Office Locations
Fairfax: 10 Fairfax Boulevard, Suite 201, Fairfax, VA 22030, Phone: (703) 359-0700, Fax: (703) 359-8464
Leesburg: 1 Harrison Street, S.E., Suite 210, Leesburg, VA 20175, Phone: (703) 443-2555, Fax: (703) 443-2028
Manassas: 9385 Discovery Boulevard, Suite 200, Manassas, VA 20109, Phone: (703) 368-7373, Fax: (703) 257-5433
Rinker Design Associates, P.C.
Civil Engineering · Surveying · Land Planning
Transportation · Environmental
Right of Way Services
RDA Rinker
ESTD 1999 VSBE WBE

PROJECT MANAGER *Tom Brandon,(703)-737-6067 (Town of Leesburg)*
SURVEYED BY *Rinker Design Associates, (703) 368-7373*
DESIGNED BY *Rinker Design Associates, (703) 368-7373*
SUBSURFACE UTILITY BY *Accumark,(800) 542-2990 (2017)*

TOWN of LEESBURG, VA

CAPITAL IMPROVEMENT PROGRAM

NOTES

A. UTILITIES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.

   PRIOR TO DIGGING, NOTIFY THE FOLLOWING:

   A. MISS UTILITY – 811

   B. WATER AND SEWER – DEPARTMENT OF UTILITIES, THE TOWN OF LEESBURG (703) 737-7595

   C. STORM DRAIN AND TRAFFIC SIGNALS – DEPARTMENT OF PUBLIC WORKS, THE TOWN OF LEESBURG (703) 771-2790.

2. TEST PITS SHALL BE SHOWN AT ALL UTILITY CROSSINGS AND AT THE POINT OF CONNECTION TO EXISTING WATER MAINS. AT LEAST 10 DAYS PRIOR TO CONSTRUCTION ACTIVITY THE CONTRACTOR MUST OBTAIN ITS TEST PIT DATA AND COORDINATE WITH THE INSPECTOR. IF THE TEST RESULTS SHOW A POTENTIAL CONFLICT OR NONCOMPLIANCE WITH THE APPROVED PLAN, REVISIONS TO THE PLANS MUST BE SUMMATED FOR APPROVAL. IN SUCH INSTANCES, NO WORK SHALL COMMENCE UNTIL CONFLICTS ARE RESOLVED AND REVISIONS APPROVED.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RETURNING ALL EXISTING FACILITIES AND/OR UTILITIES TO THEIR ORIGINAL CONDITION.

B. GENERAL

1. THE DESIGN METHODS OF CONSTRUCTION AND FIELD PRACTICES SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN THE TOWN OF LEESBURG DESIGN AND CONSTRUCTION STANDARDS MANUAL AND THE DOCUMENTS REFERENCED THEREIN. ANY DEVELOPER, CONTRACTOR, ENGINEER, OR OWNER INVOLVED IN THE DESIGN AND/OR CONSTRUCTION OF PUBLIC FACILITIES WITHIN LEESBURG'S JURISDICTION, IS EXPECTED TO BE FAMILIAR WITH THE INFORMATION IN THE DESIGN AND CONSTRUCTION STANDARDS MANUAL.

2. ALL ELEVATIONS MUST BE BASED ON USGS SURVEY DATUM AND THE SOURCE INDICATED ON THE PLANS.

3. HORIZONTAL AND VERTICAL CONTROL SURVEYS WERE RUN ON THE GROUND BY THE FOLLOWING FIRM:
   RINKER DESIGN ASSOCIATES
   DATE: 2015 METHOD: TOTAL STATION/STATIC GPS CONTROL

4. TOPOGRAPHIC MAPPING SHOWN HEREON WAS PERFORMED BY THE FOLLOWING FIRM:
   RINKER DESIGN ASSOCIATES
   DATE: 2015 METHOD: COMBINATION AERIAL TOPOGRAPHY & FIELD RUN TOPOGRAPHY

5. THE MERIDIAN FOR SURVEY BEARINGS SHOWN HEREON IS VA. STATE GRID NORTH AND WAS ESTABLISHED AS FOLLOWS:
   STATIC GPS CONTROL WITH CONVENTIONAL SURVEY METHODS

6. COORDINATES OF POINTS OR MONUMENTS, IF SHOWN HEREON, ARE COORDINATES OF THE ESTABLISHED AS FOLLOWS:
   HORIZONTAL: VCS NAD83, NORTH ZONE
   VERTICAL: US SURVEY FOOT, NAVD88, MIN. CLOSURE OF 1:20,000

7. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROCURE ALL APPLICABLE PERMITS, LICENSES, AND CERTIFICATES RELATIVE TO THE TRADES TO COMPLETE THE PROJECT AND FOR THE USE OF SUCH WORK WHEN COMPLETED. COMPLIANCE SHALL BE AT ALL LEVELS: FEDERAL, STATE, COUNTY, AND LOCAL RELATING TO THE PERFORMANCE OF HIS WORK.

C. SOLID WASTE – N/A

1. METHOD OF COLLECTION: _____
2. IF OTHER THAN CURB-SIDE PICKUP, CONTINUE: _____
3. NUMBER AND SIZE OF CONTAINERS: _____
4. TYPE OF CONTAINER: _____
5. METHODOLOGY USE TO COMPUTE SIZE: _____
6. FREQUENCY OF COLLECTION: _____ TIMES/WEEK (MINIMUM OF 2 TIMES/WEEK)

D. SANITARY SEWERS – N/A

1. SEWER SHED: _____
2. GRAVITY SYSTEM: _____ PUMPED: _____
3. PUMP STATION PROPOSED: _____
4. OFF-SITE SEWER EXTENSIONS REQUIRED: _____
5. REQUIRED LENGTH OF OFF-SITE SEWER: _____
6. ALL SANITARY SEWER AND APPURTENANCE INSTALLATIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TOWN'S DESIGN AND CONSTRUCTION STANDARDS MANUAL AND THE DOCUMENTS REFERENCED THEREIN.

E. WATER SYSTEM

1. DOMESTIC WORKING PRESSURE AT HIGHEST FIXTURES: N/A psi
2. ALL WATER MAIN AND APPURTENANCE INSTALLATIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TOWN'S DESIGN AND CONSTRUCTION STANDARDS MANUAL AND THE DOCUMENTS REFERENCED THEREIN.
3. WATER MAINS SHALL BE DESIGNED IN CONFORMANCE WITH THE CURRENT EDITION OF THE WATER WORKS REGULATIONS OF THE VIRGINIA STATE BOARD OF HEALTH.
4. NO EXISTING WATER MAIN VALVES ARE TO BE OPENED OR CLOSED PRIOR TO NOTIFICATION OF THE TOWN OF LEESBURG UTILITY DEPARTMENT, 703-737-7075

F. FIRE FLOW – N/A

1. REQUIRED FIRE FLOW = _____ gpm
2. AVAILABLE FIRE FLOW = _____ gpm
3. FULL SPRINKLER SYSTEM: _____
4. PARTIAL SPRINKLER SYSTEM: _____
5. BOCA BUILDING CLASS UTILIZED: _____

G. CURRENT SITE INFORMATION – N/A

1. TAX MAP NUMBER: _____
2. LOT AND/OR PARCEL NUMBER: _____
3. ZONING: _____
4. DATE OF CURRENT ZONING: _____
5. RESOLUTION NUMBER: _____
6. REZONING NUMBER: _____
7. TOTAL AREA: _____
8. OPEN SPACE AREA: _____
9. STREET AREA: _____
10. NUMBER OF LOTS CREATED BY SUBDIVISION: _____

H. PARKING TABULATIONS – N/A

1. SPACES REQUIRED: _____
2. SPACES PROVIDED: _____
3. NO | TYPE
   _____ | REGULAR
   _____ | PARALLEL
   _____ | HANDICAPPED
   _____ | PARALLEL HC
4. HISTORIC DISTRICT PARKING FEE AT $_____ PER SPACE.
5. _____ SPACES REQUIRED = $_____ TOTAL

I. STORM SEWER AND CULVERTS

1. ALL STORM SEWER AND CULVERT INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE TOWN'S DESIGN AND CONSTRUCTION STANDARDS MANUAL AND THE DOCUMENTS REFERENCED THEREIN.

J. STORMWATER MANAGEMENT

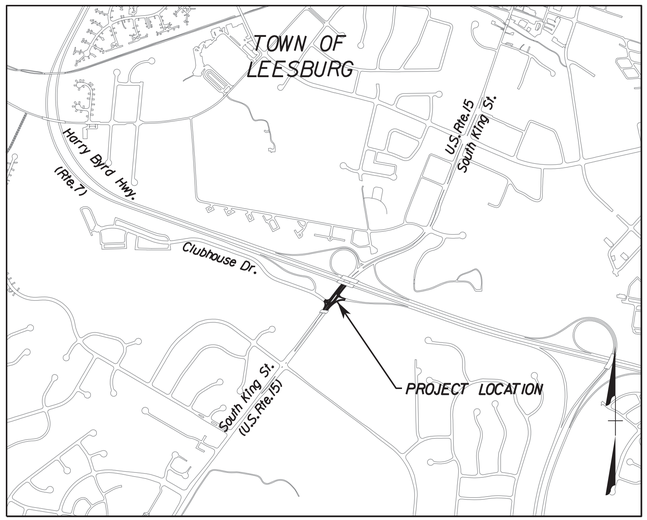
1. WATERSHED: N/A
2. DETENTION PROVIDED FOR:
   2 – YEAR N/A
   10 – YEAR N/A
   OTHER N/A STORM EVENT
3. ADEQUATE CHANNEL:
   2 – YEAR N/A
   10 – YEAR N/A
   25 – YEAR N/A
   OTHER N/A

K. BMP REQUIRED

YES _____
NO _____
N/A ✓

L. BEST MANAGEMENT PRACTICES (BMP)

DEQ CERTIFICATION # POTOMAC – 020				NRIP FACILITY: STONE RIDGE NUTRIENT BANK							
BMP TYPE	TOTAL SITE AREA (AC)	TOTAL PRE-EXIST. IMPERV. AREA (AC)	TOTAL POST IMPERV. AREA (AC)	TOTAL PERV. AREA (AC)	ACRES TREATED (AC)	IMPERV. AREA TREATED (AC)	PERV. AREA TREATED (AC)	LOC. (VA STATE PLANE COORDINATES (83 NAD)) N	E	STRUCT. NO. /SIZE
–	–	–	–	–	–					
–	–	–	–	–	–					
–	–		–		–	–	–	–	–	
–	–		–		–	–	–	–	–	



VICINITY MAP
SCALE: 1"=1,000'

STUDIES, REFERRALS AND APPROVALS REQUIRED PRIOR TO PLAN APPROVAL

AGENCY INFORMATION	REQ.	NOT REQ.	TOL ID #	COMMENTS
1. VA MARINE RESOURCE COMMISSION		X		
A. CORPS OF ENGINEERS		X		
B. DEPT. OF ENVIRONMENTAL QUALITY		X		
2. FEMA		X		
3. FAA		X		
4. VDOT		X		
5. VA DEPT. OF HEALTH – WATER		X		
6. VA DEQ– SEWER		X		
7. LOUDOUN COUNTY		X		
A. HEALTH DEPARTMENT		X		
B. FIRE MARSHAL		X		
C. E & S CONTROLS		X		
D. BUILDING PERMITS		X		
8. FLOOD PLAIN STUDY		X		
9. TRAFFIC STUDY		X		
10. SOILS REPORT		X		
11. ON SITE EASEMENTS		X		
A. LEGAL REVIEW I OR II		X		
B. TECHNICAL REVIEW		X		
C. RECORDED		X		
12. OFF SITE EASEMENTS		X		
A. LEGAL REVIEW I OR II		X		
B. TECHNICAL REVIEW		X		
C. RECORDED		X		
13. LETTERS OF PERMISSION		X		
14. BOARD OF ARCH. REVIEW		X		
15. VDOT TRAFFIC STUDY REVIEW		X		
16. BOARD OF ZONING APPEALS		X		

CONTACTS

TOWN OF LEESBURG		(703) 737-7069

UTILITY CONTACTS

GAS	WASHINGTON GAS	(703) 750-1000
ELECTRIC	DOMINION VIRGINA POWER	(804) 771-3655
TELEPHONE	VERIZON	(703) 886-6490
TELEVISION CABLE	COMCAST	(434) 951-3761

VARIATIONS OF SUBDIVISION AND LAND DEVELOPMENT REGULATIONS OR MODIFICATIONS OF THE ZONING

ID. NO.	TL REF #	CITATION	PLAN SHEET	DATE APPROVED
▽				

MODIFICATION OR INTERPRETATION OF DCSM BY THE DIRECTOR OF CAPITAL WORKS AND PUBLIC PROJECTS

ID. NO.	CITATION	PLAN SHEET	DESCRIPTION	DATE APPROVED
▽				
▽				
▽				
▽				
▽				
▽				
▽				
▽				

TOWN OF LEESBURG APPROVALS

Public Works and Capital Projects
Director Date

Office of Capital Projects
Manager Date

SHEET INDEX

SHEET NO.	TITLE
	See Sheet 1 for Sheet Index.

REVISIONS PRIOR TO APPROVAL

DATE	DESCRIPTION

THIS APPROVAL IS NOT A COMMITMENT TO PROVIDE PUBLIC SANITARY SEWER OR WATER.

COMMONWEALTH OF VIRGINIA
ADAM D. WELSCHENBACH
Lic. No. 044359
PROFESSIONAL ENGINEER

Adam Welschenbach
2018.06.29 16:06:41 -04'00'

Rinker Design Assoc. P.C.
Manassas, Virginia
PROFESSIONAL ENGINEER

FOR TOWN USE ONLY

CAPITAL IMPROVEMENTS PROGRAM

PROJECT NAME: CLUBHOUSE DRIVE SIGNAL
INTERSECTION OF SOUTH KING ST. & CLUBHOUSE DR.

OWNER: TOWN OF LEESBURG, LOUDOUN COUNTY, VA

ADDRESS: 25 WEST MARKET STREET, LEESBURG, VA - 20176 Ph. # (703)-737-6067

ENGINEER: RINKER DESIGN ASSOCIATES, P.C.
9385 DISCOVERY BOULEVARD, SUITE 200, Ph. # 703-368-7373

REVISIONS TO APPROVED DRAWINGS

NO.	DATE	SHEETS REVISED	COMMENTS	NO.	DATE	SHEETS REVISED	COMMENTS

ENGINEER:
Rinker Design Associates, P.C.
Engineering • Surveying • Land Planning • Transportation • Environmental Services
9385 Discovery Blvd • Suite 200 • Manassas, VA 20109 • www.rdaweb.com
Telephone: (703) 368-7373 • Fax: (703) 257-5433
"We Welcome the Opportunity"
"To Make Your Vision Reality"

PROJECT MANAGER: MARK A. GUNN, P.E.

