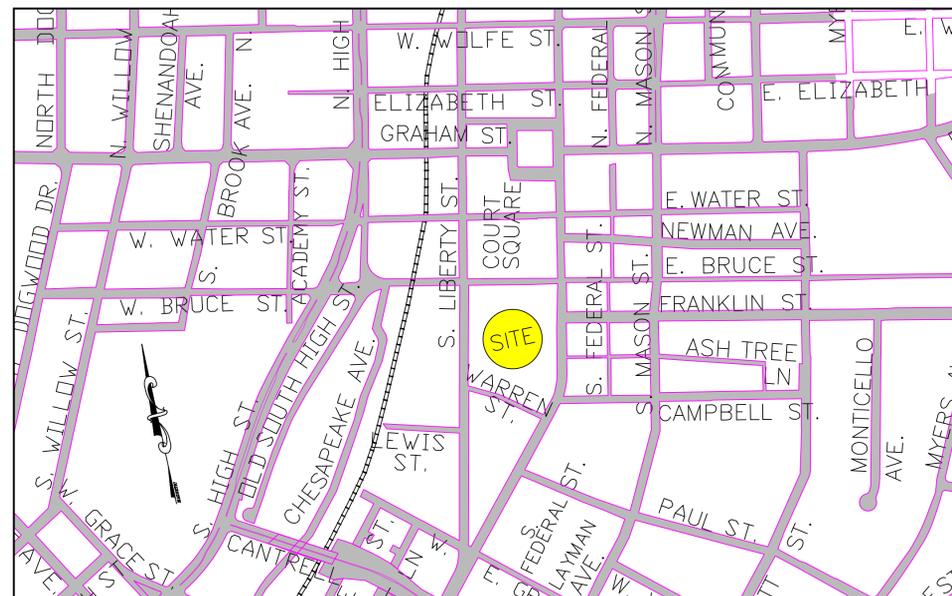


HARRISONBURG CITY HALL



BEFORE YOU DIG CALL
MISS UTILITY
1-800-552-7001



VICINITY MAP
scale: 1" = 500'

LEGEND

- CENTER LINE
- SITE BOUNDARY
- ⊠ ELECTRIC TRANSFORMER
- E/T- ELECTRIC/TELEPHONE
- ⊕ EXISTING UTILITY POLE
- ⊕ PROPOSED UTILITY POLE
- W WATER LINES
- S SANITARY LINES
- SANITARY CLEANOUT
- STORM SYSTEM
- G GAS LINES
- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- SETBACK LINE
- EASEMENT LINE
- EXISTING BUILDING
- PROPOSED BUILDING
- PROPOSED ROAD/EOP
- EXISTING ROAD
- PROPOSED PARKING
- CURBING: CG-6 OR CG-7
- CURBING: CG-2 OR CG-3
- HANDICAP RAMP, CG-12 WITH TYPE
- HANDICAP PARKING
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- WATER VALVE
- WATER METER
- PROPOSED FENCE LINE
- CONCRETE PAVING
- LIGHT PAVEMENT
- HEAVY PAVEMENT
- GRASS AREA
- BIKE RACK PER DCSM 2.6.10
- ⊕ FL FLOOD LIGHTS
- ⊕ FP FLAG POLE LIGHTS
- ⊕ BL BOLLARD LIGHTS
- ⊕ PL POLE LIGHTS

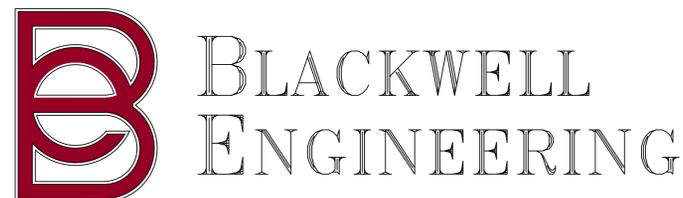
SITE DESIGN:
BLACKWELL ENGINEERING
ATTN: EDMOND BLACKWELL
566 EAST MARKET STREET
HARRISONBURG, VA 22801
540-432-9555

DEVELOPER/OWNER:
CITY OF HARRISONBURG
ATTN: KURT HODGEN
345 SOUTH MAIN STREET
HARRISONBURG, VA 22801
(540)-432-7701

PROPERTY INFO:
TAX MAP #: 25-J-8, 25-J-9
25-J-10, 25-J-21
25-J-22
345 SOUTH MAIN STREET
HARRISONBURG, VA 22801
4.75± ACRES (TOTAL)
1.81± ACRES (SITE)
FEMA ZONE: X
EXISTING ZONING: B-1
USE: CITY OFFICE

BUILDING INFO:
THREE STORY STONE AND METAL
AREA = 17010 SF PER FLOOR
USE: IBC- CIVIC ADMINISTRATION
USE GROUP B
CONSTRUCTION CLASS IIB
NEEDED FIRE FLOW = 1000 GPM WITH
SPRINKLER SYSTEM

SURVEYING:
CITY OF HARRISONBURG
ATTN: CHARLIE WINGARD
409 SOUTH MAIN STREET
HARRISONBURG, VA 22801
(540)-434-9959



566 EAST MARKET STREET
HARRISONBURG, VA 22801
PHONE: (540) 432-9555
FAX: (540) 434-7604



REVISION 1: 3-24-14 PER CITY COMMENTS
REVISION 2: 4-22-14 PER CITY COMMENTS

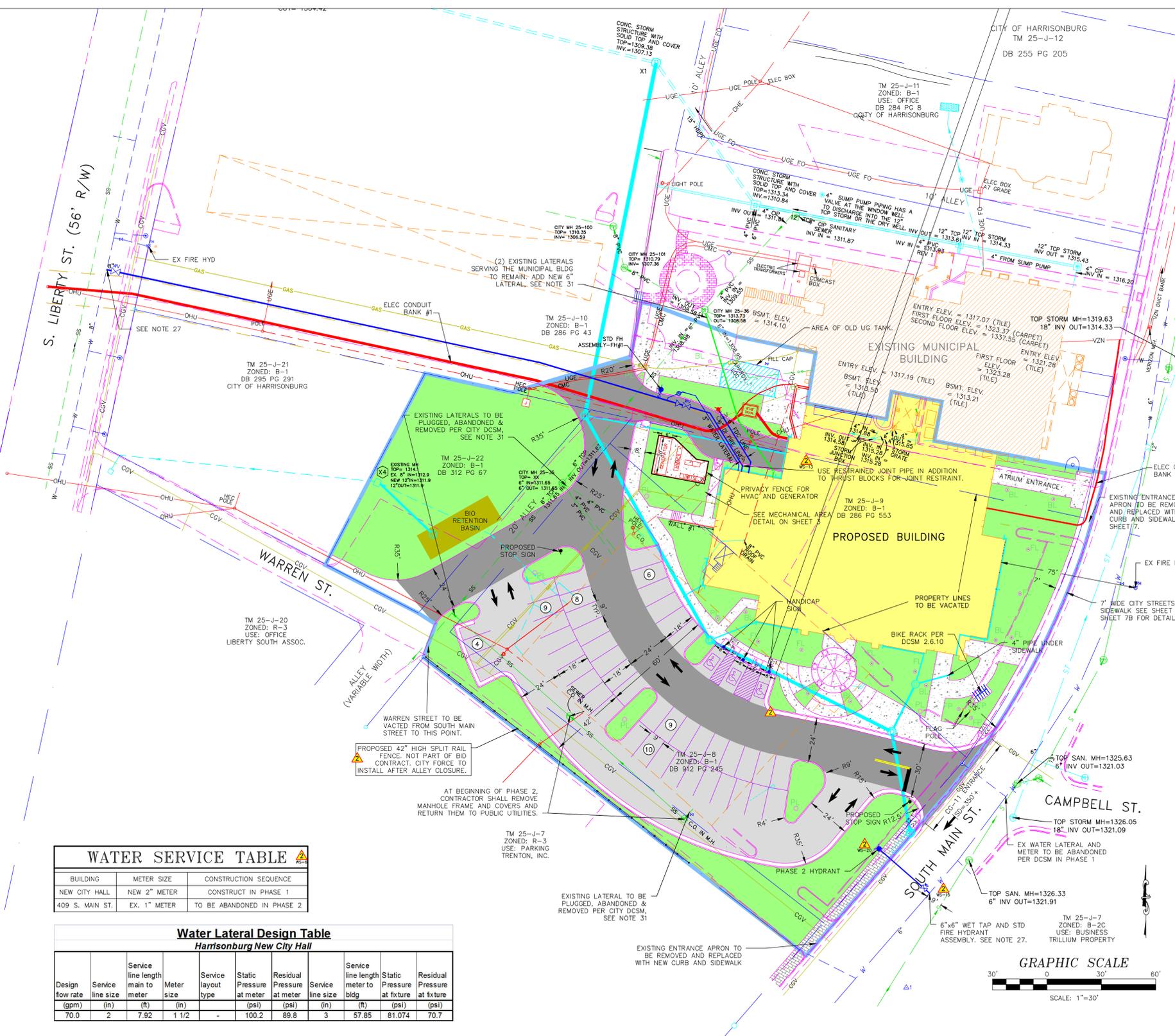
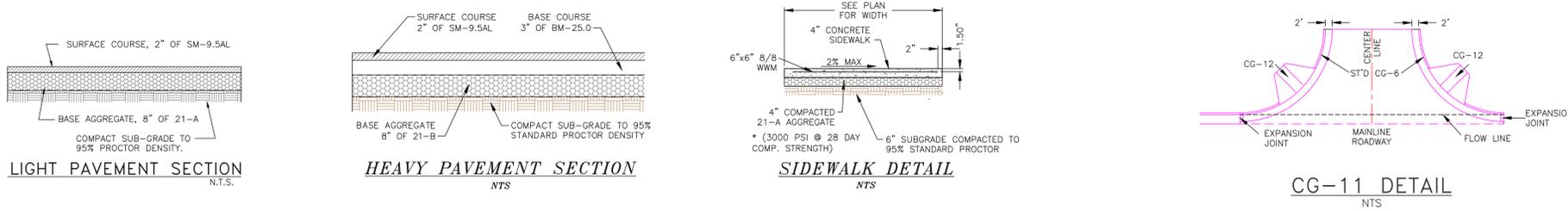
SHEET	DESCRIPTION
1	TITLE SHEET
2	MASTER PLAN
3	GRADING PLAN
4	EROSION/SEDIMENT CONTROL
5	PHASING
6	LANDSCAPING & LIGHTING
7A	DETAILS
7B	DETAILS

