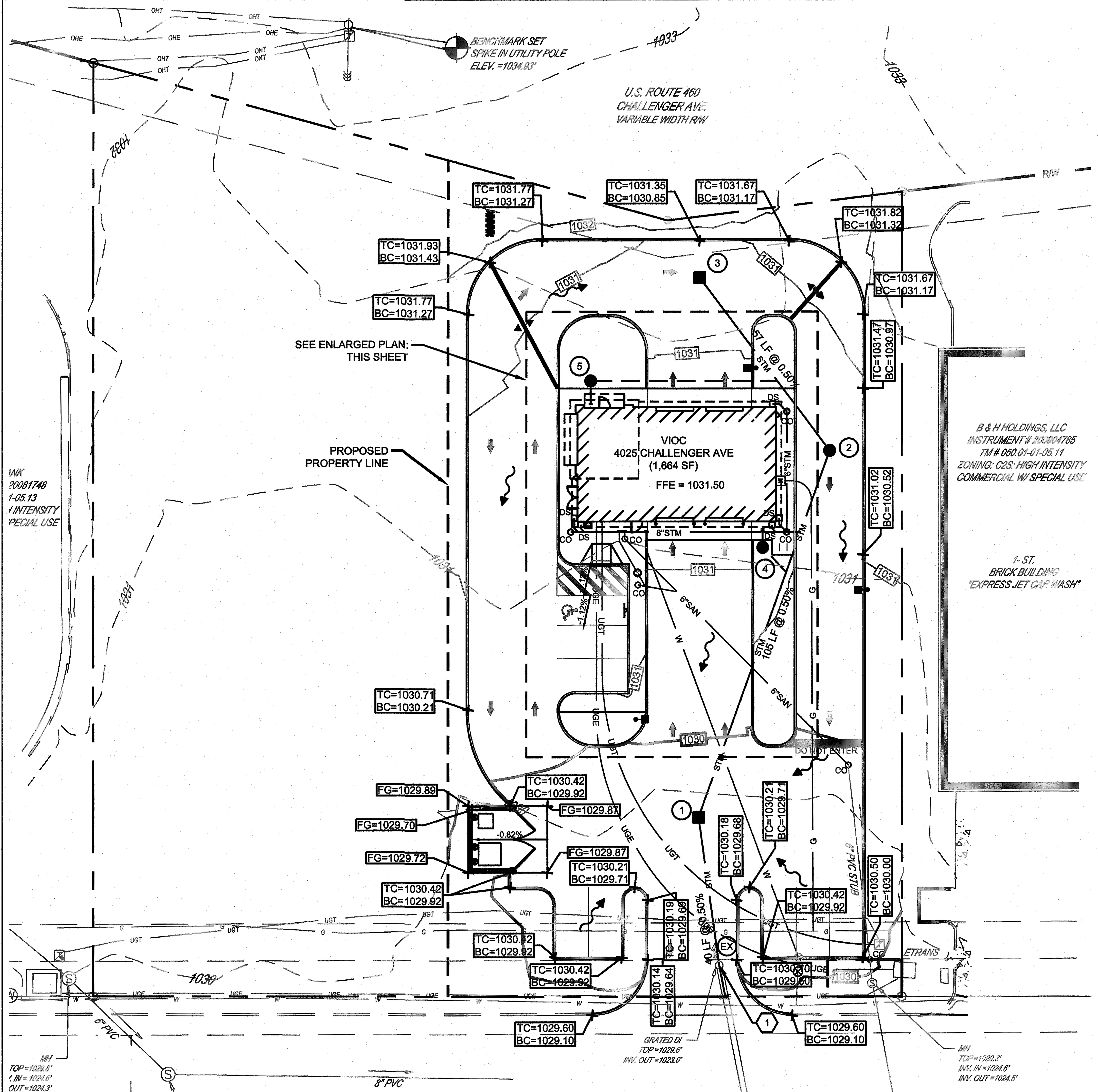
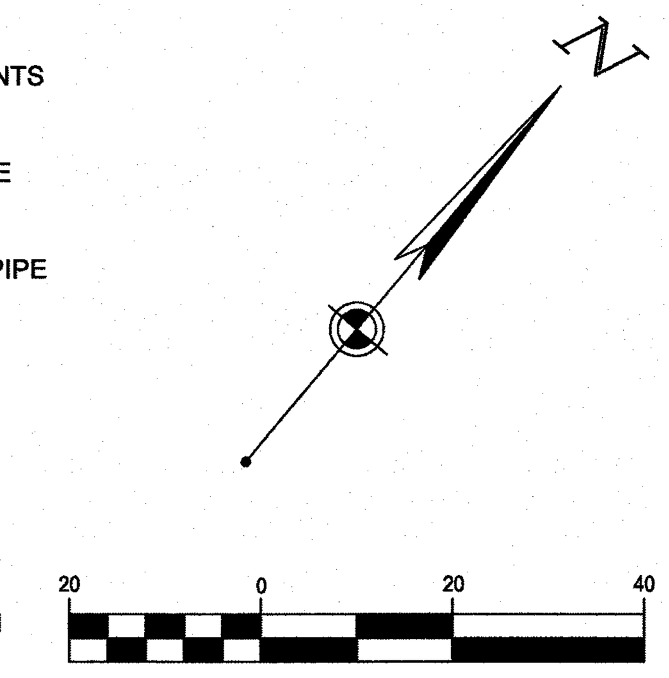