Clubhouse Drive Signal
INTERSECTION OF SOUTH KING ST. & CLUBHOUSE DR.
Loudoun County, Virginia

PROJECT NAME: Town of Leesburg
SUBMISSION DATE: 6/29/2018

ASSOCIATED PLAN: N/A
C.I.P. NUMBER: 18005
VDOT PROJ. NO.: N/A
TOWN NUMBER: TBD

PROJECT MANAGER Tom Brandon,(703)-737-6067 (Town of Leesburg)
SURVEYED BY Rinker Design Associates, (703) 368-7373
DESIGNED BY Rinker Design Associates, (703) 368-7373
SUBSURFACE UTILITY BY Accumark,(800) 542-2990 (2017)

Traffic Signal Replacement

for the Intersection of South King Street & Clubhouse Drive (Town of Leesburg Maintained Signal)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE TOWN OF LEESBURG

TRAFFIC SIGNAL & UTILITIES LEGEND

	EXISTING
ELECTRIC	E
TELEPHONE	T/Tg
GAS	G
SEWER	
WATER	W
CABLE TV	CATV
FIRE HYDRANT	
GAS VALVE	
WATER VALVE	
UTILITY POLE AND OVERHEAD UTILITIES	
GRATE DROP INLET	

PROPOSED		EXISTING
	ONE WAY SIGNAL HEAD	
	TWO WAY SIGNAL HEAD	
TCN	BASE MOUNTED LOCAL CONTROL CABINET	TCN
	PEDESTAL POLE-METAL	
J	JUNCTION BOX	J
	LOOP DETECTOR	
6' X 40'	QUADRUPLE LOOP DETECTOR	6' X 40'
VDZ	VIDEO DETECTION ZONE	VDZ
S	SERVICE DISCONNECT SWITCH BOX	
M	METER BOX	
	CONDUIT W/CABLE	
	PEDESTRIAN PUSH BUTTON	
	MAST ARM POLE	
	TRAFFIC SIGNAL POLE LABEL	

STANDARD SIGN LEGEND

PLAN ITEM	PLAN SYMBOL PROPOSED	PLAN SYMBOL EXISTING
Single Post Sign Support		
Double Post Sign Support		
Triple Post Sign Support		
Flashing Beacon		
O/H Cantilever Sign Support		
O/H Span Sign Support		

SIGN CALL-OUTS

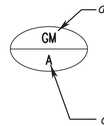
Existing Sign to Remain or to be Relocated	(95)
Existing Sign to be Removed	REMOVE (95)
Proposed Sign Panel	(95)

SIGN LABELS

Proposed Sign Assemblies

Relocated Sign Assemblies

Sign Relocation or Payable Sign Disposal/Salvage



STRUCTURE & SIGN PANEL
GM - Ground Mounted
OM - Overhead Mounted
CM - Cantilever Mounted
PM - Pole Mounted

SIGN PANEL
SP-GM - Ground Mounted Sign Panel
SP-OH - Overhead Mounted Sign Panel

STRUCTURE ONLY
ST-GM - Ground Mounted

A - Remove & Dispose Sign Structure
B - Remove & Dispose O/H Sign Structure
C - Relocate Sign Panel
D - Remove & Dispose of Sign Panel

Signs noted on plans to be removed that do not have an accompanying sign label shall not be measured separately for payment. Removal and disposal for such signs shall be incidental to other contract items.

ACTION AND MEASUREMENT OF ITEMS:

A. REMOVE AND DISPOSE SIGN STRUCTURE AND SIGN PANEL
Scope of work to include the removal and disposal of sign panels, posts and foundations to at least two feet below existing ground line, backfilling and restoration (top soiling, and seeding), and all materials, labor, tools, equipment and incidentals necessary to complete the work. Measurement shall be in units of Each.

B. REMOVE AND DISPOSE OF SIGN PANEL
Scope of work to include the removal and disposal of sign panels from existing structure and for all materials, labor, tools, equipment and incidentals necessary to complete the work. Measurement shall be in units of each.

INDEX OF SHEETS

Revisions

Date	Initial

Office Locations
Rinker Design Associates, P.C.
Civil Engineering ~ Surveying ~ Land Planning
Transportation ~ Environmental ~ Right of Way Services
10211 Timberwood Circle, Suite 201, Louisville, KY 40223 Phone: (502) 244-2270 Fax: (502) 244-2276
44865 Waxpool Road, Suite 101, Dulles, VA 20166 Phone: (703) 444-0625 Fax: (703) 444-0626
44711 Guilford Drive, Suite 110, Ashburn, VA 20147 Phone: (703) 726-8810 Fax: (703) 726-8814
www.rinkerdesign.com

ENGINEER:
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PROJECT MANAGER: MARK A. GUNN, P.E.

Clubhouse Drive Signal
INTERSECTION OF SOUTH KING ST. & CLUBHOUSE DR.
INDEX & LEGENDS
Loudoun County, Virginia

PROJECT NAME: Town of Leesburg
SUBMISSION DATE: 6/29/2018

COMMONWEALTH OF VIRGINIA
ADAM D. WELSCHENBACH
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Fredericksburg, VA
Culpeper, VA
Winchester, VA
Front Royal, VA
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Traffic Signal Replacement General Notes

for the Intersection of South King Street & Clubhouse Drive (Town of Leesburg Maintained Signal)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE TOWN OF LEESBURG

A. GENERAL

1) EXCEPT AS NOTED HEREIN, ALL WORK UNDER THIS CONTRACT SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS, AND SPECIAL PROVISIONS, AND THE LATEST REVISION OR AMENDMENT OF THE FOLLOWING STANDARD DOCUMENTS:

- 2016 VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) ROAD AND BRIDGE SPECIFICATIONS.
- 2016 VDOT ROAD AND BRIDGE STANDARDS.
- 2011 VDOT VIRGINIA WORK AREA PROTECTION MANUAL.
- 2009 FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- 2011 VDOT VIRGINIA SUPPLEMENT TO THE MUTCD, AND
- TOWN OF LEESBURG DESIGN AND CONSTRUCTION STANDARDS MANUAL (DCSM)

2) A TOWN OF LEESBURG RIGHT OF WAY PERMIT WILL BE REQUIRED FOR WORK PERFORMED UNDER THIS CONTRACT. THE APPLICATION FEE FOR THE PERMIT WILL BE WAIVED. A COPY OF THE TOWN OF LEESBURG RIGHT OF WAY PERMIT WITH THE STAMPED APPROVED SIGNAL DESIGN SHALL BE ON THE JOB WHENEVER WORK IS BEING PERFORMED.

3) IT IS NOT ANTICIPATED THAT A VDOT RIGHT OF WAY PERMIT WILL BE REQUIRED FOR THE PROJECT. THE VDOT PERMIT WILL ONLY BE REQUIRED IF CONSTRUCTION WORK OCCURS ON THE VDOT MAINTAINED INTERCHANGE RAMPS.

4) AN INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION (IMSA) LEVEL II CERTIFICATION HOLDER WITH A MINIMUM OF 2 YEARS CERTIFICATION WILL BE REQUIRED ON SITE AT ALL TIMES DURING SIGNAL MODIFICATION OR CONSTRUCTION.

5) POLE AND CONTROLLER PLACEMENTS SHALL BE STAKED BY THE CONTRACTOR AND VERIFIED BY THE TOWN OF LEESBURG DEPARTMENT OF PUBLIC WORKS AND CAPITAL PROJECT A MINIMUM OF SEVEN DAYS PRIOR TO INSTALLATION.

6) ALL CATALOGUE CUTS, POLE CALCULATIONS, FOUNDATION SHOP DRAWINGS, AND OTHER REQUIRED SUBMITTALS MUST BE SUBMITTED TO AND APPROVED BY THE TOWN OF LEESBURG PRIOR TO CONSTRUCTION.

7) A MINIMUM OF TEN (10) DAYS PRIOR TO BEGINNING ANY SIGNALIZATION WORK, THE CONTRACTOR SHALL CONTACT THE TOWN OF LEESBURG DEPARTMENT OF PUBLIC WORKS AND CAPITAL PROJECTS BY CALLING 703-777-2420 AND PROVIDING:

- LOCATION OF THE SIGNAL WORK
- CONTRACTOR'S NAME, DAYTIME AND EMERGENCY PHONE NUMBER

8) AFTER SIGNAL INSTALLATION IS 100% COMPLETE, THE SIGNAL SHALL NOT BE PLACED INTO FULL COLOR OPERATION WITHOUT PRIOR NOTIFICATION AND APPROVAL OF THE TOWN OF LEESBURG. ARRANGEMENT SHALL BE MADE TO HAVE A REPRESENTATIVE FROM THE TOWN OF LEESBURG DEPARTMENT OF PUBLIC WORKS AND CAPITAL PROJECTS PRESENT WHEN THE SIGNAL IS PLACED IN OPERATION. A MINIMUM OF 48 HOURS ADVANCE NOTICE IS REQUIRED.

B. MAINTENANCE OF TRAFFIC

1) THE CONTRACTOR SHALL FURNISH FLAGGERS, TEMPORARY SIGN PANELS AND OTHER DEVICES AS REQUIRED FOR TRAFFIC CONTROL IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), VDOT VIRGINIA WORK AREA PROTECTION MANUAL, SECTION 512 - MAINTENANCE OF TRAFFIC OF THE VDOT ROAD AND BRIDGE SPECIFICATIONS, AND ACCEPTED CURRENT PRACTICES.

2) THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE TOWN AS PART OF THE TOWN RIGHT OF WAY PERMIT APPLICATION FOR REVIEW AND APPROVAL A MINIMUM OF TEN DAYS PRIOR THE INITIATION OF ANY WORK AFFECTING TRAFFIC FLOW.

3) NO WORK SHALL BE DONE IN THE ROADWAY BETWEEN THE HOURS OF 7:00 AM TO 9:00 AM OR BETWEEN THE HOURS OF 3:00 PM AND 7:00 PM, WITHOUT APPROVAL FROM THE TOWN OF LEESBURG DEPARTMENT OF PUBLIC WORKS AND CAPITAL PROJECTS. WORK OUTSIDE THE ROADWAY THAT DOES NOT REQUIRE A LANE CLOSURE AND DOES NOT IMPACT TRAFFIC MAY BE DONE DURING THOSE HOURS WITH PRIOR APPROVAL FROM THE TOWN OF LEESBURG.

4) PRIOR TO BEGINNING WORK ON THE PROJECT, THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH THE TOWN IN ACCORDANCE WITH SECTION 105.02 - PRE-CONSTRUCTION CONFERENCE OF THE VDOT ROAD AND BRIDGE SPECIFICATIONS.

5) THE CONTRACTOR SHALL PROTECT AND RESTORE PROPERTY ADJACENT TO THE WORK IN ACCORDANCE WITH SECTION 107.08 PROTECTING AND RESTORING PROPERTY AND LANDSCAPE OF THE VDOT ROAD AND BRIDGE SPECIFICATIONS.

6) THE CONTRACTOR SHALL COOPERATE WITH ADJACENT UTILITY COMPANIES, SHALL COMPLY WITH ALL PROVISIONS OF THE VIRGINIA UNDERGROUND UTILITY DAMAGE PREVENTION ACT, AND SHALL FOLLOW ALL REQUIREMENTS OF SECTION 107.09 - CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES OF THE VDOT ROAD AND BRIDGE SPECIFICATIONS.

7) IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN ALL TRAFFIC DETECTION DURING CONSTRUCTION AT ALL TIMES.

8) PROCEDURES FOR INSTALLING THE TRAFFIC SIGNAL AND RELATED EQUIPMENT SHALL BE ACCOMPLISHED IN ACCORDANCE WITH SECTION 703.03 OF THE VDOT 2016 ROAD AND BRIDGE SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT SIGNAL OPERATIONS AND SAFE TRAFFIC CONTROL ARE MAINTAINED AT THE INTERSECTION AT ALL TIMES. THE CONTRACTOR SHALL COORDINATE THE TRANSITION FROM THE EXISTING SIGNAL TO THE NEW SIGNAL WITH THE TOWN OF LEESBURG, AND PROVIDE A PLAN TO COMPLETE THIS WORK.

C. CONTROLLER AND CABINET

1) THE TOWN OF LEESBURG WILL PROVIDE THE CONTRACTOR WITH THE CONTROLLER AT NO COST TO THE CONTRACTOR. THE CONTROLLER TO BE PROVIDED IS A MENU-DRIVEN ACTUATED CONTROLLER MANUFACTURED BY McCAIN, INC. (McCAIN ATC NEMA SERIES CONTROLLER).

2) THE CONTRACTOR SHALL PROVIDE ALL AUXILIARY EQUIPMENT NECESSARY FOR COMPLETE AND PROPER FUNCTION OF THE SIGNAL. ALL CONTRACTOR-PROVIDED EQUIPMENT SHALL BE COMPATIBLE AND INTERCHANGEABLE WITH THE EXISTING McCAIN EQUIPMENT CURRENTLY IN USE IN THE TOWN OF LEESBURG AND SHALL BE THE LATEST "OMNI EX" FIRMWARE TO ENSURE THAT ALL FEATURES AND FUNCTIONS ARE PROVIDED AND ARE INTERCHANGEABLE.

3) THE TOWN OF LEESBURG WILL PROVIDE THE CONTRACTOR WITH A TRAFFIC SIGNAL CABINET AT NO COST TO THE CONTRACTOR. THE TOWN WILL DELIVER THE CABINET TO THE PROJECT SITE AT NO COST TO THE CONTRACTOR. THE CONTRACTOR MUST PROVIDE THE TOWN WITH 10 DAYS' NOTICE BEFORE DELIVERY OF THE CABINET IS REQUIRED.

4) THE TRAFFIC CONTROL SIGNAL CABINET PROVIDED BY THE TOWN OF LEESBURG WILL BE AN ATC, TYPE 350I, ATCC-HV-LXUPS WITH 4 DOORS, TWO 48 CHANNEL INPUT ASSEMBLIES, ONE 24 INPUT ASSEMBLY, TWO 244 DC ISOLATOR, FIVE SIU, ONE 16 CHANNEL OUTPUT ASSEMBLY, AND AN 8" RISER BASE. AS PART OF THE CABINET, THE TOWN WILL ALSO PROVIDE A CMU MANUFACTURED BY EDI, MODEL CMUIP 2212 WITH TWO PROGRAM KEYS, UPS AND BATTERY TRAYS WITH 8 (EIGHT) BATTERIES AND 9 (NINE) 2022HV HDSP/FU.

5) THE CONTRACTOR SHALL CONSTRUCT A CONCRETE TRAFFIC SIGNAL CABINET FOUNDATION IN ACCORDANCE WITH STANDARD CF-1 OF THE VDOT ROAD AND BRIDGE STANDARDS, MODIFIED WITH A REAR STEP. THE FOUNDATION SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 700.05 (B) AND (C) OF THE 2016 VDOT ROAD AND BRIDGE SPECIFICATIONS.

6) THE CONTRACTOR SHALL PROVIDE TRAINING TO TOWN OF LEESBURG PERSONNEL. THE TRAINING SHALL INCLUDE VERIFICATION OF CONTROLLER, CABINET AND AUXILIARY COMPONENTS, PROPER FUNCTIONALITY OF INPUTS, OUTPUTS AND COMMUNICATIONS WITHIN THE CABINET; AND COMMUNICATIONS WITH EXISTING TOWN OF LEESBURG EQUIPMENT.

7) THE CONTROL CABINET SHALL BE WIRED WITH A MINIMUM 30 AMP SWITCH TO THE POWER COMPANY FEED ON ONE SIDE AND AN ALTERNATE POWER SOURCE ON THE OPPOSITE SIDE TO AVOID A SURGE IN POWER IN THE EVENT THE MAIN FEED IS RESTORED WHILE THE ALTERNATE POWER SOURCE IS STILL ACTIVE. THE ALTERNATE POWER SOURCE SHALL BE A DOUBLE CONVERSION UNIT, COMPATIBLE WITH THE EXISTING UNITS IN THE TOWN OF LEESBURG, AND SHALL BE CONTAINED WITHIN THE 350I CABINET CONTAINING EIGHT GEL-TYPE BATTERIES ON A PULLOUT SHELF, CAPABLE OF OPERATING THE SIGNAL IN FULL OPERATION FOR A MINIMUM OF 8 HOURS. THE ALTERNATIVE POWER SOURCE SHALL HAVE THE CAPABILITY OF PROVIDING ALARM OUTPUTS AS WELL AS EVENT LOGGING. A ONE INCH RED LED LIGHT SHALL BE INSTALLED WHICH IS VISIBLE FROM THE ROADWAY WHEN THE UPS IS ACTIVE, AND SHALL BE COMPATIBLE WITH EXISTING TOWN OF LEESBURG ALTERNATE POWER EQUIPMENT. A WATERPROOF ALTERNATE 30 AMP POWER SOURCE PLUG (LEVITON SS303 OR EQUIVALENT) SHALL BE ACCESSIBLE FROM THE OUTSIDE OF THE CABINET AND SHALL BE COMPATIBLE WITH EXISTING TOWN OF LEESBURG EQUIPMENT. CORD SHALL BE PROVIDED TO THE TOWN TO CONNECT THE CABINET TO A TOWN-PROVIDED GENERATOR.