CITY GENERAL NOTES

- Work in this project shall conform to the latest editions of the Virginia Department of Transportation (VDOT) Road and Bridge Specifications, the VDOT Road and Bridge Standards, the Virginia Erosion and Sediment Control Regulations, the Virginia Erosion and Sediment Control Regulations and the City of Harrisonburg Design and Construction Standards Manual. In the event of conflict between any of these standards, specifications or plans, the most stringent shall govern. All utilities to be dedicated to the City of Harrisonburg Municipal Water and/or Sanitary Sewer System shall be constructed and tested to conform to Commonwealth of Virginia/State Board of Health Waterworks and/or Sewerage Regulations and the City of Harrisonburg Design and Construction Standards Manual.
- Erosion and sediment control measures shall be maintained continuously, relocated when and as necessary and shall be checked after every rainfall. Seeded areas shall be checked regularly and shall be watered, fertilized, reseeded and mulched as necessary to obtain a dense stand of grass.
- All drain inlets shall be protected from siltation. Ineffective protection devices shall be immediately replaced and the inlet cleaned. Flushing is not an acceptable method of cleaning.
- When the crushed stone construction entrance has been covered with soil or has been pushed into the soil by construction traffic, it shall be replaced with a depth of stone equal to that of original application.
- The location of existing utilities as shown is approximate only. The contractor is responsible for locating all public or private utilities which lie in or adjacent to the construction site. The contractor shall be responsible for repairing, at his expense, all existing utilities damaged during construction. Forty-eight (48) hours prior to any excavation call Miss Utility 1 (800) 552-7001.
- All underground facilities located within the City's rights-of-way shall be installed prior to the placement of any part of the pavement structure.
- Installation of concrete storm pipe shall comply with VDOT standard Drawing PB-1.
- All materials used for fill or back-fill shall be free of wood, roots, rocks, boulders or any other non-compactible soil type material. Unsatisfactory materials also include man-made fills and refuse debris derived from any source.
- Satisfactory material for use as fill for public streets include material classified in ASTM D-2487 as GW, GP, GM, GC, SW, SP, SM, SC, ML and CL groups. The moisture content shall be controlled within plus or minus 2 percentage points of optimum to facilitate compaction. Generally, unsatisfactory materials include materials classified in ASTM D-2487 as FT, CH, MH, O, OH, and any soil too wet to facilitate compaction. CH and MH soils may be used subject to approval of the City Engineer. Soils shall have a minimum dry density of 92 lb./cu. ft. per ASTM D-698 and shall have a plasticity index less than 17.
- Compaction of fill material under building slabs shall be based upon recommendations of soils engineer after completion of standard Proctor test and shall meet bearing requirements of architect of buildings. The contractor shall be responsible for testing.
- Materials used to construct embankments for any purpose, back-fill around drainage structures or in utility trenches or any other depression requiring fill or back-fill shall be compacted to 95% of maximum density as determined by the standard Proctor test as set out in ASTM standard D-698. The contractor shall, prior to any operations involving filling or back-filling submit the results of the Proctor test together with a certification that the soil tested is representative of the materials to be used on the project. Tests shall be conducted by a certified materials testing laboratory and the certifications made by a licensed professional engineer representing the laboratory.
- Embankment fill and trench back-fill shall be placed in lifts at a maximum uncompacted depth of 8-inches and 6-inches, respectively. Density tests shall be conducted at the following minimum frequencies:
 - Embankments for roads, street, dams, etc.; One test per lift per 10,000 square feet of lift.
 - Back-fill around structures and in trenches; One test per lift per 500 lineal feet of trench.
- Compaction tests for street pavement structure shall be made in cut and fill areas at the following minimum frequencies:
 - Sub-Grade: One test per lane per 500 lineal feet
 - Stone Base: One test per lane per 6" compacted lift per 500 lineal feet
 - Hot Asphaltic Concrete: One test per lane per lift per 500 lineal feet
- All excavations, including trenches, shall be kept dry to protect their integrity.
- Test results shall be submitted to the City Engineer. Failure to conduct density tests shall be cause for non-acceptance of the facility. Tests shall be conducted at the sole cost of the general contractor.
- Omitted.
- Omitted.
- Pavement design is based upon subgrade CBR of 3 and an RF of 2. Upon bringing the street subgrade to approximate elevation the contractor shall cause soil samples for CBR determination to be taken at a maximum interval of 300 feet measured along the street centerline. The CBR of each sample shall be determined and the average CBR shall be used to determine the pavement structure requirements. The pavement materials and the amount thereof as shown on the typical street section may be modified by the results of these tests in accordance with the City standards and if approved by the City Engineer. A copy of all soil test results shall be submitted to the City Engineer prior to the placing of any base or subbase material. This work shall not be required on streets classified as Local/Sub-Class A. Paving sections shall not be reduced below the City minimum section. The contractor is responsible for all pavement repairs in city streets and within city right-of-way.
- City inspectors have full authority to reject fill or backfill materials, require undercutting or subgrade stabilization, require provisions for subdrainage, or require other measures which affect the integrity of road and utility construction. Failure to comply with Inspector's directives shall be cause for non-acceptance to the facility.
- Traffic control on public streets shall be in conformance with the Manual of Uniform Traffic Control Devices and as further directed by City Inspectors.
- Any discrepancies found between the drawings and specifications and site conditions or any inconsistencies or ambiguities in drawings or specifications shall be immediately reported to the engineer, in writing, who shall promptly address such inconsistencies or ambiguities. Work done by the contractor after his discovery of such discrepancies, inconsistencies, or ambiguities shall be done at the contractor's risk.
- A reconstruction conference shall be held prior to the start of the construction. The contractor shall arrange the meeting with the City Engineer.
- All proposed public water and sewer mains to have a dedicated easement in place and recorded before the City of Harrisonburg will turn on the public water supply. Owner to coordinate with surveyor, owner's attorney, and City Engineer's Office for easement plat and City standard Deed of Easement. The plat and deed to be reviewed by City prior to recordation and after recordation the deed book and page number or copy of Clerk of Court recordation receipt to be provided to City Engineer Office (Doug Adams).

ADDITIONAL NOTES

- Site statistics: Zoned B-1, Total Site Area = 78,725 sf (A portion of 5 parcels), Disturbed Area = 103,000± sf, Green Space = 27900± sf (35% of Total Area); Impervious Area = 49,440± sf.
- City Landscape requirements: Site paved area = 28,520± sf; Landscape/green area within 30' of pavement = 18,225± sf (approximately 64%±).
- Water Main: All water lines shall be 8" ductile iron slip joint class 52, unless stated otherwise on plan. The minimum depth to the top of the pipe shall be 36" and a 10' minimum separation between sewer lines.
- Water Main Connection: **Phase 1:** The connection of the proposed 8" water main into the existing 8" water main in South Liberty Street is to be via a 8"x8" wet tap and sleeve. Contractor to provide and install 8"x8" tapping sleeve, 8" tapping valve, and install an OSHA safe trench. Upon execution of a work authorization agreement, the City will pressure test the sleeve in place and will tap the existing main. **Phase 2:** The connection of the proposed 6" water main into the existing 6" water main in South Main Street is to be via a 6"x6" wet tap and sleeve. Contractor to provide and install 6"x6" tapping sleeve and 6" tapping valve. Upon execution of a work authorization agreement, the City will pressure test the sleeve in place and will tap the existing main.
- Water Lateral and Meter: **Phase 1:** Per City standards the contractor is to install a 2" water lateral from main to meter, a 1 1/2" water meter per DCSM Drawing 29 on page 43 of Chapter 7; and a 3" lateral (IBC approved material) from meter to building mechanical room. Contractor to construct 2" service line from main to meter manhole, the meter manhole, and 2" stub at meter manhole; City forces will construct the service within the meter manhole and provide a 2" stub behind meter manhole - schedule of installation is subject to availability of City crews; contractor to provide 3"x2" increaser and 3" lateral from meter manhole to building. **Phase 2:** The existing 1" water service to Community Development building shall remain active through Phase 1 of the project. During Phase 2, the existing meter will be abandoned by City forces upon execution of a work authorization agreement.
- Fire Suppression System: The 6" DI fire line with detector check valve and backflow prevention to be built in accordance with City DCSM DWG. NO. 2, PAGE K-5. The contractor shall install touch read wire in a 3/4" conduit from the detector check assembly bypass meter to a touch pad in the lid of the domestic meter box. Place the detector check/backflow preventer inside proposed building mechanical room. Note, an additional interior fire suppression plan will be required.
- All storm sewer piping shall be either HDPE smooth walled, or reinforced concrete pipe (RCP) Class III unless otherwise noted.
- Sanitary sewer: **Phase 1:** A new 6" lateral is to be installed from the new building to the existing City MH 25/36 approximately 14" above the existing 6" lateral in invert. This new laterals shall be at a minimum slope of 1/8" per foot and shall conform with City Standard Detail Drawings 48, 49 and 51. All cleanouts in pavement to be Heavy Duty Sanitary Lateral Cleanout. **Phase 2:** The existing laterals to 409 South Main Street are to be plugged at the main or manhole and removed per City standards. Contractor shall perform the work and coordinate the inspection with Public Utilities to view plugs before backfilling.
- Handicap spaces to have vertical signs with the international handicap symbol. At least one space must be van accessible with "Van Accessible" sign below the international sign. Minimum height to sign bottom 4'-0", maximum is 7'-0". Accessibility ramps to be VDOT standard CG-12B as shown in the Road and Bridge Standards' 203.07 detail.
- Site Lighting: Site lighting will be per the site lighting plan by MEI. No more than 0.5 footcandle at property line is permitted. Light Poles to be provided by HEC; contractor to coordinate with HEC (Brian Odell 434-5361) to obtain poles. Contractor responsible for installation of poles, pole bases and all conduit/wiring needed.
- Trash collection: Trash collection will utilize a City trash service. The dumpster will be located inside the basement with collection at the rear service door.
- Emergency Access: During construction at least one entrance is to remain open onto the site at all times. All parking drive areas are to be designated as permanent fire lanes with no parking allowed.
- The Erosion Control Narrative is a part of these plans. Contractor to comply with any additional items contained in the narrative.
- Electric: All proposed electric lines shall be run underground while on site. Contractor to coordinate with HEC (Brian Odell 434-5361) for transformer pads. Transformer front to face the South. Transformer clearance requirements are 3' for sides and rear; 10' for the front.
- Construction traffic to utilize Warren St., and access new building from behind the existing annex building.
- Any issues relating to soils is the responsibility of the general contractor. This includes payment for all soils consultant/independent engineering costs and fees, as well as other site related testing fees or costs.
- Omitted.
- Boundary and topographic data obtained from January 2011 field survey provided by Benner and Associates.
- Parking: Per City zone B-1 Ordinance, no minimum parking is required. The proposed site provides 49 spaces, 3 of which are handicapped.
- Sign: No exterior ground sign is proposed at this time.
- All pavement markings and traffic signs to be provided and installed by the site contractor per VDOT and City of Harrisonburg criteria.



WATER SERVICE TABLE

BUILDING	METER SIZE	CONSTRUCTION SEQUENCE
NEW CITY HALL	NEW 2" METER	CONSTRUCT IN PHASE 1
409 S. MAIN ST.	EX. 1" METER	TO BE ABANDONED IN PHASE 2

Water Lateral Design Table
Harrisonburg New City Hall

Design flow rate (gpm)	Service line size (in)	Service line length main to meter (ft)	Meter size (in)	Service layout type	Static Pressure at meter (psi)	Residual Pressure at meter (psi)	Service line size to bldg (in)	Static Pressure at fixture (psi)	Residual Pressure at fixture (psi)
70.0	2	7.92	1 1/2	-	100.2	89.8	3	57.85	81.074

Date: 1/27/2014
 Scale: 1"=30'
 Designed by: EHB
 Drawn by: PBR
 Checked by: EHB

BLACKWELL ENGINEERING, PLC
 566 East Market Street
 Harrisonburg, Virginia 22801
 PHONE: (540)432-9555 FAX: (540)434-7604
 E-Mail: BE@blackwellengineering.com