STORM SEWER NOTES:

1. ALL STORM SEWER PIPES SHALL BE MANUFACTURED WITH INTEGRAL BELL AND SPIGOT JOINTS INCLUDING A GASKET, SO AS TO PROVIDE A WATERTIGHT SEAL.
2. ALL STORM SEWER PIPES LESS THAN 12" DIAMETER SHALL BE PVC SDR 35 WATERTIGHT PIPE CONFORMING TO ASTM SPECIFICATION D3034, UNLESS DENOTED OTHERWISE ON PLANS.
3. ALL STORM SEWER PIPES 12" DIAMETER AND GREATER SHALL BE HDPE N-12, WATERTIGHT PIPE AS MANUFACTURED BY ADS, OR APPROVED EQUAL, UNLESS OTHERWISE NOTED ON PLANS.
4. CONNECTIONS TO STRUCTURES SHALL BE MADE WATERTIGHT WITH NON-SHRINKIING AND NON-CORROSIVE GROUT.
5. STORM PIPE SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
   REINFORCED CONCRETE PIPE (RCP)(PER ASTM C-76 CLASS IV)
   POLYVINYL CHLORIDE (PVC SDR 35)
   HIGH DENSITY POLYETHYLENE PIPE (HDPE)
6. ALL STORM STRUCTURES SHALL HAVE A SMOOTH UNIFORM POURED MORTAR INVERT FROM INVERT IN TO INVERT OUT.
7. CONCRETE COLLARS ARE TO BE INSTALLED AROUND ALL STORM STRUCTURES.
8. ALL MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT, AND SHALL HAVE TRAFFIC BEARING RING & COVERS. MANHOLES IN UNPAVED AREAS SHALL BE 3" ABOVE FINISH GRADE.
9. ALL DOWNSPOUT DRAINS ARE TO HAVE A 1.00% MINIMUM SLOPE UNLESS OTHERWISE NOTED.
10. EXISTING DRAINAGE STRUCTURES TO BE INSPECTED AND REPAIRED AS NEEDED, AND EXISTING PIPES TO BE CLEANED OUT TO REMOVE ALL SILT AND DEBRIS.
11. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
12. ALL PROPOSED MODIFICATIONS TO EXISTING CATCH BASINS AND/OR MANHOLES SHALL BE IN ACCORDANCE WITH STATE DOT STANDARDS AND SPECIFICATIONS.

CODED NOTES:

1. CONNECT TO EXISTING GRATED DROP INLET. CONTRACTOR TO VERIFY EXISTING SEWER LOCATION / ELEVATION PRIOR TO ORDERING PROPOSED STRUCTURES. CONTRACTOR TO OBTAIN NECESSARY WORK PERMITS FOR CONNECTIONS TO EXISTING STRUCTURES / PIPES.



GRAPHIC SCALE (IN FEET)

LEGEND

EXISTING

REFER TO TITLE SHEET FOR EXISTING FEATURES LEGEND

PROPOSED

	BUILDING
320	MAJOR CONTOUR
322	MINOR CONTOUR
STM	STORM SEWER
(1)	STRUCTURE NUMBER
CO	CLEAN OUT
DS	DOWNSPOUT CONNECTION
	MANHOLE
	CATCH BASIN
FG=XXX.XX	FINISHED GRADE ELEVATION
TC=XXX.XX / BC=XXX.XX	TOP OF CURB ELEV. / BOTTOM OF CURB ELEV.
X.XX%	SLOPE ARROW
(M.E.)	MATCH EXISTING ELEVATION
TC	TOP OF CURB
BC	BOTTOM OF CURB
FG	FINISHED GRADE

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FORTY-EIGHT (48) HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTORS SHALL NOTIFY THE FOLLOWING AGENCIES: VIRGINIA ONE CALL AT 811 OR (800) 552-7001 AND ALL OTHER AGENCIES WHICH MIGHT HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NONMEMBERS OF VIRGINIA ONE CALL.

