60	22	7	M-	2	139	99	H-	1
YC062 bermuda	5.8	6.78	60	35	13	M	1.5	134	95	H-	1
YC063 bermuda	5.7	6.82	50	37	14	M	1.5	119	84	M+	1

- Water soluble Nitrogen applications may not exceed 4.5 lbs/1000ft² annually to overseeded warm season athletic fields.
- Additional K₂O may be made annually to increase plant vigor and relieve traffic stress on damaged turf during times of extreme use.

W. Tabb Middle School, 240,855 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC064 bermuda	5.6	6.74	80	20	6	M-	2	212	151	H+	0.5
YC065 bermuda	5.4	6.8	70	23	7	M-	2	127	90	H-	1
YC066 bermuda	5.6	6.82	60	22	7	M-	2	142	101	H-	1

- Water soluble Nitrogen applications may not exceed 4.5 lbs/1000ft² annually to overseeded warm season athletic fields.

X. Mount Vernon Elementary School, 152,573 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC067 bermuda	5.4	6.77	70	63	26	H-	1	154	109	H	0.75
YC068 bermuda	5.2	6.75	80	106	45	H+	0.5	172	122	H	0.75
YC069 bermuda	5.2	6.78	70	67	27	H-	1	94	67	M	1.5

- Water soluble Nitrogen applications may not exceed 4.5 lbs/1000ft² annually to overseeded warm season athletic fields.

Y. Tabb High School, 306,747 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC070 bermuda	6.2	6.87	40	67	27	H-	1	183	130	H	0.75
YC071 bermuda	5.3	6.78	70	170	75	VH	0	136	97	H-	1
YC072 bermuda	5.8	6.79	60	184	81	VH	0	146	104	H-	1
YC073 bermuda	5.7	6.8	60	146	64	VH	0	180	128	H	0.75

- No additions of phosphorous are recommended under this plan where soil tests indicate very high soil phosphorous levels.
- Water soluble Nitrogen applications may not exceed 4.5 lbs/1000ft² annually to overseeded warm season athletic fields.

Z. Tabb Elementary School, 145,542 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC074 bermuda	5.0	6.74	80	100	43	H+	0.5	142	101	H-	1
YC075 bermuda	5.3	6.77	70	53	21	H-	1	127	90	H-	1
YC076 bermuda	6.7	6.9	0	37	14	M	1.5	143	102	H-	1

- Water soluble Nitrogen applications may not exceed 4.5 lbs/1000ft² annually to overseeded warm season athletic fields.

AA. Yorktown Library, 19,822 sq. ft – Site Under Construction

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC077 fescue											

A plan will be prepared at construction completion.

AB. Coventry Elementary School, 145,808 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC078 bermuda	5.9	6.74	70	66	27	H-	1	152	108	H	0.75
YC079 bermuda	5.7	6.71	70	55	22	H-	1	235	167	VH	0

- Water soluble Nitrogen applications may not exceed 4.5 lbs/1000ft² annually to overseeded warm season athletic fields.
- Additional K₂O may be made annually to increase plant vigor and relieve traffic stress on damaged turf during times of extreme use.

AC. Tabb Library, 53,619 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC080 fescue	5.2	6.67	90	27	9	M-	2	98	70	M	1.5

- Nitrogen applications (all sources) may not exceed 3.5 lbs/1000ft² annually to cool season lawn areas.

AD. Bethel-Manor Elementary School, 48,803 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC081 bermuda	5.7	6.73	70	38	14	M	1.5	216	153	H+	0.5

- Water soluble Nitrogen applications may not exceed 4.5 lbs/1000ft² annually to overseeded warm season athletic fields.

AE. Kiln Creek Park, 274,985 sq. ft

Area	Soil pH	Buffer pH	Lime Needs (lbs/1000ft ²)	Lab P (ppm)	VT P (ppm)	VT (H/M/L)	P ₂ O ₅ Needs (lbs/1000ft ²)	Lab K (ppm)	VT K (ppm)	VT (H/M/L)	K ₂ O Needs (lbs/1000ft ²)
YC082 bermuda	5.5	6.7	90	43	16	M+	1	163	116	H	0.75
YC083 fescue	5.1	6.61	100	84	35	H	0.75	128	91	H-	1
YC084 bermuda	5.4	6.73	80	103	44	H+	0.5	173	123	H	0.75

- **Water soluble Nitrogen applications may not exceed 2.4 lbs/1000ft² annually to cool season, non-intensively managed athletic fields. Water soluble Nitrogen applications may not exceed 4.5 lbs/1000ft² annually to overseeded warm season athletic fields.**

4. Summary of Recommended Annual Lime, Nitrogen, Phosphorous, and Potassium Application

The following tables provide nutrient recommendations that allow managers flexibility in selecting fertilizer products that best fit their management program, weather conditions, and budget levels. Fertilizer products and/or analysis are not specified and doing so may constrain the manager. Monthly fertilization programs are included to demonstrate the frequency and timing of nutrient applications that comply with Virginia Nutrient Management Standards and Criteria, Revised July 2014. Application rates below the specified rate If Class B biosolids or raw manure is applied, the plan must be revised to meet the conditions of the Virginia Department of Environmental Quality permit.

A. Fertilizer Recommendations Summary: York County Turf

Site	Management Area	Management Area ft ²	Annual Lime Needs (lbs/1000ft ²)	Max. Annual N App. (lbs/1000ft ²) ^{a, b}	Annual P ₂ O ₅ Needs (lbs/1000ft ²)	Annual K ₂ O Needs (lbs/1000ft ²)
<i>A. Bruton High School, 349,595 sq. ft</i>						
YC001 bermuda	Football	105,000		4.5 (overseeded)	0.75	1.5
YC002 fescue	Softball	84,118	70 (dolomitic)	2.4	1.5	1
YC003 fescue	Baseball	93,100	70 (dolomitic)	2.4	2.0	1.5
YC004 bermuda	Practice	67,377	50	4.5 (overseeded)	2.5	1
<i>B. Queens Lake Middle School, 284,326 sq. ft</i>						
YC005 bermuda	Soccer1	72,000	50	4.5 (overseeded)	2.0	1.5
YC006 bermuda	Baseball	104,483	40	4.5 (overseeded)	2.0	1.5
YC007 bermuda	Softball	69,743	40	4.5 (overseeded)	1.5	1
YC008 bermuda	Soccer2	21,600	50	4.5 (overseeded)	1.5	1.5
YC009 bermuda	Practice	16,500	60	4.5 (overseeded)	2.5	1.5
<i>C. Magruder Elementary School, 155,868 sq. ft</i>						
YC010 bermuda	Soccer	71,750	60	4.5 (overseeded)	1.0	1.0
YC011 bermuda	Baseball	84,118	60	4.5 (overseeded)	2.0	1.0
<i>D. Waller Mill Elementary, 150,218 sq. ft</i>						
YC012 fescue	Baseball	78,218	50	2.4	2.0	1.0
YC013 fescue	Soccer	72,000	50	2.4	1.5	1.0

