CERTIFICATE OF AUTHENTICITY

THIS IS TO CERTIFY THAT THE FOLLOWING ELECTRONIC RECORDS ARE TRUE AND ACCURATE REPRODUCTIONS OF THE ORIGINAL RECORDS OF JAMES CITY COUNTY GENERAL SERVICES DEPARTMENT- STORMWATER DIVISION; WERE SCANNED IN THE REGULAR COURSE OF BUSINESS PURSUANT TO GUIDELINES ESTABLISHED BY THE LIBRARY OF VIRGINIA AND ARCHIVES; AND HAVE BEEN VERIFIED IN THE CUSTODY OF THE INDIVIDUAL LISTED BELOW.

BMP NUMBER: **PC111**

DATE VERIFIED: **July 11, 2012**

QUALITY ASSURANCE TECHNICIAN: **Leah Hardenbergh**

Leah Hardenbergh

LOCATION: WILLIAMSBURG, VIRGINIA

Stormwater Division

MEMORANDUM

DATE: March 13, 2010

TO: Michael J. Gillis, Virginia Correctional Enterprises Document Management Services

FROM: Jo Anna Ripley, Stormwater

PO: 270712

RE: Files Approved for Scanning

General File ID or BMP ID: PC211

PIN: 38401000054

Subdivision, Tract, Business or Owner Name (if known): James City Service Authority

Property Description: Water Storage and Booster Facility

Site Address: 4015 Ironbound Road

(For internal use only) **Box** 2 **Drawer:** 2

Agreements: (in file as of scan date) **Book or Doc#:** **Page:**

Comments

James City County, Virginia
Environmental Division

Stormwater Management / BMP Facilities
Record Drawing and Construction Certification Forms

(Note: In accordance with the requirements of the Chesapeake Bay Preservation Ordinance, Chapter 23, Section 23-10(4), BMP's shall be designed and constructed in accordance with the manual entitled James City County Guidelines for Design and Construction of Stormwater Management BMP's. Erosion and sediment control policy and approved plans generally require that at the completion of the project and prior to release of surety, an "as-built" plan prepared by a registered Professional Engineer or Certified Land Surveyor must be provided for the drainage system for the project, including any Best Management Practice (BMP) facilities. In addition, for BMP facilities involving the construction of an impounding structure or dam embankment, certification is required by a Professional Engineer who has inspected the structure during its construction. Currently there are over 20 water quality type BMP's accepted by the County.)

Section 1 - Site Information:

Project Name: Ironbound Water Storage & Booster Facility
Structure/BMP Name: Infiltration Basin
Project Location: 4015 Ironbound Road
BMP Location: Southeast Corner of Site
County Plan No.: _____ - _____ - _____

Project Type: ☐ Residential ☐ Business ☐ Commercial ☐ Office ☐ Institutional ☐ Industrial ☐ Public ☐ Roadway ☒ Other JCSA

Tax Map/Parcel No.: 3840100054
BMP ID Code (if known): _____
Zoning District:: M1
Land Use: _____
Site Area (sf or acres): 0.459 ac.

Brief Description of Stormwater Management/BMP Facility:
Infiltration Basin with Rip Rap Forebay

Nearest Visible Landmark to SWM/BMP Facility: 2 Water Storage Tanks & Booster Pumping Station

Nearest Vertical Ground Control (if known):
☐ JCC Geodetic Ground Control ☐ USGS ☒ Temporary ☐ Arbitrary ☐ Other
Station Number or Name: BM Per AES Plans Sheet C-1
Datum or Reference Elevation: 106.51
Control Description: Corner DI
Control Location from Subject Facility: Corner DI at the Intersection of Monticello Ave & Relocated S.R. # 615

Section 2 - Stormwater Management / BMP Facility Construction Information:

PreConstruction Meeting Held for Construction of SWM/BMP Facility: ☐ Yes ☐ No ☒ Unknown
Approx. Construction Start Date for SWM/BMP Facility: May 2003
Facility Monitored by County Representative during Construction: ☐ Yes ☐ No ☒ Unknown
Name of Site Work Contractor Who Constructed Facility: Henderson General Contractors, Inc.
Name of Professional Firm Who Routinely Monitored Construction: Unkown
Date of Completion for SWM/BMP Facility: 10/2003
Date of Record Drawing/Construction Certification Submittal: 12/15/03

(Note: Record Drawing and Construction Certifications are required within thirty (30) days of the completion of Stormwater Management and/or BMP facility construction. Record Drawings and Construction Certifications must be reviewed and approved by the James City County Environmental Division prior to final inspection, acceptance and bond or surety release.)

