BID SET

# BLUE RIDGE FARMS - PHASE 2

## WATER, SANITARY, & STORM SEWER IMPROVEMENTS

CITY PROJECT # 12018-WS

* * *

LYNCHBURG, VIRGINIA

### OWNER INFORMATION

CITY OF LYNCHBURG
DEPARTMENT OF WATER RESOURCES
525 TAYLOR STREET
LYNCHBURG, VA 24501

SCOTT J. PARKINS, PE – UTILITIES ENGINEER
ERIC SCHRADER, PE – UTILITIES ENGINEER
PHONE: 434–455–4248
FAX: 434–845–7353

GREG BLAIR, CONSTRUCTION COORDINATOR
434–455–4141 (OFFICE)
434–444–3276 (CELL)

### UTILITY CONTACTS

WATER & SEWER: CITY OF LYNCHBURG
DEPARTMENT OF WATER RESOURCES
ATTN: HARRY DOSS
525 TAYLOR STREET
LYNCHBURG, VA 24501
434–455–4271

TELEPHONE: VERIZON VIRGINIA INC.
ENGINEERING DEPARTMENT
ATTN: LESLIE SCHMITT
553 LEESVILLE ROAD
LYNCHBURG, VA 24502
434–237–9522

ELECTRICITY: AMERICAN ELECTRIC POWER
ATTN: RONNIE S EUBANK
4001 MAYFLOWER DRIVE
LYNCHBURG, VA 24501
434–522–4281

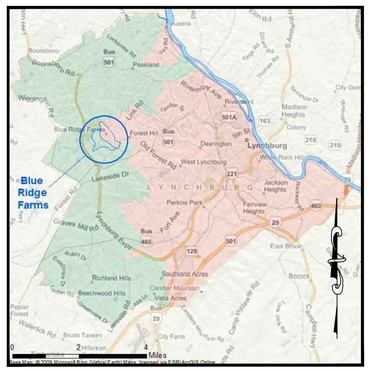
GAS: COLUMBIA GAS OF VIRGINIA INC.
CUSTOMER SERVICE
RICHMOND, VA 23236
888–460–4332

CABLE: COMCAST DIGITAL CABLE
2820 LINKHORNE DRIVE
LYNCHBURG, VA 24558
888–266–2278

### DRAPER ADEN ASSOCIATES REVIEW

THESE PLANS HAVE BEEN SUBJECTED TO TECHNICAL AND QUALITY REVIEWS BY:

| NAME: PRINTED | SIGNATURE | DATE |
|---|---|---|
| BRENT CASTEEL<br>PROJECT DESIGNER | | 7/25/14 |
| SCOTT SCHILLER<br>PROJECT MANAGER | | 7/25/14 |
| MIKE HAGGERTY<br>QUALITY REVIEWER | | 7/25/14 |




VICINITY MAP

### PROJECT DESCRIPTION

WATERLINE REPLACEMENT – THIS PROJECT INCLUDES APPROXIMATELY 6,991 LF OF 8" PIPE, AND 823 LF OF 6" PIPE AND APPURTENANCES.

SANITARY SEWER REHABILITATION/REPLACEMENT – THIS PROJECT INCLUDES REHABILITATION OF APPROXIMATELY 2,300 LF OF 8" PIPE AND 12 MANHOLES, AND REPLACEMENT OF APPROXIMATELY 1,370 LF OF 8" PIPE AND 7 MANHOLES.

STORM SEWER REPLACEMENT – THIS PROJECT INCLUDES APPROXIMATELY 50 LF OF 18" PIPE, 1 STORM MANHOLE, AND 1 END SECTION.

THIS PROJECT INCLUDES APPROXIMATELY 1,263 TONS OF PAVEMENT OVERLAY

JULY 25, 2014

* * * *

B09223B-06

NOTE: CONTRACTOR TO CONTACT MISS UTILITY (811) IN ADVANCE OF PLANNED WORK. ADVANCE TIME PERIOD SHALL BE IN ACCORDANCE WITH CURRENT MISS UTILITY GUIDELINES (www.missutilityofvirginia.com).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### APPROVALS

CITY ENGINEER

UTILITY ENGINEER

EROSION AND SEDIMENT CONTROL

COMMONWEALTH OF VIRGINIA
SCOTT A. SCHILLER
Lic. No. 043671
7/25/14
PROFESSIONAL ENGINEER


Draper Aden Associates
Engineering • Surveying • Environmental Services
Blacksburg, VA
2905 South Main Street
Blacksburg, VA 24060
540-552-4444 Fax: 540-552-0291
www.daa.com
Richmond, VA
Charlottesville, VA
Hampton Roads, VA


COVER SHEET
BLUE RIDGE FARMS WATER, SANITARY, & STORM SEWER IMPROVEMENTS - PHASE 2
LYNCHBURG, VIRGINIA

REVISIONS

| | |
|---|---|
| DESIGNED BY: | LMR/BMC |
| DRAWN BY: | BMC |
| CHECKED BY: | JST/MSH/SAS |
| SCALE: | NO SCALE |
| DATE: | 07/25/2014 |
| PROJECT NUMBER: | B09223B-06 |

T-1

# GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE DRAWINGS, THE ACCOMPANYING PROJECT MANUAL, AND THE CITY OF LYNCHBURG'S MANUAL OF SPECIFICATIONS AND STANDARD DETAILS, LATEST REVISION. THE CONTRACTOR SHALL MAINTAIN A COPY OF BOTH THE DRAWINGS AND SPECIFICATIONS AT THE SITE AT ALL TIMES.
2. AFTER CONSTRUCTION, SYSTEM SHALL BE OWNED AND MAINTAINED BY THE CITY OF LYNCHBURG.
3. CONTROL FOR CONSTRUCTION WORK IS VIRGINIA STATE PLANE. TOPOGRAPHIC INFORMATION HAS BEEN PROVIDED BY THE CITY OF LYNCHBURG. PROJECT IS ORIENTED TO HORIZONTAL DATUM NAD 83 AND VERTICAL DATUM NAVD 88 BASED ON STATIC GPS SESSIONS PERFORMED BY DRAPER ADEN ASSOCIATES PERSONNEL.
4. THE LOCATION OF EXISTING UTILITIES, INCLUDING UNDERGROUND UTILITIES, IS INDICATED ON THE DRAWINGS INSOFAR AS THEIR EXISTENCE AND LOCATION WERE KNOWN AT THE TIME OF PREPARATION OF THE DRAWINGS. HOWEVER, NOTHING IN THESE CONTRACT DOCUMENTS SHALL BE CONSTRUED AS A GUARANTEE THAT SUCH UTILITIES ARE IN THE LOCATION INDICATED OR THAT THEY ACTUALLY EXIST, OR THAT OTHER UTILITIES ARE NOT WITHIN THE AREA OF OPERATIONS. THE CONTRACTOR SHALL MAKE ALL NECESSARY INVESTIGATIONS TO DETERMINE THE EXISTENCE AND LOCATIONS OF SUCH UTILITIES FAR ENOUGH IN ADVANCE TO ALLOW FOR ADJUSTMENTS DUE TO CONFLICTS IN THE HORIZONTAL AND VERTICAL LOCATION OF THE PIPE. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR MAINTENANCE AND PROTECTION OF EXISTING UTILITIES AND STRUCTURES.
5. THE CONTRACTOR SHALL OBTAIN FIELD UTILITY LOCATIONS BY CALLING "MISS UTILITY" (811) AT LEAST 3 WORKING DAYS PRIOR TO WORKING IN THE VICINITY OF EXISTING UTILITIES.
6. CONTACT CITY'S CONSTRUCTION COORDINATOR AT 434-455-4141 AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO ANY GRADING OR DIGGING FOR PUBLIC UTILITIES.
7. ANY FENCING WHICH IS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE IMMEDIATELY REPLACED OR SUPPLEMENTED BY TEMPORARY FENCING OR BARRICADE SUITABLE FOR INTENDED PURPOSE OF EXISTING FENCING. CONTRACTOR SHALL PROMPTLY REPAIR AND/OR REPLACE DISTURBED FENCING TO EQUAL OR BETTER CONDITIONS.
8. CONTRACTOR SHALL REGULARLY RESTORE ALL DISTURBED AREAS TO EQUAL OR BETTER CONDITIONS IN ACCORDANCE WITH THE SPECIFICATIONS. FAILURE TO SATISFACTORILY COMPLETE AND MAINTAIN RESTORATION WILL RESULT IN WITHHOLDING OF PAYMENTS TO CONTRACTOR.
9. CONTRACTOR SHALL CONTINUOUSLY MAINTAIN RECORD DRAWINGS DURING THE PROGRESS OF THE WORK IN ACCORDANCE WITH THE SPECIFICATIONS. RECORD DRAWINGS FOR COMPLETED WORK SHALL BE SUBMITTED TO THE ENGINEER ON A MONTHLY BASIS IN CONJUNCTION WITH APPLICATIONS FOR PAYMENTS.
10. CONTRACTOR SHALL RECORD PRE-CONSTRUCTION AND POST-CONSTRUCTION VIDEOS TO DOCUMENT SITE CONDITIONS. POST-CONSTRUCTION VIDEOS SHALL BE PROVIDED AFTER LATERAL CONNECTIONS ARE COMPLETED.
11. CONTRACTOR SHALL PROTECT EXISTING PROPERTY CORNERS. IF ANY PROPERTY CORNER IS DISTURBED BY CONSTRUCTION ACTIVITIES, CONTRACTOR SHALL RE-ESTABLISH THE PROPERTY CORNER BY A LAND SURVEYOR LICENSED IN THE COMMONWEALTH OF VIRGINIA AND ACCEPTABLE TO THE ENGINEER.
12. PROTECT ALL TREES AND SHRUBS UNLESS REMOVAL IS INDICATED ON THE DRAWINGS OR APPROVED IN WRITING BY THE CITY.
13. TRENCH EXCAVATION SAFETY WILL BE MONITORED AND ALL TRENCHES MUST BE IN ACCORDANCE WITH "VOSH" AND "OSHA" REQUIREMENTS.
14. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED TO PRECLUDE THE PONDING OF WATER.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING A TRAFFIC CONTROL PLAN TO CITY TRAFFIC ENGINEER PRIOR TO CONSTRUCTION. CONTRACTOR SHALL ALLOW 2 WEEKS FOR CITY REVIEW AND APPROVAL.
16. ANY CONSTRUCTION WITHIN THE CITY OF LYNCHBURG'S RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE CITY OF LYNCHBURG DESIGN STANDARDS AND SPECIFICATIONS REGARDING MATERIALS, INSTALLATION, AND TESTING, EXCEPT THE METHOD OF PAYMENT WHICH WILL BE AS SPECIFIED IN THE TECHNICAL SPECIFICATIONS AND CONTRACT DOCUMENTS. ANY CONSTRUCTION SIGNAGE SHALL BE IN ACCORDANCE WITH THE 2011 EDITION OF THE VIRGINIA WORK AREA PROTECTION MANUAL STANDARDS AND GUIDELINES.
17. CONTRACTOR NEEDS TO BE AWARE THAT CONTACT WITH ASBESTOS CEMENT (AC) PIPE WILL BE REQUIRED. CONTRACTOR MUST HANDLE, CUT AND DISPOSE OF ALL SUCH PIPE IN A MANNER REQUIRED BY ALL FEDERAL, STATE, AND LOCAL CODES. AC PIPE NOT TO BE REMOVED SHALL BE ABANDONED IN PLACE.
18. CONTRACTOR SHALL NOT INSTALL MORE THAN 1000 FEET OF WATER OR SEWER LINE BEFORE COMPLETING BACKFILL AND RESTORATION OF PREVIOUSLY LAID PIPE. THIS SHALL INCLUDE INSTALLATION OF PAVEMENT PATCH AS SHOWN ON DETAIL 25.18A IN ALL ROADWAY TRENCHES.
19. CONTRACTOR SHALL USE ALL MEANS NECESSARY TO CONTROL DUST CAUSED BY CONSTRUCTION OPERATIONS ON AND NEAR THE WORK AREA. CONTRACTOR SHALL THOROUGHLY MOISTEN ALL SURFACES AS REQUIRED TO PREVENT DUST FROM BEING A NUISANCE TO THE PUBLIC, NEIGHBORS, AND PERFORMANCE OF OTHER WORK ON THE SITE. CALCIUM CHLORIDE WILL BE PERMITTED.
20. ALL PAVED AND CONCRETE DRIVEWAY CROSSINGS SHALL BE BORED IF POSSIBLE. OPEN CUT SHALL ONLY BE ALLOWED WITH CITY APPROVAL AND SHALL BE RESTORED TO CITY'S SATISFACTION AT NO ADDITIONAL COST TO THE OWNER.
21. ANY DRIVEWAY CULVERT PIPE DISTURBED WILL NEED TO BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE AS PART OF RESTORATION.
22. CONTRACTOR SHALL ADVISE THE LYNCHBURG COMMUNICATIONS CENTER AT (434) 455-6349 OF ANY ROADS OR HYDRANTS THAT WILL NOT BE AVAILABLE DURING CONSTRUCTION.
23. CONTRACTOR SHALL MAKE ALL NECESSARY INVESTIGATIONS TO DETERMINE THE LOCATION AND DEPTH OF EXISTING UTILITIES AND SEWER LATERALS FAR ENOUGH IN ADVANCE TO ALLOW ADJUSTMENTS IN THE LOCATION OF THE WATERLINE IF REQUIRED. CONTRACTOR SHALL COORDINATE INSTALLATION OF THE WATERLINE WITH INSTALLATION OF NEW SEWER LATERALS AND OTHER UTILITIES TO AVOID CONFLICTS. ALL EXISTING UTILITIES SHALL BE POTHOLED A MINIMUM OF 100 FEET IN ADVANCE OF FORWARD PROGRESS OF THE WORK.
24. PAVEMENT OVERLAY SHALL NOT BE COMPLETED UNTIL COMPLETION OF CONSTRUCTION AND SHALL BE COORDINATED WITH THE CITY.
25. MILL ASPHALT AS NECESSARY TO PROVIDE A SMOOTH TRANSITION BETWEEN NEW OVERLAY AND EXISTING PAVEMENT. FOR EDGE MILLING, MILL OUTSIDE CURB LANES FROM 0" TAPERING TO 2" MINIMUM DEPTH AT GUTTER.
26. ASPHALT OVERLAY MUST BE TIED TO EXISTING ROAD SHOULDERS USING A 1":1' WEDGE OF MATERIAL MATCHING EXISTING CONDITIONS (STONE AND/OR TOPSOIL/ SEED). ALL AREAS ARE TO BE OVERLAID WITH PLANT MIX ASPHALT PER THE SPECIFICATIONS. DRIVEWAYS, PARKING AREAS, ETC. MUST ALSO BE TIED INTO THE ELEVATION OF THE FINISHED OVERLAY WITH MATERIAL MATCHING EXISTING CONDITIONS (ASPHALT, GRAVEL, ETC.).
27. CONTRACTOR IS RESPONSIBLE FOR BRACING ALL POWER POLES AS NECESSARY.
28. NOTIFY LYNCHBURG COMMUNICATIONS (LYN-COMM) AT (434) 847-1485 WHEN ROADS ARE BEING ALTERED AND WHENEVER WATER IS BEING AFFECTED IN ORDER FOR FIRE DEPARTMENT OPERATIONS TO BE EFFECTIVE.
29. CONTRACTOR SHALL PROVIDE A MAINTENANCE OF TRAFFIC PLAN IN ACCORDANCE WITH THE VIRGINIA WORK AREA PROTECTION MANUAL (VWAPM) TO THE CITY TRAFFIC ENGINEER FOR APPROVAL 2 WEEKS PRIOR TO CONSTRUCTION. PLAN SHALL INCLUDE SEQUENCE OF CONSTRUCTION PLAN TO IDENTIFY HOW ACCESS WILL BE MAINTAINED TO HOMEOWNERS. ACCESS TO PEAKS' VIEW PARK ENTRANCE SHALL BE MAINTAINED AT ALL TIMES. DETOURS SHALL BE PROVIDED AS NECESSARY.
30. SUPPORT ALL POWER POLES AS NECESSARY DURING CONSTRUCTION OF NEW WATERLINES AND SEWER LINES.