COMMONWEALTH OF VIRGINIA
 EDMOND H. BLACKWELL
 Lic. No. 021831
 PROFESSIONAL ENGINEER

Revision Dates

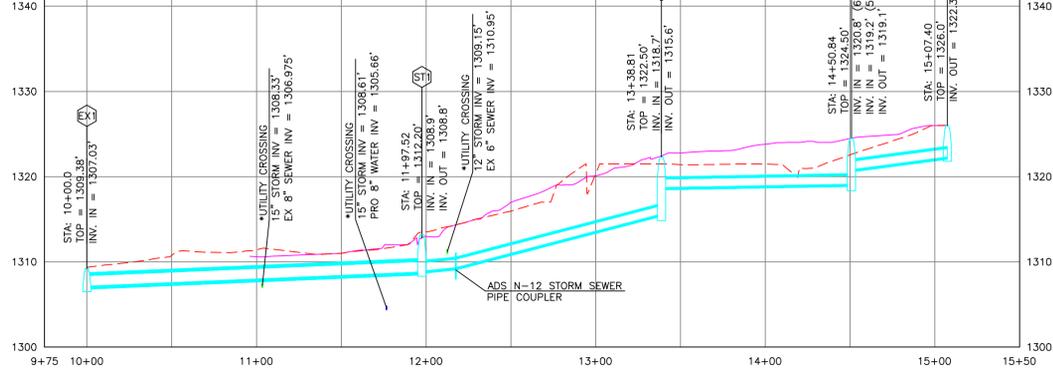
3-24-14	Per City
4-22-14	Per City

SITE LAYOUT & UTILITY PLAN
 HARRISONBURG CITY HALL
 CITY OF HARRISONBURG
 345 SOUTH MAIN STREET
 HARRISONBURG, VA 22801

Drawing No.
2
 of 7 Sheets
 Job No. 2347

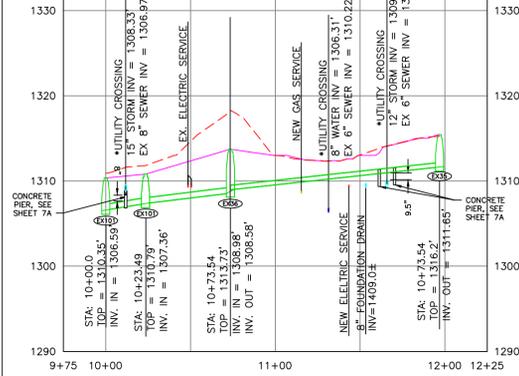
STORM PROFILE

1" = 50' VERT
1" = 10' HORZ



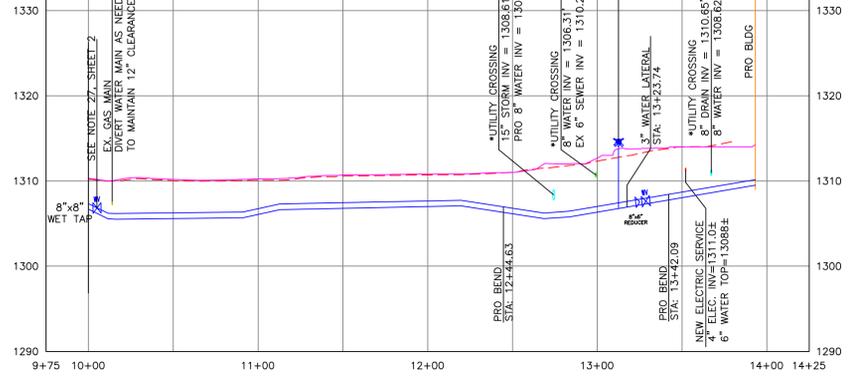
EX SEWER PROFILE

1" = 50' VERT
1" = 10' HORZ



WATER PROFILE

1" = 50' VERT
1" = 10' HORZ



**BEFORE YOU DIG CALL
MISS UTILITY
1-800-552-7001**

STORM SEWER SYSTEM

TABLE OF STRUCTURES

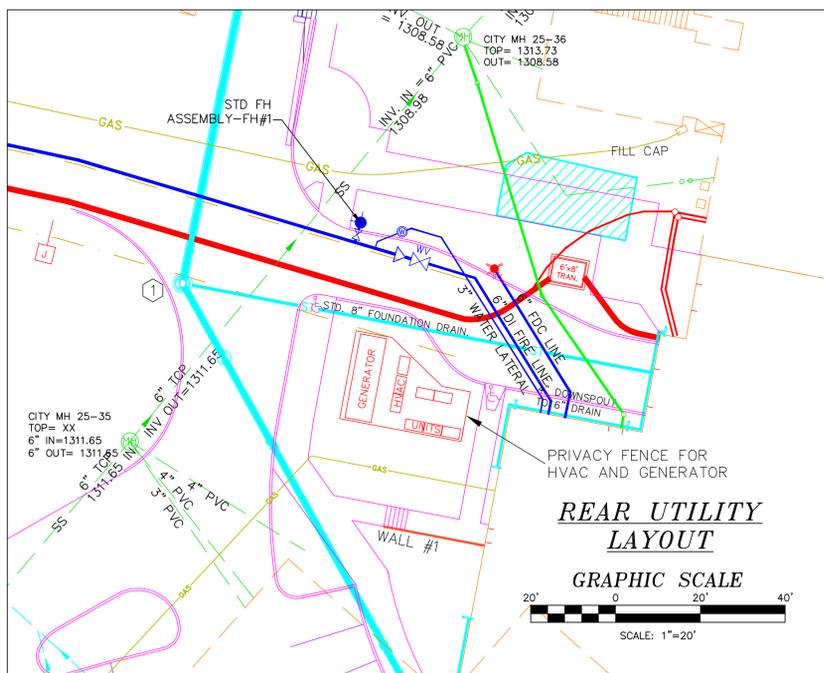
STR. #	TYPE	TOP	IN (FROM)	OUT (TO)
1	MH-2	1312.20	1309.0(BLG) 1308.9(3)	1308.8
2	DI-1	1315.5	-	1312.0
3	MH-2	1322.50	1318.7	1315.6
4	DI-3A, L=2.5'	1324.50	1319.2(5) 1320.8(6)	1319.1(3)
5	DI-1	1323.0	-	1319.4
6	DI-3B, L=16'L	1326.0	-	1322.3

TABLE OF PIPES

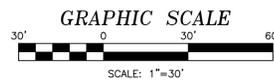
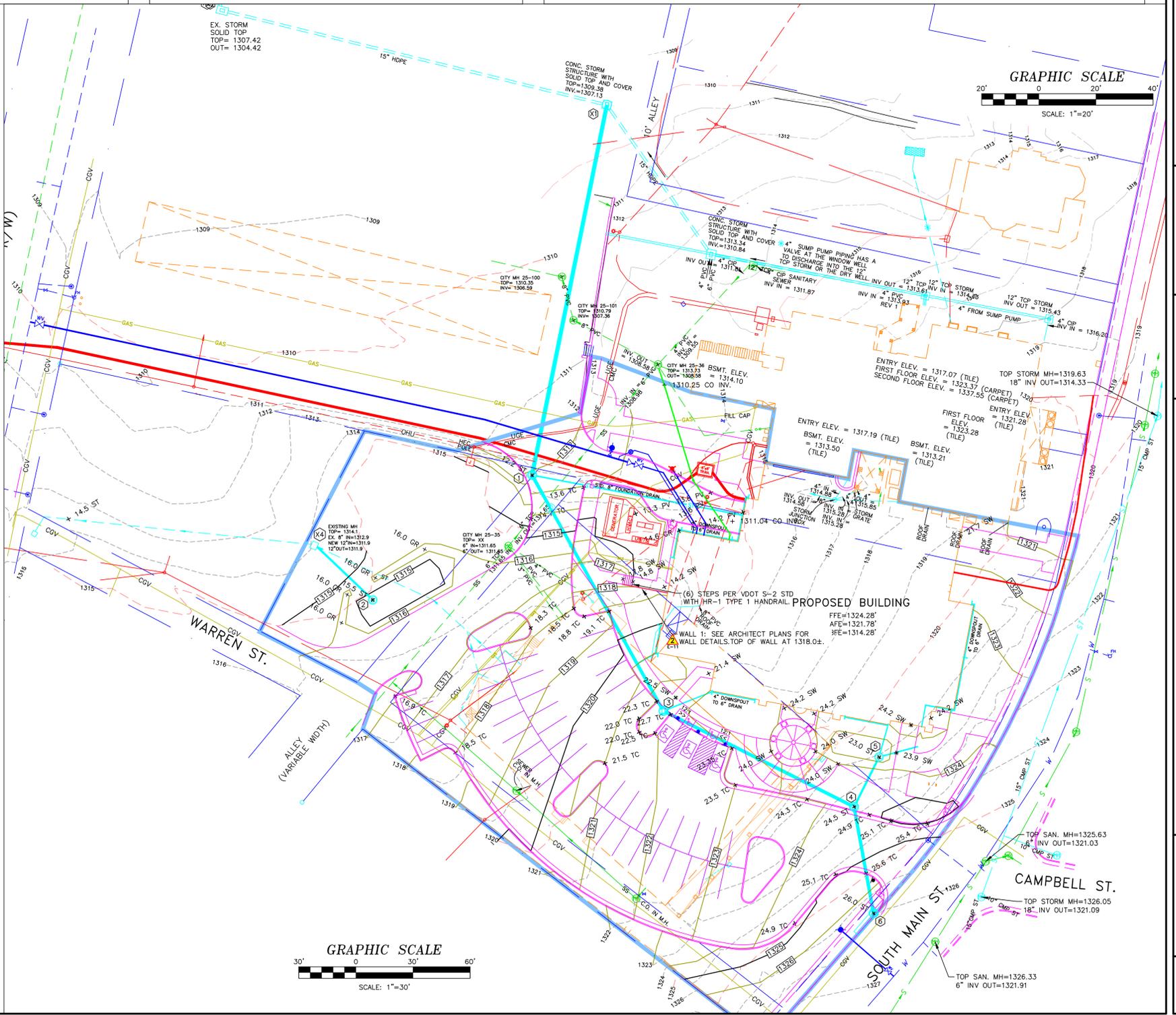
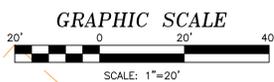
FROM #	TO #	LENGTH	SIZE	SLOPE	TYPE
1	X1	193.0'	15"	0.87%	PP
2	X4	38.4'	12"	0.26%	PP
3	1	20.0'	12"	2.00%	PP
4	3	107.5'	12"	5.20%	PP
5	4	24.5'	12"	0.82%	PP
6	4	52.0'	12"	2.88%	PP

STORM NOTES

- LENGTHS OF PIPES AND SLOPES ARE MEASURED FROM THE CENTER OF THE STRUCTURE. ACTUAL REQUIRED LENGTHS WILL BE SLIGHTLY LESS THAN LISTED.
- IS-1 INLET SHAPING TO BE INSTALLED ON ALL DRAIN STRUCTURES.
- ALL DI-1" IN GRASS AREA TO HAVE CITY OF HARRISONBURG STANDARD CONVEX GRATE INLET PER CITY DC5M 2.3.2.18.
- ALL PIPES TO ADHERE TO ASTM F2736, F2881, ASSHTO M330, AND BE ADS SANITITE POLYPROPYLENE PIPE OR CITY APPROVED EQUIVALENT.

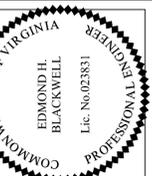


REAR UTILITY LAYOUT



Date: 1/27/2014
Scale: 1"=30'
Designed by: EHB
Drawn by: EHB
Checked by: EHB

BLACKWELL ENGINEERING, PLC
566 East Market Street
Harrisonburg, Virginia 22801
PHONE: (540)432-9555 FAX: (540)434-7604
E-Mail: BE@BlackwellEngineering.com



Revision Dates
3-24-14 Per City
4-22-14 Per City

GRADING PLAN
HARRISONBURG CITY HALL
CITY OF HARRISONBURG
345 SOUTH MAIN STREET
HARRISONBURG, VA 22801

Drawing No.
3
of 7 Sheets

Job No. 2347

EROSION & SEDIMENT CONTROL NOTES

ES-1: 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 VR 625-02-00 EROSION AND SEDIMENT CONTROL REGULATIONS. (1996 REVISIONS)

ES-2: THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

ES-3: SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND ANY 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 DISTURBANCES TAKE PLACE.

ES-4: STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.

ES-5: A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN INCLUDING THE NARRATIVE SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

ES-6: 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.

ES-7: 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.

ES-8: 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.

ES-9: THE SEDIMENT TRAP SHALL BE MAINTAINED BY REMOVING THE SEDIMENT WHEN IT REACHES THE CLEAN-OUT LEVEL. DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.

ES-10: 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.

