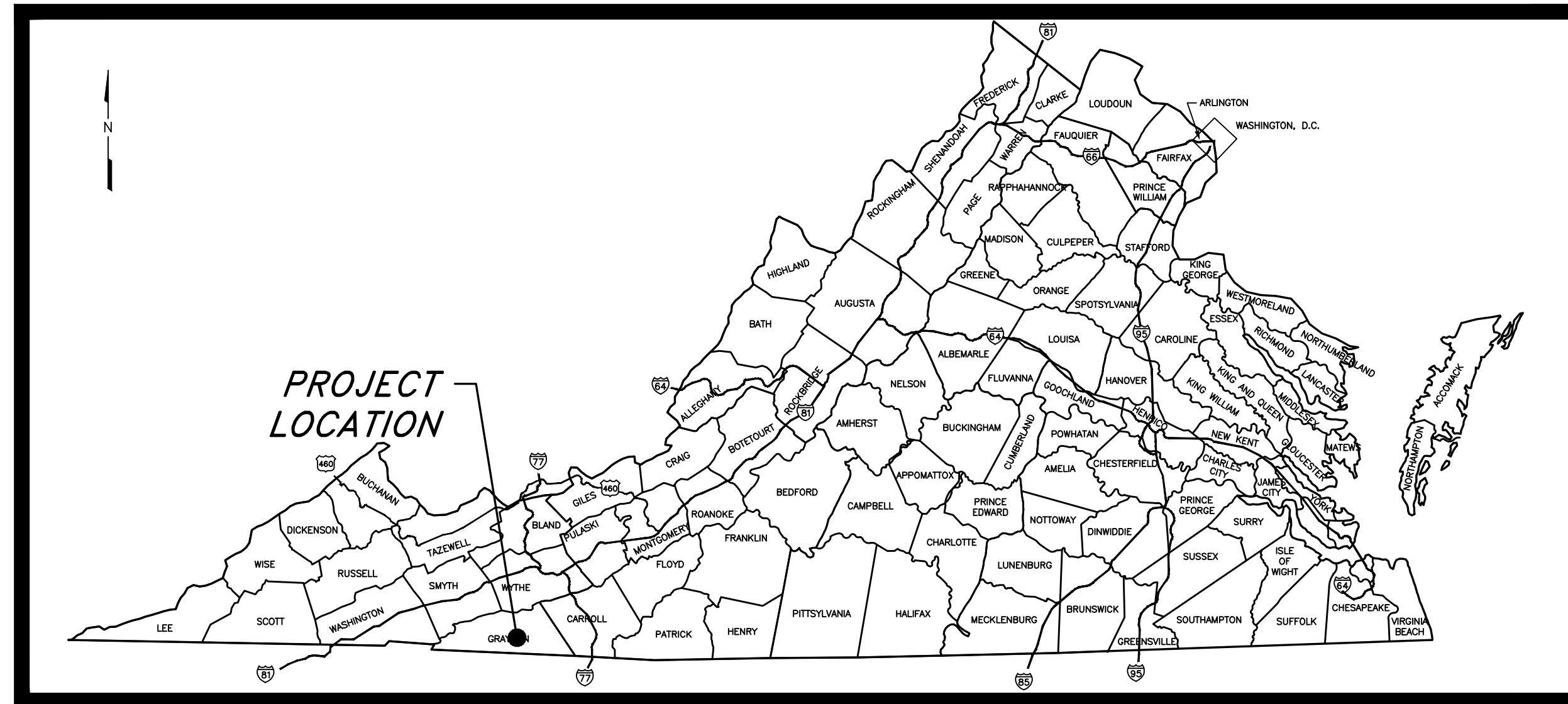
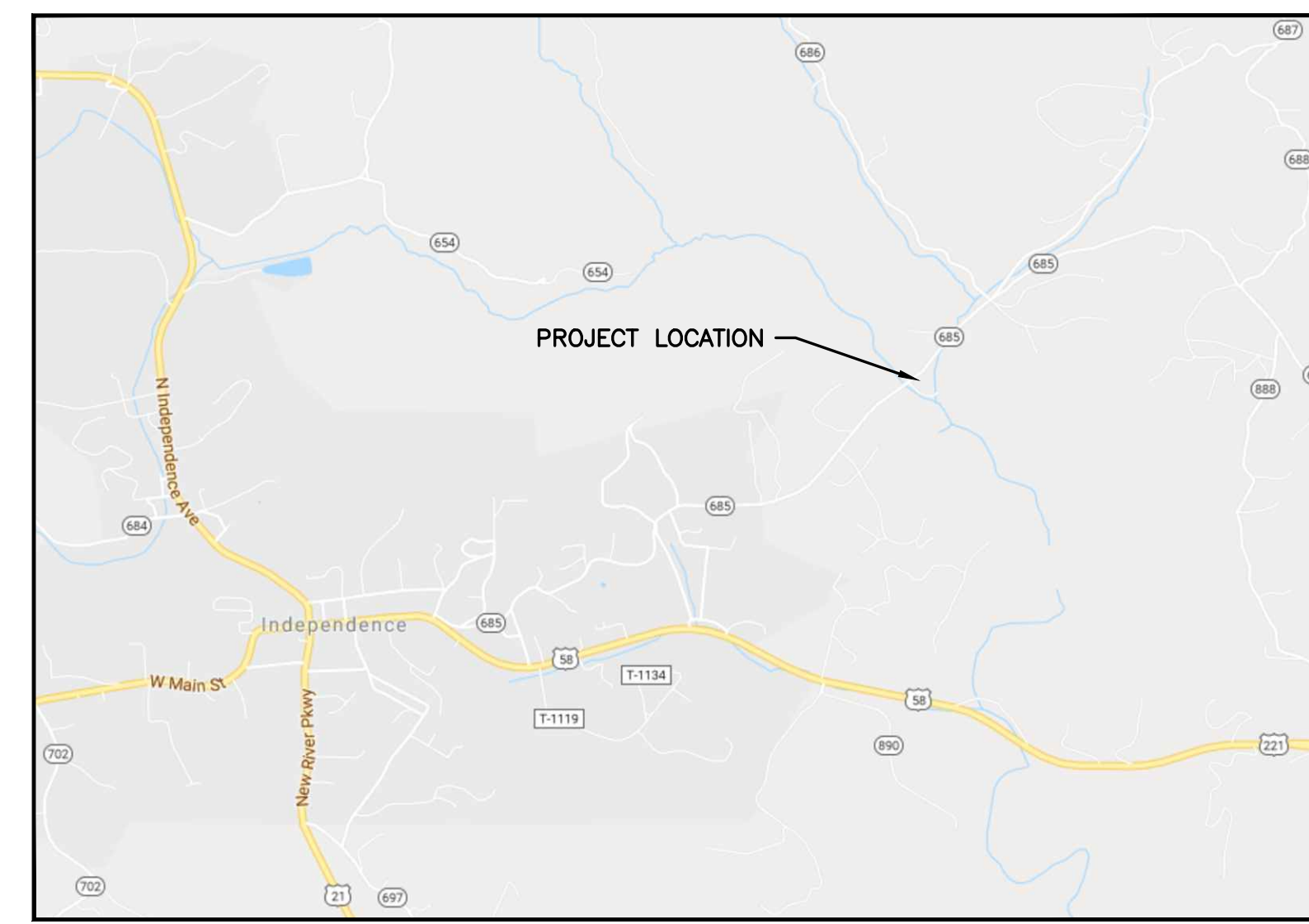


POWERHOUSE FALLS

NEW PARKING LOT INDEPENDENCE, VIRGINIA



LOCATION MAP
NTS



VICINITY MAP:
SCALE: 1" = 2000'

EXISTING	ITEM	PROPOSED
--- ohp ---	OHP ELECTRIC	N/A
---	PROPERTY LINE	N/A
--- 205c ---	5' CONTOUR LINE	--- 00 ---
---	1' CONTOUR LINE	---
76.9 X	SPOT ELEVATION	--- 9.85 ---
N/A	LIMITS OF DISTURBANCE	---
▲	BENCHMARK	▲
△	HORIZONTAL CONTROL	△
N/A	HANDICAP SPACE	♿
□	POWER POLE	N/A
—	GUY WIRE	N/A
—	SIGN	N/A
— x —	GUARDRAIL	N/A
—	EDGE OF PAVEMENT	N/A
N/A	ASPHALT	▬
N/A	PARKING STRIPING	▬
---	RIP RAP / GRAVEL	▬
○	TREE	○
~	BRUSH	N/A
—	GUARD RAIL	N/A
—	RIVER OR STREAM	N/A
N/A	HEADWALL	—
— RCP —	STORM SEWER PIPE	—

ABBREVIATIONS:
 BM = BENCHMARK
 CMP = CORRUGATED METAL PIPE
 INV. = INVERT
 PVC = POLYVINYLCHLORIDE PIPE
 RCP = REINFORCED CONCRETE PIPE

PROPERTY OWNER STATEMENT
 GRAYSON COUNTY BOARD OF SUPERVISORS, OWNER OF THE SUBJECT PROPERTY, IS IN AGREEMENT WITH THE SITE DEVELOPMENT AS SHOWN ON THE APPROVED SITE PLANS.
 KENNETH R. BELTON, CHAIR _____ DATE _____

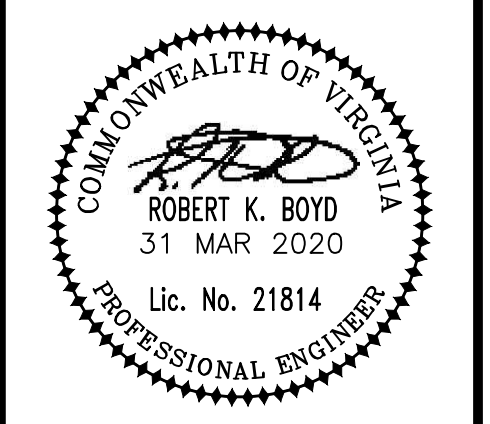
- NOTES:**
1. PROPERTY OWNER IS GRAYSON COUNTY BOARD OF SUPERVISORS. P.O. BOX 217 INDEPENDENCE, VA 24348
 2. PLANS PREPARED BY:
HURT & PROFFITT, INC.
C/O MARK CLINE
1861 PRATT DRIVE, SUITE 1100
BLACKSBURG, VIRGINIA 24060
 3. PARCEL TAX ID #54-A-14E
A.B.279 PG. 174
PLAT M-937

ZONING ADMINISTRATION STATEMENT OF APPROVAL:
 SITE PLAN PETITION NUMBER: _____ DATE OF APPROVAL: _____
 NOTES BY THE ZONING ADMINISTRATOR:
 THIS SITE PLAN IS APPROVED BY THE GRAYSON COUNTY ZONING ADMINISTRATOR IN ACCORDANCE WITH THE GRAYSON COUNTY ZONING ORDINANCE AND OTHER RELATED REGULATIONS.
 ZONING ADMINISTRATOR SIGNATURE OF APPROVAL: _____

SHEET NUMBER	SHEET TITLE
C001	COVER SHEET
C002	NOTES SHEET
C100	EXISTING CONDITIONS
C200	SITE PLAN
C300	GRADING PLAN
C400	EROSION & SEDIMENT CONTROL PLAN
C401	EROSION & SEDIMENT CONTROL NOTES
C500	DETAIL SHEET
C501	CROSS SECTION AND SITE DISTANCE
C600	VIRGINIA WORK AREA PROTECTION MANUAL DETAILS

COVER SHEET
POWERHOUSE FALLS PARKING LOT
 GRAYSON COUNTY, VIRGINIA

PROJECT NO.	20190562
LAT.	36°37'51.9"N
LONG.	81°07'32.0"W
DATE:	11/12/2019
DRAWN BY:	KJH
CHECKED BY:	MTC



REVISIONS NO.	DATE	DESCRIPTION
1	10/04/2019	PER VDOT REVIEW COMMENTS
2	11/12/2019	TRAFFIC CONTROL DETAILS ADDED PER VDOT COMMENTS
3	03/31/2020	PER ESC REVIEW COMMENTS

SHEET NO.
C001

CONSTRUCTION NOTES:

1. COMPLY WITH S59.1-406, ET SEQ. OF THE CODE OF VIRGINIA (OVERHEAD HIGH VOLTAGE LINES SAFETY ACT).
2. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA).
3. CONSTRUCTION TRAILER, FENCING, PARKING, AND STAGING AREAS SHALL BE COORDINATED WITH AND APPROVED BY THE OWNER.
4. MAINTAIN EMERGENCY, SERVICE, AND DELIVERY VEHICLE ACCESS TO THE SURROUNDING AREA AND COORDINATE THIS WITH THE OWNER.
5. THESE PLANS SHALL BE USED IN CONJUNCTION WITH THE EROSION AND SEDIMENT CONTROL NARRATIVE DATED AUGUST 29, 2019.
6. THIS PROJECT DOES NOT PROPOSE ANY IMPACTS TO WETLANDS OR WATERS OF THE U.S.
7. ANY DISCREPANCIES FOUND BETWEEN THE DRAWINGS AND SITE CONDITIONS OR ANY INCONSISTENCIES OR AMBIGUITIES IN THE DRAWINGS SHALL BE IMMEDIATELY REPORTED TO THE OWNER'S REPRESENTATIVE, WHO SHALL PROMPTLY CORRECT SUCH INCONSISTENCIES OR AMBIGUITIES. WORK DONE BY THE CONTRACTOR WITHOUT DIRECTION AFTER HIS DISCOVERY OF SUCH INCONSISTENCIES OR AMBIGUITIES, SHALL BE DONE AT THE CONTRACTOR'S RISK.
8. THERE ARE NO KNOWN GRAVES, OBJECTS, OR STRUCTURES ON SITE MARKING PLACE OF HUMAN BURIAL.
9. MOST RECENT OSHA TRENCHING STANDARDS SHALL APPLY ON THIS PROJECT.
10. WORK IN THE VDOT RIGHT-OF-WAY WILL REQUIRE A VDOT PERMIT. A PERMIT FEE AND BOND WILL BE REQUIRED; THE CONTRACTOR WILL NEED TO SUBMIT 3 COPIES OF THE APPROVED SITE PLAN WITH THE PERMIT APPLICATION.
11. A PORTION OF THIS SITE IS LOCATED IN FLOOD ZONE "A", SHOWN ON FIRM COMMUNITY PANEL NO. 0195-C. (EFFECTIVE DATE: AUGUST 28, 2008)
12. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO VDOT STANDARDS AS APPLICABLE.