Section 3 - Owner / Designer / Contractor Information:

Owner/Developer: *(Note: Site Owner or Applicant responsible for development of the project.)*

Name: JCSA
Mailing Address: P.O. Box 8784
Williamsburg, Va. 23187
Business Phone: (757) 253-6805 Fax: (757) 253-6850
Contact Person: Larry Foster Title: Manager

Design Professional: *(Note: Professional Engineer or Certified Land Surveyor responsible for the design and preparation of plans and specifications for the Stormwater Management / BMP facility.)*

Firm Name: AES Consulting Engineers
Mailing Address: 5248 Olde Towne Road, Suite 1
Williamsburg, Va. 23188
Business Phone: (757) 253-0040
Fax: (757) 220-8994
Responsible Plan Preparer: Van Marc Bennett
Title: Professional Engineer
Plan Name: Ironbound Water Storage & Booster Facility
Firm's Project No. 8651-20
Plan Date: 1/10/02
Sheet No.'s Applicable to SWM/BMP Facility: C-4 / C-4A / ____ / ____ / ____

BMP Contractor: *(Note: Site Work Contractor directly responsible for construction of the Stormwater Management / BMP facility.)*

Name: Henderson General Contractors, Inc
Mailing Address: 5800 Mooretown Rd.
Williamsburg, Va. 23188
Business Phone: (757) 565-1090
Fax: (757) 564-9120
Contact Person: Bill Strack
Site Foreman/Supervisor:
Specialty Subcontractors & Purpose (for BMP Construction Only):

Section 4 - Professional Certifications:

Certifying Professionals: *(Note: A Registered Professional Engineer or Certified Land Surveyor is responsible for preparation of a Record Drawing, sometimes referred to as an As-Built plan, for the drainage system for the project including any Stormwater Management/BMP Facilities. A Registered Professional Engineer is responsible for the inspection, monitoring and certification of Stormwater Management / BMP facilities during its construction.)*

Record Drawing and Construction Certifications for Stormwater Management / BMP Facilities

Record Drawing Certification

Firm Name: LandTech Resources, Inc.
Mailing Address: 5810-F Moorctown Rd.
Williamsburg, Va. 23188
Business Phone: (757) 565-1677
Fax: (757) 565-0782

Name: Kenneth Jenkins
Title: Senior Engineer

Signature: Kenneth M. Jenkins
Date: 12/12/03

I hereby certify to the best of my knowledge and belief that this record drawing represents the actual condition of the Stormwater Management / BMP facility. The facility appears to conform with the provisions of the approved design plan, specifications and stormwater management plan, except as specifically noted.

COMMONWEALTH OF VIRGINIA
K.M. JENKINS II
No.022872
PROFESSIONAL ENGINEER

Kenneth M. Jenkins (Seal)

Virginia Registered Professional Engineer
or Certified Land Surveyor

Construction Certification

Firm Name: _____
Mailing Address: _____
_____
Business Phone: _____
Fax: _____

Name: _____
Title: _____

Signature: _____
Date: _____

I hereby certify to the best of my knowledge and belief that this Stormwater Management/BMP facility was monitored and constructed in accordance with the provisions of the approved design plan, specifications and stormwater management plan, except as specifically noted.

_____ (Seal)

Virginia Registered
Professional Engineer

STORMWATER MANAGEMENT / BMP FACILITIES
RECORD DRAWING CHECKLIST

(Key for Checklist is as follows: XX Acceptable N/A Not Applicable Inc Incomplete)

I. Methods and Presentation: *(Required for all Stormwater Management / BMP facilities.)*

XX 1. All constructed facilities meet approved design plans, unless otherwise shown. Record information or deviations from approved design plan shown in clearly annotated format and/or boxed beside design values.

