

SEA 2004-DR-031
SPECIAL EXCEPTION AMENDMENT PLAT
FOR
RIVER BEND
GOLF & COUNTRY CLUB

DRANESVILLE DISTRICT FAIRFAX COUNTY, VA

SEPTEMBER 21, 2006
 REVISED MAY 16, 2007

RECEIVED
 Department of Planning & Zoning
 MAY 17 2007
 Zoning Evaluation Division

PROJECT TEAM

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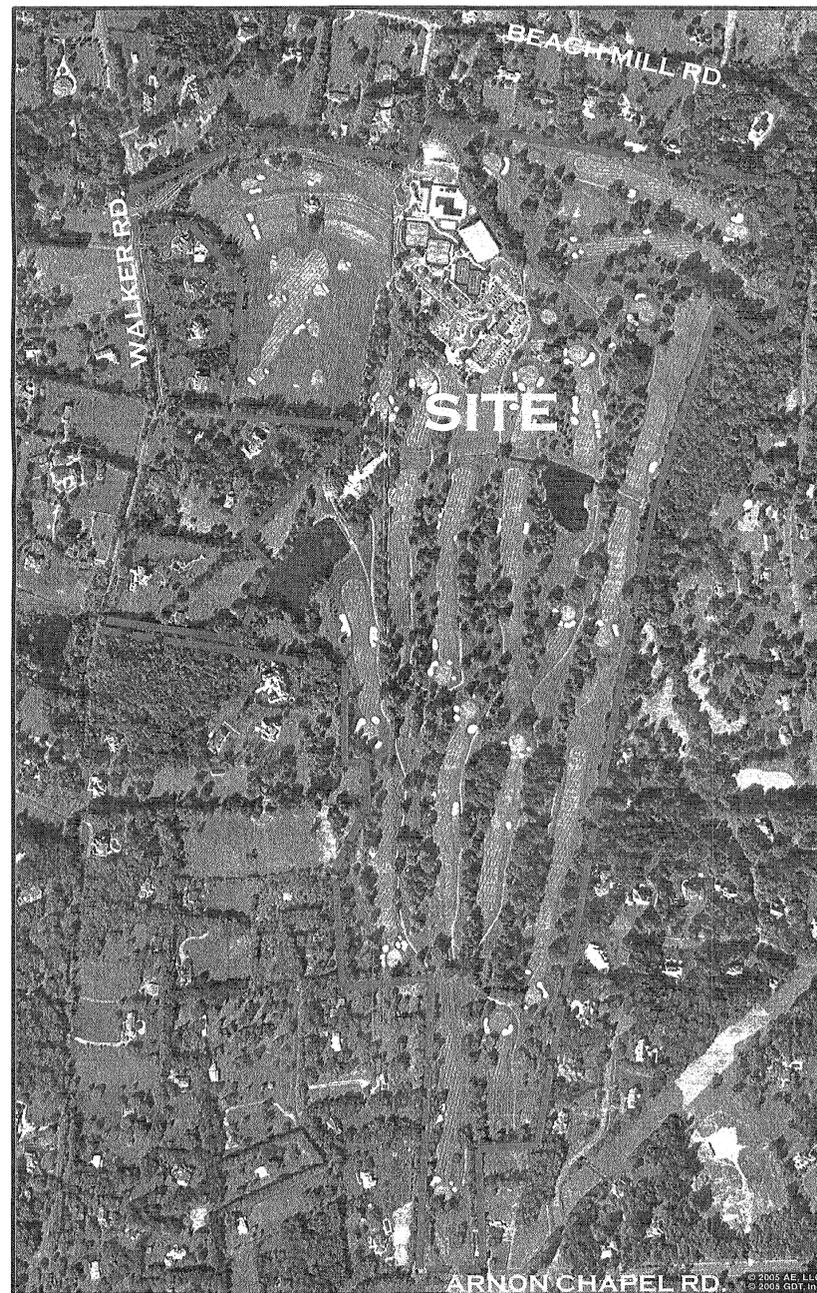
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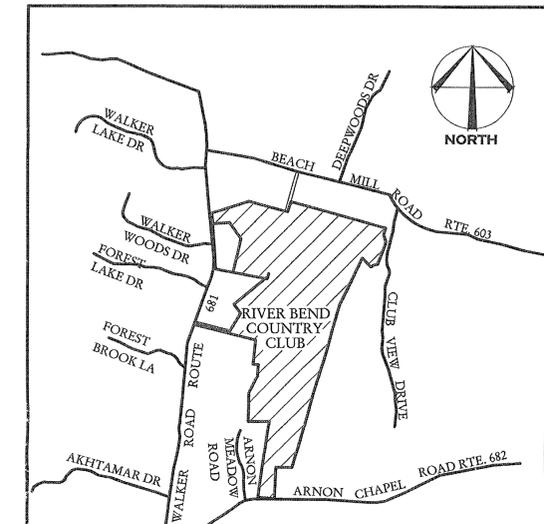
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AERIAL MAP

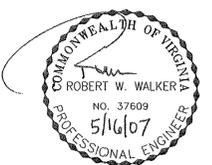
VICINITY MAP



SHEET INDEX

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Application No. SEA 2004-DR-031 Staff *RP*
 APPROVED SEA SP PLAN
 SEE DEV CONDS DATED 4/15/07
 Date of (BOS) (BZA) approval 4/18/07
 Sheet 1 of 14



GENERAL NOTES

- PARCELS/TAX MAPS. THE PROPERTY SUBJECT TO THIS SPECIAL EXCEPTION AMENDMENT (SEA) APPLICATION IS OWNED BY RIVER BEND GOLF AND COUNTRY CLUB INC. AND CONSTITUTIONS OF TAX MAP 8-1-(11) PARCELS 22, 23 AND 41, AND 8-3-(11) PARCEL 4 AND 1-2-(11) PARCEL 21A.
- SPECIAL EXCEPTION AMENDMENT REQUEST. THE PROPERTY IS ZONED R-E AND CONTAINS 175.8 ACRES. THIS SPECIAL EXCEPTION AMENDMENT (SEA) WILL AMEND SPECIAL EXCEPTION 02 2004-DR-031 THAT CURRENTLY GOVERNS THE SITE TO PHASED RELOCATION OF THE MAINTENANCE FACILITY AND THE PROVISION OF VARIOUS LANDSCAPE AND GOLF COURSE RENOVATIONS. THE CATEGORY 6 SPECIAL EXCEPTION REQUEST IS TO PERMIT FILL IN THE 100 YEAR FLOODPLAIN FOR COURSE IMPROVEMENTS CONSISTING OF GREENS, TEES AND FAIRWAY RENOVATIONS AS SHOWN. IT IS UNDERSTOOD THAT THE BUILDING IMPROVEMENTS AND SITE MODIFICATIONS MAY BE PHASED. FURTHER, IMPLEMENTATION OF THE FIRST PHASE OF THE IMPROVEMENTS/MODIFICATIONS SHALL ESTABLISH THE USE.

PREVIOUS SPECIAL EXCEPTION 02 2004-DR-031 ALLOWED AN INCREASE IN CLUB MEMBERSHIP TO A MAXIMUM OF 900 MEMBERS AND IN TURN REPLACED SPECIAL PERMIT (SP 02-D-101-6) THAT ESTABLISHED THE MAINTENANCE BUILDING, OUTDOOR STORAGE YARD, AND GOLF COURSE RENOVATIONS.
- REAFFIRMATION OF CURRENT DEVELOPMENT CONDITIONS. THE APPLICANT IS REQUESTING A REAFFIRMATION OF THE CURRENT DEVELOPMENT CONDITIONS IN EFFECT, DATED 9 FEBRUARY 2009, APPROVED PURSUANT TO 02 2004-DR-031.
- SCREENING. PURSUANT TO NOTE NO. 3 ABOVE, THE APPLICANT IS REQUESTING A REAFFIRMATION OF THE MODIFICATIONS OF THE TRANSITIONAL SCREENING AND BARRIER REQUIREMENTS ALONG ALL LOT LINES TO ALLOW EXISTING VEGETATION AND FENCING TO REMAIN.
- TABULATIONS. SEE EXISTING BUILDING GROSS SQUARE FOOTAGE TABULATIONS ON SHEET 3 AND PROPOSED BUILDING SQUARE FOOTAGE AND SITE ACREAGE SUMMARY ON SHEET 2.
- PARKING. PARKING SHALL BE PROVIDED PURSUANT TO ZONING ORDINANCE SECTION 11-106(1). THE APPLICANT RESERVES THE RIGHT TO MODIFY THE LAYOUT AND INCREASE OR REDUCE THE QUANTITIES SHOWN AT THE TIME OF SITE PLAN SUBMISSION PROVIDED THE MINIMUM SETBACKS TO THE PROPERTY LINE ARE NOT REDUCED AND THE MINIMUM NUMBER OF PARKING SPACES REQUIRED REMAIN.
- EXISTING STRUCTURES. ALL EXISTING STRUCTURES, BUILDING HEIGHTS, AND ESTIMATED DATES OF CONSTRUCTION ARE PRESENTED ON SHEET 3.
- MODIFICATIONS/WAIVERS. THE PROPOSED USES ARE IN CONFORMANCE WITH THE COMPREHENSIVE PLAN AND THE PROVISIONS OF ALL APPLICABLE ORDINANCES, REGULATIONS, ADOPTED STANDARDS AND ANY APPLICABLE CONDITIONS, EXCEPT AS STATED BELOW. THE APPLICANT REQUESTS THAT THE FOLLOWING WAIVERS AND MODIFICATIONS BE APPROVED BY THE BOARD OF SUPERVISORS (BOS) IN CONJUNCTION WITH ITS APPROVAL OF THIS SEA.
 - A MODIFICATION OF SECTION 13-304-3 FOR TRANSITIONAL SCREEN YARD PLANTING REQUIREMENTS ALONG ALL LOT LINES TO USE EXISTING VEGETATION, SUPPLEMENTAL VEGETATION WHERE INDICATED ON THE PLAN AND/OR BERRIS, AS PREVIOUSLY APPROVED.
 - A MODIFICATION TO THE BARRIER REQUIREMENT ALONG ALL LOT LINES TO USE AN EXISTING FENCE PURSUANT TO SEC 13-304-3, AS PREVIOUSLY APPROVED.
 - A MODIFICATION OF THE TREE COVER REQUIREMENTS UNDER SECTION 13-404 (1B) APPROVED AS PART OF PREVIOUS SITE PLAN.
- STORM WATER MANAGEMENT AND BEST MANAGEMENT PRACTICES (SWM/BMP). EXISTING FACILITIES SHALL BE USED FOR PROPOSED IMPROVEMENTS. SEE SHEETS 1, 2 AND 3.
- ACCESS. THE EXISTING ENTRANCE TO THE PROJECT FROM WALKER ROAD (ROUTE 661) SHALL BE USED TO PROVIDE SITE ACCESS, INCLUDING EMERGENCY ACCESS. NO ADDITIONAL ENTRANCE OR FRONTAGE ROAD IMPROVEMENTS ARE REQUESTED.
- PUBLIC ROAD FRONTAGE. THERE ARE NO FRONTAGE ROAD IMPROVEMENTS PROPOSED OR REQUIRED FOR THIS PROJECT.
- OTHER USES. OTHER THAN EXISTING GOLF COURSE USES AND THOSE USES IDENTIFIED IN NOTE 2 ABOVE, NO OTHER USES ARE PROPOSED WITH THIS APPLICATION.
- GRAVES. TO THE BEST OF OUR KNOWLEDGE AND BELIEF, THERE IS NO EVIDENCE OF ANY GRAVE, OBJECT OR STRUCTURE MARKING A PLACE OF BURIAL ON THIS PROPERTY.
- TRAILS. AN EQUESTRIAN TRAIL IS REQUIRED ALONG THE EASTERN SIDE OF WALKER ROAD AND THE SOUTHERN SIDE OF BEACH MILL ROAD AND WILL BE PROVIDED IN THESE PORTIONS OF THE FRONTAGES AS SHOWN WITH THIS PROJECT.
- SEWER SERVICE. SEPTIC DRAINFIELDS AND DOMESTIC WELLS SERVE THE PROPERTY. CERTAIN IMPROVEMENTS WILL REQUIRE THE EXISTING SEPTIC DRAINFIELDS TO BE MODIFIED. SEVERAL POSSIBLE SEPTIC DRAINFIELD LOCATIONS ARE IDENTIFIED ON THE PLAN. APPROVAL BY THE HEALTH DEPARTMENT WILL BE REQUIRED PRIOR TO FINAL CONSTRUCTION DRAWING APPROVAL.
- WATER. WATER STORAGE FOR THE EXISTING FIRE SUPPRESSION SYSTEM CURRENTLY UTILIZES THE POOL, UNDERGROUND STORAGE TANKS AND SURFACE WET POND. WATER IS PROVIDED TO THE CLUB HOUSE AND RELATED FACILITIES BY ON-SITE WELLS.
- TOPOGRAPHY. TOPOGRAPHY IS BASED ON AN AIR SURVEY PREPARED BY AIR SURVEY CORP. DATED MAY 2006. PORTIONS OF THE BASE MAP HAVE UTILIZED PREVIOUS SITE PLAN IMPROVEMENTS THAT HAVE BEEN CONSTRUCTED TO REFLECT EXISTING CONDITIONS. THE CONTOUR INTERVAL IS TWO (2) FEET.

BOUNDARY. BOUNDARIES SHOWN ARE BASED ON EXISTING BOUNDARY RECORDS AND ARE ADJUSTED FOR PHYSICAL EVIDENCE SHOWN ON THE TOPOGRAPHIC SURVEY.
- WETLANDS. WETLANDS LIMITS SHOWN WERE DELINEATED BY WETLAND STUDIES AND SOLUTIONS INC. (W&S.I.) AND FIELD SURVEYED BY WILLIAM H. GORDON ASSOCIATES, INC. (WHGA)
 - ARMY CORPS CONFIRMATION. WETLAND LIMITS SHOWN PENDING US ARMY CORPS OF ENGINEERS CONFIRMATION
- 100 YEAR FLOODPLAIN. THE FLOODPLAIN SHOWN IS BASED ON USGS STUDY AND WILL BE VERIFIED BASED ON RESULTS OF FINAL FLOODPLAIN STUDY BY WILLIAM H. GORDON ASSOCIATES, DEFINED RPA LIMITS ADJUSTED FOR EXISTING CONDITIONS.
- RESOURCE PROTECTION AREA (RPA). THE RPA LIMITS SHOWN HAVE BEEN ADJUSTED FOR RECENT WETLANDS AND TOPOGRAPHIC SURVEYS AND WILL BE VERIFIED BASED ON A PRESERVATION AREA PLAN THAT WILL BE SUBMITTED UPON CORPS OF ENGINEER CONFIRMATION OF WETLANDS.
- UTILITY EASEMENTS. BASED ON BOUNDARY SURVEYS AND AVAILABLE INFORMATION, THERE IS ONE UTILITY EASEMENT HAVING A WIDTH OF TWENTY FIVE (25) FEET OR MORE (A 100' WIDE COLUMBIA GAS EASEMENT) ON THE SITE. NO TITLE REPORT HAS BEEN PREPARED.
- COMPATIBILITY. THE PROPOSED MAINTENANCE BUILDING WILL BE COMPATIBLE IN TERMS OF MATERIALS AND COLOR TO THE EXISTING BUILDINGS AND WILL NOT ADVERSELY EFFECT NEIGHBORING PROPERTIES.
- HAZMAT. THE MITIGATION OF ANY HAZARDOUS AND TOXIC SUBSTANCES, WHICH MIGHT BE USED IN CONJUNCTION WITH POOL AND GOLF COURSE MAINTENANCE HAVE BEEN PROVIDED IN A SEPARATE DOCUMENT.
- TIMING. THE APPLICANT RESERVES THE RIGHT TO CONSTRUCT ANY AND ALL OF THE PROPOSED IMPROVEMENTS IN PHASES.
- SITE LIGHTING. OUTDOOR LIGHTING CONFORMS TO FAIRFAX COUNTY REQUIREMENTS AS SET FORTH IN THE SEA CONDITIONS OF THE ABOVE REFERENCED APPLICATION. ADDITIONAL OUTDOOR LIGHTING IS PROPOSED FOR SECURITY PURPOSES WITHIN THE NEW MAINTENANCE FACILITY.
- MINOR MODIFICATIONS. THE PROPERTY WHICH IS THE SUBJECT OF THIS APPLICATION SHALL BE DEVELOPED IN ACCORDANCE WITH THIS SEA PLAN, PREPARED BY WILLIAM H. GORDON ASSOC. INC., PROVIDED THAT MINOR MODIFICATIONS SHALL BE PERMITTED PURSUANT TO THE PROVISIONS OF SEC. 9-024 para. 4. MODIFICATIONS WILL BE DETERMINED AS PART OF FINAL ENGINEERING AND SITE PLAN REVIEW BY THE DEPARTMENT OF PUBLIC WORKS AND ENVIRONMENTAL SERVICES (DPWES).
- SIGNS. THERE ARE NO PROPOSED CHANGES IN SIGNAGE.
- LIMITS OF CLEARING & GRADING. THE CATEGORY 6 SPECIAL EXCEPTION REQUEST IS TO PERMIT FILL IN THE 100 YEAR FLOODPLAIN FOR COURSE IMPROVEMENTS AND SHALL ADHERE TO THE PROVISIONS OF SEC. 2-305.

PREVIOUSLY APPROVED BUILDINGS NOT CONSTRUCTED (1)

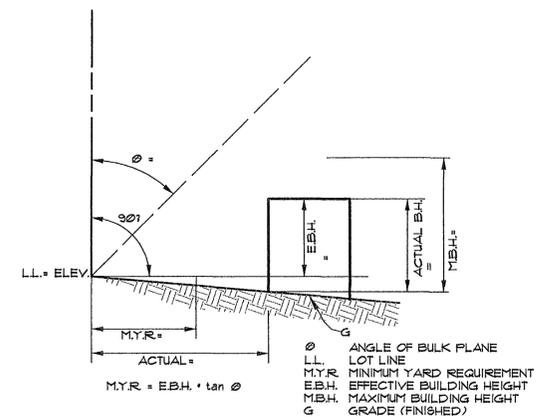
BUILDINGS	SQ. FT.	BLDG. HGT.	COMMENTS
POOL/BATH HOUSE	13,064 SQ. FT.	35'	PREVIOUS SPECIAL PERMIT DEPICTED POOL/BATH HOUSE AT 23,000 SF, CONSTRUCTED BATH HOUSE IS 9,336 PER WHGA SITE PLAN NO. 0498-SP-02-2.
GRILL/POOL COVERED TEES	8,800 SQ. FT. 2,825 SQ. FT.	35' 25'	TO BE BUILT
BUILDINGS SQ. FT.	24,689 SQ. FT.		

NOTE:
(1) THE ABOVE TABULATION IS BASED ON SPA 02-D-106-6 APPROVED ON MAY 6, 1999 AND REFLECTS BUILDINGS NOT CONSTRUCTED AND/OR CONSTRUCTED TO THE LIMITS ALLOWED.