ES-11: PERMANENT OR TEMPORARY SOIL STABILIZATIONS 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 A FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED FOR LONGER THAN 30 DAYS). PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.

ES-12: 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.

ES-13: DURING CONSTRUCTION OF THE PROJECT SOIL STOCK PILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES.

ES-14: CUT AND FILL SLOPES SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OR PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.

ES-15: ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.

ES-16: BEFORE NEWLY CONSTRUCTED STORM WATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERABLE, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.

ES-17: 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.

ES-18: WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN A SIX-MONTH PERIOD, A TEMPORARY VEHICULAR STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL SHALL BE PROVIDED.

ES-19: THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETE.

ES-20: 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 SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROAD 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.

ES-21: 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 LOCAL PROGRAM ADMINISTRATOR. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.

ES-22: THIS PROJECT IS SUBJECT TO PERMITTING BY DCR UNDER THE NPDES STORMWATER REGULATIONS. THE OWNER IS RESPONSIBLE FOR ACQUIRING A DCR PERMIT PRIOR TO BEGINNING WORK. EVIDENCE OF PERMIT ACQUISITION IS REQUIRED FOR ISSUANCE OF THE CITY'S LAND DISTURBING PERMIT. FULL COMPLIANCE WITH CITY DCSM SECTION 2.5, STORM WATER MANAGEMENT PLAN, WILL BE DEFERRED TO SITE PLAN DEVELOPMENT. CONTACT LOCAL DCR OFFICE AT 540-5743-7800. CONTACT BLACKWELL ENGINEERING AT 540-432-9555 FOR ASSISTANCE.

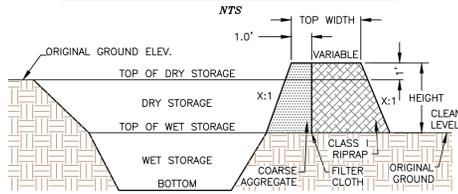
ESC MINIMUM STANDARDS:

- 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 A FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.
- DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES 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.
- 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 ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.
- STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.
- UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARD IN ADDITION TO OTHER APPLICABLE CRITERIA:
 - NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
 - EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
 - 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.
 - ATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
 - RE-STABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.
 - APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.
- WHERE CONSTRUCTION VEHICLES 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.
- 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 LOCAL PROGRAM 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.

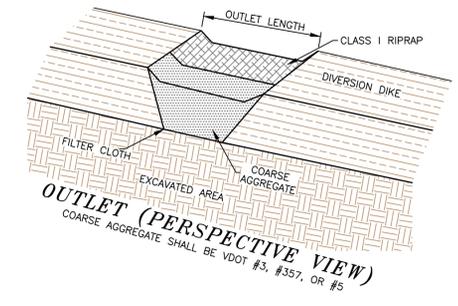
ESC SCHEDULE:

- CONSTRUCTION ENTRANCE AND SILT FENCE SHALL BE INSTALLED FIRST. DURING MUDDY CONDITIONS DRIVERS OF CONSTRUCTION VEHICLES SHALL CLEAN OFF THEIR WHEELS BEFORE ENTERING THE PUBLIC ROADWAY.
- TOPSOIL IN THE AREA OF THE SEDIMENT TRAP SHALL BE STRIPPED AND STOCKPILED.
- ALL PERIMETER CONTROLS: DIVERSION DIKES AND DITCHES, SEDIMENT TRAPS AND SILT FENCES TO BE INSTALLED.
- STORM STRUCTURES AND MANS TO BE INSTALLED AT THE BEGINNING OF A 72 HR DRY PERIOD DEEMED ACCEPTABLE BY A CITY ESC ADMINISTRATOR. INLET PROTECTION AND SILT FENCE TO BE INSTALLED DIRECTLY FOLLOWING THE STORM INSTALLATION.
- GRADING AND FILLING OF THE REMAINDER OF THE SITE MAY BEGIN ONLY AFTER THE ABOVE MEASURES ARE COMPLETE.
- DEVELOPER IS REQUIRED TO SUBMIT TO THE CITY A BMP AS-BUILT CERTIFICATION, DWG. NO. 2.5.4.1 BEFORE RELEASE OF BOND.
- THE GLOBAL STABILITY OF CUT OR FILL SLOPES THAT ARE STEEPER THAN 2H:1V SHALL BE DETERMINED BY A LICENSED GEOTECHNICAL ENGINEER. THE NEED FOR, AND DESIGN OF REINFORCEMENT FOR CUT OR FILL SLOPES THAT ARE STEEPER THAN 2H:1V SHALL BE DETERMINED IN THE FIELD BY THE ONSITE GEOTECHNICAL ENGINEER PRIOR TO GRADING OR FILLING.
- TEMPORARY SEDIMENT CONTROLS MAY ONLY BE REMOVED WITH PRIOR CONSENT OF THE CITY E&S ADMINISTRATOR.

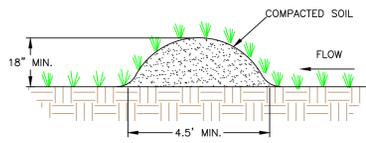
TEMPORARY SEDIMENT TRAP



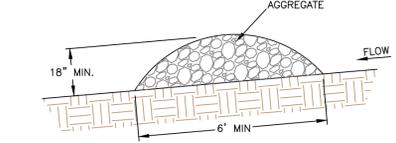
CROSS-SECTION AT OUTLET



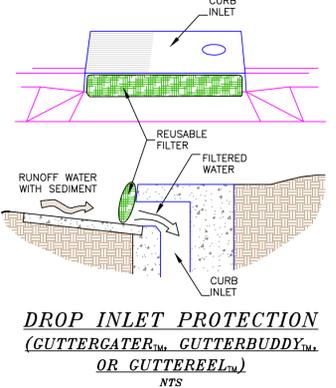
OUTLET (PERSPECTIVE VIEW)



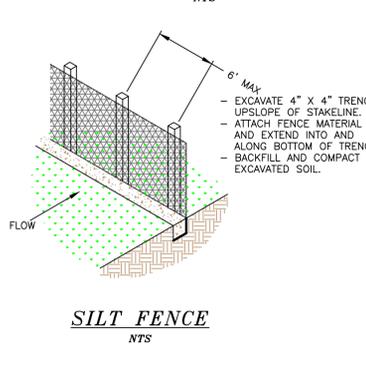
DIVERSION DIKE



RIGHT-OF-WAY DIVERSION



DROP INLET PROTECTION (CUTTERCATER™, CUTTERBUDDY™, OR CUTTEREEL™)

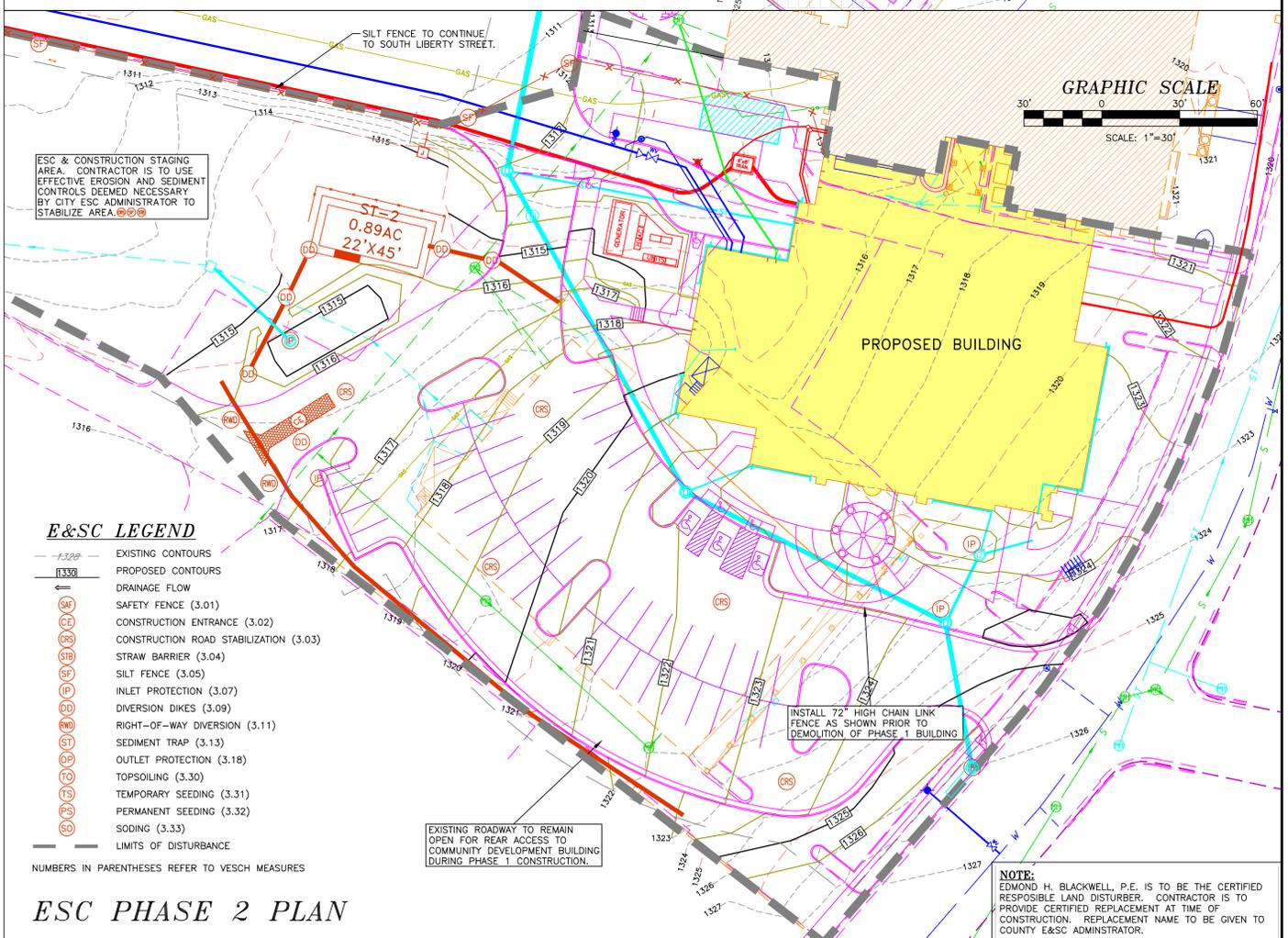


SILT FENCE

SEDIMENT TRAP TABLE

	ST 1	ST 2
DRAINAGE AREA (AC)	0.78	0.89
OUTLET LENGTH (FT)	5.6	5.3
TOP WIDTH (FT)	3	3
TOP ELEVATION	1315	1316
HEIGHT (FT)	2.5	2.5
BOTTOM WIDTH (FT)	19	22
BOTTOM LENGTH (FT)	46	45
BOTTOM ELEVATION	1312.5	1313.5
MIN. WET STORAGE (CF)	1411	1611
MIN. DRY STORAGE (CF)	1411	1611
PRO. WET STORAGE (CF)	1564	1683
PRO. DRY STORAGE (CF)	1824	1935
SIDE SLOPE, X	2.0	2.0

ESC PHASE 1 PLAN



E&S LEGEND

- - - - - EXISTING CONTOURS
 - - - - - PROPOSED CONTOURS
 - DRAINAGE FLOW
 - SAFETY FENCE (3.01)
 - CONSTRUCTION ENTRANCE (3.02)
 - ▨ CONSTRUCTION ROAD STABILIZATION (3.03)
 - ▤ STRAW BARRIER (3.04)
 - ▥ SILT FENCE (3.05)
 - ▧ INLET PROTECTION (3.07)
 - ▩ DIVERSION DIKES (3.09)
 - RIGHT-OF-WAY DIVERSION (3.11)
 - SEDIMENT TRAP (3.13)
 - ▬ OUTLET PROTECTION (3.18)
 - ▭ TOPSOILING (3.30)
 - ▮ PERMANENT SEEDING (3.31)
 - ▯ SODING (3.32)
 - ▰ LIMITS OF DISTURBANCE
- NUMBERS IN PARENTHESES REFER TO VESCH MEASURES