XX 2. Elevations to the nearest 0.1' unless higher accuracy is needed to show positive drainage.

XX 3. All plan sheets labeled with "RECORD DRAWING" in large text in lower right hand corner (Approved County Plan Number and BMP ID Code can be included if known).

XX 4. All plan sheet revision blocks modified to indicate date and record drawing status.

XX 5. All plan sheets have certification statements and certifying professional's signature and seal.

II. Minimum Standards: *(Required for all Stormwater Management / BMP facilities, as applicable.)*

XX 1. All requirements of Section I (Methods and Presentation) apply to this section.

XX 2. Plan Views: Show general location, arrangement and dimensions. Location and alignment shall generally match approved design plans.

XX 3. Profile or elevations along top or berm of the facility. At a minimum, elevations are required at each end, at intervals not to exceed 50 feet and where low spots may be present. Top of embankment or berm elevations must be no less than design elevation plus any settlement allowances.

XX 4. Top widths, berm widths and embankment side slopes.

XX 5. Show length, width and depth of facility or grading, contours or spot elevations as required to verify permanent pool and design storage volumes were met or were reasonably close to the approved design. Evaluation of as-built grading, contours, spot elevations, or cross-sections, may be necessary by the professional to ensure approved design configurations, depths and volumes were closely maintained. If grading or elevations are significantly different from the approved plan, the Environmental Division shall be contacted immediately to determine whether the variation is acceptable or whether further evidence will be required. Facilities which do not closely resemble approved plan grades, elevations or configurations may require regrading by the Contractor; check volumetric computations; and/or a check hydraulic routing to ensure approved design water surface elevations, discharges or freeboard were closely maintained.

XX 6. Cross-section of the embankment through the principal spillway or outlet barrel. Must extend at least 100 ft. downstream of the pipe outlet or to recorded site property line, whichever is closer. Proper correlation is required between principal spillway (control structure) crest, emergency spillway crest, orifice and weirs and the top of the dam or facility. All elevations and dimensions must reasonably match the design plan or be sequentially relative to each other and the facility must reflect the required design storage volume(s) and/or design depth.

NA 7. Profile or elevations along the entire centerline of the emergency spillway. Emergency spillway may be steeper, but no flatter or narrower than design.

XX 8. Elevation of the principal spillway crest or outlet crest of the structure.

XX 9. Primary control structure (riser) diameter or dimensions, height, type of material and base size. Indicate provisions for access that are present such as steps, ladders, etc.

XX 10. Dimensions, locations and elevations of outlet orifices, weirs, slots and drains.

XX 11. Type and size of anti-vortex and trash rack device. Height, diameter, dimensions, bar spacings (if applicable) and elevations relative to the principal spillway crest. Indicate if lockable hatch is present or not.

NA 12. Type, location, size and number of anti-seep collars or documentation of other methods utilized for seepage control. **May need to obtain this information during construction.**

NA 13. Top of impervious core embankment, core trench limits and elevation of cut-off trench bottom. **May need to obtain this information during construction.**

XX 14. Elevation of the principal spillway barrel (outlet pipe) inlet and outlet invert.

XX 15. Outlet barrel diameter, length, slope, type and thickness class of material and type of flared end sections, headwall or endwall.

NA 16. Outfall protection dimension, type and depth of rock and if underlain filter fabric is present.

NA 17. BMP interior and periphery landscaping zones conform with arrangements and requirements of the approved design plan.

XX 18. Maintenance plan taken from approved design plan transposed onto record drawing set.

NA 19. Fencing location and type, if applicable to facility.

XX 20. BMP vicinity properly cleaned of stockpiles and construction debris.

XX 21. No visual signs of erosion or channel degradation immediately downstream of facility.

XX 22. Any other information formally requested by the Environmental Division specific to the constructed SWM/BMP facility.