# SANITARY SEWER NOTES

GENERAL

1. SEWER LATERALS NOT LOCATED BY CCTV ARE SHOWN IN THEIR APPROXIMATE LOCATIONS AND ARE SO DESIGNATED. CONTRACTOR SHALL MAKE ALL NECESSARY INVESTIGATIONS TO DETERMINE THE LOCATION OF EXISTING SEWER LATERALS.
2. ALL INSTALLED SEWER MANHOLES AND MAINS TO BE TESTED PER THE CITY'S SPECIFICATIONS AT THE CONTRACTORS EXPENSE.
3. ALL DROP CONNECTIONS SHALL BE RELINER® AS MANUFACTURED BY RELINER®/DURAN INC. OR APPROVED EQUAL.

REPLACEMENT AND PROPOSED SEWER

1. ALL PROPOSED SEWER PIPE SHALL BE SDR-26 UNLESS OTHERWISE NOTED ON PLANS.
2. ALL PROPOSED SEWER SERVICE LATERALS SHALL BE SCHEDULE 40 PVC.
3. ALL LATERALS AND CLEANOUTS ARE TO BE REPLACED IN EXISTING LOCATION OR AS NOTED ON PLANS. THE CONTRACTOR SHALL ABANDON INACTIVE SEWER LATERALS. ALL EXISTING LATERALS SHALL BE CAPPED DURING MAIN REPLACEMENT.
4. ALL ABANDONED SEWER MAINS ARE TO BE FILLED WITH FLOWABLE FILL.
5. ALL MANHOLES WILL BE CONCRETE UNLESS OTHERWISE NOTED ON PLANS.
6. CONTRACTOR SHALL CCTV NEW SEWER MAINS (DOES NOT INCLUDE LINED SEWER) AND LATERALS AFTER CONSTRUCTION.

REHABILITATION:

1. CONTRACTOR SHALL VERIFY THE LOCATION AND ACTIVITY OF ALL LATERALS PRIOR TO LINING THE EXISTING SEWER MAIN. THE CONTRACTOR SHALL VERIFY ALL ACTIVE AND IN-ACTIVE SERVICES AND PROPERLY ABANDON INACTIVE SEWER LATERALS.
2. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH RESIDENTS FOR THE DISRUPTION IN SEWER SERVICE, AND ENCOURAGE RESIDENTS TO NOT USE ANY FLUSHABLE CLEANING WIPES THROUGHOUT THE SEWER LINING AND/OR LATERAL REPLACEMENT PROCESSES.
3. ALL EXISTING SURFACE IMPROVEMENTS DAMAGED DURING INSTALLATION OF THE SEWER MAIN AND SEWER LATERALS SHALL BE REPLACED IN LIKE KIND.
4. CONTRACTOR SHALL CCTV SEWER MAINS AND LATERALS BEFORE AND AFTER REHABILITATION ACTIVITIES.
5. LIMITS OF DISTURBANCE IN PAVEMENT IS DEFINED BY THE LIMITS OF PAVEMENT MILLING AND OVERLAY.
6. LIMITS OF DISTURBANCE IN THE SHOULDER AND NON-PAVED AREAS IS DEFINED BY THE LIMITS OF THE TRENCH (OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES).
7. ALL LATERAL CONNECTIONS TO LINED SEWER MAINS SHALL BE PERFORMED IN ACCORDANCE WITH "LATERAL CONNECTION TO CIPP LINER DETAIL" PROVIDED ON SHEET D-5.

P:\B09\200\B09223B\B09223B-06\CAD\B09223B-06_DSN\T-2 General Notes and Legend.dwg July 25, 2014 9:05:20 AM

# WATERLINE NOTES

1. WATERLINES SHALL BE LAID TO LINES AND GRADES SHOWN ON THE DRAWINGS TO AVOID LOCAL HIGH POINTS AND LOW POINTS EXCEPT WHERE INDICATED.
2. FIRE HYDRANT AND MAIN VALVE LOCATIONS: CONTRACTOR SHALL COORDINATE WITH CITY SUCH THAT ALL LOCATIONS ARE FIELD VERIFIED BY CITY'S STAFF.
3. ALL PROPOSED WATER PIPE SHALL BE DUCTILE IRON CLASS 50 PUSH-ON JOINT PIPE.
4. ALL CAPS AND PLUGS SHALL BE RESTRAINED WITH THRUST COLLARS.
5. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH RESIDENTS FOR THE DISRUPTION IN WATER SERVICE. CONTRACTOR SHALL DISTRIBUTE NOTIFICATIONS OF WATER OUTAGES WHICH SHALL BE DONE A MINIMUM OF 24 HOURS IN ADVANCE. NOTIFICATION SHALL INCLUDE OWNER AND AFFECTED RESIDENCES. COORDINATION OF NOTIFICATION SHALL BE DONE WITH OWNER.
6. NO BLOW-OFF VALVE, AIR RELEASE VALVE, VACUUM BREAKER, OR OTHER FLUSHING DEVICE SHALL BE DIRECTLY CONNECTED TO ANY SANITARY SEWER OR STORM DRAIN.
7. ALL COVERS FOR BLOW-OFF VALVES, VALVE BOXES, METER BOXES, AND AIR RELEASE VALVES SHALL BE FLUSH WITH GROUND (OR PAVEMENT WHERE APPLICABLE).
8. VERTICAL AND HORIZONTAL SEPARATION DISTANCES BETWEEN NEW WATERLINE, INCLUDING SERVICE CONNECTIONS, AND SANITARY SEWER LINES, INCLUDING LATERALS, SHALL BE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS. CONFLICTS WITH THE SEPARATION REQUIREMENTS WILL BE HANDLED ON A CASE BY CASE BASIS. CONTRACTOR SHALL CONTACT ENGINEER FOR APPROVAL OF PROPOSED RESOLUTION.
9. ALL MAIN LINE AND OFF LINE VALVES ARE TO BE OPERATED BY THE OWNER.
10. EXISTING UTILITY LINES SHALL BE KEPT IN SERVICE AT ALL TIMES.
11. ALL WATERLINES SHALL HAVE A MINIMUM OF 36" COVER.
12. CONTRACTOR SHALL INSTALL, TEST, AND DISINFECT WATERLINE AND SWITCH OVER SERVICES IN INCREMENTS NOT MORE THAN 2,000 FEET IN LENGTH OF WATERLINE. IN CASES WHERE THIS IS NOT FEASIBLE THE CONTRACTOR SHALL COORDINATE WITH THE CITY. ALSO SEE "WATERLINE WORKING PRESSURES" TABLE BELOW.
13. WATER SERVICE CONNECTIONS ARE SHOWN ON THE DRAWINGS AND SHALL BE INSTALLED ACCORDING TO THE WATER SERVICE DETAIL. THE CONTRACTOR SHALL CONNECT ALL EXISTING WATER SERVICES TO THE WATERLINE PRIOR TO TESTING OF THE WATERLINE. THE MAIN AND SERVICES SHALL BE TESTED TOGETHER AND APPROVED FOR SERVICE. WATER SERVICE CONNECTIONS SHALL INCLUDE CONNECTION TO EXISTING SERVICE LINE ON THE CUSTOMER SIDE OF THE METER AFTER NEW WATER SYSTEM HAS BEEN TESTED, DISINFECTED, AND APPROVED FOR SERVICE. THE WORK ALSO INCLUDES ABANDONMENT AND REMOVAL OF EXISTING METER BOXES AND ASSOCIATED BACKFILL AND RESTORATION.
14. ALL PROPOSED SERVICE CONNECTIONS SHALL BE ¾-INCH TYPE K COPPER PIPE. PIPE SHALL BE SEAMLESS BETWEEN WATERLINE CONNECTION AND METER.
15. VALVE BOXES FOR VALVES ALONG THE ABANDONED SECTIONS OF WATERLINE SHALL BE REMOVED ONCE THE NEW WATERLINE IS IN SERVICE. VALVE SHALL BE CLOSED PRIOR TO BACKFILLING. IF VALVE BOX IS IN ROADWAY OR IN CONCRETE, CAP SHALL BE REMOVED AND VALVE BOX FILLED WITH CONCRETE.
16. DETAIL 26.14 IS REQUIRED FOR ALL WATER MAIN TAPPING.
17. ABANDONMENT OF EXISTING WATER MAIN SHALL INCLUDE PHYSICAL SEPARATION OF THE ABANDONED WATER MAIN FROM THE ACTIVE WATER DISTRIBUTION SYSTEM. CAP AND THRUST SUPPORT THE ACTIVE MAIN AND FILL THE FIRST FOOT OF THE ABANDONED WATER MAIN WITH FLOWABALE FILL.
18. MINIMUM RESTRAINED JOINT PIPE LENGTHS ARE SHOWN IN THE PROFILE. IF THE LENGTH SHOWN DOES NOT FALL AT A PIPE JOINT, THEN THE RESTRAINED JOINT PIPE SHALL BE EXTENDED TO THE NEXT JOINT.

# WATERLINE WORKING PRESSURES

NOTE: WATERLINE SHALL BE TESTED AT A PRESSURE OF 150 PSI.

Blue Ridge Farms East Working Pressures
HGL at Max Pressure Condition = 861.0

| Station | Ground Surface Elevation | Working Pressure (psi) |
|---|---|---|
| Ardmore Drive (Line A) | | |
| 10+00 | 674 | 81 |
| 10+50 | 672 | 82 |
| 14+50 | 687 | 75 |
| 17+50 | 684 | 77 |
| 22+00 | 717 | 62 |
| 23+00 | 715 | 63 |
| 24+50 | 720 | 61 |
| 26+00 | 714 | 64 |
| 29+50 | 734 | 55 |
| 30+50 | 730 | 57 |
| 32+00 | 733 | 55 |
| 34+00 | 728 | 58 |
| 36+00 | 734 | 55 |
| 41+00 | 750 | 48 |
| 45+10 | 777 | 36 |
| Ashley Drive (Line B) | | |
| 10+00 | 685 | 76 |
| 12+50 | 695 | 72 |
| 15+00 | 707 | 67 |
| 17+50 | 732 | 56 |
| 20+00 | 744 | 51 |
| 21+49 | 739 | 53 |
| Georgetown Drive (Line C) | | |
| 10+00 | 747 | 49 |
| 14+00 | 736 | 54 |
| 17+52 | 715 | 63 |

| Station | Ground Surface Elevation | Working Pressure (psi) |
|---|---|---|
| Standish Circle (Line D) | | |
| 10+00 | 712 | 65 |
| 12+00 | 710 | 65 |
| 14+00 | 720 | 61 |
| 16+28 | 728 | 58 |
| Craigmont Drive (Line E) | | |
| 10+00 | 713 | 64 |
| 12+00 | 728 | 58 |
| 14+00 | 718 | 62 |
| 16+50 | 736 | 54 |
| 19+32 | 748 | 49 |
| Craigmont Drive (Line F) | | |
| 10+00 | 750 | 48 |
| 11+50 | 755 | 46 |
| 13+54 | 745 | 50 |
| Ardmore Circle (Line G) | | |
| 10+00 | 714 | 64 |
| 12+07 | 727 | 58 |
| Berkley Place (Line H) | | |
| 10+00 | 746 | 50 |
| 13+75 | 777 | 36 |