OVERALL SITE TABULATIONS

SITE AREA:	175.8 ACRES OR 1,657,848 SQUARE FEET
EXISTING GSF:	• 12,416 SF (SEE SHEET 3 FOR BUILDING LISTING)
APPROVED GSF:	• 24,689 SF (NOT BUILT SEE TAB ABOVE)
PROPOSED GSF:	• 23,925 SF ±
• MAINTENANCE: (23,925 SF) ±	(INCLUDING EX. PUMPHOUSE AND PROPOSED HALFWAY HOUSE)
• HAZ MAT/STORAGE: (800 SF) ±	
TOTAL GSF:	121,930 SF
MAXIMUM FAR:	0.15
PROPOSED FAR:	0.02
	121,930 SF / 1,657,848 SF = 0.02
EXISTING PARKING SPACES:	281
EXISTING PARKING SPACES TO BE REMOVED:	1 (ONE)
REQUIRED PARKING SPACES:	225 (1 PER 4 MEMBERS) 900/4=225
PROPOSED PARKING SPACES:	302 (SEE NOTE 6)
OPEN SPACE REQUIRED:	20% OR 331,6 AC OR 1,331,510 SQUARE FEET
OPEN SPACE PROVIDED:	95% OR 16,101 AC OR 1,214,955 SQUARE FEET

DETAIL ANGLE OF BULK PLANE

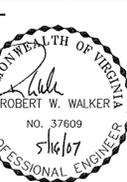


ANGLE OF BULK PLANE FOR PROPOSED BLDG.

MAINTENANCE BUILDINGS	LL	G	θ REQ'D	M.B.H. (FT.)	M.Y.R. (FT.)	ACTUAL YD.	ACTUAL E.B.H. (FT.)	θ ACTUAL
FRONT	330.4	319.0	55	60	42	406.0	40.0	52.5
SIDE	309.2	319.0	45	60	60	421.0	40.0	52.1
REAR	261.5	319.0	45	60	60	1051.0	40.0	55.1

RE. ZONING		
BULK REGULATIONS	REQUIREMENTS	PROPOSED
MAXIMUM BUILDING HEIGHT:	60 FEET	40 FT. MAX
FRONT YARD:	CONTROLLED BY A 55 DEG. ANGLE OF BULK PLANE, BUT NOT LESS THAN 30 FEET	SEE CHART ABOVE
SIDE YARD:	CONTROLLED BY A 45 DEG. ANGLE OF BULK PLANE, BUT NOT LESS THAN 20 FEET	SEE CHART ABOVE
REAR YARD:	CONTROLLED BY A 45 DEG. ANGLE OF BULK PLANE, BUT NOT LESS THAN 25 FEET	SEE CHART ABOVE

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REVISIONS

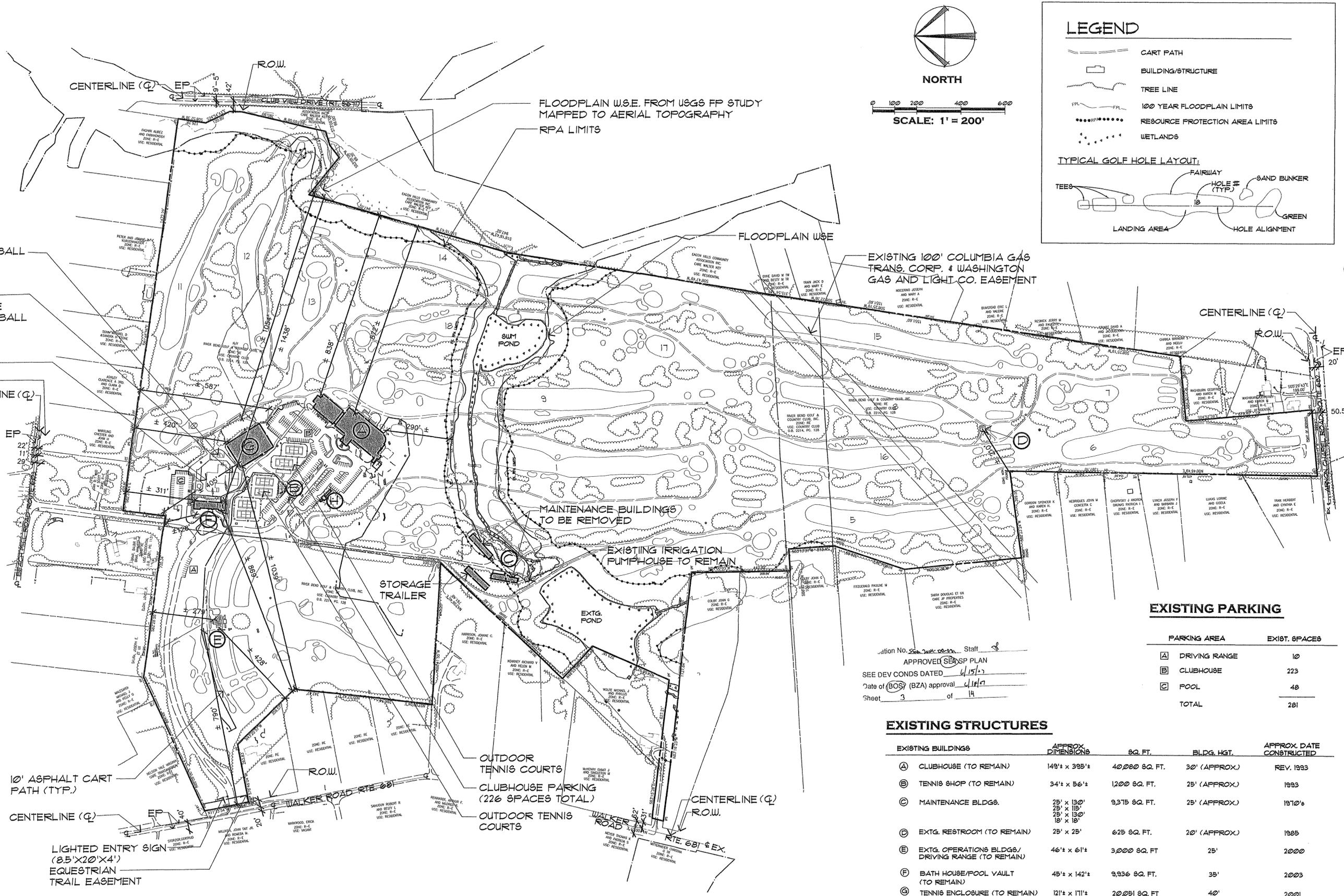
MAR. 09, 2007
MAR. 21, 2007
APR. 20, 2007
MAY 1, 2007
MAY 16, 2007

GENERAL NOTES & TABULATIONS
RIVER BEND GOLF & COUNTRY CLUB
DRANESVILLE DISTRICT FAIRFAX COUNTY, VA

SCALE	N/A
DATE	SEPT. 21, 2006
DRAWN	WDW
CHECKED	DLK
JOB #	1174-0903
CAD FILE	1174-NT.dwg
SHEET #	2 OF 14

Application No. 024-02-031 Staff WJ
APPROVED SEA PLAN
SEE DEV CONDS DATED 6/15/07
Date of (BOS) (BZA) approval 6/18/07
Sheet 2 of 14

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Revision No. 3 of 14 Staff 8
 APPROVED SEASPP PLAN
 SEE DEV CONDS DATED 6/15/07
 Date of (BOS) (BZA) approval 6/15/07
 Sheet 3 of 14

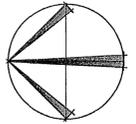
EXISTING STRUCTURES

EXISTING BUILDINGS	APPROX. DIMENSIONS	SQ. FT.	BLDG. HGT.	APPROX. DATE CONSTRUCTED
(A) CLUBHOUSE (TO REMAIN)	149' x 395'	40,080 SQ. FT.	30' (APPROX.)	REV. 1993
(B) TENNIS SHOP (TO REMAIN)	34' x 56'	1,200 SQ. FT.	25' (APPROX.)	1993
(C) MAINTENANCE BLDGS.	25' x 130' 25' x 115' 25' x 150' 15' x 15'	9,375 SQ. FT.	25' (APPROX.)	1970's
(D) EXTG. RESTROOM (TO REMAIN)	25' x 25'	625 SQ. FT.	20' (APPROX.)	1985
(E) EXTG. OPERATIONS BLDGS/ DRIVING RANGE (TO REMAIN)	46' x 61'	3,000 SQ. FT.	25'	2000
(F) BATH HOUSE/POOL VAULT (TO REMAIN)	45' x 142'	9,936 SQ. FT.	35'	2003
(G) TENNIS ENCLOSURE (TO REMAIN)	121' x 171'	20,051 SQ. FT.	40'	2001
(H) POTABLE WATER PUMP HOUSE (TO REMAIN)	10' x 20'	200 SQ. FT.	25'	2001
TOTAL EXISTING AND APPROVED BUILDING GSF		84,461 SQ. FT. (1)		

EXISTING PARKING

PARKING AREA	EXIST. SPACES
(A) DRIVING RANGE	10
(B) CLUBHOUSE	223
(C) POOL	48
TOTAL	281

NOTE: ALL FEATURES SHOWN ARE EXISTING.
 SEE NOTE #6 ON SHEET #2 REGARDING BASE MAP.
 ALL DIMENSIONS SHOWN ARE APPROXIMATE.

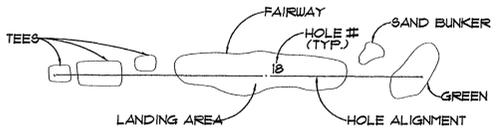


NORTH
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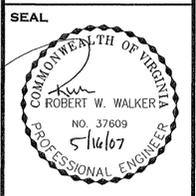
LEGEND

- CART PATH
- BUILDING/STRUCTURE
- TREE LINE
- 100 YEAR FLOODPLAIN LIMITS
- RESOURCE PROTECTION AREA LIMITS
- WETLANDS

TYPICAL GOLF HOLE LAYOUT:



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 ENGINEERS - SURVEYORS - PLANNERS - LANDSCAPE ARCHITECTS



REVISIONS

FEB. 01, 2007
MAR. 09, 2007
MAR. 21, 2007
MAY 1, 2007
MAY 16, 2007

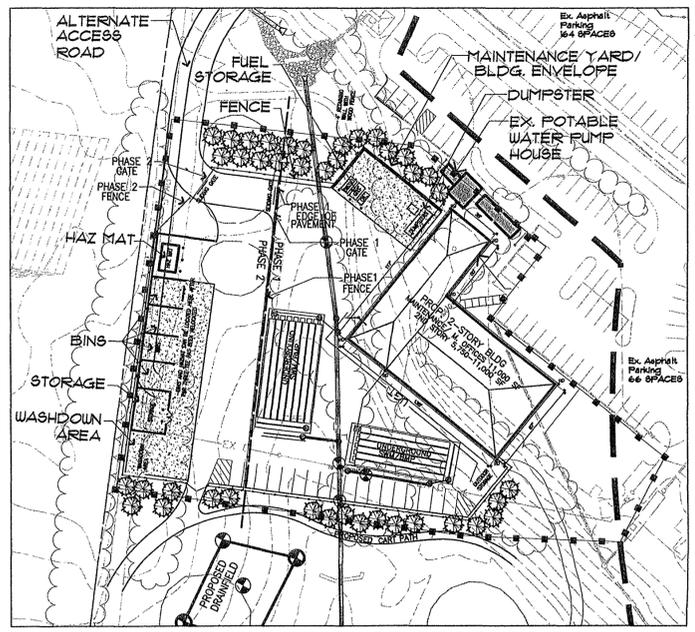
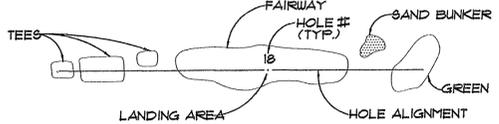
EXISTING CONDITIONS
RIVER BEND GOLF & COUNTRY CLUB
 DRANESVILLE DISTRICT FAIRFAX COUNTY, VA

SCALE 1" = 200'
 DATE SEPT. 21, 2006
 DRAWN OFS, WDW
 CHECKED DLK
 JOB # 1174-0903
 CAD FILE 1174-EC.dwg
 SHEET # **3 OF 14**

LEGEND

- EX. CART PATH
- PROPOSED CART PATH
- BUILDING/STRUCTURE
- TREE LINE
- 100 YEAR FLOODPLAIN LIMITS
- APPROVED RESOURCE PROTECTION AREA (BY DEFINITION)
- WETLANDS
- EX. FENCE
- LIMITS OF CLEARING AND GRADING

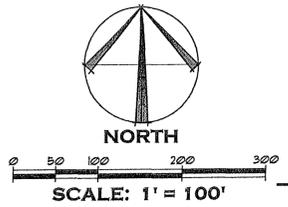
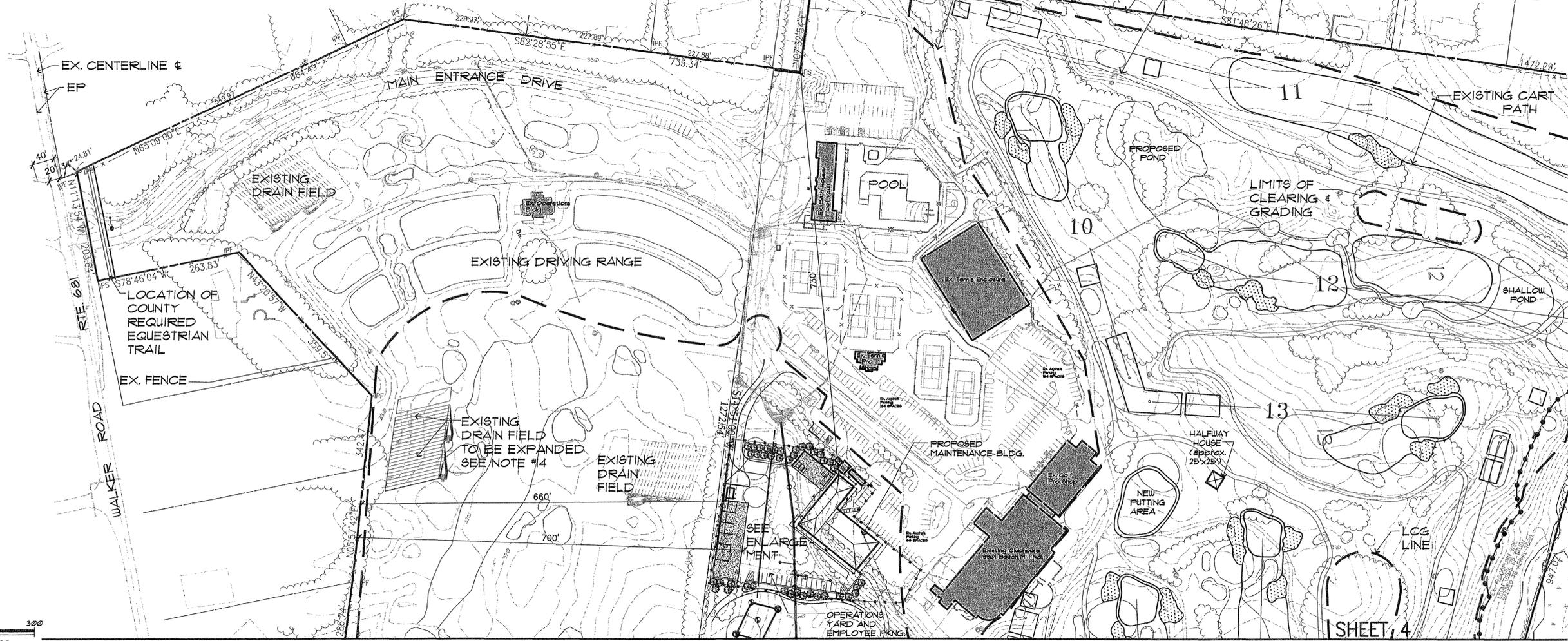
TYPICAL GOLF HOLE LAYOUT:



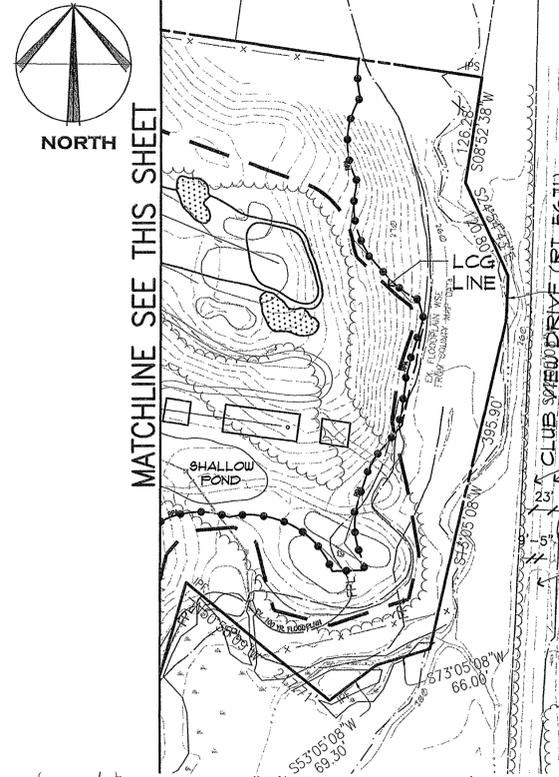
MAINTENANCE BUILDING ENLARGEMENT

SCALE: 1" = 60'-0"

GOLF COURSE LAYOUT: IT SHALL BE UNDERSTOOD THAT THE PROPOSED ALIGNMENT OF NEW GREENS, TEES, FAIRWAYS, CART PATHS, AND WATER FEATURES SHALL BE CONSIDERED CONCEPTUAL AND IS PRESENTED HERE FOR INFORMATIONAL PURPOSES TO REFLECT GENERAL LIMITS OF CLEARING AND GRADING. THE APPLICANT RESERVES THE RIGHT TO MAKE ADJUSTMENTS TO THE GOLF COURSE BASED ON FINAL ARCHITECTURAL DESIGN AND ACTUAL FIELD CONDITIONS PROVIDED THE AREA OF CLEARING AND GRADING IS GENERALLY AS SHOWN ON THE SPECIAL EXCEPTION FLAT.