Site	Management Area	Management Area ft ²	Annual Lime Needs (lbs/1000ft ²)	Max. Annual N App. (lbs/1000ft ²) ^{a, b}	Annual P ₂ O ₅ Needs (lbs/1000ft ²)	Annual K ₂ O Needs (lbs/1000ft ²)
<i>E. New Quarter Park, 84,118 sq. ft</i>						
YC014 fescue	Softball	84,118	70 (dolomitic)	2.4	2.5	1.5
<i>F. York County Administration, 21,622 sq. ft</i>						
YC015 fescue	Grounds	21,622	40	3.5	0	1.5
<i>G. York-Poquoson Courthouse, 78,089 sq. ft</i>						
YC016 fescue	Grounds	78,089	70	3.5	1.0	1.0
<i>H. York Hall, 15,033 sq. ft</i>						
YC017 fescue	Grounds	15,033	30	3.5	0.75	1.0
<i>I. Yorktown Riverwalk, 75,832 sq. ft</i>						
YC018 fescue	Grounds	75,832		3.5	1.5	1.5
<i>J. Post Office – Yorktown, 5,373 sq. ft</i>						
YC019 fescue	Grounds	5,373	90 (dolomitic)	3.5	0.75	1.5
<i>K. Yorktown Middle School, 295,555 sq. ft</i>						
YC020 bermuda	Football	106,954	50	4.5 (overseeded)	2.0	0.75
YC021 bermuda	Softball	84,118	40	4.5 (overseeded)	1.0	0.75
YC022 bermuda	Baseball	104,483	30	4.5 (overseeded)	0.75	0
<i>L. York High School, 386,957 sq. ft</i>						
YC023 fescue	Baseball	129,664		2.4	1.0	0.75
YC025 bermuda	Practice	151,575	40	4.5 (overseeded)	2.0	0.75
YC026 bermuda	Soccer/Softball	105,718	25	4.5 (overseeded)	0.75	1
<i>M. Yorktown Elementary School, 128,626 sq. ft</i>						
YC028 bermuda	Baseball	69,011	40	4.5 (overseeded)	1.5	1.0
YC029 bermuda	Soccer	59,615	70	4.5 (overseeded)	1.0	1.0
<i>N. Charles Brown Park, 162, 083 sq. ft</i>						
YC031 fescue	Baseball	162,083	60	2.4	1.5	1.0
<i>O. General Services Administration Building, 35,132 sq. ft</i>						

Site	Management Area	Management Area ft ²	Annual Lime Needs (lbs/1000ft ²)	Max. Annual N App. (lbs/1000ft ²) ^{a, b}	Annual P ₂ O ₅ Needs (lbs/1000ft ²)	Annual K ₂ O Needs (lbs/1000ft ²)
YC032 bermuda	Grounds	35,132	90 (dolomitic)	3.5	1.0	1.5
<i>P. Seaford Elementary School, 110,855 sq. ft</i>						
YC033 bermuda	Softball	21,671	50	4.5 (overseeded)	2.5	1.0
YC034 bermuda	Baseball	31,584	60	4.5 (overseeded)	2.0	1.5
YC035 bermuda	Football	57,600	30	4.5 (overseeded)	1.0	0.75
<i>Q. Chisman Creek Park, 246,325 sq. ft</i>						
YC036 bermuda	Softball 1	84,118		4.5 (overseeded)	1.0	0.75
YC037 bermuda	Softball 2	84,118	30	4.5 (overseeded)	1.5	1.0
<i>R. Wolf Trap Park, 231,000 sq. ft</i>						
YC038 bermuda	Soccer 1	77,000	70	4.5 (overseeded)	2.0	0.5
YC039 bermuda	Soccer 2	77,000	70	4.5 (overseeded)	1.0	0
YC040 bermuda	Soccer 3	77,000	80	4.5 (overseeded)	1.5	0.5
<i>S. Grafton High/Middle Schools, 378,500 sq. ft</i>						
YC041 bermuda	Baseball 1	90,000	60	4.5 (overseeded)	0.75	1.0
YC042 bermuda	Baseball 2	62,500	40	4.5 (overseeded)	2.0	1.0
YC043 bermuda	Football	105,000	40	4.5 (overseeded)	1.0	1.0
YC044 bermuda	Practice	64,800	70 (dolomitic)	4.5 (overseeded)	2.0	1.5
YC045 bermuda	Softball 1	40,000	70	4.5 (overseeded)	0.5	0.75
YC046 bermuda	Softball 2	16,200	50	4.5 (overseeded)	0.5	0.75
<i>T. Dare Elementary School, 166,825 sq. ft</i>						
YC047 bermuda	Baseball	50,625	70	4.5 (overseeded)	2.0	0.75
YC048 bermuda	Practice	28,000	50	4.5 (overseeded)	2.0	0.75
YC049 bermuda	Soccer	88,200	70	4.5 (overseeded)	1.0	1.5
<i>U. Grafton-Bethel Elementary School, 81,535 sq. ft</i>						
YC050 bermuda	Baseball	37,074	60	4.5 (overseeded)	1.0	0.75

Site	Management Area	Management Area ft ²	Annual Lime Needs (lbs/1000ft ²)	Max. Annual N App. (lbs/1000ft ²) ^{a, b}	Annual P ₂ O ₅ Needs (lbs/1000ft ²)	Annual K ₂ O Needs (lbs/1000ft ²)
YC051 bermuda	Softball	44,461	70	4.5 (overseeded)	1.0	0.75
<i>V. York County Sports Complex, 973,280 sq. ft</i>						
YC052 bermuda	Baseball 1	52,056	50	4.5 (overseeded)	2.0	0.75
YC053 bermuda	Baseball 2	52,056	60 (dolomitic)	4.5 (overseeded)	1.5	0
YC054 bermuda	Baseball 3	52,056	70 (dolomitic)	4.5 (overseeded)	1.0	0.75
YC055 bermuda	Baseball 4	52,056	60 (dolomitic)	4.5 (overseeded)	2.0	0.75
YC056 bermuda	Baseball 5	52,056	60 (dolomitic)	4.5 (overseeded)	2.0	0.5
YC057 bermuda	Softball 1	95,000	50 (dolomitic)	4.5 (overseeded)	2.0	1.0
YC058 bermuda	Soccer 1	91,000	40	4.5 (overseeded)	2.5	0.75
YC059 bermuda	Soccer 2	110,000	40 (dolomitic)	4.5 (overseeded)	2.0	1.0
YC060 bermuda	Soccer 3	140,000	40 (dolomitic)	4.5 (overseeded)	2.0	0.75
YC061 bermuda	Soccer 4	91,000	60 (dolomitic)	4.5 (overseeded)	2.0	1.0
YC062 bermuda	Soccer 5	91,000	60 (dolomitic)	4.5 (overseeded)	1.5	1.0
YC063 bermuda	Softball 2	95,000	50 (dolomitic)	4.5 (overseeded)	1.5	1.0
<i>W. Tabb Middle School, 240,855 sq. ft</i>						
YC064 bermuda	Baseball	104,483	80 (dolomitic)	4.5 (overseeded)	2.0	0.5
YC065 bermuda	Softball	52,772	70	4.5 (overseeded)	2.0	1.0
YC066 bermuda	Soccer	83,600	60	4.5 (overseeded)	2.0	1.0
<i>X. Mount Vernon Elementary School, 152,573 sq. ft</i>						
YC067 bermuda	Baseball	34,476	70	4.5 (overseeded)	1.0	0.75
YC068 bermuda	Soccer	76,000	80	4.5 (overseeded)	0.5	0.75
YC069 bermuda	Practice	42,097	70	4.5 (overseeded)	1.0	1.5
<i>Y. Tabb High School, 306,747 sq. ft</i>						
YC070 bermuda	Softball	33,662	40	4.5 (overseeded)	1.0	0.75
YC071 bermuda	Baseball	99,289	70	4.5 (overseeded)	0	1.0

Site	Management Area	Management Area ft ²	Annual Lime Needs (lbs/1000ft ²)	Max. Annual N App. (lbs/1000ft ²) ^{a, b}	Annual P ₂ O ₅ Needs (lbs/1000ft ²)	Annual K ₂ O Needs (lbs/1000ft ²)
YC072 bermuda	Football	93,296	60	4.5 (overseeded)	0	1.0
YC073 bermuda	Soccer	80,500	60 (dolomitic)	4.5 (overseeded)	0	0.75
<i>Z. Tabb Elementary School, 145,542 sq. ft</i>						
YC074 bermuda	Soccer	47,780	80 (dolomitic)	4.5 (overseeded)	0.5	1.0
YC075 bermuda	Baseball	41,193	70	4.5 (overseeded)	1.0	1.0
YC076 bermuda	Practice	56,569	0	4.5 (overseeded)	1.5	1.0
<i>AA. Yorktown Library, 19,822 sq. ft</i>						
YC077 fescue	Grounds	19,822	Site Under Construction – a plan will be prepared at construction completion			
<i>AB. Coventry Elementary School, 145,808 sq. ft</i>						
YC078 bermuda	Baseball	65,887	70	4.5 (overseeded)	1.0	0.75
YC079 bermuda	Soccer	79,921	70	4.5 (overseeded)	1.0	0
<i>AC. Tabb Library, 53,619 sq. ft</i>						
YC080 fescue	Grounds	53,619	90 (dolomitic)	3.5	2.0	1.5
<i>AD. Bethel-Manor Elementary School, 48,803 sq. ft</i>						
YC081 bermuda	Football	48,803	70	4.5 (overseeded)	1.5	0.5
<i>AE. Kiln Creek Park, 274,985 sq. ft</i>						
YC082 bermuda	Baseball	105,635	90	4.5 (overseeded)	1.0	0.75
YC083 fescue	Softball	76,250	100	2.4	0.75	1.0
YC084 bermuda	Soccer	93,100	80	4.5 (overseeded)	0.5	0.75

^a Cool Season: Do not apply N between December 15 and February 26 or when the ground is frozen. Warm Season: Do not apply N between October 3 and April 9 or during periods of drought.