# GENERAL LEGEND

| EXISTING | | PROPOSED |
|---|---|---|
| 1000 | CONTOURS | 1000 |
| × 1561.3 | GROUND ELEVATION | N/A |
| | TREE LINE | N/A |
| | STREAM | N/A |
| | DECIDUOUS TREE | N/A |
| | CONIFEROUS TREE | N/A |
| | SHRUB | N/A |
| x x | FENCE | N/A |
| | PROPERTY LINE/ROW | N/A |
| | IRON ROD FOUND | N/A |
| | IRON ROD SET | N/A |
| | MONUMENT FOUND | N/A |
| | MONUMENT SET | N/A |
| | EASEMENT | |
| | SIGN | N/A |
| | METAL POST | N/A |
| | WOOD POST | N/A |
| | STORM SEWER | N/A |
| | STORM MANHOLE | N/A |
| | STORM DRAINAGE INLET | N/A |
| 1 | STORM STRUCTURE KEY | N/A |
| ss | SANITARY SEWER | |
| N/A | SANITARY SEWER REHAB | |
| C.O. | SANITARY SEWER CLEANOUT | |
| | SANITARY SEWER MANHOLE | |
| A | SANITARY STRUCTURE KEY | A |
| uge | UNDERGROUND ELECTRIC | N/A |
| ohp | OVERHEAD POWER | N/A |
| | LIGHT POLE | N/A |
| | ELECTRIC POLE | N/A |
| E | ELECTRIC MANHOLE | N/A |
| w | WATER | W |
| w | APPROXIMATE WATER | N/A |
| | GATE VALVE | |
| | AIR RELEASE VALVE | |
| | BLOW OFF VALVE | |
| | FIRE HYDRANT | |
| | WATER METER | |
| com | GENERIC COMMUNICATION | N/A |
| ugc | UNDERGROUND COMMUNICATION | N/A |
| ohc | OVERHEAD COMMUNICATIONS | N/A |
| catv | CABLE TV | N/A |
| C | CABLE TV MANHOLE | N/A |
| | CABLE TV PEDESTAL | N/A |
| t | TELEPHONE LINE | N/A |
| oht | OVERHEAD TELEPHONE | N/A |
| ugt | UNDERGROUND TELEPHONE | N/A |
| | TELEPHONE BOX | N/A |
| T | TELEPHONE MANHOLE | N/A |
| | TELEPHONE PEDESTAL | N/A |
| | TELEPHONE POLE | N/A |
| g | GAS LINE | N/A |
| | GAS DRIP | N/A |
| | GAS METER | N/A |
| G | GAS MANHOLE | N/A |
| | GAS VALVE | N/A |
| N/A | ASPHALT DRIVEWAY RESTORATION | |
| N/A | CONCRETE DRIVEWAY RESTORATION | |
| N/A | GRAVEL DRIVEWAY RESTORATION | |

SEE SHEET ES-2 FOR EROSION AND SEDIMENT CONTROL LEGEND.

## APPROVALS

CITY ENGINEER

UTILITY ENGINEER

COMMONWEALTH OF VIRGINIA
SCOTT A. SCHILLER
Lic. No. 048071
7/25/14
PROFESSIONAL ENGINEER


Draper Aden Associates
Engineering • Surveying • Environmental Services
Blacksburg, VA
2206 South Main Street
Blacksburg, VA 24060
540-552-0444 Fax: 540-552-0291
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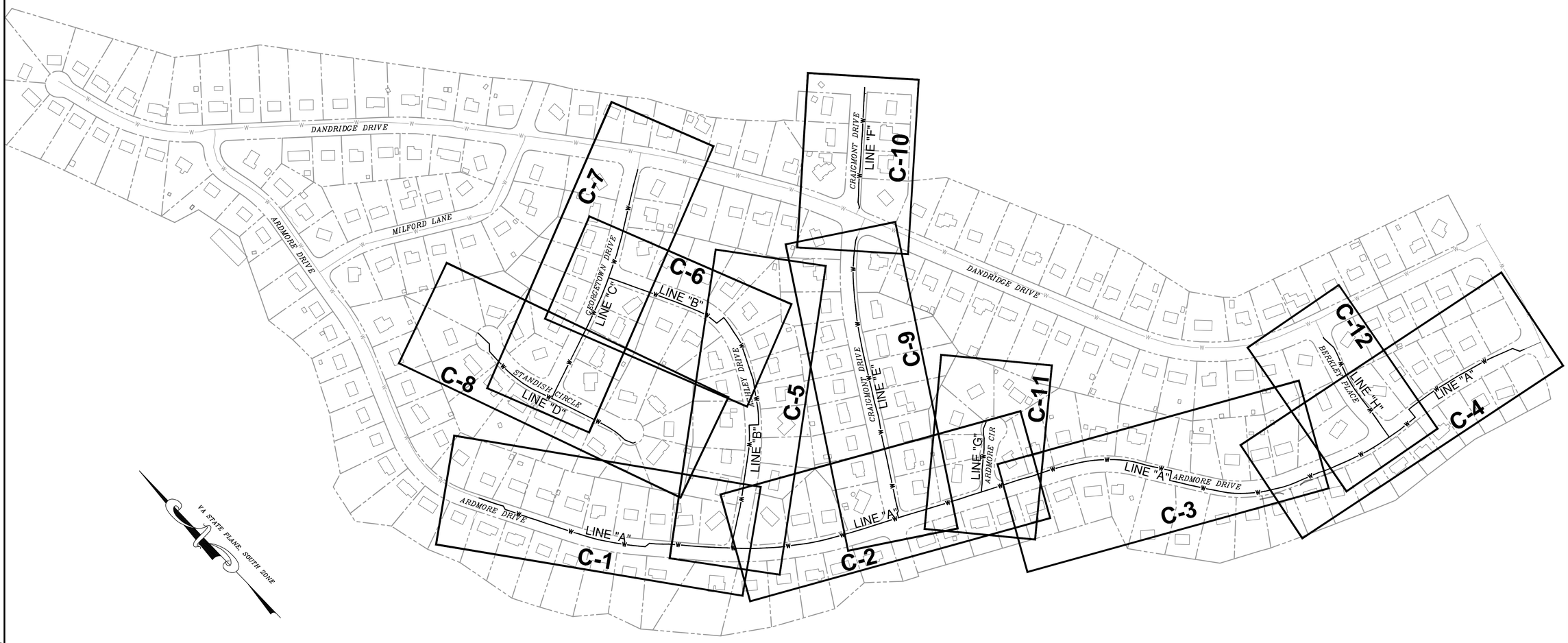
GENERAL NOTES AND LEGEND
BLUE RIDGE FARMS WATER, SANITARY, & STORM SEWER IMPROVEMENTS - PHASE 2
LYNCHBURG, VIRGINIA

REVISIONS

DESIGNED BY: LMR/BMC
DRAWN BY: BMC
CHECKED BY: JST/MSH/SAS
SCALE: NOT TO SCALE
DATE: 07/25/2014
PROJECT NUMBER: B09223B-06

T-2




GRAPHIC SCALE

150 0 150 300 600

( IN FEET )
1 inch = 150 ft.

## APPROVALS

CITY ENGINEER

UTILITY ENGINEER

COMMONWEALTH OF VIRGINIA
SCOTT A. SCHILLER
Lic. No. 048071
7/25/14
PROFESSIONAL ENGINEER


Draper Aden Associates
Engineering • Surveying • Environmental Services

Blacksburg, VA
2905 South Main Street
Blacksburg, VA 24060
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# WATERLINE SHEET INDEX
# BLUE RIDGE FARMS WATER, SANITARY, & STORM SEWER IMPROVEMENTS - PHASE 2

LYNCHBURG, VIRGINIA

**REVISIONS**

| | |
|---|---|
| DESIGNED BY: | LMR/BMC |
| DRAWN BY: | BMC |
| CHECKED BY: | JST/MSH/SAS |
| SCALE: | 1"=150' |
| DATE: | 07/25/2014 |
| PROJECT NUMBER: | B09223B-06 |

T-3

GRAPHIC SCALE

150 0 150 300 600

( IN FEET )
1 inch = 150 ft.

## APPROVALS

CITY ENGINEER

UTILITY ENGINEER

COMMONWEALTH OF VIRGINIA
SCOTT A. SCHILLER
Lic. No. 048071
7/25/14
PROFESSIONAL ENGINEER


Draper Aden Associates
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Blacksburg, VA
2905 South Main Street
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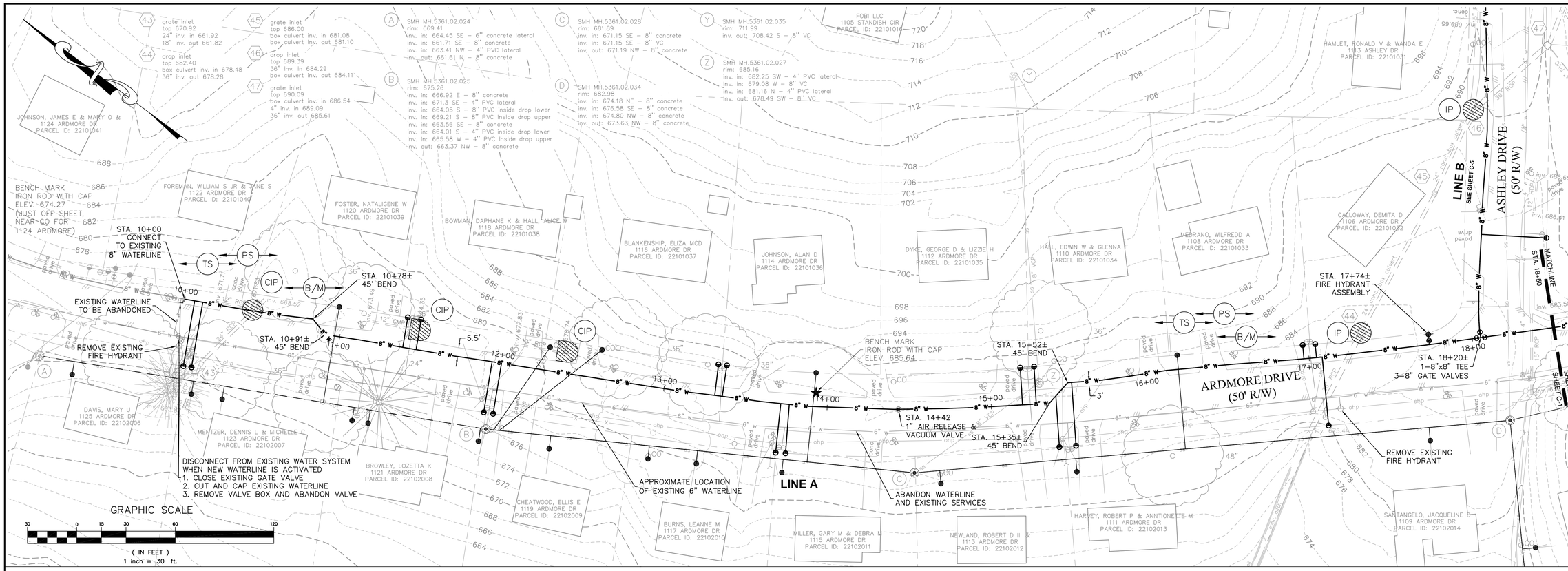
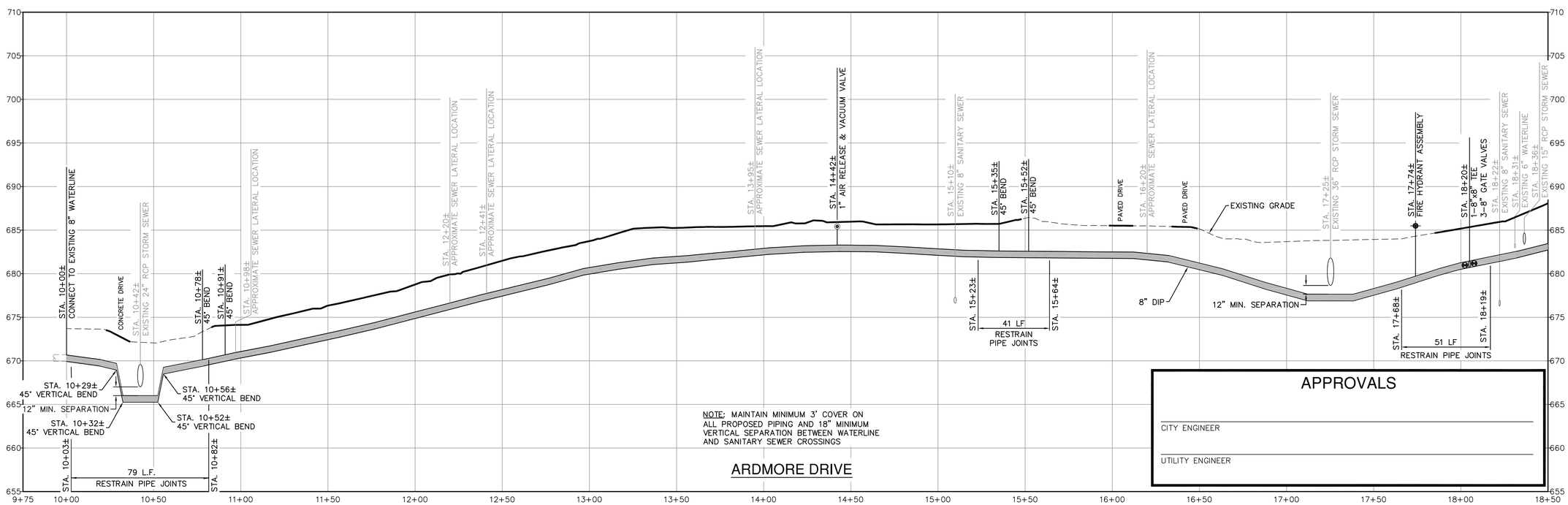
# SEWER SHEET INDEX
# BLUE RIDGE FARMS WATER, SANITARY, & STORM SEWER IMPROVEMENTS - PHASE 2
LYNCHBURG, VIRGINIA

**REVISIONS**

| | |
|---|---|
| DESIGNED BY: | LMR/BMC |
| DRAWN BY: | BMC |
| CHECKED BY: | JST/MSH/SAS |
| SCALE: | 1"=150' |
| DATE: | 07/25/2014 |
| PROJECT NUMBER: | B09223B-06 |

T-4




NOTE: MAINTAIN MINIMUM 3' COVER ON ALL PROPOSED PIPING AND 18" MINIMUM VERTICAL SEPARATION BETWEEN WATERLINE AND SANITARY SEWER CROSSINGS

ARDMORE DRIVE

LINE A
SCALE: H: 1"=30', V: 1"= 6'

