

ENGINEER DEPARTMENT OF **ENVIRONMENTAL SERVICES**

FACILITIES & ENGINEERING DIVISION ENGINEERING BUREAU 2100 CLARENDON BOULEVARD, SUITE 813 ARLINGTON, VA 22201

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WWW.ARLINGTONVA.US

OWNER DES/OD/WPCP CONTRACTOR TO BE DETERMINED

CONSULTANT VOLKERT, INC.

6225 BRANDON AVENUE, SUITE 540 SPRINGFIELD, VA 22150

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CONSTRUCTION DRAWINGS FOR:

TRANSITWAY EXTENSION TO PENTAGON CITY STATION DESIGN

DRAWINGS ARE TO BE INCORPORATED INTO THE OVERALL CIVIL PLAN SET OF THE PROJECT. ALL DRAWINGS AND SPECIFICATIONS ARE TO BE INCLUDED IN THE CONSTRUCTION DOCUMENTS.

Sheet List

Sheet Number Sheet Title

- **GENERAL NOTES & ABBREVIATIONS**
- LCD MONITOR STANCHION AND STATION FLAG SIGN FOUNDATION
- STATION FLAG SIGN
- FLAG SIGN FRAME ASSEMBLY
- 12TH ST S ELECTRICAL AND COMMUNICATION PLAN
- CRYSTAL DR ELECTRICAL AND COMMUNICATION PLAN

2100 CLARENDON BOULEVARD, SUITE 813 FAX: 703.228.3606 COPYRIGHT © 2016 ARLINGTON COUNTY VIRGINIA - ALL RIGHTS RESERVED APPROVALS DESIGN TEAM ENGINEER SUPERVISOR CONSTRUCTION MANAGEMENT SUPERVISO WATER, SEWER STREETS BUREAU CHIEF TRANSPORTATION DIRECTOR PROJECT MANAGER **REVISIONS**

DATE

DATE

ARLINGTON VIRGINIA

DEPARTMENT OF **ENVIRONMENTAL SERVICES**

EXTENSION TO STATION DESIGN SHEET TRANSITWAY
PENTAGON CITY

DESIGNED: BCG CHECKED: JES MISS UTILITY TRANSMITTAL #: N/A

MA13-XXX-BUSSHELTER.DWG

PLOTTED: JULY 27 2021 PLOTTED BY:DEVIN.JI

SCALE:

SHEET COVER

REVISED ON 11/08/2016

GENERAL NOTES

GENERAL

- THESE DRAWINGS ARE INCOMPLETE UNLESS ACCOMPANIED BY THE CONTRACT SPECIFICATIONS
- 2. REPRODUCTION OF CONTRACT DRAWINGS SHALL NOT BE USED AS SHOP DRAWINGS UNDER ANY CIRCUMSTANCE. ALL ITEMS SHOWN IN THESE DRAWINGS ARE NEW CONSTRUCTION UNLESS SPECIFICALLY NOTED AS EXISTING.
- CONCRETE
- CONCRETE STRENGTH: f'c = 3000 psi
- 2. REINFORCING BARS ASTM A 615 GRADE 60, DEFORMED
- fy = 60 KSI
- 3. REINFORCEMENT SHALL BE DETAILED AND PLACED IN ACCORDANCE WITH ACI 315-05. DEVELOPMENT AND SPLICE LENGTHS ARE IN TENSION UNLESS OTHERWISE INDICATED.
- 4. PROVIDE CONCRETE COVER FOR REINFORCING AS SPECIFIED BELOW. IN NO CASE SHALL REINFORCEMENT COVER BE LESS THAN THE REQUIREMENTS OF ACI 318.
- A) CONCRETE DEPOSITED AGAINST THE GROUND B) CONCRETE EXPOSED TO EARTH OR WEATHER C) BEAMS AND COLUMNS
- 5. CHAMFER EDGES OF PERMANENTLY EXPOSED CONCRETE SURFACES 3/4-INCH, UNO.

