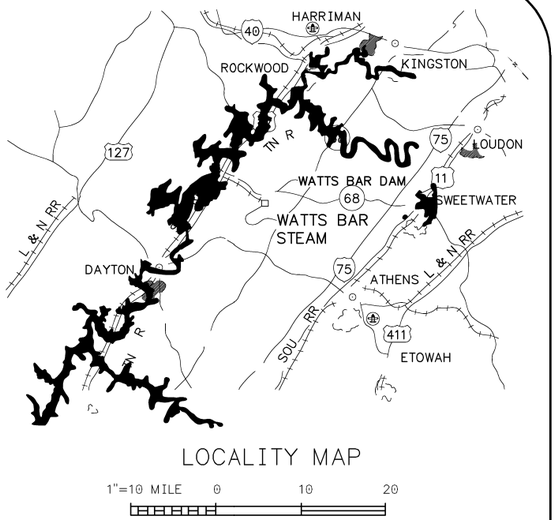
TENNESSEE VALLEY AUTHORITY
WATTS BAR FOSSIL PLANT
WATTS BAR SLAG PROCESSING AND POND AREA CLOSURE
SPRING CITY, TENNESSEE



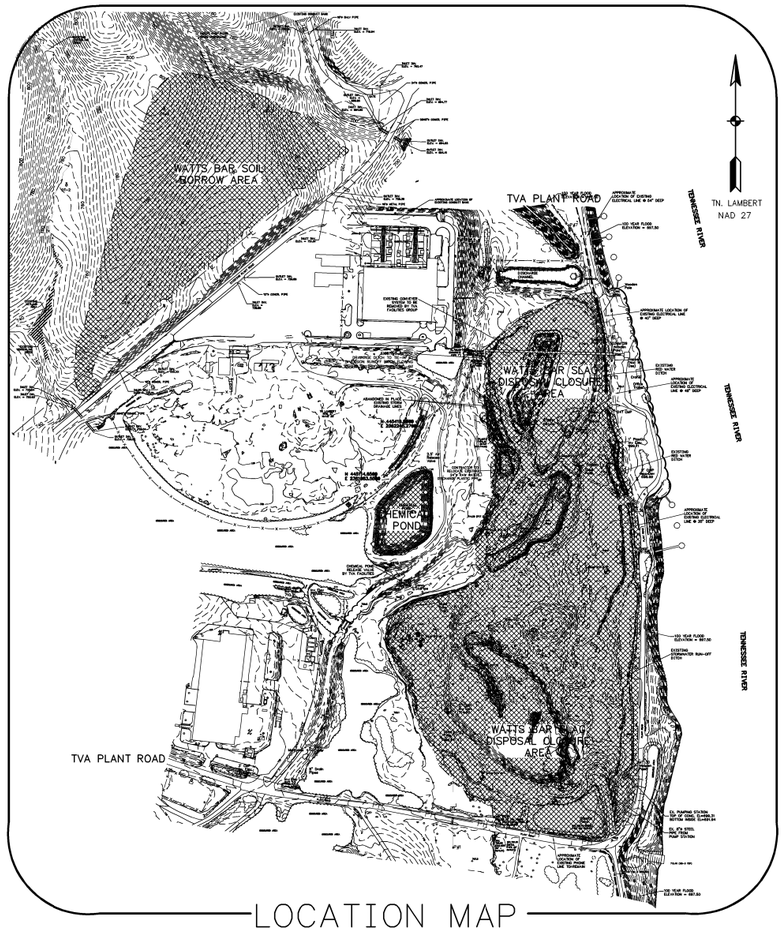
LOCALITY MAP

1"=10 MILE 0 10 20

NOTES:

1. TOPOGRAPHY TRACED FROM REDUCED KELSH PLOTTED FROM 1971 AND 1978 AERIAL PHOTOGRAPHS AND USGS-TVA 7.5 MINUTE QUADRANGLE, 118-SE AND 118-NE (DECATUR AND SPRING CITY, TN.). CONTOUR INTERVAL SHOWN IS 10 FT.
2. FOR COORDINATE LOCATION OF WATTS BAR STEAM PLANT SEE LOCATION OF STRUCTURES DWG 10N202.
3. FOR TEMPORARY AND PROPOSED FEATURES SEE WATTS BAR NUCLEAR PLANT PROPOSED FEATURES DWG 10N209-01.
4. FOR INSTALLATION AND MAINTENANCE OF S.W.P.P.P. PLAN SEE TENNESSEE EROSION AND CONTROL HANDBOOK FOR BMP'S.

VICINITY MAP



LOCATION MAP

INDEX OF DRAWINGS

DRAWING NO.	DESCRIPTION
10W425-01	TITLE SHEET
10W425-02	EXISTING SITE CONDITION SURVEYS
10W425-03	SITE GRADING PLAN (SLAG AREA)
10W425-04	EXISTING TRANSMISSION LINE PROFILE
10W425-05	CROSS SECTIONS
10W425-06	SLAG DISPOSAL DETAILS I
10W425-07	SLAG DISPOSAL DETAILS II
10W425-08	SLAG DISPOSAL DETAILS III
10W425-09	SEDIMENT AND EROSION CONTROL PLAN (SLAG AREA)
STORMWATER PLANS FOR INFORMATION ONLY	
10W425-10	SITE GRADING & SWPP PLAN (BORROW PIT)
10W425-11	BORROW PIT SWPPP DETAILS I
10W425-12	BORROW PIT SWPPP DETAILS II

REV. NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT CD	AS CONST	REV CD
R 0	8-13-09	CWH	SEL	DRD	LJP	KEE	BSS		WBFSLAG		J

DCN WBF-07-1000-001: INITIAL ISSUE FOR SLAG DISPOSAL AREA CLOSURE PLAN

DISCIPLINE INTERFACE

SCALE: NTS EXCEPT AS NOTED

YARD

WATTS BAR SLAG PROCESSING AND AND POND AREA CLOSURE PLANS
TITLE SHEET

DESIGNED BY: DRAWN BY: CHECKED BY: REVIEWED BY: REVIEWED BY: REVIEWED BY: ISSUED BY:

WATTS BAR FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

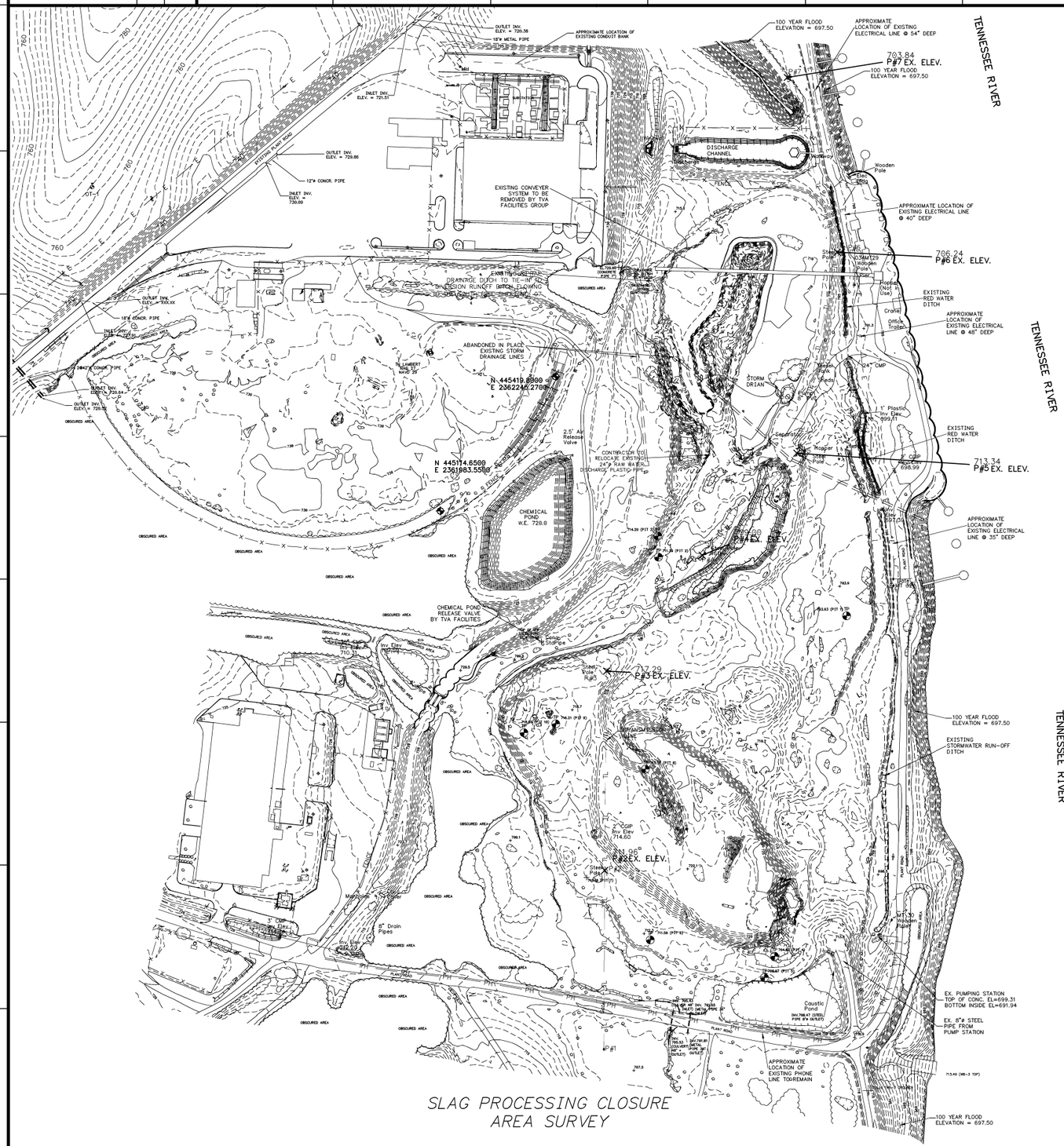
AUTOCAD R 2K | DATE | 14 | C | 10W425-1 | R 0

TASK COMPLETED BY: REV NO.

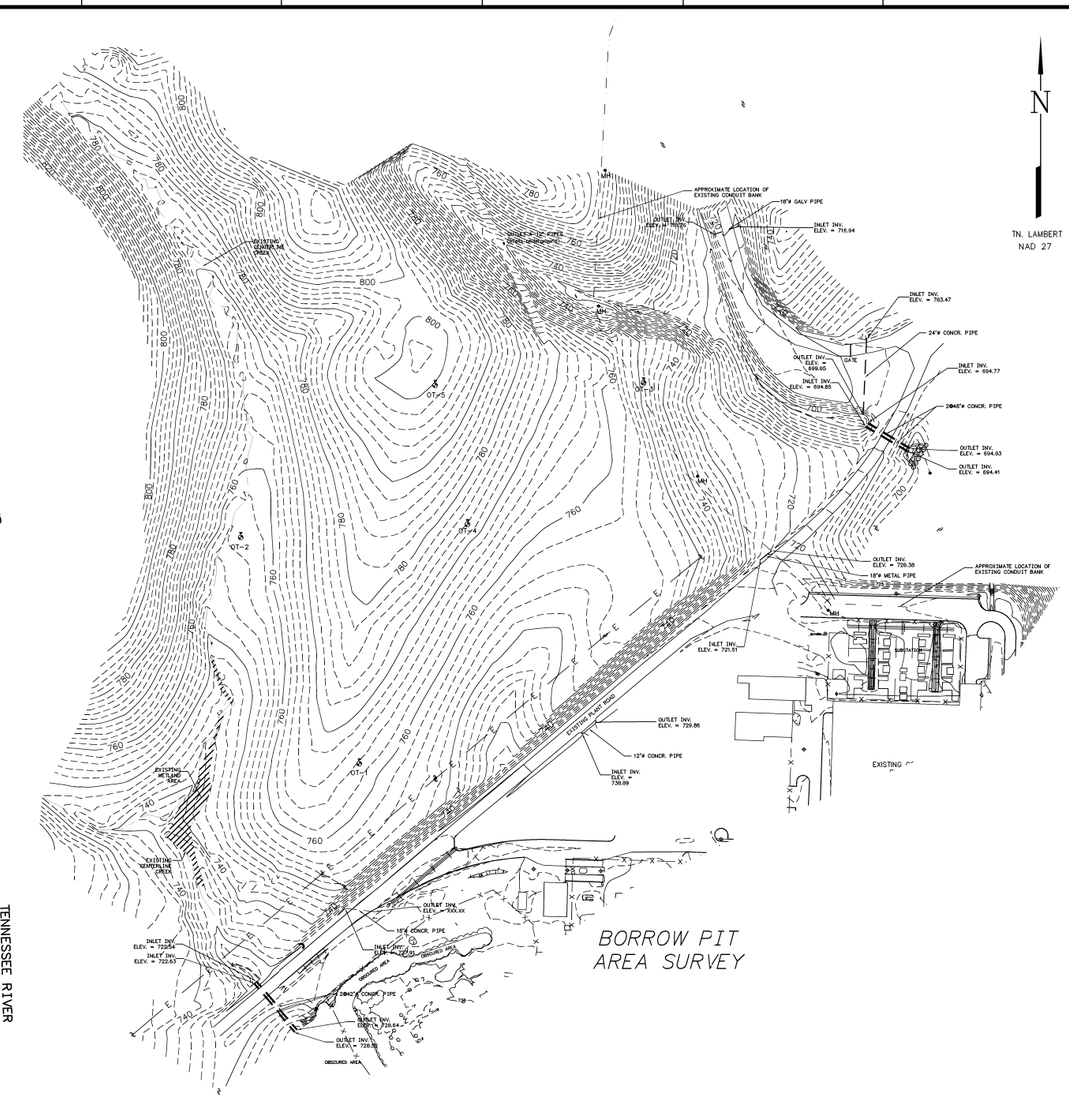
PLOT FACTOR:1
W_TVA

C.A.D. DRAWING
DO NOT ALTER MANUALLY

14 C 10W425-1



SLAG PROCESSING CLOSURE AREA SURVEY



BORROW PIT AREA SURVEY

EXISTING LEGEND

- TP — TEST PIT LOCATION
- UTILITY POLE LOCATION
- MH — UTILITY MANHOLE LOCATION
- WBCI-6 — SURVEY BENCH MARK LOCATION
- WETLAND AREA LOCATION
- CONDUIT BANK LOCATION

REV. NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT ID	AS CONST	REV CD
R 0	8-13-09	CWH	SEL	DRD	LJP	KEE	BSS		WBFSLAG		J

DCN WBF-07-1000-002: INITIAL ISSUE FOR SLAG DISPOSAL AREA CLOSURE PLAN

SCALE: 1"=100' EXCEPT AS NOTED

YARD

WATTS BAR SLAG PROCESSING AND POND AREA CLOSURE PLANS EXISTING SITE CONDITION SURVEYS

DESIGNED BY: | DRAWN BY: | CHECKED BY: | REVIEWED BY: | REVIEWED BY: | REVIEWED BY: | ISSUED BY:

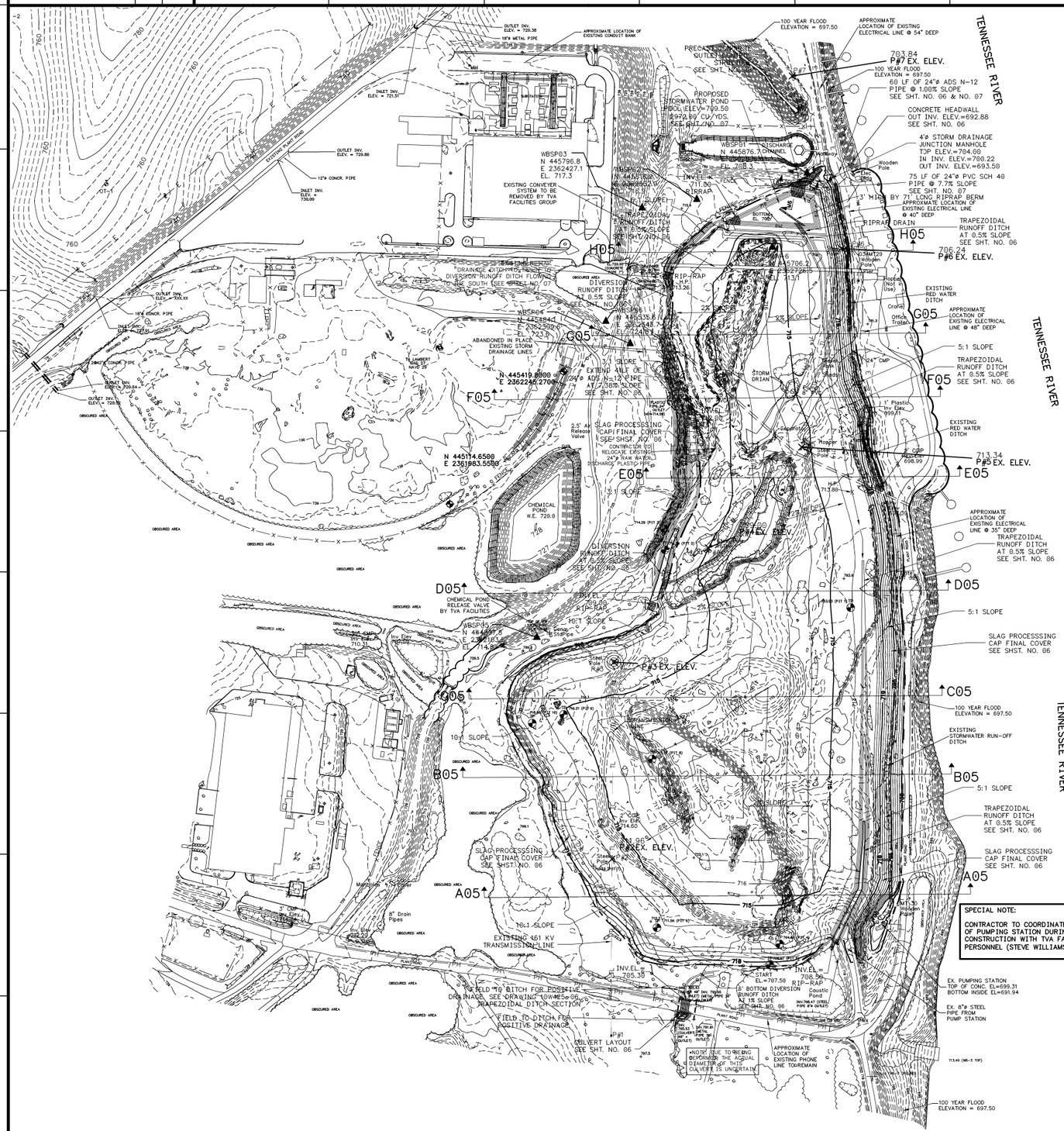
WATTS BAR FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

AUTOCAD R 2K | DATE | 14 | C | 10W425-2 | R 0

TASK COMPLETED BY: | REV NO.

PLOT FACTOR:1
W_TVA

C.A.D. DRAWING DO NOT ALTER MANUALLY



GENERAL NOTES;

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH GENERAL CONSTRUCTION SPECIFICATION NO. T-1 UNLESS OTHERWISE NOTED.

2 EARTH BORROW FOR THE SOIL CAP IS TO BE OBTAINED FROM THE ONSITE BORROW PIT THAT HAS BEEN IDENTIFIED AND TESTED. TO ACHIEVE A PERMEABILITY EQUAL TO OR GREATER THAN 1 X 10-6 COMPACTED SOIL COVER SHALL BE PLACED WITH SHEEPSFOOT ROLLERS. IN PLACE FIELD DENSITY DETERMINATIONS (ASTM D 2922) SHALL BE CHECKED BY AT LEAST ONE FIELD DENSITY TEST PER 5000 CY PLACED WITH AT LEAST ONE FIELD DENSITY TEST PER DAY FILL IS PLACED. COMPACTION EFFORT AND FILL MOISTURE SHALL BE CONTROLLED SUCH T-HAT THE IN-PLACE TESTING SHOWS THE COMPACTED SOIL LAYER FALLS IN THE ACCEPTABLE ZONE ON THE HYDRAULIC CONDUCTIVITY/COMPACTION CURVES PREPARED FOR THIS BORROW SITE. SEE QA/QC PLAN FOR ADDITIONAL DETAILS AND REQUIREMENTS.

3. COMPACTED SOIL COVER SHALL BE PLACED IN LOOSE LIFTS OF 8 TO 10 INCHES PRIOR TO COMPACTION.

3. RIPRAP SHALL BE 12" THICK EXCEPT AS NOTED IN THE NORTH DETENTION POND. A MINIMUM OF 50 PERCENT, BY WEIGHT, OF THE STONES SHALL BE 75 LB. EACH AND IN ACCORDANCE WITH SECTION 575.

4. PIPE SHALL BE 24 INCH DIAMETER ADS N-12 OR EQUAL. OTHER PIPE AS NEEDED SHALL BE AS NOTED ON DRAWINGS.

5. EXCAVATION AND BACKFILL FOR PIPE CULVERTS SHALL CONFORM TO SECTION 125.

6. TEMPORARY SEEDING SHALL MEET THE REQUIREMENTS OF T-1 SECTION 583.

7. MULCHING SHALL MEET THE REQUIREMENTS OF T-1 SECTION 581.

8. FINAL SPRING SEEDING SHALL BE:
PARTRIDGE PEA - 8 LBS/ACRE
RED CLOVER - 6 LBS/ACRE
SAND LOVEGRASS - 3 LBS/ACRE
SIDE OATS GRAMMA - 8 LBS/ACRE

ON AREAS THAT ARE 5:1 OR STEEPER ADD ANNUAL RYE GRASS AT A RATE OF 60 LBS/ACRE

9. THE SEEDS ARE TO ORDERED THE LAST OF NOVEMBER 2007 AND KEPT AT A TEMPERATURE BETWEEN 34 AND 42 DEGREES FOR A MINIMUM OF 30 DAYS BEFORE PLANTING. AIR MUST BE ALLOWED TO CIRCULATE UNDER THE CONTAINER OF SEEDS DURING STORAGE.

10. SEEDS SHOULD BE "DRILLED" WITH THE "GREAT PLAINS, NO TILL DRILL." FIELD TO INQUIRE WITH THE STATE OF TENNESSEE (MR. ROSS SKULURD (615) 781-6610) ABOUT USE OF THEIR MACHINE. PLANTING IS TO BE BETWEEN MAY 15 & 24, 2008.