## APPROVALS

CITY ENGINEER

UTILITY ENGINEER

COMMONWEALTH OF VIRGINIA
SCOTT A. SCHILLER
Lic. No. 043071
7/25/14
PROFESSIONAL ENGINEER


Draper Aden Associates
Engineering • Surveying • Environmental Services
Blacksburg, VA
2905 South Main Street
Blacksburg, VA 24060
540-552-0444 Fax: 540-552-0291
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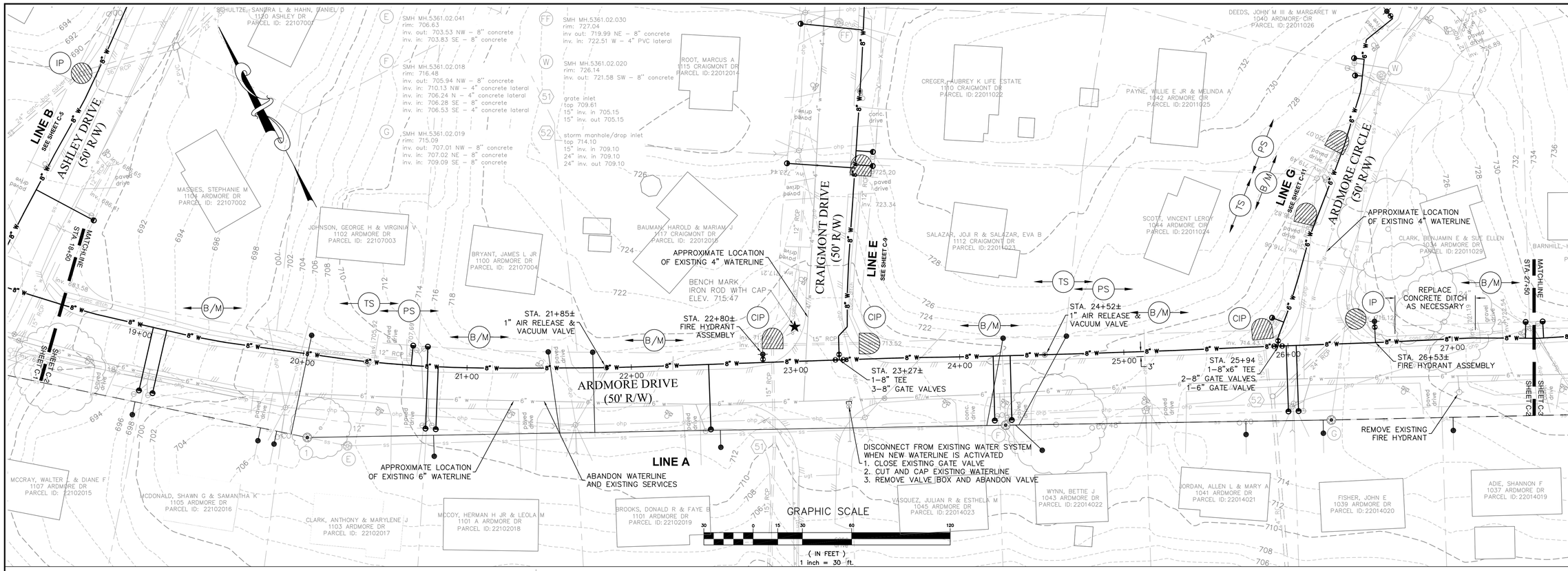
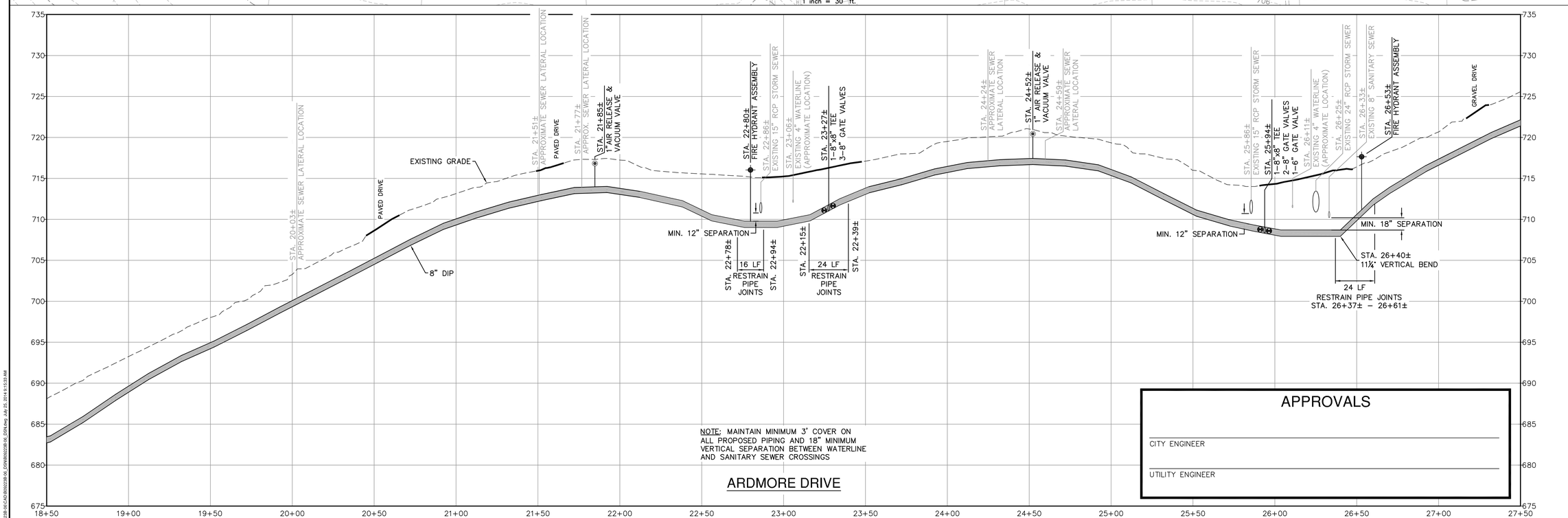
# WATER PLAN AND PROFILE - LINE A
# BLUE RIDGE FARMS WATER, SANITARY, & STORM SEWER IMPROVEMENTS - PHASE 2
LYNCHBURG, VIRGINIA

REVISIONS

| | |
|---|---|
| DESIGNED BY: | LMR/BMC |
| DRAWN BY: | BMC |
| CHECKED BY: | JST/MSH/SAS |
| SCALE: | 1"=30' |
| DATE: | 07/25/2014 |
| PROJECT NUMBER: | B09223B-06 |

C-1




LINE A
SCALE: H: 1"=30', V: 1"= 6'

COMMONWEALTH OF VIRGINIA
SCOTT A. SCHILLER
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7/25/14
PROFESSIONAL ENGINEER


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Charlottesville, VA
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# WATER PLAN AND PROFILE - LINE A
# BLUE RIDGE FARMS WATER, SANITARY, & STORM SEWER IMPROVEMENTS - PHASE 2
LYNCHBURG, VIRGINIA

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| DATE: | 07/25/2014 |
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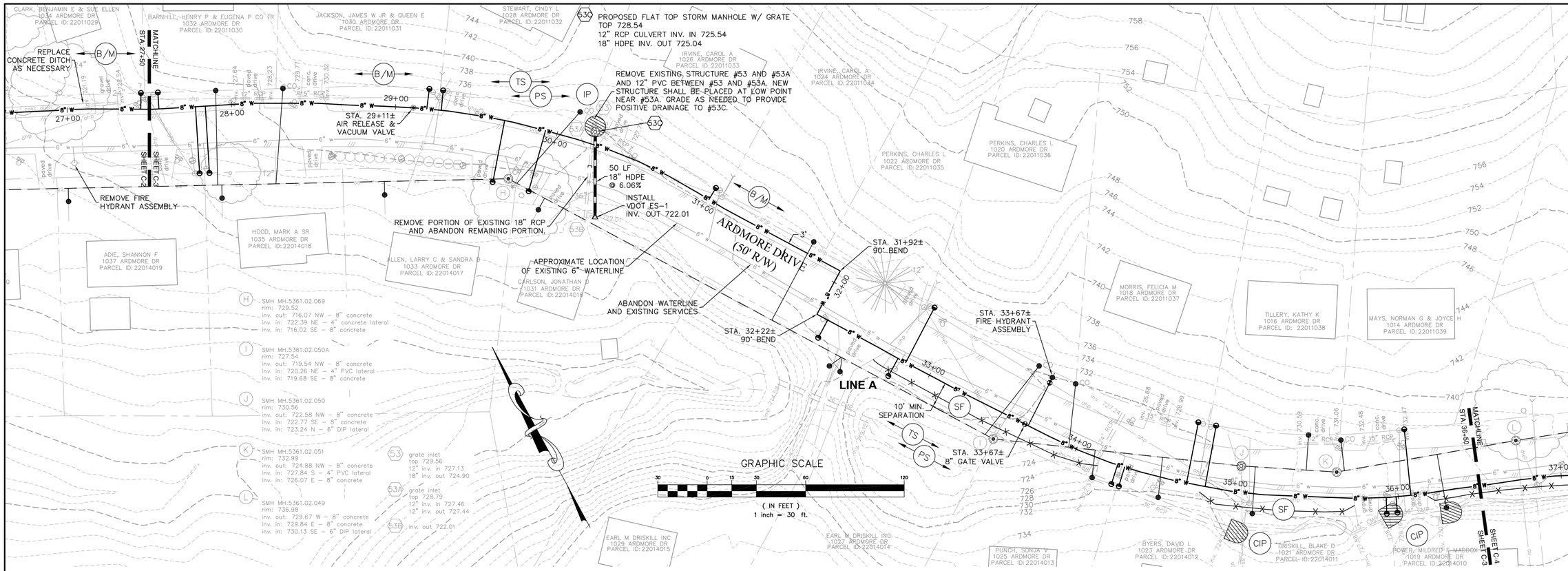


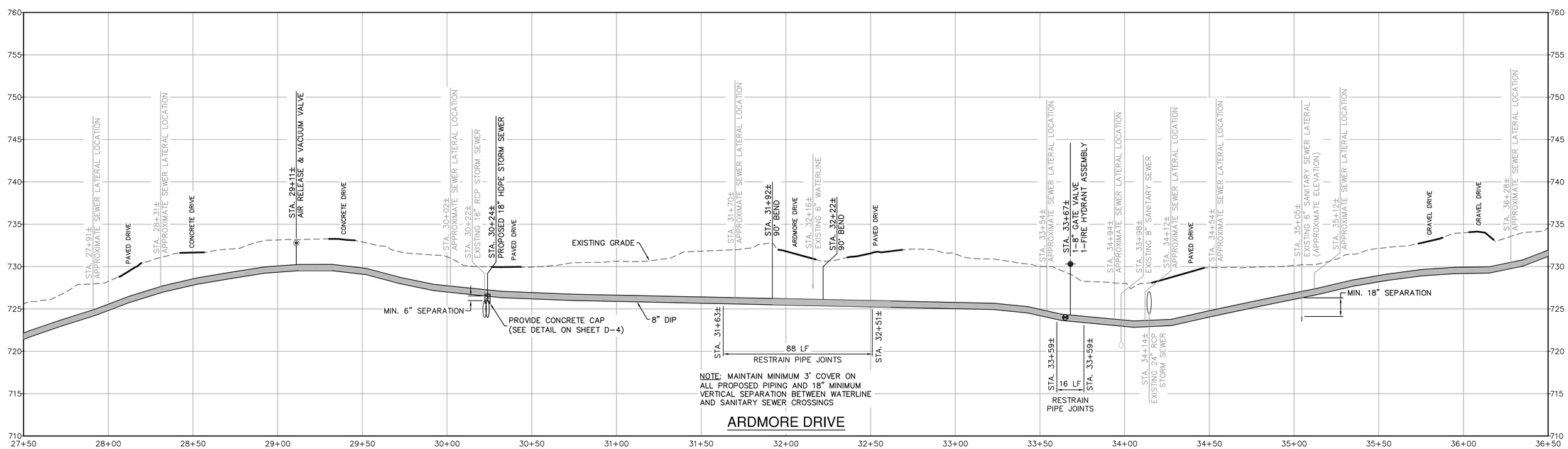


LINE A
SCALE: H: 1"=30', V: 1"= 6'

## APPROVALS

CITY ENGINEER

UTILITY ENGINEER

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7/25/14
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# WATER PLAN AND PROFILE - LINE A
# BLUE RIDGE FARMS WATER, SANITARY, & STORM SEWER IMPROVEMENTS - PHASE 2

