

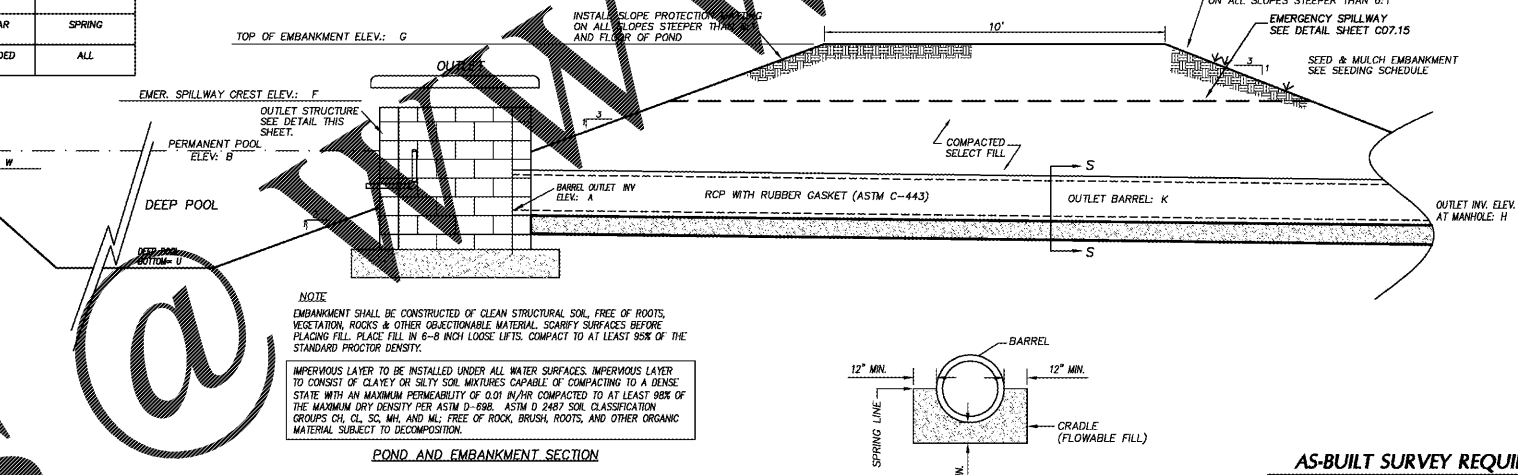
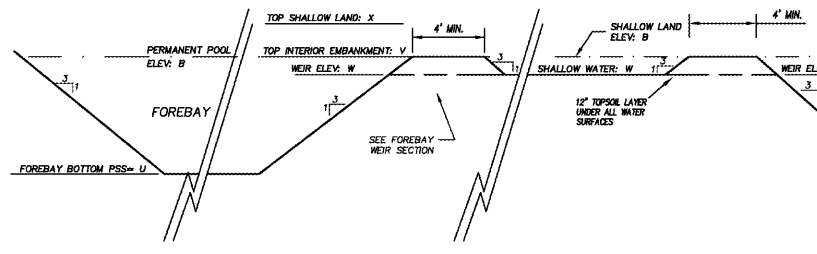
WETLAND MAINTENANCE SCHEDULE						
DESCRIPTION	METHOD	FREQUENCY	SEASON	DESCRIPTION	METHOD	FREQUENCY
EMBANKMENT				PLANTS		
INSPECT AND REPAIR EROSION / ANNUAL NESTINGS	VISUAL	ANNUALLY	ALL	REPLACE ANY DEAD OR DISEASED VEGETATION CONSIDERED BEYOND TREATMENT	SEE PLANTING SPECIFICATIONS	TWICE PER YEAR
DEBRIS / OBSTRUCTIONS	BY HAND	WHENEVER NEEDED	ALL	TREAT ALL DISEASED PLANTS NOT TO BE REMOVED	MECHANICAL OR BY HAND	WHENEVER NEEDED
FOREBAY / DEEP POOL				WATER PLANT MATERIAL		
SEDIMENT / DEBRIS	BY HAND	ONCE PER 8 MONTHS OR WHEN 1/2 FULL OF SEDIMENT	ALL	AND END OF EACH DAY FOR 14 CONSECUTIVE DAYS AFTER PLANTING	BY HAND	IMMEDIATELY AFTER COMPLETION OF PROJECT
CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE UNTIL SUBSTANTIAL COMPLETION AT WHICH TIME THE OWNER WILL ASSUME MAINTENANCE RESPONSIBILITY.				REPLACE SUPPORT STAKES	BY HAND	ONCE PER YEAR
LANDSCAPE WARRANTIES SHALL APPLY TO STORMWATER WETLAND PLANTINGS.				REPLACE DEFICIENT STAKES OR WIRES	BY HAND	WHENEVER NEEDED