SURVEY AND STAKEOUT NOTES:

1. TOPOGRAPHIC SURVEY WAS PREPARED BY HURT & PROFFITT, INC. SURVEY FIELD WORK WAS PERFORMED IN APRIL, 2019.
2. HORIZONTAL COORDINATE POINTS ARE BASED ON VA STATE PLANE NAD83 ADJUSTMENT. VERTICAL ELEVATIONS ARE BASED ON NAVD88 DATUM.
3. CONTRACTOR SHALL FIELD VERIFY HORIZONTAL AND VERTICAL SURVEY CONTROL.
4. EXISTING CONTOUR INTERVAL = 1' UNLESS OTHERWISE SHOWN.
5. A PORTION OF THIS PROPERTY LIES WITHIN A H.U.D. 100-YEAR FLOOD HAZARD ZONE.

DEMOLITION NOTES:

1. INSTALL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES.
2. UTILITIES, STRUCTURES, AND VEGETATION TO BE REMOVED/DEMOLISHED ARE SHOWN BOLD ON THE SITE PLAN. NOTIFY OWNER TO REVIEW REMOVAL/ALTERATION OF EXISTING ITEMS FOUND WITHIN WORK AREA BUT NOT SHOWN ON THE PLANS..
3. COORDINATE UTILITY DEMOLITION/INSTALLATION WITH THE APPROPRIATE UTILITY PROVIDER. INSTALL TEMPORARY CONNECTIONS NECESSARY TO MAINTAIN UTILITY SERVICES DURING CONSTRUCTION. COORDINATE TEMPORARY CONNECTIONS AND UTILITY SERVICE DISRUPTIONS WITH THE OWNER AND UTILITY PROVIDERS.
4. PAVEMENTS TO BE REMOVED SHALL BE SAWCUT. PAVEMENT DISTURBED BY WORK SHALL BE REPLACED AS SOON AS THE WORK CAUSING THE DISTURBANCE IS COMPLETE.
5. RESTORE ITEMS NOT NOTED TO BE REMOVED THAT ARE DISTURBED DURING CONSTRUCTION (INCLUDING, BUT NOT LIMITED TO, UTILITIES, TREES, SIDEWALKS, CURBS, AND PAVEMENT) TO PRECONSTRUCTION CONDITIONS.

DIMENSION AND SITE FURNISHING NOTES:

1. PARKING STRIPING SHALL BE IN ACCORDANCE WITH VDOT STANDARDS.
2. HANDICAP PARKING SIGNS SHALL BE IN ACCORDANCE WITH STD. DETAIL HS-1.
3. CONCRETE PARKING BLOCKS SHALL BE IN ACCORDANCE WITH STD. DETAIL PB-1

PAVING NOTES:

1. ASPHALT PAVING SHALL COMPLY WITH STD. DETAIL AP-1. WHERE NEW PAVEMENT IS INSTALLED ADJACENT TO EXISTING PAVEMENT, EXISTING PAVEMENT SHALL BE SAW CUT 1' BACK FROM THE EXISTING EDGE AND PRIMED WITH VDOT APPROVED PRIMER PRIOR TO PLACEMENT OF NEW ASPHALT MATERIAL.
2. ALL PAVEMENT STRIPING AND ROADWAY SIGNAGE SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

GENERAL UTILITY NOTES:

1. LOCATION OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE BASED ON AVAILABLE ABOVEGROUND STRUCTURES (VALVES, MANHOLES, ETC.). FIELD VERIFY ALL EXISTING UTILITIES TO DETERMINE THAT FINAL UTILITY ARRANGEMENTS SHOWN ON THE PLANS ARE FEASIBLE PRIOR TO ORDERING MATERIALS. IF LOCATIONS OF EXISTING UTILITIES ARE FOUND TO BE IN LOCATIONS OTHER THAN THOSE INDICATED ON PLANS, CONTACT THE OWNER IN A TIMELY MANNER TO DETERMINE IF PLAN MODIFICATIONS ARE REQUIRED.
2. UTILITY SERVICE MUST BE MAINTAINED THROUGHOUT CONSTRUCTION. SERVICE SHALL NOT BE INTERRUPTED WITHOUT PRIOR APPROVAL FROM THE OWNER. APPROVED PERIODS OF INTERRUPTED SERVICE SHALL BE MINIMIZED IN DURATION AND SHALL BE COORDINATED WITH THE OWNER AND UTILITY PROVIDER.

GENERAL CONSTRUCTION NOTES:

1. ACQUIRE ALL NECESSARY PERMITS BEFORE STARTING DEMOLITION/CONSTRUCTION. NOTIFY MISS UTILITY (800-552-7001) A MINIMUM OF 72 HOURS PRIOR TO EXCAVATION FOR FIELD LOCATION OF EXISTING UTILITIES.
2. BY THE END OF CONSTRUCTION, PROVIDE LEGIBLE, SURVEYED MARK-UPS OF AS-BUILT SITE CONSTRUCTION ITEMS ON SITE PLANS TO THE ENGINEER FOR PREPARATION OF SITE RECORD DRAWINGS.

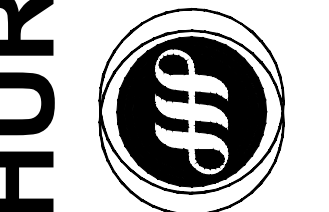
STORM SEWER NOTES:

1. STORM CULVERT PIPING AND FITTINGS (WHERE SHOWN ON THE PLANS) SHALL BE 16-GAUGE MINIMUM CMP IN ACCORDANCE WITH VDOT SPECIFICATIONS, UNLESS OTHERWISE NOTED.
2. STORM CULVERTS (WHERE SHOWN ON THE PLANS) SHALL BE BEDDED IN ACCORDANCE WITH VDOT STD. PB-1.
3. ALL STORM SEWER OR CULVERT PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

GRADING AND DRAINAGE NOTES:

1. CONTOUR INTERVAL IS 1' WITH ADDITIONAL SPOT ELEVATIONS FOR CLARITY, UNLESS SHOWN OTHERWISE.
2. MAINTAIN DRAINAGE FACILITIES ON AND THROUGH THE SITE AT ALL TIMES DURING CONSTRUCTION. PROVIDE TEMPORARY FACILITIES, PUMPING ARRANGEMENTS, AND/OR CONNECTIONS AS REQUIRED TO MAINTAIN DRAINAGE.
3. MATCH EXISTING GRADE WHERE NEW ASPHALT MEETS EXISTING ASPHALT.
4. HANDICAP ACCESSIBLE ROUTES SHALL BE INSTALLED AT 5% MAX SLOPE AND 2% MAX CROSS SLOPE. HANDICAP RAMPS AND CURB RAMPS SHALL BE INSTALLED AT 8.33% MAX SLOPE AND 2% MAX CROSS SLOPE. HC PARKING SPACES AND AISLES SHALL BE INSTALLED AT 2% MAX SLOPE IN ANY DIRECTION.
5. DISTURBED AREAS NOT TO BE PAVED OR COVERED WITH STONE SHALL BE TOPSOILED, SEEDED, AND MULCHED ACCORDING TO VESCH STANDARDS. GRADED AREAS AT A SLOPE OF 3:1 OR STEEPER SHALL HAVE SURFACE ROUGHENING ACCORDING TO VESCH STANDARDS.
6. SPOT ELEVATIONS INDICATED ARE FINISHED GRADE, TOP OF PAVEMENT, OR TOP OF SIDEWALK AT THE POINT DESIGNATED BY "+".
7. THE CONTRACTOR SHALL RETAIN A LICENSED INDEPENDENT GEOTECHNICAL ENGINEER AND TESTING LABORATORY TO VERIFY COMPACTION REQUIREMENTS.
8. WHEN FILL OPERATIONS ARE CEASED DUE TO WEATHER (RAIN, FREEZING, SNOW, ETC.), CONSTRUCTION SHALL NOT BE RESUMED UNTIL THE GEOTECHNICAL ENGINEER HAS VERIFIED SOIL STRENGTH HAS NOT BEEN ADVERSELY AFFECTED. IF SOIL STRENGTH HAS BEEN DECREASED, THE AFFECTED PORTION OF FILL SHALL BE RESCARIFIED, MOISTENED, OR DRIED AS REQUIRED AND RECOMPACTED TO THE SPECIFIED DENSITY.
9. BLASTING WILL NOT BE ALLOWED.
10. ALL FILL MATERIALS SHALL BE FREE FROM MUD, REFUSE, CONSTRUCTION DEBRIS, ORGANIC MATERIAL, ROCK OR GRAVEL GREATER THAN 4 INCHES IN ANY DIMENSION, FROZEN OR OTHERWISE UNSUITABLE MATERIAL.
11. ALL VEGETATION SUCH AS ROOTS, BRUSH, HEAVY SODS, HEAVY GROWTH OF GRASS, AND ALL DECAYED VEGETATIVE MATTER, RUBBISH, AND OTHER UNSATISFACTORY MATERIAL WITHIN THE AREA UPON WHICH FILL IS TO BE PLACED, SHALL BE STRIPPED OR OTHERWISE REMOVED BEFORE THE FILL IS STARTED. IN NO CASE WILL UNSATISFACTORY MATERIAL REMAIN IN OR UNDER THE FILL AREA.

12. THE CUT SUBGRADE MATERIAL SHALL BE COMPACTED TO 100 PERCENT OF ITS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698. THE MOISTURE CONTENT SHALL BE WITHIN +/-3 PERCENTAGE POINTS OF THE MATERIAL'S OPTIMUM AS DETERMINED BY ASTM D 2216. STONE SHALL BE COMPACTED TO 100 PERCENT OF ITS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698 AT OPTIMUM MOISTURE CONTENT, PER VDOT SPECIFICATIONS.
13. EACH LAYER OF THE FILL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM THEORETICAL DENSITY AS DETERMINED BY ASTM D 698. MOISTURE CONTENT SHALL BE WITHIN +/-3 PERCENTAGE POINTS OF OPTIMUM AS DETERMINED BY ASTM D 2216.
14. TOPSOIL SHALL BE REMOVED AS REQUIRED WITHOUT CONTAMINATION WITH SUBSOIL AND STOCKPILED CONVENIENT TO AREAS FOR LATER APPLICATION OR AT LOCATIONS SPECIFIED. ANY SURPLUS OF TOPSOIL FROM EXCAVATIONS AND GRADING SHALL BE STOCKPILED IN LOCATION APPROVED BY THE OWNER. A SILT FENCE SHALL BE INSTALLED ON THE DOWNSLOPE SIDE AND THE STOCKPILES SEEDED.
15. ON AREAS TO RECEIVE TOPSOIL, THE COMPACTED SUBGRADE SHALL BE SCARIFIED TO A 2-INCH DEPTH FOR BONDING OF TOPSOIL WITH SUBSOIL. TOPSOIL THEN SHALL BE SPREAD EVENLY AND GRADED TO THE ELEVATIONS AND SLOPES SHOWN. TOPSOIL SHALL NOT BE SPREAD WHEN FROZEN OR EXCESSIVELY WET OR DRY. MINIMUM TOPSOIL THICKNESS OF 4" SHALL BE PROVIDED, MAXIMUM 8' DEPTH.
16. TESTING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER, AND SHALL BE PERFORMED BY AN APPROVED INDEPENDENT TESTING LABORATORY QUALIFIED TO PERFORM SUCH TESTS. FIELD DENSITY TESTS CONFORMING TO ASTM D 698, SHALL BE MADE BY THE GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE ON EACH SOIL TYPE FOUND IN THE AREAS PREPARED TO RECEIVE FILL AND IN THE SOIL TO BE USED FOR FILL. FIELD DENSITY TESTS SHALL BE MADE BY THE GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE IN ACCORDANCE WITH ASTM D 1556 OR ASTM D 2922 AND ASTM D 3017 ON THE AREAS PREPARED TO RECEIVE FILL AND ON EACH LAYER OF COMPACTED FILL.
17. A MINIMUM OF ONE MOISTURE-DENSITY TEST SHALL BE PERFORMED FOR EACH TYPE OF FILL MATERIAL, AND EACH TYPE OF EXISTING SUBGRADE MATERIAL. ONE ATTERBERG LIMITS TEST AND ONE GRADATION ANALYSIS IS REQUIRED FOR EVERY SIX FIELD DENSITY TESTS. FIELD DENSITY TESTS SHALL BE PERFORMED AS FOLLOWS: A MINIMUM OF ONE TEST PER LIFT PER 1,500 SQUARE FEET.
18. UPON COMPLETION OF ALL EXCAVATION OF UNSUITABLE MATERIAL, AND FOR ALL FOOTINGS, THE GEOTECHNICAL ENGINEER SHALL VISUALLY INSPECT THE SUBGRADE AND EXCAVATIONS. UPON COMPLETION OF THE INSPECTION, THE GEOTECHNICAL ENGINEER SHALL PROVIDE WRITTEN NOTIFICATION TO THE OWNER.
19. FOLLOWING VISUAL INSPECTION, CONTRACTOR SHALL DEMONSTRATE TO THE GEOTECHNICAL ENGINEER THAT THE EXPOSED SUBGRADE DOES NOT CONTAIN PREVIOUSLY UNIDENTIFIED SOFT AREAS BY PROOF ROLLING. PROOF ROLLING SHALL CONSIST OF ROLLING THE ENTIRE SURFACE WITH APPROVED MECHANICAL EQUIPMENT WHILE OBSERVING THE SUBGRADE FOR DISPLACEMENT OR DEFORMATION.
20. CONTRACTOR SHALL DISPOSE OF EXCESS OR UNSUITABLE MATERIAL LEGALLY OFFSITE IN APPROVED DISPOSAL AREAS SECURED BY THE CONTRACTOR. COMPLY WITH VDOT 106, CONTROL OF MATERIALS.
21. CONTRACTOR SHALL PROVIDE SUITABLE FILL MATERIAL, IF NEEDED, FROM APPROVED OFFSITE LOCATIONS SECURED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.