LYNCHBURG, VIRGINIA

REVISIONS

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| DESIGNED BY: | LMR/BMC |
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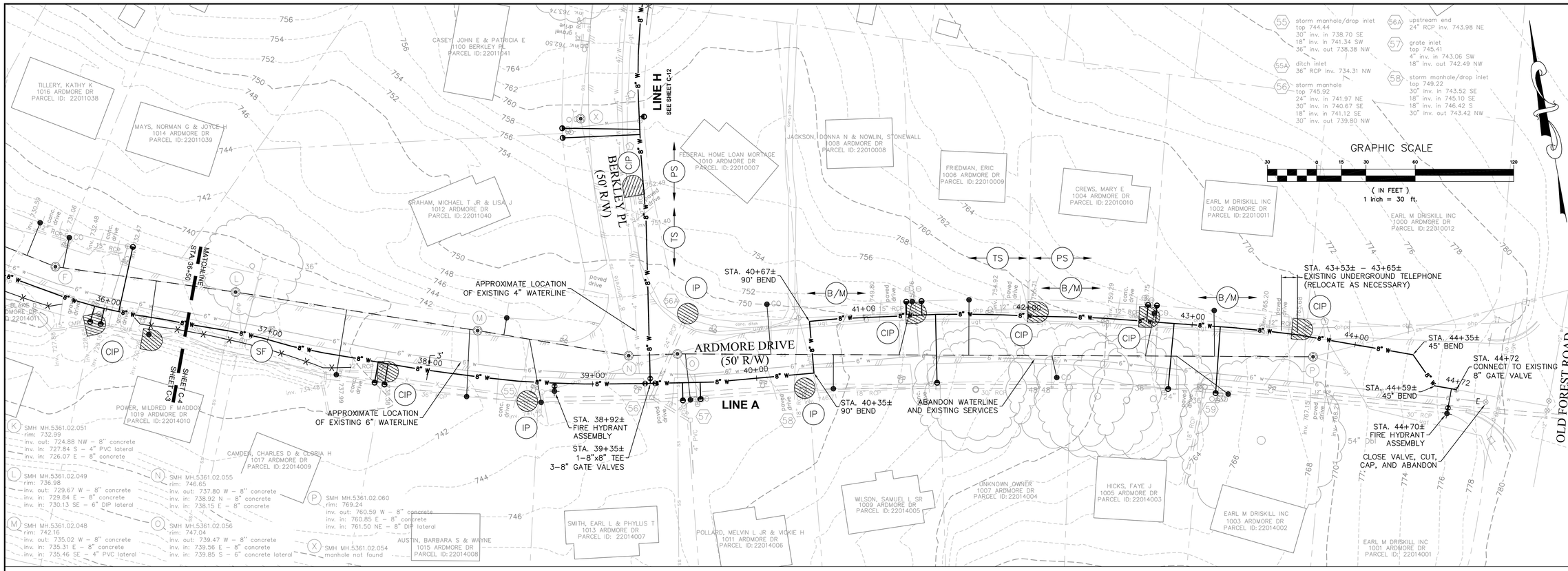
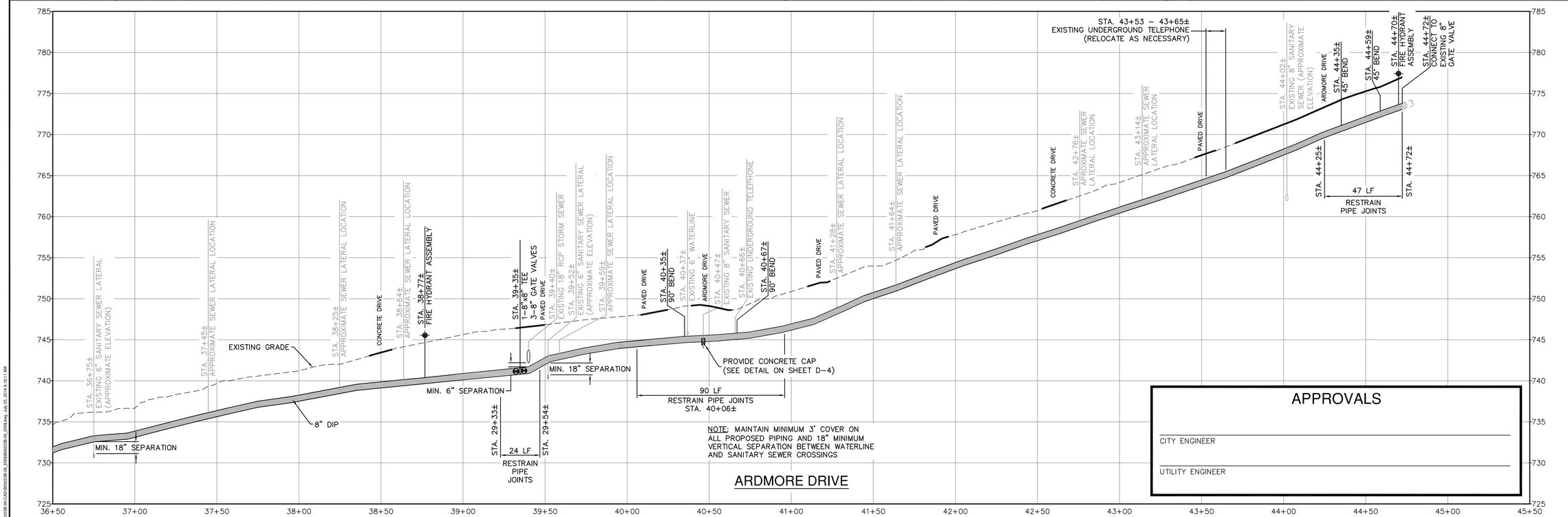
| CHECKED BY: | JST/MSH/SAS |
| SCALE: | 1"=30' |
| DATE: | 07/25/2014 |
| PROJECT NUMBER: | B09223B-06 |

C-3




LINE A
SCALE: H: 1"=30', V: 1"= 6'

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SCOTT A. SCHILLER
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Draper Aden Associates
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Blacksburg, VA
2905 South Main Street
Blacksburg, VA 24060
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# WATER PLAN AND PROFILE - LINE A
# BLUE RIDGE FARMS WATER, SANITARY, & STORM SEWER IMPROVEMENTS - PHASE 2

LYNCHBURG, VIRGINIA

REVISIONS

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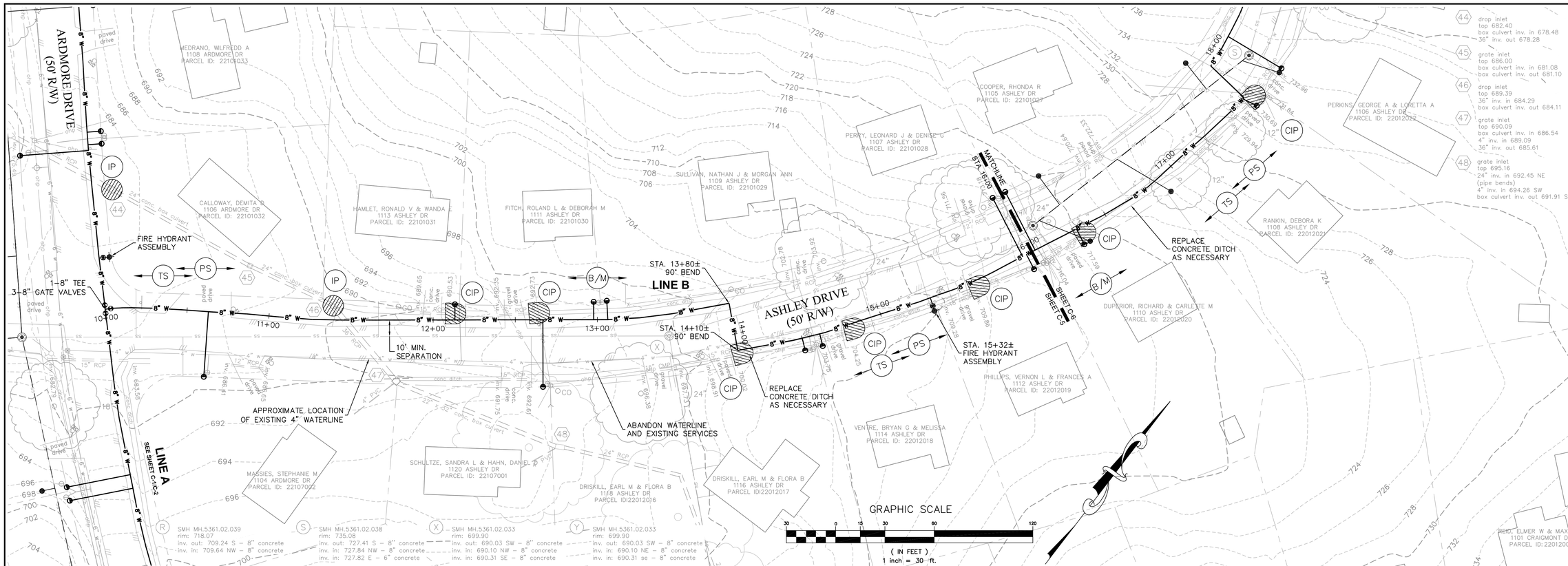
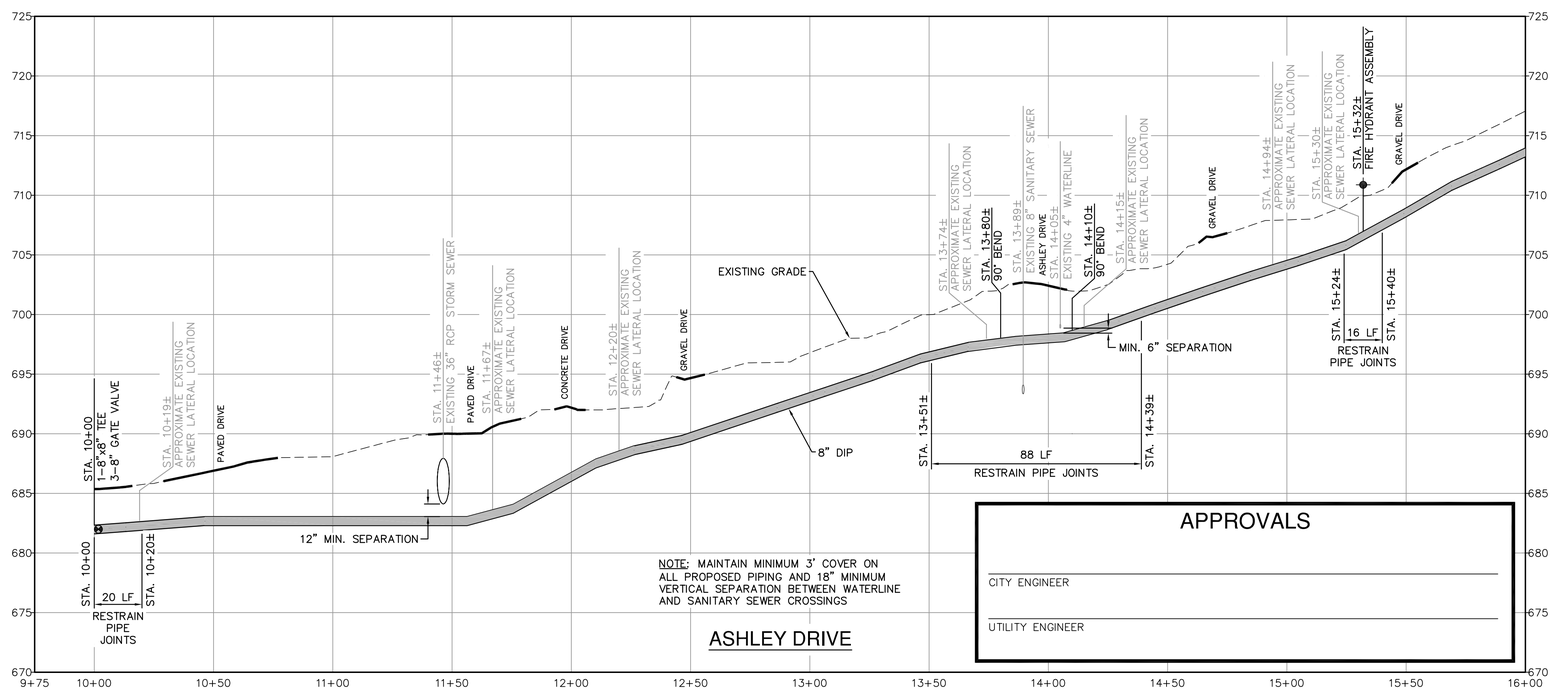
| SCALE: | 1"=30' |
| DATE: | 07/25/2014 |
| PROJECT NUMBER: | B09223B-06 |

C-4




LINE B
SCALE: H: 1"=30', V: 1"= 6'