SHEET 4
MATCHLINE SHEET 5



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Professional Engineer
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5/16/07

APPROVED (SEA) SP PLAN
SEE DEV CONDS DATED 6/15/07
Date of (BOS) (BZA) approval 6/17/07
Sheet 4 of 14

REVISIONS

FEB. 09, 2007
MAR. 09, 2007
MAR. 21, 2007
MAY 1, 2007
MAY 16, 2007

MATCHLINE SEE THIS SHEET

SPECIAL EXCEPTION - MAINTENANCE AREA

RIVER BEND GOLF & COUNTRY CLUB
DRANESVILLE DISTRICT FAIRFAX COUNTY, VA

SCALE 1" = 100'

DATE SEPT. 21, 2006

DRAWN WDW

CHECKED SEG, DLK

JOB # 1174-0903

CAD FILE 1174-SE.dwg

SHEET # 4 OF 14

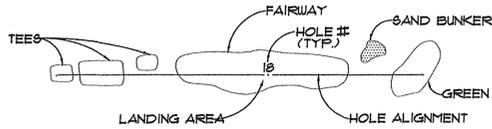
MATCHLINE SHEET 4

SHEET 5

LEGEND

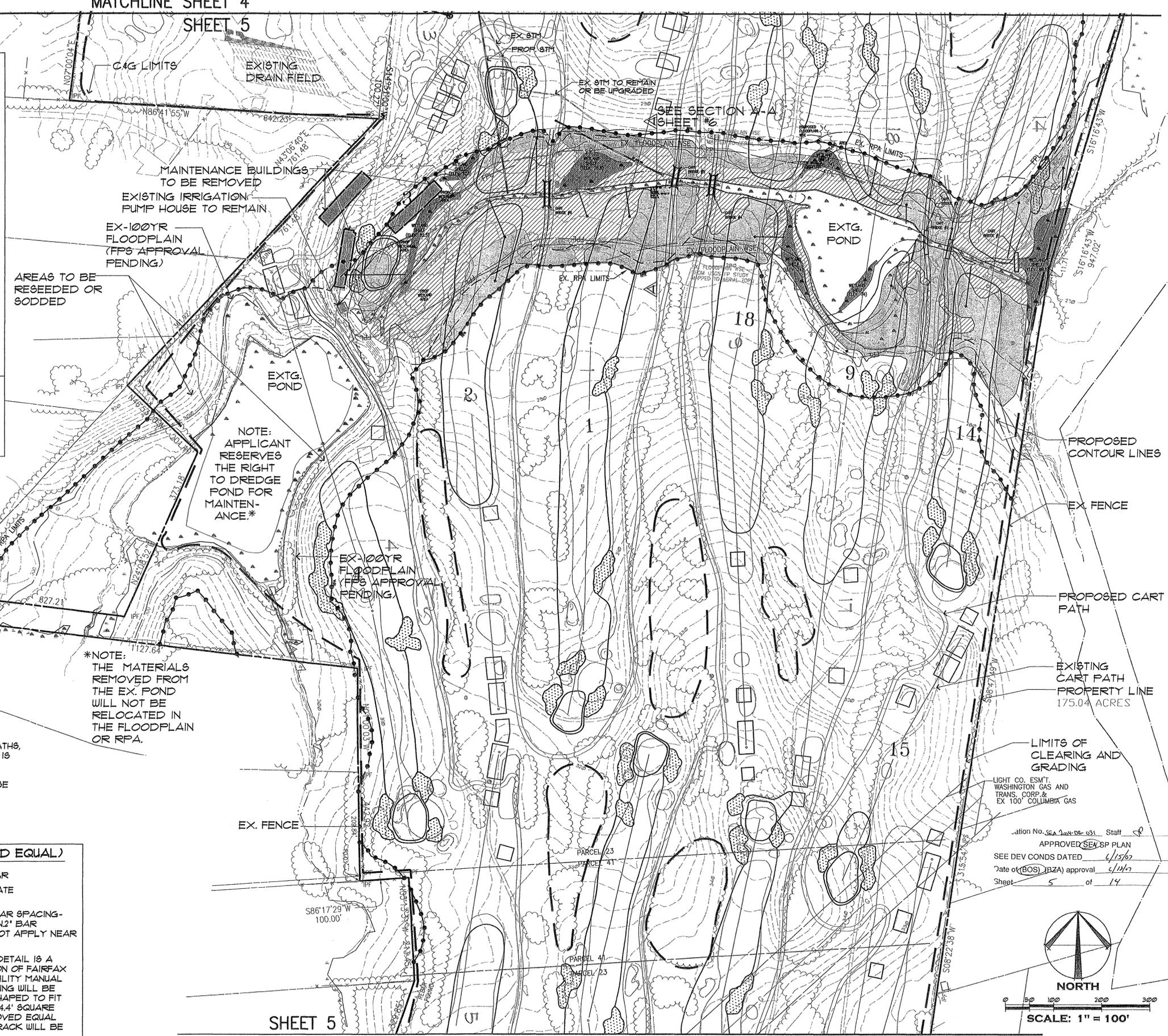
- EX. CART PATH
- PROPOSED CART PATH
- BUILDING/STRUCTURE
- TREE LINE
- 100 YEAR FLOODPLAIN LIMITS
- APPROVED RESOURCE PROTECTION AREA (BY DEFINITION)
- WETLANDS
- EX. FENCE
- LIMITS OF CLEARING AND GRADING

TYPICAL GOLF HOLE LAYOUT:



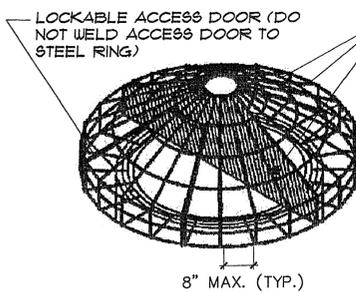
FLOOD PLAIN

- +/- 1,500 CUBIC YARDS FILL
- +/- 1,500 CUBIC YARDS CUT



GOLF COURSE LAYOUT: IT SHALL BE UNDERSTOOD THAT THE PROPOSED ALIGNMENT OF NEW GREENS, TEES, FAIRWAYS, CART PATHS, AND WATER FEATURES SHALL BE CONSIDERED CONCEPTUAL AND IS PRESENTED HERE FOR INFORMATIONAL PURPOSES TO REFLECT GENERAL LIMITS OF CLEARING AND GRADING. THE APPLICANT RESERVES THE RIGHT TO MAKE ADJUSTMENTS TO THE GOLF COURSE BASED ON FINAL ARCHITECTURAL DESIGN AND ACTUAL FIELD CONDITIONS PROVIDED THE AREA OF CLEARING AND GRADING IS GENERALLY AS SHOWN ON THE SPECIAL EXCEPTION FLAT.

TYPICAL TRASH RACK DETAIL (OR APPROVED EQUAL)



LOCKABLE ACCESS DOOR (DO NOT WELD ACCESS DOOR TO STEEL RING)

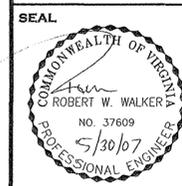
SPOT WELD REBAR ANTI-VORTEX PLATE

NOTE:
1) TRASH RACK BAR SPACING- 2'(MIN.)X4'(MAX.)MIN.2' BAR SPACING DOES NOT APPLY NEAR APEX)
2) TRASH RACK DETAIL IS A MODIFIED VERSION OF FAIRFAX CITY PUBLIC FACILITY MANUAL #53-6. THE OPENING WILL BE SIZED AND/OR SHAPED TO FIT THE EXTG. 4.4' X 4.4' SQUARE RISER OR APPROVED EQUAL FOR THE TRASH RACK WILL BE USED.

SHEET 5

MATCHLINE SHEET 6

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REVISIONS

FEB. 01, 2007
MAR. 09, 2007
MAR. 21, 2007
APR. 20, 2007
MAY 1, 2007
MAY 16, 2007

SPECIAL EXCEPTION - GOLF COURSE

RIVER BEND
GOLF & COUNTRY CLUB
DRANESVILLE DISTRICT FAIRFAX COUNTY, VA

SCALE 1" = 100'

DATE SEPT. 21, 2006

DRAWN WDW

CHECKED DLK

JOB # 1174-0903

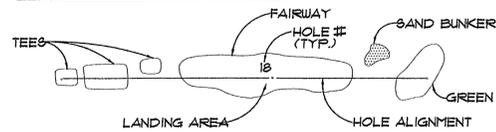
CAD FILE 1174-SE.dwg

SHEET # 5 OF 14

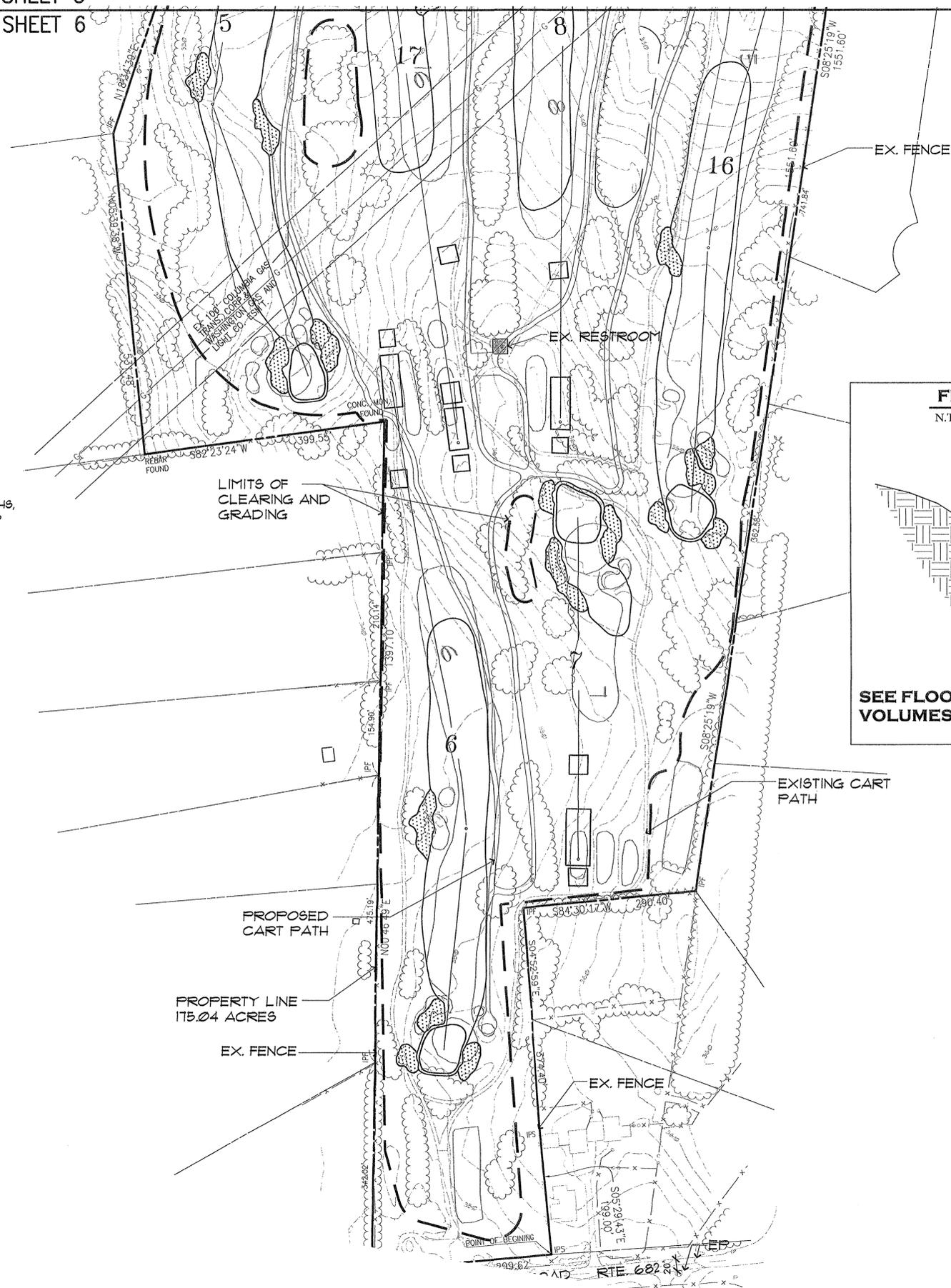
LEGEND

- EX. CART PATH
- PROPOSED CART PATH
- BUILDING/STRUCTURE
- TREE LINE
- 100 YEAR FLOODPLAIN LIMITS
- APPROVED RESOURCE PROTECTION AREA (BY DEFINITION)
- WETLANDS
- EX. FENCE
- LIMITS OF CLEARING AND GRADING

TYPICAL GOLF HOLE LAYOUT:

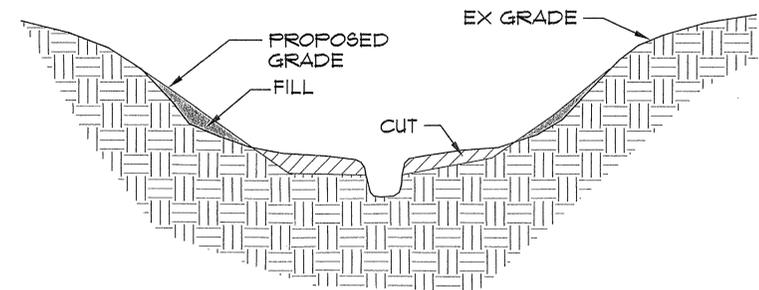


GOLF COURSE LAYOUT: IT SHALL BE UNDERSTOOD THAT THE PROPOSED ALIGNMENT OF NEW GREENS, TEES, FAIRWAYS, CART PATHS, AND WATER FEATURES SHALL BE CONSIDERED CONCEPTUAL AND IS PRESENTED HERE FOR INFORMATIONAL PURPOSES TO REFLECT GENERAL LIMITS OF CLEARING AND GRADING. THE APPLICANT RESERVES THE RIGHT TO MAKE ADJUSTMENTS TO THE GOLF COURSE BASED ON FINAL ARCHITECTURAL DESIGN AND ACTUAL FIELD CONDITIONS PROVIDED THE AREA OF CLEARING AND GRADING IS GENERALLY AS SHOWN ON THE SPECIAL EXCEPTION FLAT.



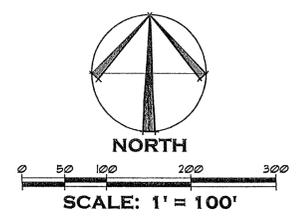
FLOODPLAIN CUT AND FILL SECTION A-A

N.T.S.

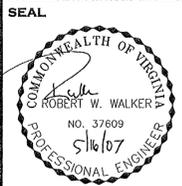


SEE FLOODPLAIN LEGEND ON SHEET 5 FOR TOTAL VOLUMES OF CUT AND FILL WITHIN THE FLOODPLAIN

ation No. SEA 2004-08-253 Staff 8
 APPROVED SEA BP PLAN
 SEE DEV CONDS DATED 6/18/07
 Date of (BOS) (BZA) approval 6/18/07
 Sheet 6 of 14



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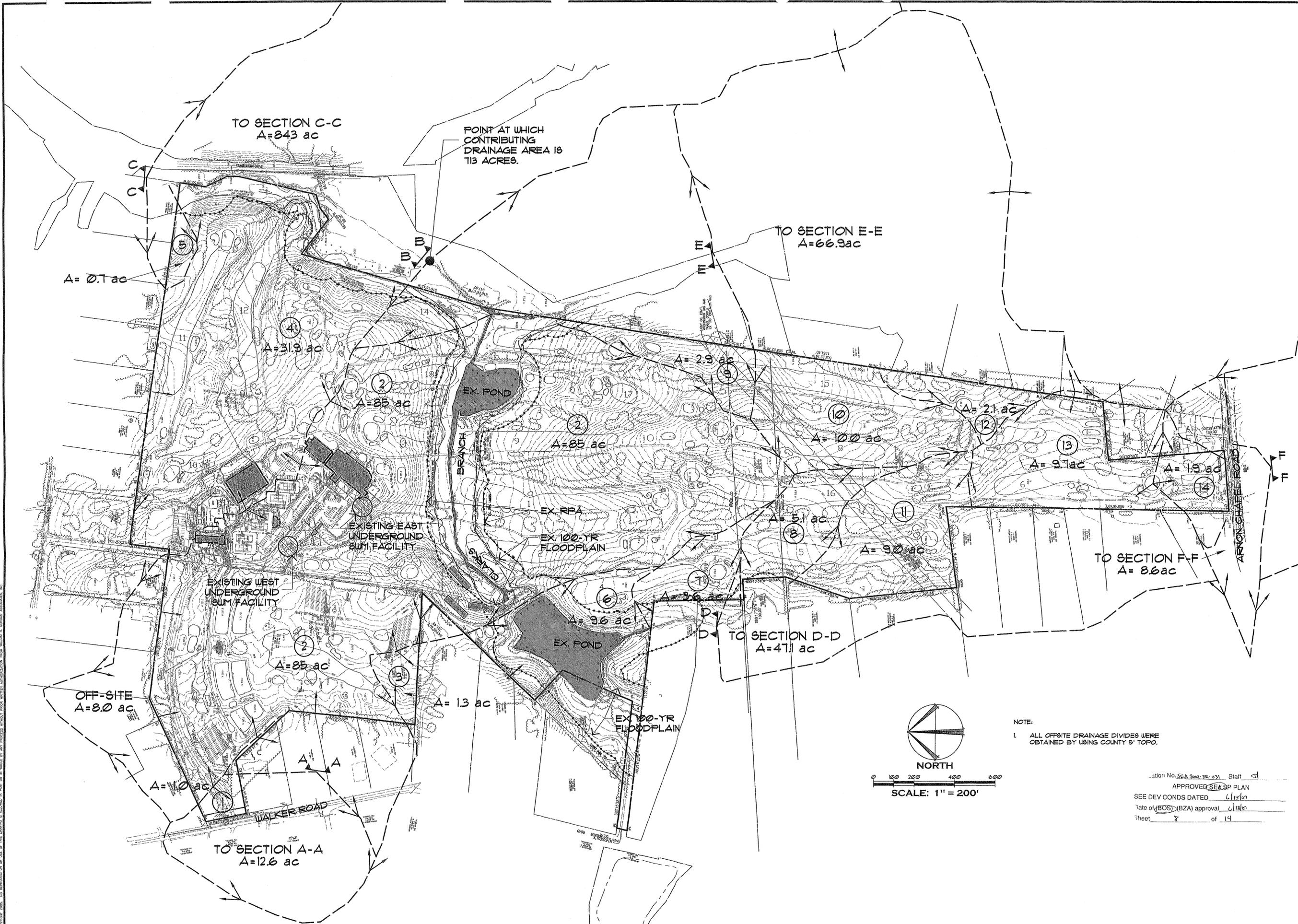
REVISIONS

FEB. 01, 2007
MAR. 09, 2007
MAR. 21, 2007
MAY 1, 2007
MAY 16, 2007

SPECIAL EXCEPTION - GOLF COURSE
**RIVER BEND
 GOLF & COUNTRY CLUB**
 DRANESVILLE DISTRICT FAIRFAX COUNTY, VA

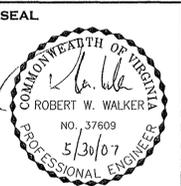
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DATE	SEPT. 21, 2006
DRAWN	WDW
CHECKED	DLK
JOB #	1174-0903
CAD FILE	1174-SE.dwg
SHEET #	6 OF 14

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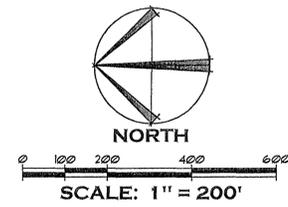
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REVISIONS

MAR. 9, 2007
MAR. 21, 2007
MAY 1, 2007
MAY 16, 2007

ADEQUATE OUTFALL DRAINAGE DIVIDE MAP
RIVER BEND
GOLF & COUNTRY CLUB
 DRANESVILLE DISTRICT FAIRFAX COUNTY, VA



NOTE:
 1. ALL OFFSITE DRAINAGE DIVIDES WERE OBTAINED BY USING COUNTY B' TOPO.