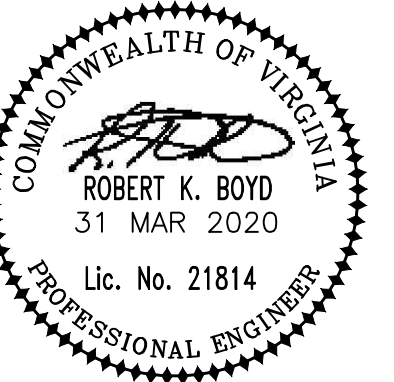


HURT & PROFFITT
 1861 PRATT DRIVE, SUITE 1100
 BLACKSBURG, VA 24060
 800.763.5696 TOLL FREE
 540.552.5692 MAIN

ENGINEERING • SURVEYING • LAND DEVELOPMENT • ENVIRONMENTAL
 GEOTECHNICAL • CONSTRUCTION TESTING & INSPECTION • CULTURAL RESOURCES

GENERAL NOTES
POWERHOUSE FALLS PARKING LOT
 GRAYSON COUNTY, VIRGINIA

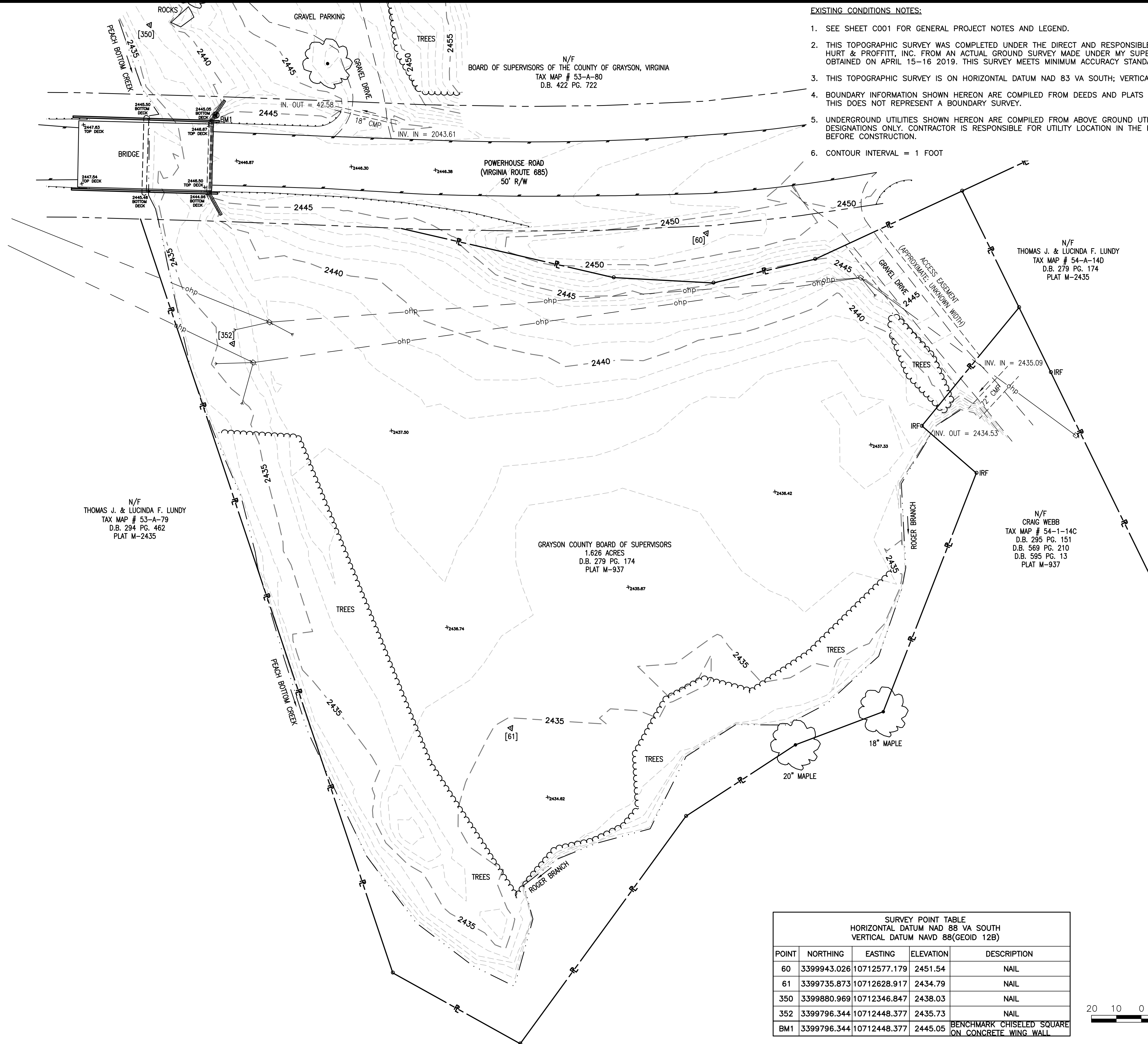
PROJECT NO.	20190562
LAT.	36°37'51.9"N
LONG.	81°07'32.0"W
DATE:	11/12/2019
DRAWN BY:	KJH
CHECKED BY:	MTC



REVISIONS NO.	DATE	DESCRIPTION
1	10/04/2019	PER VDOT REVIEW COMMENTS
2	11/12/2019	TRAFFIC CONTROL DETAILS ADDED PER VDOT COMMENTS
3	03/31/2020	PER ESC REVIEW COMMENTS

SHEET NO.
C002

Mar 31, 2020 - 5:53pm \\data01\projects\2019\20190562\engineering\CAO\20190562_Sheet_Existing_Conditions.dwg



EXISTING CONDITIONS NOTES:

1. SEE SHEET C001 FOR GENERAL PROJECT NOTES AND LEGEND.
2. THIS TOPOGRAPHIC SURVEY WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF NEIL AVERY MARTIN OF HURT & PROFFITT, INC. FROM AN ACTUAL GROUND SURVEY MADE UNDER MY SUPERVISION. THE ORIGINAL DATA WAS OBTAINED ON APRIL 15-16 2019. THIS SURVEY MEETS MINIMUM ACCURACY STANDARDS, UNLESS OTHERWISE NOTED.
3. THIS TOPOGRAPHIC SURVEY IS ON HORIZONTAL DATUM NAD 83 VA SOUTH; VERTICAL DATUM NAVD 88, GEOID 12B.
4. BOUNDARY INFORMATION SHOWN HEREON ARE COMPILED FROM DEEDS AND PLATS OF RECORD AND FIELD INFORMATION. THIS DOES NOT REPRESENT A BOUNDARY SURVEY.
5. UNDERGROUND UTILITIES SHOWN HEREON ARE COMPILED FROM ABOVE GROUND UTILITY EVIDENCE AND MISS UTILITY DESIGNATIONS ONLY. CONTRACTOR IS RESPONSIBLE FOR UTILITY LOCATION IN THE FIELD AND MUST CONTACT MISS UTILITY BEFORE CONSTRUCTION.
6. CONTOUR INTERVAL = 1 FOOT

N/F
THOMAS J. & LUCINDA F. LUNDY
TAX MAP # 53-A-79
D.B. 294 PG. 462
PLAT M-2435

N/F
BOARD OF SUPERVISORS OF THE COUNTY OF GRAYSON, VIRGINIA
TAX MAP # 53-A-80
D.B. 422 PG. 722

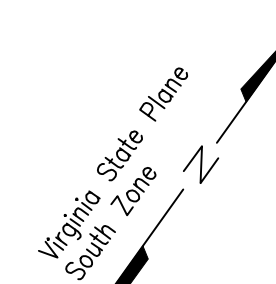
N/F
THOMAS J. & LUCINDA F. LUNDY
TAX MAP # 54-A-140
D.B. 279 PG. 174
PLAT M-2435

GRAYSON COUNTY BOARD OF SUPERVISORS
1.626 ACRES
D.B. 279 PG. 174
PLAT M-937

N/F
CRAIG WEBB
TAX MAP # 54-1-14C
D.B. 295 PG. 151
D.B. 569 PG. 210
D.B. 595 PG. 13
PLAT M-937

SURVEY POINT TABLE
HORIZONTAL DATUM NAD 88 VA SOUTH
VERTICAL DATUM NAVD 88(GEOID 12B)

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
60	3399943.026	10712577.179	2451.54	NAIL
61	3399735.873	10712628.917	2434.79	NAIL
350	3399880.969	10712346.847	2438.03	NAIL
352	3399796.344	10712448.377	2435.73	NAIL
BM1	3399796.344	10712448.377	2445.05	BENCHMARK CHISELED SQUARE ON CONCRETE WING WALL



HURT & PROFFITT
1861 PRATT DRIVE, SUITE 1100
BLACKSBURG, VA 24060
800.763.5896 TOLL FREE
540.552.5892 MAIN

ENGINEERING • SURVEYING • LAND DEVELOPMENT • ENVIRONMENTAL
GEO TECHNICAL • CONSTRUCTION TESTING & INSPECTION • CULTURAL RESOURCES

EXISTING CONDITIONS
POWERHOUSE FALLS PARKING LOT
GRAYSON COUNTY, VIRGINIA

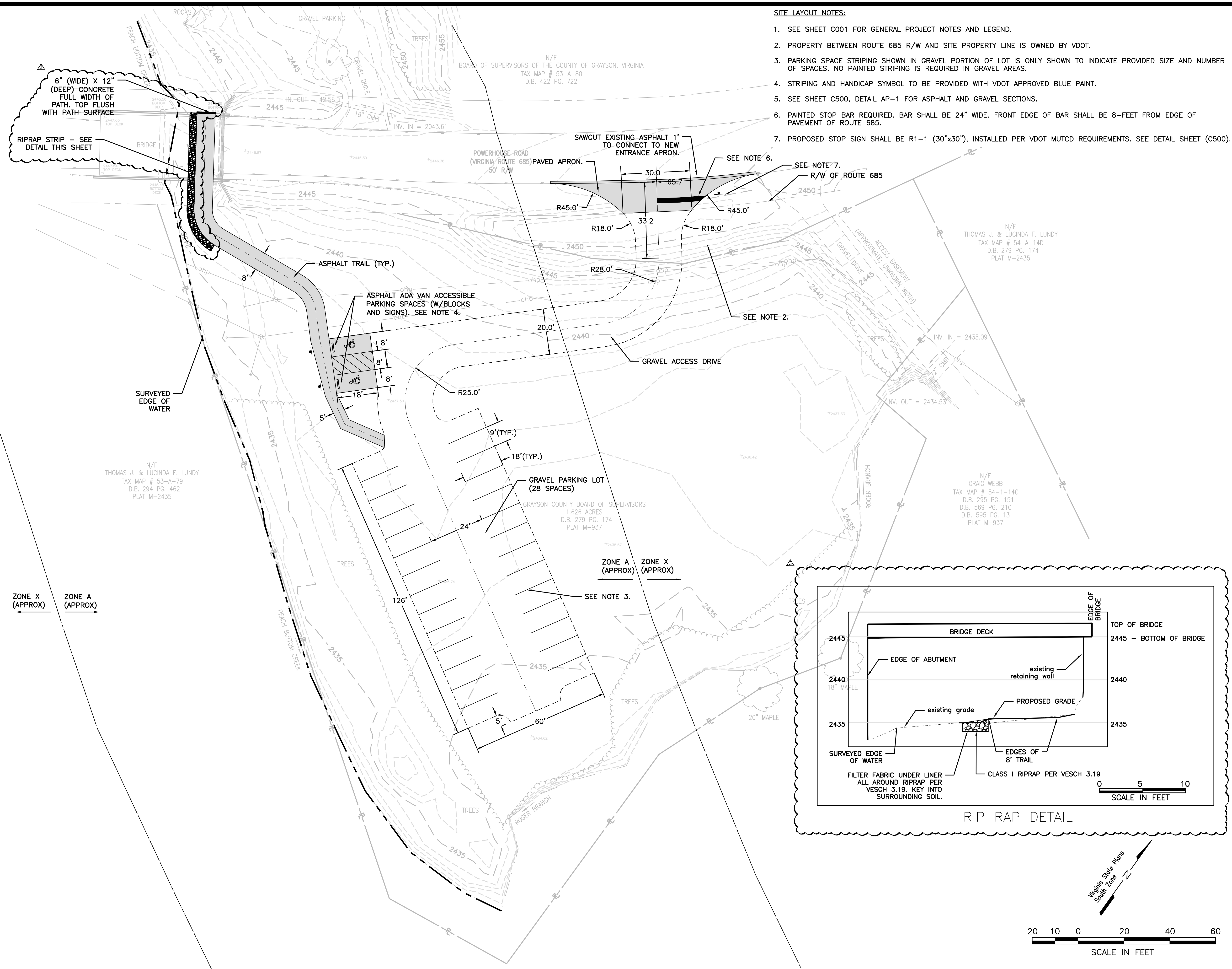
PROJECT NO.	20190562
LAT.	36°37'51.9"N
LONG.	81°07'32.0"W
DATE:	11/12/2019
DRAWN BY:	
CHECKED BY:	