LOAD CRITERIA

1. STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE, 2015 EDITION; INTERNATIONAL BUILDING CODE, 2015 EDITION:

FOUNDATION

- 1. FOOTINGS SHALL BE FOUNDED ON QUALIFIED VIRGIN SOIL OR ON ENGINEERED FILL AT THE DEPTHS SHOWN. ALL UNSUITABLE FOUNDATION MATERIAL SHALL BE REMOVED AND REPLACED WITH STRUCTURAL FILL UP TO THE BOTTOM OF FOOTING ELEVATION, WITH A MINIMUM BEARING CAPACITY OF 2000 PSF. SOIL BEARING CONDITION SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO REINFORCING REBAR PLACEMENT.
- NO FOUNDATION CONCRETE SHALL BE INSTALLED UNTIL ALL FOUNDATION WORK HAS BEEN COORDINATED WITH UNDERGROUND UTILITIES. REPORT TO OWNER FOR ANY CONFLICT BETWEEN FOUNDATION AND UTILITY LINES. OBTAIN OWNER APPROVED SOLUTIONS BEFORE PROCEEDING.
- 3. TO MINIMIZE WEATHERING, THE LAST 6 INCHES OF EXCAVATION FOR ALL FOOTINGS SHALL BE MADE IMMEDIATELY PRIOR TO PLACEMENT OF FOOTINGS.

SEE CONTRACT SPECIFICATIONS

STAINLESS STEEL MEMBERS IN THE FIELD WILL NOT BE PERMITTED WITHOUT SPECIFIC APPROVAL OF THE OWNER'S

STEEL

- 1. STAINLESS STEEL WELDING ELECTRODES
- SEE CONTRACT SPECIFICATIONS 2. WHERE THE WORK OF OTHER TRADES REQUIRES CUTS, HOLES, ETC., IN STAINLESS STEEL MEMBERS, CUTS, HOLES, ETC., SHALL BE MADE IN THE SHOP AND SHALL BE SHOWN ON THE SHOP DRAWINGS. MAKING HOLES OR CUTS IN

SPECIAL INSPECTIONS

G. HIGH STRENGTH BOLTS

REPRESENTATIVE.

- 1. SPECIAL INSPECTIONS WILL BE PERFORMED IN ACCORDANCE WITH THE STATEMENT OF SPECIAL INSPECTIONS.
- 2. THE FOLLOWING GENERAL TYPES OF WORK REQUIRE SPECIAL INSPECTION: (REFER TO STATEMENT OF SPECIAL INSPECTIONS FOR DETAILED INSPECTION REQUIREMENTS)
 - A. FOUNDATIONS B. CONCRETE C. REINFORCING STEEL D. FORMWORK E. POST-INSTALLED CONCRETE ANCHORS F. STRUCTURAL WELDING

ELECTRICAL

SCOPE

REVISED ON 11/08/2016

THE WORK TO BE DONE SHALL INCLUDE THE FURNISHING OF ALL LABOR, MATERIALS, APPLIANCES EQUIPMENT, TOOLS, TRANSPORTATION, SUPERINTENDENTS AND SERVICES REQUIRED TO CONSTRUCT. INSTALL AND MODIFY COMPLETE AND OPERATIVE, THE ELECTRICAL SYSTEMS AS HEREIN SPECIFIED AND AS SHOWN ON THESE DRAWINGS. COORDINATE WORK TO BE PERFORMED OR INSTALLED BY OTHERS AFFECTING ELECTRICAL WORK AND PROVIDE AND INSTALL ALL NECESSARY ANCHORS, SLEEVES, HANGERS, ETC. FOR ATTACHING OR CONNECTING ELECTRICAL WORK TO RELATED WORK OF OTHER TRADES.