Station No. SCA 9001-031 Staff *cd*
 APPROVED *SEA* PLAN
 SEE DEV CONDS DATED *6/13/07*
 Date of (BOS)-(BZA) approval *6/13/07*
 Sheet *8* of *14*

SCALE	1"=200'
DATE	SBPT. 21, 2006
DRAWN	WHT
CHECKED	JWM
JOB #	1174-0903
CAD FILE	1174-SWM.dwg
SHEET #	8 OF 14

ADEQUATE OUTFALL NARRATIVE:

THE SITE CONTAINS 115.8 ACRES AND HAS MULTIPLE OUTFALL POINTS. THE OUTFALL POINTS WITH THEIR ASSOCIATED DRAINAGE AREAS ARE DEPICTED ON THE OVERALL DRAINAGE MAP. CLARK'S BRANCH IS THE TRIBUTARY TO WHICH THE MAJORITY OF THE PROPERTY DRAINS. THE CONTRIBUTING DRAINAGE AREA TO CLARK'S BRANCH AT A DOWNSTREAM POINT JUST BEYOND THE EASTERN PROPERTY LINE IS 115 ACRES. SINCE THIS DRAINAGE AREA IS GREATER THAN ONE SQUARE MILE (640 ACRES) THE OUTFALL DESCRIPTIONS WILL STOP AT CLARK'S BRANCH. TABULATED BELOW ARE THE DESCRIPTIONS OF EACH OUTFALL TO POINT AT LEAST 100 TIMES THE SIZE OF THE DRAINAGE AREA OR TO THE CLARK'S BRANCH FLOODPLAIN WHICHEVER COMES FIRST. ALSO TABULATED ARE THE DESCRIPTIONS OF HOW THE PPM ADEQUATE DRAINAGE REQUIREMENT WILL BE SATISFIED.

1) RUNOFF WITHIN THIS DRAINAGE AREA BEGINS TO CONCENTRATE WITHIN ROAD SIDE DITCHES ALONG THE PRIVATE DRIVE ON-SITE AND THEN CONNECTS TO ROAD SIDE DITCHES ALONG WALKER ROAD. RUNOFF FLOWS SOUTH ALONG WALKER ROAD UNTIL IT DISCHARGES INTO A CHANNEL APPROXIMATELY 400' FROM THE PROPERTY LINE. THE CHANNEL FLOWS EAST BACK ONTO THE PROPERTY AFTER ANOTHER 400' INTO DRAINAGE AREA 2. DRAINAGE AREA 2 DISCHARGES DIRECTLY INTO CLARK'S BRANCH ON-SITE.

PEM - THE DOWNSTREAM OUTFALL HAS BEEN EVALUATED TO A POINT 150 FEET DOWNSTREAM FROM THE POINT AFTER IT JOINS ANOTHER DRAINAGE AREA THAT IS AT LEAST 90% THE SIZE OF AREA 1. CROSS SECTION A-A WAS TAKEN AT THIS LOCATION USING AVAILABLE INFORMATION. THE 2-YEAR PEAK RUNOFF RATE WAS CALCULATED TO BE 203 CFS, WITH A CHANNEL CAPACITY OF 222 CFS, AND A VELOCITY OF 3.09 FPS. THEREFORE THE CHANNEL IS ADEQUATE.

2) RUNOFF WITHIN THIS DRAINAGE AREA SHEET FLOWS ACROSS THE SITE AND BEGINS TO CONCENTRATE ON-SITE IN VARIOUS LOCATIONS BEFORE IT DISCHARGES INTO CLARK'S BRANCH. ALL RUNOFF IS CONCENTRATED WITHIN THE CLARK'S BRANCH FLOODPLAIN BEFORE DISCHARGING FROM THE SITE.

PEM - THE OUTFALL FROM THIS DRAINAGE AREA IS CONTAINED WITHIN THE 100-YR FLOODPLAIN FOR CLARK'S BRANCH. THE POINT OF DISCHARGE FROM THE SITE HAS A TOTAL DRAINAGE AREA GREATER THAN 360 ACRES (113 ACRES). THEREFORE, SECTION B-B HAS BEEN TAKEN AT 150' FROM THE PROPERTY LINE TO DETERMINE THE ADEQUACY OF THE OUTFALL. THE 2 YEAR PEAK RUNOFF RATE WAS CALCULATED TO BE 210 CFS, WITH A CHANNEL CAPACITY OF 232 CFS AND A VELOCITY OF 4.1 FPS. THE CHANNEL IS LOCATED WITHIN A RPA, WETLANDS, AND FLOODPLAIN.

THE PROPOSED MAINTENANCE FACILITY SITE AREA IS ALSO WITHIN THIS DRAINAGE AREA AND WILL CAUSE A SLIGHT INCREASE IN STORMWATER RUNOFF. A SUMP/BMP FACILITY IS BEING INSTALLED TO PROVIDE STORMWATER QUANTITY AND QUALITY CONTROL FOR THE INCREASE IN IMPERVIOUS AREA ASSOCIATED WITH THE MAINTENANCE FACILITY IMPROVEMENTS. TO SATISFY THE PPM REQUIREMENT FOR ADEQUATE OUTFALL FROM THE MAINTENANCE FACILITY IMPROVEMENTS THE DOWNSTREAM OUTFALL WILL BE EVALUATED UNTIL THE TOTAL DRAINAGE AREA IS 100 TIMES THE SIZE OF THE SITE AREA ASSOCIATED WITH THE MAINTENANCE FACILITY IMPROVEMENTS. THERE WILL BE NO ADVERSE IMPACT BY THIS REDEVELOPMENT ON THE DOWNSTREAM AREA.

3) RUNOFF WITHIN THIS DRAINAGE AREA CONCENTRATES ON-SITE IN A SHALLOW SWALE AND DISCHARGES OFF-SITE IN A SOUTHERLY DIRECTION. THE CONCENTRATED FLOW CONTINUES SOUTH FOR 300' UNTIL IT COMES BACK ON-SITE AND DISCHARGES INTO THE WESTERN POND ALONG CLARK'S BRANCH.

PEM - THE DOWNSTREAM OUTFALL DOES NOT JOIN ANOTHER DRAINAGE AREA THAT IS AT LEAST 90% THE SIZE OF AREA 3 UNTIL THE OUTFALL COMES BACK ON SITE INTO THE EXISTING POND. THE POND OUTFALLS INTO AREA 2 THEREFORE THE DOWNSTREAM OUTFALL CHANNEL IS THE SAME AS THAT FOR AREA 2.

4) RUNOFF WITHIN THIS DRAINAGE AREA SHEET FLOWS IN AN EASTERNLY DIRECTION ACROSS THE SITE AND CONCENTRATES ON-SITE IN VARIOUS LOCATIONS BEFORE IT DISCHARGES INTO CLARK'S BRANCH. ALL RUNOFF IS CONCENTRATED WITHIN CLARK'S BRANCH BEFORE DISCHARGING FROM THE SITE.

PEM - THE OUTFALL FROM THIS DRAINAGE AREA IS CONTAINED WITHIN THE 100-YR FLOODPLAIN FOR CLARK'S BRANCH. THE POINT OF DISCHARGE FROM THE SITE HAS A TOTAL DRAINAGE AREA OF 843 ACRES. THERE IS NO CHANGE TO THE DRAINAGE PATTERN OR IMPERVIOUS AREA AS A PART OF THIS PROJECT.

5) RUNOFF WITHIN THIS DRAINAGE AREA SHEET FLOWS OFF-SITE IN A NORTH-EASTERN DIRECTION. RUNOFF BECOMES SHALLOW CONCENTRATED FLOW FOR APPROXIMATELY 200' OFF-SITE BEFORE IT DISCHARGES INTO CLARK'S BRANCH.

PEM - OUTFALL FROM SITE IS IN SHEET FLOW AND THE PROPOSED DEVELOPMENT WILL NOT ALTER THE DRAINAGE PATTERNS NOR CAUSE AN INCREASE IN RUNOFF. THEREFORE THE OUTFALL IS ADEQUATE.

6) RUNOFF WITHIN THIS DRAINAGE AREA SHEET FLOWS DIRECTLY INTO THE WESTERN POND ALONG CLARK'S BRANCH. THE DRAINAGE AREA INCLUDES THE AREA OF THE POND.

PEM - OUTFALL FROM THE SITE IS THE SAME AS AREA 2, SEE AREA 2 DESCRIPTION OF HOW THE PPM OUTFALL REQUIREMENT WILL BE SATISFIED.

7) RUNOFF WITHIN THIS DRAINAGE AREA SHEET FLOWS OFF-SITE TO THE WEST. OFF-SITE RUNOFF DRAINS BACK ON-SITE INTO THE WESTERN POND.

PEM - OUTFALL FROM THE SITE IS IN SHEET FLOW AND THE PROPOSED DEVELOPMENT WILL NOT ALTER THE DRAINAGE PATTERNS NOR CAUSE AN INCREASE IN RUNOFF. THEREFORE THE OUTFALL IS ADEQUATE.

8) RUNOFF WITHIN THIS DRAINAGE AREA DISCHARGES INTO AN EXISTING POND OFF-SITE THAT IS APPROXIMATELY 60' FROM THE PROPERTY LINE. THE POND OUTFALLS INTO A STREAM THAT FLOWS NORTH FOR APPROXIMATELY 550 FEET BEFORE IT FLOWS BACK ON-SITE INTO THE WESTERN POND.

PEM - THERE ARE NO PROPOSED CHANGES TO THE DRAINAGE PATTERNS AS A PART OF THIS PROJECT. THE PROPOSED DEVELOPMENT WILL NOT INCREASE THE RUNOFF RATES FROM PRE-DEVELOPED LEVELS.

9) RUNOFF WITHIN THIS DRAINAGE AREA SHEET FLOWS IN AN EASTERN DIRECTION BEFORE DISCHARGING OFF-SITE. ONCE OFF-SITE THE RUNOFF FLOWS ALONG THE EASTERN PROPERTY LINE FOR APPROXIMATELY 200' BEFORE DISCHARGING INTO CLARK'S BRANCH.

PEM - OUTFALL FROM THE SITE IS IN SHEET FLOW AND THE PROPOSED DEVELOPMENT WILL NOT ALTER THE DRAINAGE PATTERNS NOR CAUSE AN INCREASE IN RUNOFF. THEREFORE THE OUTFALL IS ADEQUATE.

10) RUNOFF WITHIN THIS DRAINAGE AREA COLLECTS IN A SWALE ON THE EASTERN PROPERTY LINE BEFORE DISCHARGING OFF-SITE. THE SWALE CONTINUES TO FLOW EAST UNTIL IT CONNECTS TO A STREAM THAT FEEDS AN EXISTING POND OFF-SITE. THE POND OUTFALL IS INTO A STREAM THAT RUNS NORTH PARALLEL TO THE EASTERN PROPERTY LINE. THE STREAM DISCHARGES INTO CLARK'S BRANCH APPROXIMATELY 1400 FEET DOWN STREAM FROM POND.

PEM - THERE ARE NO PROPOSED CHANGES TO THE DRAINAGE PATTERNS AS A PART OF THIS PROJECT. THE PROPOSED DEVELOPMENT WILL NOT INCREASE THE RUNOFF RATES.

11) RUNOFF WITHIN THIS DRAINAGE AREA IS DISCHARGED INTO A SWALE OFF-SITE FLOWING IN A NORTHERN DIRECTION. THE RUNOFF DISCHARGES TO AN EXISTING OFF-SITE POND APPROXIMATELY 250 FEET FROM THE PROPERTY LINE. THE POND IS THE SAME OFF-SITE POND THAT AREA 8 DRAINS INTO, SEE AREA 8 NARRATIVE FOR A MORE DETAILED DESCRIPTION OF THE OUTFALL BELOW THE POND.

PEM - THERE ARE NO PROPOSED CHANGES TO THE DRAINAGE PATTERNS AS A PART OF THIS PROJECT. THE PROPOSED DEVELOPMENT WILL NOT INCREASE THE RUNOFF RATES.

12) RUNOFF WITHIN THIS DRAINAGE AREA SHEET FLOWS OFF-SITE IN A EASTERNLY DIRECTION. SHEET FLOW MOVES TO SHALLOW CONCENTRATED FLOW OFF-SITE AND EVENTUALLY CONCENTRATES IN A CHANNEL APPROXIMATELY 400 FEET FROM THE PROPERTY LINE. THE CHANNEL THEN FLOWS INTO AN EXISTING OFF-SITE POND. THE POND OUTFALLS INTO THE SAME STREAM AS AREAS 9 AND 10. THE STREAM CONNECTS TO CLARK'S BRANCH APPROXIMATELY 1500 FEET FROM THE POND.

PEM - OUTFALL FROM THE SITE IS IN SHEET FLOW AND THE PROPOSED DEVELOPMENT WILL NOT ALTER THE DRAINAGE PATTERNS NOR CAUSE AN INCREASE IN RUNOFF. THEREFORE THE OUTFALL IS ADEQUATE.

13) RUNOFF WITHIN THIS DRAINAGE AREA SHEET FLOWS OFF-SITE IN A WESTERLY DIRECTION AND IS CONCENTRATED WITHIN A SHALLOW SWALE JUST BEYOND THE PROPERTY BOUNDARY. THE SWALE CONTINUES WEST FOR APPROXIMATELY 200 FEET UNTIL IT CONNECTS INTO A CHANNEL FLOWING NORTH. THE CHANNEL FLOWS NORTH FOR APPROXIMATELY 400 FEET UNTIL IT COMES BACK ON-SITE INTO THE SWALE IN DRAINAGE AREA 11. SEE THE NARRATIVE FOR AREA 11 FOR A FURTHER DESCRIPTION OF THE DOWNSTREAM DRAINAGE.

PEM - OUTFALL FROM THE SITE IS IN SHEET FLOW AND THE PROPOSED DEVELOPMENT WILL NOT ALTER THE DRAINAGE PATTERNS NOR CAUSE AN INCREASE IN RUNOFF. THEREFORE THE OUTFALL IS ADEQUATE.

14) RUNOFF WITHIN THIS DRAINAGE AREA FLOWS TO THE SOUTH INTO A CULVERT CROSSING UNDER ARNON CHAPEL ROAD. THE CULVERT DISCHARGES INTO A CHANNEL THAT CONTINUES TO FLOW SOUTH FOR APPROXIMATELY 850 FEET BEFORE DISCHARGING INTO A SERIES OF THREE EXISTING PONDS. THE OUTFALL OF FARTHEST DOWNSTREAM POND IS INTO AN EXISTING STREAM WHICH FLOWS SOUTH FOR APPROXIMATELY 1250 FEET BEFORE DISCHARGING INTO ANOTHER LARGER POND. THE TOTAL DRAINAGE AREA OF THE LAST POND IS GREATER THAN 100 TIMES THE AREA OF THIS PORTION OF THE SITE. THEREFORE THE REQUIREMENT FOR FARTHEST DOWNSTREAM ANALYSIS POINT HAS BEEN SATISFIED. THIS IS THE ONLY ON-SITE DRAINAGE AREA THAT DOES NOT DISCHARGE INTO CLARK'S BRANCH.

PEM - THE CULVERT UNDER ARNON CHAPEL ROAD HAS A DRAINAGE AREA THAT IS AT LEAST 90% THE SIZE OF AREA 14. THEREFORE SECTION F-F IN THE RECEIVING CHANNEL 150 FEET FROM THE DOWNSTREAM END OF THE CULVERT HAS BEEN INVESTIGATED FOR ADEQUACY. THE 2 YEAR PEAK RUNOFF RATE WAS CALCULATED TO BE 15.8 CFS, WITH A CAPACITY OF 16.3 CFS AND A VELOCITY OF 2.0 FPS AT SECTION F-F. SINCE THE COMPUTED RUNOFF IS LESS THAN THE CAPACITY AND THE VELOCITY IS LESS THAN THE ALLOWABLE VELOCITY OF 4.0 FPS THE CHANNEL IS ADEQUATE.

FLOODPLAIN NARRATIVE:

IN ACCORDANCE WITH SECTION 2-304-2 FOR SPECIAL EXCEPTION USES IN A FLOODPLAIN THE FOLLOWING SUBMISSION REQUIREMENTS ARE ADDRESSED HEREON:

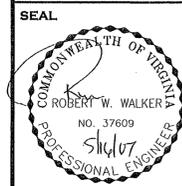
- A.
 1. THE FLOODPLAIN INFORMATION IS BASED UPON THE USGS STUDY ADOPTED BY THE FAIRFAX COUNTY BOARD OF SUPERVISORS, AND WILL BE UPDATED FOR THE PROPOSED IMPACTS.
 2. SEE NOTE 16 ON SHEET 2 AND SHEET 5 FOR EXISTING AND PROPOSED TOPOGRAPHIC INFORMATION.
 3. SEE NOTE 10 ON SHEET 2, THE FLOODPLAIN DOES NOT IMPACT ACCESS TO THE PROPERTY OR TO THE ADJACENT PROPERTIES.
 4. THE PROPOSED FILL AREAS ARE SHOWN SHADED AND THE PROPOSED CUT AREAS ARE SHOWN AS HATCHED ON SHEET 5 OF THE SPECIAL EXCEPTION PLAT. THERE IS APPROXIMATELY 1500 CY OF FILL AND 1500 CY OF CUT.
 5. THERE ARE NO BUILDINGS EXISTING OR PROPOSED WITHIN THE LIMITS OF THE FLOODPLAIN ON THE PROPERTY.
 6. THE ELEVATION OF THE FLOODPLAIN NEAREST TO THE CLUBHOUSE IS 280.5 AND IS LOCATED 209 FEET FROM THE CLUBHOUSE. APPROXIMATELY 318.15, THE BASEMENT ELEVATION IS APPROXIMATELY 303.00, AND THE PROPOSED LOWEST FLOOR ELEVATION OF THE PROPOSED MAINTENANCE BUILDING IS 303.00. THE LOWEST FLOOR ELEVATION OF ANY STRUCTURE ON THE PROPERTY IS MORE THAN 20 FEET ABOVE THE FLOOD ELEVATION AT THE CLOSEST POINT.

- B.
 1. THERE ARE NO KNOWN PROBLEMS WITH EROSION OR FLOODING UPSTREAM OR DOWNSTREAM OF THE PROPERTY. THE IMPROVEMENTS WILL NOT HAVE AN INCREASE IN FLOW, AND THE FILL, ANY CHANGES IN WATER SURFACE DUE TO THE FILL IN THE FLOODPLAIN WILL BE WITHIN THE CONFINES OF THE GOLF COURSE.
 2. ADDITIONAL PERMITS WILL BE REQUIRED FROM THE ARMY CORP OF ENGINEERS (COE) AND THE VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ) FOR WORK TO BE DONE WITHIN THE WATERS OF THE US. THESE PERMITS WILL BE OBTAINED PRIOR TO COMMENCING CONSTRUCTION.

- C.
 1. THERE ARE NO STRUCTURES PROPOSED WITHIN THE FLOODPLAIN.
 2. NOT APPLICABLE. THERE ARE NO STRUCTURES THAT REQUIRE FLOODPROOFING.
 3. THE APPLICANT (BILL GLEN) IS AWARE THAT FLOOD INSURANCE MAY BE REQUIRED BY THE APPLICANT'S LENDING INSTITUTION AND THAT FLOOD INSURANCE RATES MAY INCREASE BECAUSE OF INCREASES IN RISKS TO LIFE AND PROPERTY.