ESC PHASE 2 PLAN

Date: 1/27/2014
 Scale: 1"=30'
 Designed by: PBR
 Drawn by: PBR
 Checked by: EHB

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COMMONWEALTH OF VIRGINIA
 EDMOND H. BLACKWELL
 Lic. No. 021831
 PROFESSIONAL ENGINEER

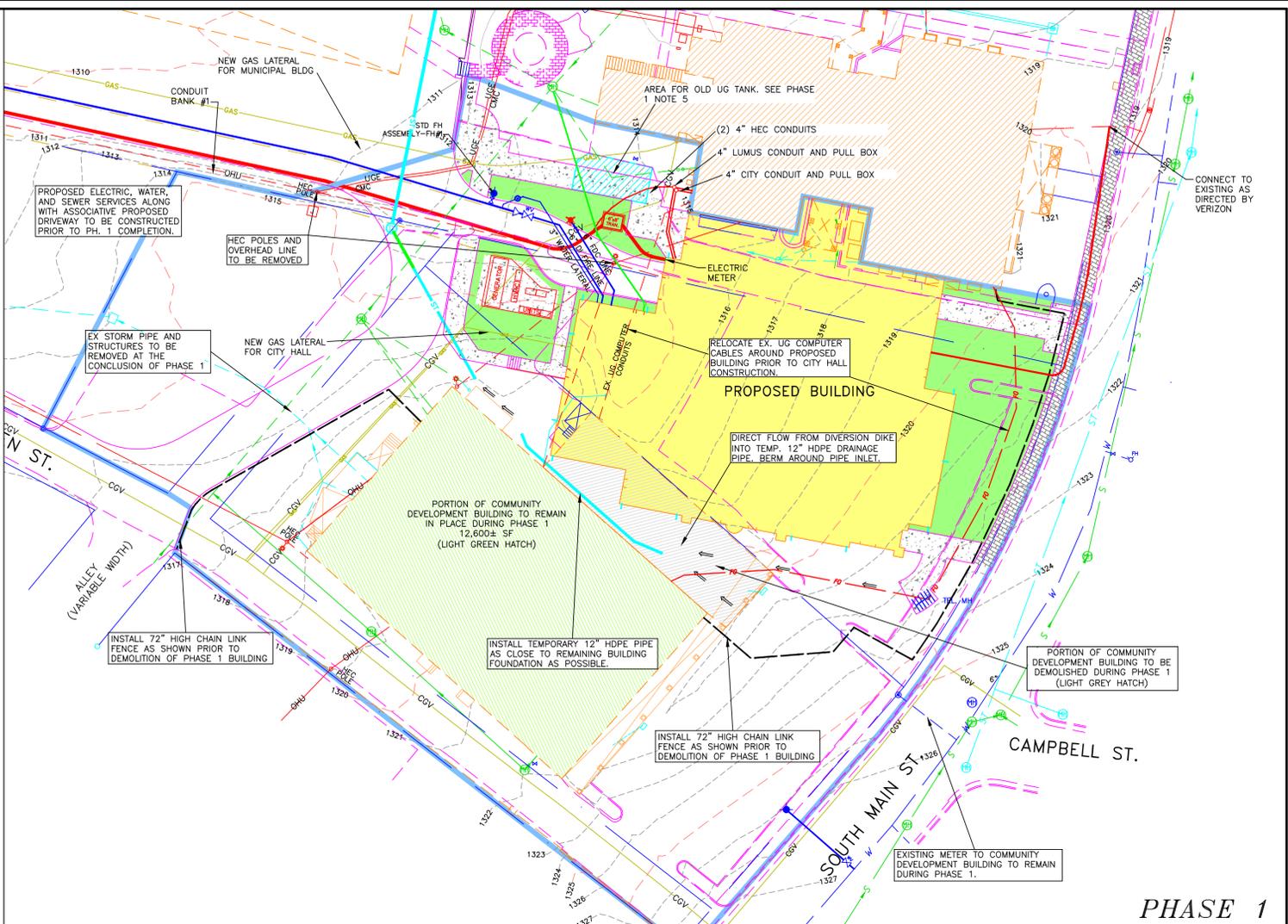
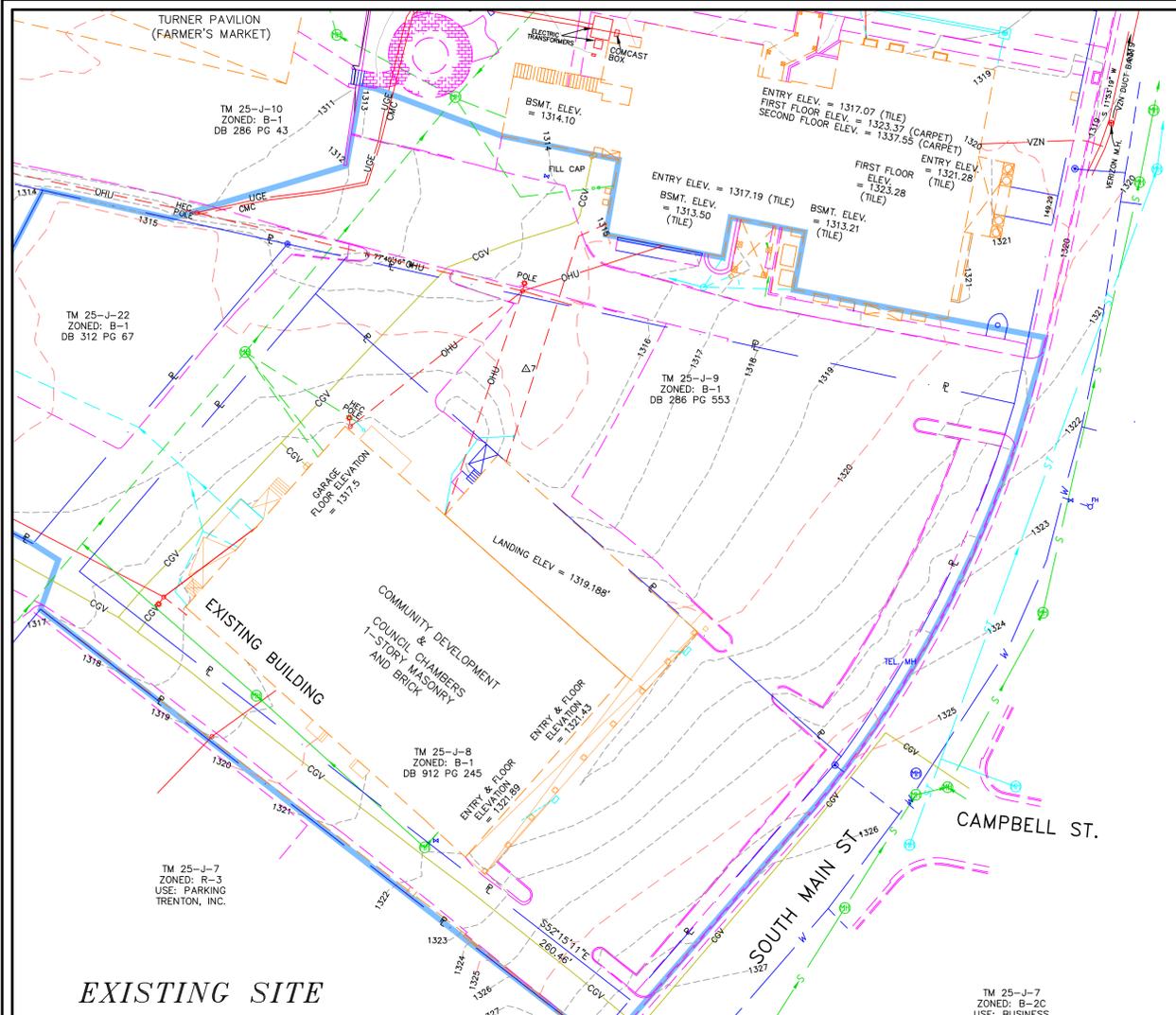
Revision Dates

3-24-14	Per City
4-22-14	Per City

PHASE 2 ESC PLAN
 HARRISONBURG CITY HALL
 CITY OF HARRISONBURG
 345 SOUTH MAIN STREET
 HARRISONBURG, VA 22801

Drawing No. **4** of 7 Sheets
 Job No. 2347

NOTE: EDMOND H. BLACKWELL, P.E. IS TO BE THE CERTIFIED RESPONSIBLE LAND DISTURBER. CONTRACTOR IS TO PROVIDE CERTIFIED REPLACEMENT AT TIME OF CONSTRUCTION. REPLACEMENT NAME TO BE GIVEN TO COUNTY E&S ADMINISTRATOR.



EXISTING SITE

PHASE 1

SITE PHASING SCHEDULE:

PHASE 1:

1. INSTALL 72" CHAIN LINK SAFETY FENCE PRIOR TO ANY CONSTRUCTION.
2. RELOCATE FIBER OPTICS AROUND PROPOSED CITY HALL TO MAINTAIN SERVICE FOR EXISTING COMMUNITY DEVELOPMENT BUILDING. REMOVE PORTION OF EXISTING COMMUNITY DEVELOPMENT BUILDING AS SHOWN. ALL SERVING UTILITIES AND REST OF BUILDING TO REMAIN ACTIVE DURING PHASE 1 CONSTRUCTION.
3. INSTALL SEDIMENT TRAP 1. INSTALL TEMPORARY DIVERSION DIKE TO DIRECT FLOW AWAY FROM PHASE ONE CONSTRUCTION. PLACE TEMPORARY 12" HDPE PIPE WITH OUTLET PROTECTION TO SERVICE STORMWATER THROUGH SITE. CONTRACTOR IS TO ENSURE FLOW CONTINUES ON TOWARDS EXISTING STORM STRUCTURES AND DOES NOT FLOW BACK ONTO SITE, OR THE EXISTING MUNICIPAL BUILDING.
4. INSTALL 12" STORM FROM STRUCTURE 1 TO END AS SHOWN WITH TEMPORARY PIPE END, INSTALL INLET PROTECTION. ENSURE THAT FLOW FROM TEMPORARY 12" FROM ITEM 3 ABOVE PROPERLY DRAINS INTO THE 12" PIPE CONNECTED TO STORM STRUCTURE 1.
5. AN OLD UNDERGROUND FUEL OIL TANK WAS REMOVED IN 1996 FROM THE HATCHED AREA SHOWN UNDER THE SUPERVISION OF WILTON FANSLER AT GEOTECHNICAL & ENVIRONMENTAL SERVICES. DURING UTILITY INSTALLATION THROUGH THIS AREA THE CONTRACTOR IS TO HAVE CITY INSPECTOR DOUG ADAMS INSPECT OPEN TRENCHING FOR ANY POTENTIAL ENVIRONMENTAL CONCERNS. IF DEEMED APPROPRIATE, CITY TO CONTACT MR. FANSLER AT 540-248-0610(C) OR 540-421-5834(C) FOR A DETAILED ENVIRONMENTAL INSPECTION. MR. FANSLER'S SERVICES WILL BE PAID DIRECTLY BY THE CITY AND ANY ENVIRONMENTAL ISSUES THAT MAY ARISE FOR THE UTILITY TRENCHING WILL BE PAID FOR BY THE CITY IN A SEPARATE CONTRACT OR CHANGE ORDER.
6. INSTALL NEW GAS SERVICE TO MUNICIPAL BUILDING AND CONDUIT BANK 1, AND NEW TRANSFORMER PAD PRIOR TO REMOVING EXISTING HEC POLES AND OVERHEAD ELECTRICAL LINES AS SHOWN.
7. WET TAP 8" WATER MAIN LOCATED IN SOUTH LIBERTY STREET, AND INSTALL 8" WATER MAIN EXTENSION. INSTALL HYDRANT, 3" LATERAL, WATER METER, AND 6" DI FIRE LINE PER CITY STANDARDS.
8. GRADE EASTERN PORTION OF SITE AND INSTALL SIDEWALK FOR ATRIUM ENTRANCE, AND MAIN STREET, SEE SHEETS 7A&B.