STORMWATER MANAGEMENT / BMP FACILITIES
RECORD DRAWING CHECKLIST

(Key for Checklist is as follows: XX Acceptable N/A Not Applicable Inc Incomplete)

V. Group C - Infiltration Practices *(Includes C-1 Infiltration Trench; C-2 Infiltration Trench; C-3 Infiltration Basin; and C-4 Infiltration Basin)*

XX C1. All requirements of Section II, Minimum Standards, apply to Group C facilities as applicable.

XX C2. Facility is not located on fill slopes or on natural ground in excess of six (6) percent.

XX C3. Pretreatment devices provided prior to entry into the infiltration facility. Acceptable pretreatment devices include sediment forebays, sediment basins, sediment traps, sump pits or inlets, grass channels, plunge pools or other acceptable measures.

XX C4. Three (3) or more of the following pretreatment devices provided to protect long term integrity of structure: grass channel; grass filter strip; bottom sand layer; upper filter fabric layer; use of washed bank run gravel aggregate. Called for on plans, Land Tech did not provide construction inspection

XX C5. Sides of infiltration practice lined with filter fabric. Called for on plans, Land Tech did not provide construction inspection

XX C6. Facility was not used for erosion and sediment control purposes and sediment was prevented from entering the facility to the greatest extent possible during construction.

XX C7. Stabilization and acceptable vegetative cover established over contributing drainage area prior to conveyance of stormwater to the facility.

NA C8. Minimum one hundred (100) foot separation horizontally from any known water supply well and minimum one hundred (100) foot separation upslope from any building.

XX C9. Minimum twenty-five (25) foot separation down gradient from any structure.

XX C10. Stormwater outfalls provided for overflow associated with larger design storms.

XX C11. No visual signs of erosion or channel degradation immediately downstream of facility.

XX C12. Facility does not currently cause any apparent surface or subsurface water problems to downgrade properties.

XX C13. Observation well provided.

XX C14. Adequate, direct access provided to the facility for future maintenance, operation and inspection.

STORMWATER MANAGEMENT / BMP FACILITIES
RECORD DRAWING CHECKLIST

(Key for Checklist is as follows: XX Acceptable N/A Not Applicable Inc Incomplete)

X. Storm Drainage Systems (Associated with BMP's Only)

(Includes all incidental stormwater drainage conveyance systems associated with SWM/BMP facilities such as onsite or offsite storm drains, open channels, inlets, manholes, junctions, outlet protections, deflectors, etc. These facilities are external to the treatment function of, but are directly associated with drainage to and/or from a constructed SWM/BMP facility. The intent of this portion of the certification is to accurately identify the type and quantity of inflow or outflow points associated with the facility for future reference. The Professional may use his/her own discretion to determine inclusive facilities to meet the intent of this section. As a general rule, storm drainage systems would include incidental facilities to the nearest access structure upslope or downslope from the normal physical limits of the facility or 800 feet of storm drainage conveyance system length, whichever is less.)

XX SD1. All requirements of Section II, Minimum Standards, apply to Storm Drainage Systems.

XX SD2. Horizontal location of all pipe and structures relative to the SWM/BMP facility.

XX SD3. Type, top elevation and invert elevation of all access type structures (inlets, manholes, etc.).

XX SD4. Material type, size or diameter, class, invert elevations, lengths and slopes for all pipe segments.

XX SD5. Class, length, width and depth of riprap and outlet protections or dimensions of special energy dissipation structures.

XI. Other Systems

(Includes any non-typical, specialty, manufactured or innovative stormwater management/BMP practices or systems generally accepted for use as or in conjunction with other acceptable stormwater management / BMP practices. Requires evidence of prior satisfactory industry use and prior Environmental Division approval, waiver or exception .)