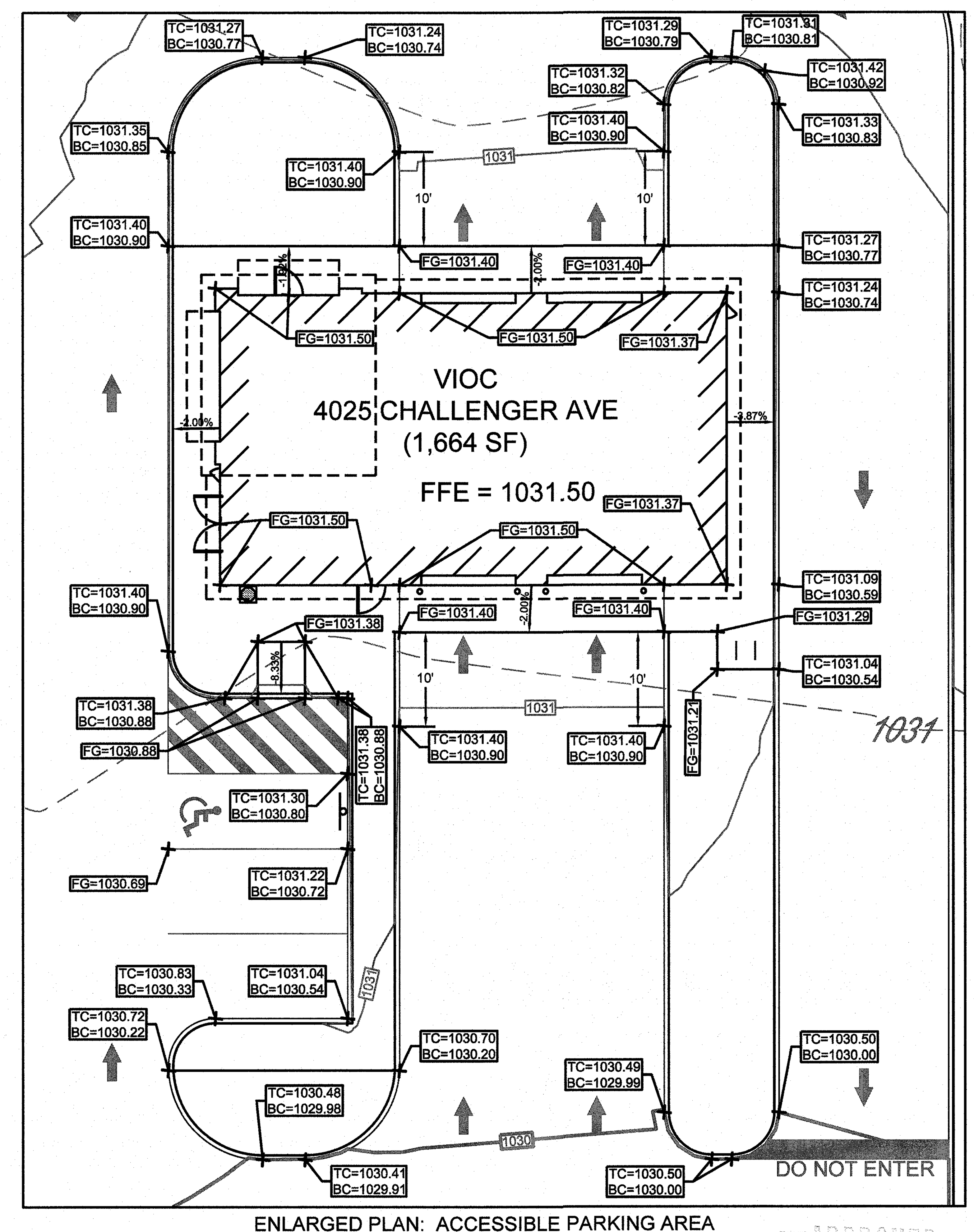
STORM STRUCTURE SCHEDULE

#	STRUCTURE	RIM ELEV.	PIPE INVERT
EX	GRATED DROP INLET	1029.60	INV. 12" E 1023.10 EX. INV. 18" W 1023.00
1	VDOT STANDARD DROP INLET	1029.50	INV. 12" NW 1023.40 INV. 12" E 1023.30
2	VDOT STANDARD PRECAST MANHOLE	1030.74	INV. 12" W 1023.93 INV. 12" SE 1023.83
3	VDOT STANDARD DROP INLET	1030.50	INV. 12" E 1024.11
4	MANHOLE W/ SUMP PUMP (SEE SHEETS P-1 & P-3 FOR DETAILS)	1031.30	4" FOUNDATION DRAIN INV=1021.50, 2" FORCE LINE INV=1029.00
5	MANHOLE W/ SUMP PUMP (SEE SHEETS P-1 & P-3 FOR DETAILS)	1031.38	4" FOUNDATION DRAIN INV=1021.50, 2" FORCE LINE INV=1029.00