- D.
 1. FOR ADDITIONAL INFORMATION REGARDING FILL IN THE FLOODPLAIN SEE SHEETS 4 AND 5. THE INFORMATION SPECIFICALLY IS PRESENTED IN THE LEGEND, ON THE PLAN, AND IN THE 'FLOODPLAIN CUT AND FILL SECTION A-A'.

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SEAL

REVISIONS
MAR. 9, 2007
MAR. 21, 2007
MAY 1, 2007
MAY 16, 2007

ADEQUATE OUTFALL NARRATIVE

RIVER BEND GOLF & COUNTRY CLUB
 DRANESVILLE DISTRICT FAIRFAX COUNTY, VA

Revision No. See 2007-01-01 Staff SP
 APPROVED SE SP PLAN
 SEE DEV CONDS DATED 6/15/07
 Date of (BOS) (BZA) approval 6/18/07
 Sheet 9 of 14

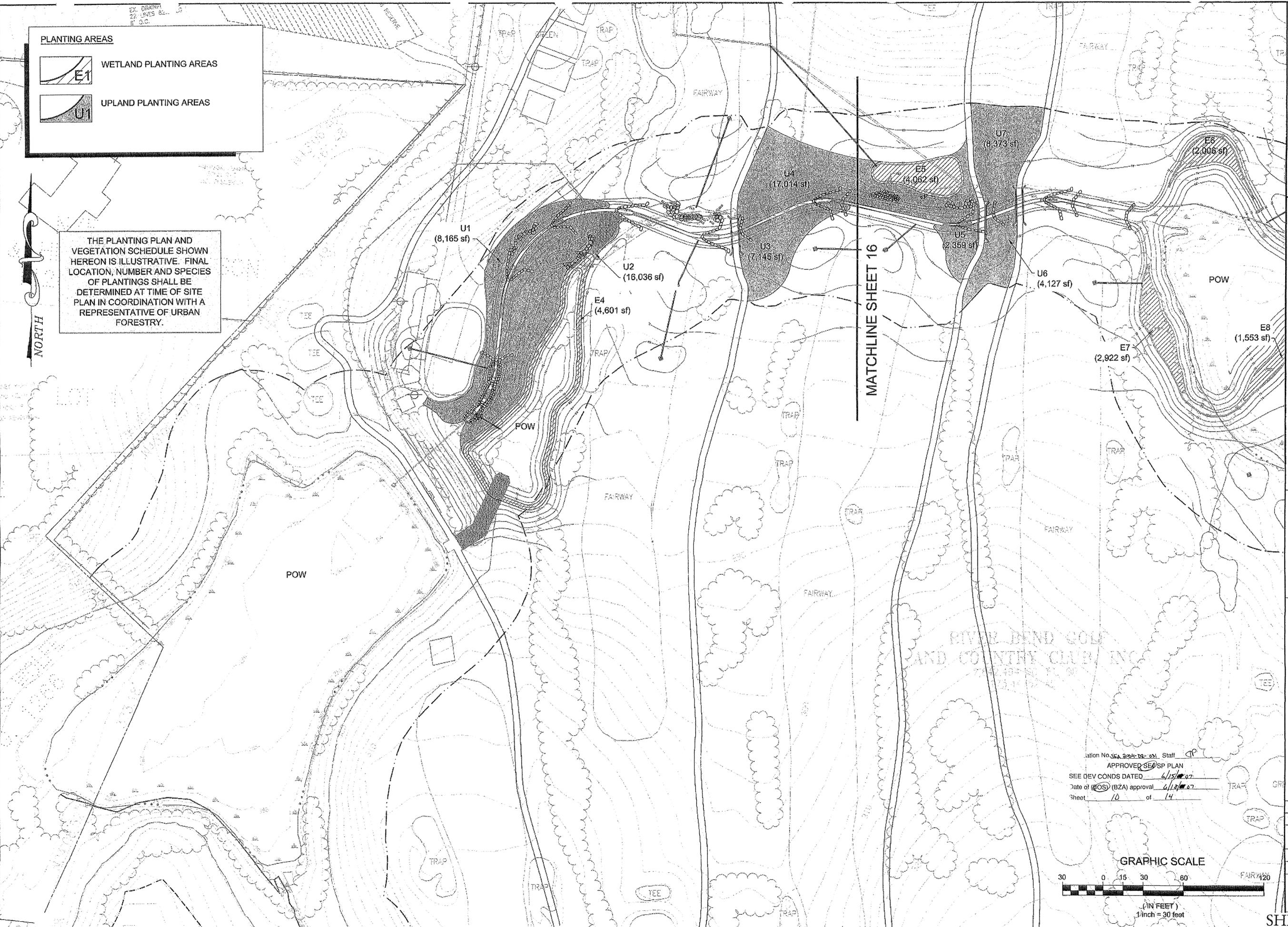
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DATE	SEPT. 21, 2006
DRAWN	WHT
CHECKED	JWM
JOB #	1174-0903
CAD FILE	1174-SWM.dwg
SHEET #	9 OF 14

PLANTING AREAS

E1 WETLAND PLANTING AREAS

U1 UPLAND PLANTING AREAS

THE PLANTING PLAN AND VEGETATION SCHEDULE SHOWN HEREON IS ILLUSTRATIVE. FINAL LOCATION, NUMBER AND SPECIES OF PLANTINGS SHALL BE DETERMINED AT TIME OF SITE PLAN IN COORDINATION WITH A REPRESENTATIVE OF URBAN FORESTRY.



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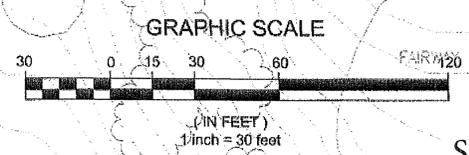
**RIVER BEND GOLF AND COUNTRY CLUB
 STREAM STABILIZATION PLAN
 FAIRFAX COUNTY, VIRGINIA
 PLANTING PLAN**



REVISIONS	
No.	Description
1	3/21/07
2	5/11/07
3	5/16/07
4	5/16/07

DATE: JANUARY 2007 SCALE: 1"=50'

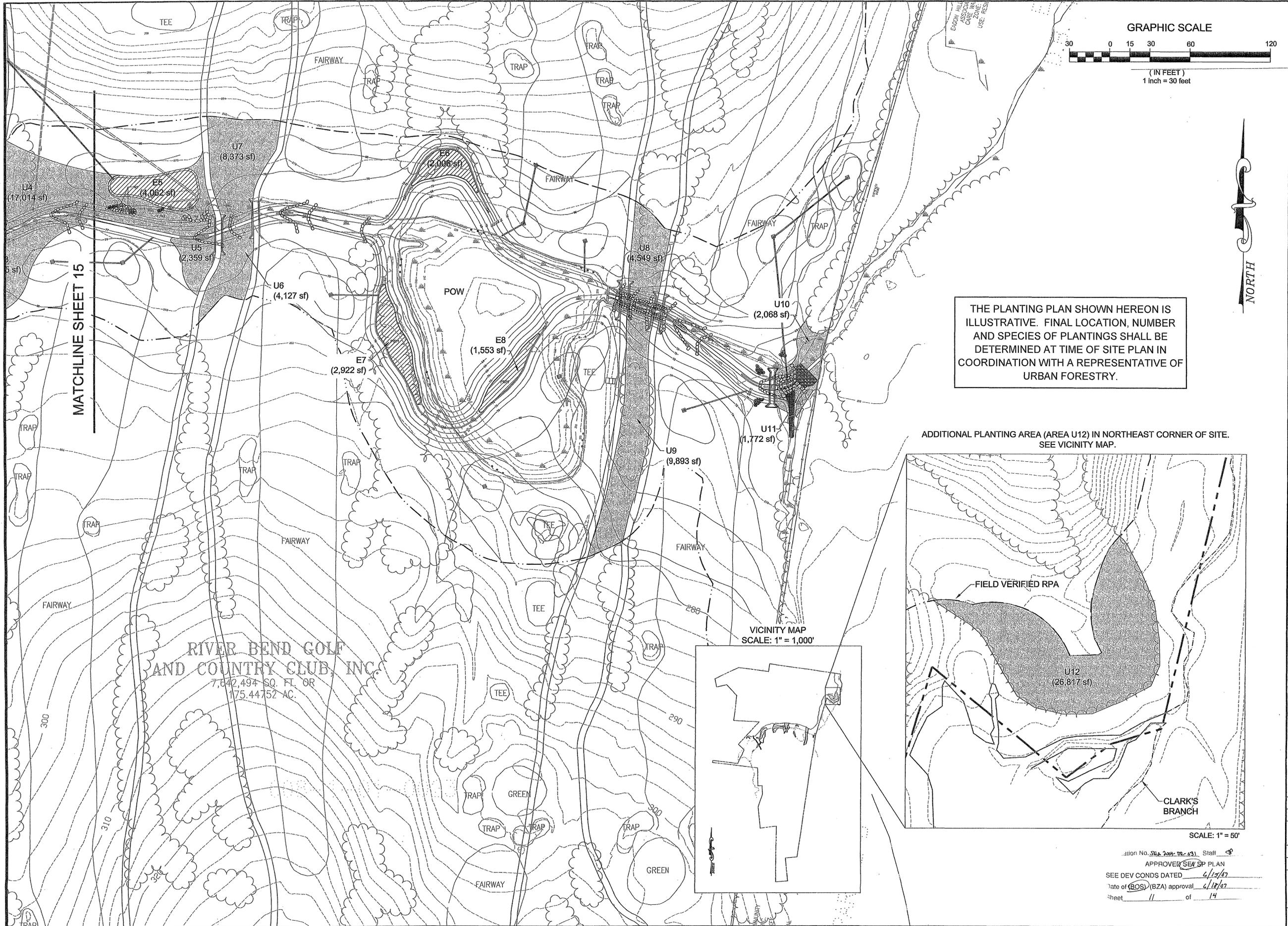
Project No. 058766-051 Staff [Signature]
 APPROVED SE/SP PLAN
 SEE DEV CONDS DATED 4/15/07
 Date of (BOS) (BZA) approval 6/12/07
 Sheet 10 of 14



Horizontal Datum: NAD 83
 Vertical Datum: NAVD 88
 Boundary and Topo Source: WILLIAM H. GORDON & ASSOC.

Design	Draft	Approved
JTK	JBP	IFS

Sheet #
15 of 24



THE PLANTING PLAN SHOWN HEREON IS ILLUSTRATIVE. FINAL LOCATION, NUMBER AND SPECIES OF PLANTINGS SHALL BE DETERMINED AT TIME OF SITE PLAN IN COORDINATION WITH A REPRESENTATIVE OF URBAN FORESTRY.

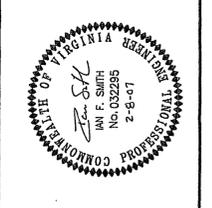
ADDITIONAL PLANTING AREA (AREA U12) IN NORTHEAST CORNER OF SITE. SEE VICINITY MAP.

RIVER BEND GOLF AND COUNTRY CLUB, INC.
 7,642,494 SQ. FT. OR
 175.44752 AC.

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RIVER BEND GOLF AND COUNTRY CLUB
 STREAM STABILIZATION PLAN
 FAIRFAX COUNTY, VIRGINIA
 PLANTING PLAN

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REVISIONS		Rev. No.	Date	Description	App. By
1	3/21/07	1	3/21/07		
2	5/11/07	2	5/11/07		
3	5/16/07	3	5/16/07		

DATE: JANUARY 2007 SCALE: 1"=50'

Horizontal Datum: NAD 83
 Vertical Datum: NAVD 88
 Boundary and Topo Source:
 WILLIAM H. GORDON & ASSOC.

Design	Draft	Approved
JTK	JBP	IFS

Sheet #
16 of 24

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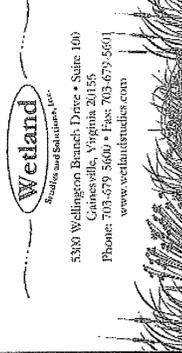
Station No. 2007-01-031 Staff
 APPROVED SEW SP PLAN
 SEE DEV CONDS DATED 4/17/07
 Date of (BOS) (BZA) approval 4/18/07
 Sheet 11 of 14

THE PLANTING PLAN AND VEGETATION SCHEDULE SHOWN HEREON IS ILLUSTRATIVE. FINAL LOCATION, NUMBER AND SPECIES OF PLANTINGS SHALL BE DETERMINED AT TIME OF SITE PLAN IN COORDINATION WITH A REPRESENTATIVE OF URBAN FORESTRY.