____ O1. All requirements of Section II, Minimum Standards, apply to this section.

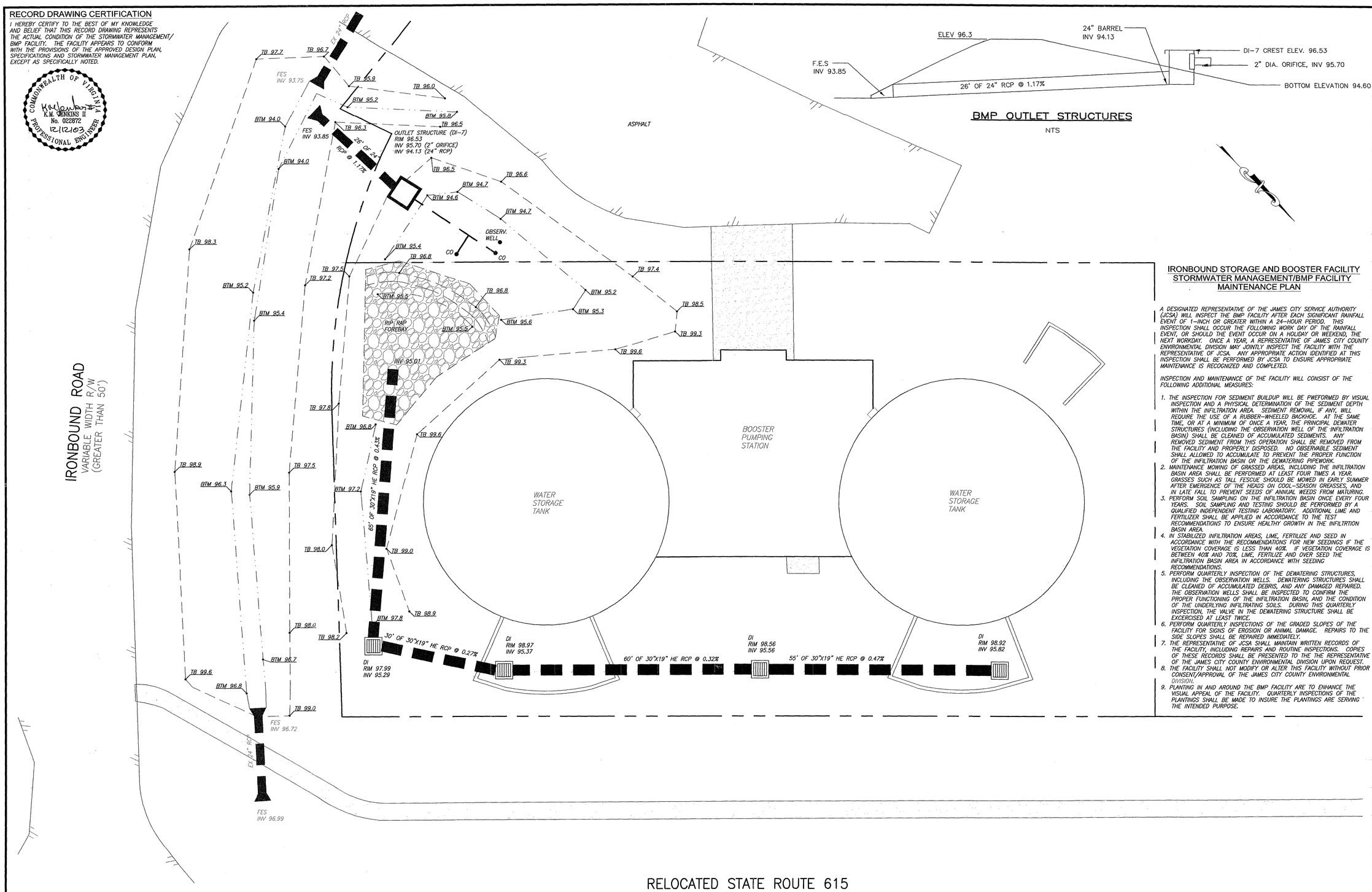
____ O2. Certification criteria to be determined on a case-by-case basis by the Environmental Division specific to the proposed SWM/BMP facility.

SP08-02

RECORD DRAWING CERTIFICATION

I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS RECORD DRAWING REPRESENTS THE ACTUAL CONDITION OF THE STORMWATER MANAGEMENT/BMP FACILITY. THE FACILITY APPEARS TO CONFORM WITH THE PROVISIONS OF THE APPROVED DESIGN PLAN, SPECIFICATIONS AND STORMWATER MANAGEMENT PLAN, EXCEPT AS SPECIFICALLY NOTED.