8) CONTRACTOR TO PROVIDE ALL NECESSARY CABLES FOR REMOTE COMMUNICATIONS.

9) CONTRACTOR TO SUPPLY MANUAL POLICE CORD.

10) CONTRACTOR TO SUPPLY ALL INTERNAL CABINET COMMUNICATION HARNESSES.

11) INTERNAL CABINET LIGHTING SHALL BE LED TO ILLUMINATE ALL OF THE CABINET.

D. POLES AND SIGNALS

1) THE DESIGNS OF THE SIGNAL POLE FOUNDATIONS ARE PROVIDED IN THESE CONSTRUCTION DRAWINGS. THE CONTRACTOR SHALL CONSTRUCT THE SIGNAL POLE FOUNDATIONS IN ACCORDANCE WITH SECTION 700.05 (B) AND (C) OF THE VDOT 2016 ROAD AND BRIDGE SPECIFICATIONS, AND THESE DRAWINGS.

2) THE TOWN OF LEESBURG HAS PERFORMED SUBSURFACE INVESTIGATIONS AT EACH OF THE POLE LOCATIONS. THE GEOTECHNICAL ENGINEERING REPORT, INCLUDING BORING LOGS ARE PROVIDED IN THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL MONITOR THE SUBSURFACE SOIL CONDITIONS ENCOUNTERED DURING THE CONSTRUCTION OF THE SIGNAL POLE FOUNDATIONS. IF SUBSURFACE SOILS ENCOUNTERED ARE SIGNIFICANTLY DIFFERENT FROM THE SOILS IDENTIFIED IN THE GEOTECHNICAL REPORT, THE CONTRACTOR SHALL NOTIFY THE TOWN. THE TOWN WILL PROMPTLY DETERMINE IF DIFFERING SOIL CONDITIONS REQUIRE REDESIGN OF THE FOUNDATION.

3) PEDESTAL POLES AND FOUNDATIONS SHALL BE IN ACCORDANCE WITH STANDARD PF-2 OF THE VDOT ROAD AND BRIDGE STANDARDS.

4) TRAFFIC SIGNAL POLE MAST ARM LENGTH IS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND SHALL BE FIELD DRILLED.

E. TRAFFIC SIGNAL HEADS

1) MAST ARM SIGNAL HEADS SHALL BE MOUNTED IN ACCORDANCE WITH STANDARD SM-3 OF THE VDOT ROAD AND BRIDGE STANDARDS. ALL BOLTS, NUTS AND WASHERS SHALL BE STAINLESS STEEL.

2) ALL SIGNAL HEADS SHALL BE ALUMINUM AND HAVE POLYCARBONATE BACKPLATES. THE FACE OF THE BACKPLATES SHALL HAVE A DULL BLACK FINISH. HARDWARE SHALL BE STAINLESS STEEL. THE BACKPLATE WILL NOT BE A HIGH VISIBILITY SIGNAL BACKPLATE (HVSB) WITH A YELLOW RETROREFLECTIVE BORDER

3) ALL SIGNALS TO BE LED IL (INCANDESCENT LOOK, NON-PIXILATED) TYPE PER VDOT ROAD AND BRIDGE SPECIFICATION 238.02 - ELECTRICAL AND SIGNAL COMPONENTS - DETAIL REQUIREMENTS.

4) PEDESTRIAN SIGNAL HEADS SHALL BE LED, IL (INCANDESCENT LOOK, NON-PIXILATED) COUNT DOWN, PER VDOT ROAD AND BRIDGE SPECIFICATION 238.02 - ELECTRICAL AND SIGNAL COMPONENTS - DETAIL REQUIREMENTS AND SHALL BE APPROVED BY THE TOWN OF LEESBURG. PEDESTRIAN HEADS SHALL BE MOUNTED IN ACCORDANCE WITH STANDARD SMB-3 ONE-WAY OF THE VDOT ROAD AND BRIDGE STANDARDS.

F. DETECTORS

1) 6' X 40' LOOP DETECTORS SHALL BE STANDARD TD-1C FROM THE VDOT ROAD AND BRIDGE STANDARDS, MODIFIED TO ALLOW CORNER DRILLING ONLY. LOOPS SHALL BE PLACED 5 FEET IN FRONT OF THE STOP LINE FOR ALL APPROACHES. ALL LOOP DETECTORS SHALL BE 6' X 40' UNLESS OTHERWISE SHOWN ON THE PLANS.

2) 6' X 6' LOOP DETECTORS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD TD-1B OF THE VDOT ROAD AND BRIDGE STANDARDS.

3) ALL DETECTORS SHALL BE INSTALLED IN BASE PAVEMENT BY SAW CUTTING THE PAVEMENT PRIOR TO FINAL ASPHALT OVERLAY.

4) ALL DETECTORS SHALL BE A MINIMUM OF 5 FEET FROM ANY CASTING (WATER, TELEPHONE, SANITARY, ETC.).

5) SPLICE KITS SHALL BE PERMITTED ON LOOP DETECTOR WIRING ONLY IN JUNCTION BOXES.

6) 14/1 ENCLOSED CONDUCTOR CABLE REQUIRES 5/8" SAW CUT FOR LEAD-IN CABLE.

7) VIDEO DETECTION SHALL BE 360 DEGREE, CMOS IP CAMERA. TWO CAMERAS WITH EXTENDER CARDS SHALL BE LOCATED ON THE MAINLINE SIGNAL ARMS TO COMPLIMENT THE LOOP DETECTION.

8) ALL LOOP DETECTORS SHALL BE RENO MODEL C-1203-R LOOP DETECTORS OR APPROVED EQUIVALENT (MINIMUM OF 20). LOOP DETECTORS (20 MINIMUM) SHALL BE INSTALLED FOR FUTURE USE.

9) PEDESTRIAN PUSH BUTTONS AND SIGNS SHALL BE PIEZO-TYPE WITH A CONFIRMATION LED AND SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD PA-2 OF THE VDOT ROAD AND BRIDGE STANDARDS.

10) EMERGENCY PRE-EMPTION EQUIPMENT SHALL BE GIT (FORMERLY 3M) OPTICOM EMERGENCY PRE-EMPTION (760 SERIES WITH GREEN SENSE AND 2 LED CONFIRMATION LIGHTS FOR EACH APPROACH). 721 DETECTORS SHALL BE USED. DETECTOR LOCATIONS SHALL BE LOCATED AS SHOWN ON THE PLANS, UNLESS OTHERWISE DIRECTED BY THE TOWN.

11) VIDEO MONITORING SHALL CONSIST OF A POINT-TURN-ZOOM (PTZ) CAMERA MEETING THE FOLLOWING SPECIFICATIONS:

- CISCO VIDEO SURVEILLANCE 6930 SERIES, HIGH DEFINITION PTZ IP CAMERA, OR APPROVED EQUIVALENT
  - PAN / TILT ENCLOSURE WITH IOP OR PRESSURIZED IOC NTSC/PAL
- TILT RANGE OF -36 DG TO -85 DG FROM HORIZONTAL
- ABILITY TO OPERATE CONTROL AND MONITOR OVER IP NETWORK, H264, MPEG-4 AND MJPEG COMPRESSION
- MULTILEVEL PASSWORD PROTECTION
- AUTO-TRACKING AND HORIZONTAL ZONE AND WINDOW BLANKING
- ON-SCREEN COMPASS AND TILT DISPLAY AND OPEN IP STANDARDS
- HEATER OPTICAL LENS WITH 36X OPTICAL ZOOM
- NTSC WITH OPTICAL SENSOR TYPE:
  - 1/2.8-INCH CMOS WITH MINIMUM ILLUMINATION OF 0.5 LUX - COLOR - 0.05 LUX;
  - OPTICAL ZOOM: 20 X
  - FOCAL LENGTH: 4.7 MM - 94 MM, AUTOMATIC, MANUAL FOCUS ADJUSTMENT
  - LENS IRIS: F/1.4 - AUTO AND MANUAL IRIS, 360 DEGREE PANNING RANGE, 220 DEGREE TILTING RANGE
  - ETHERNET 10BASE-T/100BASE-TX INTERFACES
  - 4 CONTROL INTERFACE
  - ALARM INPUTS AC 18 - 32 V / DC 22-27 V
  - MOTION SENSOR
  - PROGRESSIVE SCAN CCD SYSTEM
  - WHITE BALANCE
  - AUTO GAIN CONTROL
  - WIDE DYNAMIC RANGE (WDR) WITH MOUNTING EQUIPMENT
  - POWER SUPPLY AND ALL CABLES
  - CAT5E OUTDOOR RATED
  - GEL FILLED CABLE SHALL BE USED

G. UTILITIES

1) UNDERGROUND CONDUIT SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD EC-1 OF THE VDOT ROAD AND BRIDGE STANDARDS.

2) CONDUIT UNDER EXISTING ROADWAYS OR PAVEMENT SHALL BE BORED, UNLESS OTHERWISE NOTED ON THE PLANS, OR APPROVED BY THE TOWN OF LEESBURG.

3) ALL UTILITIES SHALL BE LOCATED AND MARKED PRIOR TO INITIATION OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING MISS UTILITY AT 1-800-552-7001 TO SCHEDULE UTILITY LOCATIONS. THREE (3) WORKING DAYS' NOTICE IS REQUIRED.

4) THE MINIMUM CLEARANCE BETWEEN UTILITIES AT CROSSINGS SHALL BE 18" UNLESS OTHER PROVISIONS TO PREVENT DAMAGE TO THE UNDERLYING UTILITIES ARE MADE.

5) THE CONTRACTOR SHALL INSTALL A 6" WIDE LOCATION TAPE, 6" BELOW THE SURFACE OVER ALL BURIED CONDUITS AND CABLES.

6) NEW UNDERGROUND ELECTRICAL SERVICE SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD SE-5 OF THE VDOT ROAD AND BRIDGE STANDARDS.

7) DOMINION ENERGY WILL INSTALL CABLE FROM THE POWER SOURCE TO THE ELECTRIC METER AT NO COST TO THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH DOMINION ENERGY AND FOR ALL OTHER WORK NECESSARY TO PROVIDE ELECTRICAL SERVICE TO THIS LOCATION.

8) THE CONTRACTOR SHALL INSTALL CONDUIT FROM THE ELECTRICAL SERVICE JUNCTION BOX TO THE POWER SOURCE. THE CONTRACTOR SHALL COORDINATE THE POWER SERVICE WITH DOMINION ENERGY.

9) ALL JUNCTION BOXES SHALL BE STANDARD JB-S1 OR JB-S3 OF THE VDOT ROAD AND BRIDGE STANDARDS UNLESS OTHERWISE NOTED ON THE CONSTRUCTION DRAWINGS.

10) JUNCTION BOX COVERS SHALL HAVE THE FOLLOWING WORDING CAST IN THE TOP SURFACE DEPRESSION IN ACCORDANCE WITH THE USE OF THE JUNCTION BOX:

- "TRAFFIC" - FOR TRAFFIC RELATED JUNCTION BOXES CONTAINING CABLE WITH LESS THAN 50 VOLTS.
- "ELECTRIC" - FOR TRAFFIC RELATED JUNCTION BOXES CONTAINING CABLE WITH MORE THAN 50 VOLTS.
- "COMM" - FOR JUNCTION BOXES CONTAINING INTERCONNECT CABLE.

NO OTHER WORDING SHALL BE CAST ONTO THE TOPS OF THE JUNCTION BOXES.

H. SIGNS AND PAVEMENT MARKINGS

1) ALL PAVEMENT MARKINGS SHALL BE TYPE B THERMOPLASTIC PAVEMENT MARKING MATERIAL (TYPE B, CLASS 1) IN ACCORDANCE WITH SECTION 246.03 (b) OF THE VDOT ROAD AND BRIDGE SPECIFICATIONS.

2) ALL SIGNS SHALL MEET THE REQUIREMENTS OF SECTION 701 TRAFFIC SIGNS AND SECTION 229.02 (a) ALUMINUM ALLOY - DETAIL REQUIREMENTS - SHEETS AND PLATES OF THE VDOT ROAD AND BRIDGE SPECIFICATIONS. SHEETING ON ALL SIGNS SHALL BE PRISMATIC LENS (DIAMOND GRADE) 3M 4090 OR EQUIVALENT REFLECTIVE SHEETING.

3) THE PAVEMENT MARKINGS ON THESE PLANS ARE CONCEPTUAL. FINAL MARKING LAYOUT TO BE PERFORMED BY THE CONTRACTOR AND APPROVED BY THE TOWN OF LEESBURG PRIOR TO BEGINNING APPLICATION OF PAVEMENT MARKINGS.

4) MAST ARM SIGN PANELS SHALL BE MOUNTED IN ACCORDANCE WITH STANDARD SMD-2 OF THE VDOT ROAD AND BRIDGE STANDARDS, WITH ONE HANGER PER 2' OF SIGN.

I. INTERCONNECT / COMMUNICATIONS

1) NEW FIBER WITH TRACER SHALL BE INSTALLED FROM THE SIGNAL AT SOUTH KING STREET / CLUBHOUSE DRIVE TO THE INTERSECTION AT SOUTH KING STREET / EVERGREEN MILL ROAD AND SHALL BE 1310 nm, MINIMUM 8 FIBERS TO EACH CABINET.

2) FIBER TERMINATION SHALL BE IN A SUITABLE FIBER ENCLOSURE (CORNING SHP-001 OR EQUIVALENT), WITH A MINIMUM OF 8 FIBERS TERMINATED FOR EACH FIBER CABLE.

3) A 3" CONDUIT TO THE SOUTH KING STREET / EVERGREEN MILL ROAD INTERSECTION SHALL BE INSTALLED WITH JB-S3 JUNCTION BOXES MARKED "COMM" LOCATED AT APPROXIMATE 400-FOOT SPACING. FIBER SHALL BE TESTED. A REPORT CONFIRMATION OF THE DB LOSS SHALL BE SUBMITTED TO THE TOWN WITHIN 48 HOURS OF THE TESTING.

4) EXISTING COMMUNICATIONS SHALL NOT BE DISRUPTED FOR MORE THAN 12 HOURS. THE CONTRACTOR SHALL NOTIFY THE TOWN A MINIMUM OF 24 HOURS PRIOR TO INTERRUPTING COMMUNICATIONS FOR ANY REASON, INCLUDING OPTICAL TIME-DOMAIN REFLECTOMETER (OTDR) TESTING OF FIBERS.

Revisions

Date	Initial

ENGINEER:
Rinker Design Associates, P.C.
Engineering · Surveying · Land Planning · Transportation · Environmental Services
10363 Democracy Lane, Suite 210, Fairfax, VA 22030 www.rinkerdesign.com
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"We Welcome the Opportunity
to Make Your Vision Reality"

PROJECT MANAGER: MARK A. GUNN, P.E.