REVISIONS NO.	DATE	DESCRIPTION
1	10/04/2019	PER VDOT REVIEW COMMENTS
2	11/12/2019	TRAFFIC CONTROL DETAILS ADDED PER VDOT COMMENTS
3	03/31/2020	PER ESC REVIEW COMMENTS

SHEET NO.
C100

Mar 31, 2020 - 5:53pm \\data01\projects\2019\20190562\engineering\CAD\20190562_Sheet_Site.dwg



- SITE LAYOUT NOTES:**
- SEE SHEET C001 FOR GENERAL PROJECT NOTES AND LEGEND.
 - PROPERTY BETWEEN ROUTE 685 R/W AND SITE PROPERTY LINE IS OWNED BY VDOT.
 - PARKING SPACE STRIPING SHOWN IN GRAVEL PORTION OF LOT IS ONLY SHOWN TO INDICATE PROVIDED SIZE AND NUMBER OF SPACES. NO PAINTED STRIPING IS REQUIRED IN GRAVEL AREAS.
 - STRIPING AND HANDICAP SYMBOL TO BE PROVIDED WITH VDOT APPROVED BLUE PAINT.
 - SEE SHEET C500, DETAIL AP-1 FOR ASPHALT AND GRAVEL SECTIONS.
 - PAINTED STOP BAR REQUIRED. BAR SHALL BE 24" WIDE. FRONT EDGE OF BAR SHALL BE 8'-FEET FROM EDGE OF PAVEMENT OF ROUTE 685.
 - PROPOSED STOP SIGN SHALL BE R1-1 (30"x30"), INSTALLED PER VDOT MUTCD REQUIREMENTS. SEE DETAIL SHEET (C500).

HURT & PROFFITT

1861 PRATT DRIVE, SUITE 1100
 BLACKSBURG, VA 24060
 800.763.5896 TOLL FREE
 540.552.5892 MAIN

ENGINEERING • SURVEYING • LAND DEVELOPMENT • ENVIRONMENTAL
 GEOTECHNICAL • CONSTRUCTION TESTING & INSPECTION • CULTURAL RESOURCES

SITE PLAN

POWERHOUSE FALLS PARKING LOT

GRAYSON COUNTY, VIRGINIA

PROJECT NO.	20190562
LAT.	36°37'51.9"N
LONG.	81°07'32.0"W
DATE:	11/12/2019
DRAWN BY:	TAM, SVC, KJH
CHECKED BY:	MTG

COMMONWEALTH OF VIRGINIA

ROBERT K. BOYD

31 MAR 2020

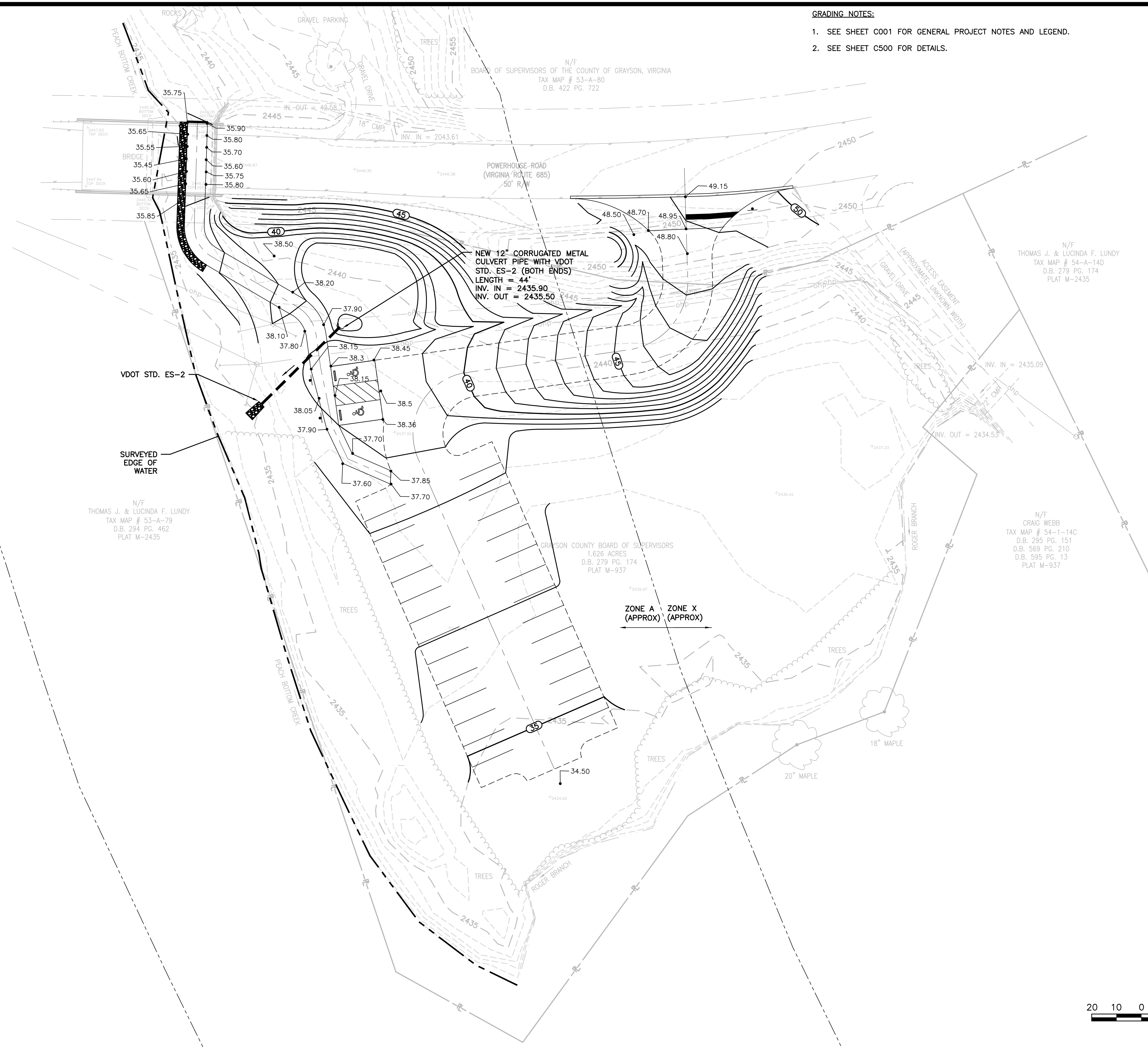
Lic. No. 21814

PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION
1	10/04/2019	PER VDOT REVIEW COMMENTS
2	11/12/2019	TRAFFIC CONTROL DETAILS ADDED PER VDOT COMMENTS
3	03/31/2020	PER ESC REVIEW COMMENTS

SHEET NO. C200

Mar 31, 2020 - 5:53pm \\data01\projects\2019\20190562\engineering\CAO\20190562_Sheet_Grading.dwg



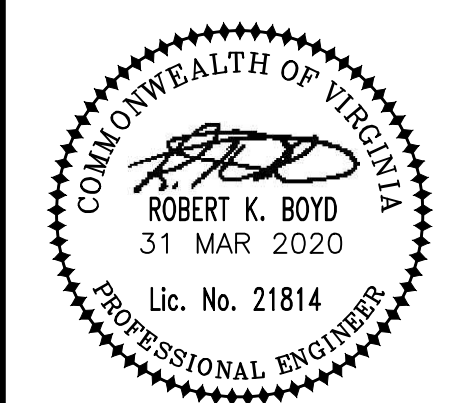
- GRADING NOTES:**
1. SEE SHEET C001 FOR GENERAL PROJECT NOTES AND LEGEND.
 2. SEE SHEET C500 FOR DETAILS.

HURT & PROFFITT
 1861 PRATT DRIVE, SUITE 1100
 BLACKSBURG, VA 24060
 800.763.5696 TOLL FREE
 540.552.5692 MAIN

ENGINEERING • SURVEYING • LAND DEVELOPMENT • ENVIRONMENTAL
 GEOTECHNICAL • CONSTRUCTION TESTING & INSPECTION • CULTURAL RESOURCES

GRADING PLAN
POWERHOUSE FALLS PARKING LOT
 GRAYSON COUNTY, VIRGINIA

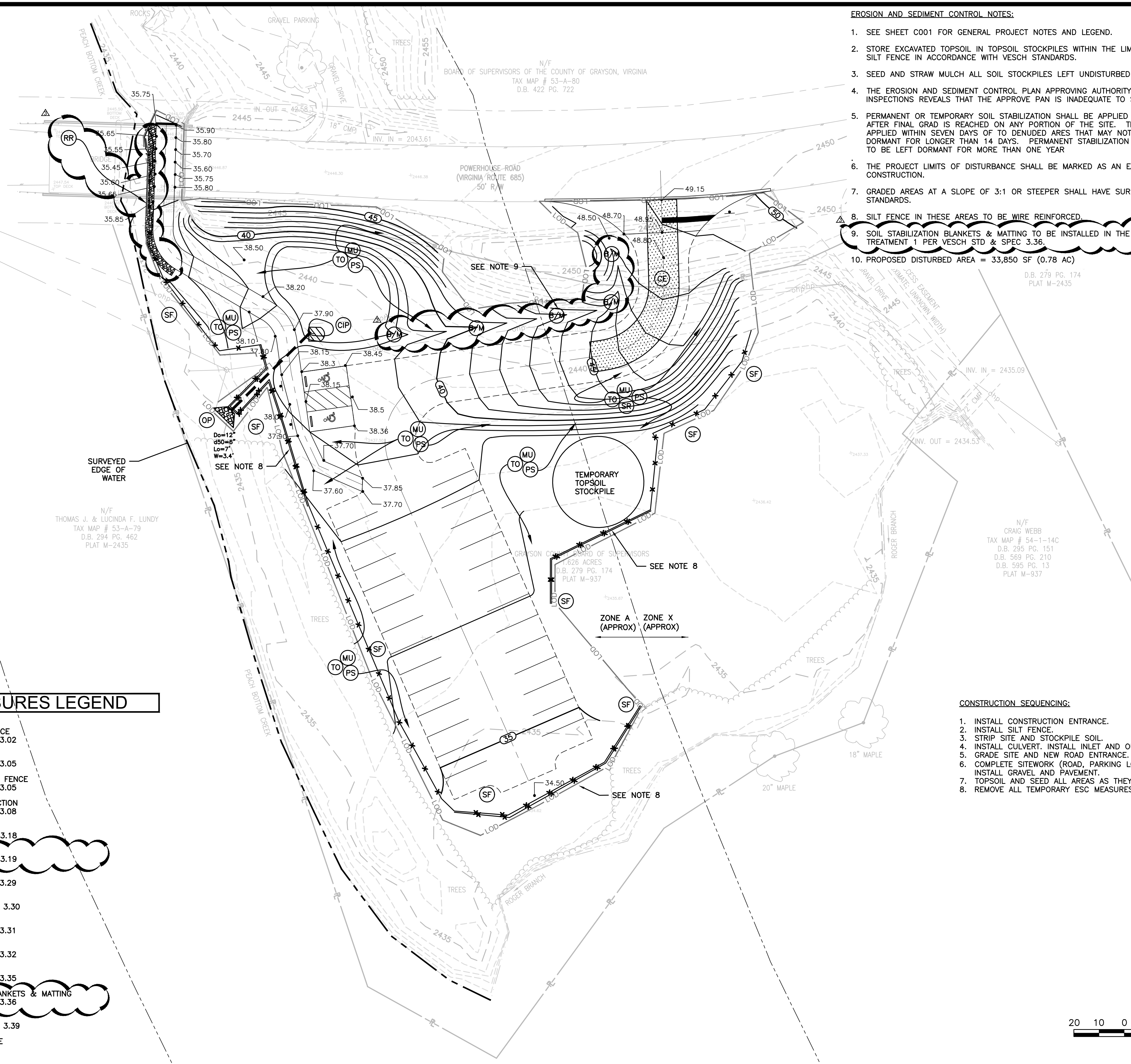
PROJECT NO.	20190562
LAT.	36°37'51.9"N
LONG.	81°07'32.0"W
DATE:	11/12/2019
DRAWN BY:	KJH
CHECKED BY:	MTC