^b See Section 6 for N Rate application Guidelines. A maximum application rate of 0.9 lb/1000 ft² of total N (cool season) or 1.0 lb/1,000 ft² of total N (warm season) may be applied using slowly available forms of N with a minimum of 30 days between applications.

B. Recommended Monthly Fertilizer Application: York County Turf

Bruton High School

Area	N ^{a,b,c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025									Annual Need ^d		
	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	N ^{a,b}	P	K
YC001 FB bermuda	0.5 – 0 – 0.3 (overseeding)			0.7 – 0 – 0.3	0.7 – 0.75 – 0.3	0.7 – 0 – 0.3		0.5 – 0 – 0.3 (overseeding)		3.1	0.75	1.5
YC002 SB fescue			0.5 – 0.5 – 0				0.7 – 0.25 – 0.5	0.7 – 0.25 – 0	0.5 – 0.5 – 0.5	2.4	1.5	1.0
YC003 BB fescue			0.5 – 0.5 – 0				0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5	0.5 – 0.5 – 0.5	2.4	2.0	1.5
YC004 P bermuda	0.5 – 0.5 – 0 (overseeding)			0.7 – 0.5 – 0.5	0.7 – 0.5 – 0	0.7 – 0.5 – 0.5		0.5 – 0.5 – 0 (overseeding)		3.1	2.5	1.0

FB= football, SB = softball, BB = baseball, P = practice, G = grounds

^a See Table 4A and Section 6 for N Rate Guidelines. N applications may not exceed those specified in Table 4A

^b A maximum application rate of 0.9 lb/1000 ft² of total N (cool season) or 1.0 lb/1,000 ft² of total N (warm season) may be applied using slowly available forms of N with a minimum of 30 days between applications.

^c **Do not apply more than 0.7 pounds of water soluble nitrogen per 1000 ft² within a 30 day period.**

^d P₂O₅ applications may not exceed the Annual Need. Additional K₂O may be made annually to increase plant vigor and relieve traffic stress on damaged turf during times of extreme use.

Queens Lake Middle School

Area	N ^{a,b, c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025									Annual Need ^d		
	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	N ^{a,b}	P	K
YC005 S bermuda	0.5 – 0.4 – 0 (overseeding)			0.7 – 0.4 – 0.5	0.7 – 0.4 – 0.5	0.7 – 0.4 – 0.5			0.5 – 0.4 – 0 (overseeding)	3.1	2.0	1.5
YC006 BB bermuda	0.5 – 0.4 – 0 (overseeding)			0.7 – 0.4 – 0.5	0.7 – 0.4 – 0.5	0.7 – 0.4 – 0.5			0.5 – 0.5 – 0 (overseeding)	3.1	2.0	1.5
YC007 SB bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0.5	0.7 – 0.5 – 0	0.7 – 0.5 – 0.5			0.5 – 0 – 0 (overseeding)	3.1	1.5	1.0
YC008 S bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5			0.5 – 0 – 0 (overseeding)	3.1	1.5	1.5
YC009 P bermuda	0.5 – 0.5 – 0 (overseeding)			0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5			0.5 – 0.5 – 0 (overseeding)	3.1	2.5	1.5

FB= football, SB = softball, BB = baseball, S = soccer, P = practice, G = grounds

^a See Table 4A and Section 6 for N Rate Guidelines. N applications may not exceed those specified in Table 4A

^b A maximum application rate of 0.9 lb/1000 ft² of total N (cool season) or 1.0 lb/1,000 ft² of total N (warm season) may be applied using slowly available forms of N with a minimum of 30 days between applications.

^c **Do not apply more than 0.7 pounds of water soluble nitrogen per 1000 ft² within a 30 day period.**

^d P₂O₅ applications may not exceed the Annual Need. Additional K₂O may be made annually to increase plant vigor and relieve traffic stress on damaged turf during times of extreme use.

Magruder Elementary School

N ^{a,b,c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025										
Area	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	Annual Need ^d
										N ^{a,b} P K
YC010 S bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0	0.7 – 0.5 – 0.5	0.7 – 0 – 0.5		0.5 – 0 – 0 (overseeding)		3.1 1.0 1.0
YC011 BB bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0	0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5		0.5 – 0.5 – 0 (overseeding)		3.1 2.0 1.0

FB= football, SB = softball, BB = baseball, S = soccer, P = practice, G = grounds

Waller Mill Elementary School

N ^{a,b,c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025										
Area	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	Annual Need ^d
										N ^{a,b} P K
YC012 BB fescue			0.5 – 0.5 – 0				0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5	0.5 – 0.5 – 0	2.4 2.0 1.0
YC013 S fescue			0.5 – 0 – 0				0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5	0.5 – 0.5 – 0	2.4 1.5 1.0

FB= football, SB = softball, BB = baseball, S = soccer, P = practice, G = grounds

^a See Table 4A and Section 6 for N Rate Guidelines. N applications may not exceed those specified in Table 4A

^b A maximum application rate of 0.9 lb/1000 ft² of total N (cool season) or 1.0 lb/1,000 ft² of total N (warm season) may be applied using slowly available forms of N with a minimum of 30 days between applications.

^c **Do not apply more than 0.7 pounds of water soluble nitrogen per 1000 ft² within a 30 day period.**

^d P₂O₅ applications may not exceed the Annual Need. Additional K₂O may be made annually to increase plant vigor and relieve traffic stress on damaged turf during times of extreme use.

New Quarter Park

N ^{a,b,c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025										
Area	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	Annual Need ^d
										N ^{a,b} P K
YC014 SB fescue			0.5 – 0.75 – 0.25				0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5	0.5 – 0.75 – 0.25	2.4 2.5 1.5

FB= football, SB = softball, BB = baseball, S = soccer, P = practice, G = grounds

Yorktown Area Buildings and Grounds (Fescue)

N ^{a,b,c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025										
Area	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	Annual Need ^d
										N ^{a,b} P K
YC015 G Admin. Bldg			0.5 – 0 – 0.5					0.7 – 0 – 1.0		1.2 0 1.5
YC016 G Courthouse			0.5 – 0.5 – 0.5					0.7 – 0.5 – 0.5		1.2 1.0 1.0
YC017 G York Hall			0.5 – 0 – 0.5					0.7 – 0.75 – 0.5		1.2 0.75 1.0
YC018 G Riverwalk			0.5 – 0.5 – 0.5					0.7 – 1.0 – 1.0		1.2 1.5 1.5
YC019 G Post Office			0.5 – 0.25 – 0.5					0.7 – 0.5 – 1.0		1.2 0.75 1.5

FB= football, SB = softball, BB = baseball, S = soccer, P = practice, G = grounds

^a See Table 4A and Section 6 for N Rate Guidelines. N applications may not exceed those specified in Table 4A

^b A maximum application rate of 0.9 lb/1000 ft² of total N (cool season) or 1.0 lb/1,000 ft² of total N (warm season) may be applied using slowly available forms of N with a minimum of 30 days between applications.

^c Do not apply more than 0.7 pounds of water soluble nitrogen per 1000 ft² within a 30 day period.