Clubhouse Drive Signal
INTERSECTION OF SOUTH KING ST. & CLUBHOUSE DR.
TRAFFIC SIGNAL REPLACEMENT GENERAL NOTES
Loudoun County, Virginia

PROJECT NAME: Town of Leesburg
SUBMISSION DATE: 6/29/2018

COMMONWEALTH OF VIRGINIA
ADAM D. WELSCHENBACH
Lic. No. 044359
PROFESSIONAL ENGINEER

Adam Welschenbach
2018.06.29 16:07:56 -04'00'

ASSOCIATED PLAN: N/A
C.I.P. NUMBER: 18005
VDOT PROJ. NO.: N/A
TOWN NUMBER: TBD

Sheet 1A

PROJECT MANAGER Tom Brandon,(703)-737-6067 (Town of Leesburg)
SURVEYED BY Rinker Design Associates, (703) 368-7373
DESIGNED BY Rinker Design Associates, (703) 368-7373
SUBSURFACE UTILITY BY Accumark,(800) 542-2990 (207)

Signing and Pavement Marking Plans

Sign Schedule, Notes, and Details

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE TOWN OF LEESBURG

Permanent Sign Schedule

TEXT NO.	TEXT	SIGN ASSEMBLY NO(s).	MUTCD STD.	PANEL SIZE WIDTH	PANEL SIZE HEIGHT	QTY.	SIGN AREA (S.F.) PER SIGN	SIGN AREA (S.F.) PER ASSEMBLY	SIGN STRUCT. STD.	SIGN STRUCT. QTY.	REMARKS
1	RAMP 15 MPH	401	W13-3	24	30	1	5.0	5.0	STP-1 2 Inch 14 Ga.	1	STP-1 Foundation Type D
2	BUSINESS 15 ←	402	M4-3 M1-4 M6-1	24 24 21	12 24 15	1 1 1	2.0 4.0 2.19	8.19	STP-1 2 1/2 Inch 12 Ga.	1	STP-1 Foundation Type E
3		403	W11-15 W16-7pL	30 24	30 12	1 1	6.25 2.0	8.25	STP-1 2 1/2 Inch 12 Ga.	1	STP-1 Foundation Type E Sign shall be Fluorescent Yellow-Green in color
4	STOP DISMOUNT BIKES	404,408	R1-1 Special	18 24	18 18	2 2	2.25 3.0	5.25	STP-1 2 Inch 14 Ga.	2	STP-1 Foundation Type D See Sheet 2A for Sign Fabrication Detail
5	YIELD	405,407	R1-2	36	36	2	9	9	STP-1 2 1/2 Inch 12 Ga.	2	STP-1 Foundation Type E
6	SOUTH 15 →	406	M3-3 M1-4 M6-1	24 24 21	12 24 15	1 1 1	2.0 4.0 2.19	8.19	STP-1 2 1/2 Inch 12 Ga.	1	STP-1 Foundation Type E

SIGN SCHEDULE NOTES:

1) All signs shall be orientated as shown on the plans.
2) Sign color combinations shall be in accordance with the FHWA SHS Book and the 2011 Virginia SHS Book or as noted in the plans.
3) All positive contrast guide and specific service signs shall utilize fabrication letter type L-3 or L-4 unless otherwise noted in the remarks. All other signs shall utilize fabrication letter type L-1 or L-2 unless otherwise noted in the remarks.
4) All black sheeting shall be non-reflective.
5) Sign Structures shall be installed per the noted Sign St'd.
6) All St'd. STP-1 structures to be single post unless otherwise noted.

TOWN OF LEESBURG TYP. STREET SIGN DETAIL & SPECIFICATION

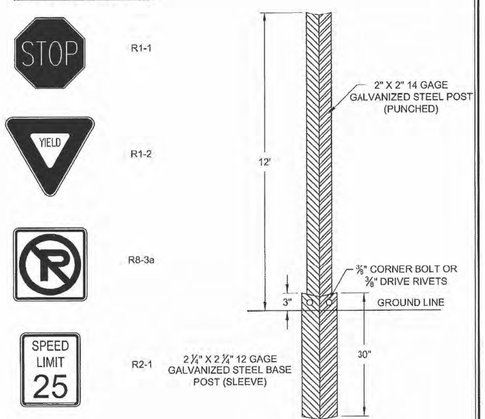
6" Extruded Aluminum Street Sign Blank
White Diamond Grade Sheeting
Brown Overlay With Lettering Cut Out
Font: Baskerville Bold ACCT .A.K.REV.F
Street Name: 3 Inch
St , Rd , Or Ct Etc. : 2 Inch
Block Number and Quadrant: 1.5 Inch

Post: Galvanized Steel 2" Round 10' Long with Ground End Crushed.
Sign Top: 2" Round 5.25" Sign Perch
90 Degree Cross: 5.25" x 5.25" For Intersecting Signs

The Town of Leesburg in Virginia — DESIGN AND CONSTRUCTION STANDARD

ARTICLE 7-310.16

EXAMPLES OF PUBLIC SIGNS



NOTE:
ALL SIGNS SHALL BE PRISMATIC LENS SHEETING.

Not To Scale

REVISIONS NO.	DATE
1	03/2010

TYPICAL STREET SIGNS AND INSTALLATION

DRAWING TS-5

PAGE 81

GENERAL NOTES - PAVEMENT MARKINGS

1. All proposed pavement markings shall be in accordance with the current edition of each of the following and any revision thereof at the time the contract was ratified:
   A. Manual on Uniform Traffic Control Devices (MUTCD)
   B. The Virginia Supplement to the Manual on Uniform Traffic Control Devices
   C. The Virginia Department of Transportation Road and Bridge Specifications
   D. Town of Leesburg DCSM - See General Notes
2. Existing pavement markings that conflict with the proposed pavement markings, shall be removed via roadway overlay or completely eradicated.
3. Limits of proposed pavement markings are approximate and shall be modified in the field to ensure that proposed pavement markings continue until existing pavement markings can be matched.
4. Elongated arrows shall be in accordance with MUTCD and VDOT Road and Bridge Specifications.
5. Pavement markings placed on concrete surfaces shall be supplemented with black contrast at NO ADDITIONAL COST TO PROJECT.

GENERAL NOTES - SIGNING

1. Unless otherwise approved by the Engineer, existing traffic signs, which are to be removed, shall remain in place until the new sign structure and critical message are in place.
2. Proposed signs and sign structures shall not impact underground existing utilities. Contractor is responsible for any disruption in Utility Service due to digging for sign structures. If Proposed sign location will cause impact to existing Utility Service, sign location shall be relocated at the approval of the engineer, at no additional cost.
3. All underground and overhead utilities shown on these plans are approximate only and may not be complete. At least 72 hours prior to beginning signing work, Contractor shall contact "Miss Utility of Virginia" at 1-800-552-7001 in order to determine the extent, location, and identify all of the utilities within the work area. If the Contractor perceives a conflict between utilities and the proposed signs, the Contractor shall notify the Engineer immediately so the conflict may be reviewed. The Contractor shall be responsible for repairing or replacing, at their own expense, any existing utilities, pavement, concrete items, etc. that are damaged or disturbed during construction.
4. The removal or modification of existing sign panels, structures, or foundations shall conform to Section 510 of the VDOT Road and Bridge Specifications.
5. Unless otherwise indicated on the plans, all breakaway sign structures shall be located within 10' of the sign's indicated location or as directed by the Engineer, and within the Existing or proposed Right of Way.
6. All existing and proposed sign locations are approximate and shall be field verified by the contractor. All proposed sign locations shall be staked by the contractor and approved by the engineer prior to installation.
7. All proposed signs located adjacent to pedestrian walkways and paths shall be mounted such that a minimum of 7 ft clearance exists from the walking surface to the bottom of the lowest sign panel.

Revisions

Date	Initial

Office Locations
Rinker Design Associates, P.C.
Civil Engineering - Surveying - Land Planning
Transportation - Environmental - Right of Way Services
20110 Ashbrook Commons Plaza, Suite 108, Ashburn, VA 20147, Phone: (703) 729-4717, Fax: (703) 729-4718
4850 Mercury Blvd., Suite 100, Hampton, VA 23666, Phone: (757) 224-4185, Fax: (757) 224-4186
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"We Welcome the Opportunity"
"To Make Your Vision Reality"
PROJECT MANAGER: MARK A. GUNN, P.E.

PROJECT NAME:
Clubhouse Drive Signal
INTERSECTION OF SOUTH KING ST. & CLUBHOUSE DR.
SIGNING & MARKING - SIGN SCHEDULE, NOTES, AND DETAILS
Town of Leesburg
Loudoun County, Virginia
SUBMISSION DATE: 6/29/2018

COMMONWEALTH OF VIRGINIA
ADAM D. WELSCHENBACH
Lic. No. 044359
PROFESSIONAL ENGINEER

Adam Welschenbach
2018.06.29 16:08:25 -04'00'

ASSOCIATED PLAN: N/A
C.I.P. NUMBER: 18005
VDOT PROJ. NO. N/A
TOWN NUMBER: TBD

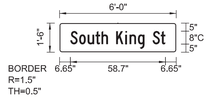
Sheet 2

PROJECT MANAGER Tom Brandon,(703)-737-6067 (Town of Leesburg)
SURVEYED BY Rinker Design Associates, (703) 368-7373
DESIGNED BY Rinker Design Associates, (703) 368-7373
SUBSURFACE UTILITY BY Accumark,(800) 542-2990 (2017)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE TOWN OF LEESBURG

SIGN DETAIL

N.T.S
Dimensions are in inches.tenths



SIGN NUMBER	name
WIDTH x HGHT.	6'-0" x 1'-6"
BORDER WIDTH	0.5"
CORNER RADIUS	1.5"
MOUNTING	Overhead
BACKGROUND	TYPE: Reflective
	COLOR: Brown
LEGEND/BORDER	TYPE: Reflective
	COLOR: White/White

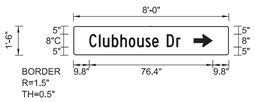
SYMBOL	ROT	X	Y	WID	HT

LETTER POSITIONS (X)

S	o	u	t	h		K	l	n	g		S	t	LENGTH	SERIES/SIZE
6.7	12.1	17.3	22.2	25.9	29.9	34.9	40.6	43.2	48.4	52.5	57.5	62.5	58.7	C 2000 8/6

SIGN DETAIL

1:50
Dimensions are in inches.tenths



SIGN NUMBER	name
WIDTH x HGHT.	8'-0" x 1'-6"
BORDER WIDTH	0.5"
CORNER RADIUS	1.5"
MOUNTING	Overhead
BACKGROUND	TYPE: Reflective
	COLOR: Brown
LEGEND/BORDER	TYPE: Reflective
	COLOR: White/White

SYMBOL	ROT	X	Y	WID	HT
AR_Type D	90	74.3	5	8	12

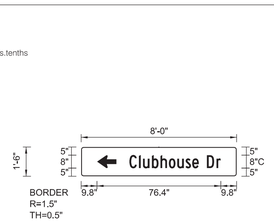
LETTER POSITIONS (X)

C	l	u	b	h	o	u	s	e		D	r	LENGTH	SERIES/SIZE
9.8	15.7	18.2	23.7	29	34.2	39.4	44.5	48.6	52.7	57.7	63.6	56.4	C 2000 8/6

Note:
All signal mounted street name signs are to be LED internally illuminated. See Contract Special Provisions for additional details.

SIGN DETAIL

N.T.S.
Dimensions are in inches.tenths



SIGN NUMBER	name
WIDTH x HGHT.	8'-0" x 1'-6"
BORDER WIDTH	0.5"
CORNER RADIUS	1.5"
MOUNTING	Overhead
BACKGROUND	TYPE: Reflective
	COLOR: Brown
LEGEND/BORDER	TYPE: Reflective
	COLOR: White/White

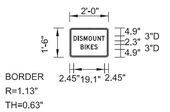
SYMBOL	ROT	X	Y	WID	HT
AR_Type D	90	9.8	5	8	12

LETTER POSITIONS (X)

C	l	u	b	h	o	u	s	e		D	r	LENGTH	SERIES/SIZE
29.8	35.7	38.2	43.7	49	54.2	59.4	64.5	68.6	72.7	77.7	83.6	56.5	C 2000 8/6

SIGN DETAIL

N.T.S
Dimensions are in inches.tenths



SIGN NUMBER	name
WIDTH x HGHT.	2'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	1.13"
MOUNTING	Overhead
BACKGROUND	TYPE: Reflective
	COLOR: White
LEGEND/BORDER	TYPE: Reflective
	COLOR: Black/Black

SYMBOL	ROT	X	Y	WID	HT

LETTER POSITIONS (X)

D	I	S	M	O	U	N	T													LENGTH	SERIES/SIZE
2.4	5.1	6.1	8.7	11.7	14.5	17.2	19.7													19.1	D 2000 3
B	I	K	E	S																	D 2000
6.7	9.3	10.5	13.1	15.2																10.6	3

Office Locations

Rinker Design Associates, P.C.
Civil Engineering ~ Surveying ~ Land Planning
Transportation ~ Environmental
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Telephone: (703) 368-7373 ~ Fax: (703) 257-5443
"We Welcome the Opportunity"
"To Make Your Vision Reality"

PROJECT MANAGER: MARK A. GUNN, P.E.

Clubhouse Drive Signal
INTERSECTION OF SOUTH KING ST. & CLUBHOUSE DR.
SIGN FABRICATION DETAILS
Loudoun County, Virginia

PROJECT NAME: Town of Leesburg
SUBMISSION DATE: 6/29/2018

COMMONWEALTH OF VIRGINIA
ADAM D. WELSCHENBACH
Lic. No. 044359
PROFESSIONAL ENGINEER

Adam Welschenbach
2018.06.29 16:08:52 -04'00'