REVISIONS NO.	DATE	DESCRIPTION
1	10/04/2019	PER VDOT REVIEW COMMENTS
2	11/12/2019	TRAFFIC CONTROL DETAILS ADDED PER VDOT COMMENTS
3	03/31/2020	PER ESC REVIEW COMMENTS

SHEET NO.
C300

Mar 31, 2020 - 5:53pm \\data01\projects\2019\20190562\engineering\CAD\20190562_Sheet_Esc.dwg

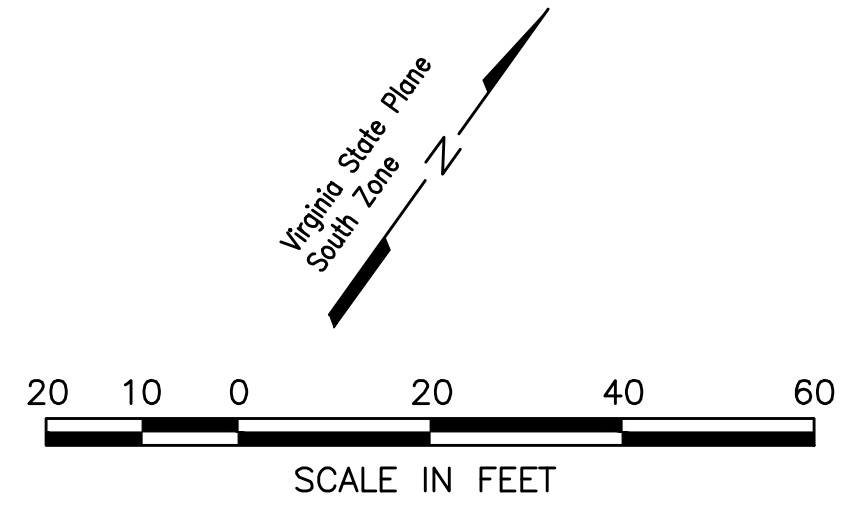


- EROSION AND SEDIMENT CONTROL NOTES:**
- SEE SHEET C001 FOR GENERAL PROJECT NOTES AND LEGEND.
 - STORE EXCAVATED TOPSOIL IN TOPSOIL STOCKPILES WITHIN THE LIMITS OF DISTURBANCE. PROTECT WITH SILT FENCE IN ACCORDANCE WITH VESCH STANDARDS.
 - SEED AND STRAW MULCH ALL SOIL STOCKPILES LEFT UNDISTURBED FOR MORE THAN 14 DAYS.
 - THE EROSION AND SEDIMENT CONTROL PLAN APPROVING AUTHORITY MAY CHANGE THE APPROVED PLAN IF INSPECTIONS REVEALS THAT THE APPROVE PAN IS INADEQUATE TO SATISFY APPLICABLE REGULATIONS.
 - PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDEED AREAS WITHIN SEVEN DAYS AFTER FINAL GRAD IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS OF TO DENUDEED AREAS THAT MAY NOT BE A FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 14 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR
 - THE PROJECT LIMITS OF DISTURBANCE SHALL BE MARKED AS AN EARLY STEP IN THE SEQUENCE OF CONSTRUCTION.
 - GRADED AREAS AT A SLOPE OF 3:1 OR STEEPER SHALL HAVE SURFACE ROUGHENING ACCORDING TO VESCH STANDARDS.
 - SILT FENCE IN THESE AREAS TO BE WIRE REINFORCED.
 - SOIL STABILIZATION BLANKETS & MATTING TO BE INSTALLED IN THE SMALL DRAINAGE DITCH FOLLOWING TREATMENT 1 PER VESCH STD & SPEC 3.36.
 - PROPOSED DISTURBED AREA = 33,850 SF (0.78 AC)

- CONSTRUCTION SEQUENCING:**
- INSTALL CONSTRUCTION ENTRANCE.
 - INSTALL SILT FENCE.
 - STRIP SITE AND STOCKPILE SOIL.
 - INSTALL CULVERT. INSTALL INLET AND OUTLET PROTECTION.
 - GRADE SITE AND NEW ROAD ENTRANCE.
 - COMPLETE SITEWORK (ROAD, PARKING LOT, ACCESSIBLE SPACES AND TRAIL). INSTALL GRAVEL AND PAVEMENT.
 - TOPSOIL AND SEED ALL AREAS AS THEY REACH FINAL GRADE.
 - REMOVE ALL TEMPORARY ESC MEASURES AND RESEED AS NECESSARY.

PROPOSED ESC MEASURES LEGEND

- CE CONSTRUCTION ENTRANCE VESCH STD. & SPEC. 3.02
- SF SILT FENCE VESCH STD. & SPEC. 3.05
- SF WIRE REINFORCED SILT FENCE VESCH STD. & SPEC. 3.05
- CIP CULVERT INLET PROTECTION VESCH STD. & SPEC. 3.08
- OP OUTLET PROTECTION VESCH STD. & SPEC. 3.18
- RR RIPRAP VESCH STD. & SPEC. 3.19
- SR SURFACE ROUGHENING VESCH STD. & SPEC. 3.29
- TO TOPSOILING VESCH STD AND SPEC 3.30
- TS TEMPORARY SEEDING VESCH STD. & SPEC. 3.31
- PS PERMANENT SEEDING VESCH STD. & SPEC. 3.32
- MU MULCHING VESCH STD. & SPEC. 3.35
- B/M SOIL STABILIZATION BLANKETS & MATTING VESCH STD. & SPEC. 3.36
- DC DUST CONTROL VESCH STD AND SPEC 3.39
- LOD LIMITS OF DISTURBANCE



HURT & PROFFITT
 1861 PRATT DRIVE, SUITE 1100
 BLACKSBURG, VA 24060
 800.763.5896 TOLL FREE
 540.552.5892 MAIN

ENGINEERING • SURVEYING • LAND DEVELOPMENT • ENVIRONMENTAL
 GEOTECHNICAL • CONSTRUCTION TESTING & INSPECTION • CULTURAL RESOURCES

EROSION & SEDIMENT CONTROL PLAN
POWERHOUSE FALLS PARKING LOT
 GRAYSON COUNTY, VIRGINIA

PROJECT NO.	20190562
LAT.	36°37'51.9"N
LONG.	81°07'32.0"W
DATE:	11/12/2019
DRAWN BY:	TAM, KJH
CHECKED BY:	MTG

COMMONWEALTH OF VIRGINIA

 ROBERT K. BOYD
 31 MAR 2020
 Lic. No. 21814
 PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION
1	10/04/2019	PER VDOT REVIEW COMMENTS
2	11/12/2019	TRAFFIC CONTROL DETAILS ADDED PER VDOT COMMENTS
3	03/31/2020	PER ESC REVIEW COMMENTS

SHEET NO.
C400

Mar 31, 2020 - 5:53pm \\dca01\projects\2019\20190562\engineering\c401\05062_Sheet_ESC.dwg

EROSION AND SEDIMENT CONTROL NOTES:

- UPON AWARD OF THE CONTRACT AND PRIOR TO ANY LAND DISTURBANCE, DESIGNATE A PERSON WHO IS CERTIFIED BY THE VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ) AS A RESPONSIBLE LAND DISTURBER (RLD) FOR THIS PROJECT. NOTIFY THE OWNER, THE PROGRAM AUTHORITY, AND HURT & PROFFITT, INC. IN WRITING OF THIS DESIGNATION.
- THE RESPONSIBLE LAND DISTURBER SHALL INSPECT EROSION AND SEDIMENT CONTROL DEVICES AND MEASURES FOR PROPER INSTALLATION AND DEFICIENCIES IMMEDIATELY AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY WHEN NO RAINFALL EVENT OCCURS. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION AND SEDIMENT CONTROL DEVICES SHALL BE MADE IMMEDIATELY.
- UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS (IN ADDITION TO OTHER APPLICABLE CRITERIA):
 - NO MORE THAN 200' OF TRENCH MAY BE OPEN AT ONE TIME.
 - EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCH.
 - MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
 - RESTALLATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE LATEST EDITION OF VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH).
 - ALL APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.
 - EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
 - DURING DEWATERING OPERATIONS, PUMP WATER INTO AN APPROVED FILTERING DEVICE.
- THE NARRATIVE PREPARED FOR THIS PLAN IS PART OF THE PLANS AND SHALL BE USED IN CONJUNCTION WITH THE PLANS. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN NARRATIVE AND THE VESCH, SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
- THE EROSION CONTROL PLAN APPROVING AUTHORITY MAY CHANGE THE APPROVED PLAN IF INSPECTION REVEALS THAT THE APPROVED PLAN IS INADEQUATE TO SATISFY APPLICABLE REGULATIONS.
- STORE EXCAVATED TOPSOIL IN TOPSOIL STOCKPILES WITHIN THE LIMITS OF CONSTRUCTION, IN COORDINATION WITH THE OWNER. PROTECT STOCKPILE WITH SILT FENCE IN ACCORDANCE WITH VESCH STANDARDS.
- FOR ALL DISTURBED AREAS THAT ARE NOT PAVED, SEED IN ACCORDANCE WITH THE SPECIFICATIONS, & THE VESCH, LATEST EDITION.
- SEED AND STRAW MULCH ALL SOIL STOCKPILES LEFT UNDISTURBED MORE THAN 14 DAYS.
- PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 14 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.
- PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION. ANY AREAS THAT DO NOT ESTABLISH WILL REQUIRE ADDITIONAL STABILIZATION.
- STABILIZE EARTHEN STRUCTURES SUCH AS DIVERSIONS, BASIN EMBANKMENTS, ETC. IMMEDIATELY AFTER INSTALLATION.
- CUT AND FILL SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION MUST BE PROVIDED WITH ADDITIONAL STABILIZATION MEASURES UNTIL THE PROBLEM IS CORRECTED.
- WHERE CONSTRUCTION VEHICLES ACCESS PAVED OR PUBLIC ROADS, PROVISIONS MUST BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT. ANY SEDIMENT WHICH IS TRACKED ONTO PUBLIC ROADS MUST BE REMOVED FROM THE ROADS AT THE END OF EACH DAY, BY EITHER SHOVELING OR SWEEPING, AND TRANSPORTED TO AN APPROVED DISPOSAL AREA.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES MUST BE REMOVED WITHIN 30 DAYS AFTER FINAL STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED. ANY AREAS THAT ARE DISTURBED AS THE RESULT OF REMOVAL OF TEMPORARY PRACTICES MUST BE RESTABILIZED ACCORDING TO VESCH STANDARD AND SPECIFICATION 3.32. TRAPPED SEDIMENT MUST BE EITHER REDISTRIBUTED OR TRANSFERRED TO AN APPROVED DISPOSAL SITE.
- THE PROJECT LIMITS OF DISTURBANCE SHALL BE MARKED AS AN EARLY STEP IN THE SEQUENCE OF CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING SURFACE AND AIR MOVEMENT OF DUST FROM EXPOSED SOILS.
- TOPSOIL SHALL NOT BE PLACED WHILE IN A FROZEN OR MUDDY CONDITION, WHEN TOPSOIL OR SUBGRADE IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING OR PROPOSED SODDING OR SEEDING. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED TO A MINIMUM COMPACTED DEPTH OF 4 INCHES. (SEE TABLE 3.30-A)

GENERAL EROSION AND SEDIMENT CONTROL NOTES

- UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS 9VAC25-840 EROSION AND SEDIMENT CONTROL REGULATIONS.
- THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRECONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.
- ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.
- A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
- PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.
- THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.
- ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
- DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.
- THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

9VAC25-840-40. MINIMUM STANDARDS

THE FOLLOWING STANDARDS ARE TO BE PROVIDED OR ADDRESSED ON EVERY DEVELOPMENT PROJECT EXCEEDING 10,000 S.F. IN AREA OF DISTURBANCE. THESE STANDARDS ARE CONSIDERED A MINIMUM AND MAY REQUIRE ADDITIONAL MEASURES AS DEEMED NECESSARY BY THE LOCAL APPROVING AUTHORITY OR THE CONSULTING ENGINEER