PHASE 2 - FINAL:

9. AFTER NEW CITY HALL IS CONSTRUCTED, CONTRACTOR TO DEMOLISH REMAINING COMMUNITY DEVELOPMENT BUILDING AND REMOVE RELATED UTILITIES; GRADE REMAINDER OF SITE. FOR FULL SITE ESC, SEE SHEET 4.
10. TAP 6" WATER MAIN LOCATED IN SOUTH MAIN STREET, AND INSTALL HYDRANT PER CITY STANDARDS.
11. INSTALL STORM PIPING AND STRUCTURES AS SHOWN.
12. FINISH GRADE AND LAY IMPERVIOUS MATERIAL, ASPHALT, CONCRETE, ETC.
13. STABILIZE ENTIRE SITE, PLACE LANDSCAPING, INSTALL BIORETENTION, SITE LIGHTING, AND ALL SIGNS AS SHOWN ON PLAN.

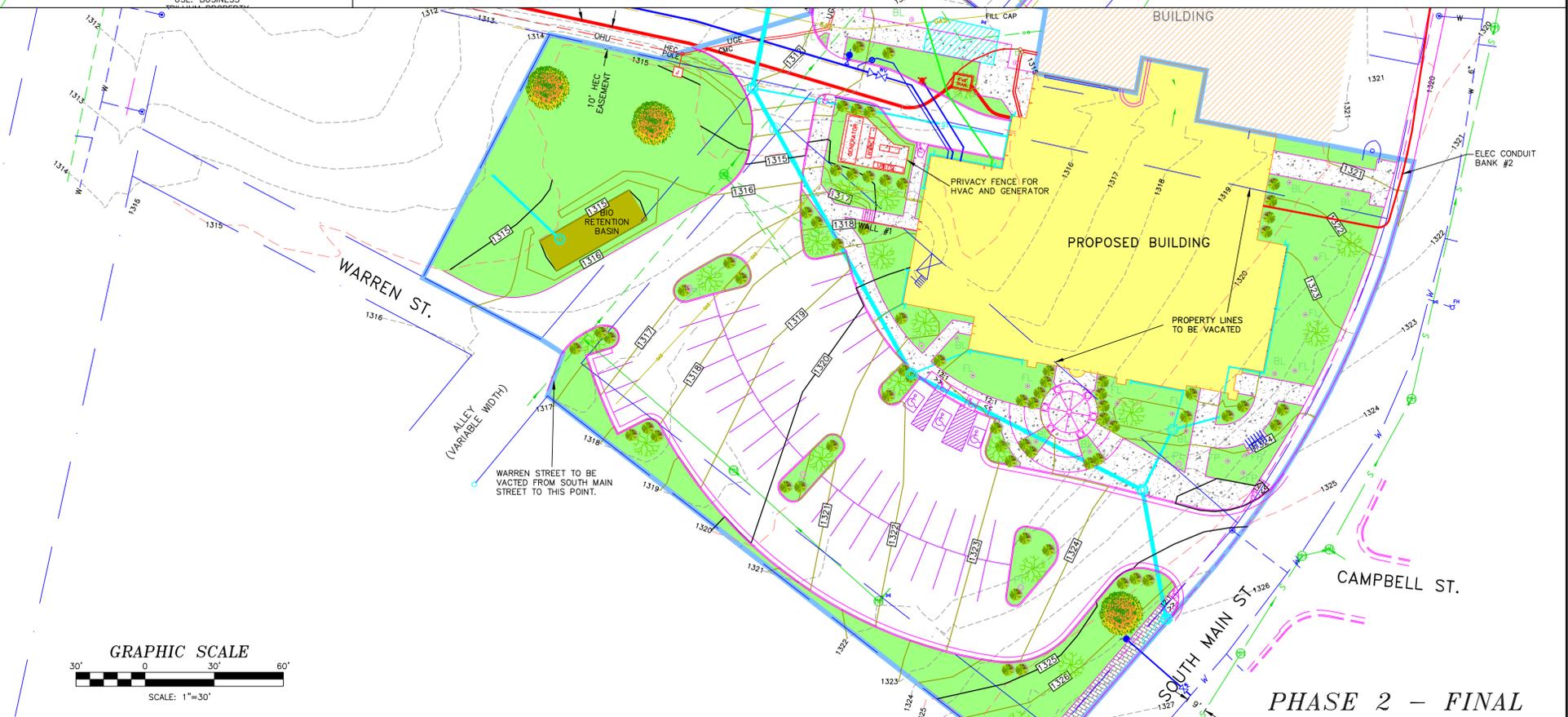
UTILITY SCHEDULE:

CONDUIT BANK #1:

1. CONTRACTOR SHALL PROVIDE TRENCHING AND CONDUIT INSTALLATION FOR ALL HEC, LUMUS, AND SPARE CONDUITS FROM CONNECTION AT SOUTH LIBERTY, TO THE HEC TRANSFORMER OR LUMUS PULL BOX, AND THENCE TO THE BUILDINGS AS SHOWN.
2. HEC IS TO PROVIDE 2 OF 5-4" CONDUITS FOR BANK #1
3. CONTRACTOR SHALL PROVIDE OTHER 3 CONDUITS FOR BANK #1
4. ALL CONDUIT TO BE 4" PVC SCH. 40.

CONDUIT BANK #2:

5. CONTRACTOR SHALL PROVIDE TRENCHING, CONDUIT, AND INSTALLATION FOR CONDUIT BANK #2.
6. CONTRACTOR SHALL CONNECT CONDUITS FROM NEW BUILDING TO THE EXISTING CONDUITS AS DIRECTED BY VERIZON, SEE PLAN.
7. VERIZON CONDUITS TO BE 4" PVC SCH. 40
8. COMCAST CONDUIT TO BE 2" PVC SCH 40



Date:	1/27/2014
Scale:	1"=30'
Designed by:	EHB
Drawn by:	PBR
Checked by:	EHB

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COMMONWEALTH OF VIRGINIA

EDMOND H. BLACKWELL
Lic. No. 023831

PROFESSIONAL ENGINEER

Revision Dates
3-24-14 Per City
4-22-14 Per City

PHASING PLAN

HARRISONBURG CITY HALL
CITY OF HARRISONBURG
345 SOUTH MAIN STREET
HARRISONBURG, VA 22801

Drawing No.

5

of 7 Sheets

Job No. 2347



SHRUBS / GRASSES SCHEDULE				
SHRUBS / GRASSES	COMMON NAME	BOTANICAL NAME	SIZE	NUMBER
	SWITCHGRASS	PANICUM VIRGATUM	#3	63
	SARGENT'S JUNIPER	JUNIPERUS CHINENSIS	#3	
	LITTLE PRINCESS SPIREA	SPIRAEA JAPONICA	#3	
	MORNING LIGHT MAIDEN GRASS	MISCANTHUS SINENSIS	#3	

TREE SCHEDULE				
ORNAMENTAL TREES (TYPE 2)	COMMON NAME	BOTANICAL NAME	SIZE	NUMBER
	SHOWGOOSE CHEERY	PRUNUS SERRULATA	6'-8'	17
	GREENSPIRE LINDEN	TILIA CORDATA	6'-8'	
	OCTOBER GLORY (R) MAPLE	ACER RUBRUM	2'-5" CALIPER	3
	ARISTOCRAT CALLERY PEAR	PYRUS CALLEYANA	6'-8" CALIPER	

- LANDSCAPING NOTES:**
1. PLANT MATERIALS SHALL CONFORM TO THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK.
 2. GRADE CHANGES THAT DO NOT APPEAR ON SITE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT BY THE GENERAL CONTRACTOR BEFORE CONSTRUCTION BEGINS.
 3. THE OWNER RESERVES THE RIGHT TO MAKE REASONABLE SUBSTITUTIONS FOR THE PROPOSED PLANTING, UPON APPROVAL OF THE LANDSCAPE INSPECTOR.
 4. ALL SHADE TREES SHALL BE STAKED WITH THREE STAKES IN TRIANGULAR CONFIGURATION. ALL STAKING MATERIALS SHOULD BE REMOVED BY OWNER AFTER ONE GROWING SEASON.
 5. ALL PLANTING BEDS AND INDIVIDUAL TREES SHALL BE MULCHED WITH 3-4" OF SHREDDED HARDWOOD MULCH.
 6. NO TREES ARE PERMITTED TO BE PLANTED IN EXISTING OR PROPOSED PUBLIC UTILITY EASEMENTS.
 8. PLANT MATERIAL SHOULD BE FERTILIZED UPON INSTALLATION WITH AN ORGANIC FERTILIZER.
 9. ALL PLANT MATERIALS SHALL HAVE A WARRANTY FOR ONE YEAR FOLLOWING FINAL COMPLETION.
 10. LANDSCAPE AND TURF SHALL BE MAINTAINED BY LANDSCAPE CONTRACTOR UNTIL FINAL COMPLETION.
 11. TOPSOIL SHALL BE INSTALLED BY SITE CONTRACTOR.

SEEDING & MULCHING TABLE			
TEMPORARY		PERMANENT	
SPECIES	LBS/ACRE	SPECIES	LBS/ACRE
ANNUAL RYEGRASS & CEREAL RYE	50-100	KENTUCKY 31 FESCUE	128
ANNUAL RYE GRASS	60-100	RED TOP GRASS	2
GERMAN MILLET	50	SEASONAL NURSE CROP*	20
TOTAL	160-250	TOTAL	150

ORGANIC MULCH MATERIALS AND APPLICATION RATES			
MULCHES	PER ACRE	PER 1000 SF	NOTES:
STRAW OR HAY	12 - 2 TONS (MIN. 2 TONS FOR WINTER COVER)	70 - 90 lbs.	FREE FROM WEEDS AND COARSE MATTER. MUST BE ANCHORED. SPREAD WITH MULCH BLOWER OR BY HAND.
FIBER MULCH	MINIMUM 1500 lbs.	35 lbs.	DO NOT USE AS MULCH FOR WINTER COVER OR DURING HOT, DRY PERIODS. * APPLY AS SLURRY
CORN STALKS	4 - 6 tons	185 - 275 lbs.	CUT OR SHREDDED IN 4-6" LENGTHS. AIR DRIED. DO NOT USE IN FINE TURF AREAS. APPLY WITH MULCH BLOWER OR BY HAND.
WOOD CHIPS	4 - 6 tons	185 - 275 lbs.	FREE OF COARSE MATTER, AIR-DRIED. TREAT WITH 12 lbs. NITROGEN PER TON. DO NOT USE IN FINE TURF AREAS. APPLY WITH MULCH BLOWER, CHIP HANDLER, OR BY HAND.
BARK CHIPS OR SHREDDED BARK	50 - 70 c.y.	1 - 2 c.y.	FREE OF COARSE MATTER, AIR-DRIED. DO NOT USE IN FINE TURF AREAS. APPLY WITH MULCH BLOWER, CHIP HANDLER, OR BY HAND.

* WHEN FIBER MULCH IS THE ONLY AVAILABLE MULCH DURING PERIODS WHEN STRAW SHOULD BE USED, APPLY AT A MINIMUM RATE OF 2000 lbs./ac. OR 45 lbs./1000 sq. ft.