ASSOCIATED PLAN: N/A
C.I.P. NUMBER: 18005
VDOT PROJ. NO.: N/A
TOWN NUMBER: TBD

Revisions

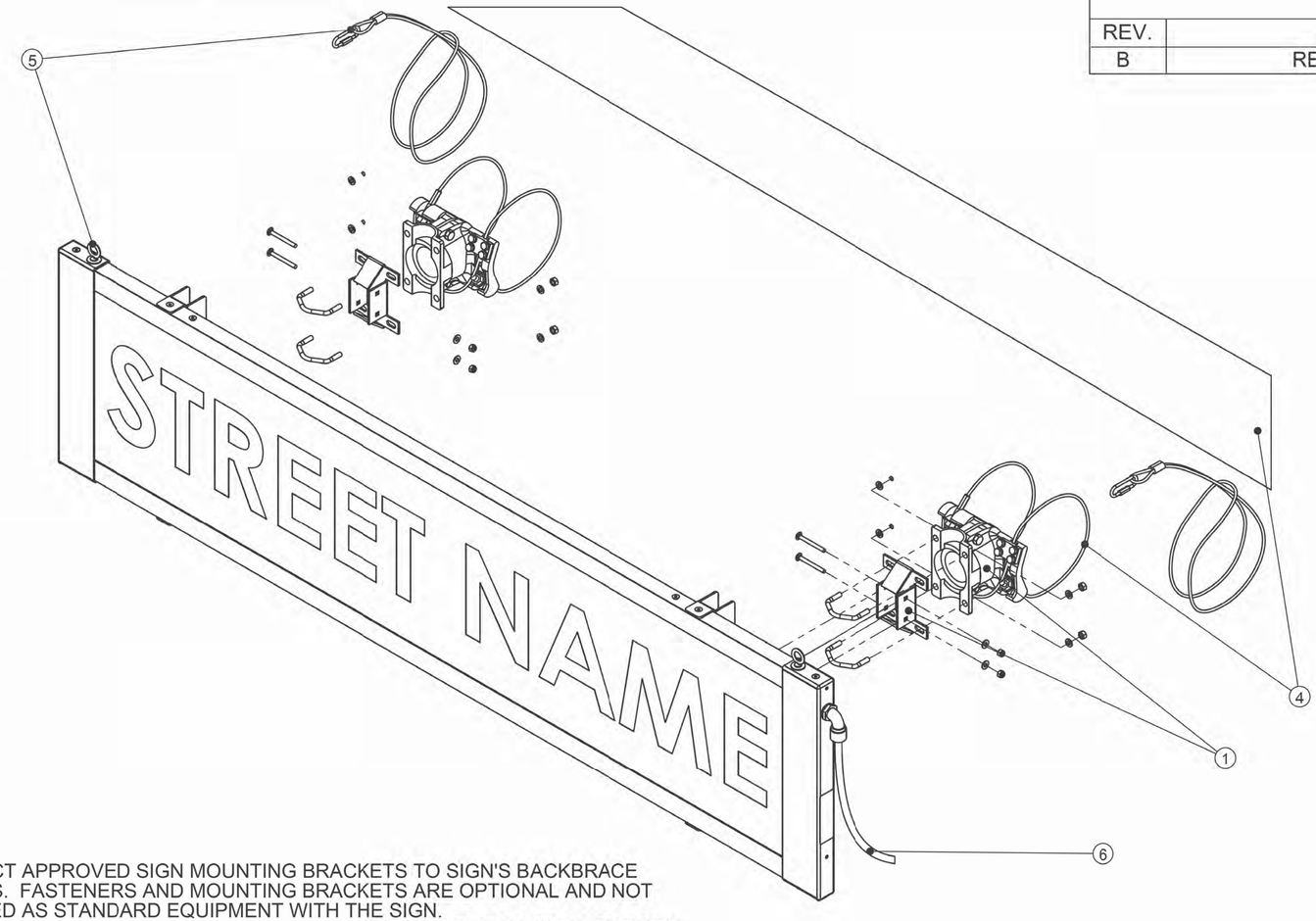
Date	Initial

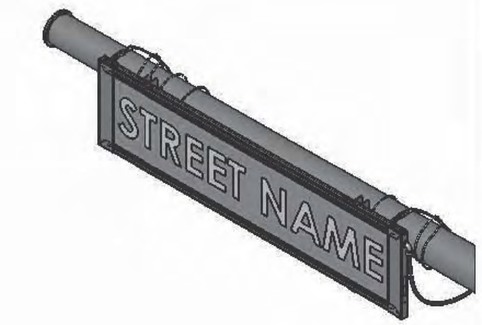
Sheet
2A

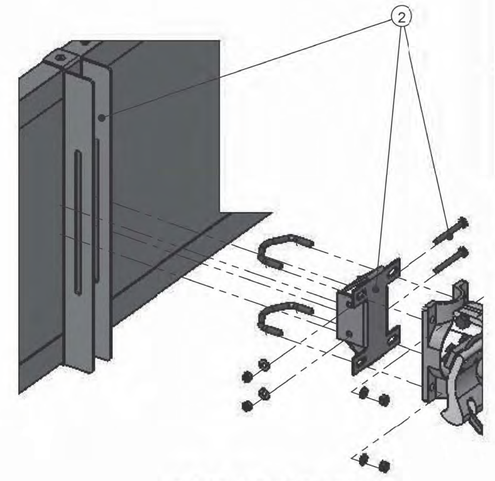
PROJECT MANAGER Tom Brandon,(703)-737-6067 (Town of Leesburg)
SURVEYED BY Rinker Design Associates, (703) 368-7373
DESIGNED BY Rinker Design Associates, (703) 368-7373
SUBSURFACE UTILITY BY Accumark,(800) 542-2990 (2017)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE TOWN OF LEESBURG

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
B	REVISED RELEASE	03/18/2009	AJL







REAR DETAIL VIEW

INSTALLATION:

1. CONNECT APPROVED SIGN MOUNTING BRACKETS TO SIGN'S BACKBRACE SLIDERS. FASTENERS AND MOUNTING BRACKETS ARE OPTIONAL AND NOT SUPPLIED AS STANDARD EQUIPMENT WITH THE SIGN.
2. TO ASSIST IN STEP 1, BACKBRACE SLIDERS MAY HAVE TO BE REMOVED FROM THEIR BACKBRACES. IF REMOVED, RE-ATTACH SLIDERS TO BACKBRACES USING HARDWARE INCLUDED WITH SIGN.
3. APPROVED BRACKETS, SUCH AS PELCO AS-3004 OR AS-3009 **MUST** BE ORIENTED AS SHOWN.
4. RIGIDLY ATTACH MOUNTING BRACKET TO MAST ARM, USING EITHER THE BANDING OR CABLING PROVIDED WITH THE MOUNTING BRACKET.
5. **TWO (2) SAFETY CABLES ARE REQUIRED, ONE FOR EACH END.**

   LOOP SAFETY CABLE OVER MAST ARM, THROUGH ITSELF, AND THEN PERMANENTLY ATTACH IT TO PROVIDED EYEBOLT.
6. CONNECT ELECTRICAL TERMINATIONS USING LOCALLY-APPROVED METHODS:
   - BLACK: LINE VOLTAGE, 120-240VAC, 50/60Hz
   - WHITE: NEUTRAL
   - GREEN: GROUND

NOTES: **LOCAL AUTHORITIES ARE RESPONSIBLE FOR THE TRAFFIC SYSTEM DESIGN, TAKING INTO ACCOUNT LOCAL ENVIRONMENTAL AND WIND LOADING CONDITIONS.** TYPICAL MOUNTING CONFIGURATION INVOLVING PELCO AS-3004 OR AS-3009 SIGN MOUNTING BRACKETS SHOWN ABOVE (OTHERS POSSIBLE). **(COSTS OF BRACKETS SHALL BE INCLUDED WITH SIGN PANEL.) ELECTRICAL CONNECTIONS NOT SHOWN FOR CLARITY.**

UNLESS OTHERWISE SPECIFIED
DO NOT SCALE DRAWING

INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.100-2000
TOLERANCES APPLY AS SHOWN BELOW

DECIMALS	SURF FNSH	ANGLES
.X ±.1	63	±1°
.XX ±.01		
.XXX ±.005		
.XXXX ±.0005		

INCHES

THIRD ANGLE PROJECTION

NOTES:

1. Shop drawings for lighted signs on signals must be approved by the Town of Leesburg prior to ordering any materials.

2. Lighted sign size shall be consistent with the sizes shown per details on Sheet 2A, unless otherwise directed by the Town Engineer.

THIS SHEET FOR INFORMATION ONLY

COMMONWEALTH OF VIRGINIA
ADAM D. WELSCHENBACH
Lic. No. 044359
PROFESSIONAL ENGINEER

Adam Welschenbach
2018.06.29 16:09:19 -04'00'

Revisions	
Date	Initial

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"We Welcome the Opportunity to Make Your Vision Reality"

PROJECT MANAGER: MARK A. GUNN, P.E.

Clubhouse Drive Signal
INTERSECTION OF SOUTH KING ST. & CLUBHOUSE DR.
LIGHTED SIGN MOUNTING DETAILS
Loudoun County, Virginia

PROJECT NAME: Town of Leesburg
SUBMISSION DATE: 6/29/2018

ASSOCIATED PLAN: N/A
C.I.P. NUMBER: 18005
VDOT PROJ. NO.: N/A
TOWN NUMBER: TBD

Sheet 2B

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Suite 101
Williamsburg, VA 23185
Phone: (757) 645-3065
Fax: (757) 645-3066
Central Virginia
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Fax: (804) 560-1556

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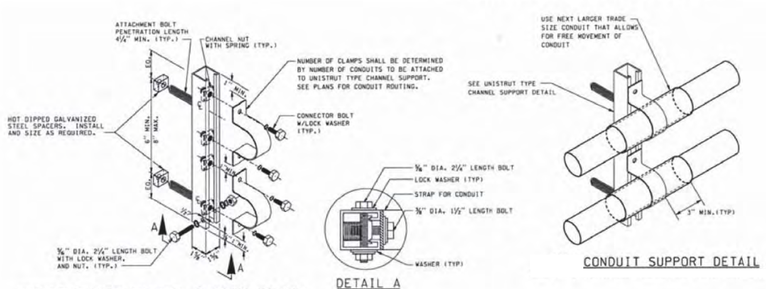
DESIGNED BY *Rinker Design Associates, (703) 368-7373*
SUBSURFACE UTILITY BY *Accumark,(800) 542-2990 (2017)*

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE TOWN OF LEESBURG

Externally Mounted Conduit – attachment detail



NOTES

MOUNTING HARDWARE DETAILS ARE PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY. THE CONTRACTOR MAY PROPOSE GEOMETRIC ATTACHMENT MODIFICATIONS, SUBJECT TO APPROVAL BY THE ENGINEER.

Drilling through reinforcing steel is not allowed. If steel is hit while drilling, the location shall be moved and the abandoned hole filled with grout conforming to VDOT Road and Bridge Specifications Standard 218. There shall be a minimum 3" edge distance to the centerline of anchor holes in concrete. Mount the unistrut type support using an approved resin bonded anchor system. Installed per manufacturer's recommendation in dry conditions. Resin bonded anchors shall be stainless steel and shall be a minimum of ⅜" dia. unless the plains require larger anchors. (Expansion anchors are not allowed.)

RIGID GALVANIZED STEEL CONDUIT

NOMINAL TRADE SIZE	CONDUIT STRAP DIAMETER OUTSIDE	INSIDE
½	0.840	0.632
¾	1.050	0.836
1	1.315	1.063
1¼	1.660	1.394
1½	1.900	1.624
2	2.375	2.083
2½	2.875	2.489
3	3.500	3.090
3½	4.000	3.570
4	4.500	4.050
5	5.563	5.073
6	6.625	6.093

NOTE:
Contractor shall include one expansion joint with installation of Externally Mounted Conduit, and the cost shall be included in the price of the bid. All materials (ie. nuts, screws, brackets, washers, etc.), labor, and equipment for Externally Mounted Conduits shall be included in the cost of conduit installation and shall not be paid for as a separate item.

THIS SHEET FOR INFORMATION ONLY

COMMONWEALTH OF VIRGINIA
ADAM D. WELSCHENBACH
Lic. No. 044359
PROFESSIONAL ENGINEER

Adam Welschenbach
2018.06.29 16:09:45 -04'00'

This picture is intended as a graphic representation of the Externally Mounted Conduit. It is presented for information purposes only.

Revisions

Date	Initial

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PROJECT MANAGER: MARK A. GUNN, P.E.

PROJECT NAME:
Clubhouse Drive Signal
INTERSECTION OF SOUTH KING ST. & CLUBHOUSE DR.
TRAFFIC SIGNAL PLAN - BRIDGE CONDUIT ATTACHMENT DETAILS
Town of Leesburg Loudoun County, Virginia
SUBMISSION DATE: 6/29/2018

ASSOCIATED PLAN: N/A
C.I.P. NUMBER: 18005
VDOT PROJ. NO. N/A
TOWN NUMBER: TBD

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Fax: (614) 340-1578

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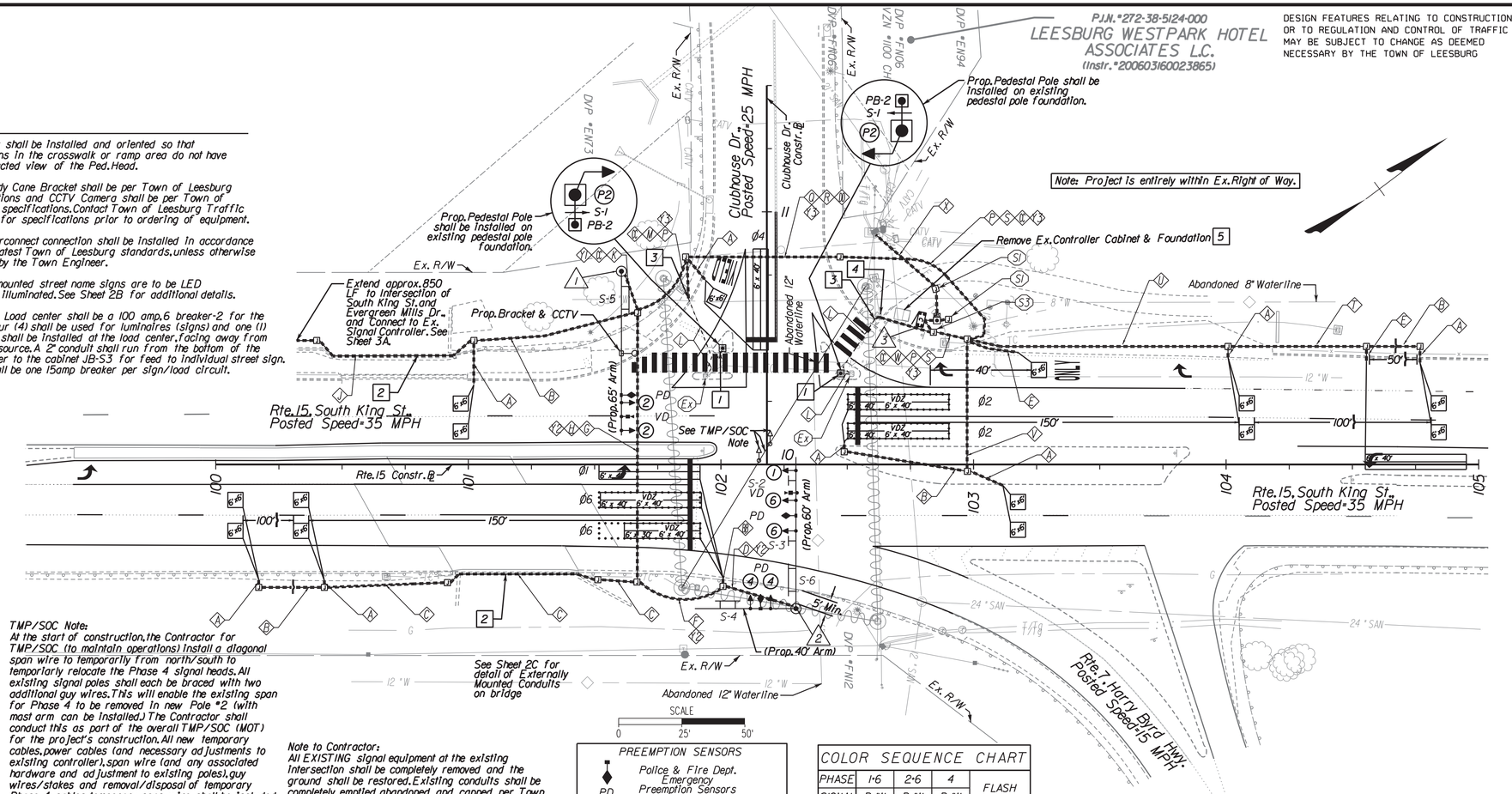
DESIGNED BY *Rinker Design Associates, (703) 368-7373*
SUBSURFACE UTILITY BY *Accumark,(800) 542-2990 (2017)*

P.I.N.#272-38-5124-000
LEESBURG WESTPARK HOTEL ASSOCIATES L.C.
(Instr.#200603160023865)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE TOWN OF LEESBURG

Notes:

1. For Power Service Connection details, See General Notes, Sheet 1A.
2. The Contractor shall be responsible for providing and maintaining power to the controller at all times. The Contractor is responsible for any costs related to providing power to the traffic signal. See General Notes, Sheet 1A for more information.
3. Cost to relocate impacted utilities caused by signal installation shall be incidental to signal construction and shall not be paid for as a separate item.
4. All signal heads and signal mast arms shall have a minimum of 10' horizontal and vertical clearance from nearby aerial utilities. Any relocations necessary are the sole responsibility of the Contractor.
5. The contractor shall be responsible for providing and maintaining communication to the controller at all times. The contractor is responsible for any costs associated with providing communication to the traffic signal. See General Notes on Sheet 1A for contact information and details.
6. Ped. Heads shall be installed and oriented so that pedestrians in the crosswalk or ramp area do not have an obstructed view of the Ped. Head.
7. CCTV Candy Cane Bracket shall be per Town of Leesburg specifications and CCTV Camera shall be per Town of Leesburg specifications. Contact Town of Leesburg Traffic Engineer for specifications prior to ordering of equipment.
8. Signal interconnect connection shall be installed in accordance with the latest Town of Leesburg standards, unless otherwise directed by the Town Engineer.
9. All signal mounted street name signs are to be LED internally illuminated. See Sheet 2B for additional details.
10. The SE-5 Load center shall be a 100 amp, 6 breaker-2 for the signal. Four (4) shall be used for luminaires (signs) and one (1) photo cell shall be installed at the load center, facing away from any light source. A 2" conduit shall run from the bottom of the load center to the cabinet JB-S3 for feed to individual street sign. There shall be one 15amp breaker per sign/load circuit.