NO.	A VESCP MUST BE CONSISTENT WITH THE FOLLOWING CRITERIA, TECHNIQUES AND METHODS:	PRACTICES PROVIDED
1	PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 14 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.	(TS) (MU) (RR) (E/M)
2	DURING CONSTRUCTION OF THE PROJECT, SOIL STOCK PILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.	(TS) (MU) (SF)
3	A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.	(SF) (TO) (PS) (MU)
4	SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.	(SF) (CE)
5	STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.	(TS) (MU)
6	SEDIMENT TRAPS AND SEDIMENT BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN. A. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT TRAP SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA AND THE TRAP SHALL ONLY CONTROL DRAINAGE AREAS LESS THAN THREE ACRES. B. SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES SHALL BE CONTROLLED BY A SEDIMENT BASIN. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT BASIN SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA. THE OUTFALL SYSTEM SHALL, AT A MINIMUM, MAINTAIN THE STRUCTURAL INTEGRITY OF THE BASIN DURING A 25-YEAR STORM OF 24-HOUR DURATION. RUNOFF COEFFICIENTS USED IN RUNOFF CALCULATIONS SHALL CORRESPOND TO A BARE EARTH CONDITION OR THOSE CONDITIONS EXPECTED TO EXIST WHILE THE SEDIMENT BASIN IS UTILIZED.	NOT APPLICABLE
7	CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.	(TO) (PS) (MU)
8	CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.	NOT APPLICABLE
9	WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.	NOT APPLICABLE
10	ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.	NOT APPLICABLE
11	BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.	(RR) (E/M)
12	WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.	NOT APPLICABLE
13	WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX-MONTH PERIOD, A TEMPORARY VEHICULAR STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL SHALL BE PROVIDED.	NOT APPLICABLE
14	ALL APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET.	NOT APPLICABLE
15	THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.	NOT APPLICABLE
16	UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA: A. NO MORE THAN 200 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME. B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES. C. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY. D. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION. E. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THIS CHAPTER. F. APPLICABLE SAFETY REQUIREMENTS SHALL BE COMPLIED WITH.	NOT APPLICABLE
17	WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED OR PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL DEVELOPMENT LOTS AS WELL AS TO LARGER LAND-DISTURBING ACTIVITIES.	(CE)
18	ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE VESCP AUTHORITY. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.	(SF) (CIP) (CE)
19	PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE DUE TO INCREASES IN VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION IN ACCORDANCE WITH THE FOLLOWING STANDARDS AND CRITERIA. STREAM RESTORATION AND RELOCATION PROJECTS THAT INCORPORATE NATURAL CHANNEL DESIGN CONCEPTS ARE NOT MAN-MADE CHANNELS AND SHALL BE EXEMPT FROM ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS: a. CONCENTRATED STORMWATER RUNOFF LEAVING A DEVELOPMENT SITE SHALL BE DISCHARGED DIRECTLY INTO AN ADEQUATE NATURAL OR MAN-MADE RECEIVING CHANNEL, PIPE OR STORM SEWER SYSTEM. FOR THOSE SITES WHERE RUNOFF IS DISCHARGED INTO A PIPE OR PIPE SYSTEM, DOWNSTREAM STABILITY ANALYSES AT THE OUTFALL OF THE PIPE OR PIPE SYSTEM SHALL BE PERFORMED. b. ADEQUACY OF ALL CHANNELS AND PIPES SHALL BE VERIFIED IN THE FOLLOWING MANNER: (1) THE APPLICANT SHALL DEMONSTRATE THAT THE TOTAL DRAINAGE AREA TO THE POINT OF ANALYSIS WITHIN THE CHANNEL IS ONE HUNDRED TIMES GREATER THAN THE CONTRIBUTING DRAINAGE AREA OF THE PROJECT IN QUESTION; OR (2) (A) NATURAL CHANNELS SHALL BE ANALYZED BY THE USE OF A TWO-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP CHANNEL BANKS NOR CAUSE EROSION OF CHANNEL BED OR BANKS. (B) ALL PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP ITS BANKS AND BY THE USE OF A TWO-YEAR STORM TO DEMONSTRATE THAT STORMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS; AND (C) PIPES AND STORM SEWER SYSTEMS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL BE CONTAINED WITHIN THE PIPE OR SYSTEM. c. IF EXISTING NATURAL RECEIVING CHANNELS OR PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS OR PIPES ARE NOT ADEQUATE, THE APPLICANT SHALL: (1) IMPROVE THE CHANNELS TO A CONDITION WHERE A TEN-YEAR STORM WILL NOT OVERTOP THE BANKS AND A TWO-YEAR STORM WILL NOT CAUSE EROSION TO THE CHANNEL, THE BED, OR THE BANKS; OR (2) IMPROVE THE PIPE OR PIPE SYSTEM TO A CONDITION WHERE THE TEN-YEAR STORM IS CONTAINED WITHIN THE APPURTENANCES; (3) DEVELOP A SITE DESIGN THAT WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TWO-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A NATURAL CHANNEL OR WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TEN-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A MAN-MADE CHANNEL; OR (4) PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE VESCP AUTHORITY TO PREVENT DOWNSTREAM EROSION. d. THE APPLICANT SHALL PROVIDE EVIDENCE OF PERMISSION TO MAKE THE IMPROVEMENTS. e. ALL HYDROLOGIC ANALYSES SHALL BE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT CONDITION OF THE SUBJECT PROJECT. f. IF THE APPLICANT CHOOSES AN OPTION THAT INCLUDES STORMWATER DETENTION, HE SHALL OBTAIN APPROVAL FROM THE VESCP OF A PLAN FOR MAINTENANCE OF THE DETENTION FACILITIES. THE PLAN SHALL SET FORTH THE MAINTENANCE REQUIREMENTS OF THE FACILITY AND THE PERSON RESPONSIBLE FOR PERFORMING THE MAINTENANCE. g. OUTFALL FROM A DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL, AND ENERGY DISSIPATORS SHALL BE PLACED AT THE OUTFALL OF ALL DETENTION FACILITIES AS NECESSARY TO PROVIDE A STABILIZED TRANSITION FROM THE FACILITY TO THE RECEIVING CHANNEL. h. ALL ON-SITE CHANNELS MUST BE VERIFIED TO BE ADEQUATE. i. INCREASED VOLUMES OF SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION ON ADJACENT PROPERTY SHALL BE DIVERTED TO A STABLE OUTLET, ADEQUATE CHANNEL, PIPE OR PIPE SYSTEM, OR TO A DETENTION FACILITY. j. IN APPLYING THESE STORMWATER MANAGEMENT CRITERIA, INDIVIDUAL LOTS OR PARCELS IN A RESIDENTIAL, COMMERCIAL OR INDUSTRIAL DEVELOPMENT SHALL NOT BE CONSIDERED TO BE SEPARATE DEVELOPMENT PROJECTS. INSTEAD, THE DEVELOPMENT, AS A WHOLE, SHALL BE CONSIDERED TO BE A SINGLE DEVELOPMENT PROJECT. HYDROLOGIC PARAMETERS THAT REFLECT THE ULTIMATE DEVELOPMENT CONDITION SHALL BE USED IN ALL ENGINEERING CALCULATIONS. k. ALL MEASURES USED TO PROTECT PROPERTIES AND WATERWAYS SHALL BE EMPLOYED IN A MANNER WHICH MINIMIZES IMPACTS ON THE PHYSICAL, CHEMICAL AND BIOLOGICAL INTEGRITY OF RIVERS, STREAMS AND OTHER WATERS OF THE STATE. l. ANY PLAN APPROVED PRIOR TO JULY 1, 2014, THAT PROVIDES FOR STORMWATER MANAGEMENT THAT ADDRESSES ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS SHALL SATISFY THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS IF THE PRACTICES ARE DESIGNED TO (I) DETAIN THE WATER QUALITY VOLUME AND TO RELEASE IT OVER 48 HOURS; (II) DETAIN AND RELEASE OVER A 24-HOUR PERIOD THE EXPECTED RAINFALL RESULTING FROM THE ONE YEAR, 24-HOUR STORM; AND (III) REDUCE THE ALLOWABLE PEAK FLOW RATE RESULTING FROM THE 1.5, 2, AND 10-YEAR, 24-HOUR STORMS TO A LEVEL THAT IS LESS THAN OR EQUAL TO THE PEAK FLOW RATE FROM THE SITE ASSUMING IT WAS IN A GOOD FORESTED CONDITION, ACHIEVED THROUGH MULTIPLICATION OF THE FORESTED PEAK FLOW RATE BY A REDUCTION FACTOR THAT IS EQUAL TO THE RUNOFF VOLUME FROM THE SITE WHEN IT WAS IN A GOOD FORESTED CONDITION DIVIDED BY THE RUNOFF VOLUME FROM THE SITE IN ITS PROPOSED CONDITION, AND SHALL BE EXEMPT FROM ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS AS DEFINED IN ANY REGULATIONS PROMULGATED PURSUANT TO § 62.1-44.15:54 OR 62.1-44.15:65 OF THE ACT. m. FOR PLANS APPROVED ON AND AFTER JULY 1, 2014, THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS OF § 62.1-44.15:52 A OF THE ACT AND THIS SUBSECTION SHALL BE SATISFIED BY COMPLIANCE WITH WATER QUANTITY REQUIREMENTS IN THE STORMWATER MANAGEMENT ACT (§ 62.1-44.15:24 ET SEQ. OF THE CODE OF VIRGINIA) AND ATTENDANT REGULATIONS, UNLESS SUCH LAND-DISTURBING ACTIVITIES ARE IN ACCORDANCE WITH 9VAC25-870-48 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) REGULATIONS. n. COMPLIANCE WITH THE WATER QUANTITY MINIMUM STANDARDS SET OUT IN 9VAC25-870-66 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) REGULATIONS SHALL BE DEEMED TO SATISFY THE REQUIREMENTS OF SUBDIVISION 19 OF THIS SUBSECTION.	STORMWATER CALCULATIONS ARE INCLUDED IN THE EROSION AND SEDIMENT CONTROL NARRATIVE.

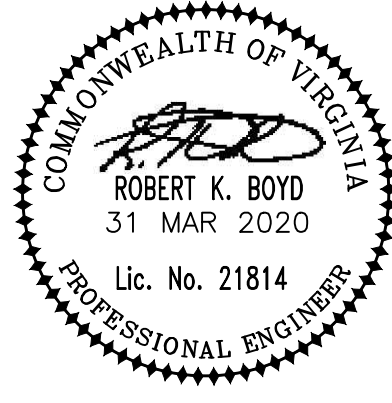
HURT & PROFFITT
 1861 PRATT DRIVE, SUITE 1100
 BLACKSBURG, VA 24060
 800.763.5696 TOLL FREE
 540.552.5692 MAIN



ENGINEERING • SURVEYING • LAND DEVELOPMENT • ENVIRONMENTAL
 GEOTECHNICAL • CONSTRUCTION TESTING & INSPECTION • CULTURAL RESOURCES

EROSION & SEDIMENT CONTROL NOTES
POWERHOUSE FALLS PARKING LOT
 GRAYSON COUNTY, VIRGINIA

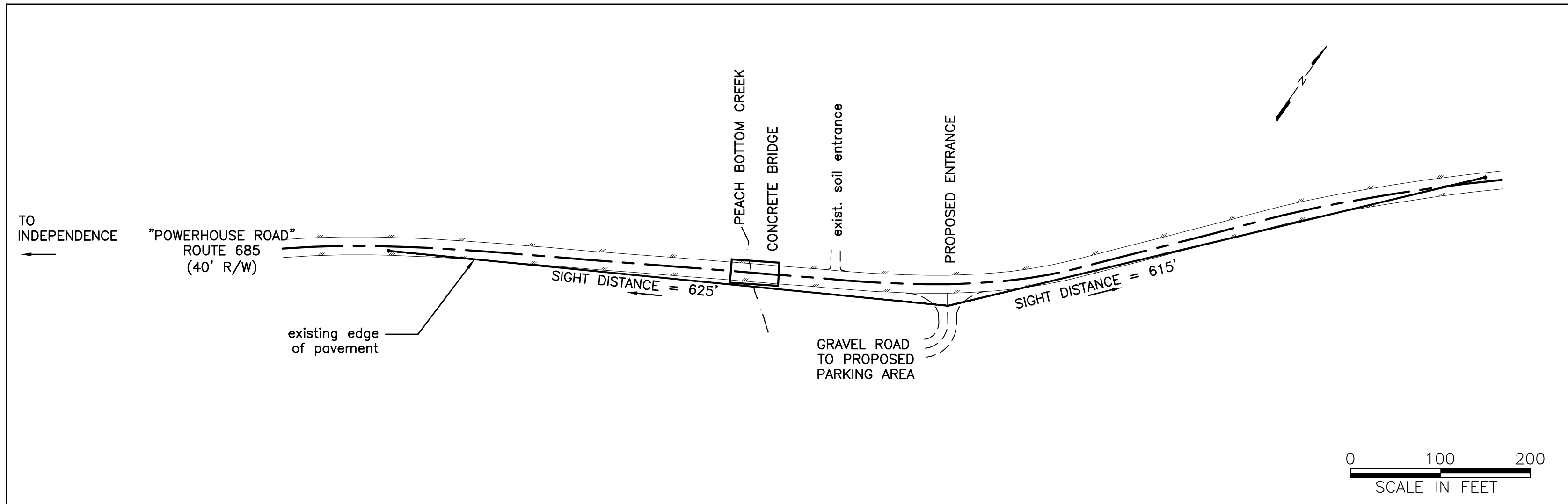
PROJECT NO.	20190562
LAT.	36°37'51.9"N
LONG.	81°07'32.0"W
DATE:	11/12/2019
DRAWN BY:	TAM, KJH
CHECKED BY:	MTG



ROBERT K. BOYD
 31 MAR 2020
 Lic. No. 21814
 PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION
1	10/04/2019	PER VDOT REVIEW COMMENTS
2	11/12/2019	TRAFFIC CONTROL DETAILS ADDED PER VDOT COMMENTS
3	03/31/2020	PER ESC REVIEW COMMENTS