GENERAL CONDITIONS

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE 2017 AND ALL OTHER LOCAL CODES AND AUTHORITIES HAVING JURISDICTION.
- 2. SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO THE INSTALLATION OF ANY ELECTRICAL EQUIPMENT, CONDUIT, WIRING, ETC.
- THE CONTRACT DRAWINGS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO SHOW ALL DETAILS OF CONSTRUCTION, MOUNTING, AND WIRING. COORDINATE EXACT INSTALLATION LOCATIONS OF EQUIPMENT AND DEVICES AND ALL DETAILS OF WORK WITH OTHER TRADES TO ACHIEVE A COMPLETE, FUNCTIONAL INSTALLATION. REFER TO OTHER CONTRACT DRAWINGS TO INSURE PROPER COORDINATION. COORDINATE THE LOCATION OF ELECTRICAL EQUIPMENT TO AVOID STRUCTURAL FOOTINGS.
- DRAWINGS, WHICH CONSTITUTE A PART OF THIS CONTRACT, INDICATE THE GENERAL ARRANGEMENT OF CIRCUITS AND OUTLETS. LOCATIONS OF SWITCHES. PANELBOARDS. CONDUIT AND OTHER WORK. ALL ITEMS NOT SPECIFICALLY MENTIONED HEREIN, WHICH ARE NECESSARY TO MAKE A COMPLETE WORKING INSTALLATION, SHALL BE INCLUDED AT NO EXTRA COST

- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO EXAMINE THE DRAWINGS TO FAMILIARIZE HIMSELF WITH ALL ASPECTS AFFECTING HIS WORK. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH ALL OTHER TRADES
- ALL ELECTRICAL MATERIALS SHALL BE NEW, EXCEPT WHERE SPECIFICALLY NOTED AS EXISTING TO BE REUSED, AND SHALL BE LISTED BY THE UNDERWRITERS' LABORATORIES, INC. (UL). DEFECTIVE EQUIPMENT OR EQUIPMENT DAMAGED IN THE COURSE OF INSTALLATION OR TEST SHALL BE REPLACED OR REPAIRED IN A MANNER MEETING THE APPROVAL OF THE ARCHITECT AND ENGINEER. WHERE APPLICABLE, ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH NEMA STANDARDS.
- 7. ALL WORK SHALL BE SUBJECT TO THE APPROVAL OF THE COUNTY.
- 8. ALL WORK SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER
- ALL EQUIPMENT AND MATERIALS FURNISHED UNDER THIS CONTRACT AND CALLED FOR IN THE SPECIFICATIONS SHALL BE FACTORY TESTED. SUBMIT TEST RESULTS TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION. AFTER INSTALLATION, FIELD TEST IN ACCORDANCE WITH APPLICABLE STANDARDS, CONTRACT SPECIFICATIONS, MANUFACTURER'S RECOMMENDATIONS AND AS DIRECTED BY THE ENGINEER, TO VERIFY PROPER OPERATION TO THE SATISFACTION OF THE ENGINEER WITHOUT ADDITIONAL COST TO THE OWNER.
- ALL CERTIFICATES OF APPROVAL SHALL BE IN TRIPLICATE. DELIVERED TO THE COUNTY. AND BECOME THE PROPERTY OF THE COUNTY.
- 11. CONTRACTOR SHALL VERIFY ALL EQUIPMENT REQUIREMENTS BEFORE INSTALLING CONDUIT OR CONDUCTORS FROM POWER SOURCE TO EQUIPMENT TERMINATION.
- 12. ENGINEER WILL CONSIDER CONTRACTOR SUBSTITUTIONS IF THEY ARE CLEARLY DELINEATED AS SUCH. ENGINEER CANNOT BE RESPONSIBLE FOR IDENTIFYING ALL SUBSTITUTIONS OR DEVIATIONS FROM THE CONTRACT DOCUMENTS, UNLESS SPECIFICALLY NOTED AS SUCH IN WRITING.

PROVISION OF ELECTRICAL POWER

THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL WORK REQUIRING INTERRUPTION OF ELECTRICAL POWER WITH THE COUNTY AND SHALL OBTAIN WRITTEN PERMISSION FROM THE COUNTY.