Signal Pole & Controller Legend
(ALL DIMENSIONS ARE TO CENTER OF POLE)

The MP-3 (and Mast Arms) shall be designed to meet any NESC utility clearance requirements

1. St'd Mast Arm Pole (MP-3) with St'd. PF-8 Foundation
76.41' Left of Rte.15 Constr. Baseline Sta. 101+60.62
65' Mast Arm 90.00° Angle to Rte.15 Constr. Baseline
Signal Head Placement: 52.0', 63.0'
Sign Placement: 10.5'
Pre-emption Placement: 49.0'
Video Detector Placement: 57.50'
CCTV Placement: 32.5'
One (1) 15 amp breaker on pole

2. St'd Mast Arm Pole (MP-1) with St'd. PF-8 Foundation.
57.0' Right of Rte.15 Constr. Baseline Sta. 102+29.69
(Edge of Foundation Shall be a minimum of 5' behind face of Guardrail)
60' Mast Arm 270.00° Angle to Rte.15 Baseline
Signal Heads Placement: 31.0', 42.2', 55.3'
Sign Placement: 11.5', 51.2'
Pre-emption Placement: 37.2'
Video Detector Placement: 46.3'
40' Mast Arm 180.00° Angle to Rte.15 Baseline
Signal Heads Placement: 8.0', 16.0'
Sign Placement: 25.0'
Pre-emption Placement: 12.0'
Two (2) 15 amp breakers on pole

3. Prop. Controller Cabinet and Foundation
St'd CF-1 Controller Foundation Req'd.

TMP/SOC Note:
At the start of construction, the Contractor for TMP/SOC (to maintain operations) install a diagonal span wire to temporarily from north/south to temporarily relocate the Phase 4 signal heads. All existing signal poles shall each be braced with two additional guy wires. This will enable the existing span for Phase 4 to be removed in new Pole #2 (with mast arm can be installed.) The Contractor shall conduct this as part of the overall TMP/SOC (MOT) for the project's construction. All new temporary cables, power cables (and necessary adjustments to existing controller), span wire (and any associated hardware and adjustment to existing poles), guy wires/stakes and removal/disposal of temporary Phase 4 cables, temporary span wire shall be included in the project's cost for TMP/SOC (MOT) and not paid for separately.

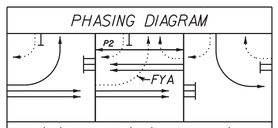
Note to Contractor:
All EXISTING signal equipment at the existing intersection shall be completely removed and the ground shall be restored. Existing conduits shall be completely emptied, abandoned and capped per Town of Leesburg specifications. Existing signal foundations shall be removed up to a depth of 3-feet and the ground shall be restored. Contractor SHALL utilize existing signal infrastructure during TMP/SOC phases where applicable, but once the need for the signal ceases, all equipment shall be removed and/or abandoned per Town of Leesburg specifications. Existing Controller cabinet shall be disposed by the Contractor. All costs associated with the aforementioned items shall be included as part of the NS REMOVE SIGNAL EQUIPMENT lump-sum quantity.

PREEMPTION SENSORS
PD — Police & Fire Dept. Emergency Preemption Sensors
PROPOSED
Emergency Vehicle Pre-emption (EVP) Notes:
See General Notes on Sheet 2 for Details and Contact Information about EVP System. Town of Leesburg will maintain the EVP system.

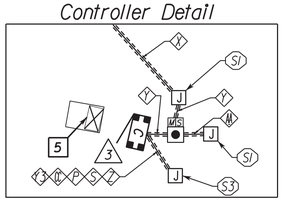
COLOR SEQUENCE CHART

PHASE	1·6	2·6	4	FLASH
SIGNAL	R/W	R/W	R/W	
1	◄6	◄**		◄R
2		G		Y
4			G	R
6	G	G		Y
P2			*WALK	BLANK

NOTE: BLANK SPACES REPRESENT A RED DISPLAY.
* WALK INDICATION DISPLAYED AFTER PEDESTRIAN CALL IS SERVICED; OTHERWISE "DON'T WALK" INDICATION IS DISPLAYED.
** FLASHING YELLOW LEFT ARROW

PHASING DIAGRAM


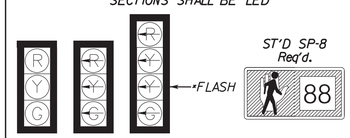
JUNCTION BOX LEGEND
(SI) Denotes St'd. JB-SI
(S3) Denotes St'd. JB-S3
(Ex) Denotes Exist. JB To Remain
Unless Noted All Other Proposed Junction Boxes Shall Be JB-SI
See Sheet 3B for Junction Box Details

Controller Detail


Constuction Notes
1. Ex. Pedestrian Signal to be replaced. Pedestal pole foundation shall remain.
2. Affix Prop. Conduits to Bridge per VDOT Manual of the Structure and Bridge Division, Parts 2 and 3 (See Sheet 2C for details)
3. Couple Prop. Conduit to Ex. Conduit and Extend to Prop. JB.
4. Remove Junction Box and Repair Sidewalk.
5. Existing Controller and Cabinet shall be disposed by the Contractor. The foundation shall be removed and area restored.

VD ▸▪▸ Prop. Video Detector
Note: Video Detection covers all lanes on approach

PROP. SIGNAL SIGNS
S-1: R10-3e(R) 9"X15"
S-2: LEFT TURN YIELD ON FLASHING YELLOW ARROW — R10-VI 36"X42"
S-3: NO TURN ON RED — R10-II 36"X48"
S-4: South King St — D3-VI 72"X18"
S-5: Clubhouse Dr → — D3-VI 96"X18"
S-6: ← Clubhouse Dr — D3-VI 96"X18"
Signs S4, S-5, and S-6 shall be internally illuminated. Signs S-10 and S-11 shall be mounted such that sign starts two feet from vertical face of pole. See Sheet 2A for Illuminated Street Name Sign Details.

SIGNAL HEADS
ALL TRAFFIC SIGNAL HEAD SECTIONS SHALL BE LED


* FLASHING YELLOW ARROW
ALL SIGNALS SHALL BE EQUIPPED WITH POLYCARBONATE BACKPLATES
ALL PED. SIGNALS SHALL BE COUNTDOWN LED

Cable for S-4, S-5 & S-6 is represented as a 14/4c cable. Contractor shall coordinate with Town for required cable and install required cabling for LED signs at no additional cost to the project.

CABLE AND CONDUIT LEGEND
(A) 2 - 1" Conduit (M)
(B) 3" Conduit 2-14/2c(S) (Loops) 1-#6 EGC
(C) 3" Conduit 4-14/2c(S) (Loops) 1-#6 EGC
(D) 3" Conduit 3-14/7c (Heads 1,4,6) 2- EVP Cable 1-VD Cable 2-14/4c (S-4, S-6) 1-#6 EGC
(E) 1 - 1" Conduit (M)
(F) 3" Conduit 3-14/7c (Heads 1,4,6) 2- EVP Cable 1-VD Cable 2-14/4c (S-4, S-6) 3-14/2c(S) (Loop) 1-#6 EGC
(G) 4" Bored Conduit 3-14/7c (Heads 1,4,6) 2- EVP Cable 1-VD Cable 2-14/4c (S-4, S-6) 7-14/2c(S) (Loops) 1-#6 EGC
(H) 4" Conduit (Bored) "Spare" 1-#6 EGC
(J) 3" Conduit 1 - 1100lb Pull String 1-#6 EGC
(K) 3" Conduit 1-14/7c (Heads 2) 1- EVP Cable 1-VD Cable 1-14/4c (S-5) 1-#6 EGC
(L) Existing Conduit 1-14/7c (Ped) 1-14/2c (PB) 1-#6 EGC
(M) 4" Conduit 9-14/2c(S) (Loops) 2-VD Cable 1-14/7c (Ped) 1-14/2c (PB) 1-#6 EGC
(P) 4" Conduit 4-14/7c (Heads 1,2,4,6) 3- EVP Cable 3-14/4c (S-4, S-5, S-6) 1-#6 EGC
(Q) 4" Bored Conduit 11-14/2c(S) (Loops) 2-VD Cable 1-14/7c (Ped) 1-14/2c (PB) 1-#6 EGC
(R) 4" Bored Conduit 4-14/7c (Heads 1,2,4,6) 3- EVP Cable 3-14/4c (S-4, S-5, S-6) 1-#6 EGC
(S) 4" Conduit 11-14/2c(S) (Loops) 2-VD Cable 1-14/7c (Ped) 1-14/2c (PB) 1-#6 EGC
(T) 3" Conduit 3-14/2c(S) (Loops) 1-#6 EGC
(U) 3" Conduit 5-14/2c(S) (Loops) 1-#6 EGC
(V) 3" Bored Conduit 4-14/2c(S) (Loops) 1-#6 EGC
(W) 3" Conduit 10-14/2c(S) (Loops) 1-#6 EGC
(X) 2" Conduit 3-#6/1c (Power) 1-#6 EGC
(Y) 1 1/4" (M) Conduit 3-#6/1c (Power) 1-#6 EGC
(Z) 2" Conduit 1-Overhead Sign Power Cable 1-#6 EGC
(AA) 2" Conduit 2-Overhead Sign Power Cable 1-#6 EGC
(AB) 2" Conduit 3-Overhead Sign Power Cable 1-#6 EGC
(AC) 3" Conduit 10-14/2c(S) (Loops) 1-14/7c (Ped) 1-14/2c (PB) 1-#6 EGC
(AD) 1" Conduit 1-#6 EGC (Ground)
(AE) 3 - 1" Conduit (M)
(AF) 2" Conduit 1 - CCTV Cable 1-#6 EGC
(AG) 2" Bored Conduit 1 - CCTV Cable 1-#6 EGC

EGC - Equipment Grouding Cable
(S) - Denotes Shielded Cable
(M) - Denotes Metal Conduit
EVP - Denotes Emergency Veh Pre-emptoin Cable
VD - Denotes Video Detector Cable

Revisions

Date	Initial

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"We Welcome the Opportunity"
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PROJECT MANAGER: MARK A. GUNN, P.E.

Clubhouse Drive Signal
INTERSECTION OF SOUTH KING ST. & CLUBHOUSE DR.
TRAFFIC SIGNAL PLAN -
SOUTH KING STREET & CLUBHOUSE DRIVE
Loudoun County, Virginia
Town of Leesburg

PROJECT NAME:
SUBMISSION DATE: 6/29/2018

COMMONWEALTH OF VIRGINIA
ADAM D. WELSCHENBACH
Lic. No. 044359
PROFESSIONAL ENGINEER
Adam Welschenbach
2018.06.29 16:10:15 -04'00'

ASSOCIATED PLAN: N/A
C.I.P. NUMBER: 18005
VDOT PROJ. NO.: N/A
TOWN NUMBER: TBD

Sheet 3

Rinker Design Associates, P.C.
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Transportation - Environmental
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SURVEYED BY Rinker Design Associates,(703) 368-7373
DESIGNED BY Rinker Design Associates,(703) 368-7373
SUBSURFACE UTILITY BY Assurent,(800) 542-2990 (207)

Matchline - See Above, This Sheet

Matchline - See Below, This Sheet

SCALE 0 25' 50'

Rte.15 South King St. Posted Speed=35 MPH

Evergreen Mill Rd. Posted Speed=35 MPH

Governors Dr. Posted Speed=25 MPH

Clubhouse Dr. Posted Speed=25 MPH

Rte.7 Harry Byrd Hwy. Posted Speeds MPH

Ex. R/W

16' W

3" Conduit 1 - 1000lb Pull String 1-#6 EGC

Ex. Signal Controller

Connect to Ex. Signal Controller at Evergreen Mill Dr.

See Sheet 2C for detail of Externally Mounted Conduits on Bridge

See Sheet 3 for connection to Clubhouse Dr. Signal Controller

See Sheet 3 for conduit connection

DESIGN FEATURES RELATING TO CONSTRUCTION ON THIS PLAN ARE REGULATED AND CONTROL BY THE MANUAL OF TRAFFIC WAY MAY BE MODIFIED AS NECESSARY BY THE TOWN OF LEESBURG

Revisions

Date	Initial

ASSOCIATED PLAN: N/A
C.I.P. NUMBER: 18005
VDOT PROJ. NO.: N/A
TOWN NUMBER: TBD

Sheet 3A

Adam Welschenbach
2018.06.29 16:11:31 -04'00'

COMMONWEALTH OF VIRGINIA
ADAM D. WELSCHENBACH
Lic. No. 044359
PROFESSIONAL ENGINEER

PROJECT NAME:

Clubhouse Drive Signal

INTERSECTION OF SOUTH KING ST. & CLUBHOUSE DR.

TRAFFIC SIGNAL PLAN - PROPOSED SIGNAL INTERCONNECT

Town of Leesburg — Loudoun County, Virginia

SUBMISSION DATE: 6/29/2018

ENGINEER:
Rinker Design Associates, P.C.
Engineering * Surveying * Land Planning * Transportation * Environmental Services
9365 Discovery Blvd, Suite 200, Manassas Virginia 20109 on the web @ www.rdadvll.com
Telephone: (703) 368-7373 , Fax: (703) 257-5443
"We Welcome the Opportunity to Make Your Vision Reality"

PROJECT MANAGER: MARK A. GUNN, P.E.

www.rdadvll.com

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Fax: (703) 724-0273

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Rinker Design Associates, P.C.
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Transportation ~ Environmental
Right of Way Services

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PROJECT MANAGER *Tom Brandon,(703)-737-6067 (Town of Leesburg)*
SURVEYED BY *Rinker Design Associates, (703) 368-7373*
DESIGNED BY *Rinker Design Associates, (703) 368-7373*
SUBSURFACE UTILITY BY *Accumark,(800) 542-2990 (2017)*

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE TOWN OF LEESBURG

BULKU132424

BULK VAULT HDPE STRUCTURAL FOAM SHIELD X COMPOSITE COVER

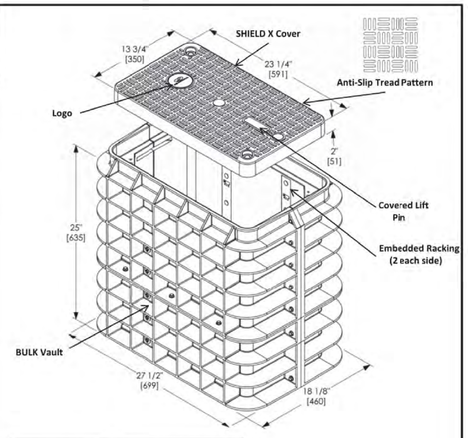
BULK™ ™

FEATURES:
- 13" X 24" (open floor) (actual dimensions on drawing)
- BULK VAULT – SHIELD X COVER- Tier 22 Load Rated (ANSI/SCTE 77: 2013)
- (2) Cover locking Auger bolts, Hex (9/16") or Penta (7/8") head with washer
- (2) Non-Seizing Fastening System, Field Replaceable
- (4) Embedded Composite Rack Support
- (1) Lifting slot equipped with stainless steel pin (slot is approximately 2 ¾"x¾")
- (1) Logo Disk

WEIGHT & SHIPPING:
- Cover Weight: 16 lbs
- Box Weight: 42 lbs
- Assembly Weight : 58 lbs

PERFORMANCE TESTING:
- ANSI/SCTE 77: 2013 - TIER 22 Rated (33,750 lbs)
- AS3996 – Class C
- EN124 Class B125
- ASTM C1028-07 & AS-4586 (Slip Resistance)
- 10,000 Hour Xenon-Arc Exposure (No fiber-bloom)
- ASTM D635-06 (Flammability)