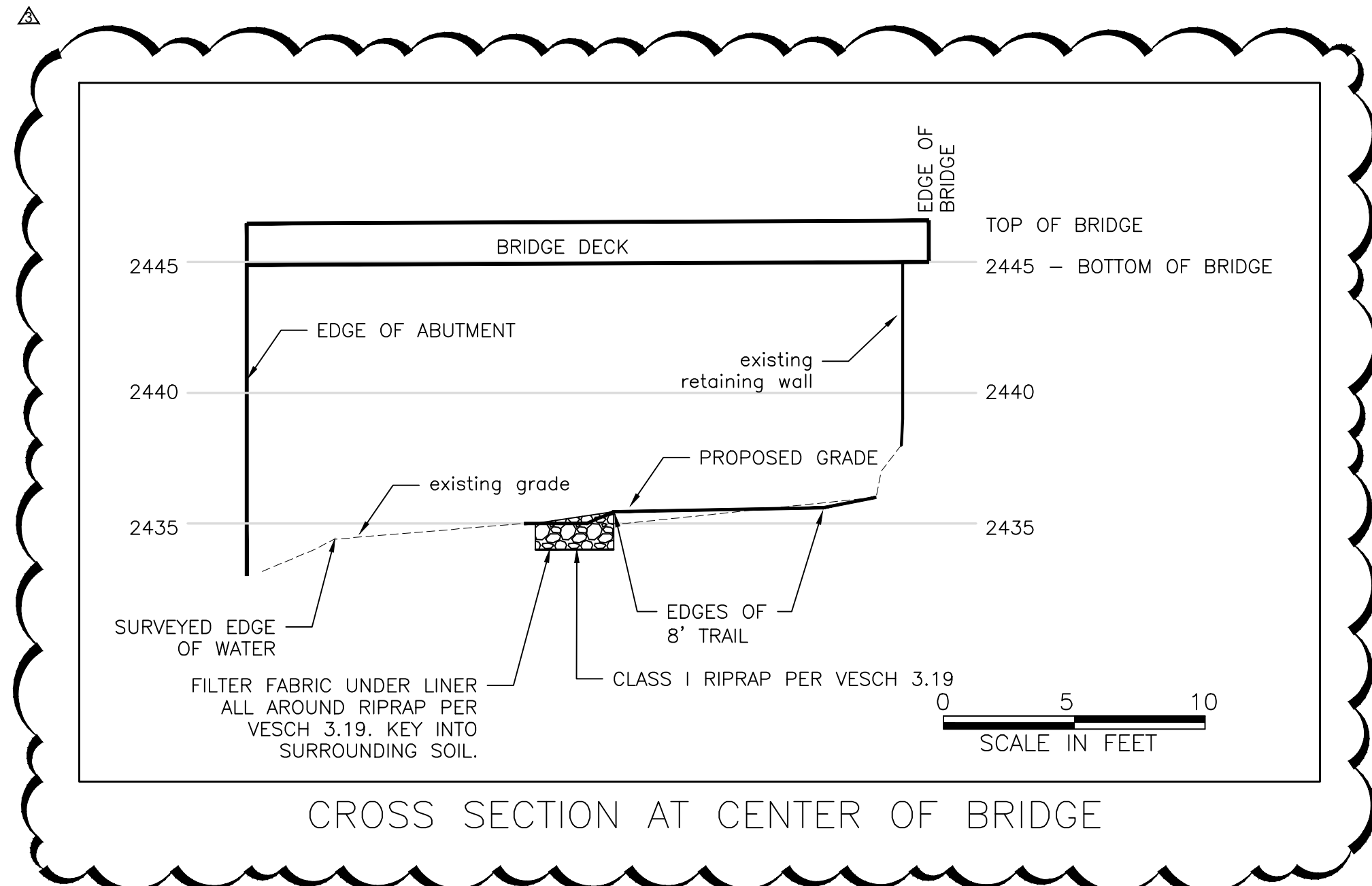
SHEET NO. **C401**



SIGHT DISTANCE

SIGHT DISTANCE NOTES:

1. ROAD ALIGNMENT REPRESENTED IN THIS SKETCH IS FROM DRAWING PREPARED FOR GRAYSON COUNTY BY THOMAS E. MAXWELL LAND SURVEYORS, JUNE, 2018.
2. INTERSECTION SIGHT DISTANCE MEASURED IN THE FIELD AUGUST 9, 2019 BY HURT & PROFFITT. SIGHT DISTANCE TO THE EAST IS 615 FEET AND TO THE WEST IS 625 FEET.
3. THE SPEED LIMIT ON POWERHOUSE ROAD IS NOT POSTED AND IS THEREFORE CONSIDERED TO BE 55 MPH.
4. THE REQUIRED INTERSECTION SIGHT DISTANCE FOR A TWO LANE ROAD, 55 MPH LIMIT IS 610 FEET.



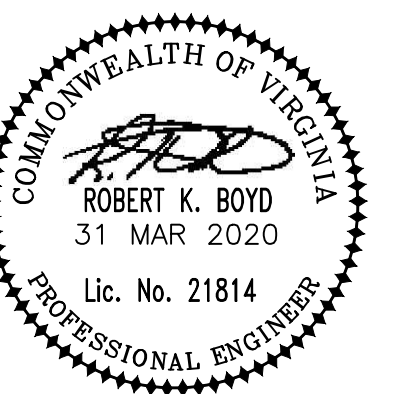
CROSS SECTION AT CENTER OF BRIDGE

CROSS SECTION NOTES:

1. CROSS SECTION IS AT THE CENTER LINE OF THE BRIDGE.
2. CROSS SECTION POINTS INTERPOLATED FROM SURVEY SPOT ELEVATIONS.
3. MAXIMUM PROPOSED TRAIL CROSS SLOPE IS 2%.

**CROSS SECTION AND SIGHT DISTANCE
 POWERHOUSE FALLS PARKING LOT
 GRAYSON COUNTY, VIRGINIA**

PROJECT NO.	20190562
LAT.	36°37'51.9"N
LONG.	81°07'32.0"W
DATE:	11/12/2019
DRAWN BY:	TAM, KJH
CHECKED BY:	MTC



REVISIONS NO.	DATE	DESCRIPTION
1	10/04/2019	PER VDOT REVIEW COMMENTS
2	11/12/2019	TRAFFIC CONTROL DETAILS ADDED PER VDOT COMMENTS
3	03/31/2020	PER ESC REVIEW COMMENTS

Typical Traffic Control
Stationary Operation on a Shoulder
(Figure TTC-4.2)
NOTES

- Standard
1. For long-term stationary work (more than 3 days) on divided highways having a median wider than 8', sign assemblies on both sides of the roadway shall be required as shown (ROAD WORK AHEAD (W20-1), RIGHT SHOULDER CLOSED AHEAD (W21-5bR), RIGHT SHOULDER CLOSED (W21-5aR)), even though only one shoulder is being closed. For operations less than 3 days in duration, sign assemblies will only be required on the side where the shoulder is being closed.

Guidance
2. Sign spacing should be 1300'-1500' for Limited Access highways. For all other roadways, the sign spacing should be 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limit is 45 mph or less.

- Option:
3. The SHOULDER WORK (W21-5) sign on an intersecting roadway may be omitted where drivers emerging from that roadway will encounter another advance warning sign prior to this activity area.
4. For short duration operations of 60 minutes or less, all signs and channelizing devices may be eliminated if a vehicle with activated high-intensity amber rotating, flashing, or oscillating lights is used.

- Standard:
5. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber rotating, flashing, or oscillating lights. Vehicle hazard warning signals can be used to supplement high-intensity amber rotating, flashing, or oscillating lights.
6. Taper length (L) shall be at the following:

Table with columns: Speed Limit (mph), Lane Width (Feet), Taper Length L, Remarks. Includes data for various speed limits and lane widths, and a note for Limited Access highways.

- 7. Channelizing device spacing shall be at the following:
Channelizing Device Spacing
Location Spacing, Speed Limit (mph), Location Spacing, Speed Limit (mph), Location Spacing, Speed Limit (mph)

- 8. On roadways with paved shoulders having a width of 8 feet or more, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the traveled way.
9. The buffer space length shall be as shown in Table 6H-3 on Page 6H-5 for the posted speed limit.
10. A truck-mounted attenuator (TMA) shall be used on the shadow vehicle on Limited Access highways and multi-lane roadways with posted speed limit equal to or greater than 45 mph for operations with a duration greater than 60 minutes.
11. When a side road intersects the highway within the temporary traffic control zone, additional traffic control devices shall be placed as needed.

1: Revision 1 - 4/1/2015
2: Revision 2 - 9/1/2019

Typical Traffic Control
Shoulder Operation with Minor Encroachment
(Figure TTC-5.2)
NOTES

- Standard
1. For required sign assemblies for multi-lane roadways see Note 1, TTC-4.1
Guidance
2. Sign spacing should be 1300'-1500' for Limited Access highways. For all other roadways, the sign spacing should be 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limit is 45 mph or less.

3. When work takes up part of a lane on a high volume roadway; vehicular traffic volumes, vehicle mix, speed and capacity should be analyzed to determine whether the affected lane should be closed. Unless the lane encroachment analysis permits a remaining lane width of 10 feet, the lane should be closed. If the closure operation is on a Limited Access highway, the minimum lane width is 11 feet.

- Option:
4. The ROAD WORK AHEAD (W20-1) sign on an intersecting roadway may be omitted where drivers emerging from that roadway will encounter another advance warning sign prior to this activity area.

- Standard:
5. A shadow vehicle with either an arrow board operating in the caution mode, or at least one high-intensity amber rotating, flashing, or oscillating light shall be parked 80' - 120' in advance of the first work crew.
6. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber rotating, flashing, or oscillating lights. Vehicle hazard warning signals can be used to supplement high-intensity amber rotating, flashing, or oscillating lights.
7. Taper length (L) and channelizing device spacing shall be at the following:

Table with columns: Speed Limit (mph), Lane Width (Feet), Taper Length L, Remarks. Includes data for various speed limits and lane widths, and a note for Limited Access highways.

- 8. Channelizing device spacing shall be at the following:
Channelizing Device Spacing
Location Spacing, Speed Limit (mph), Location Spacing, Speed Limit (mph), Location Spacing, Speed Limit (mph)

- 9. On roadways with paved shoulders having a width of 8 feet or more, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the traveled way.
10. The buffer space length The buffer space length shall be as shown in Table 6H-3 on Page 6H-5 for the posted speed limit.
11. A truck-mounted attenuator (TMA) shall be used on Limited Access highways and multi-lane roadways with posted speed limit equal to or greater than 45 mph.
12. When a side road intersects the highway within the temporary traffic control zone, additional traffic control devices shall be placed as needed.

1: Revision 1 - 4/1/2015
2: Revision 2 - 9/1/2019

Typical Traffic Control
Lane Closure on a Two-Lane Roadway Using Flaggers
(Figure TTC-23.2)
NOTES

- Guidance:
1. Sign spacing distance should be 350'-500' where the posted speed limit is 45 mph or less, and 500'-800' where the posted speed limit is greater than 45 mph.
2. Care should be exercised when establishing the limits of the work zone to insure maximum possible sight distance in advance of the flagger station and transition, based on the posted speed limit and at least equal to or greater than the values in Table 6H-3. Generally speaking, motorists should have a clear line of sight from the graphic flagger symbol sign to the flagger.

3. To maintain efficient traffic flow in a flagging operation on a two-lane roadway, the maximum time motorists should be stopped at a flagger station is 8 minutes for high volume roadways (average daily traffic of 500 or more vehicles per day) to a maximum of 12 minutes for low volume roadways (less than 500 vehicles per day). For additional information see Section 6E.07.

- Standard:
4. Portable Temporary Rumble Strips (PTRS) shall be used as noted in Section 6F.99.
5. Flagging stations shall be located far enough in advance of the work space to permit approaching traffic to reduce speed and/or stop before passing the work space and allow sufficient distance for departing traffic in the left lane to return to the right lane before reaching opposing traffic (see Table 6H-3 on Page 6H-5).

- 6. All flaggers shall be state certified and have their certification card in their possession when performing flagging duties (see Section 6E.01, Qualifications for Flaggers).
7. Cone spacing shall be based on the posted speed and the values in Table 6H-4 on Page 6H-6.
8. A shadow vehicle with at least one high intensity amber rotating, flashing, or oscillating light shall be parked 80'-120' in advance of the first work crew.

Option:
8. A SLOW (W21-V10) sign may be required in this area to give advance warning of the operation ahead by slowing approaching traffic prior to reaching the flagger station or queued traffic.

Guidance:
9. If the queue of traffic reaches the BE PREPARED TO STOP (W3-4) sign then the signs, and if used the PTRS shall be readjusted at greater distances.

10. When a highway-rail crossing exists within or upstream of the transition area and it is anticipated that queues resulting from the lane closure might extend through the highway-rail grade crossing, the temporary traffic control zone should be extended so that the transition area precedes the highway-rail crossing (see Figure TTC-56 for additional information on highway-rail crossings).