11. THE SEED ARE NOT TO BE REMOVED MORE THAN 3 DAYS FROM THE COOL STORAGE AREA BEFORE PLANTING. A CULTIPACKER IS TO BE USED OVER THE AREA AFTER THE SEEDS ARE SOWN.

12. SEEDED AREA TO BE MAINTAINED UNTIL A SATISFACTORY COVER OF PLANT MATERIAL IS SECURED. ALL AREAS SHALL BE PRESERVED AND PROTECTED AND REPAIRED AS SPECIFIED FOR THIS PURPOSE. AREAS HAVING A POOR STAND OF PLANTS SHALL BE RESEEDED AND FERTILIZED AT THE PROPER RATES.

13. BORROW AREA AND OTHER DISTURBED AREAS SHALL BE SEEDED (TYPE 8 MIXTURE 1, FOR FALL SEEDING OR TYPE 6 MIXTURE 1 FOR SPRING SEEDING), FERTILIZED, AND MULCHED IN ACCORDANCE WITH SECTION 580 AND 582 OF THE T-1 SPECS.

14. ALL FILL MATERIAL SHALL BE EQUIPMENT COMPACTED IN 12 INCH TO 18 INCH LIFTS. EARTH SHALL BE COMPACTED WITH SHEEP-FOOT ROLLER AND ASH FILL COMPACTED WITH A SELF-PROPELLED VIBRATORY ROLLER.

15. RIP RAP TO CONFORM TO TENNESSEE DEPARTMENT OF TRANSPORATION, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, MARCH 1, 2006, SECTION 709.03, CLASS A-1 EXCEPT AS NOTED.

16. #57 STONE TO MEET TDOT SECTION 903.22.

17. GEOTEXTILE FILTER FABRIC TO MEET T-1 SECTION 571, CLASS C OR EQUIVALENT.

SPECIAL NOTE:

CONTRACTOR TO COORDINATE OPERATION OF PUMPING STATION DURING CONSTRUCTION WITH TVA FACILITIES PERSONNEL (STEVE WILLIAMS @ 365-8157).

SITE LEGEND

- EXISTING TRANSMISSION LINE
- TP — TEST PIT LOCATION
- UTILITY POLE LOCATION
- MH — UTILITY MANHOLE LOCATION
- 100 YEAR FLOOD ELEVATION
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- WBCI-6 — SURVEY BENCH MARK LOCATION (CONTROL POINT)
- WBSP01 — SLAG POND CAP MONITORING WELLS (SEPTEMBER 2008)
- RIP RAP AREAS
- SLAG CAP MINOR CONTOUR
- SLAG CAP MAJOR CONTOUR
- CLAY LINER CAP LIMITS
- CONSTRUCTION LIMITS
- A——A — SECTION CUT LINE

REV. NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT ENGR	AS CONST	REV CD
R 0	8-13-09	CWH	SEL	DRD	LJP	KEE	BSS		WBFSLAG		J

DCN WBF-07-1000-003: INITIAL ISSUE FOR SLAG DISPOSAL CLOSURE PLAN

DISCIPLINE INTERFACE

SCALE: 1"=100' EXCEPT AS NOTED

YARD

WATTS BAR SLAG PROCESSING AND POND AREA CLOSURE PLANS
SITE GRADING PLAN (SLAG AREA)

DESIGNED BY: | DRAWN BY: | CHECKED BY: | REVIEWED BY: | REVIEWED BY: | REVIEWED BY: | ISSUED BY:

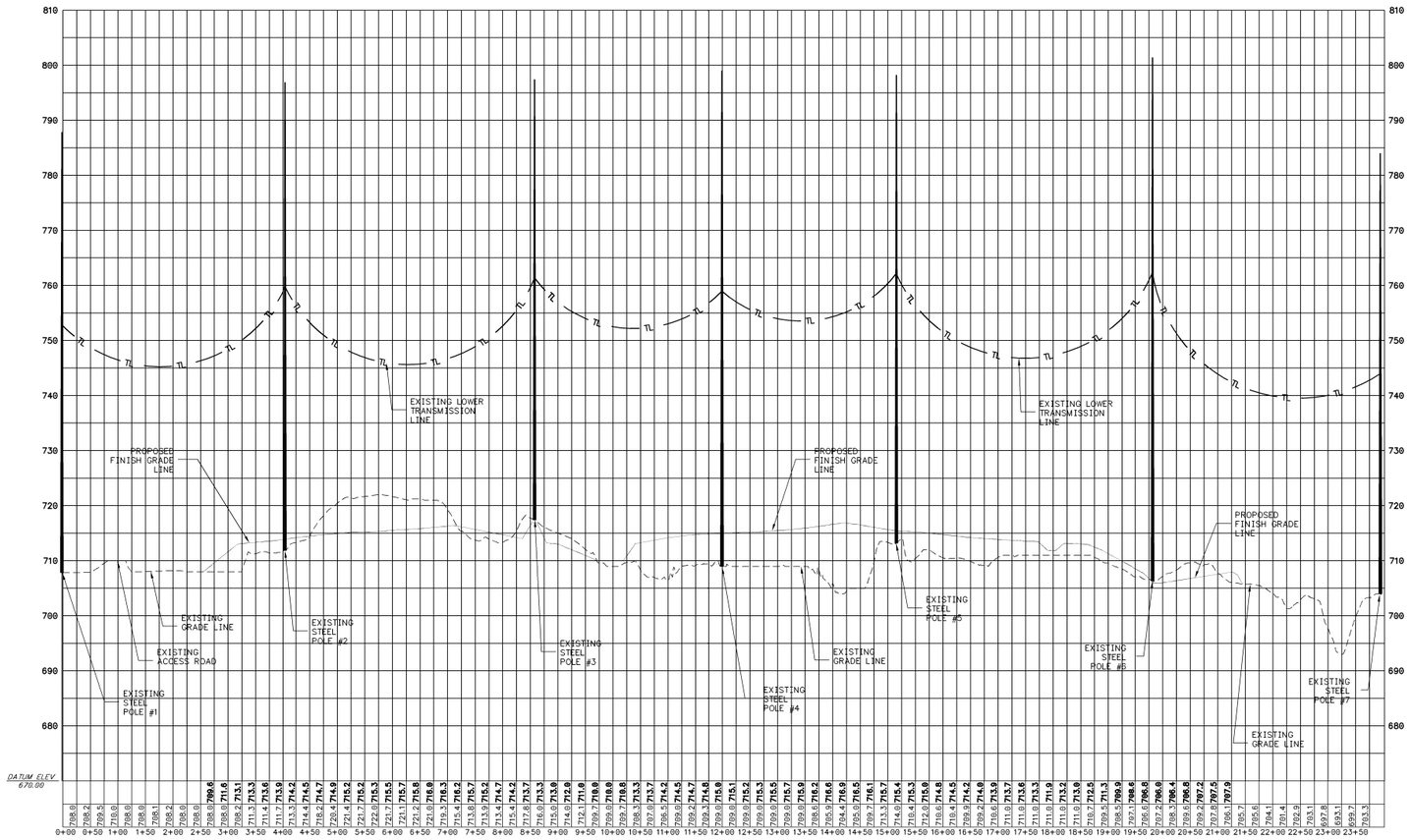
WATTS BAR FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

AUTOCAD R 2K | DATE | 14 | C | 10W425-3 | R 0

TASK COMPLETED BY: | REV NO.