COMMONWEALTH OF VIRGINIA
SCOTT A. SCHILLER
Lic. No. 043071
7/25/14
PROFESSIONAL ENGINEER


Draper Aden Associates
Engineering • Surveying • Environmental Services
Blacksburg, VA
2905 South Main Street
Blacksburg, VA 24060
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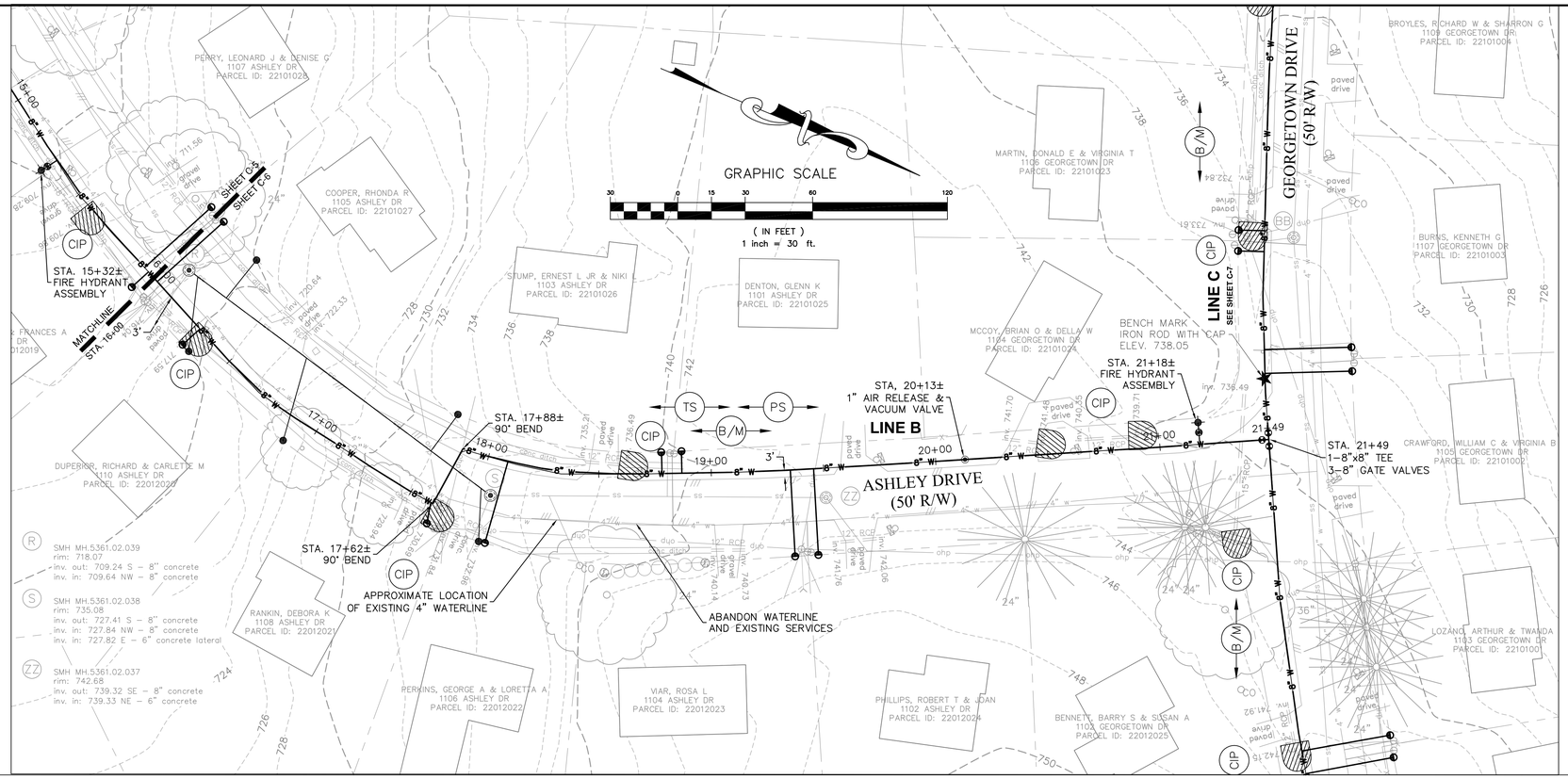
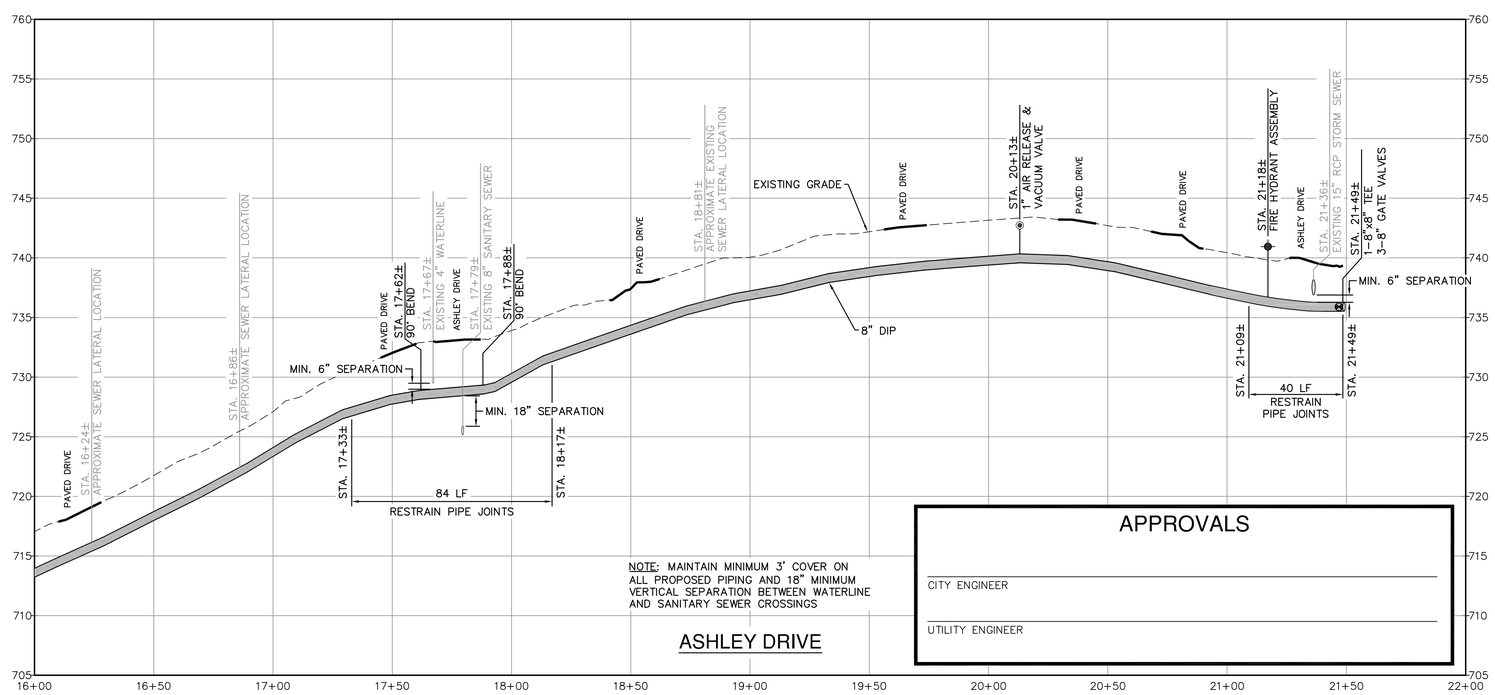
# WATER PLAN AND PROFILE - LINE B
# BLUE RIDGE FARMS WATER, SANITARY, & STORM SEWER IMPROVEMENTS - PHASE 2
LYNCHBURG, VIRGINIA

REVISIONS

| | |
|---|---|
| DESIGNED BY: | LMR/BMC |
| DRAWN BY: | BMC |
| CHECKED BY: | JST/MSH/SAS |
| SCALE: | 1"=30' |
| DATE: | 07/25/2014 |
| PROJECT NUMBER: | B09223B-06 |

C-5




LINE B
SCALE: H: 1"=30', V: 1"= 6'

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SCOTT A. SCHILLER
Lic. No. 048071
7/25/14
PROFESSIONAL ENGINEER


Draper Aden Associates
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2905 South Main Street
Blacksburg, VA 24060
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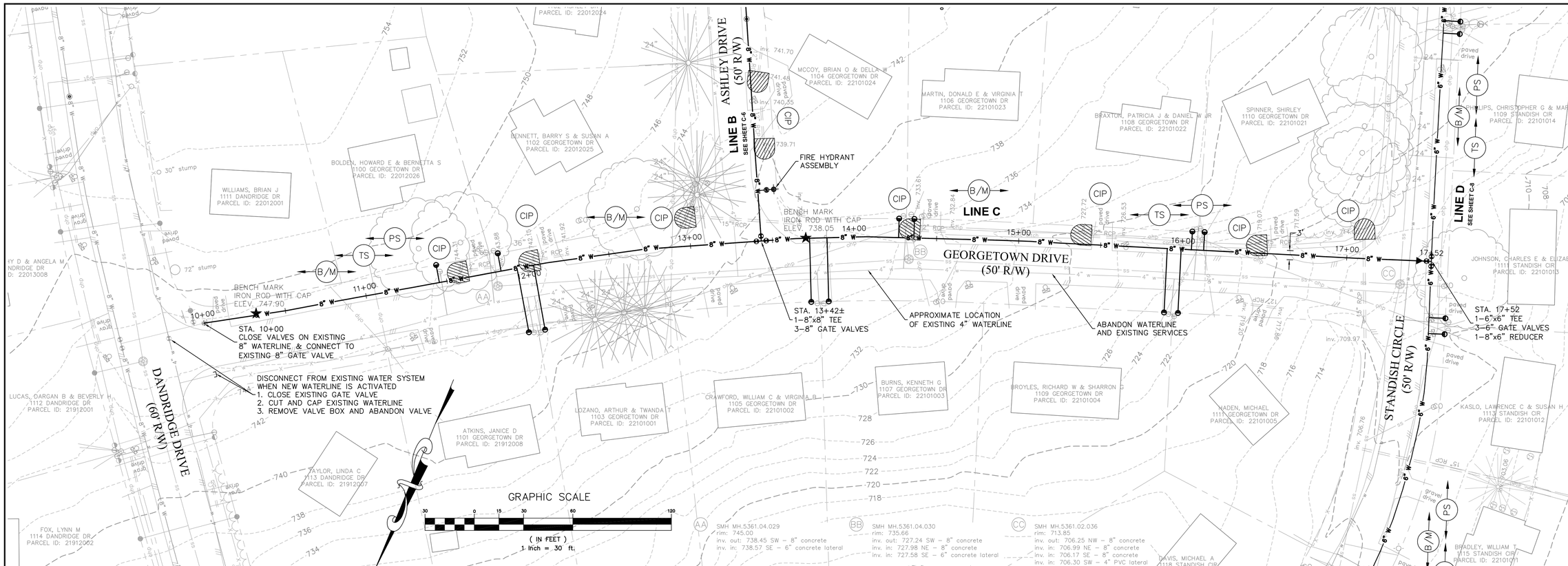
# WATER PLAN AND PROFILE - LINE B
# BLUE RIDGE FARMS WATER, SANITARY, & STORM SEWER IMPROVEMENTS - PHASE 2

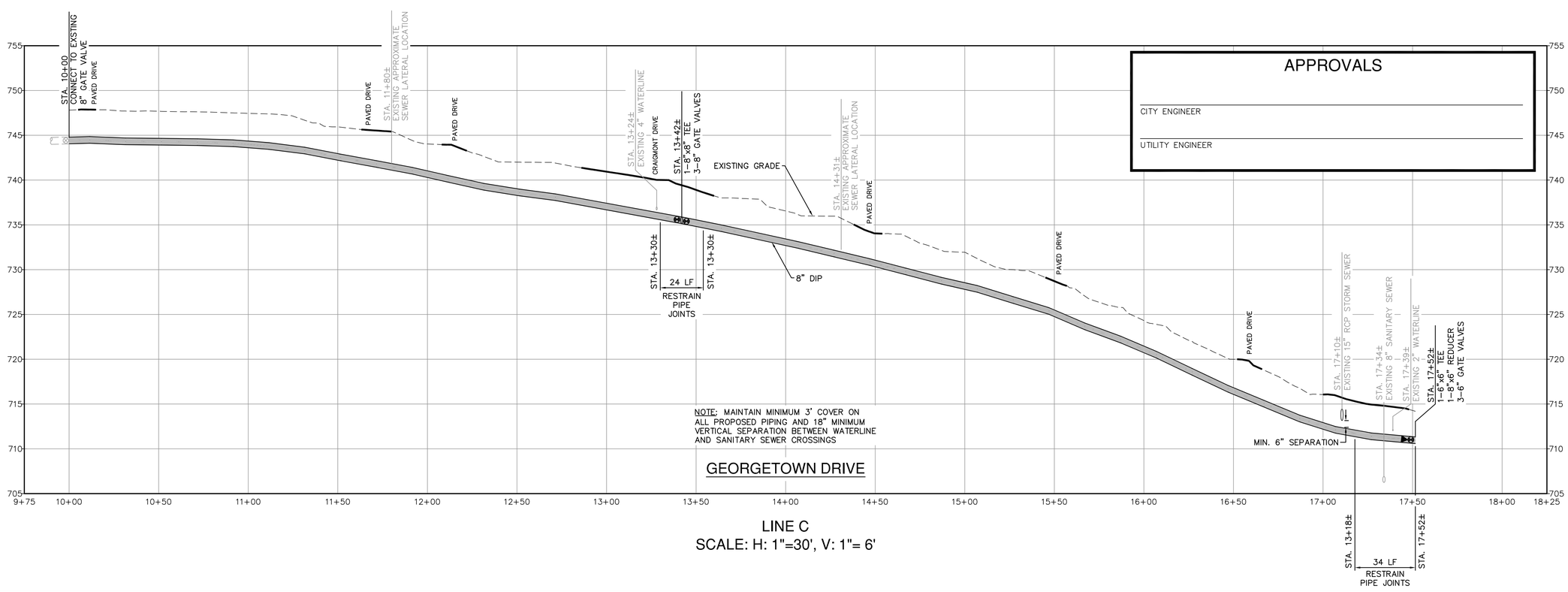
LYNCHBURG, VIRGINIA

REVISIONS

| | |
|---|---|
| DESIGNED BY: | LMR/BMC |
| DRAWN BY: | BMC |
| CHECKED BY: | JST/MSH/SAS |
| SCALE: | 1"=30' |
| DATE: | 07/25/2014 |
| PROJECT NUMBER: | B09223B-06 |

C-6




APPROVALS

CITY ENGINEER

UTILITY ENGINEER

LINE C
SCALE: H: 1"=30', V: 1"= 6'

COMMONWEALTH OF VIRGINIA
SCOTT A. SCHILLER
Lic. No. 048071
7/25/14
PROFESSIONAL ENGINEER


Draper Aden Associates
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Charlottesville, VA
Hampton Roads, VA
Blacksburg, VA
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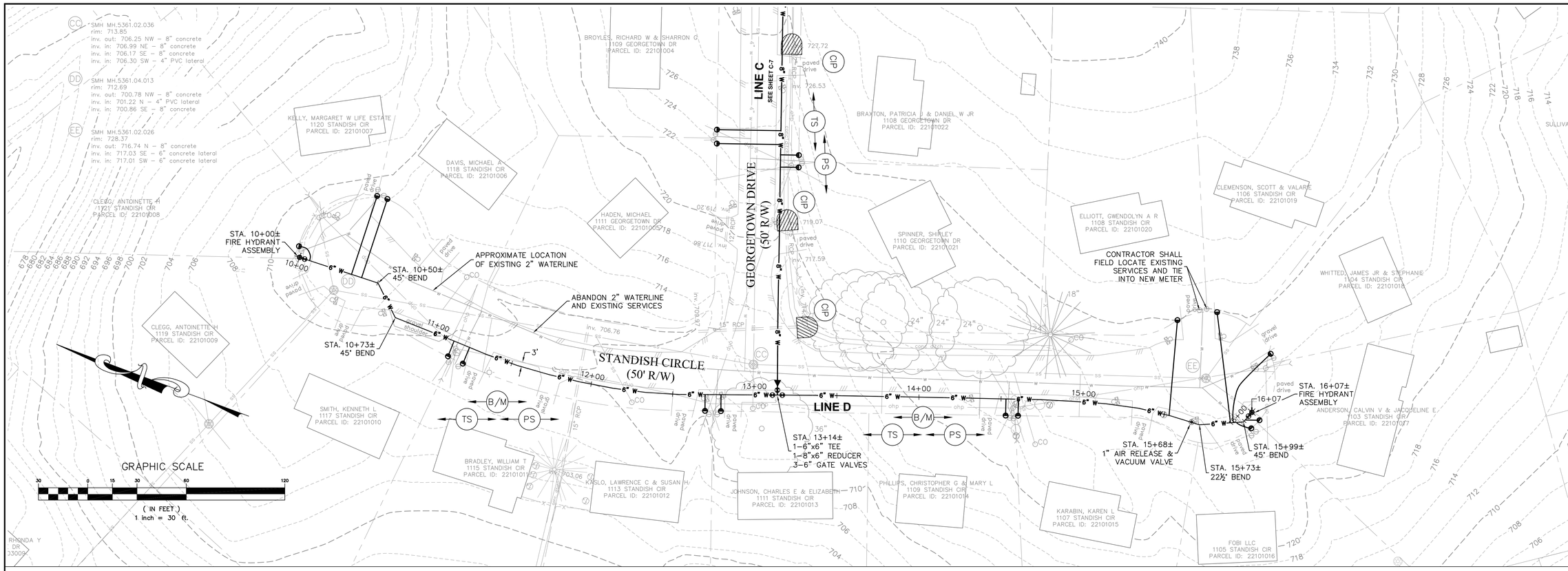
# WATER PLAN AND PROFILE - LINE C
# BLUE RIDGE FARMS WATER, SANITARY, & STORM SEWER IMPROVEMENTS - PHASE 2