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VEGETATION SCHEDULE - EMERGENT AREAS															PLANTING SCHEDULE																		
ZONE	SPECIES GROUP	SPECIES	INDICATOR STATUS	MAX DEPTH	SIZE	SPACING (feet)	PLANT	FOR ESTIMATING PURPOSES ONLY:					WILDLIFE VALUE			REMARKS	AREA (SF)	E1	E2	E3	E4	E5	E6	E7	E8								
								COVERAGE AREA (SF)	AREA PER PLANT (SF)	NUMBER OF PLANTS (UNITS)	UNIT COST (\$)	ESTIMATED COST (\$)	FUNCTIONS (1)	PRIMARY SPECIES	PLANT PART (2)											SEASON (3)							
EMERGENT (Shrub Layer)		CEPHALANTHUS OCCIDENTALIS (BUTTONBUSH)	OBL	2 ft	SPRGS (4 STEM MIN)	9 O.C.	QUARTY CONTAINER	5,048	81.00	45		FD	Beaver, Deer	ST	AI				19	N/A	8	12	6										
EMERGENT (Shrub Layer)		HIBISCUS MOSCHEutos (ROSE MALLOW)	OBL	3 ft	SPRGS (4 STEM MIN)	9 O.C.	QUARTY CONTAINER	5,048	81.00	45		FD	Butterflies, Hummingbirds	FL	SM				19	N/A	8	12	6										
EMERGENT (Shrub Layer)		SAMBUCUS CANADENSIS (AMERICAN ELDERBERRY)	FACW	6 in	15-18 in	9 O.C.	1 GAL CONTAINER	5,048	81.00	45		FD, FC	Waterfowl, songbirds, gamebirds and small mammals	FR	SP, SM				19	N/A	8	12	6										
TOTAL SHRUBS COVERAGE								15,144 sf		135																							
EMERGENT (Herbaceous Layer)		SCIRPUS VALIDUS (SOFT STEM BULKRUSH)	OBL	6 in	SPRGS (4 STEM MIN)	6 O.C.	B.R. TUBER, OR PLUG	1,683	36.00	34		FD	Waterfowl, pheasant	NT	SM				14	N/A	6	9	5										
EMERGENT (Herbaceous Layer)		JUNCUS EFFUSUS (SCOT RUSH)	FACW	3 ft	SPRGS (4 STEM MIN)	6 O.C.	B.R. TUBER, OR PLUG	1,683	36.00	34		FD, FC	Bluegill and other fish	SD, ST	FL, WT				14	N/A	6	9	5										
EMERGENT (Herbaceous Layer)		PELTANDIA VIRGINICA (ARROWARUM)	OBL	12 in	SPRGS (4 STEM MIN)	6 O.C.	B.R. DORMANT BULB	1,683	36.00	34		FD	Bluegill and other fish	SD	SM				14	N/A	6	9	5										
EMERGENT (Herbaceous Layer)		SAGITTARIA LATIFOLIA (DUCK POTATO)	OBL	12 in	SPRGS (4 STEM MIN)	6 O.C.	B.R. TUBER, OR PLUG	1,683	36.00	34		FD	Bluegill and other fish	RA	SM				14	N/A	6	9	5										
EMERGENT (Herbaceous Layer)		SAURURUS CERNUUS (LIZARD TAIL)	OBL	9 in	SPRGS (4 STEM MIN)	6 O.C.	BARE ROOT, RHIZOME	1,683	36.00	34		FD	Mallard, Black Duck, Wood Duck	SD, TR	SM, FL, WT				14	N/A	6	9	5										
EMERGENT (Herbaceous Layer)		SCIRPUS CYPERINUS (WIDL-GRASS)	FACW	3 in	SPRGS (4 STEM MIN)	6 O.C.	B.R. TUBER, OR PLUG	1,683	36.00	34		FD	Muskrat, Beaver	FL	SM				14	N/A	6	9	5										
EMERGENT (Herbaceous Layer)		PONTERDERIA CORDATA (POKEREL-WEED)	OBL	12 in	SPRGS (4 STEM MIN)	6 O.C.	B.R. TUBER, OR PLUG	1,683	36.00	34		FD	Waterfowl, muskrat	RA	SM				14	N/A	6	9	5										
EMERGENT (Herbaceous Layer)		CAREX LACUSTRIS (LAKE SEDGE)	OBL	12 in	SPRGS (4 STEM MIN)	6 O.C.	B.R. TUBER, OR PLUG	1,683	36.00	34		FD	Bluegill and other fish	FD	SM				14	N/A	6	9	5										
EMERGENT (Herbaceous Layer)		DULICHNUM ARUNDINACEUM (THREE-SIDED SEDGE)	OBL	12 in	SPRGS (4 STEM MIN)	6 O.C.	B.R. TUBER, OR PLUG	1,683	36.00	34		FD	Waterfowl, muskrat	RA	SM				14	N/A	6	9	5										
TOTAL HERBACEOUS COVERAGE								15,144 sf		338																							
SEEDING FOR THE EMERGENT AREAS (ACTUAL HYDROLOGY CONDITIONS WILL "SELF SELECT" APPROPRIATE SPECIES FROM THIS INCLUSIVE MIX)																																	
ZONE	SPECIES	INDICATOR STATUS	MAX DEPTH	SIZE	PLANTING DENSITY	TOTAL PLANTING AREA (AC)	TOTAL QUANTITY	FUNCTIONS (1)	PRIMARY SPECIES	PLANT PART (2)	SEASON (3)	REMARKS	E1	E2	E3	E4	E5	E6	E7	E8													
WET SEED MIX	GRASSES DICANTHELIUM GLANDESTINUM (DEERTONGUE)	FAC+	N/A	SEED	38 lb/acre	0.36	12.17	FD	Sparrows, blackbirds, cowbirds	SD	SM, FL		0.00	0.00	0.00	3.70	3.25	1.61	2.39	1.25													
WET SEED MIX	ELYMUS VIRGINICUS (VIRGINIA WILD-RYE)	FACW	N/A	SEED	10 lb/acre	0.36	3.48	FD	Sparrows, small mammals	FL, WT	ALL		0.00	0.00	0.00	1.08	0.09	0.46	0.87	0.38													
WET SEED MIX	GERMANFOXTAIL MILLET (SETARIA ITALICA)	UPL	N/A	SEED	35 lb/acre	0.36	12.17	FC	Erosion and Sediment Control	N/A	ALL	EROSION CONTROL - WARM TEMP.	0.00	0.00	0.00	3.70	3.25	1.61	2.39	1.25													
WET SEED MIX	GLYCERIA STRIATA (FOXL-MANNA GRASS)	OBL	N/A	SEED	1.25 lb/acre	0.36	0.43	FD	Sparrows, small mammals	SD	SM, FL		0.00	0.00	0.00	0.13	0.12	0.08	0.04	0.04													
WET SEED MIX	LENSIA ORYZOIDES (KIKE CUT GRASS)	OBL	N/A	SEED	0.125 (2 oz.) lb/acre	0.36	0.04	FD	Sparrows, waterfowl	SD	FL		0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00													
WET SEED MIX	LOLIUM MULTIFLORUM (ANNUAL RYEGRASS)	FACU	N/A	SEED	12.17 lb/acre	0.36	12.17	FD	Sparrows, finches, small mammals	SD	FL, WT	PROVIDED FOR TEMP. EROSION CONTROL	0.00	0.00	0.00	3.10	3.25	1.61	2.35	1.25													
WET SEED MIX	PANICUM VIRGATUM (SWITCHGRASS)	FAC	N/A	SEED	10 lb/acre	0.36	3.48	FD	Sparrows, blackbirds, cowbirds	SD	FL, WT		0.00	0.00	0.00	1.00	0.93	0.48	0.87	0.38													
WET SEED MIX	TRIPSAQUUM DACTYLOIDES (GAMA GRASS)	FACW	N/A	SEED	1 lb/acre	0.36	0.35	FD	Deer	LV	ALL		0.00	0.00	0.00	0.11	0.09	0.03	0.07	0.04													
WET SEED MIX	RUSHES JUNCUS EFFUSUS (SCOT RUSH)	FACW+	N/A	SEED	0.125 (2 oz.) lb/acre	0.36	0.04	CV	Songbirds, small mammals	PT	ALL		0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01													
WET SEED MIX	SCIRPUS ATROVIRENS / S. CYPERINUS (BULKRUSH)	OBL	N/A	SEED	0.5 lb/acre	0.36	0.17	FD	Waterfowl	SD	WT		0.00	0.00	0.00	0.05	0.05	0.02	0.03	0.02													
WET SEED MIX	SEDGES CAREX COMOSA / C. NUMESCENS (SEDEE)	OBL	N/A	SEED	0.5 lb/acre	0.36	0.17	FD	Songbirds, esp. sparrows	SD	SM, FL		0.00	0.00	0.00	0.05	0.05	0.02	0.03	0.02													
WET SEED MIX	CAREX LURIDA / CAREX CRINITA (SEDEE)	OBL	N/A	SEED	0.5 lb/acre	0.36	0.17	FD	Songbirds, esp. sparrows	SD	SM, FL		0.00	0.00	0.00	0.05	0.05	0.02	0.03	0.02													
WET SEED MIX	CAREX VULPINOIDEA (FOX SEDGE)	OBL	N/A	SEED	1.5 lb/acre	0.36	0.42	CV	Songbirds, esp. sparrows	PT	SM		0.00	0.00	0.00	0.16	0.14	0.07	0.10	0.05													
WET SEED MIX	FORBS ASCLEPIAS INCARNATA (SWAMP MILKWEED)	OBL	N/A	SEED	0.0825 (1 oz.) lb/acre	0.36	0.02	FD	Butterflies	FL	SM		0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00													
WET SEED MIX	ASTER NOVAE-ANGLIAE (NEW ENGLAND ASTER)	FACW+	N/A	SEED	0.03125 (0.5oz.) lb/acre	0.36	0.01	FD	Monarch butterfly caterpillars	LV	SM		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00													
WET SEED MIX	BIDENS CERNUA (NOODING BEGGAR TICKS)	OBL	N/A	SEED	0.25 lb/acre	0.36	0.09	FD	Butterflies	FL	FL		0.00	0.00	0.00	0.03	0.02	0.01	0.02	0.01													
WET SEED MIX	BIDENS POLYLEPIS (AWNLESS BEGGAR TICKS)	FACW	N/A	SEED	0.5 lb/acre	0.36	0.17	FD	Sparrows, finches, small mammals	SD	FL, WT		0.00	0.00	0.00	0.05	0.05	0.02	0.03	0.02													
WET SEED MIX	EUPATORIUM MACULATUM (ICE PYE WEEED)	FACW	N/A	SEED	0.25 lb/acre	0.36	0.09	FD	Wood duck, sparrows, finches, quail	LV	SP, SM		0.00	0.00	0.00	0.03	0.02	0.01	0.02	0.01													
WET SEED MIX	EUPATORIUM PERFOLIATUM (BONSETI)	FACW+	N/A	SEED	0.25 lb/acre	0.36	0.09	FD	Butterflies, esp. swallowtails	FL	SM, FL		0.00	0.00	0.00	0.03	0.02	0.01	0.02	0.01													
WET SEED MIX	FUTUMBIA GRAMINIFOLIA (GRASSLEAF GOLDENROD)	FAC	N/A	SEED	0.125 (2 oz.) lb/acre	0.36	0.04	FD	Butterflies	FL	SM, FL		0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01													
WET SEED MIX	IRIS VERSICOLOR (BLUEFLAG)	OBL	N/A	SEED	0.125 (2 oz.) lb/acre	0.36	0.04	FD	Hummingbirds, butterflies	FL	SP, SM		0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01													
WET SEED MIX	POLYGONUM AVICULUM (HALBERD-LEAVED TEAKTHUMB)	OBL	N/A	SEED	0.5 lb/acre	0.36	0.17	FD	Blackbirds, finches, sparrows	SD	SM, FL		0.00	0.00	0.00	0.05	0.05	0.02	0.03	0.02													
WET SEED MIX	POLYGONUM PENNSYLVANICUM (PA SMARTWEED)	FACW	N/A	SEED	1 lb/acre	0.36	0.35	CV	Sparrows, small mammals	PT	SM, FL		0.00	0.00	0.00	0.11	0.09	0.05	0.07	0.04													
WET SEED MIX	SOLIDAGO RUGOSA (WRINKLED GOLDENROD)	FAC	N/A	SEED	0.25 lb/acre	0.36	0.09	FD	Sparrows, finches, blackbirds, quail, small mammals	SD	FL, WT		0.00	0.00	0.00	0.03	0.02	0.01	0.02	0.01													
WET SEED MIX	VERBENA HASTATA (BLUE VERVAIN)	FACW+	N/A	SEED	0.125 (2 oz.) lb/acre	0.36	0.04	FD	Butterflies	FL	SM		0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01													
WET SEED MIX	VERNONIA NOVEBORACENSIS (NY IRONWEED)	FACW+	N/A	SEED	0.125 (2 oz.) lb/acre	0.36	0.04	FD	Butterflies	FL	SM		0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01													
WET SEED MIX	SHRUBS CEPHALANTHUS OCCIDENTALIS (BUTTONBUSH)	OBL	N/A	SEED	0.1 lb/acre	0.36	0.03	FD	Beaver, Deer	ST	AI		0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00													
WET SEED MIX	CORNUS ANONUM (SILKY DOGWOOD)	FACW	N/A	SEED	0.2 lb/acre	0.36	0.07	FD	Butterflies, Hummingbirds	FL	SM		0.00	0.00	0.00	0.02	0.02	0.01	0.01	0.01													
WET SEED MIX	LINDERA BENZON (SPICEBUSH)	FACW+	N/A	SEED	0.2 lb/acre	0.36	0.07	FD	Catbirds, thrasher, thrushes, woodpeckers	FR	SM, FL		0.00	0.00	0.00	0.02	0.02	0.01	0.01	0.01													
WET SEED MIX	VIBURNUM DENTATUM (SOUTHERN ARROWWOOD)	FAC	N/A	SEED	0.2 lb/acre	0.36	0.07	FD	Thrushes, vireos, catbird, bluebird	FR	FL		0.00	0.00	0.00	0.02	0.02	0.01	0.01	0.01													
TOTAL SEED COVERAGE													0.39		46.88																		

- NOTES:
- CONTRACTOR TO SELECT ONE, OR A MIXTURE OF SPECIES, FROM SPECIES GROUP 1-9 AND 11-15. IN SPECIES GROUP 10, CONTRACTOR SHALL SELECT AT LEAST FIVE (5) OF THE 9 CHOICES.
 - CONTRACTOR MAY BID EACH ALTERNATE FOR ALL SPECIES GROUPS, OR USE DIFFERENT ALTERNATE PLANT SIZES FOR SELECTED SPECIES GROUPS.
 - SUBSTITUTIONS FOR SELECTED SPECIES AND/OR FORM (ie. bare root vs. seed vs. container) BASED UPON AVAILABILITY, COST, AND/OR SURVIVABILITY.
 - ALL SEEDING RATES ARE EXPRESSED IN LBS OF PURE LIVE SEED (PLS).
 - RANDOMLY PLANT WITHIN EACH AREA.
 - IT IS UNDERSTOOD THAT SITE HYDROLOGY MAY DIFFER FROM PROPOSED DESIGN. PLANTING CONTRACTOR IS EXPECTED TO ADJUST PLANT LOCATIONS ACCORDINGLY TO ACTUAL CONDITIONS AFTER CONSULTATION WITH DESIGN ENGINEER.



RIVER BEND GOLF AND COUNTRY CLUB
STREAM STABILIZATION PLAN
FAIRFAX COUNTY, VIRGINIA
VEGETATION SCHEDULE
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No.	Date	Description	App. By
1	3/21/07		
2	5/11/07		
3	5/16/07		

DATE: JANUARY 2007
SCALE: N/A

Horizontal Datum: N/A	Vertical Datum: N/A	Boundary and Topo Source: N/A
Design: JTK	Draft: JBP	Approved: IFS
Sheet # 17 of 24		

ation No. SEA 2004-02-03 Staff
APPROVED SEA 3P PLAN
SEE DEV CONDS DATED 6/15/07
Date of BOS (BZA) approval 6/18/07
Sheet 12 of 14

THE PLANTING PLAN SHOWN HEREON IS ILLUSTRATIVE. FINAL LOCATION, NUMBER AND SPECIES OF PLANTINGS SHALL BE DETERMINED AT TIME OF SITE PLAN IN COORDINATION WITH A REPRESENTATIVE OF URBAN FORESTRY.

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VEGETATION SCHEDULE - UPLAND AREAS														PLANTING SCHEDULE														
ZONE	SPECIES	INDICATOR STATUS	MAX DEPTH	SIZE	SPACING (feet)	PLANT	FOR ESTIMATING PURPOSES ONLY:					WILDLIFE VALUE			REMARKS	AREA: (SF)	U1 8,168	U2 16,036	U3 7,145	U4 17,014	U5 2,359	U6 4,127	U7 8,373	U8 4,549	U9 9,893	U10 2,868	U11 1,772	U12 26,817
							COVERAGE AREA (SF)	AREA PER PLANT (SF)	NUMBER OF PLANTS (UNITS)	UNIT COST (\$)	ESTIMATED COST (\$)	FUNCTIONS (1)	PRIMARY SPECIES	PLANT PART (2)														
UPLAND (Shrub Layer)	CORNUS AMOMUM (SILKY DOGWOOD)	FACW	NA	15-18 in	6 O.C.	1 GAL CONTAINER	15,474	36.00	430		FD	Catbird, thrasher, thrushes, woodpeckers	FR	SM, FL		32	64	28	68	9	16	33	18	39	8	7	106	
UPLAND (Shrub Layer)	CERCIS CANADENSIS (EASTERN REDBUD)	FACU-	NA	15-18 in	6 O.C.	1 GAL CONTAINER	15,474	36.00	430		PC, RA FD FD, PC	PT SM ALL LV FR	ST, BD SM SP, SM			32	64	28	68	9	16	33	18	39	8	7	106	
UPLAND (Shrub Layer)	VACCINIUM CORYMBOSUM (Highbush Blueberry)	FACW-	NA	15-18 in	6 O.C.	1 GAL CONTAINER	15,474	36.00	430		PC, RA FD	PT SM SP, SM	FR	SM		32	64	28	68	9	16	33	18	39	8	7	106	
UPLAND (Shrub Layer)	VIBURNUM DENTATUM (SOUTHERN ARROWWOOD)	FAC	NA	15-18 in	6 O.C.	1 GAL CONTAINER	15,474	36.00	430		PC, RA FD	PT SM FL	FR	SM		32	64	28	68	9	16	33	18	39	8	7	106	
UPLAND (Shrub Layer)	VIBURNUM PRUNIFOLIUM (BLACKHAW)	FACU	NA	10-18 in	6 O.C.	1 GAL CONTAINER	15,474	36.00	430		PC, RA FD RA	PT SM FL ST	BD ST	SM FL, WT SM		32	64	28	68	9	16	33	18	39	8	7	106	
UPLAND (Shrub Layer)	ILEX OPACA (AMERICAN HOLLY)	FACU+	NA	10-18 in	6 O.C.	1 GAL CONTAINER	15,474	36.00	430		FD	Mockingbird, robin, hermit thrush, bluebird	FR	FL, WT, SP		32	64	28	68	9	16	33	18	39	8	7	106	
UPLAND (Shrub Layer)	ILEX VERTICILLATA (COMMON WINTERBERRY)	FACW+	NA	10-18 in	6 O.C.	1 GAL CONTAINER	15,474	36.00	430		FD	Mockingbird, robin, hermit thrush, bluebird	FR	FL, WT, SP		32	64	28	68	9	16	33	18	39	8	7	106	
COVERAGE							2.49 ac	TOTAL SHRUBS:	3,099																			

SEEDING FOR THE UPLAND AREAS (ACTUAL HYDROLOGY CONDITIONS WILL "SELF SELECT" APPROPRIATE SPECIES FROM THIS INCLUSIVE MIX)