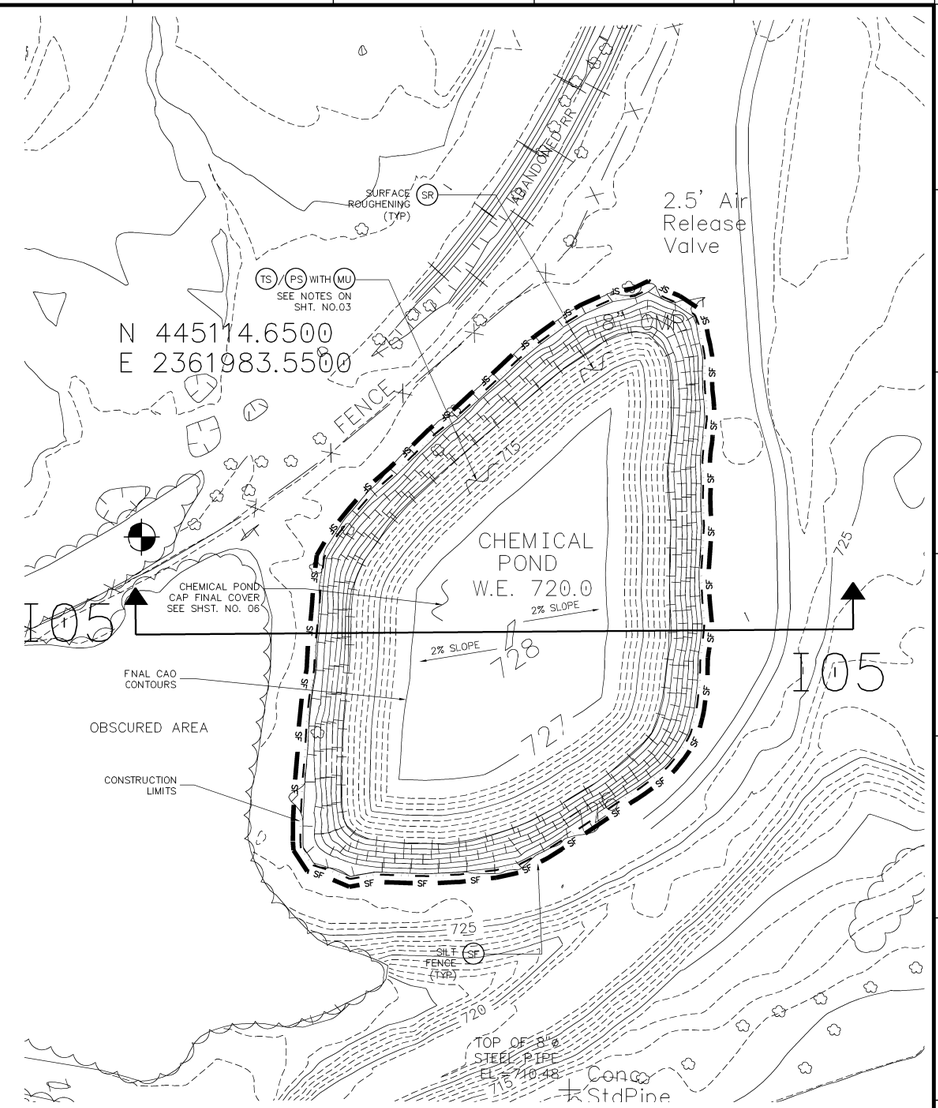
PLOT FACTOR:1
W_TVA

C.A.D. DRAWING DO NOT ALTER MANUALLY



EXISTING TRANSMISSION LINE PROFILE

SCALE
HORIZONTAL 1"=100'
VERTICAL 1"=10'



CHEMICAL POND CAP FINAL COVER GRADING PLAN BLOW-UP

SCALE 1" = 30'

SITE LEGEND

- TL — EXISTING TRANSMISSION LINE
- TP — TEST PIT LOCATION
- UTILITY POLE LOCATION
- MH — UTILITY MANHOLE LOCATION
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- WBCI-6 — SURVEY BENCH MARK LOCATION (CONTROL POINT)
- RIP RAP AREAS
- SLAG CAP MINOR CONTOUR
- SLAG CAP MAJOR CONTOUR
- CLAY LINER CAP LIMITS
- CONSTRUCTION LIMITS
- A—A — SECTION CUT LINE

REV NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT ID	AS CONST	REV CD
R 0	8-13-09	CWH	SEL	DRD	LJP	KEE	BSS		WBFSLAG		J

DCN WBF-07-1000-004: INITIAL ISSUE FOR SLAG DISPOSAL CLOSURE PLAN

DISCIPLINE INTERFACE

SCALE: 1"=100' EXCEPT AS NOTED

YARD

WATTS BAR SLAG PROCESSING AND POND AREA CLOSURE PLANS
EX. TRANSMISSION LINE PROFILE

DESIGNED BY: | DRAWN BY: | CHECKED BY: | REVIEWED BY: | APPROVED BY: | ISSUED BY:

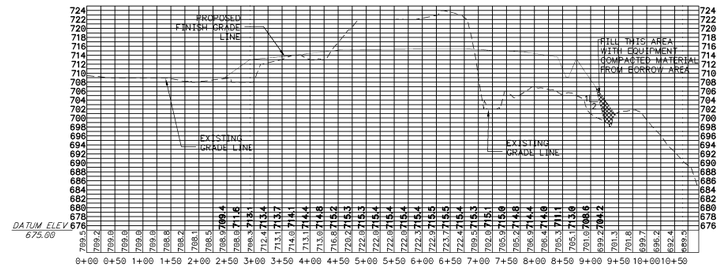
WATTS BAR FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

AUTOCAD R 2K | DATE | 14 | C | 10W425-4 | R 0

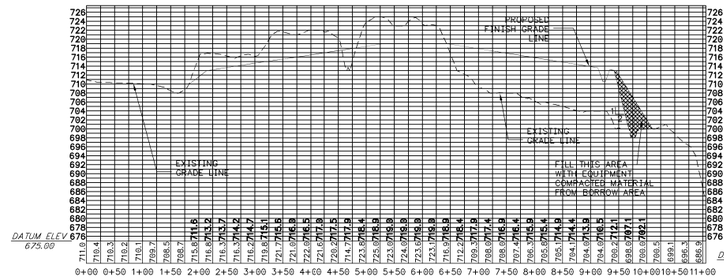
TASK COMPLETED BY: | REV NO.