BONSACK KROGER DECLARATION INSTRUMENT NUMBER: 200717920

BONSACK KROGER STORMWATER MANAGEMENT AGREEMENT INSTRUMENT NUMBER: 200900676

BONSACK KROGER PLAT INSTRUMENT NUMBER: 200716968



ENLARGED PLAN: ACCESSIBLE PARKING AREA
1" = 10'

GRADING PLAN NOTES:

1. ONLY VIRGIN MATERIALS SHALL BE USED UNLESS APPROVED IN WRITING BY A VALVOLINE INSTANT OIL CHANGE REPRESENTATIVE.
2. ALL SITE WORK, MATERIALS OF CONSTRUCTION, AND CONSTRUCTION METHODS SHALL COMPLY WITH LOCAL MUNICIPALITY, LOCAL COUNTY, AND STATE DEPARTMENT OF TRANSPORTATION MATERIAL AND CONSTRUCTION SPECIFICATIONS.
3. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES, INCLUDING SERVICES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE STATE ONE CALL SYSTEM AT LEAST THREE (3) WORKING DAYS BEFORE START OF WORK AND VERIFY ALL EXISTING UTILITY LOCATIONS.
4. ALL PIPES SHALL BE LAID ON STRAIGHT ALIGNMENTS AND EVEN GRADES USING A PIPE LASER OR OTHER ACCURATE METHOD.
5. THE CONTRACTOR SHALL COMPACT PIPE BACKFILL IN MAX. 6" LOOSE LIFTS TO 95% OF THE MAXIMUM DRY DENSITY PER ASTM D1557, ACCORDING TO THE PIPE BEDDING DETAILS. TRENCH BOTTOM SHALL BE STABLE IN HIGH GROUNDWATER AREAS. A PIPE FOUNDATION SHALL BE USED IN AREAS OF ROCK EXCAVATION.
6. CONTRACTOR SHALL PROVIDE ALL BENDS, FITTINGS, ADAPTERS, ETC., AS REQUIRED FOR PIPE CONNECTIONS TO BUILDING/CANOPY STUB-OUTS, INCLUDING ROOF/FOOTING DRAIN CONNECTIONS TO ROOF LEADERS AND TO STORM DRAINAGE SYSTEM.
7. TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR USE IN FINAL LANDSCAPING.
8. MANHOLE RIMS AND STORM INLET GRATES SHALL BE SET TO ELEVATIONS SHOWN. SET ALL EXISTING MANHOLE FRAMES AND COVERS, STORM INLET GRATES, VALVE BOXES, ETC., TO BE RAISED OR LOWERED, TO PROPOSED FINISHED GRADE, FLUSH WITH THE ADJACENT GRADE.
9. UNDERDRAINS MAY BE ADDED, IF DETERMINED NECESSARY BY THE ENGINEER OR CONSTRUCTION MANAGER, AFTER SUBGRADE IS ROUGH GRADED.
10. ALL EXISTING TOPOGRAPHICAL FEATURES (SPOT ELEVATIONS, CONTOURS, INVERTS, ETC.) CAN HAVE A TOLERANCE DIFFERENCE OF 6"+/- DEPENDING ON FIELD CONDITIONS AT THE TIME OF THE FIELD SURVEY. CONTRACTOR TO VERIFY ALL EXISTING TOPOGRAPHICAL FEATURES PRIOR TO CONSTRUCTION, AND ADVISE OWNER OF ANY DISCREPANCIES.
11. THE CONTRACTOR SHALL RESTORE ANY STRUCTURE, PIPE, UTILITY, PAVEMENT, CURBS, SIDEWALKS, LANDSCAPED AREAS, ETC. DISTURBED DURING CONSTRUCTION TO THE ORIGINAL CONDITION OR BETTER.
12. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF MATERIALS AND STRUCTURES TO THE CONSTRUCTION MANAGER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
13. THE CONTRACTOR SHALL PRESERVE EXISTING VEGETATION WHERE POSSIBLE AND/OR AS NOTED ON DRAWINGS. REFER TO EROSION AND SEDIMENTATION PLAN FOR LIMIT OF DISTURBANCE AND NOTES.
14. THE CONTRACTOR SHALL COMPACT FILL IN 6" MAXIMUM LIFTS UNDER ALL PARKING, BUILDING, AND DRIVE AREAS TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557 (MODIFIED PROCTOR TEST), OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
15. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL RUBBISH, TRASH, DEBRIS, AND ORGANIC MATERIAL IN A LAWFUL MANNER.
16. THE CONTRACTOR SHALL BE ADVISED THAT ALL EXCAVATION IS CONSIDERED UNCLASSIFIED AND THAT IT SHALL BE RESPONSIBLE FOR ALL MEANS, METHODS, AND MATERIALS OF CONSTRUCTION TO COMPLETE CONSTRUCTION AS DESIGNED. ADDITIONALLY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE OFF SITE DISPOSAL OF ANY AND ALL EXCESS OR UNSUITABLE MATERIAL UNABLE TO BE PLACED ON SITE AND THE IMPORTATION OF ANY BORROW MATERIAL NECESSARY TO COMPLETE THE JOB.
17. ALL EXCAVATION AND GRADING CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEERING REPORT.
18. SITE GRADING SHALL BE PERFORMED TO PROVIDE POSITIVE DRAINAGE TO STORM INLETS AND TO PRECLUDE THE PONDING OF WATER ON SITE.
19. VERIFY REQUIRED SPOT ELEVATIONS/GRADING IN THE VICINITY OF THE BUILDINGS WITH THE ARCHITECTURAL PLANS.
20. ALL ACCESSIBLE PARKING SPACES TO HAVE A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
21. ALL SIDEWALKS, PATIO AREAS, AND ACCESSIBLE ROUTES TO THE BUILDING ARE TO HAVE A MAXIMUM CROSS SLOPE OF 2% AND A MAXIMUM LONGITUDINAL SLOPE OF 5%, UNLESS IN AN APPROVED ADA RAMP.
22. CONTRACTOR TO FIELD VERIFY PROPOSED AND EXISTING GRADES, SLOPES, ETC., FOR PROPOSED ACCESSIBLE PARKING AREAS, RAMPS, ETC., WITH ARCHITECT, PRIOR TO CONSTRUCTION.
23. LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE TAKEN FROM FIELD OBSERVATION, UTILITY MAPS, ETC., AND ARE NOT ASSUMED TO BE ACCURATE. PRIOR TO ANY CONSTRUCTION ACTIVITIES, CONTRACTOR TO DIG TEST PITS AT ALL PROPOSED UTILITY CROSSINGS, TO VERIFY LOCATION, DEPTH, SIZE, ETC. OF EXISTING UNDERGROUND UTILITIES, AND CONFIRM NEW UTILITY LINES CAN BE INSTALLED AS PROPOSED. ADVISE VALVOLINE CONSTRUCTION MANAGER IMMEDIATELY OF ANY CONFLICTS OR DISCREPANCIES.