Date: 1/27/2014
 Scale: 1"=30'
 Designed by: PBR
 Drawn by: PBR
 Checked by: EHB

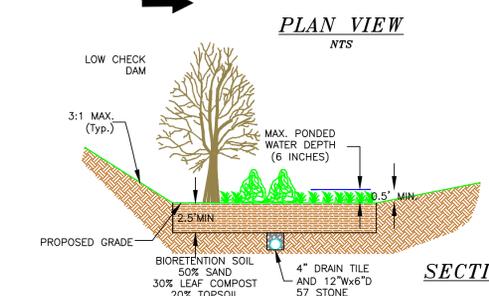
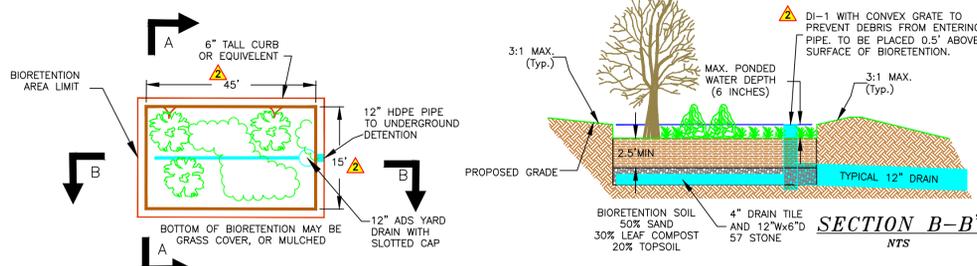
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3-24-14 Per City
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BMP INSPECTIONS TABLE	
CONTRACTOR	shall coordinate with certifying engineer to verify the following items before obscured by subsequent work.
EARTHWORK¹	REMOVAL OF UNSUITABLE MATERIAL BENEATH DAM EMBANKMENT
	DIMENSIONS OF SUB-SURFACE FEATURES
MATERIALS¹	RIPRAP SIZE
	TRASH RACK
	SOIL MIXTURE
	CONTROL STRUCTURE
	OUTLET BARREL SIZE AND TYPE
DIMENSIONS AND ELEVATIONS¹	TOP WIDTH AND SIDE SLOPES OF DAM EMBANKMENT
	INVERTS AND SLOPE OF OUTLET CONDUIT
	RISER CREST AND INVERT OF CONTROL STRUCTURE
	OUTLET PROTECTION
	SLOPE AND CROSS SECTION OF ON-SITE CHANNELS
CERTIFICATIONS¹	FROM MANUFACTURER OF MATERIALS USED
	PLANTS: TREES, SHRUBS, GRASSES
	SEEDING

¹From Virginia Stormwater Management Handbook, Vol. 1, Appendix 3B.



- BIORETENTION NOTES:**
1. THE BIORETENTIONS ARE TO BE THE LAST STEP IN CONSTRUCTION. ONCE THE EARTH MOVING IS COMPLETED, AND GRASS IS ESTABLISHED, THEN THE BIORETENTION BEDS CAN BE INSTALLED.
 2. THE TREES SHOULD BE: BETULA NIGRA (RIVER BIRCH-YELLOW), FRAXINUS PENNSYLVANICA (GREEN ASH-YELLOW), QUERCUS BICOLOR (SWAMP OAK-RED/ORANGE), QUERCUS PALUSTRIS (PIN OAK-RED), QUERCUS PHELLOS (WILLOW OAK-YELLOW), OR TAXODIUM DISTICHUM (BALD CYPRESS-BROWN), OR OTHER APPROVED TREES FROM THE VSMH, SECTION 3.1.1.
 3. THE SHRUBS SHOULD BE: BARBERRY, JAPANESE BARBERRY, SWEET PEPPER BUSH, RED OSIER DOGWOOD, WITCH-HAZEL, COMMON ST. JOHN'S WORT, INKBERRY, WINTERBERRY, SPICEBUSH, BAY BERRY, NINEBARK, NORTHERN WILD RAISIN, ARROW-WOOD, NANNYBERRY, OR OTHER APPROVED SHRUBS FROM THE VSMH, SECTION 3.1.1.
 4. YEARLY INSPECTIONS TO BE PERFORMED BY THE CITY OF HARRISONBURG.
 5. THE TREES, AND SHRUBS ARE NOT TO BE REMOVED, AND TO BE REPLACED IF THEY DIE. THE BIORETENTION CANNOT BE FILLED IN.
 6. REGULAR MAINTNENCE CONSISTS OF EITHER: APPLYING YEARLY MULCH, AND AFTER 5 YEARS REMOVAL OF "OLD MULCH" OR PLANTING WETLAND GRASSES INSTEAD OF MULCH.
 7. THE BMP AS-BUILT CERTIFICATION WILL BE REQUIRED PRIOR TO THE RELEASE OF BONDS, AS PER DCSM SECTION 2.5.4.

RESIDENTIAL BIORETENTION BASIN

BIORETENTION LANDSCAPING SCHEDULE		
BOTANICAL NAME	COMMON NAME	QUANTITY SITE/BUFFER
ACER RUBRUM - 'OCTOBER GLORY'	OCTOBER GLORY - 'RED MAPLE'	2 TREES
ILEX GLABRA - 'COMPACTA'	COMPACT INKBERRY HOLLY	5 SHRUBS

VDOT STORMWATER MANAGEMENT (SWM) GENERAL NOTES

- S-1 CLEARING AND GRUBBING OF SWM BASIN SITE:** - The area where the dam is to be constructed and the area upstream of the dam, to an elevation equal to the crest of the dam (maximum ponded water elevation), shall be cleared and grubbed in accordance with Section 301 of the applicable VDOT Road and Bridge Specifications.
- S-2 SWM BASIN DAM CONSTRUCTION:** - The dam for detention basins (no permanent pool) shall conform to the details contained in the plans and shall be constructed in accordance with Section 303 of the applicable VDOT Road and Bridge Specifications. The native material on which the dam will be set shall meet the specifications for AASHTO Type A-4 or finer material. Where the native material does not meet this requirement, the area beneath the dam is to be excavated a minimum of 4' (1.2 m) and backfilled with a material meeting the AASHTO Type A-4 or finer classification, unless otherwise specified in the plans. The material used for the embankment of the dam shall be AASHTO Type A-4 or finer or as otherwise specified in the plans. Dams with foundation and embankment material not meeting the above requirements, dams greater than 15' (4.6 m) in height, or dams for retention basins (permanent pool) shall incorporate a membrane-lined trench, a homogeneous embankment with seepage controls, a zoned embankment or other such approved designs as specified in the plans.
- S-3 SWM BASIN OUTLET PIPE:** - The pipe culvert under or through the dam for detention basins (no permanent pool) shall be reinforced concrete pipe with rubber gaskets in accordance with Section 232 and 212 of the applicable VDOT Road and Bridge Specifications. A concrete cradle shall extend the full length of the pipe culvert in accordance with the Standard Drawings. The connection between the pipe culvert and the SWM-1 Drainage Structure (or other control structure) shall be made watertight as approved by the Engineer and the cost shall be included in the price bid for the pipe. Inspection & Informational Memorandum IIM-LD-110.22 Sheet 10 of 11.
- S-4 The SWM-1 Drainage Structure (or other control structure)** shall have 4" (100 mm) high numbers and 1" (25 mm) wide stripes painted at 1' (300 mm) intervals as shown on the Standard Drawings or detail sheets. The numbers and stripes are to be installed at the time of the initial installation of the SWM-1 Drainage Structure (or other control structure). Paint and application shall be in accordance with Section 231 and 411 of the applicable VDOT Road and Bridge Specifications and the cost is to be included in the price bid for the applicable structure.

LANDSCAPING AND WATER QUALITY PLAN

HARRISONBURG CITY HALL
 CITY OF HARRISONBURG
 345 SOUTH MAIN ST.
 HARRISONBURG, VA 22801

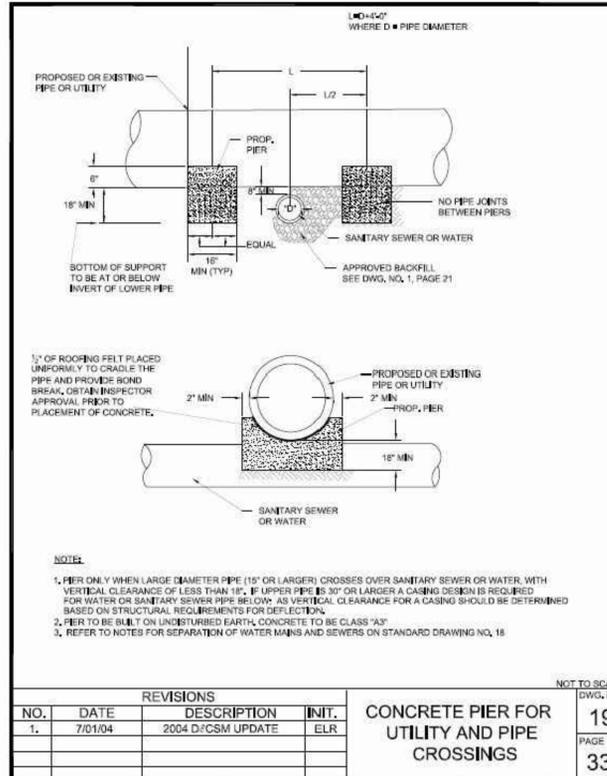
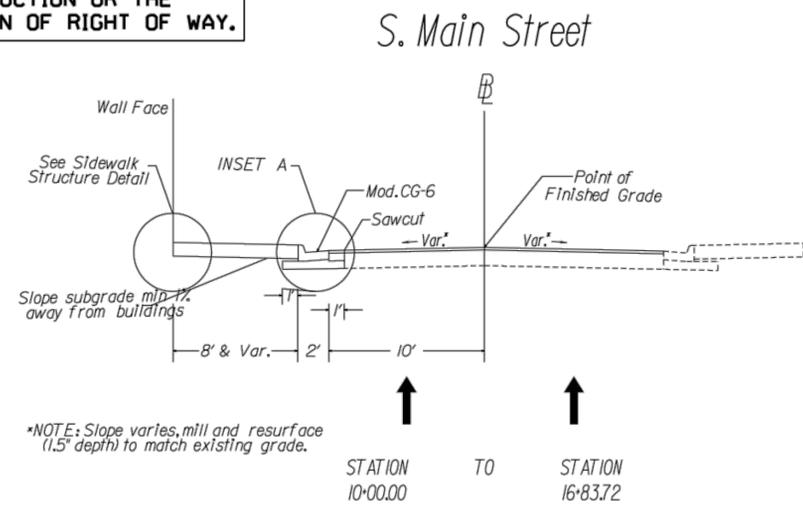
Bio-Retention Maintenance Schedule

Description	Method	Frequency
SOIL		
Inspect and repair erosion	Visual	Monthly
ORGANIC LAYER		
Remulch any void areas	By hand	Whenever needed
Remove previous mulch layer before applying new layer (optional)	By hand	During spring, once every two to three years
Any additional mulch added (optional)	By hand	During spring, once a year
PLANTS		
Removal and replacement of all dead and diseased vegetation considered beyond treatment	See planting Specifications	Every Year Between March 15th to April 30th and October 1st to November 30th
Treat all diseased trees and shrubs	Mechanical or by hand	Varies, depends on insect or disease infestation
Watering of plant material shall take place at the end of each day for fourteen consecutive days after planting has been completed	By hand	Immediately after completion of project
Replace stakes after one year	By hand	During spring, once a year
Replace any deficient stakes or wires	By hand	Whenever needed
Check for accumulated sediments	By hand	Monthly