PLOT FACTOR:1
W_TVA

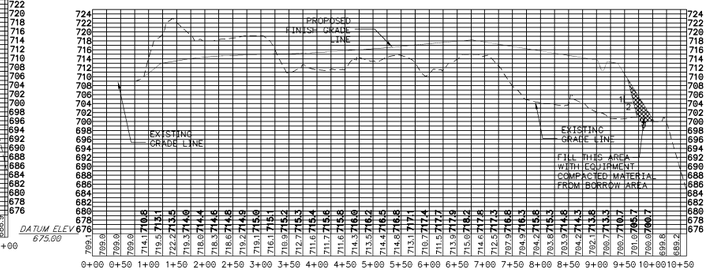
C.A.D. DRAWING
DO NOT ALTER MANUALLY



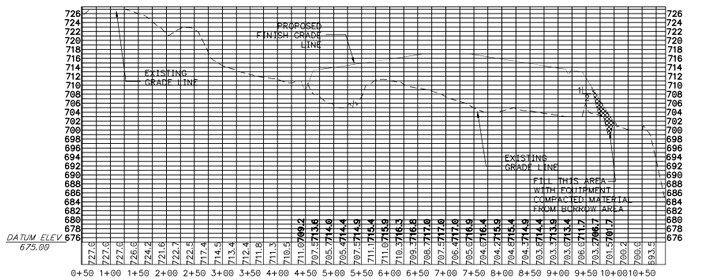
SECTION A05



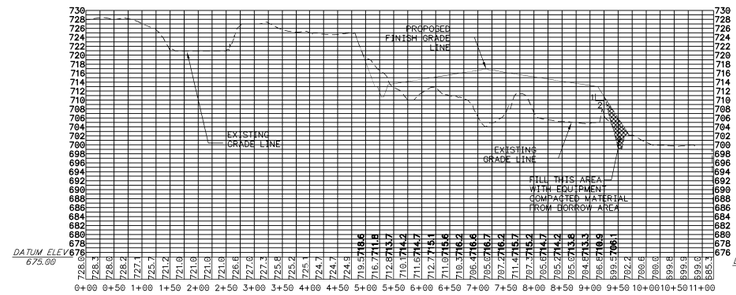
SECTION B05



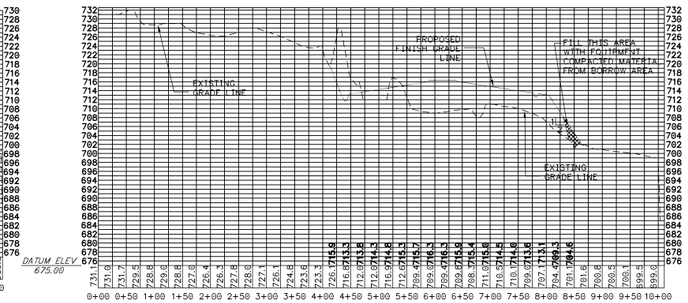
SECTION C05



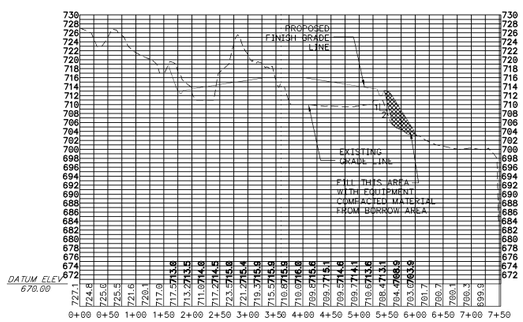
SECTION D05



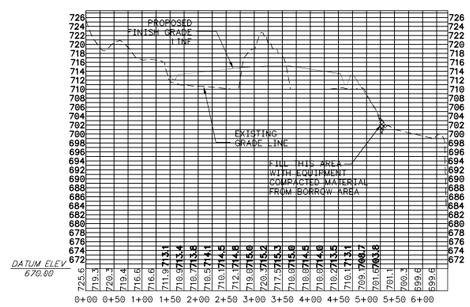
SECTION E05



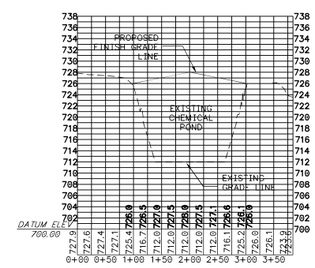
SECTION F05



SECTION G05



SECTION H05



SECTION I05

REV. NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT ID	AS CONST
R 0	8-13-09	CWH	SEL	DRD	LJP	KEE	BSS		WBFSLAG	

DCN WBF-07-1000-005: INITIAL ISSUE FOR SLAG DISPOSAL AREA CLOSURE PLAN

SCALE: 1"=100' EXCEPT AS NOTED

YARD

WATTS BAR SLAG PROCESSING AND POND AREA CLOSURE PLANS CROSS SECTIONS

DESIGNED BY: | DRAWN BY: | CHECKED BY: | REVIEWED BY: | REVIEWED BY: | ISSUED BY:

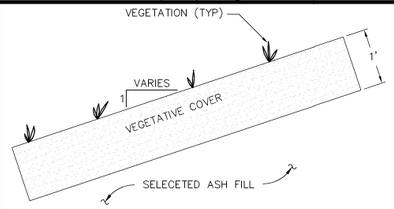
WATTS BAR FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

AUTOCAD R 2K | DATE | 14 | C | 10W425-5 | R 0

TASK COMPLETED BY: | REV NO.

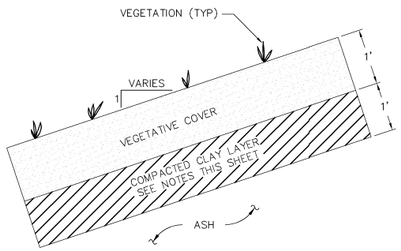
PLOT FACTOR:1
W_TVA

C.A.D. DRAWING
DO NOT ALTER MANUALLY



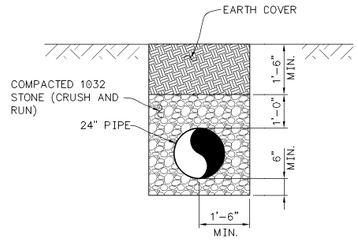
CHEMICAL POND CAP FINAL COVER

SCALE: NTS



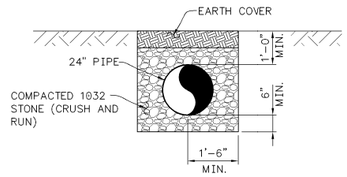
SLAG PROCESSING CAP FINAL COVER

SCALE: NTS



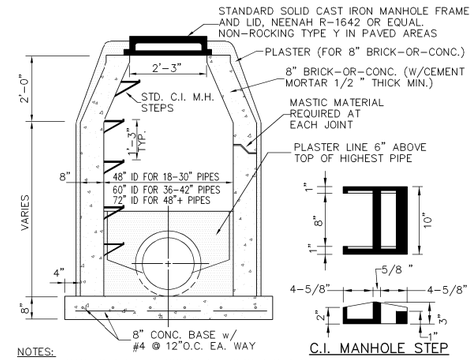
TRAFFIC/ROADWAY TRENCH DETAIL

SCALE: NTS



NON-TRAFFIC/SLOPE TRENCH DETAIL

SCALE: NTS



C.I. MANHOLE STEP

NOTES:

1. PRE-CAST STRUCTURE CONC. REINFORCED STRUCTURE MAY BE USED IN LIEU OF 8" BRICK AS APPR'D. BY THE ENGR.
2. CONCRETE FOR STRUCTURE SHALL BE PORTLAND CEMENT CONCRETE, CLASS "A" WITH A SLUMP OF 4 INCHES ± 1/2 INCH.
3. REINFORCING STEEL SHALL BE EPOXY COATED REBAR.

STORM DRAINAGE JUNCTION BOX

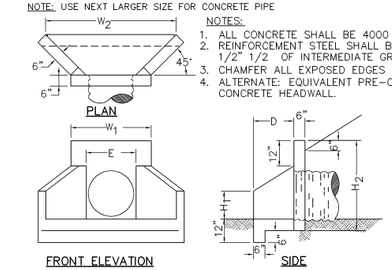
(NTS)

TABLE I

HEADWALL DIMENSIONS FOR METAL PIPE

INSIDE DIA. OF PIPE	W_1	W_2	H_1	H_2	D	E	WT.	SF IN BASE AREA
18"	3'-2"	4'-10"	1'-3"	3'-2"	1'-3"	1'-9"	1,550	7.34
21",24"	3'-8"	6'-1"	1'-9"	3'-8"	1'-6"	2'-3"	2,100	9.90
30"	4'-2"	7'-2"	2'-0"	4'-2"	1'-10"	2'-9"	2,850	13.50
36"	4'-8"	8"-4"	2'-4"	4'-8"	2'-2"	3'-3"	3,700	17.65
42",48",54"	5'-8"	10'-10"	3'-3"	5'-8"	2'-11"	4'-3"	5,600	28.60

NOTE: USE NEXT LARGER SIZE FOR CONCRETE PIPE

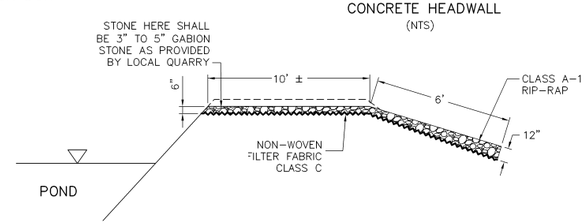


NOTES:

1. ALL CONCRETE SHALL BE 4000 PSI.
2. REINFORCEMENT STEEL SHALL BE 1/2" 1/2 OF INTERMEDIATE GRADE.
3. CHAMFER ALL EXPOSED EDGES 3/4"
4. ALTERNATE: EQUIVALENT PRE-CAST CONCRETE HEADWALL.