^d P₂O₅ applications may not exceed the Annual Need. Additional K₂O may be made annually to increase plant vigor and relieve traffic stress on damaged turf during times of extreme use. **Due to VERY HIGH Soil P Levels Yorktown Admin Building does not require phosphorus applications during this plan cycle.**

Yorktown Middle School

N ^{a,b,c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025										
Area	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	Annual Need ^d
										N ^{a,b} P K
YC020 FB bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0.	0.7 – 0.75 – 0	0.7 – 0.75 – 0.75		0.5 – 0 – 0 (overseeding)		3.1 2.0 0.75
YC021 SB bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0	0.7 – 0.5 – 0	0.7 – 0 – 0.75		0.5 – 0 – 0 (overseeding)		3.1 1.0 0.75
YC022 BB bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0	0.7 – 0.25 – 0	0.7 – 0 – 0		0.5 – 0 – 0 (overseeding)		3.1 0.75 0

FB= football, SB = softball, BB = baseball, S = soccer, P = practice, G = grounds

York High School

N ^{a,b,c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025										
Area	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	Annual Need ^d
										N ^{a,b} P K
YC023 BB fescue			0.5 – 0 – 0				0.7 – 0 – 0.75	0.7 – 0.5 – 0	0.5 – 0.5 – 0	2.4 1.0 0.75
YC025 P bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0.25	0.7 – 0.5 – 0.25	0.7 – 0.5 – 0.25		0.5 – 0.5 – 0 (overseeding)		3.1 2.0 0.75
YC026 S, SB bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0	0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5		0.5 – 0 – 0 (overseeding)		3.1 1.5 1.0

FB= football, SB = softball, BB = baseball, S = soccer, P = practice, G = grounds

^a See Table 4A and Section 6 for N Rate Guidelines. N applications may not exceed those specified in Table 4A

^b A maximum application rate of 0.9 lb/1000 ft² of total N (cool season) or 1.0 lb/1,000 ft² of total N (warm season) may be applied using slowly available forms of N with a minimum of 30 days between applications.

^c **Do not apply more than 0.7 pounds of water soluble nitrogen per 1000 ft² within a 30 day period.**

^d P₂O₅ applications may not exceed the Annual Need. Additional K₂O may be made annually to increase plant vigor and relieve traffic stress on damaged turf during times of extreme use.

Yorktown Elementary School

N ^{a,b,c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025										
Area	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	Annual Need ^d
										N ^{a,b} P K
YC028 BB bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5	0.7 – 0.5 – 0		0.5 – 0 – 0 (overseeding)		3.1 1.5 1.0
YC029 S bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5	0.7 – 0 – 0		0.5 – 0 – 0 (overseeding)		3.1 1.0 1.0

FB= football, SB = softball, BB = baseball, S = soccer, P = practice, G = grounds

Charles Brown Park

N ^{a,b,c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025										
Area	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	Annual Need ^d
										N ^{a,b} P K
YC031 BB fescue			0.5 – 0.5 – 0				0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5	0.5 – 0 – 0	2.4 1.5 1.0

FB= football, SB = softball, BB = baseball, S = soccer, P = practice, G = grounds

General Services Building

N ^{a,b,c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025										
Area	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	Annual Need ^d
										N ^{a,b} P K
YC032 G fescue			0.5 – 0.5 – 0.5					0.7 – 0.5 – 1.0		1.2 1.0 1.5

FB= football, SB = softball, BB = baseball, S = soccer, P = practice, G = grounds

^a See Table 4A and Section 6 for N Rate Guidelines. N applications may not exceed those specified in Table 4A

^b A maximum application rate of 0.9 lb/1000 ft² of total N (cool season) or 1.0 lb/1,000 ft² of total N (warm season) may be applied using slowly available forms of N with a minimum of 30 days between applications.

^c **Do not apply more than 0.7 pounds of water soluble nitrogen per 1000 ft² within a 30 day period.**

^d P₂O₅ applications may not exceed the Annual Need. Additional K₂O may be made annually to increase plant vigor and relieve traffic stress on damaged turf during times of extreme use.

Seaford Elementary School

N ^{a,b,c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025										
Area	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	Annual Need ^d
										N ^{a,b} P K
YC033 SB bermuda	0.5 – 0.5 – 0 (overseeding)			0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5	0.7 – 0.5 – 0		0.5 – 0.5 – 0 (overseeding)		3.1 2.5 1.0
YC034 BB bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5		0.5 – 0.5 – 0 (overseeding)		3.1 2.0 1.5
YC035 FB bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0.25	0.7 – 0.5 – 0.25	0.7 – 0 – 0.25		0.5 – 0 – 0 (overseeding)		3.1 1.0 0.75

FB= football, SB = softball, BB = baseball, S = soccer, P = practice, G = grounds

Chisman Creek Park

N ^{a,b,c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025										
Area	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	Annual Need ^d
										N ^{a,b} P K
YC036 SB1 bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0.25	0.7 – 0.5 – 0.25	0.7 – 0 – 0.25		0.5 – 0 – 0 (overseeding)		3.1 1.0 0.75
YC037 SB2 bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5	0.7 – 0.5 – 0		0.5 – 0 – 0 (overseeding)		3.1 1.5 1.0

FB= football, SB = softball, BB = baseball, S = soccer, P = practice, G = grounds

^a See Table 4A and Section 6 for N Rate Guidelines. N applications may not exceed those specified in Table 4A

^b A maximum application rate of 0.9 lb/1000 ft² of total N (cool season) or 1.0 lb/1,000 ft² of total N (warm season) may be applied using slowly available forms of N with a minimum of 30 days between applications.

^c **Do not apply more than 0.7 pounds of water soluble nitrogen per 1000 ft² within a 30 day period.**

^d P₂O₅ applications may not exceed the Annual Need. Additional K₂O may be made annually to increase plant vigor and relieve traffic stress on damaged turf during times of extreme use.

Wolf Trap Park

Area	N ^{a,b,c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025									Annual Need ^d		
	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	N ^{a,b}	P	K
YC038 S1 bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0	0.7 – 0.5 – 0	0.7 – 0.5 – 0.5		0.5 – 0.5 – 0 (overseeding)		3.1	2.0	0.5
YC039 S2 bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0	0.7 – 0.5 – 0	0.7 – 0 – 0		0.5 – 0 – 0 (overseeding)		3.1	1.0	0
YC040 S3 bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0	0.7 – 0.5 – 0	0.7 – 0.5 – 0.5		0.5 – 0 – 0 (overseeding)		3.1	1.5	0.5

Grafton High/Middle School

Area	N ^{a,b,c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025									Annual Need ^d		
	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	N ^{a,b}	P	K
YC041 BB1 bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.25 – 0.5	0.7 – 0.25 – 0.5	0.7 – 0.25 – 0		0.5 – 0 – 0 (overseeding)		3.1	0.75	1.0
YC042 BB2 bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0.5	0.7 – 0.75 – 0.5	0.7 – 0.75 – 0		0.5 – 0 – 0 (overseeding)		3.1	2.0	1.0
YC043 FB bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5	0.7 – 0 – 0		0.5 – 0 – 0 (overseeding)		3.1	1.0	1.0
YC044 P bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0.5	0.7 – 0.75 – 0.5	0.7 – 0.75 – 0.5		0.5 – 0 – 0 (overseeding)		3.1	2.0	1.5
YC045 SB1 bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0 – 0	0.7 – 0.5 – 0.75	0.7 – 0 – 0		0.5 – 0 – 0 (overseeding)		3.1	0.5	0.75
YC046 SB2 bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0 – 0	0.7 – 0.5 – 0.75	0.7 – 0 – 0		0.5 – 0 – 0 (overseeding)		3.1	0.5	0.75

FB= football, SB = softball, BB = baseball, S = soccer, P = practice, G = grounds

^a See Table 4A and Section 6 for N Rate Guidelines. N applications may not exceed those specified in Table 4A

^b A maximum application rate of 0.9 lb/1000 ft² of total N (cool season) or 1.0 lb/1,000 ft² of total N (warm season) may be applied using slowly available forms of N with a minimum of 30 days between applications.

^c **Do not apply more than 0.7 pounds of water soluble nitrogen per 1000 ft² within a 30 day period.**

^d P₂O₅ applications may not exceed the Annual Need. Additional K₂O may be made annually to increase plant vigor and relieve traffic stress on damaged turf during times of extreme use.