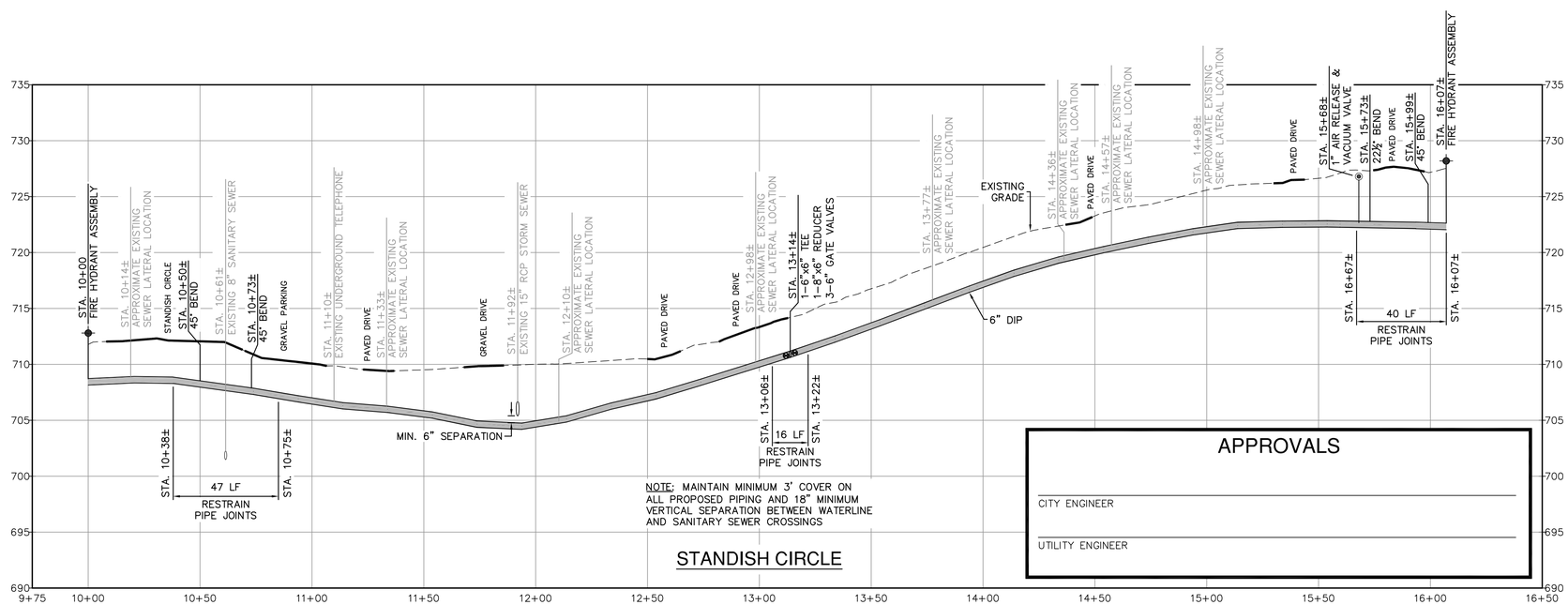
LYNCHBURG, VIRGINIA

REVISIONS

| | |
|---|---|
| DESIGNED BY: | LMR/BMC |
| DRAWN BY: | BMC |
| CHECKED BY: | JST/MSH/SAS |
| SCALE: | 1"=30' |
| DATE: | 07/25/2014 |
| PROJECT NUMBER: | B09223B-06 |

C-7




APPROVALS

CITY ENGINEER

UTILITY ENGINEER

LINE D
SCALE: H: 1"=30', V: 1"= 6'

COMMONWEALTH OF VIRGINIA
SCOTT A. SCHILLER
Lic. No. 043071
7/25/14
PROFESSIONAL ENGINEER


Draper Aden Associates
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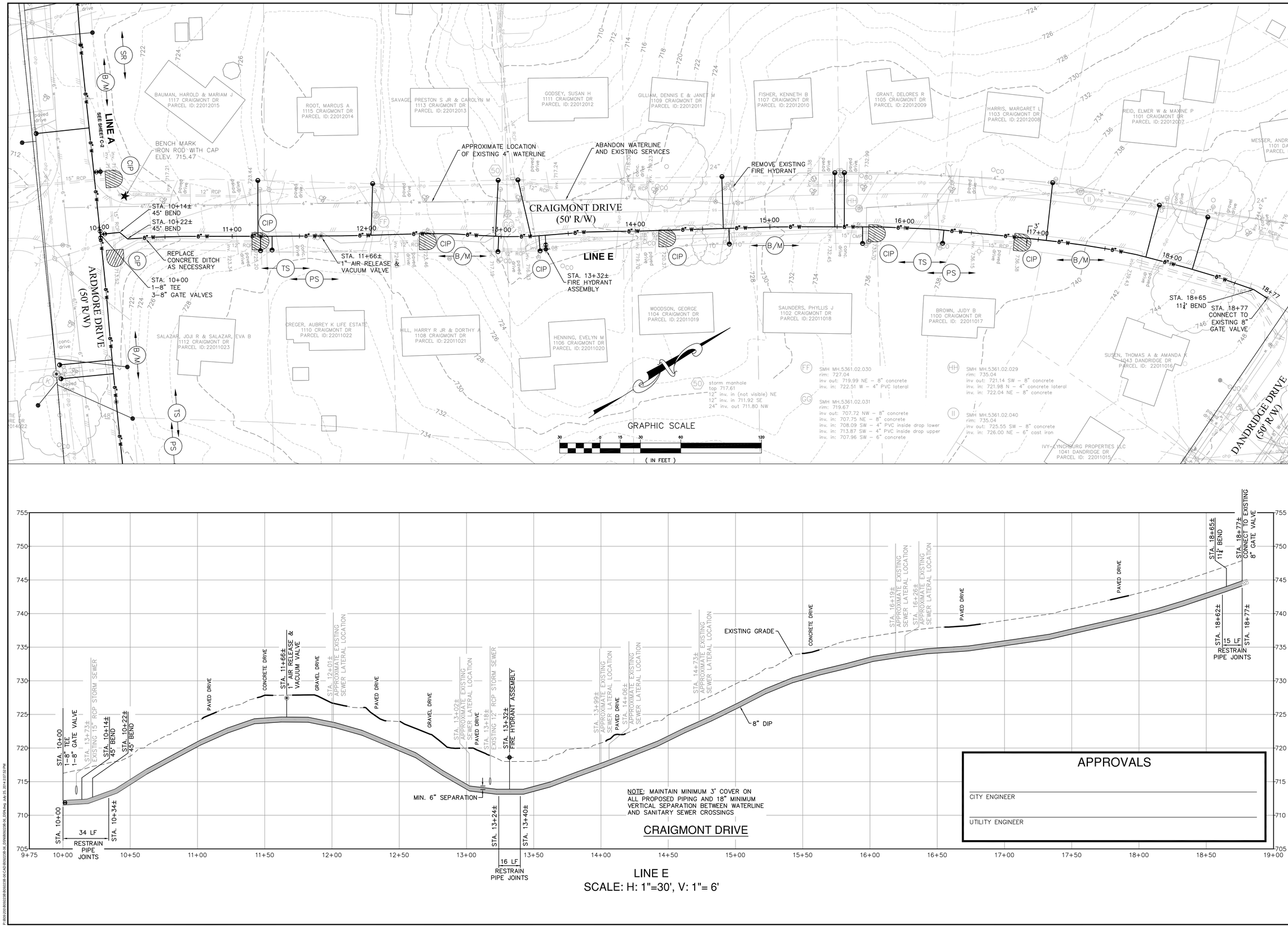
# WATER PLAN AND PROFILE - LINE D
# BLUE RIDGE FARMS WATER, SANITARY, & STORM SEWER IMPROVEMENTS - PHASE 2

LYNCHBURG, VIRGINIA

REVISIONS

| | |
|---|---|
| DESIGNED BY: | LMR/BMC |
| DRAWN BY: | BMC |
| CHECKED BY: | JST/MSH/SAS |
| SCALE: | 1"=30' |
| DATE: | 07/25/2014 |
| PROJECT NUMBER: | B09223B-06 |

C-8




LINE E
SCALE: H: 1"=30', V: 1"= 6'

COMMONWEALTH OF VIRGINIA
SCOTT A. SCHILLER
Lic. No. 043071
7/25/14
PROFESSIONAL ENGINEER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Engineering • Surveying • Environmental Services
Richmond, VA
Charlottesville, VA
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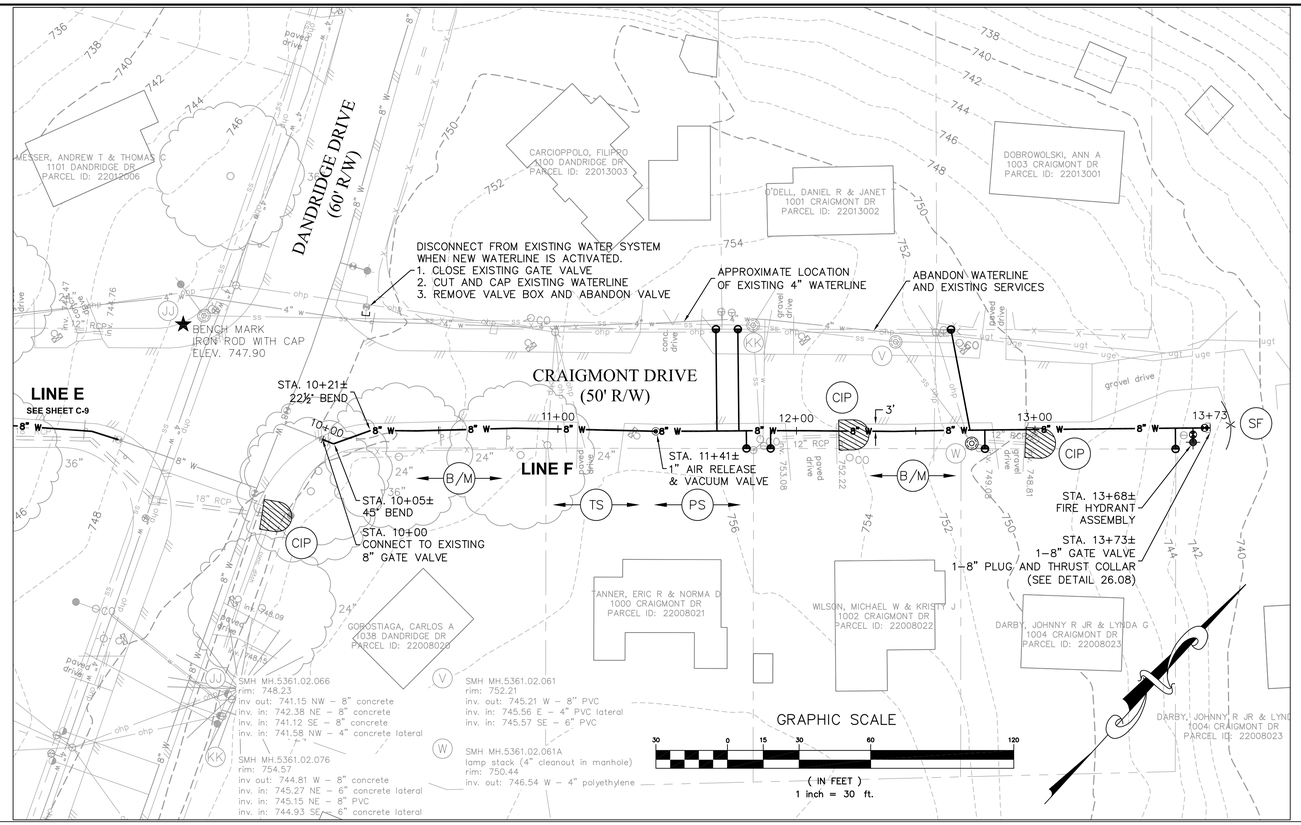
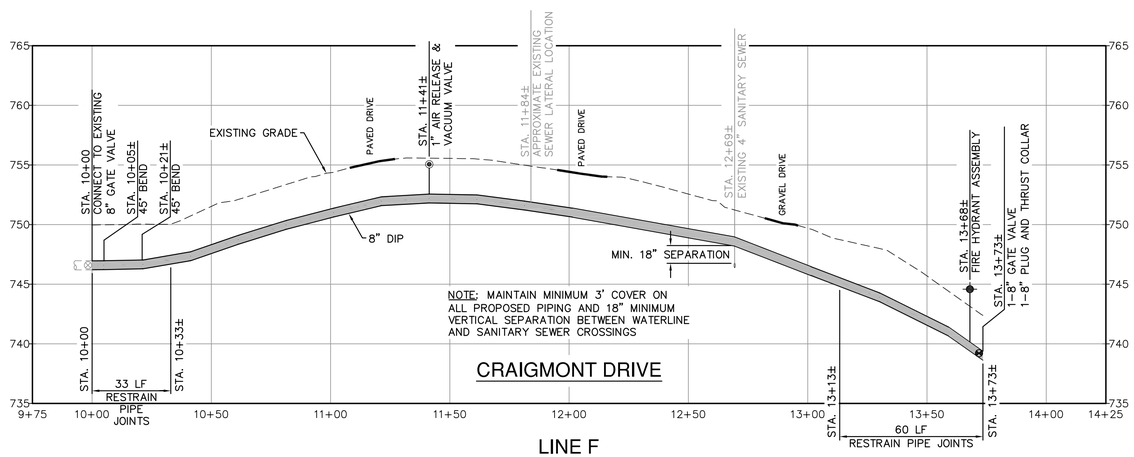
# WATER PLAN AND PROFILE - LINE E
# BLUE RIDGE FARMS WATER, SANITARY, & STORM SEWER IMPROVEMENTS - PHASE 2
LYNCHBURG, VIRGINIA