**OUTLET STRUCTURE NOTES:**

- ALL STRUCTURES OVER 3'-6" IN DEPTH TO BE PROVIDED WITH STEPS 1'-2" ON CENTERS. STEPS SHALL BE IN ACCORDANCE WITH STANDARD 840.68.
- LOCATE MANHOLE OVER STEPS.
- CLASS "A" (3,000 PSI) CONCRETE TO BE USED.
- ALL MOTOR JOINTS ARE 1/2" ± 1/8".
- GROUT SHALL BE NON-SHRINK (ASTM-C1107).
- CONCRETE BLOCK SHALL MEET MCDOT SPECIFICATIONS SECTION 1040-1.
- BLOCK SHALL BE RED IN COLOR AND SUBSTANTIALLY FREE FROM CHIPS AND CRACKS.

**TEMPORARY SEDIMENT BASIN NOTES:**

- INSPECT DEVICE AFTER EACH RAINFALL. REMOVE SEDIMENT WHEN SEDIMENT REACHES A DEPTH OF NO MORE THAN ONE-HALF THE HEIGHT OF THE RISER. REPAIR BAFFLES IF DAMAGED.
- PULL SKIMMER TO SIDE OF BASIN WITH ROPE AND INSPECT REGULARLY. KEEP SKIMMER HEAD, ORIFICE AND PIPE FREE OF DEBRIS. REMOVE SEDIMENT FROM BENEATH SKIMMER AND ENSURE VEGETATION DOES NOT INTERFERE WITH SKIMMER OPERATION.
- PROVIDE PAINT MARK ON RISER AT 12" HEIGHT. CLEAN AND REPAIR ONCE SEDIMENT REACHES MARK.
- INSTALL ALL COMPONENTS OF POND EMBANKMENT, OUTLET STRUCTURE, SKIMMER, EMERGENCY SPILLWAY, ETC. (UNLESS NOTED) PRIOR TO BEGINNING CLEARING OPERATIONS.
- SEE SHEET C07.01 FOR TEMPORARY BAFFLE INSTALLATION.



**NOTE**  
 EMBANKMENT SHALL BE CONSTRUCTED OF CLEAN STRUCTURAL SOIL, FREE OF ROOTS, WEEDS, ROCKS & OTHER COLLECTIONABLE MATERIAL. SCARIFY SURFACES BEFORE PLACING FILL. PLACE FILL IN 6-8 INCH LIFTS. COMPACT TO AT LEAST 80% OF THE STANDARD PROCTOR DENSITY.

**IMPERVIOUS LAYER TO BE INSTALLED UNDER ALL WATER SURFACES. IMPERVIOUS LAYER TO CONSIST OF CLAYEY OR SILTY SOIL MIXTURES CAPABLE OF COMPACTING TO A DENSE STATE WITH AN MAXIMUM PERMEABILITY OF 0.01 IN/HR COMPACTED TO AT LEAST 80% OF THE MAXIMUM DRY DENSITY PER ASTM D-998. ASTM D 2457 SOIL CLASSIFICATION GROUPS CH, CL, SC, MH, AND ML; FREE OF ROCK, BRUSH, ROOTS, AND OTHER ORGANIC MATERIAL SUBJECT TO DECOMPOSITION.**