CONCRETE HEADWALL

(NTS)



EMERGENCY SPILLWAY SECTION M06-M06

(NTS)

GENERAL NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH GENERAL CONSTRUCTION SPECIFICATION NO. T-1 UNLESS OTHERWISE NOTED.

2 EARTH BORROW FOR THE SOIL CAP IS TO BE OBTAINED FROM THE ONSITE BORROW PIT THAT HAS BEEN IDENTIFIED AND TESTED. TO ACHIEVE A PERMEABILITY EQUAL TO OR GREATER THAN 1 X 10-6 COMPACTED SOIL COVER SHALL BE PLACED WITH SHEEPSFOOT ROLLERS. IN PLACE FIELD DENSITY DETERMINATIONS (ASTM D 2922) SHALL BE CHECKED BY AT LEAST ONE FIELD DENSITY TEST PER 5000 CY PLACED WITH AT LEAST ONE FIELD DENSITY TEST PER DAY FILL IS PLACED. COMPACTION EFFORT AND FILL MOISTURE SHALL BE CONTROLLED SUCH THAT THE IN-PLACE TESTING SHOWS THE COMPACTED SOIL LAYER FALLS IN THE ACCEPTABLE ZONE ON THE HYDRAULIC CONDUCTIVITY/COMPACTION CURVES PREPARED FOR THIS BORROW SITE. SEE QA/QC PLAN FOR ADDITIONAL DETAILS AND REQUIREMENTS.

3. COMPACTED SOIL COVER SHALL BE PLACED IN LOOSE LIFTS OF 8 TO 10 INCHES PRIOR TO COMPACTION.

3. RIPRAP SHALL BE 12" THICK EXCEPT AS NOTED IN THE NORTH DETENTION POND. A MINIMUM OF 50 PERCENT, BY WEIGHT, OF THE STONES SHALL BE 75 LB. EACH AND IN ACCORDANCE WITH SECTION 575.

4. PIPE SHALL BE 24 INCH DIAMETER ADS N-12 OR EQUAL. OTHER PIPE AS NEEDED SHALL BE AS NOTED ON DRAWINGS.

5. EXCAVATION AND BACKFILL FOR PIPE CULVERTS SHALL CONFORM TO SECTION 125.

6. TEMPORARY SEEDING SHALL MEET THE REQUIREMENTS OF T-1 SECTION 583.

7. MULCHING SHALL MEET THE REQUIREMENTS OF T-1 SECTION 581.

8. FINAL SPRING SEEDING SHALL BE:
PARTRIDGE PEA - 8 LBS/ACRE
RED CLOVER - 6 LBS/ACRE
SAND LOVEGRASS - 3 LBS/ACRE
SIDE OATS GRAMMA - 8 LBS/ACRE

ON AREAS THAT ARE 5:1 OR STEEPER ADD ANNUAL RYE GRASS AT A RATE OF 60 LBS/ACRE

9. THE SEEDS ARE TO ORDERED THE LAST OF NOVEMBER 2007 AND KEPT AT A TEMPERATURE BETWEEN 34 AND 42 DEGREES FOR A MINIMUM OF 30 DAYS BEFORE PLANTING. AIR MUST BE ALLOWED TO CIRCULATE UNDER THE CONTAINER OF SEEDS DURING STORAGE.

10. SEEDS SHOULD BE "DRILLED" WITH THE "GREAT PLAINS, NO TILL DRILL." FIELD TO INQUIRE WITH THE STATE OF TENNESSEE (MR. ROSS SKULURD (615) 781-6610) ABOUT USE OF THEIR MACHINE. PLANTING IS TO BE BETWEEN MAY 15 & 24, 2008.

11. THE SEED ARE NOT TO BE REMOVED MORE THAN 3 DAYS FROM THE COOL STORAGE AREA BEFORE PLANTING. A CULTIPACKER IS TO BE USED OVER THE AREA AFTER THE SEEDS ARE SOWN.

12. SEEDED AREA TO BE MAINTAINED UNTIL A SATISFACTORY COVER OF PLANT MATERIAL IS SECURED. ALL AREAS SHALL BE PRESERVED AND PROTECTED AND REPAIRED AS SPECIFIED FOR THIS PURPOSE. AREAS HAVING A POOR STAND OF PLANTS SHALL BE RESEEDED AND FERTILIZED AT THE PROPER RATES.

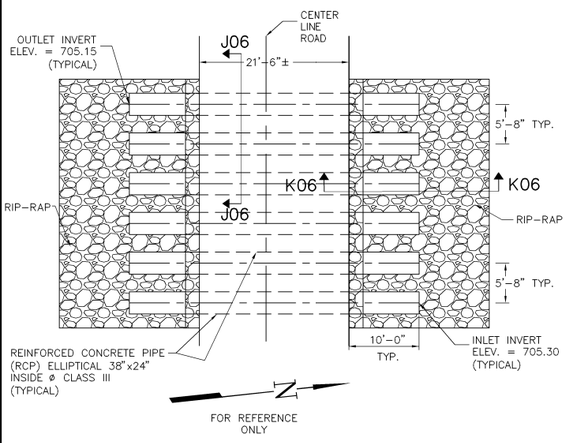
13. BORROW AREA AND OTHER DISTURBED AREAS SHALL BE SEEDED (TYPE 8 MIXTURE 1, FOR FALL SEEDING OR TYPE 6 MIXTURE 1 FOR SPRING SEEDING), FERTILIZED, AND MULCHED IN ACCORDANCE WITH SECTION 580 AND 582 OF THE T-1 SPECS.

14. ALL FILL MATERIAL SHALL BE EQUIPMENT COMPACTED IN 12 INCH TO 18 INCH LIFTS. EARTH SHALL BE COMPACTED WITH SHEEP-FOOT ROLLER AND ASH FILL COMPACTED WITH A SELF-PROPELLED VIBRATORY ROLLER.

15. RIP RAP TO CONFORM TO TENNESSEE DEPARTMENT OF TRANSPORATION, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, MARCH 1, 2006, SECTION 709.03, CLASS A-1 EXCEPT AS NOTED.

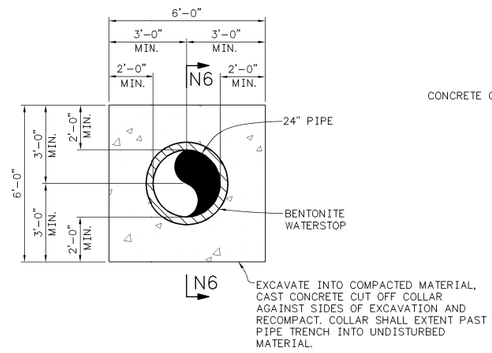
16. #57 STONE TO MEET TDOT SECTION 903.22.