SITE VISIT

PRIOR TO SUBMITTING HIS BID. THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS. THE ELECTRICAL CONTRACTOR SHALL NOTIFY THE ENGINEER IN ADVANCE OF ANY CONDITION THAT EXISTS THAT WOULD PREVENT THE WORK HEREIN SPECIFIED OR SHOWN ON THE DRAWINGS FROM BEING PERFORMED. FAILURE TO SURVEY THE SITE PRIOR TO BID AND START OF CONSTRUCTION WILL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO INSTALL DESIGN WITHIN THE CONFINES OF EXISTING CONDITIONS

GUARANTEE

- THE ELECTRICAL CONTRACTOR SHALL LEAVE THE ENTIRE ELECTRICAL SYSTEM INSTALLED UNDER THIS CONTRACT IN PROPER WORKING ORDER AND SHALL, WITHOUT CHARGE, REPLACE ANY WORK OR MATERIALS WHICH DEVELOP DEFECTS, EXCEPT FROM ORDINARY WEAR AND TEAR, WITHIN ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE. BENEFICIAL USE SHALL NOT BE CONSTRUED AS FINAL ACCEPTANCE.
- THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR, AND SHALL INCUR FINANCIAL RESPONSIBILITY FOR ANY DAMAGES CAUSED BY, OR RESULTING FROM, DEFECTS IN HIS WORK.
- THE ELECTRICAL CONTRACTOR SHALL, DURING THE ONE YEAR GUARANTEE PERIOD, BE RESPONSIBLE FOR THE PROPER REPAIR AND ADJUSTMENTS OF ALL ELECTRICAL SYSTEMS AND EQUIPMENT, APPARATUS, DEVICES, ETC., INSTALLED BY HIM, AND DO ALL WORK NECESSARY TO ENSURE EFFICIENT AND PROPER FUNCTIONING.
- PRIOR TO THE EXPIRATION OF THE GUARANTEE PERIOD, APPROXIMATELY ELEVEN MONTHS AFTER FINAL ACCEPTANCE OF THIS PROJECT, A POST-CONSTRUCTION REVIEW OF THE PROJECT WILL BE MADE. THE CONTRACTOR SHALL FURNISH PERSONNEL TO ASSIST THE COUNTY IN THIS REVIEW. ANY ADJUSTMENTS, REPAIRS, OR REPLACEMENTS FOUND NECESSARY DURING REVIEW SHALL BE DONE BY THE CONTRACTOR, AT NO ADDITIONAL COST TO THE COUNTY.

RECORD DRAWINGS

THE ELECTRICAL CONTRACTOR SHALL MAINTAIN AT THE SITE, FOR THE COUNTY, ONE COPY OF ALL DRAWINGS, ADDENDA, APPROVED SHOP DRAWINGS, REVISIONS AND OTHER MODIFICATIONS, IN GOOD ORDER AND MARKED TO RECORD ALL CHANGES MADE DURING CONSTRUCTION. THE SET OF DRAWINGS AND OTHER INFORMATION SHALL BE DELIVERED TO THE COUNTY UPON COMPLETION OF WORK.

WIRING METHODS

- ALL CONDUCTORS SHALL BE COPPER, CONFORMING TO THE LATEST REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE. STRANDED FOR NO. 8 AWG AND LARGER. SOLID FOR NO. 10 AWG AND SMALLER. UNLESS NOTED OTHERWISE.
- 2. THE USE OF ALUMINUM CONDUCTORS FOR ANY PURPOSE SHALL NOT BE ACCEPTABLE.
- 3. MINIMUM SIZE CONDUCTOR SHALL BE NO. 12 AWG, UNLESS NOTED OTHERWISE.
- 4. CONDUCTORS SHALL BE THERMOPLASTIC TYPE THHN/THWN. ALL WIRE AMPACITIES SHALL BE LIMITED TO THE 75 DEGREES CENTIGRADE COLUMN OF TABLE 310.15 (B) (16) OF THE NEC, UNLESS NOTED OTHERWISE.
- UNDERGROUND SERVICE ENTRANCE CONDUCTOR CABLE SHALL BE TYPE USE INSULATION.

ALL CONDUCTORS SHALL BE COLOR CODED AS FOLLOWED:

PHASE A - BLACK

- RED PHASE B WHITE OR GRAY GROUNDED CONDUCTOR (NEUTRAL)