- CONSTRUCTION SEQUENCE**
- THE STORMWATER WETLAND SHALL BE UTILIZED AS A TEMPORARY SEDIMENT BASIN DURING CONSTRUCTION.
  - SCHEDULE THE FOLLOWING WORK TO COINCIDE WITH AN EXTENDED FORECAST OF NO PRECIPITATION SUCH THAT ALL WORK CAN BE COMPLETED DURING A PERIOD OF DRY WEATHER. INSTALL COFFER DAM UPSTREAM OF POND IN CASE OF ANY UNEXPECTED PRECIPITATION EVENTS. UTILIZE MUD PUMP WITH FLOATING SUCTION INLET THROUGH A SEDIMENT FILTER BAG LOCATED DOWNSTREAM OF BASIN.
  - INSTALL WETLAND BARREL, OUTLET STRUCTURE, EMBANKMENT, EMERGENCY SPILLWAY AND OTHER WETLAND COMPONENTS.
  - CALL FOR SITE INSPECTION PRIOR TO BACKFILLING WETLAND BARREL.
  - INSTALL TEMPORARY SKIMMER ON WETLAND DRAIN. DRAIN VALVE TO REMAIN OPEN.
  - EXCAVATE WETLAND TO TEMPORARY SKIMMER BASIN DIMENSIONS. SEE EROSION CONTROL PLAN.
  - INSTALL BAFFLES AND OTHER TEMPORARY SKIMMER BASIN COMPONENTS. SEE TEMPORARY SKIMMER BASIN DETAILS.
  - SEED ALL DISTURBED AREAS.
  - FOLLOWING COMPLETION OF CONSTRUCTION AND STABILIZATION OF POND DRAINAGE BASIN, PERFORM THE FOLLOWING:
    - SCHEDULE THE FOLLOWING WORK TO COINCIDE WITH AN EXTENDED FORECAST OF NO PRECIPITATION SUCH THAT ALL WORK CAN BE COMPLETED DURING A PERIOD OF DRY WEATHER. INSTALL COFFER DAM UPSTREAM OF POND IN CASE OF ANY UNEXPECTED PRECIPITATION EVENTS. UTILIZE MUD PUMP WITH FLOATING SUCTION INLET THROUGH A SEDIMENT FILTER BAG LOCATED DOWNSTREAM OF BASIN.
    - REMOVE TEMPORARY BAFFLES.
    - REMOVE ALL ACCUMULATED SEDIMENT. GRADE WETLAND TO FINISH TO SUBGRADE ELEVATIONS.
    - INSTALL CLAY LINER AND ARMOR PROTECTIONS OF FOREBAY WEIR.
    - IF ADDITIONAL DE-WATERING IS NEEDED, BELOW DRAIN SKIMMER ELEVATION, UTILIZE A MUD PUMP WITH FLOATING SUCTION INLET AND DISCHARGE REMAINING WATER THROUGH A SEDIMENT FILTER BAG LOCATED UPSTREAM OF BASIN. MONITOR PUMPING TO ENSURE FLOW DOES NOT EXCEED THE CAPACITY OF FILTER BAG.
    - INSTALL AND FINE GRADE TOPSOIL TO FINISH GRADES.
    - INSTALL TEMPORARY SLOPE LINES.
    - REMOVE TEMPORARY SLOPE LINES BELONGING FROM PRIMARY SPILLWAY.
    - INSTALL WETLAND PLANTINGS.
    - INSTALL WETLAND PLANTINGS.
    - FOLLOW APPROVED AS-BUILT SURVEY, REMOVE TEMPORARY SKIMMER AND CLOSE DRAIN VALVE.