COMMONWEALTH OF VIRGINIA
K.M. JENKINS II
No. 022872
12/12/03
PROFESSIONAL ENGINEER



BMP OUTLET STRUCTURES

NTS

IRONBOUND STORAGE AND BOOSTER FACILITY STORMWATER MANAGEMENT/BMP FACILITY MAINTENANCE PLAN

A DESIGNATED REPRESENTATIVE OF THE JAMES CITY SERVICE AUTHORITY (JCSA) WILL INSPECT THE BMP FACILITY AFTER EACH SIGNIFICANT RAINFALL EVENT OF 1-INCH OR GREATER WITHIN A 24-HOUR PERIOD. THIS INSPECTION SHALL OCCUR THE FOLLOWING WORK DAY OF THE RAINFALL EVENT, OR SHOULD THE EVENT OCCUR ON A HOLIDAY OR WEEKEND, THE NEXT WORKDAY. ONCE A YEAR, A REPRESENTATIVE OF JAMES CITY COUNTY ENVIRONMENTAL DIVISION MAY JOINTLY INSPECT THE FACILITY WITH THE REPRESENTATIVE OF JCSA. ANY APPROPRIATE ACTION IDENTIFIED AT THIS INSPECTION SHALL BE PERFORMED BY JCSA TO ENSURE APPROPRIATE MAINTENANCE IS RECOGNIZED AND COMPLETED.

INSPECTION AND MAINTENANCE OF THE FACILITY WILL CONSIST OF THE FOLLOWING ADDITIONAL MEASURES:

1. THE INSPECTION FOR SEDIMENT BUILDUP WILL BE PWEFORMED BY VISUAL INSPECTION AND A PHYSICAL DETERMINATION OF THE SEDIMENT DEPTH WITHIN THE INFILTRATION AREA. SEDIMENT REMOVAL, IF ANY, WILL REQUIRE THE USE OF A RUBBER-WHEELED BACKHOE. AT THE SAME TIME, OR AT A MINIMUM OF ONCE A YEAR, THE PRINCIPAL DEWATER STRUCTURES (INCLUDING THE OBSERVATION WELL OF THE INFILTRATION BASIN) SHALL BE CLEANED OF ACCUMULATED SEDIMENTS. ANY REMOVED SEDIMENT FROM THIS OPERATION SHALL BE REMOVED FROM THE FACILITY AND PROPERLY DISPOSED. NO OBSERVABLE SEDIMENT SHALL ALLOWED TO ACCUMULATE TO PREVENT THE PROPER FUNCTION OF THE INFILTRATION BASIN OR THE DEWATERING PIPEWORK.
2. MAINTENANCE MOWING OF GRASSED AREAS, INCLUDING THE INFILTRATION BASIN AREA SHALL BE PERFORMED AT LEAST FOUR TIMES A YEAR. GRASSES SUCH AS TALL FESCUE SHOULD BE MOWED IN EARLY SUMMER AFTER EMERGENCE OF THE HEADS ON COOL-SEASON GREASSES, AND IN LATE FALL TO PREVENT SEEDS OF ANNUAL WEEDS FROM MATURING.
3. PERFORM SOIL SAMPLING ON THE INFILTRATION BASIN ONCE EVERY FOUR YEARS. SOIL SAMPLING AND TESTING SHOULD BE PERFORMED BY A QUALIFIED INDEPENDENT TESTING LABORATORY. ADDITIONAL LIME AND FERTILIZER SHALL BE APPLIED IN ACCORDANCE TO THE TEST RECOMMENDATIONS TO ENSURE HEALTHY GROWTH IN THE INFILTRTION BASIN AREA.
4. IN STABILIZED INFILTRATION AREAS, LIME, FERTILIZE AND SEED IN ACCORDANCE WITH THE RECOMMENDATIONS FOR NEW SEEDINGS IF THE VEGETATION COVERAGE IS LESS THAN 40%. IF VEGETATION COVERAGE IS BETWEEN 40% AND 70%, LIME, FERTILIZE AND OVER SEED THE INFILTRATION BASIN AREA IN ACCORDANCE WITH SEEDING RECOMMENDATIONS.
5. PERFORM QUARTERLY INSPECTION OF THE DEWATERING STRUCTURES, INCLUDING THE OBSERVATION WELLS. DEWATERING STRUCTURES SHALL BE CLEANED OF ACCUMULATED DEBRIS, AND ANY DAMAGED REPAIRED. THE OBSERVATION WELLS SHALL BE INSPECTED TO CONFIRM THE PROPER FUNCTIONING OF THE INFILTRATION BASIN, AND THE CONDITION OF THE UNDERLYING INFILTRATING SOILS. DURING THIS QUARTERLY INSPECTION, THE VALVE IN THE DEWATERING STRUCTURE SHALL BE EXCERCISED AT LEAST TWICE.
6. PERFORM QUARTERLY INSPECTIONS OF THE GRADED SLOPES OF THE FACILITY FOR SIGNS OF EROSION OR ANIMAL DAMAGE. REPAIRS TO THE SIDE SLOPES SHALL BE REPAIRED IMMEDIATELY.
7. THE REPRESENTATIVE OF JCSA SHALL MAINTAIN WRITTEN RECORDS OF THE FACILITY, INCLUDING REPAIRS AND ROUTINE INSPECTIONS. COPIES OF THESE RECORDS SHALL BE PRESENTED TO THE THE REPRESENTATIVE OF THE JAMES CITY COUNTY ENVIRONMENTAL DIVISION UPON REQUEST.
8. THE FACILITY SHALL NOT MODIFY OR ALTER THIS FACILITY WITHOUT PRIOR CONSENT/APPROVAL OF THE JAMES CITY COUNTY ENVIRONMENTAL DIVISION.
9. PLANTING IN AND AROUND THE BMP FACILITY ARE TO ENHANCE THE VISUAL APPEAL OF THE FACILITY. QUARTERLY INSPECTIONS OF THE PLANTINGS SHALL BE MADE TO INSURE THE PLANTINGS ARE SERVING THE INTENDED PURPOSE.