ZONE	SPECIES	INDICATOR STATUS	MAX DEPTH	SIZE	SEED RATE LB/ACRE	TOTAL PLANTING AREA (AC)	TOTAL QUANTITY	WILDLIFE VALUE			REMARKS	U1 8,168	U2 16,036	U3 7,145	U4 17,014	U5 2,359	U6 4,127	U7 8,373	U8 4,549	U9 9,893	U10 2,868	U11 1,772	U12 26,817				
								FUNCTIONS (1)	PRIMARY SPECIES	PLANT PART (2)														SEASON (3)			
UPLAND SEED MIX	GRASSES ANDROPOGON GERARDII (BIG BLUESTEM)	FAC	NA	SEED	12 lb/ac	2.49	29.84	FD	Finches, junco, sparrows, deer, bobwhite	SD	FL, WT		2.25	4.42	1.97	4.89	0.65	1.14	2.31	1.25	2.73	0.57	0.49	7.39			
UPLAND SEED MIX	ANDROPOGON SCOPARIUS (LITTLE BLUESTEM)	FAC	NA	SEED	3 lb/ac	2.49	7.46	FD	Finches, junco, sparrows, deer, bobwhite	NA	ALL		0.66	1.10	0.49	1.17	0.16	0.28	0.68	0.31	0.69	0.14	0.12	1.85			
UPLAND SEED MIX	DICHTANHELUM CLANDESTINUM (DEERTONGUE)	FAC+	NA	SEED	5 lb/ac	2.49	12.43	FD	Sparrows, blackbirds	SD	FL, WT		0.94	1.84	0.82	1.95	0.27	0.47	0.96	0.52	1.14	0.24	0.20	3.08			
UPLAND SEED MIX	LOLIUM MULTIFLORUM (ANNUAL RYEGRASS)	NI	NA	SEED	40 lb/ac	2.49	99.47	EC, FD	Sparrows, finches, small mammals	SD	SM, FL		7.59	14.73	6.56	15.62	2.17	3.79	7.60	4.16	9.08	3.09	1.83	24.93			
UPLAND SEED MIX	PANICUM VIRGATUM (SWITCHGRASS)	FAC	NA	SEED	14 lb/ac	2.49	34.81	FD	Dove, bobwhite, wild turkey, quail, blackbirds, sparrows, deer, rabbit, Sparrows, finches, small mammals	SD, LV	FL, WT, ALL		2.62	5.15	2.30	5.47	0.76	1.33	2.69	1.46	3.18	0.66	0.57	8.62			
UPLAND SEED MIX	SETARIA ITALICA (FOXTAIL MILLET)	UPL	NA	SEED	35 lb/ac	2.49	87.03	FD	Sparrows, finches, small mammals	SD	FL, WT		8.56	12.88	5.74	13.67	1.90	3.32	3.98	7.95	1.06	1.42	21.55				
UPLAND SEED MIX	SORGHASTRUM NUTANS (INDIAN GRASS)	FACU	NA	SEED	3 lb/ac	2.49	7.46	FD	Sparrows, finches, small mammals	SD	FL, WT		0.66	1.10	0.49	1.17	0.16	0.28	0.68	0.31	0.68	0.14	0.12	1.85			
UPLAND SEED MIX	FORBS ASCLEPIAS SYRIACA (COMMON MILKWEED)	NI	NA	SEED	0.5 lb/ac	2.49	1.24	FD	Pollinators, butterflies, other insects	SD	FL		0.09	0.18	0.08	0.20	0.03	0.05	0.10	0.05	0.11	0.02	0.02	0.31			
UPLAND SEED MIX	ASTER LAEVIS (SMOOTH ASTER)	NI	NA	SEED	0.2 lb/ac	2.49	0.50	FD	Pollinators, butterflies, other insects	SD, LV	FL, WT, ALL		0.04	0.07	0.03	0.08	0.01	0.02	0.04	0.02	0.05	0.01	0.01	0.12			
UPLAND SEED MIX	BIDENS FRONDOSA (BOGGAR TICKS)	FACW	NA	SEED	0.2 lb/ac	2.49	0.50	FD	Pollinators, butterflies, other insects	SD	SM, FL, WT		0.04	0.07	0.03	0.08	0.01	0.02	0.04	0.02	0.05	0.01	0.01	0.12			
UPLAND SEED MIX	CHAMAECRISTA FASCICULATA (PARTRIDGE PEA)	NI	NA	SEED	1 lb/ac	2.49	2.49	FD	Pollinators, butterflies, other insects	SD	FL, WT		0.19	0.37	0.16	0.39	0.05	0.09	0.19	0.10	0.23	0.05	0.04	0.62			
UPLAND SEED MIX	CONOCLINIUM COELESTINUM (MIST FLOWER)	FAC	NA	SEED	0.1 lb/ac	2.49	0.25	FD	Butterflies, pollinators, finches	FL	SM		0.02	0.04	0.02	0.04	0.01	0.01	0.02	0.01	0.02	0.00	0.00	0.06			
UPLAND SEED MIX	COREOPSIS VERTICILLATA (THREADLEAF TICKSEED)	NI	NA	SEED	0.2 lb/ac	2.49	0.50	FD	Pollinators, butterflies, other insects, songbirds	FL	SM		0.04	0.07	0.03	0.08	0.01	0.02	0.04	0.02	0.05	0.01	0.01	0.12			
UPLAND SEED MIX	EUPATORIUM ADDELPHUS FISTULOSUS (JOE PYEWEEED)	FAC	NA	SEED	0.1 lb/ac	2.49	0.25	FD	Pollinators, butterflies, other insects	FL, SD	SM, FL		0.02	0.04	0.02	0.04	0.01	0.02	0.04	0.02	0.05	0.01	0.01	0.06			
UPLAND SEED MIX	EUPATORIUM PERFOLIATUM (BONESET)	FACW+	NA	SEED	0.1 lb/ac	2.49	0.25	FD	Pollinators, butterflies, other insects	FL	SM		0.02	0.04	0.02	0.04	0.01	0.01	0.02	0.01	0.02	0.00	0.00	0.06			
UPLAND SEED MIX	HELIOPSIS HELIANTHOIDES (CKEYE SUNFLOWER)	NI	NA	SEED	0.5 lb/ac	2.49	1.24	FD	Pollinators, butterflies, other insects	FL, SD	SP, SM, FL		0.09	0.18	0.08	0.20	0.03	0.05	0.10	0.05	0.11	0.02	0.02	0.31			
UPLAND SEED MIX	PENSTEMON DIGITALIS (PENSTEMON)	FAC	NA	SEED	0.1 lb/ac	2.49	0.25	FD	Pollinators, butterflies, other insects	LV, SD	ALL		0.02	0.04	0.02	0.04	0.01	0.01	0.02	0.01	0.02	0.00	0.00	0.06			
UPLAND SEED MIX	RUBROCKIA HIRTA (BLACK-EYED SUSAN)	FACU-	NA	SEED	0.2 lb/ac	2.49	0.50	FD	Butterflies and other pollinators	FL, SD	SM, FL, WT		0.04	0.07	0.03	0.08	0.01	0.02	0.04	0.02	0.05	0.01	0.01	0.12			
UPLAND SEED MIX	SOLIDAGO JUNCEA (EARLY GOLDENROD)	NI	NA	SEED	0.1 lb/ac	2.49	0.25	FD	Pollinators, butterflies, other insects	SD	FL, WT		0.02	0.04	0.02	0.04	0.01	0.01	0.02	0.01	0.02	0.00	0.00	0.06			
UPLAND SEED MIX	SOLIDAGO NEMORALIS (GREY GOLDENROD)	NI	NA	SEED	0.1 lb/ac	2.49	0.25	FD	Pollinators, butterflies, other insects	FL	SM, FL		0.02	0.04	0.02	0.04	0.01	0.01	0.02	0.01	0.02	0.00	0.00	0.06			
UPLAND SEED MIX	VERBENA HASTATA (BLUE VERVAIN)	FACW+	NA	SEED	0.2 lb/ac	2.49	0.50	FD	Pollinators, butterflies, other insects	FL, SD	SP, SM, FL		0.04	0.07	0.03	0.08	0.01	0.02	0.04	0.02	0.05	0.01	0.01	0.12			
UPLAND SEED MIX	VERNONIA NOVEBORACENSIS (NY IRONWEED)	FACW+	NA	SEED	0.2 lb/ac	2.49	0.50	FD	Pollinators, butterflies, other insects	FL, SD	SM, FL, WT		0.04	0.07	0.03	0.08	0.01	0.02	0.04	0.02	0.05	0.01	0.01	0.12			
UPLAND SEED MIX	SHRUBS CORNUS ALTERNIFOLIA (ALTERNATE-LEAF DOGWOOD)	NI	NA	SEED	0.2 lb/ac	2.49	0.50	FD	Grouse, turkey, rabbit, brown thrasher, wood thrush, cedar waxwing, squirrel	FL, FR	SM, WT		0.04	0.07	0.03	0.08	0.01	0.02	0.04	0.02	0.05	0.01	0.01	0.12			
UPLAND SEED MIX	CORNUS AMOMUM (SILKY DOGWOOD)	FACW	NA	SEED	1 lb/ac	2.49	2.49	FD, PC, RA	Catbird, thrasher, thrushes, woodpeckers, cedar waxwings, rabbits	FL, FR	SM, FL, WT		0.19	0.37	0.16	0.39	0.05	0.09	0.19	0.10	0.23	0.05	0.04	0.62			
UPLAND SEED MIX	HAMAMELIS VIRGINIANA (WITCH HAZEL)	FAC-	NA	SEED	0.5 lb/ac	2.49	1.24	FD, PC, RA	Ruffed grouse, wild turkey, rabbit, squirrel, deer, beaver	FL, FT	SP, FL, WT		0.09	0.18	0.08	0.20	0.03	0.05	0.10	0.05	0.11	0.02	0.02	0.31			
UPLAND SEED MIX	ILEX VERTICILLATA (WINTERBERRY)	FACW+	NA	SEED	1 lb/ac	2.49	2.49	FD, PC, RA	Bluebird, catbird, brown thrasher, robin, yellow bellied sapsucker, mockingbird	FL, SD, LV	ALL		0.19	0.37	0.16	0.39	0.05	0.09	0.19	0.10	0.23	0.05	0.04	0.62			
UPLAND SEED MIX	RHUS GLABRA (SMOOTH SUMAC)	NI	NA	SEED	1 lb/ac	2.49	2.49	FD, PC	Robin, catbird, cardinal, turkey, rabbit, chipmunk, deer, mockingbird, phoebe	SD, BD, FL	SP, SM, FL		0.19	0.37	0.16	0.39	0.05	0.09	0.19	0.10	0.23	0.05	0.04	0.62			
UPLAND SEED MIX	SAMBUCUS CANADENSIS (COMMON ELDERBERRY)	FACW-	NA	SEED	0.1 lb/ac	2.49	0.25	FD, PC	Brown thrasher, catbird, woodpeckers, thrushes	SD	FL, WT, SP		0.02	0.04	0.02	0.04	0.01	0.01	0.02	0.01	0.02	0.00	0.00	0.06			
UPLAND SEED MIX	VIBURNUM DENTATUM (SOUTHERN ARROWWOOD)	FAC	NA	SEED	1 lb/ac	2.49	2.49	FD, PC, RA	Purple finch, goldfinch, robin, junco, bluebird, hermit thrush	FL, FT	SP, SM, FL		0.19	0.37	0.16	0.39	0.05	0.09	0.19	0.10	0.23	0.05	0.04	0.62			
TOTAL SEED COVERAGE							2.49 ac	299.89 lbs																			

NOTES:

- CONTRACTOR TO SELECT A MIXTURE OF SPECIES OF 1 GAL CONTAINER GROWTH SHRUBS. CONTRACTOR SHALL SELECT AT LEAST FIVE (5) OF THE 7 CHOICES.
- CONTRACTOR MAY BID EACH ALTERNATE FOR ALL SPECIES GROUPS, OR USE DIFFERENT ALTERNATE PLANT SIZES FOR SELECTED SPECIES GROUPS.
- SUBSTITUTIONS FOR SELECTED SPECIES BASED UPON AVAILABILITY, COST, AND/OR SURVIVABILITY MUST BE APPROVED BY THE ENGINEER.
- ALL SEEDING RATES ARE EXPRESSED IN LBS OF PURE LIVE SEED (PLS).
- RANDOMLY PLANT WITHIN EACH AREA.
- IT IS UNDERSTOOD THAT SITE HYDROLOGY MAY DIFFER FROM PROPOSED DESIGN. PLANTING CONTRACTOR IS EXPECTED TO ADJUST PLANT LOCATIONS ACCORDINGLY TO ACTUAL CONDITIONS AFTER CONSULTATION WITH DESIGN ENGINEER.

WILDLIFE VALUE NOTES:
 NOTE (1): FD = Food
 RA = Reproductive areas
 PC = Protective Cover
 EC = Erosion Control

NOTE (2): PT = Plant
 SD = Seeds
 TB = Tubers
 FL = Flowers
 LV = Leaves
 ST = Stems
 BD = Buds
 RH = Rhizome
 SP = Spring
 FR = Fruits
 HT = Hollow
 NT = Nuts
 RT = Roots
 ALL = All Seasons
 SM = Summer
 FL = Fall
 WT = Winter

RIVER BEND GOLF AND COUNTRY CLUB
 STREAM STABILIZATION PLAN
 FAIRFAX COUNTY, VIRGINIA
 VEGETATION SCHEDULE



No.	Date	Description	Rev.	App.	By
1	3/21/07				
2	5/15/07				
3	5/16/07				

Horizontal Datum: N/A
 Vertical Datum: N/A
 Boundary and Topo Source: N/A

Design	Draft	Approved
JTK	JBP	IFS

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PLANTING SPECIFICATIONS

- PLAN DETAILS ARE INCORPORATED INTO THIS SPECIFICATION BY REFERENCE.
- THE SUPPLIER OF ALL SEEDS AND/OR VEGETATION SHALL CERTIFY THAT THE ORIGIN OF THE SEEDS FROM WHICH THE PLANTS OR SEEDS WERE PRODUCED IS FROM HARDINESS ZONES 6 AND 7, FROM THE EASTERN OR CENTRAL PORTIONS OF THE U.S., PRIOR TO PLANTING.
- ANY NURSERY SUPPLYING THE STOCK SHALL PROVIDE A CURRENT NURSERY INSPECTION CERTIFICATE FROM THE STATE DEPARTMENT OF AGRICULTURE, OR PROVIDE AT LEAST THIRTY DAYS ADVANCE NOTICE FOR WETLAND STUDIES AND SOLUTIONS, INC. (WSSI) TO INSPECT THE PLANT SOURCE AREAS AT WSSI'S DISCRETION. ANY SUCH INSPECTION IS NOT DEEMED APPROVAL OF THE PLANT MATERIALS.
- ALL PLANTS SHALL BE SET STRAIGHT, OR PLUMB.
- PLANTING SHALL ONLY BE PERMITTED BETWEEN NOVEMBER 4 AND APRIL 4. NO PLANTING SHALL OCCUR WHEN THE SOIL IS FROZEN. SEEDING SHALL BE COMPLETED DURING MARCH THROUGH MAY OR SEPTEMBER THROUGH NOVEMBER. THESE TIME LIMITS MAY NOT BE MODIFIED UNLESS APPROVED BY WETLAND STUDIES AND SOLUTIONS, INC., IN ADVANCE WITH THE RISK OF SURVIVAL BORNE SOLELY BY THE CONTRACTOR.
- PLANTING HOLES FOR BARE ROOT TREES SHALL BE 1-2" DEEPER THAN THE ROOT COLLAR (I.E. 1-2" DEEPER THAN THEY WERE GROWING IN THE NURSERY). BARE ROOT SEEDLINGS SHALL BE INSTALLED WITH THE USE OF A "SHARPSHOOTER SHOVEL", AS DEPICTED WITHIN THESE PLANS. THE PLANTING HOLE SHALL BE LARGE ENOUGH TO AVOID THE NEED FOR ROOT TRIMMING WHERE EVER POSSIBLE. NO J-ROOTS (SEE PLANTING DETAILS) SHALL BE ALLOWED; IT IS EXTREMELY CRITICAL THIS BE ADHERED TO FOR EVERGREENS. BARE ROOT STOCK SHALL BE PLANTED WITH THEIR ROOT-COLLAR 1 TO 2 INCHES DEEPER THAN THE ADJACENT SOIL ELEVATION, USING ADJACENT SOIL TO CREATE A HUMMOCK OR MOUND THAT THE SEEDLING IS SET WITHIN.
- PLANTING HOLES FOR CONTAINER GROWN PLANTS SHALL BE ONE FOOT (1') DEEP PLUS THE CONTAINER DEPTH IN WHICH THE PLANT HAS BEEN GROWN AND TWO FEET (2') WIDER THAN CONTAINER.
- BACKFILL THE PLANTING HOLES WITH THE IN-SITU SOIL MATERIALS REMOVED FOR PLANTING AFTER REMOVING ALL STONES, ROOTS, AND OTHER DEBRIS GREATER THAN 1-1/2" IN DIAMETER.
- FOLLOWING THE BACKFILLING, WATER TO THE POINT OF SOIL SATURATION (IF NOT PLANTED IN THE "WET") AND TAMP TO COMPACT THE BACKFILL MIXTURE. ADD EXISTING SOIL TO BRING THE FINAL GRADE IN THE PLANTING HOLE TO THE SURROUNDING SOIL SURFACE. RAKE THE UNUSED EXISTING SOIL OUTSIDE THE PLANTING HOLES, TAKING CARE NOT TO MOUND THE SOIL OR TO SIGNIFICANTLY ALTER THE EXISTING GRADES AND THEN PLACE MULCH (MIN. 2" THICK) AT TOP ENTIRE PLANTING HOLE (EXCEPT THAT NO MULCH IS REQUIRED FOR EMERGENT PLANTINGS). THE PLANTING HOLE AREAS MUST NOT BE DEPRESSIONS BELOW THE SURROUNDING SOIL SURFACE ELEVATIONS. SAID AREAS SHALL BE SLIGHTLY RAISED (2-3"), RELATIVE TO THE SOIL SURFACE.
- AS INDICATED IN THE PLANT LIST, THE SHRUBS THAT ARE SPECIFIED AS CONTAINER GROWN SPECIMENS SHALL BE BETWEEN 15" AND 18" IN HEIGHT. THEY SHALL BE HEALTHY, VIGOROUS, WELL ROOTED AND ESTABLISHED IN THE PLANTING CONTAINER IN WHICH THEY ARE GROWING. A CONTAINER SHRUB SHALL BE IN THAT CONTAINER A SUFFICIENT TIME SUCH THAT FIBROUS ROOTS ARE FORMED SO THE SHAPE WILL REMAIN AND THE MEDIUM WILL HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER (REFER TO AMERICAN STANDARD FOR NURSERY STOCK).
- DO NOT REMOVE PLANTS FROM CONTAINERS UNTIL IMMEDIATELY BEFORE PLANTING. EXAMINE THE ROOTS TO SEE IF THEY ARE POT BOUND. CAREFULLY SEPARATE ANY POT BOUND OR CRAMPED ROOTS AND SPREAD THEM OUT WHEN PLACING THE PLANT SO THAT THE ROOTS CAN GROW WITHOUT FURTHER CONSTRUCTION OF THE ROOT BALL.
- FERTILIZE EACH BARE ROOT, PLUG, TUBER, AND PINT CONTAINER PLANT WITH A 5 GRAM TABLET OF CONTROLLED RELEASE FERTILIZER. FERTILIZE EACH QUART CONTAINER WITH A 10 GRAM TABLET. USE A 20 GRAM TABLET OF FERTILIZER WITH EACH 1 GALLON AND 2 GALLON CONTAINER. GENERALLY, FOR EACH 12 TO 18 INCHES OF PLANT HEIGHT OR FOR EACH 1/2" OF TREE DIAMETER AT THE BASE, USE 20 GRAMS FOR SLOW GROWING PLANTS OR 40 GRAMS FOR FAST GROWING PLANTS OR POOR SOIL SITUATIONS. SAID FERTILIZER TABLETS SHALL BE AGRIFORM 20-10-6 OR APPROVED EQUIVALENT, APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- AS RECOMMENDED BY THE CONTRACTOR AND APPROVED BY ENGINEER, THE CONTRACTOR SHALL WATER THE PLANTS NEEDED DURING THE CARE AND REPLACEMENT PERIOD OR UNTIL FINAL ACCEPTANCE, WHICHEVER IS THE SHORTEST.
- THE CONTRACTOR IS RESPONSIBLE FOR REPLACING NON-SURVIVING TREES AND SHRUBS DURING THE CARE AND REPLACEMENT PERIOD (12 MONTHS, UNLESS OTHERWISE SPECIFIED IN CONTRACT DOCUMENTS) OR UNTIL FINAL ACCEPTANCE, WHICHEVER IS THE SHORTEST, AS REQUIRED BY THE TERMS OF THE SURVIVAL WARRANTY SPECIFIED HEREIN AND/OR IN CONTRACT DOCUMENTS. THE SPECIFICATIONS FOR THE REPLACED PLANTS SHALL BE THOSE PROVIDED IN THE PLANT LIST.
- REFER TO APPLICABLE SKETCHES WITHIN THIS PLAN SET FOR ADDITIONAL GUIDANCE ON PLANTING REQUIREMENTS.
- INVASIVE AND NOXIOUS WEEDS SHALL BE REMOVED BY HAND WITH LOCALIZED APPLICATIONS OF ROUND-UP WHERE NECESSARY.
- ALL BARE ROOT SEEDLINGS SHALL BE TREATED WITH ROOT DIP ABSORBENT POLYMERS AND MYCORRHIZAL ROOT DIP IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. SAID ROOT DIP SHALL BE MYCORTREE™ ROOT DIP OR APPROVED EQUAL.
- ACCEPTANCE OF SOIL.
 - GRADED AREAS WITHIN ±0.1 FT. TOLERANCE VERTICALLY AND ±1.0 FT. TOLERANCE HORIZONTALLY ARE REQUIRED PRIOR TO PLANTING. PLANTING OF VEGETATION IS TO BE PREVENTED UNTIL CONFIRMATION OF DESIGN GRADES OF WEIRS AND GRADING WITHIN VEGETATION ZONES IS PROVIDED. FINAL ACCEPTANCE OF SOIL IS BASED ON AS-BUILTS OF ALL GRADED AREAS TO ASSURE DESIGN GRADES ARE ACHIEVED.
 - IT SHOULD BE ANTICIPATED THAT THE SOIL MAY BE COMPACTED MORE THAN OPTIMAL FOR PLANTING AND IT SHALL BE CONTRACTORS RESPONSIBILITY TO DISK AND RAKE IT TO ASSURE OPTIMAL PLANTING CONDITION.
 - CONTRACTOR IS ALSO REQUIRED TO CHEMICALLY ANALYZE THE SOIL AND DETERMINE IF FERTILIZATION, LIME, ETC. IS REQUIRED TO PROVIDE PROPER GROWTH. A WRITTEN REVIEW OF SAID ANALYSIS AND RECOMMENDATIONS IS REQUIRED TO BE SUBMITTED TO WSSI 15 DAYS PRIOR TO INSTALLATION. ALL SUCH IMPROVEMENTS/AMENDMENTS SHALL BE INCLUDED WITHIN THE COST OF THIS WORK. INSTALLING ONE OR MORE PLANTS ON THIS SITE SHALL BE CONTRACTORS ACCEPTANCE THAT SITE CONDITIONS COMPLY WITH CONTRACT DOCUMENTS. CONTRACTOR MAY SAMPLE THE IN-SITU TOPSOILS AT ANY TIME DURING THE BIDDING PROCESS TO ENSURE ADEQUATE FINANCIAL COVERAGE OF THIS COST.