Dare Elementary School

N ^{a,b,c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025										
Area	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	Annual Need ^d
										N ^{a,b} P K
YC047 BB bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0.25	0.7 – 0.5 – 0.25	0.7 – 0.5 – 0.25		0.5 – 0.5 – 0 (overseeding)		3.1 2.0 0.75
YC048 P bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0.25	0.7 – 0.5 – 0.25	0.7 – 0.5 – 0.25		0.5 – 0.5 – 0 (overseeding)		3.1 2.0 0.75
YC049S bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5	0.7 – 0 – 0.5		0.5 – 0 – 0 (overseeding)		3.1 1.0 1.5

FB= football, SB = softball, BB = baseball, S = soccer, P = practice, G = grounds

Grafton-Bethel Elementary School

N ^{a,b,c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025										
Area	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	Annual Need ^d
										N ^{a,b} P K
YC050 BB bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0.25	0.7 – 0.5 – 0.25	0.7 – 0 – 0.25		0.5 – 0 – 0 (overseeding)		3.1 1.0 0.75
YC051 SB bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0.25	0.7 – 0.5 – 0.25	0.7 – 0 – 0.25		0.5 – 0 – 0 (overseeding)		3.1 1.0 0.75

FB= football, SB = softball, BB = baseball, S = soccer, P = practice, G = grounds

^a See Table 4A and Section 6 for N Rate Guidelines. N applications may not exceed those specified in Table 4A

^b A maximum application rate of 0.9 lb/1000 ft² of total N (cool season) or 1.0 lb/1,000 ft² of total N (warm season) may be applied using slowly available forms of N with a minimum of 30 days between applications.

^c **Do not apply more than 0.7 pounds of water soluble nitrogen per 1000 ft² within a 30 day period.**

^d P₂O₅ applications may not exceed the Annual Need. Additional K₂O may be made annually to increase plant vigor and relieve traffic stress on damaged turf during times of extreme use.

York County Sports Complex

Area	N ^{a,b,c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025									Annual Need ^d		
	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	N ^{a,b}	P	K
YC052 BB1 bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0.25	0.7 – 0.5 – 0.25	0.7 – 0.5 – 0.25			0.5 – 0.5 – 0 (overseeding)	3.1	2.0	0.75
YC053 BB2 bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0	0.7 – 0.5 – 0	0.7 – 0.5 – 0			0.5 – 0 – 0 (overseeding)	3.1	1.5	0
YC054 BB3 bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0.25	0.7 – 0.5 – 0.25	0.7 – 0 – 0.25			0.5 – 0 – 0 (overseeding)	3.1	1.0	0.75
YC055 BB4 bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0.25	0.7 – 0.5 – 0.25	0.7 – 0.5 – 0.25			0.5 – 0.5 – 0 (overseeding)	3.1	2.0	0.75
YC056 BB5 bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0	0.7 – 0.5 – 0	0.7 – 0.5 – 0.5			0.5 – 0.5 – 0 (overseeding)	3.1	2.0	0.5
YC057 SB1 bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0	0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5			0.5 – 0.5 – 0 (overseeding)	3.1	2.0	1.0
YC058 S1 bermuda	0.5 – 0.5 – 0 (overseeding)			0.7 – 0.5 – 0.25	0.7 – 0.5 – 0.25	0.7 – 0.5 – 0.25			0.5 – 0.5 – 0 (overseeding)	3.1	2.5	0.75
YC059 S2 bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0	0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5			0.5 – 0.5 – 0 (overseeding)	3.1	2.0	1.0
YC060 S3 bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0.25	0.7 – 0.5 – 0.25	0.7 – 0.5 – 0.25			0.5 – 0.5 – 0 (overseeding)	3.1	2.0	0.75
YC061 S4 bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0	0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5			0.5 – 0.5 – 0 (overseeding)	3.1	2.0	1.0
YC062 S5 bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0	0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5			0.5 – 0 – 0 (overseeding)	3.1	1.5	1.0
YC063 SB2 bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0	0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5			0.5 – 0 – 0 (overseeding)	3.1	1.5	1.0

FB= football, SB = softball, BB = baseball, S = soccer, P = practice, G = grounds

^a See Table 4A and Section 6 for N Rate Guidelines. N applications may not exceed those specified in Table 4A

^b A maximum application rate of 0.9 lb/1000 ft² of total N (cool season) or 1.0 lb/1,000 ft² of total N (warm season) may be applied using slowly available forms of N with a minimum of 30 days between applications.

^c **Do not apply more than 0.7 pounds of water soluble nitrogen per 1000 ft² within a 30 day period.**

^d P₂O₅ applications may not exceed the Annual Need. Additional K₂O may be made annually to increase plant vigor and relieve traffic stress on damaged turf during times of extreme use.

Tabb Middle School

N ^{a,b,c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025										
Area	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	Annual Need ^d
										N ^{a,b} P K
YC064 BB bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0	0.7 – 0.5 – 0	0.7 – 0.5 – 0.5		0.5 – 0.5 – 0 (overseeding)		3.1 2.0 0.5
YC065 SB bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0	0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5		0.5 – 0.5 – 0 (overseeding)		3.1 2.0 1.0
YC066 S bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0	0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5		0.5 – 0.5 – 0 (overseeding)		3.1 2.0 1.0

FB= football, SB = softball, BB = baseball, S = soccer, P = practice, G = grounds

Mount Vernon Elementary School

N ^{a,b,c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025										
Area	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	Annual Need ^d
										N ^{a,b} P K
YC067 BB bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0.25	0.7 – 0.5 – 0.25	0.7 – 0 – 0.25		0.5 – 0 – 0 (overseeding)		3.1 1.0 0.75
YC068 S bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0.25	0.7 – 0 – 0.25	0.7 – 0 – 0.25		0.5 – 0 – 0 (overseeding)		3.1 0.5 0.75
YC069 P bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5	0.7 – 0 – 0.5		0.5 – 0 – 0 (overseeding)		3.1 1.0 1.5

FB= football, SB = softball, BB = baseball, S = soccer, P = practice, G = grounds

^a See Table 4A and Section 6 for N Rate Guidelines. N applications may not exceed those specified in Table 4A

^b A maximum application rate of 0.9 lb/1000 ft² of total N (cool season) or 1.0 lb/1,000 ft² of total N (warm season) may be applied using slowly available forms of N with a minimum of 30 days between applications.

^c **Do not apply more than 0.7 pounds of water soluble nitrogen per 1000 ft² within a 30 day period.**

^d P₂O₅ applications may not exceed the Annual Need. Additional K₂O may be made annually to increase plant vigor and relieve traffic stress on damaged turf during times of extreme use.

Tabb High School

Area	N ^{a,b,c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025									Annual Need ^d		
	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	N ^{a,b}	P	K
YC070 SB bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0	0.7 – 0.5 – 0.75	0.7 – 0 – 0.		0.5 – 0 – 0 (overseeding)		3.1	1.0	0.75
YC071 BB bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0 – 0.5	0.7 – 0 – 0.5	0.7 – 0 – 0		0.5 – 0 – 0 (overseeding)		3.1	0	1.0
YC072 FB bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0 – 0.5	0.7 – 0 – 0.5	0.7 – 0 – 0		0.5 – 0 – 0 (overseeding)		3.1	0	1.0
YC073 S bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0 – 0	0.7 – 0 – 0.75	0.7 – 0 – 0		0.5 – 0 – 0 (overseeding)		3.1	0	0.75

FB= football, SB = softball, BB = baseball, S = soccer, P = practice, G = grounds

Tabb Elementary School

Area	N ^{a,b,c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025									Annual Need ^d		
	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	N ^{a,b}	P	K
YC074 S bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0	0.7 – 0 – 0.5	0.7 – 0 – 0.5		0.5 – 0 – 0 (overseeding)		3.1	0.5	1.0
YC075 BB bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0	0.7 – 0.5 – 0.5	0.7 – 0 – 0.5		0.5 – 0 – 0 (overseeding)		3.1	1.0	1.0
YC076 P bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0	0.7 – 0.5 – 0.5	0.7 – 0.5 – 0.5		0.5 – 0 – 0 (overseeding)		3.1	1.5	1.0

FB= football, SB = softball, BB = baseball, S = soccer, P = practice, G = grounds

^a See Table 4A and Section 6 for N Rate Guidelines. N applications may not exceed those specified in Table 4A

^b A maximum application rate of 0.9 lb/1000 ft² of total N (cool season) or 1.0 lb/1,000 ft² of total N (warm season) may be applied using slowly available forms of N with a minimum of 30 days between applications.