JAMES CITY SERVICE AUTHORITY
IRONBOUND WATER STORAGE AND BOOSTER FACILITY

BMP RECORD DRAWING

James City County — Virginia

NO.	DATE	REVISION / COMMENT / NOTE

LandTech Resources, Inc.
Surveying • Engineering • GPS
5810-F Mooretown Road, Williamsburg, VA 23188
Phone: (757) 565-1677 Fax: (757) 565-0782
web: landtechresources.com

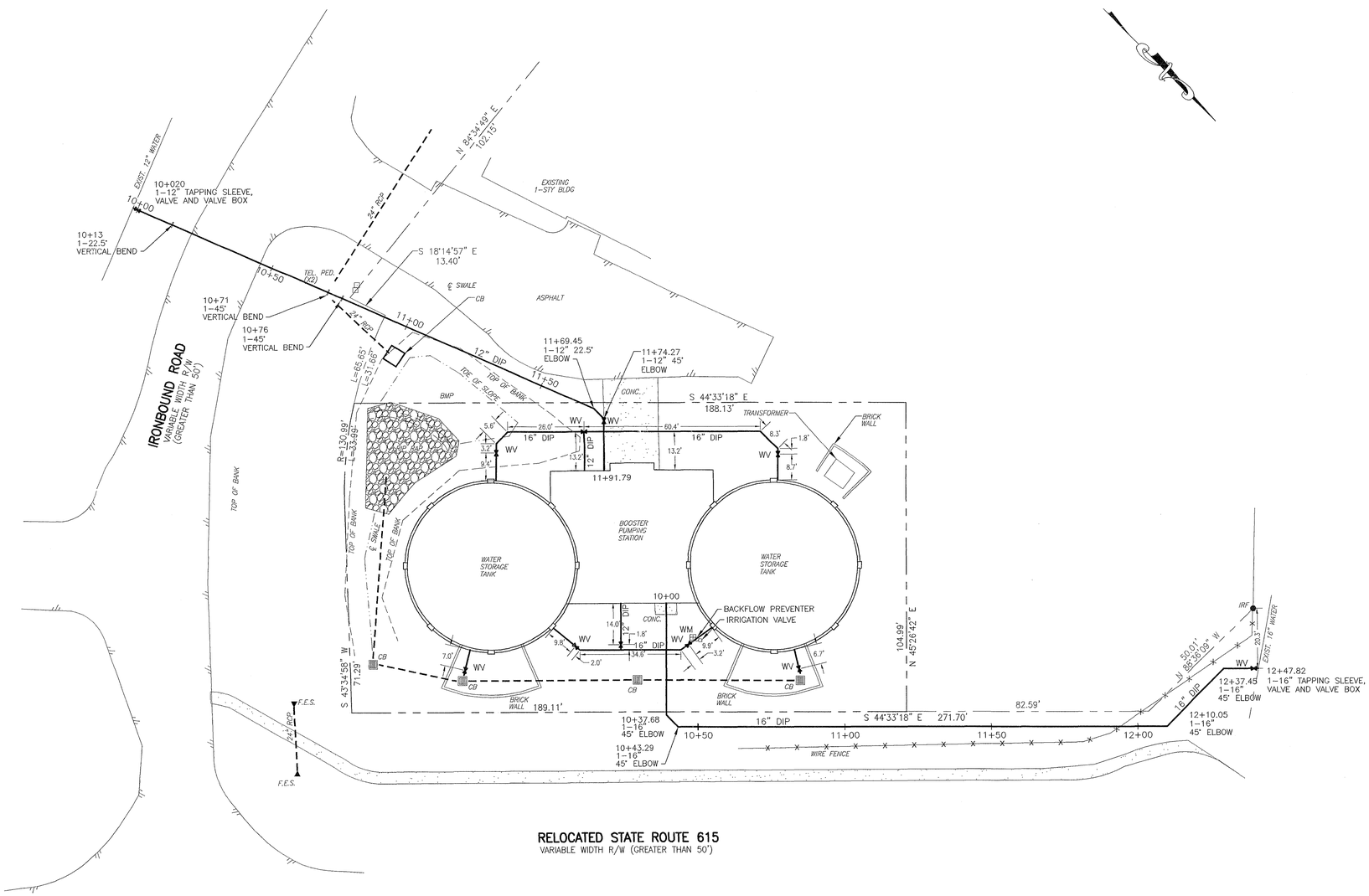
SCALE: 1" = 10'
DATE: 12/12/03
JOB: 02-200
DRAWN BY: KMJ
SHEET: 1 OF 1

RECORD DRAWING

PC211_JCSA_IRONBOUND_WATER - 010

NOTES:

1. WATERLINE IMPROVEMENTS SHOWN ON THIS PLAT ARE COMPILED FROM A ABOVE GROUND FIELD SURVEY AND CONTRACTOR'S AS-BUILT DIMENSION NOTES. NO ATTEMPT HAS BEEN MADE BY LANDTECH RESOURCES, INC. TO VERIFY ANY UNDERGROUND LOCATIONS AND DIMENSIONS.
2. PROPERTY LINES SHOWN ON THIS PLAN WERE TAKEN FROM SITE PLAN.
3. UNDERGROUND UTILITIES NOT LOCATED.
4. PIPE SIZES SHOWN TAKEN FROM DESIGN PLANS.



RECORD DRAWING

JAMES CITY SERVICE AUTHORITY
IRONBOUND WATER STORAGE AND BOOSTER FACILITY

WATER LINE AS-BUILT

James City County — Virginia

NO.	DATE	REVISION / COMMENT / NOTE

COMMONWEALTH OF VIRGINIA
CHARLES A. CALHOUN
No. 002554
12-16-03
LAND SURVEYOR

LandTech Resources, Inc.
Surveying · Engineering · GPS
5810-F Mooretown Road, Williamsburg, VA 23188
Phone: (757) 565-1677 Fax: (757) 565-0782
web: landtechresources.com

SCALE: 1" = 20'
DATE: 12/16/03
JOB: 02-200
DRAWN BY: DSA
SHEET: 1 OF 1