VDOT JB-S1
Pre-Approval #
219.402.01



Inside Dimensions		
Length	Width	Depth
22" [559]	12 ½" [318]	23" [584]

CHANNELL

BULKU243624

BULK VAULT HDPE STRUCTURAL FOAM SHIELD X COMPOSITE COVER

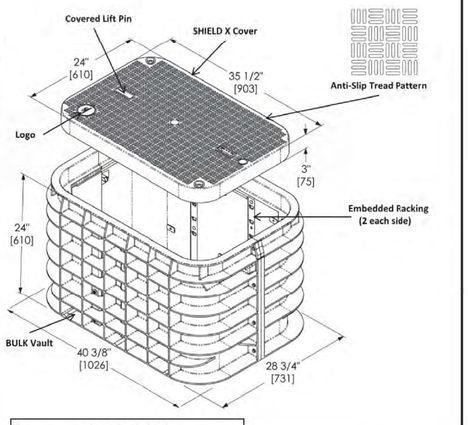
BULK™ ™

FEATURES:
- 24" X 36" X 24" (open floor) (actual dimensions on drawing)
- BULK VAULT – SHIELD X COVER- Tier 22 Load Rated (ANSI/SCTE 77: 2013)
- (2) Cover locking Auger bolts, Hex (9/16") or Penta (7/8") head with washer
- (2) Non-Seizing Fastening System, Field Replaceable
- (4) Embedded Composite Rack Support
- (2) Lifting slot equipped with stainless steel pin (slot is approximately 2 ¾"x¾")
- (2) Winterized Cable Drop slide (1 ¼" X 1 ¼")
- (1) Logo Disk

WEIGHT & SHIPPING:
- Cover Weight: 47 lbs
- Box Weight: 55 lbs
- Assembly Weight : 102 lbs

PERFORMANCE TESTING:
- ANSI/SCTE 77: 2013 - TIER 22 Rated (33,750 lbs)
- AS3996 – Class C
- EN124 Class B125
- ASTM C1028-07 & AS-4586 (Slip Resistance)
- 10,000 Hour Xenon-Arc Exposure (No fiber-bloom)
- ASTM D635-06 (Flammability)

VDOT JB-S3
Pre-Approval #
219.402.03



Inside Dimensions		
Length	Width	Depth
34 ¾" [873]	22 ¾" [578]	21" [533]

CHANNELL

THIS SHEET FOR INFORMATION ONLY

COMMONWEALTH OF VIRGINIA
ADAM D. WELSCHENBACH
Lic. No. 044359
PROFESSIONAL ENGINEER

Adam Welschenbach
2018.06.29 16:11:55 -04'00'

Revisions

Date	Initial

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www.rinkerdesign.com

"We Welcome the Opportunity to Make Your Vision Reality"

PROJECT MANAGER: MARK A. GUNN, P.E.

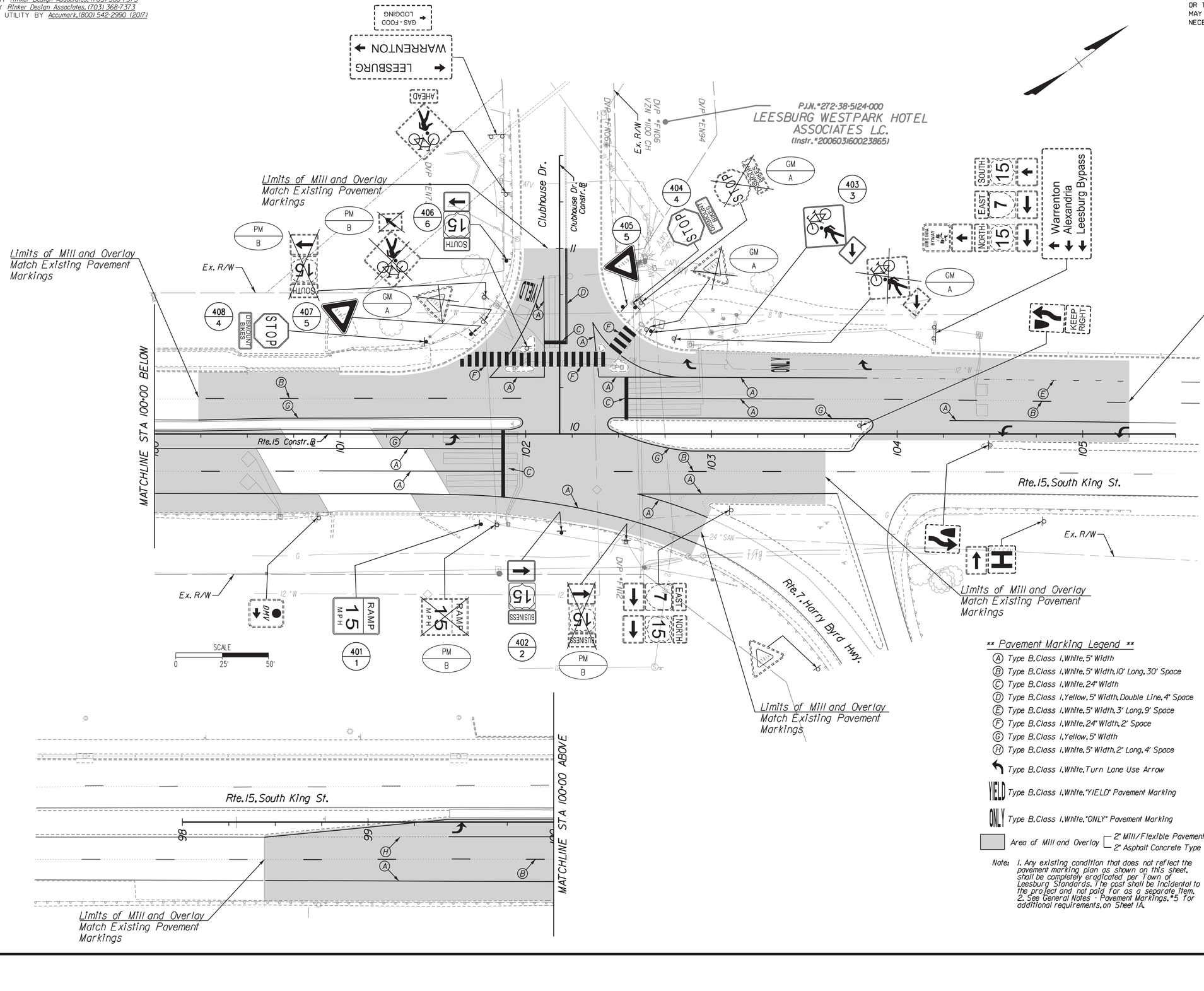
PROJECT NAME:
Clubhouse Drive Signal
INTERSECTION OF SOUTH KING ST. & CLUBHOUSE DR.
TRAFFIC SIGNAL PLAN - JUNCTION BOX DETAILS
Loudoun County, Virginia
Town of Leesburg
SUBMISSION DATE: 6/29/2018

ASSOCIATED PLAN: N/A
C.I.P. NUMBER: 18005
VDOT PROJ. NO.: N/A
TOWN NUMBER: TBD

Sheet
3B

PROJECT MANAGER Tom Brandon,(703)-737-6067 (Town of Leesburg)
SURVEYED BY Rinker Design Associates, (703) 368-7373
DESIGNED BY Rinker Design Associates, (703) 368-7373
SUBSURFACE UTILITY BY Accumark,(800) 542-2990 (2017)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE TOWN OF LEESBURG



** Pavement Marking Legend **

- (A) Type B,Class I,White,5" Width
- (B) Type B,Class I,White,5" Width,10' Long,30' Space
- (C) Type B,Class I,White,24" Width
- (D) Type B,Class I,Yellow,5" Width,Double Line,4" Space
- (E) Type B,Class I,White,5" Width,3' Long,9' Space
- (F) Type B,Class I,White,24" Width,2' Space
- (G) Type B,Class I,Yellow,5" Width
- (H) Type B,Class I,White,5" Width,2' Long,4' Space
- Type B,Class I,White,Turn Lane Use Arrow
- YIELD Type B,Class I,White,"YIELD" Pavement Marking
- ONLY Type B,Class I,White,"ONLY" Pavement Marking
- Area of Mill and Overlay — 2" Mill/Flexible Pavement Planing; 2" Asphalt Concrete Type SM-9.5E

Note: 1. Any existing condition that does not reflect the pavement marking plan as shown on this sheet, shall be completely eradicated per Town of Leesburg Standards. The cost shall be incidental to the project and not paid for as a separate item. 2. See General Notes - Pavement Markings, #5 for additional requirements, on Sheet 1A.

Revisions	
Date	Initial

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Northern Virginia Office: 108 N. Alfred Street, Alexandria, VA 22314, Phone: (703) 549-7384, Fax: (703) 549-2604
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Northern Ohio Office: 1100 Superior Avenue, Suite 1750, Cleveland, OH 44114, Phone: (216) 241-2900, Fax: (216) 241-2824
Rinker Design Associates, P.C. — Civil Engineering · Surveying · Land Planning · Environmental Assessment · Transportation Engineering · Right of Way Services
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"We Welcome the Opportunity
to Make Your Vision Reality"
PROJECT MANAGER: MARK A. GUNN, P.E.

PROJECT NAME:
Clubhouse Drive Signal
INTERSECTION OF SOUTH KING ST. & CLUBHOUSE DR.
SIGNING AND PAVEMENT MARKING PLAN - SOUTH KING STREET & CLUBHOUSE DRIVE
Town of Leesburg
Loudoun County, Virginia
SUBMISSION DATE: 6/29/2018

COMMONWEALTH OF VIRGINIA
ADAM D. WELSCHENBACH
Lic. No. 044359
PROFESSIONAL ENGINEER

Adam Welschenbach
2018.06.29 16:12:19 -04'00'

ASSOCIATED PLAN: N/A
C.I.P. NUMBER: 18005
VDOT PROJ. NO.: N/A
TOWN NUMBER: TBD

Sheet 4

PROJECT MANAGER Tom Brandon,(703)-737-6067 (Town of Leesburg)
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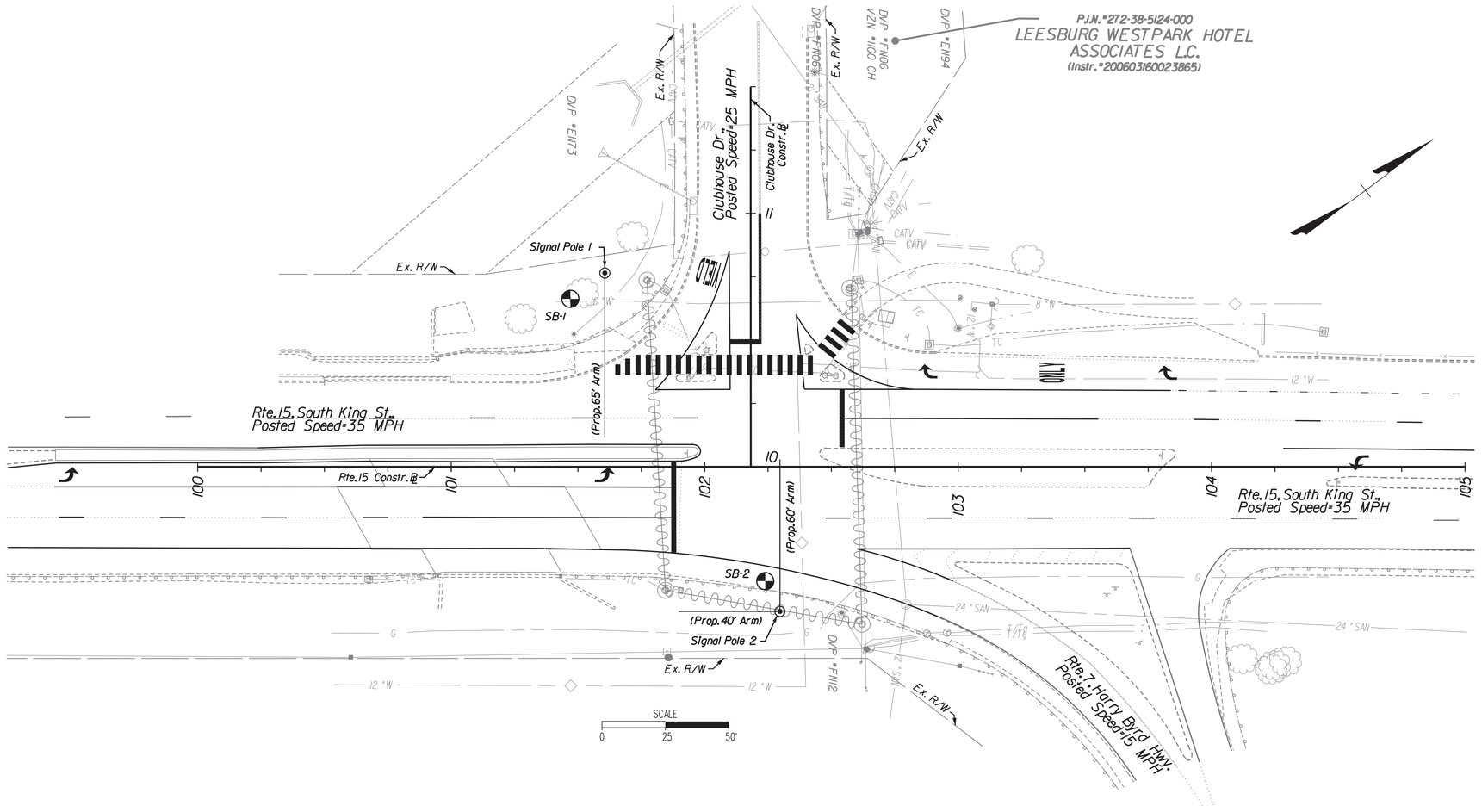
DESIGNED BY Rinker Design Associates, (703) 368-7373
SUBSURFACE UTILITY BY Accumark,(800) 542-2990 (2017)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE TOWN OF LEESBURG



Boring Locations Plan

This plan is to show the locations of the borings only. Any additional items shown are for information only. Refer to signal plans for details.

Denotes boring locations. For details, see Sheet 7.

Rinker Design Associates, P.C.
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PROFESSIONAL ENGINEER

Song C Kim
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RINKER DESIGN ASSOCIATES
MANASSAS, VA.
STRUCTURAL ENGINEER

Revisions

Date	Initial

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PROJECT MANAGER: MARK A. GUNN, P.E.