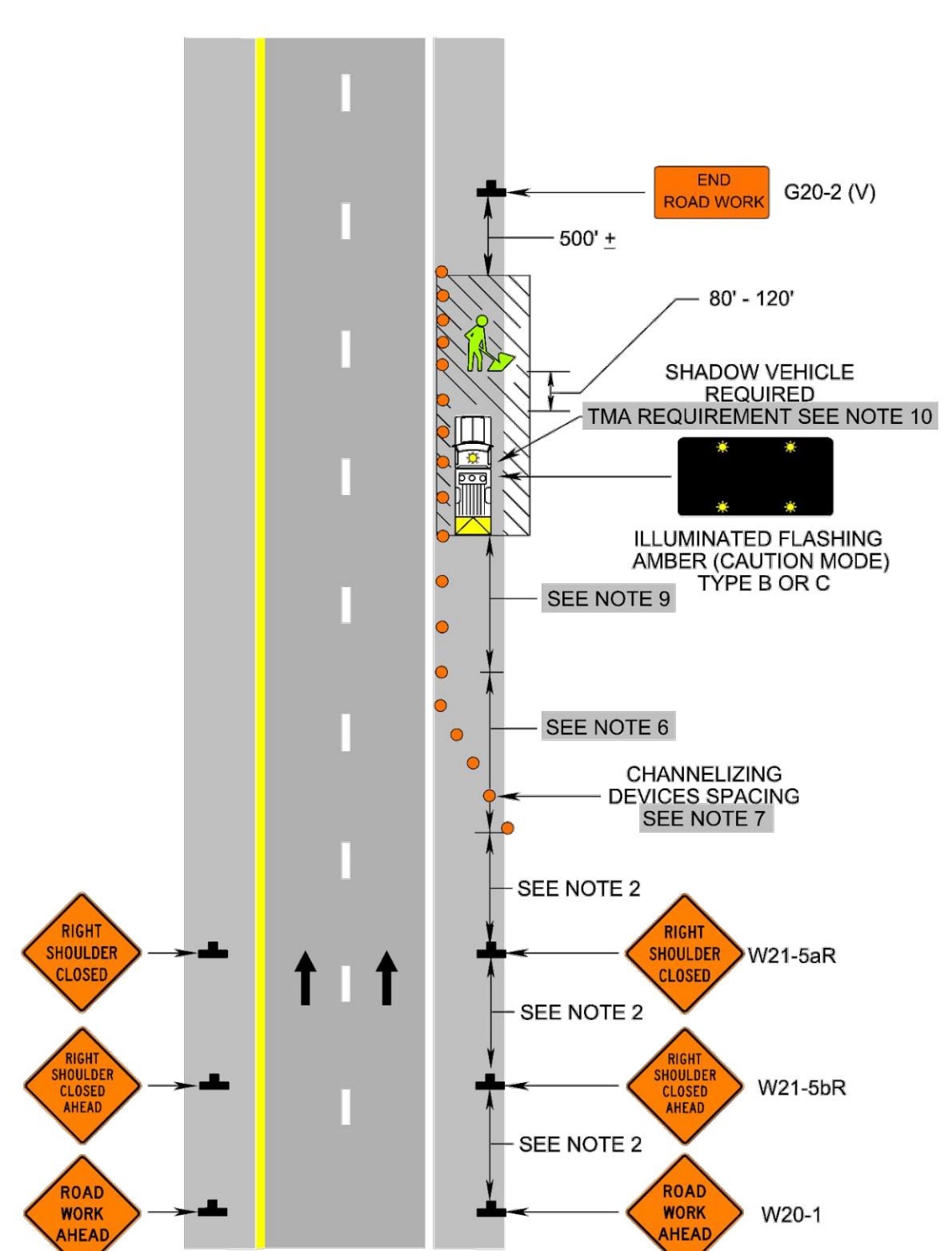
- Standard:
11. At night, flagger stations shall be illuminated, except in emergencies (see Section 6E.08).

- Option:
12. Cones may be eliminated when using a pilot vehicle operation or when the total roadway width is 20 feet or less.
13. For low-volume situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger, positioned to be visible to road users approaching from both directions, may be used (see Chapter 6E).

- Standard:
14. When used, three portable temporary rumble (PTRS) strips shall be installed across the entire travel lane adjacent to the BE PREPARED TO STOP (W3-4) sign. The portable temporary rumble strips shall be monitored and adjusted as necessary during the work shift to ensure proper placement on the roadway. When the PTRS are installed, the RUMBLE STRIPS AHEAD (W20-V26) sign shall also be utilized.

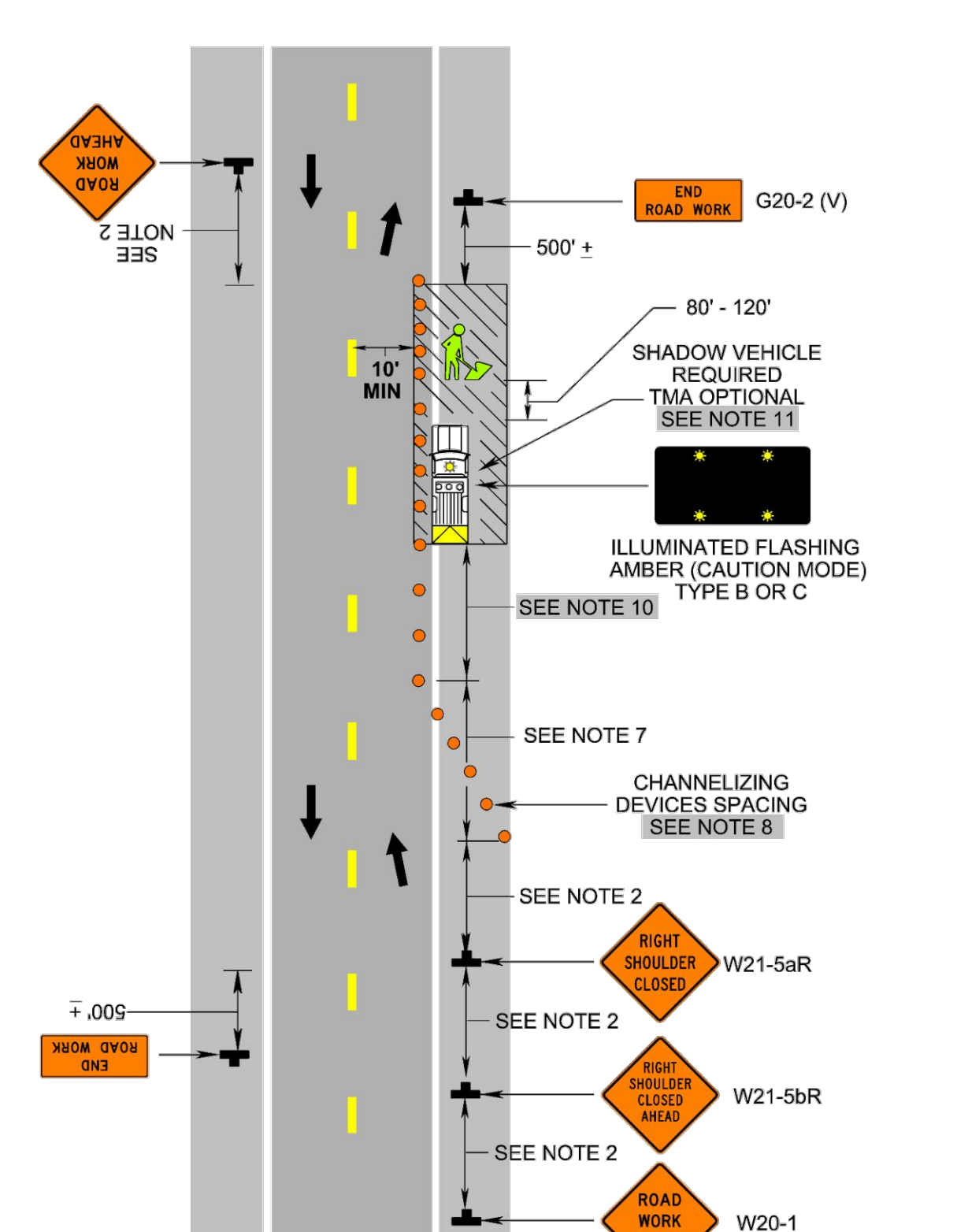
1: Revision 1 - 4/1/2015
2: Revision 2 - 9/1/2019

Stationary Operation on a Shoulder
(Figure TTC-4.2)



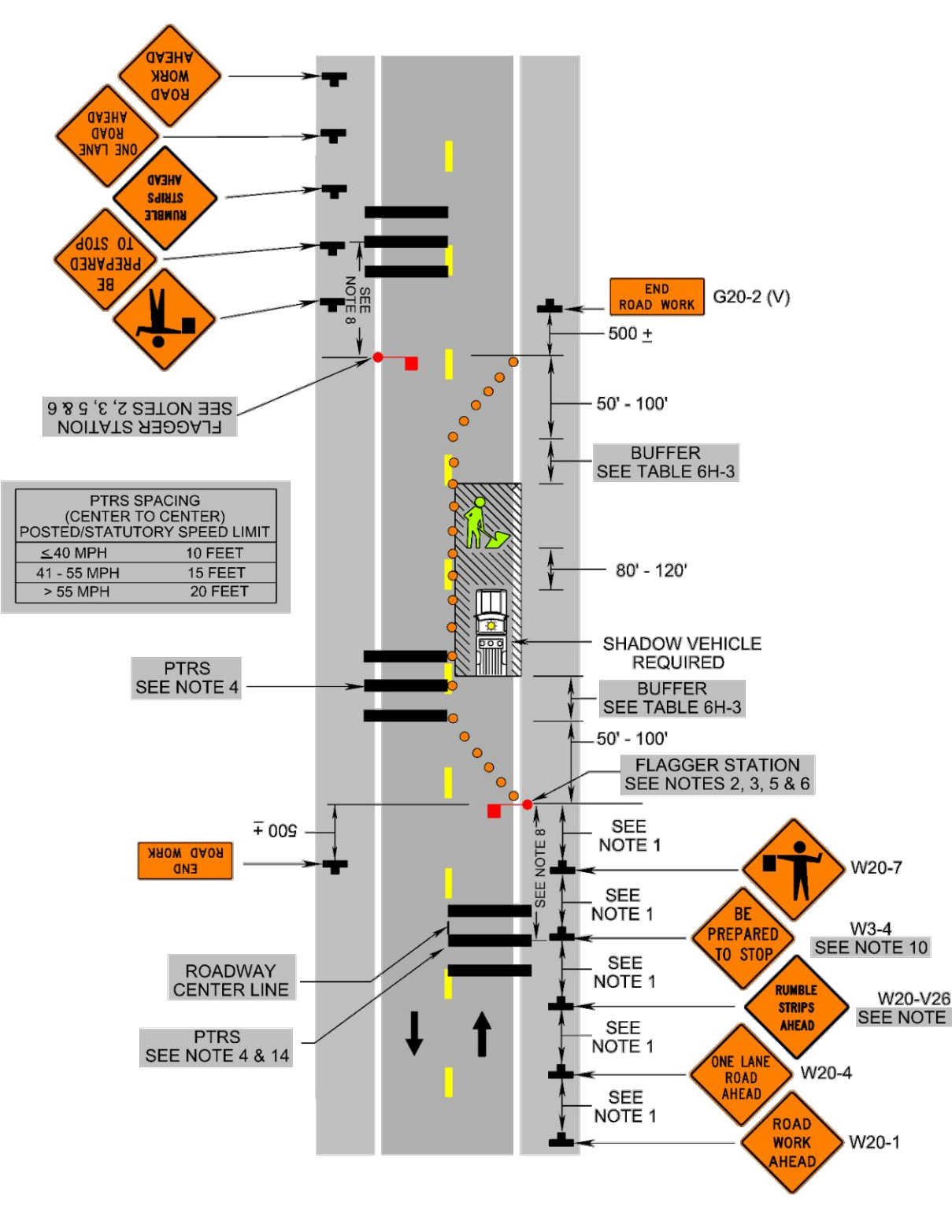
1: Revision 1 - 4/1/2015
2: Revision 2 - 9/1/2019

Shoulder Operation with Minor Encroachment
(Figure TTC-5.2)



1: Revision 1 - 4/1/2015
2: Revision 2 - 9/1/2019

Lane Closure on a Two-Lane Roadway Using Flaggers
(Figure TTC-23.2)



1: Revision 1 - 4/1/2015
2: Revision 2 - 9/1/2019

Mar 31, 2020 - 5:53pm \\data01\projects\2019\20190562\engineering\CAO\20190562_Sheet_MOT.dwg

HURT & PROFFITT logo and contact information: 1861 PRATT DRIVE, SUITE 1100, BLACKSBURG, VA 24060, 800.763.5696 TOLL FREE, 540.552.5692 MAIN.

VIRGINIA WORK AREA PROTECTION MANUAL DETAILS POWERHOUSE FALLS PARKING LOT GRAYSON COUNTY, VIRGINIA

Table with project details: PROJECT NO. 20190562, LAT. 36°37'51.9"N, LONG. 81°07'32.0"W, DATE: 11/12/2019, DRAWN BY: KJH, CHECKED BY: MTC.

Professional Engineer seal for Robert K. Boyd, License No. 21814, State of Virginia.

Table with revision history: REVISIONS NO., DATE, DESCRIPTION. Includes revisions for 10/04/2019, 11/12/2019, and 03/31/2020.

SHEET NO. C600