Drawing No.
6
 of 7 Sheets

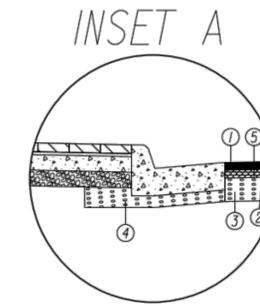
Job No. 2347

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

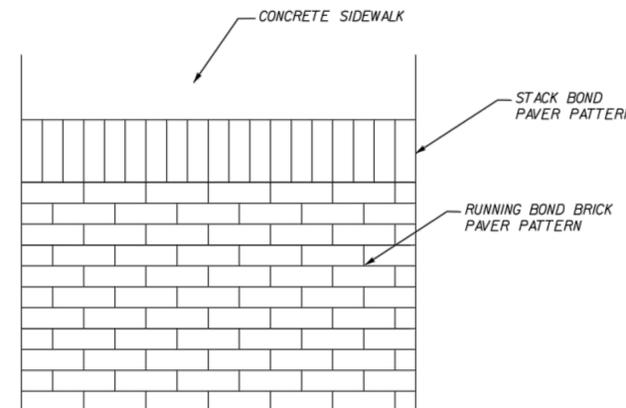
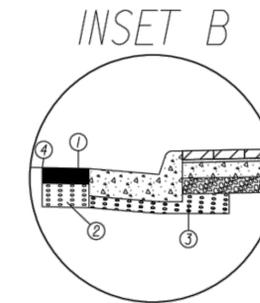


REVISIONS				INIT.	CONCRETE PIER FOR UTILITY AND PIPE CROSSINGS	PAGE 33
NO.	DATE	DESCRIPTION	ELR			
1.	7/1/04	2004 D/C/S/M UPDATE				

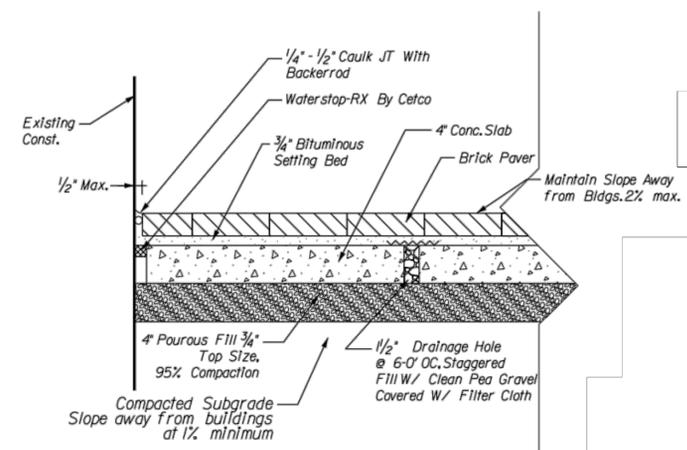
- ① 1.5" Asphalt Concrete Surface Course Type SM-1250 (Mill and Repave)
- ② 5" Asphalt Concrete Base Course Type BM-25.0
- ③ 6" Aggregate Base Material Type I No.21-A
- ④ Variable Depth Aggregate Base Material Type I No.21-A (Beneath Curb & Gutter)
- ⑤ Sawcut



- ① 5" Asphalt Concrete Base Course Type BM-25.0
- ② 6" Aggregate Base Material Type I No.21-A
- ③ Variable Depth Aggregate Base Material Type I No.21-A (Beneath Curb & Gutter)
- ④ Sawcut

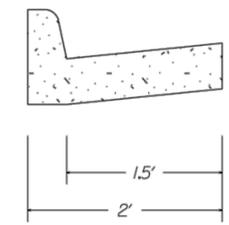


Std. Sidewalk Structure Detail



STREETSCAPE NOTES

- ① Sidewalk Brick Pavers - Pine Hall Standard 2 1/4" x 4" x 8" square edge paving brick. Mix Pine Hall Pathway Full range Bricks with Pine Hall Rosewood Full range bricks in a ratio of 3 Pathway to 1 Rosewood. Avoid setting more than 2 Rosewood style bricks together.
- ② Contractor responsible to restore existing brick pavers to previous condition were they are disturbed or removed for signal, post, pole, and junction box installation.



FOR DETAILS NOT SHOWN SEE ST'D CG-6 VDOT ROAD AND BRIDGE STANDARDS.

McCormick Taylor
Engineers & Planners Since 1946

REV	DATE	DESCRIPTION	BY	SCALE:	NTS	MAINSTREET STREETSCAPE (PHASE 2)	SHEET
				DRAWN BY	DATE	TYPICAL SECTIONS	2A
				CHECKED BY	DATE	DEPT. OF PUBLIC WORKS CITY OF HARRISONBURG	
				DESIGN BY	DATE	320 EAST MOSBY ROAD HARRISONBURG, VIRGINIA	
				TAX MAP			

Date: 1/27/2014
Scale: 1"=30'
Designed by: PBR
Drawn by: PBR
Checked by: EHB

BLACKWELL ENGINEERING, PLC
566 East Market Street
Harrisonburg, Virginia 22801
PHONE: (540)432-9555 FAX: (540)334-7604
E-Mail: BE@BlackwellEngineering.com



Revision Dates	
3-24-14	Per City
4-22-14	Per City

DETAILS
HARRISONBURG CITY HALL
CITY OF HARRISONBURG
345 SOUTH MAIN ST.
HARRISONBURG, VA 22801

Drawing No. **7A**
of 7 Sheets

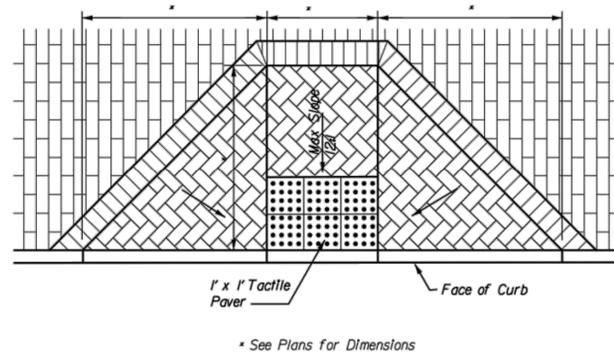
Job No. 2347

STREETSCAPE DETAILS SHOWN ABOVE WERE DESIGNED BY MCMORMICK TAYLOR, AND PROVIDED TO BLACKWELL ENGINEERING PLC BY CITY OF HARRISONBURG FOR USE WITH CITY HALL PROJECT. THESE DETAILS ARE FOR ALL SIDEWALKS ADJACENT TO MAIN STREET.

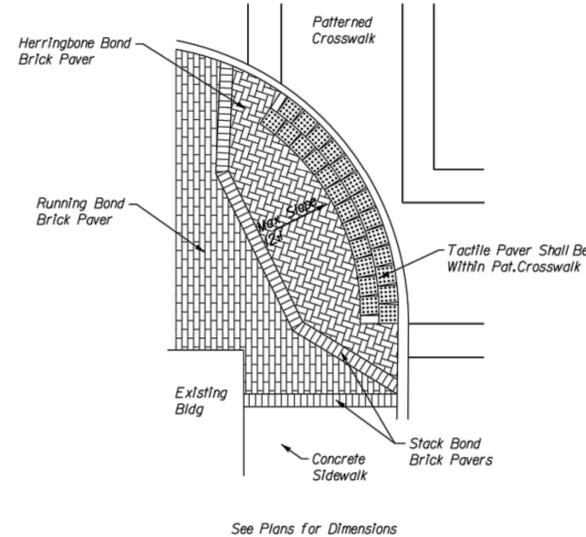


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Curb Ramp Detail

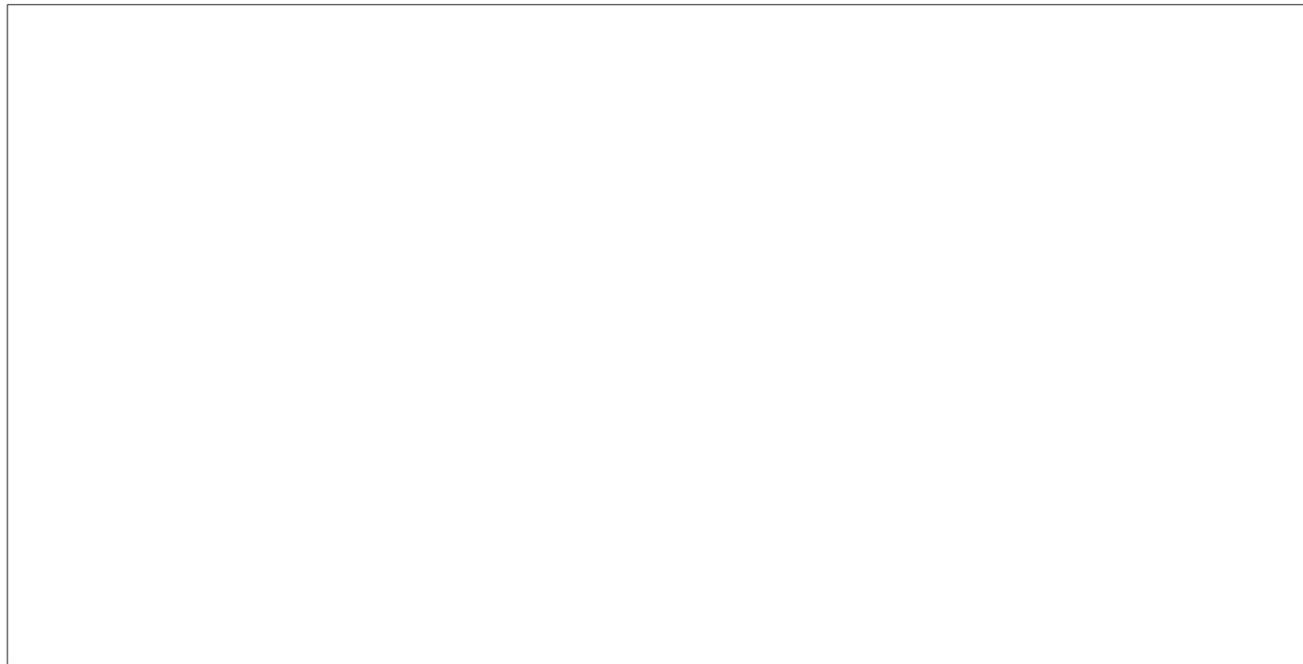


Corner Curb Ramp Detail

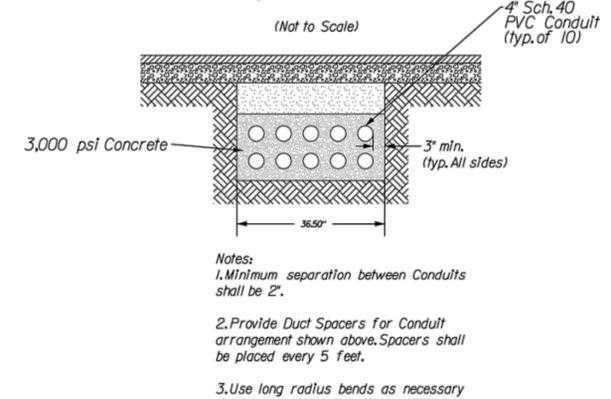


STREETSCAPE NOTES

- ① Tactile Pavers - Hanover Detectable Warning Paver 11 3/4" x 11 3/4", Red 15.
- ② Waste receptacles shall be Landscape Forms - Scarborough W/ Liner, 25"Dia. x 40" H, side opening, Stormcloud Powdercoat Finish.



Utility Duct Bank Layout Detail



McCormick Taylor
 Engineers & Planners Since 1946

REV	DATE	DESCRIPTION	BY	SCALE:	NTS	MAINSTREET STREETSCAPE (PHASE 2)	SHEET
				DRAWN BY	DATE	NOTES, & DETAILS	2B
				CHECKED BY	DATE		
				DESIGN BY	DATE	DEPT. OF PUBLIC WORKS CITY OF HARRISONBURG 320 EAST MOSBY ROAD HARRISONBURG, VIRGINIA	
				TAX MAP			

Date: 1/27/2014
 Scale: 1"=30'
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3-24-14 Per City
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 CITY OF HARRISONBURG
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Drawing No.
7B
 of 7 Sheets

Job No. 2347

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