BARE, GREEN OR GREEN WITH ONE/ MORE YELLOW STRIPES EQUIPMENT GROUNDING CONDUCTOR

- GROUNDING OF THE ENTIRE ELECTRICAL SYSTEM SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND AS INDICATED ON DRAWINGS.
- ALL ELECTRICAL CONDUCTORS FOR LED AND LCD DEVICES SHALL BE AS DETERMINED BY INFORMATION SYSTEMS SUPPLIER.
- ALL UNDERGROUND WIRING SHALL BE INSTALLED IN PVC SCH. 40 CONDUIT. MINIMUM CONDUIT SIZE SHALL BE 1 INCH. ALL UNDERGROUND CONDUIT SHALL BE RUN A MINIMUM 18" BELOW FINISHED GRADE. UNLESS OTHERWISE NOTED.
- 10. CONTRACTOR SHALL PROVIDE MINIMUM NO. 10 AWG CONDUCTOR SIZE IN BRANCH CIRCUIT RUNS OVER 75 FEET IN LENGTH FOR 120V CIRCUITS.
- 11. INSTALL NYLON DRAG LINE (210 LB MIN.) IN ALL EMPTY CONDUITS, AFTER THEY HAVE BEEN REAMED AND ENDS FREE OF ALL BURRS. TAG ALL EMPTY CONDUITS AT BOTH ENDS AND INDICATE INTENDED USE AND TERMINATION POINTS OF THE EMPTY CONDUITS. THE NYLON CABLE SHALL WITHSTAND THE STRESS NECESSARY TO PULL A MANDREL THROUGH THE CONDUIT SYSTEM.
- 12. CONTRACTOR SHALL DERATE CONDUCTORS PER NATIONAL ELECTRICAL CODE AND PROVIDE ONE NEUTRAL CONDUCTOR FOR EACH THREE PHASE CONDUCTORS IF MORE THAN THREE PHASE CONDUCTORS ARE INSTALLED IN A SINGLE PIPE.
- 13. CONDUCTOR SPLICES SHALL BE KEPT TO A MINIMUM AND ONLY BE ALLOWED IN JUNCTION BOXES, PULL **BOXES AND AT POLES**

WIRNG DEVICES

- 1. EQUIPMENT, CABINETS AND ENCLOSURES SHALL BE FASTENED WITH STAINLESS STEEL TAMPERPROOF **FASTENING DEVICES.**
- ALL ENCLOSURES SHALL BE ADJUSTED IN ACCORDANCE WITH THE MANUFACTURER'S GUIDELINES AND/OR AS DIRECTED BY THE ENGINEER IN THE FIELD.
- 3. ALL EQUIPMENT SHALL BE INSTALLED TO PERMIT EASY ACCESS FOR OPERATION, MAINTENANCE AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION AND AS DIRECTED BY ENGINEER
- 4. HANDHOLES SHALL BE INSTALLED IN ACCORDANCE WITH ARLINGTON COUNTY STANDARD DETAILS. MINIMUM SIZE REQUIRED PER NEC.

ABBREVIATIONS

AMERICAN WIRE GAGE

CONC. CONCRETE CONTINUOUS CONT.

JOINT LIQUID CRYSTAL DISPLAY

LED LIGHT EMITTING DIODE

MAXIMUM MAX.

MINIMUM MIN. NATIONAL ELECTRICAL CODE

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION

ON CENTER O.C. PLATE PL.

RADIUS SS TH STAINLESS STEEL THICK

TYPICAL TYP. **VERTICAL** VERT.

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

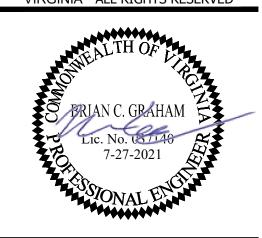
ARLINGTON VIRGINIA

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APPROVALS

DESIGN TEAM ENGINEER SUPERVISOR

DATE

DATE

CONSTRUCTION MANAGEMENT SUPERVISOR

WATER, SEWER STREETS BUREAU CHIEF

TRANSPORTATION DIRECTOR

PROJECT MANAGER

REVISIONS

EXTENSION STATION DE

ENERAL NOTES
ABBREVIATIONS TRANSITWAY NTAGON CITY

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DESIGNED: BCG DRAWN: DJ CHECKED: JES

FILENAME: MA13-XXX-BUSSHELTER.DWG

MISS UTILITY TRANSMITTAL #: N/A

PLOTTED: JULY 27 2021 PLOTTED BY:DEVIN.JI

SCALE:

1 OF 6 SHEET