SEEDING SPECIFICATIONS

- IF EROSION CONTROL COVER IS ROBUST (I.E., DEFINED AS 70% GROUND COVER OR GREATER):
 - THE SPECIFIED SEED SHALL BE BROADCAST PRIMARILY IN AREAS WITH LIMITED COVER. FOLLOWING SEEDING, MECHANICALLY SOW SEED TO A DEPTH OF 1/8TH OF AN INCH BY THE USE OF A HAND RAKE.
 - A SEED GERMINATION AND PURITY RATE OF 75% IS REQUIRED. EVIDENCE OF SUCH SHALL BE PROVIDED TO OWNER'S REPRESENTATIVE PRIOR TO PLANTING.
- IF EROSION CONTROL COVER IS NOT ROBUST (I.E., LESS THAN 70% GROUND COVER), THE SPECIFIED SEED MIX SHALL BE PLACED BY HYDROSEEDING AS FOLLOWS:
 - SEED SHALL HAVE BEEN COLLECTED THE SAME YEAR OF SEEDING. A SEED GERMINATION AND PURITY RATE OF 75% IS REQUIRED. EVIDENCE OF SUCH SHALL BE PROVIDED TO OWNER'S REPRESENTATIVE PRIOR TO PLANTING.
 - THE LANDSCAPE CONTRACTOR SHALL INSPECT THE AREAS AND CONDITIONS UNDER WHICH THE SEEDING WORK IS TO BE PERFORMED PRIOR TO COMMENCING WORK. IF CONDITIONS ARE DETRIMENTAL TO THE PROPER AND TIMELY COMPLETION OF THE WORK, HE/SHE SHALL NOTIFY THE OWNER'S REPRESENTATIVE VERBALLY AND IN WRITING AND POSTPONE COMMENCING WORK UNTIL THE UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
 - PRIOR TO HYDROSEEDING, THE TOP SOIL SHALL BE RAKED SMOOTH AND CLEARED OF ALL STONES LARGER THAN 5" AND TRASH, DEBRIS, BRANCHES AND OTHER MATTER DETRIMENTAL TO THE SUCCESS OF SEEDING.
 - FERTILIZER IS TO BE BROADCAST AND RAKED INTO THE TOP ONE INCH OF TOP SOIL IMMEDIATELY BEFORE SEEDING OR ADDED TO THE HYDROSEED MIX. FERTILIZER SHALL HAVE A FORMULATION OF 10-10-10 AND BE APPLIED AT A RATE OF 50 POUNDS PER 1000 SQUARE FEET.
 - MULCH SHALL BE A CELLULOSE FIBER USED IN THE AQUEOUS MIXTURE DURING HYDROSEEDING. IT SHALL BE APPLIED AT A RATE OF 1500 POUNDS PER ACRE. STRAW CAN BE SUBSTITUTED IF APPLIED AT RATES SPECIFIED BY THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, 3RD EDITION, 1992.
 - THE AQUEOUS MIXTURE SHALL BE CONSTANTLY AGITATED FROM THE TIME IT IS MIXED UNTIL THE TIME APPLICATION IS COMPLETED.
 - CARE SHOULD BE EXERCISED TO INSURE UNIFORM COVERAGE AND TO AVOID SPRAYING ON THE BASAL AREAS OF ANY ADJACENT TREES AND SHRUBS. THE WATER-SEED MIXTURE SHALL BE APPLIED AT A MINIMUM RATE OF 1000 GALLONS PER ACRE.
- ALTERNATIVELY, CONTRACTOR MAY SPECIFICALLY APPLY SEED MIX BY BROADCASTING EVENLY THROUGHOUT THE AREA. FOLLOWING SEEDING, MECHANICALLY SOW SEED TO A DEPTH OF 1/8 OF AN INCH BY THE USE OF A CULTIPACTOR, YORK RAKE, OR HAND RAKE.

PLANTING AND SEEDING SURVIVAL WARRANTY

- LANDSCAPE CONTRACTOR SHALL GUARANTEE A MINIMUM SURVIVAL RATE OF EACH VEGETATION SPECIES AFTER TWELVE MONTHS OF 85% FOR B&B, CONTAINER GROWN, AND TUBINGS, AND 60% FOR BARE ROOT AND TUBER STOCK.
- IF SURVIVAL RATES ARE LESS THAN THE ABOVE WARRANTY RATES, THEN LANDSCAPE CONTRACTOR SHALL REPLACE THE QUANTITY OF DEAD PLANTS WITHIN THE NEXT PLANTING WINDOW (NOVEMBER 4 THROUGH APRIL 4, EXCLUDING FROZEN GROUND PERIODS) FOLLOWING THE END OF THE APPLICABLE WARRANTY PERIOD.

GROWING MEDIUM SUBSTRATE

- AT LEAST 24" OF GROWING MEDIUM (I.E., 15" OF MINERAL SOIL AND 9" OF TOP SOIL) MUST BE PROVIDED IN FORESTED AREAS AND 12" OF SAID MEDIUM (I.E., 3" OF MINERAL SOIL AND 9" OF TOP SOIL) IN OTHER AREAS (AS APPLICABLE) OF THE WETLAND. SHOULD IT BE AVAILABLE, TOP SOIL MAY BE SUBSTITUTED FOR THE MINERAL SOIL PORTION OF THE GROWING MEDIUM (I.E., THE ENTIRE GROWING MEDIUM MAY BE TOP SOIL).
- ALL AREAS REQUIRING GRADING OR FILLING, OF 4" OR MORE, SHALL HAVE THE TOP SOIL (UPPER ±3" OF SOIL PROFILE) REMOVED AND STOCKPILED IN A SEGREGATED STORAGE AREA FOR RE-SPREADING AS A GROWING MEDIUM. ALTERNATIVELY, CONTRACTOR MAY IMPORT TOPSOILS, SUBJECT TO (A) OWNER'S ACCEPTANCE OF MATERIAL (SAID ACCEPTANCE TO BE AT THE SOLE AND UNREVIEWABLE DISCRETION OF THE OWNER), (B) CONTRACTOR MAY PROPOSE ORGANIC AMENDMENTS TO BE ADDED TO SUBSOIL, SUBJECT TO OWNER'S ACCEPTANCE OF PROPOSAL (SAID ACCEPTANCE TO BE AT THE SOLE AND UNREVIEWABLE DISCRETION OF THE OWNER).
- EXCAVATION DEPTHS AND FILL DEPTHS SHALL BE DETERMINED SUCH THAT AREAS WITH CUTS GREATER THAN 4" AND ALL AREAS WITH FILL REQUIREMENTS ARE PROVIDED WITH A MINIMUM OF 9" OF TOP SOIL ON THE UPPER SURFACE OF THE GRADED AREA. SAID TOP SOIL MATERIALS SHALL BE PLACED IN LOOSE LIFTS NO GREATER THAN 12" IN DEPTH, SUCH THAT AFTER NORMAL COMPACTION FROM RAINFALL, FOOT TRAFFIC AND RAKING, THE DESIGN ELEVATION IS ACHIEVED WITHIN ±0.1 FT. UPON COMPLETION OF GRADING, ALL AREAS MUST BE FLOWED, DISCED, AND THEN RAKED TO MINIMIZE TOPSOIL COMPACTION PRIOR TO PLANTING.
- AREAS WHERE PROPOSED ELEVATIONS CAUSE SOIL DEPTH TO DECOMPOSED (OR RIPABLE) ROCK TO BE LESS THAN 12" (18" IN FORESTED AREAS) SHALL BE OVER-CUT SO AS TO ALLOW (1) A GROWING MEDIUM OF AT LEAST 12" (18" IN FORESTED AREAS) OF MINERAL AND TOP SOIL (FROM EXCAVATED AREAS ON-SITE TO BE PLACED IN LOOSE LIFTS NO GREATER THAN 12" PER LIFT) AFTER NORMAL COMPACTION FROM RAINFALL AND FOOT TRAFFIC.
- THE UPPER SURFACE OF SOIL IN THE PROJECT AREA SHALL BE LEFT AT ELEVATIONS WITHIN ±0.1 FT OF THE DESIGN GRADE ELEVATION.

PRODUCT HANDLING, STORAGE, AND DELIVERY

- HANDLE PLANTS AT ALL TIMES SO THAT ROOTS OR BALLS ARE ADEQUATELY PROTECTED FROM BREAKAGE OF BALLS, FROM SUN AND DRYING WINDS. PLANTS WITH DRIED OUT TOPS OR ROOTS SHALL BE REJECTED.
- ALL PLANT MATERIALS SHALL BE STORED AND DELIVERED IN SUCH A FASHION AND FOR TIME INTERVALS CONSISTENT WITH SOUND SILVICULTURAL PRACTICES.
- PLANT MATERIAL WILL BE TRANSPORTED FROM THE NURSERY TO THE PLANTING AREAS BY SUCH MEANS AS TO AVOID WIND DAMAGE, OVER-CROWDING, OR OTHER MECHANISMS BY WHICH PHYSICAL DAMAGE MAY RESULT TO THE PLANTS.
- PLANT MATERIAL MAY BE RANDOMLY INSPECTED BY THE DESIGN ENGINEER UPON ARRIVAL AT EACH PLANTING AREA AND DURING PLANTING ACTIVITIES. MATERIAL FOUND TO BE UNACCEPTABLE WILL BE REJECTED AND THE CONTRACTOR WILL BE REQUIRED TO SUPPLY REPLACEMENT MATERIAL WITHIN A REASONABLE TIME FRAME (I.E. 1-WEEK). UNACCEPTABLE MATERIAL IS TO BE DEFINED AS THE FOLLOWING:
 - PLANTS WITH BENT TRUNKS OR MULTIPLE LEADERS, UNLESS CHARACTERISTICS FOR THE SPECIES;
 - PLANTS WITH DISEASED TRUNKS, STEMS, OR LEAVES;
 - PLANTS WITH PEST-INFESTED TRUNKS, STEMS, OR LEAVES;
 - PLANTS OF INSUFFICIENT SIZE (LESS THAN A SPECIFIED HEIGHT);
 - PLANTS OF THE WRONG SPECIES/SUB-SPECIES;
 - PLANTS HAVING ROOT GIRDLING IN THE CONTAINER;
 UNLESS OTHERWISE APPROVED BY THE DESIGN ENGINEER. JUSTIFICATION FOR USE OF TENTATIVELY REJECTED MATERIAL MAY BE PRESENTED TO THE DESIGN ENGINEER.

TOPSOIL SPECIFICATION (FOR IMPORTED TOPSOIL)

- TOPSOIL SHALL BE OF A LOAMY TEXTURE AND HAVE COMPONENTS OF SAND, SILT AND CLAY IN PERCENTAGES THAT, BY DEFINITION FROM THE U.S. DEPARTMENT OF AGRICULTURE HANDBOOK 18, CHARACTERIZES A LOAMY SOIL. THE RANGES OF SAND, SILT AND CLAY (BY PERCENTAGE) THAT CAN BE FOUND IN A LOAMY SOIL ARE LISTED BELOW ALONG WITH THEIR RANGE IN PARTICLE SIZE:

COMPONENT	RANGE	PARTICLE SIZE
SAND	23%-52%	0.05-2.0 MM
SILT	28%-50%	0.002-0.05 MM
CLAY	7%-27%	<0.002 MM

- TOPSOIL SHALL MEET ACCEPTABLE SOIL TEST LEVELS AS SPECIFIED BELOW. ONE TEST OF A REPRESENTATIVE SOIL SAMPLE FROM EACH WETLANDS PLANTING AREAS SHALL BE PROVIDED. A CERTIFICATE OF SOIL TEST ANALYSIS MUST BE SUBMITTED TO THE ENGINEER-OF-RECORD FOR APPROVAL BEFORE ANY TOPSOIL IS DELIVERED TO THE PROJECT (IF REQUIRED) OR BEFORE THE TOP SOIL IS SPREAD.
- IT SHALL BE FREE OF STONES, LUMPS, PLANTS, ROOTS AND OTHER DEBRIS OVER 1-1/2". TOPSOIL MUST ALSO BE FREE OF PLANTS OR PLANT PARTS OF BERMUDAGRASS, QUACKGRASS, JOHNSONGRASS, MUGWORT, NUTSEDGE, POISON IVY, CANADIAN THISTLE OR OTHERS AS SPECIFIED.
- IT SHALL NOT CONTAIN TOXIC SUBSTANCES HARMFUL TO PLANT GROWTH, I.E., PESTICIDE RESIDUES.

TOPSOIL TESTING

SOIL TESTS SHALL BE DONE PRIOR TO PLANTING. THE SOIL TEST SHOULD DETERMINE A MINIMUM OF THE FOLLOWING: SIEVE ANALYSIS; MAGNESIUM, POTASSIUM, AND PHOSPHORUS LEVELS; SOLUBLE SALT LEVEL; PH; AND ORGANIC MATTER. SOIL TESTS SHALL BE TAKEN FROM EACH CONTIGUOUS PLANTING BED. SOIL TESTS SHALL BE CONDUCTED IN A STATE LABORATORY OR RECOGNIZED COMMERCIAL LABORATORY. THE SOIL TEST RESULTS SHALL BE SUBMITTED TO THE OWNER OR OWNER'S REPRESENTATIVE. THE CONTRACTOR IS NOT RESPONSIBLE TO CORRECT UNUSUAL SOIL CONDITIONS NOT IDENTIFIED BY THE SOIL TEST RESULTS. IF EXISTING SOIL HAS BEEN UNDISTURBED AND IS SUITABLE AS DETERMINED BY SOIL TEST, NO ADDITIONAL AMENDMENTS ARE REQUIRED (FOR TREES AND SHRUBS). IF THE OWNER DOES NOT ACCEPT THE SOIL TEST RESULTS AS SUBMITTED BY THE CONTRACTOR, AND REJECTS THE RECOMMENDED SOIL AMENDMENTS, THE OWNER IS ACCEPTING FULL RESPONSIBILITY AND THEREBY VOIDS THE LANDSCAPE CONTRACTOR'S GUARANTEE.

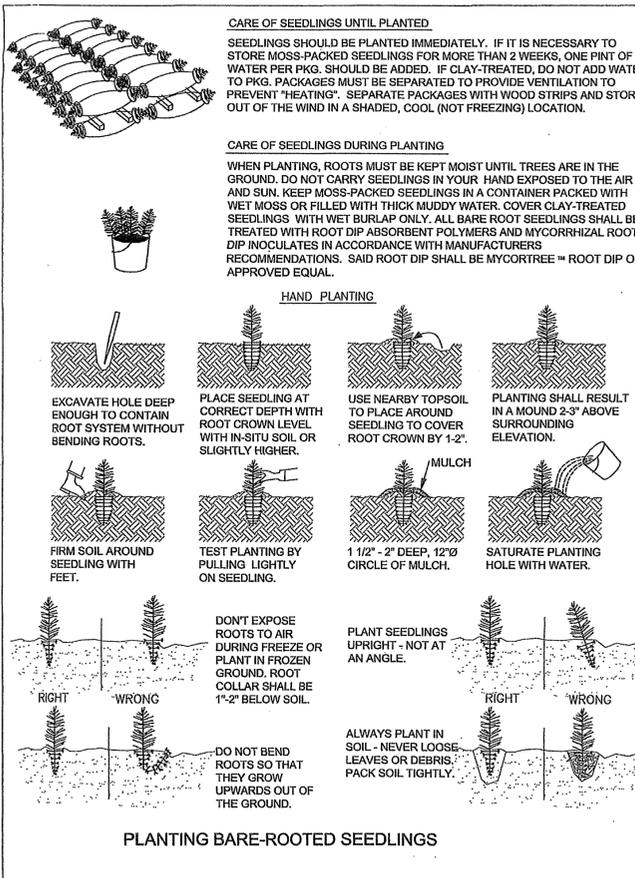
ACCEPTABLE SOIL TEST RESULTS

PH RANGE 5.0-7.0
 ORGANIC MATTER >1.5%
 MAGNESIUM (MG) 100+ UNITS
 PHOSPHORUS (P2O5) 150+ UNITS
 POTASSIUM (K2O) 120+ UNITS
 SOLUBLE SALTS/CONDUCTIVITY NOT TO EXCEED 900 PPM/0.8 MMHOS/CM (IN SOIL)
 NOT TO EXCEED 3000 PPM/2.5 MMHOS/CM (IN HIGH ORGANIC MIX)

THE FOLLOWING OPTIONAL TESTS ARE RECOMMENDED WITH LEVELS NOT TO EXCEED:

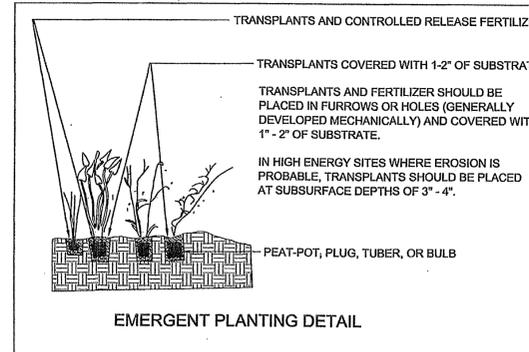
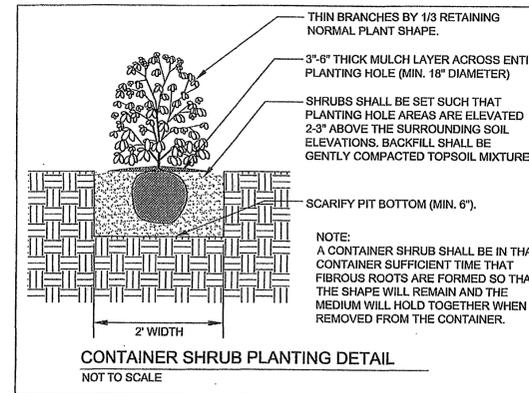
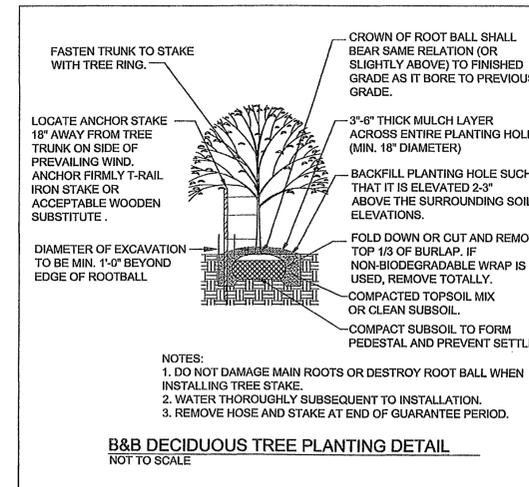
BORON 3 LBS. PER ACRE
 MANGANESE 50 LBS. PER ACRE
 POTASSIUM (K2O) 450 LBS. PER ACRE
 SODIUM 20 LBS. PER ACRE

SOURCE: LANDSCAPE SPECIFICATION GUIDELINES, 4TH EDITION.



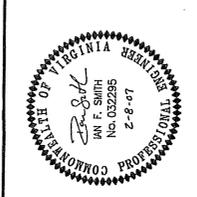
THE PLANTING PLAN SHOWN HEREON IS ILLUSTRATIVE. FINAL LOCATION, NUMBER AND SPECIES OF PLANTINGS SHALL BE DETERMINED AT TIME OF SITE PLAN IN COORDINATION WITH A REPRESENTATIVE OF URBAN FORESTRY.

Station No. See 2007-08-091 Staff 8
 APPROVED: SEA/SP PLAN
 SEE DEV CONDS DATED 1/15/07
 Date of (BOS) (BZA) approval 1/18/07
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RIVER BEND GOLF AND COUNTRY CLUB
 STREAM STABILIZATION PLAN
 FAIRFAX COUNTY, VIRGINIA
 VEGETATION AND SEEDING SPECIFICATIONS



REVISIONS		Rev.	App.	By
No.	Description			
1	3/21/07			
2	5/1/07			
3	5/1/07			

Horizontal Datum: N/A
 Vertical Datum: N/A
 Boundary and Topo Source: N/A

Design	Draft	Approved
JTK	JTK	IFS

Sheet #
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