REVISIONS

| | |
|---|---|
| DESIGNED BY: | LMR/BMC |
| DRAWN BY: | BMC |
| CHECKED BY: | JST/MSH/SAS |
| SCALE: | 1"=30' |
| DATE: | 07/25/2014 |
| PROJECT NUMBER: | B09223B-06 |

C-9




LINE F
SCALE: H: 1"=30', V: 1"= 6'

## APPROVALS

CITY ENGINEER

UTILITY ENGINEER

COMMONWEALTH OF VIRGINIA
SCOTT A. SCHILLER
Lic. No. 048071
7/25/14
PROFESSIONAL ENGINEER


Draper Aden Associates
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Blacksburg, VA
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# WATER PLAN AND PROFILE - LINE F
# BLUE RIDGE FARMS WATER, SANITARY, & STORM SEWER IMPROVEMENTS - PHASE 2
LYNCHBURG, VIRGINIA

REVISIONS

| | |
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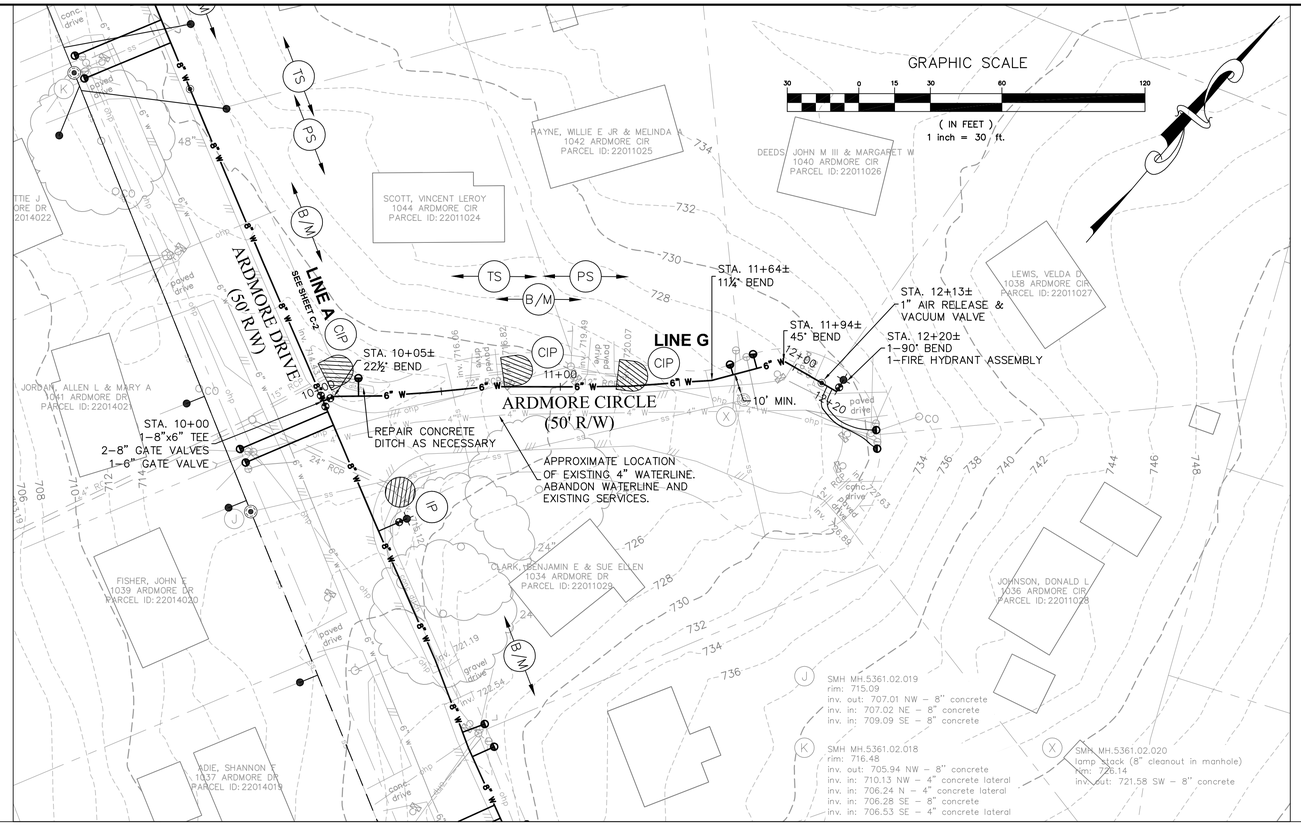
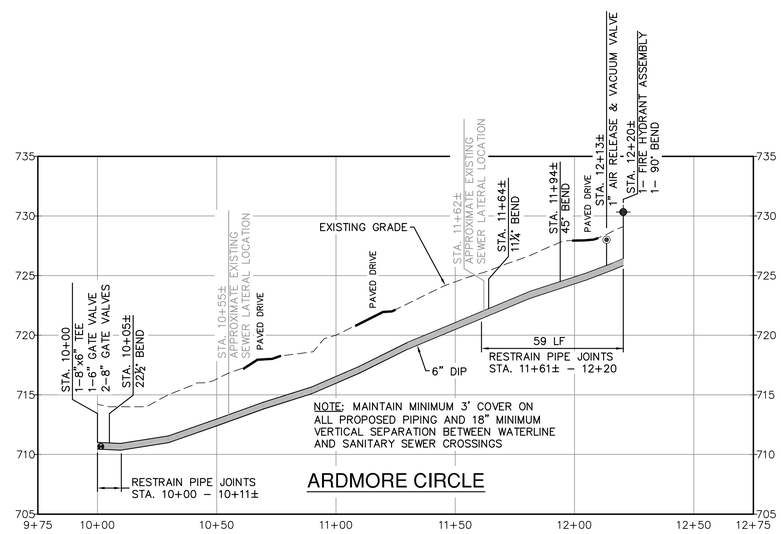
C-10




LINE G
SCALE: H: 1"=30', V: 1"= 6'

## APPROVALS

CITY ENGINEER

UTILITY ENGINEER

COMMONWEALTH OF VIRGINIA
SCOTT A. SCHILLER
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PROFESSIONAL ENGINEER

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Engineering • Surveying • Environmental Services
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# WATER PLAN AND PROFILE - LINE G
# BLUE RIDGE FARMS WATER, SANITARY, & STORM SEWER IMPROVEMENTS - PHASE 2
LYNCHBURG, VIRGINIA

REVISIONS

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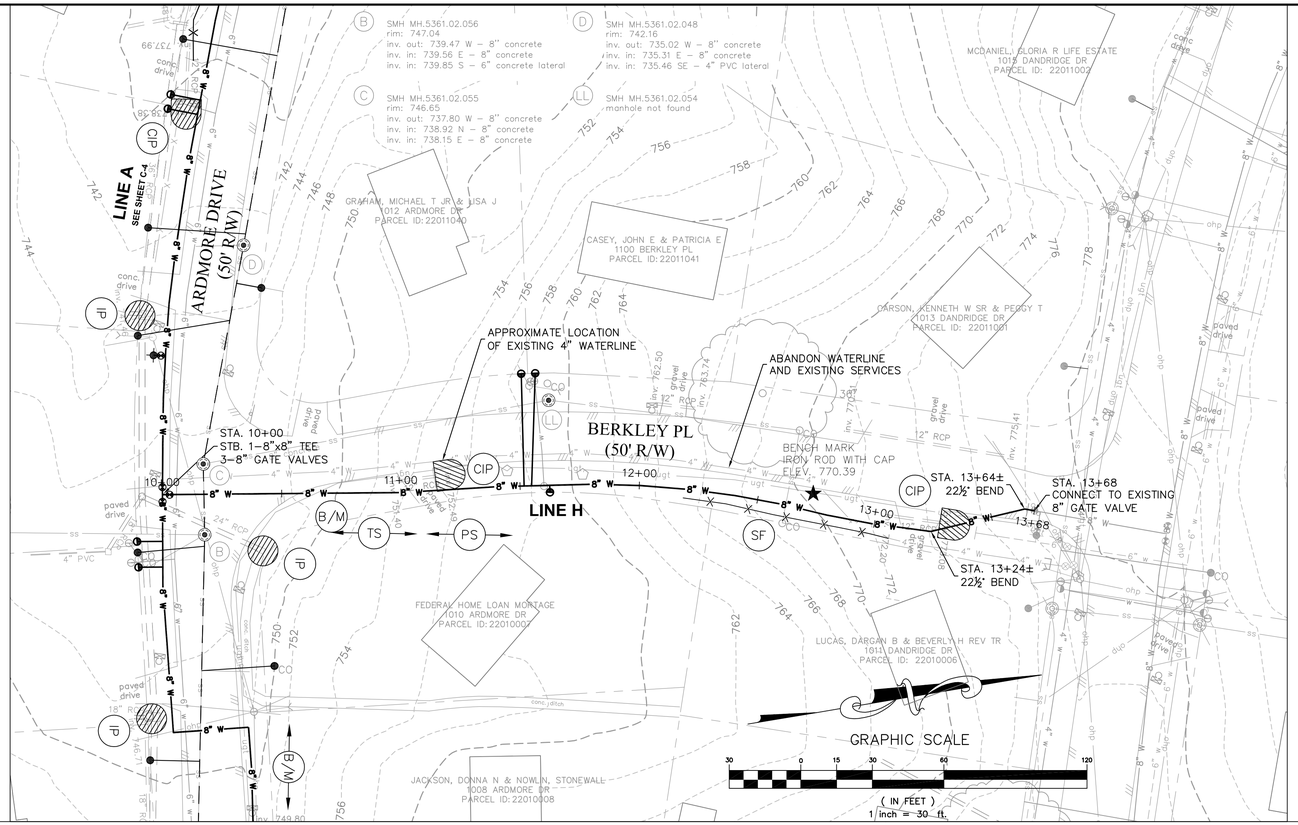
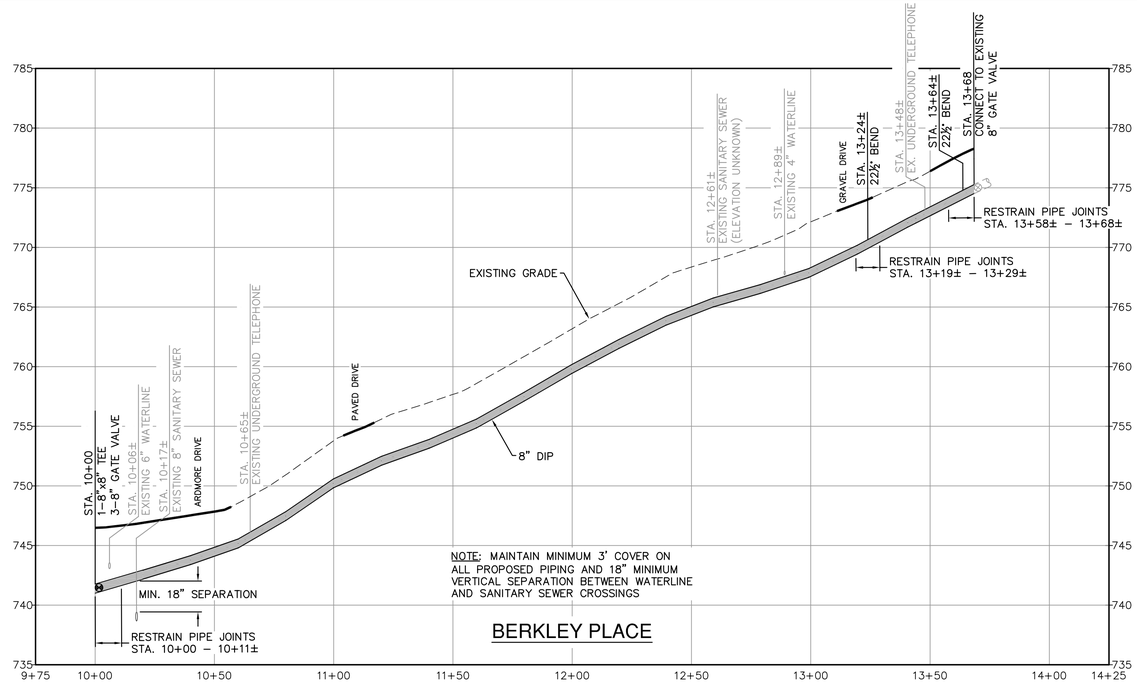
C-11




LINE H
SCALE: H: 1"=30', V: 1"= 6'

## APPROVALS

CITY ENGINEER

UTILITY ENGINEER

COMMONWEALTH OF VIRGINIA
SCOTT A. SCHILLER
Lic. No. 048071
7/25/14
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Blacksburg, VA
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# WATER PLAN AND PROFILE - LINE H
# BLUE RIDGE FARMS WATER, SANITARY, & STORM SEWER IMPROVEMENTS - PHASE 2
LYNCHBURG, VIRGINIA

REVISIONS

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C-12