STORMWATER QUANTITY FOR THIS OUTLOT HAS BEEN PROVIDED BY THE KROGER DEVELOPMENT. STORMWATER QUALITY WILL BE ACHIEVED THROUGH THE PURCHASING OF NUTRIENT CREDITS PER PROVIDED VRRM SPREADSHEET DATA

W:\PROJECTS\VALVOLINE\755208-ROANOKE VA (VIOC)\03-CIVIL\PLAN\PLOT SHEETS\755208_C5.0-GRAD, 10/24/2018 10:42:45 AM, LONCHOR

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No.	Revisions/Submissions	Date
	ISSUED FOR FINAL APPROVAL	10.19.18
	BID SET	10.04.18
	ISSUED FOR DEVELOPMENT PLAN RESUBMITTAL	08.24.18
	ISSUED FOR DEVELOPMENT PLAN REVIEW	08.01.18
	ISSUED FOR OWNER REVIEW	07.17.18

Valvoline Instant Oil Change

VALVOLINE INSTANT OIL CHANGE
4025 CHALLENGER AVE. NE
ROANOKE, VA

COMMONWEALTH OF VIRGINIA
JEFFREY A. [illegible]
Lic. No. [illegible]
PROFESSIONAL ENGINEER

Project No.	755208
Scale	AS NOTED
Drawn	JJL
Checked	EJB
Date	07/17/18
Drawing Title	GRADING PLAN
Drawing No.	C5.0

APPROVED