Clubhouse Drive Signal
INTERSECTION OF SOUTH KING ST. & CLUBHOUSE DR.
BORING LOCATIONS
Loudoun County, Virginia

PROJECT NAME: Town of Leesburg
SUBMISSION DATE: 6/29/2018

ASSOCIATED PLAN: N/A
C.I.P. NUMBER: 18005
VDOT PROJ. NO.: N/A
TOWN NUMBER: TBD

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Fax: (540) 891-7376
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9211 Forest Point Boulevard
Richmond, VA 23235
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Fax: (804) 320-7376

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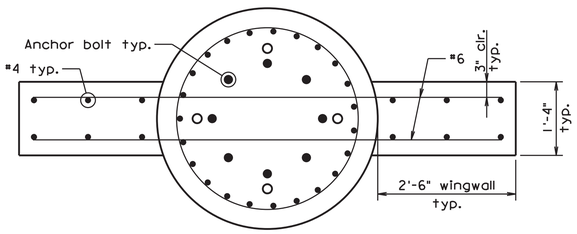
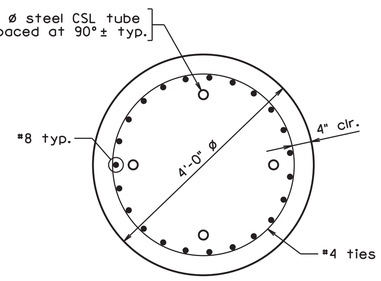
SURVEYED BY *Rinker Design Associates, (703) 368-7373*
DESIGNED BY *Rinker Design Associates, (703) 368-7373*
SUBSURFACE UTILITY BY *Accumark,(800) 542-2990 (2017)*

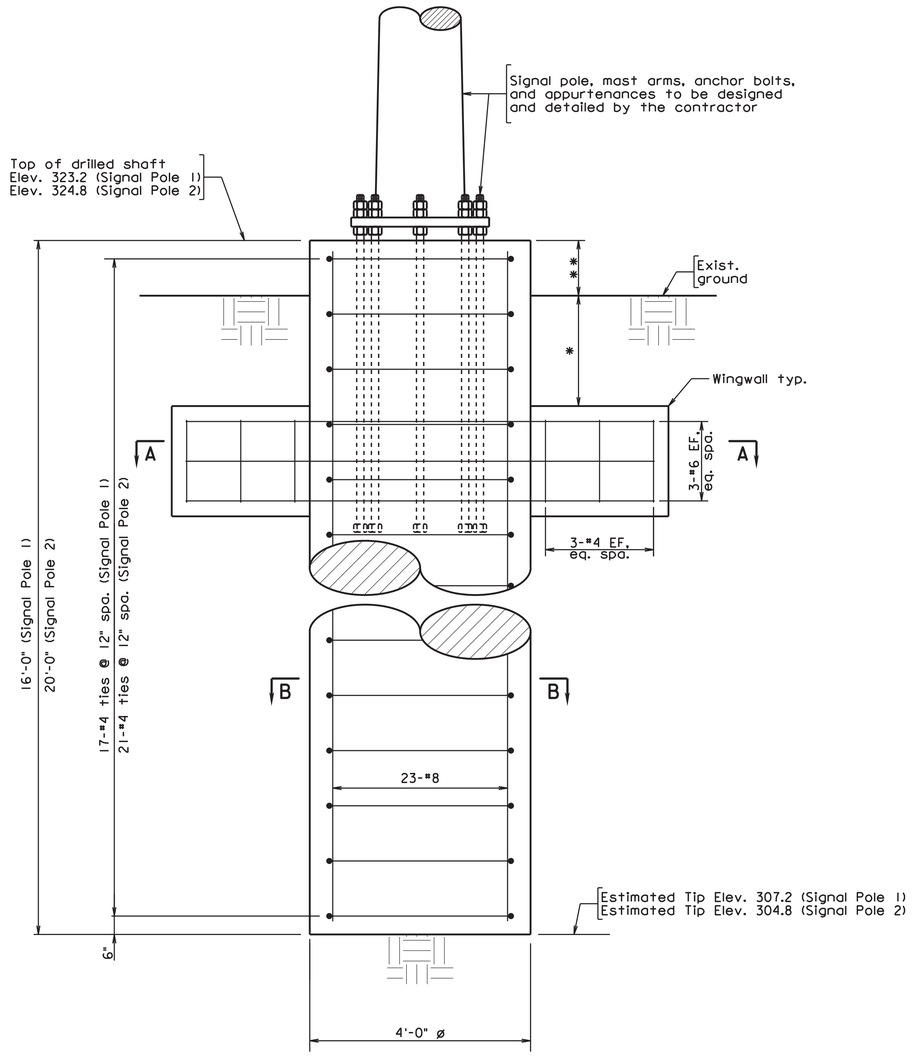


SECTION A-A

See SECTION B-B for additional information.



SECTION B-B



DRILLED SHAFT ELEVATION

Conduits and grounding equipment not shown for clarity.*
For locations of drilled shafts, see signal plans.

* See VDOT standard PF-8 for additional information.

** Estimated projection:
Signal Pole 1: 1'-4"
Signal Pole 2: Varies (2'-10" to 4'-0")

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE TOWN OF LEESBURG

NOTES:

Installation, inspection, and quality control of drilled shafts should be performed in accordance with VDOT Special Provision for Drilled Shafts. All drilled shaft installations should be inspected by a Licensed Geotechnical Engineer or his/her qualified representative to verify the shaft, as constructed, complies with the design indicated in the Geotechnical Engineering Report.

Concrete for the drilled shafts shall be Class A3.

The reinforcing for the drilled shafts shall be ASTM A615 Grade 60 deformed steel bars.

The proposed drilled shafts for the signal poles do not require end bearing test. Their design capacities are derived from skin friction.

Inspection of the bearing material should be performed both by inspecting the bearing surface and by drilling one probe hole to a depth of at least two times the shaft diameter below the estimated shaft tip elevation. The probe hole shall be drilled at the exact location where the drilled shaft will be installed. The probe hole shall be drilled prior to the excavation of the drilled shaft. The drilled hole shall be probed using a hooked rod with which the inspector scratches the side of the probe hole in attempt to locate discontinuities. Any abnormality observed during drilling shall be reported to the inspector and recorded on the daily report. If any voids are encountered during the drilling for probe hole or the drilled shaft, the voids shall be filled with flowable backfill complying with VDOT special provision Flowable Backfill.

No later than one month prior to constructing drilled shafts, the Contractor shall submit an installation plan for review by Town of Leesburg. This plan shall provide information per VDOT Special Provision for Drilled Shaft. The installation plan shall also include the procedures/methods/equipment to inspect the excavated hole for potential voids and the procedures/methods/equipment to fill the voids (if any).

Materials used for the installation of drilled shaft shall meet the requirements specified in Section VI. MATERIALS of VDOT Special Provision for Drilled Shaft.

The nondestructive test Crosshole Sonic Logging CSL Test shall be performed for each shaft per VDOT Special Provision for Drilled Shaft to evaluate the drilled shaft structural integrity.

Trial shaft is not required for the signal poles.

Ground water was encountered during the subsurface investigation. When ground water is encountered during installation of the drilled shafts, wet method (casing, slurry) as specified in the special provision shall be used.

See sheet 7 for Engineering Geology.

QUALIFICATIONS OF DRILLED SHAFT CONTRACTOR:

The Contractor performing the drilled shaft installation for this project shall have experience consisting of successful installation of at least 10 drilled shaft projects installed within the past 5 years in kart geological region. The Contractor shall provide documentation of his/her superintendent's qualifications, record of experience, and prior project references demonstrating that he/she can handle unusual site conditions. The drilled shaft work shall be performed under the supervision of the Contractor's superintendent, who shall have at least 5 years of experience installing drilled shafts within the last 8 years and shall be fully knowledgeable and experienced in construction of drilled shaft foundations of similar size and geologic conditions (especially, in karst region) as those shown on the plans.

The mentioned documentation shall reference, for each project, the names and phone numbers of owner's representatives who can verify the Contractors' participation on those projects, detail the size and number of the shafts, methods used during installation, methods used for wall stabilization, local soil conditions, methods used to deal with karst geological formation, actual construction time, and contract time.

Town of Leesburg may accept or reject the Drilled Shaft Subcontractor based on his qualifications and previous field performance.

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"We Welcome the Opportunity to Make Your Vision Reality"
PROJECT MANAGER: MARK A. GUNN, P.E.

Clubhouse Drive Signal
INTERSECTION OF SOUTH KING ST. & CLUBHOUSE DR.
DRILLED SHAFT DETAILS
Loudoun County, Virginia

PROJECT NAME: Town of Leesburg
SUBMISSION DATE: 5/31/2018

COMMONWEALTH OF VIRGINIA
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Song C Kim
2018.06.04 10:29:06 -04'00'

COMMONWEALTH OF VIRGINIA
XIN CHEN
Lic. No. 0402 056492
PROFESSIONAL ENGINEER
Xin Chen
2018.06.04 10:36:46 -04'00'

Revisions

Date	Initial

ASSOCIATED PLAN: N/A
C.I.P. NUMBER: 18005
VDOT PROJ. NO.: N/A
TOWN NUMBER: TBD

Sheet 6

Scale: 3/4" = 1'-0" unless noted otherwise

Office Locations
Gda Rinker Design Associates, P.C.
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Transportation ~ Environmental ~ Right of Way Services
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Suite 100, Chantilly, VA
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SURVEYED BY Rinker Design Associates, (703) 368-7373
DESIGNED BY Rinker Design Associates, (703) 368-7373
SUBSURFACE UTILITY BY Accumark,(800) 542-2990 (201)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE TOWN OF LEESBURG

VDOT Virginia Department of Transportation

PROJECT #: 01.03640.01
LOCATION: Leesburg, VA
STRUCTURE: TRAFFIC SIGNAL POLE

SB-1
PAGE 1 OF 1

STATION: OFFSET:
NORTHING: 7085557.44 ft EASTING: 11745408.98 ft
SURFACE ELEVATION: 322.05 ft COORD. DATUM: VA North

Date(s) Drilled: 12-20-2017 - 12-20-2017
Drilling Method(s): 3.25 in HSA
SPT Method: Automatic Hammer
Other Test(s):
Driller: M. Santos/DMY
Logger: J. Kenney/DMY

GROUND WATER
▽ FIRST ENCOUNTERED AT 18.5 ft DEPTH

Signal Pole 1 Shaft
Estimated Tip Elev. 307.2

DEPTH (ft)	ELEVATION (ft)	SOIL: STANDARD PENETRATION TEST HAMMER BLOWS	SOIL: SOIL RECOVERY (%)	SOIL: SAMPLE LEGEND	SOIL: SAMPLE INTERVAL	ROCK: CORE RECOVERY (%)	ROCK: ROCK QUALITY DESIGNATION	ROCK: DIP ° STRATA	ROCK: DIP ° JOINTS	STRATA LEGEND	FIELD DESCRIPTION OF STRATA	LAB DATA: LIQUID LIMIT LL	PLASTICITY INDEX PI	MOISTURE CONTENT (%)
		2									0.0 / 322.05			
		2 3 6	67		2						Topsoil=4 in **TOPS**			18.6
2	320										0.34 / 321.71			
		4 3 3 3	59		4						*ALLUVIAL*, Tan, SANDY LEAN CLAY, firm, moist **CL**	40	18	23.3
4		3 2 3 6	83		6						4.0 / 318.05			
		3 3 3 5	88		8						*ALLUVIAL*, Tan, LEAN CLAY WITH SAND, firm, moist **CL**	39	18	24.6
6	315	7 5 4 9									6.0 / 316.05			
8											*ALLUVIAL*, Tan, GRAVELLY LEAN CLAY WITH SAND, firm to stiff, moist **CL**	30	10	19.2
10					10									23.9
12	310													
14		11 14 11	45		13.5 15						13.5 / 308.55			
											ALLUVIAL, Tan, SILTY GRAVEL WITH SAND, medium dense, wet **GM**	NP	NP	7.8
16	305													
18▽		3 2 30	78		18.5 20 20.49 20.5						18.5 / 303.55			
		50/0"									*RESIDUAL*, Brown, SANDY LEAN CLAY, dense, wet **CL**	48	30	31.8
20											20.5 / 301.55			
22	300					80	70				Slightly weathered, very hard, variegated color of pinkish, light and dark grey, CONGLOMERATE; intact, clast supported, sub-rounded, coarse grained clasts (grains) of K-feldspar, quartz, plagioclase, and other rock fragments. Rock matrices in between clasts are slightly visible on a standard camera. **CGL**			
24					25.5						Boring terminated at 25.5 ft.			

REMARKS: Shelby tube was attempted at the depth of 10' with zero recovery.

PAGE 1 OF 1
SB-1

VDOT Virginia Department of Transportation

PROJECT #: 01.03640.01
LOCATION: Leesburg, VA
STRUCTURE: TRAFFIC SIGNAL POLE

SB-2
PAGE 1 OF 1

STATION: OFFSET:
NORTHING: 7085552.22 ft EASTING: 11745544.23 ft
SURFACE ELEVATION: 323.37 ft COORD. DATUM: VA North

Date(s) Drilled: 12-19-2017 - 12-19-2017
Drilling Method(s): 3.25 in HSA
SPT Method: Automatic Hammer
Other Test(s):
Driller: M. Santos/DMY
Logger: J. Kenney/DMY

GROUND WATER
▽ FIRST ENCOUNTERED AT 18.5 ft DEPTH

Signal Pole 2 Shaft
Estimated Tip Elev. 304.8

DEPTH (ft)	ELEVATION (ft)	SOIL: STANDARD PENETRATION TEST HAMMER BLOWS	SOIL: SOIL RECOVERY (%)	SOIL: SAMPLE LEGEND	SOIL: SAMPLE INTERVAL	ROCK: CORE RECOVERY (%)	ROCK: ROCK QUALITY DESIGNATION	ROCK: DIP ° STRATA	ROCK: DIP ° JOINTS	STRATA LEGEND	FIELD DESCRIPTION OF STRATA	LAB DATA: LIQUID LIMIT LL	PLASTICITY INDEX PI	MOISTURE CONTENT (%)
		3 3	78		1						0.0 / 323.37			
2		2 2			2.5						Asphalt=5 in **ASPH**			20.3
	320		89		4						0.42 / 322.95			
4		2 3									Aggregate Base=6 in **CRA**	39	18	19.6
		3	83		5						0.92 / 322.45			
6			100		6.5						*ALLUVIAL*, Brown, CLAYEY SAND WITH GRAVEL, loose, moist **SC**	39	20	22.8
8	315				8						4.0 / 319.37			
		4 3 2	83		8.5						*ALLUVIAL*, Brown, SANDY LEAN CLAY, firm, moist **CL**			
10					10						6.5 / 316.87			
12											*ALLUVIAL*, Gray, CLAYEY SAND WITH GRAVEL, loose, moist **SC**	36	18	18.6
14	310	5 4 8	117		13.5 15						13.5 / 309.87			
											ALLUVIAL, Tan, SANDY FAT CLAY, soft to stiff, moist **CH**	53	32	22.2
16														
18▽	305	4 2 2	6		18.5 20						SAME, wet			19.2
20														
22														
24	300	18 50/2"	100		23.5 24.17						23.5 / 299.87			
											RESIDUAL, Brown, CLAYEY GRAVEL WITH SAND, very loose to very dense, moist **GC**	29	8	15.6
26														
28	295	WR WR WR	0		28.5 30									
30														
32														
34	290	50/3"	100		33.5 33.75									19.4
36														
38	285	WR WR WR	0		38.5 40									
40											Boring terminated at 40.0 ft.			

REMARKS: WR - Weight of Rod. This refers to dropping of rod under rod's own weight. Split Spoon with drill rod advanced from 38.5' to approximate 70' due to the weight of rod (WR).
Shelby tube was attempted at depth of 6.5' with 18" recovery. Tube was extracted in the lab showing a lot of gravels and cannot be tested for UU test.

PAGE 1 OF 1
SB-2

Notes:

The subsurface information shown on the boring logs in these plans was obtained with reasonable care and recorded in good faith solely for use by the Engineer in establishing design controls for the project. The Engineer has no reason to suspect that such information is not reasonably accurate as an approximate indication of the subsurface conditions at the sites where the borings were taken. The Engineer does not in any way warrant or guarantee that such data can be projected as indicative of conditions beyond the limits of the borings shown.

Revisions

Date	Initial

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"To Make Your Vision Reality"

PROJECT MANAGER: MARK A. GUNN, P.E.

Clubhouse Drive Signal
INTERSECTION OF SOUTH KING ST. & CLUBHOUSE DR.
ENGINEERING GEOLOGY
Loudoun County, Virginia

PROJECT NAME: Town of Leesburg
SUBMISSION DATE: 5/31/2018

COMMONWEALTH OF VIRGINIA
XIN CHEN
Lic. No. 0402 056492
PROFESSIONAL ENGINEER

Xin Chen
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ASSOCIATED PLAN: N/A
C.I.P. NUMBER: 18005
VDOT PROJ. NO.: N/A
TOWN NUMBER: TBD

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