^c Do not apply more than 0.7 pounds of water soluble nitrogen per 1000 ft² within a 30 day period.

^d P₂O₅ applications may not exceed the Annual Need. Additional K₂O may be made annually to increase plant vigor and relieve traffic stress on damaged turf during times of extreme use. **Due to VERY HIGH Soil P Levels Tabb High School baseball, football, and soccer fields do not require phosphorus applications during this plan cycle.**

York County Library Grounds (fescue)

N ^{a,b,c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025											
Area	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	Annual Need ^d	
										N ^{a,b} P K	
YC077 G Yorktown			site under construction								0 0 0
YC080 G Tabb			0.5 – 1.0 – 0.75					0.7 – 1.0 – 0.75		1.2 2.0 1.5	

FB= football, SB = softball, BB = baseball, S = soccer, P = practice, G = grounds

Coventry Elementary School

N ^{a,b,c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025										
Area	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	Annual Need ^d
										N ^{a,b} P K
YC078 BB bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0 – 0	0.7 – 0.5 – 0.75	0.7 – 0.5 – 0.		0.5 – 0 – 0 (overseeding)		3.1 1.0 0.75
YC079 S bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0 – 0	0.7 – 0.5 – 0	0.7 – 0.5 – 0.		0.5 – 0 – 0 (overseeding)		3.1 1.0 0

FB= football, SB = softball, BB = baseball, S = soccer, P = practice, G = grounds

^a See Table 4A and Section 6 for N Rate Guidelines. N applications may not exceed those specified in Table 4A

^b A maximum application rate of 0.9 lb/1000 ft² of total N (cool season) or 1.0 lb/1,000 ft² of total N (warm season) may be applied using slowly available forms of N with a minimum of 30 days between applications.

^c **Do not apply more than 0.7 pounds of water soluble nitrogen per 1000 ft² within a 30 day period.**

^d P₂O₅ applications may not exceed the Annual Need. Additional K₂O may be made annually to increase plant vigor and relieve traffic stress on damaged turf during times of extreme use.

Bethel-Manor Elementary School

N ^{a,b,c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025										
Area	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	Annual Need ^d
										N ^{a,b} P K
YC081 FB bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0	0.7 – 0.5 – 0.5	0.7 – 0.5 – 0		0.5 – 0 – 0 (overseeding)		3.1 1.5 0.5

FB= football, SB = softball, BB = baseball, S = soccer, P = practice, G = grounds

Kiln Creek Park

N ^{a,b,c} – P ₂ O ₅ – K ₂ O (lbs/1000ft ²) 2022-2025										
Area	Feb 27-Mar	April	May	June	July	August	Sept	Oct	Nov-Dec 14	Annual Need ^d
										N ^{a,b} P K
YC082 BB bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0	0.7 – 0.5 – 0	0.7 – 0 – 0.75		0.5 – 0 – 0 (overseeding)		3.1 1.0 0.75
YC083 SB fescue			0.5 – 0.25 – 0				0.7 – 0.25 – 0.5	0.7 – 0.25 – 0.5	0.5 – 0 – 0	2.4 0.75 1.0
YC084 S bermuda	0.5 – 0 – 0 (overseeding)			0.7 – 0.5 – 0	0.7 – 0 – 0	0.7 – 0 – 0.75		0.5 – 0 – 0 (overseeding)		3.1 0.5 0.75

FB= football, SB = softball, BB = baseball, S = soccer, P = practice, G = grounds

^a See Table 4A and Section 6 for N Rate Guidelines. N applications may not exceed those specified in Table 4A

^b A maximum application rate of 0.9 lb/1000 ft² of total N (cool season) or 1.0 lb/1,000 ft² of total N (warm season) may be applied using slowly available forms of N with a minimum of 30 days between applications.

^c **Do not apply more than 0.7 pounds of water soluble nitrogen per 1000 ft² within a 30 day period.**

^d P₂O₅ applications may not exceed the Annual Need. Additional K₂O may be made annually to increase plant vigor and relieve traffic stress on damaged turf during times of extreme use.

6. Virginia Nutrient Management Standards and Criteria, Revised July 2014

VI. Turfgrass Nutrient Recommendations

Definitions

For the purposes of this section, the following definitions, as presented by the Association of American Plant Food Control Officials (AAPFCO), apply:

“Enhanced efficiency fertilizer” describes fertilizer products with characteristics that allow increased plant nutrient availability and reduce the potential of nutrient losses to the environment when compared to an appropriate reference product.

“Slow or controlled release fertilizer” means a fertilizer containing a plant nutrient in a form which delays its availability for plant uptake and use after application, or which extends its availability to the plant significantly longer than a reference “rapidly available nutrient fertilizer” such as ammonium nitrate, urea, ammonium phosphate or potassium chloride. A slow or controlled release fertilizer must contain a minimum of 15 percent slowly available forms of nitrogen.

“Water soluble nitrogen”, “WSN”, or “readily available nitrogen” means: Water soluble nitrogen in either ammonical, urea, or nitrate form that does not have a controlled release or slow response.

Nitrogen Application Guidelines

A nitrogen fertilization schedule weighted toward fall application is recommended and preferred for agronomic quality and persistence of cool season turfgrass; however, the acceptable window of applications is much wider than this for nutrient management. ***The nutrient management recommended application season for nitrogen fertilizers to cool season turfgrasses begins six weeks prior to the last spring average killing frost date and ends six weeks past the first fall average killing frost date.*** Applications of nitrogen during the intervening late fall and winter period should be avoided due to higher potential leaching or runoff risk, but where necessary, apply no more than 0.5 pounds per 1,000 ft² of water soluble nitrogen within a 30 day period. Higher application rates may be used during this late fall and winter period by using materials containing slowly available sources of nitrogen, if the water soluble nitrogen contained in the fertilizer does not exceed the recommended maximum of 0.5 pounds per 1,000 ft² rate. Do not apply nitrogen or phosphorus fertilizers when the ground is frozen.

The acceptable nitrogen fertilizer application season for non-overseeded warm season turfgrass begins no earlier than the last spring average killing frost date and ends no later than one month prior to the first fall average killing frost date.

Per Application Rates

Do not apply more than 0.7 pounds of water soluble nitrogen per 1,000 ft² within a 30 day period. For cool season grasses, do not apply more than 0.9 pounds of total nitrogen per 1,000 ft² within a 30-day period. For warm season grasses, do not apply more than 1.0 pounds of total nitrogen per 1,000 ft² within a 30-day period. Lower per application rates of water soluble nitrogen sources or use of slowly available nitrogen sources should be utilized on very permeable sandy soils, shallow soils over fractured bedrock, or areas near water wells.

Annual Application Rates for Home Lawns and Commercial Turf

Up to 3.5 pounds per 1,000 ft² of nitrogen may be applied annually to cool season grass species or up to 4 pounds per 1,000 ft² may be applied annually to warm season grass species using 100 percent water soluble nitrogen sources. Lower rates of nitrogen application may be desirable on those mature stands of grasses that require less nitrogen for long-term quality. As a result, lower application rates will probably be more suited to the fine leaf fescues (hard fescue, chewings fescue, creeping red fescue, and sheep fescue) and non-overseeded zoysiagrass. Lower rates should also be used on less intensively managed areas.

For warm season grasses, up to 0.7 lb/1,000 ft² of nitrogen may be applied in the Fall after perennial ryegrass overseeding is well established. An additional N application of 0.5 lb/1,000ft² may be made in February-March to overseeded perennial ryegrass if growth and color indicate need. Applications using WSN may not exceed 0.7 lb/1,000ft² within a 30 day period.