STORMWATER WETLAND SCHEDULE					
SCM NUMBER	SCM-1	DESCRIPTION	SCM NUMBER	SCM-1	DESCRIPTION
A (FT)	22.90	BARREL OUTLET ELEVATION	Q (IN)	1.5	PRIMARY SPILLWAY ORIFICE
B (FT)	24.00	PRIMARY SPILLWAY CONTROL ELEVATION	R (IN)	6	DRAIN VALVE DIAMETER
C (FT)	25.25	SECONDARY SPILLWAY ELEVATION	S (IN)	3 & 2.5	SKIMMER DIAMETER & ORIFICE DIAMETER
D (FT)	27.00	RIM ELEVATION	T (FT)	24.45	TEMPORARY SEDIMENT STORAGE ELEVATION
E (FT)	28.42	TOP SLAB ELEVATION	U (FT)	22.00	BMP BOTTOM ELEV.
F (FT)	27.50	EMERGENCY SPILLWAY CREST ELEVATION	V (FT)	24.00	TOP INTERIOR EMBANKMENT
G (FT)	29.00	TOP OF EMBANKMENT ELEVATION	W (FT)	23.50	SHALLOW WATER BOTTOM ELEV.
H (FT)	22.35	INVERT OUT OF BARREL	X (FT)	25.25	SHALLOW LAND TOP ELEV.
I (FT)	4	OUTLET STRUCTURE INTERIOR WIDTH	1-YR STORM ELEV.	25.77'	
J (FT)	4	OUTLET STRUCTURE INTERIOR LENGTH	2-YR STORM ELEV.	26.10'	
K	36 LF 12"RCP	OUTLET BARREL	10-YR STORM ELEV.	28.89'	
L (FT)	8	EMERGENCY SPILLWAY WIDTH	25-YR STORM ELEV.	27.31'	
M (IN)	18	SECONDARY SPILLWAY WIDTH	50-YR STORM ELEV.	27.64'	50-YR STORM ELEV. - OBSTRUCTED SPILLWAY
N (IN)	12	THROAT OPENING HEIGHT	100-YR STORM ELEV.	27.95'	
O (IN)	6	CONCRETE BASE EXTENSION WIDTH	SHWT ELEV.	26.00'	SEASONAL HIGH WATER TABLE ELEVATION
P (IN)	12	CONCRETE BASE EXTENSION THICKNESS	CLAY LINER	NO	CLAY LINER REQUIRED

**AS-BUILT SURVEY REQUIREMENTS**

NOTE: CONTRACTOR SHALL PROVIDE AS-BUILT TOPOGRAPHIC SURVEY PERFORMED BY A PROFESSIONAL LAND SURVEYOR CERTIFYING WET DETENTION POND AREA DIMENSIONS AND ELEVATIONS OF THE FOLLOWING:

- OUTLET STRUCTURE TOPS AND INVERTS, ORIFICE/WEIR DIAMETERS, BARREL PIPE SIZES AND INVERTS AND STRUCTURE HEIGHT & WIDTH DIMENSIONS.
- EMERGENCY SPILLWAY ELEVATION AND DIMENSIONS.
- TOPOGRAPHY THAT EXTENDS 20 FEET OUTSIDE LIMITS OF POND WATER SURFACE AND EMBANKMENT.
- CONTRACTOR PROVIDE TEST RESULTS OF CLAY LINER.
- CONTRACTOR TO PROVIDE PHOTOS OF BMP INSTALLATION AT EACH PHASE OF CONSTRUCTION.

**APPROVED CONSTRUCTION PLAN**

Public Services • Engineering Division  
 APPROVED STORMWATER MANAGEMENT PLAN  
 Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
 Signed: \_\_\_\_\_

**APPROVED CONSTRUCTION PLAN**

NAME	DATE
PLANNING	
TRAFFIC	
FIRE	

DESIGNER  
**CLARK NEXSEN**  
 213 South Jefferson Street, Suite 1011  
 Roanoke, Virginia 24011  
 T: 540-982-0800 F: 540-982-1193  
 WWW.CLARKNEXSEN.COM  
 CLARK NEXSEN LICENSE NUMBER: C-1028

CONSULTANT  
**CLH DESIGN, P.A.**  
 Regency Park  
 400 Regency Forest Drive  
 Suite 100  
 Cary, North Carolina 27518  
 Phone: (919) 319-8716  
 Fax: (919) 319-7610  
 LA: C-106, PE: C-1595

SEALS

SUBMITTAL  
 4 MAY 2018

CONSTRUCTION DOCUMENTS

SHEET

DETAILS  
**C715**

DESIGN: ZRP  
 DRAWN: YA, DL  
 REVIEW: ZRP, KAL

CN 5938  
 CLH 16-161