Use of Slowly Available Forms of Nitrogen

For slow or controlled release fertilizer sources, or enhanced efficiency fertilizer sources, no more than 0.9 pounds of nitrogen per 1,000 ft² may be applied to cool season grasses within a 30-day period and no more than 1.0 pounds of nitrogen per 1,000 ft² may be applied to warm season grasses within a 30-day period.

Provided the fertilizer label guarantees that the product can be used in such a way that it will not release more than 0.7 pounds of nitrogen per 1,000 ft² in a 30-day period, no more than 2.5 pounds of nitrogen per 1,000 ft² may be applied in a single application. Additionally, total annual applications shall not exceed 80 percent of the annual nitrogen rates for cool or warm season grasses.

Nitrogen Timing

The beginning and ending dates for application of nitrogen shall be determined using guidance and frost date contained on page 4 of this Nutrient Management Plan.

If the full rate or the highest rate of the recommendation range for a monthly application is applied in a single application, then the interval of application for nitrogen shall be at least 30 days to allow turf to utilize previous nitrogen applications. If several applications are to be made for the monthly nitrogen rate, then the timing of the applications shall be at approximately even intervals, with the rate per application to be evenly divided between each application with the total nitrogen applied not to exceed the maximum monthly rate. Use of Water Insoluble Nitrogen forms of nitrogen is encouraged.

Nitrogen Management on Athletic Fields - Cool Season Grasses

- This program is intended for those fields which are under heavy use.
- Nitrogen recommendations are based on the assumption that there is adequate soil moisture to promote good turf growth at the time of application. If no rainfall has occurred since the last application, further applications should be delayed until significant soil moisture is available.

Cool-Season Grasses Maintenance Program ^a		
	Normal	Intensive
Application Timing ^b	N lb/1000 ft ²	
After August 15	-----	0.5
September	0.7 ^c	0.7 ^c
October	0.7 ^c	0.7 ^c
November	0.5 ^c	0.7 ^c
April 15 - May 15	0.5 ^d	0.5
June 1 - June 15	----	0.5 ^d

Notes:

- Soluble nitrogen rates of 0.25 pounds per 1,000 ft² or less which may be a component of a pesticide or minor element application may be applied any time the turf is actively growing, but must be considered with the total annual nitrogen application rate.
 - WSN = water soluble nitrogen; WIN = water insoluble nitrogen
- Intensive managed areas must be irrigated.
 - The beginning and ending dates for application of nitrogen shall be determined using guidance and frost date contained on page 13 of this Nutrient Management Plan.
 - Rates up to 0.9 pounds per 1,000 ft² of total nitrogen can be applied using a material containing slowly available forms of nitrogen, with a minimum of 30 days between applications.
 - Make this application only if turf use warrants additional nitrogen for sustaining desirable growth and /or color.

Nitrogen Management on Athletic Fields - Warm Season Grasses

The following comments apply to both Naturally Occurring or Modified Sand based Fields and Predominantly Silt/Clay Soil Fields:

- Annual nitrogen rates for warm season grasses shall not exceed **4 pounds** in areas which have the average first killing frost on or before October 20, and shall not exceed **5 pounds** in areas which have the average first killing frost after October 20. Nitrogen rates and timings for overseeding warm season grasses are not included in these rates.
- April 15 - May 15 applications should not be made until after complete green-up of turf.
- Nitrogen applications June through August should be coordinated with anticipated rainfall if irrigation is not available.
- Use the lower end of the ranges for non-irrigated fields and the higher end of the ranges should be used on fields with irrigation.
- Nitrogen rates towards the higher end of the ranges may be applied on heavily used fields to accelerate recovery, however per application and annual rates cannot be exceeded.

Warm-Season Grasses Maintenance Program (Silt/Clay based) ^a		
	N lb/1000 ft ²	First Killing Frost Date ^b
Application Timing^b	0.5 – 0.7 ^c	Before October 20
April 15 – May 15	0.7	
June	0.5 – 0.7 ^d	
July	0.5 – 0.7 ^d	
August	0.5 – 0.7 ^d	
September 1 - 15	0.5 – 0.7 ^c	After October 20
If overseeded with perennial ryegrass		
October - November	0.5 ^e	
February - March	0.5 ^e	

Warm-Season Grasses Maintenance Program (Sand based) ^a		
	N lb/1000 ft ²	First Killing Frost Date ^b
Application Timing^b	0.5 – 0.7 ^c	Before October 20
April 15 – May 15	0.7 ^c	
June	0.7 ^c	
July	0.7 ^c	
August	0.7 ^c	
September 1 - 15	0.5 – 0.7 ^c	After October 20
If overseeded with perennial ryegrass		
October - November	0.5 ^e	
February - March	0.5 ^e	

The following notes apply to both of the Warm-Season tables above:

- In the Piedmont and the Ridge and Valley areas of Virginia, the existing native soil will normally be comprised predominantly of clay and/or silt and these soils have inherently lower water infiltration and percolation rates and greater nutrient holding capacity. However, most areas of the Coastal Plain have existing native soils that are predominantly sandy textured soils and other facilities throughout the state may choose to install modified soil root zones that are predominantly sand (>50%) in order to maximize drainage and reduce compaction tendency. **If subsurface drain tile surrounded by sand and/or gravel has been installed under the playing surface of any of these fields, their nitrogen programs should be managed as predominantly sand-based systems to minimize nutrient leaching.**
- The beginning and ending dates for application of nitrogen shall be determined using guidance contained on page 4 of this Nutrient Management Plan.
- WSN must be applied as two applications not to exceed 0.35 pounds per 1,000 ft² each with a minimum of 15 days between applications. Alternatively, using a material that contains slowly available nitrogen sources, split applications of 0.5 pounds per 1,000 ft² may be applied with a minimum of 15 days between applications.

- (d) If a material containing slowly available forms of nitrogen is used, rates up to 1.0 pounds of nitrogen per 1,000 ft² may be applied in a single application with a minimum of 30 days between applications.
- (e) For overseeded warm season grasses, an additional 0.7 pounds per 1,000ft² of WSN may be applied in the Fall after the perennial ryegrass overseeding is well established. The WSN must be applied as two applications not to exceed 0.35 pounds per 1,000 ft² of nitrogen each, with a minimum of 15 days between applications. Additional WSN application of 0.5 pounds per 1,000 ft² may be made in February-March to overseeded perennial ryegrass if growth and color indicate need. Alternatively, split applications of 0.5 pounds of nitrogen per 1,000 ft² each with a minimum of 15 days between applications may be applied using a material containing slowly available nitrogen sources.

Phosphorus and Potassium Recommendations for Established Turf and Athletic Fields

Apply phosphorus (P₂O₅) and potassium (K₂O) fertilizers as indicated by a soil test using the following guidelines:

Soil Test (VT) Rating	P ₂ O ₅ lb/1000 ft ²	K ₂ O lb/1000 ft ²
L-	3	3
L	2.5	2.5
L+	2	2
M-	2	2
M	1.5	1.5
M+	1	1
H-	1	1
H	0.75	0.75
H+	0.5	0.5
VH	0	0

Avoid the general use of high phosphorus ratio fertilizers such as 10-10-10 or 5-10-10, unless soil tests indicate phosphorus availability below the M+ level.

For irrigated Athletic Fields grown on Naturally Occurring and Modified Sand Based soils only, up to 0.5 pounds of P₂O₅ per 1,000 ft² may be applied, if needed, to aid in recovery of damaged turf during times of extreme use. No phosphorus applications shall be made when the soil phosphorus test level is above 65% saturation, based on the soil test phosphorus values and region.

Establishment/Grow-In Recommendations for Golf Courses, Athletic Fields, and Sod Production

(These rates replace normal maintenance fertilizer applications that would have occurred during these time periods.)

Warm Season Grasses:

Predominantly Silt/Clay Soils

- ◆ Plant Date - late May -June for sprigs, plugs, sod, or seeding.
- ◆ Apply P₂O₅ and K₂O as needed based on soil test recommendations, incorporate into the top 2 inches if possible.
- ◆ At Planting - Up to 1.0 pounds of nitrogen per 1,000 ft² using a material containing slowly available forms of nitrogen may be applied as one application or lesser amounts applied at regular intervals, through the first 4 weeks, not to exceed a total of 1.0 pounds of nitrogen per 1,000ft².
- ◆ Four weeks after planting - 0.25 pounds.of WSN per 1,000 ft² per week for the next 4 weeks.

Naturally Occurring or Modified Sand Based Soils

- ◆ Plant Date - late May -June for sprigs, plugs, sod, or seeding.
- ◆ Apply P₂O₅ and K₂O as needed based on soil test recommendations, incorporate into the top 2 inches if possible.
- ◆ At Planting - Up to 1.0 pounds of nitrogen per 1,000 ft² using a material containing slowly available forms of nitrogen may be applied as one application or lesser amounts at regular intervals through the first 4 weeks, not to exceed a total of 1.0 pounds of nitrogen per 1,000 ft².
- ◆ Four weeks after planting - 0.25 pounds per 1,000 ft² using a material containing slowly available forms of nitrogen per week for the next 4 weeks.

Cool Season Grasses:

Predominantly Silt/Clay Soils

- ◆ Plant Date - August - September (preferred)
- ◆ Apply P₂O₅ and K₂O as needed based on soil test recommendations, incorporate into the top 2 inches if possible.
- ◆ At Planting - up to 0.9 pounds of nitrogen per 1,000 ft² using a material containing slowly available forms of nitrogen may be applied; 30 days after planting, apply up to 0.5 pounds of nitrogen per 1,000 ft² every week for the next 4 weeks.

Naturally Occurring or Modified Sand Based Soils

- ◆ Plant Date - August -September (preferred)
- ◆ Apply P₂O₅ and K₂O as needed based on soil test recommendations, incorporate into the top 2 inches if possible.
- ◆ At Planting - up to 0.9 pounds of nitrogen per 1,000 ft² using a material containing slowly available forms of nitrogen may be applied.
- ◆ Apply up to 0.25 pounds of nitrogen per 1,000 ft² per week after germination is complete, for the next 8 weeks. If using a material that contains slowly available forms of nitrogen, up to 0.5 pounds of nitrogen per 1,000 ft² every two weeks may be applied after germination is complete for the next 8 weeks.

Recommendations for Establishment of Turf

These recommendations are for timely planted turfgrass, that is, the seed or vegetative material (sod, plugs, and /or sprigs), are planted at a time of the year when temperatures and moisture are adequate to maximize turfgrass establishment. These recommended establishment periods would be late summer to early fall for cool-season turfgrasses and late spring through mid-summer for warm-season turfgrasses.

Phosphorus and Potassium Recommendations for Establishment of Turf

Soil Test (VT) Rating	P₂O₅ lb/1000 ft²	K₂O lb/1000 ft²
L-	4	3
L	3.5	2.5
L+	3	2
M-	3	2
M	2.5	1.5
M+	2	1
H-	2	1
H	1.5	0.75
H+	1	0.5
VH	0	0

Nitrogen Application for Establishment of Turf

At the time of establishment, apply no more than 0.9 pounds per 1,000 ft² of total nitrogen for cool season grasses or 1.0 pounds per 1,000 ft² of total nitrogen for warm season grasses, using a material containing slowly available forms of nitrogen, followed by one or two applications beginning 30 days after planting, not to exceed a total of 1.8 pounds per 1,000 ft² total for cool season grasses and 2.0 pounds per 1,000 ft² for warm season grasses for the establishment period. Applications of WSN cannot exceed more than 0.7 pounds per 1,000 ft² within a 30-day period.

Sod Installations:

Site preparation should include a soil test, which can be done several months before the project begins in order to have time to get test results back. Phosphorus, potassium and lime applications should be based on soil test analysis to increase the likelihood of a successful installation. Shallow incorporation of material into the top 2 inches of the soil is preferred prior to sod installation, especially if lime is required.

No more than 0.7 lb of WSN/1,000 ft² should be applied before sod is installed. Alternatively, using a slowly available forms of nitrogen, 0.9 lb N/1000 ft² for cool season grasses or 1 lb of N/1000 ft² for warm season grasses may be applied before sod installation.

After installation apply adequate amounts of water to maintain sufficient soil moisture (i.e. to prevent visible wilt

symptoms). Excessive water will limit initial root development. After roots begin to establish (as verified by lightly tugging on the sod pieces), shift irrigation strategy to a deep and infrequent program in order to encourage deep root growth. Apply approximately 1 inch of water per week (either by rainfall or irrigation), making sure that the water is being accepted by the soil profile without running off. This will insure thorough wetting of the soil profile.

After sod has completed rooting and is well established, initiate the normal nitrogen management program as described for the appropriate use shall be recommended.

Other Turf Management Considerations

Lime Recommendations

Lime should be recommended based on a soil test to maintain soil pH within an agronomic range for turfgrass.

For new seedings where lime is recommended, incorporate the lime into the topsoil for best results.

Returning Grass Clippings

Recycling of clippings on turf should be encouraged as an effective means of recycling nitrogen, phosphorus, and potassium. Proper mowing practices that ensure no more than 1/3 of the leaf blade is removed in any cutting event will enhance turf appearance and performance when clippings are returned. Return all leaf clippings from mowing events to the turf rather than discharging them onto sidewalks or streets. Rotary mulching mowers can further enhance clipping recycling by reducing the size of clippings being returned to the turfgrass canopy.

Management of Collected Clippings

If clippings are collected they should be disposed of properly. They may be composted or spread uniformly as a thin layer over other turf areas or areas where the nutrient content of the clippings can be recycled through actively growing plants. They should not be blown onto impervious surfaces or surface waters, dumped down stormwater drains, or piled outside where rainwater will leach out the nutrients creating the potential for nutrient loss to the environment.

Use of Iron

Foliar iron supplements may be used to stimulate a greening effect on the turfgrass as an alternative to additional applications of nitrogen. These applications are most beneficial if applied in late spring through summer for cool season grasses and in late summer through fall for warm-season grasses.

Impervious Surfaces

Do not apply fertilizers containing nitrogen or phosphorus to impervious surfaces (sidewalks, streets, etc.). DO NOT use urea as an ice melting substance in cold weather. Remove any granular materials that land on impervious surfaces by sweeping and collecting, and either put the collected material back in the bag, or spread it onto the turf and/or use a leaf blower etc., to return the fertilizer back to the turfgrass canopy.

Environmentally Sensitive Areas

Avoid fertilizer applications within 15 feet of waterways. This setback is reduced to 10 feet if a drop spreader, rotary spreader with deflector or targeted spray liquid is used to apply the fertilizer. The use of fertilizers with slow release nitrogen is greatly encouraged, especially where there is any reason to suspect environmental concerns.

Recordkeeping requirements and reporting for the application of fertilizer (2VAC5-405-100)

State-owned lands subject to this regulation shall maintain records of each application of fertilizer to non-agricultural land for at least three years following the application. These records shall be available for inspection. Each record shall contain the:

1. Name, mailing address of the application site;
2. Name of the person making or supervising the application;
3. Day, month, and year of application;
4. Weather conditions at the start of the application;
5. Acreage, area, square footage, or plants treated;
6. Analysis of fertilizer applied;
7. Amount of fertilizer used, by weight or volume; and
8. Type of application equipment used.

Spreader Calibration

Spreaders and boom sprayers must be properly calibrated if they are to deliver fertilizers and pesticides to turf at correct rates. If calibration is done incorrectly, the product may be misapplied and either too much or too little of the product will reach the turf. Sprayers and spreaders should be calibrated at first use and every fourth application. Spreaders and sprayers be calibrated in several ways. Refer to the following publication for detailed instructions:

[www.turfgrass.ncsu.edu/Articles/admin/2008/Calibration_of_Turfgrass_Boom_Sprayers_and_Spreaders_\(AG-628\).pdf](http://www.turfgrass.ncsu.edu/Articles/admin/2008/Calibration_of_Turfgrass_Boom_Sprayers_and_Spreaders_(AG-628).pdf)

7. Soil Reports