17. GEOTEXTILE FILTER FABRIC TO MEET T-1 SECTION 571, CLASS C OR EQUIVALENT.



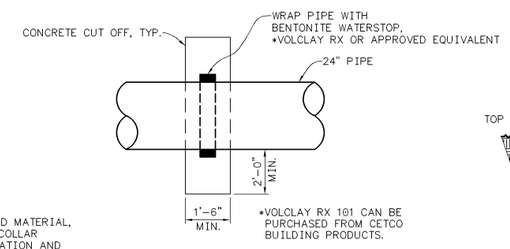
CULVERT LAYOUT PLAN

SEE PLAN FOR LOCATION (NTS)



ANTI SEEP COLLAR

SCALE: NTS



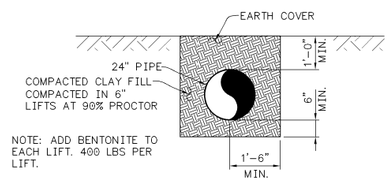
SECTION N6-N6

SCALE: NTS

NOTE:
FIELD TO PLACE GEOTEXTILE FILTER FABRIC MEETING TVA T-1 SECTION 571, CLASS C OR EQUAL AND RIP RAP WITH 3" TO 5" GABION STONE ALONG EMERGENCY SPILLWAY FROM EL 711 TO EL 710.50.

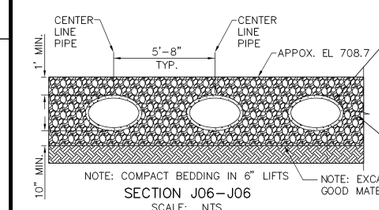
EMERGENCY SPILLWAY SECTION L06-L06

(NTS)



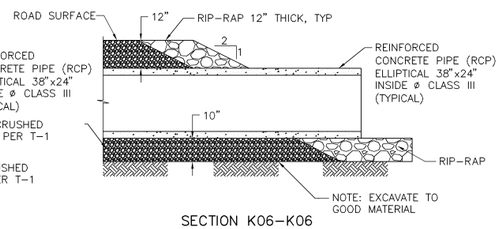
TYPICAL SECTION AT NORTH DETENTION POND DISCHARGE

SCALE: NTS



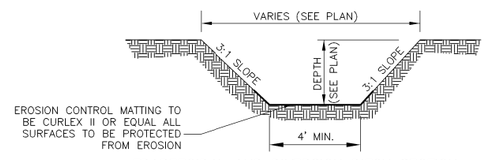
SECTION J06-J06

SCALE: NTS



SECTION K06-K06

SCALE: NTS



TRAPEZOIDAL AND DIVERSION DITCH SECTION

(NTS)

REV. NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT ID	AS CONST	REV CD
R 0	8-13-09	CWH	SEL	DRD	LJP	KEE	BSS		WBFSLAG		J

DCN WBF-07-1090-006: INITIAL ISSUE FOR SLAG DISPOSAL AREA CLOSURE PLAN

DISCIPLINE INTERFACE

SCALE: 1"=100' EXCEPT AS NOTED

YARD

WATTS BAR SLAG PROCESSING AND POND AREA CLOSURE PLANS SLAG DISPOSAL DETAILS I

DESIGNED BY: | DRAWN BY: | CHECKED BY: | REVIEWED BY: | REVIEWED BY: | ISSUED BY:

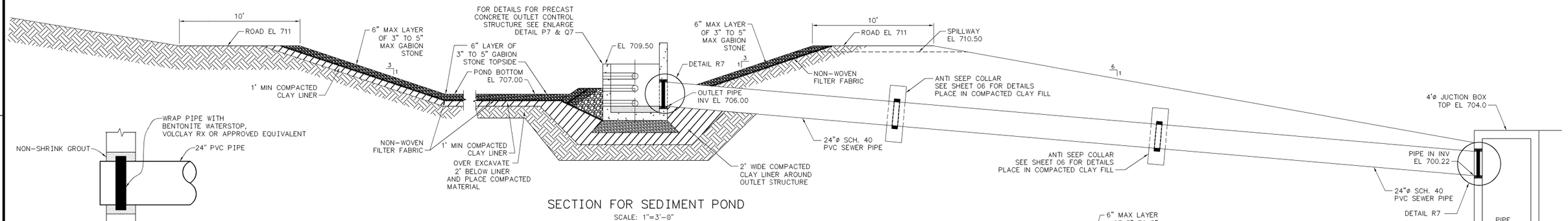
WATTS BAR FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

AUTOCAD R2K | DATE | 14 | C | 10W425-6 | R 0

PLOT FACTOR:1
W_TVA

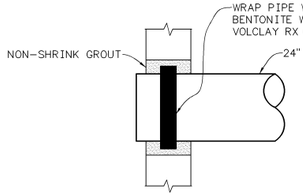
C.A.D. DRAWING DO NOT ALTER MANUALLY

TASK COMPLETED BY: | REV NO.



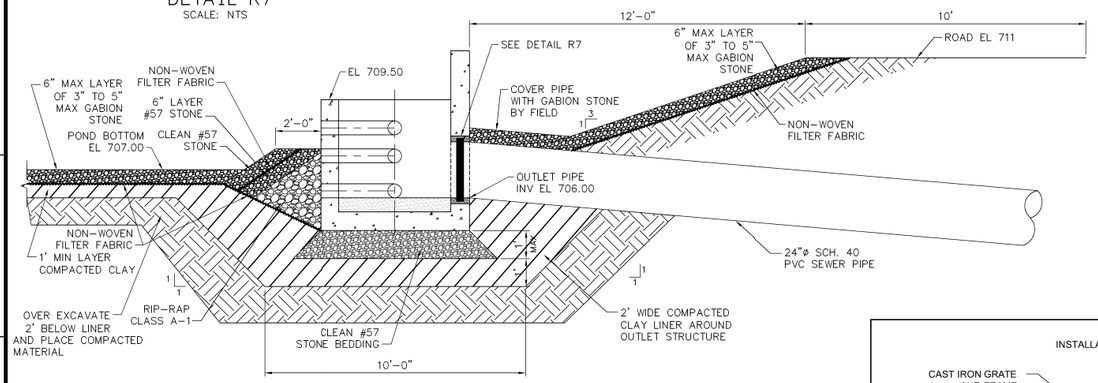
SECTION FOR SEDIMENT POND

SCALE: 1"=3'-0"



DETAIL R7

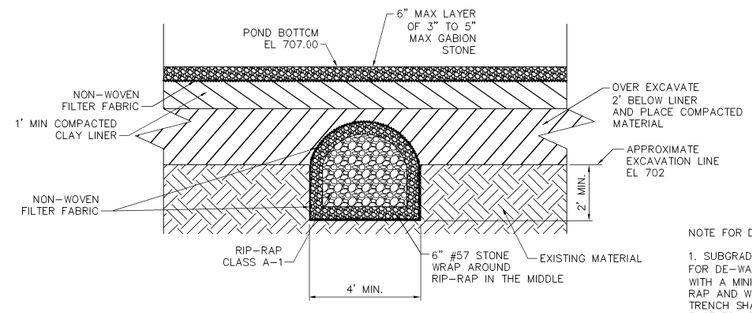
SCALE: NTS



DETAIL P7

PRECAST CONCRETE OUTLET CONTROL STRUCTURE

SCALE: 1/2"=1'-0"



DE-WATERING TRENCH DETAIL

LOCATION BY FIELD IN NORTH DETENTION POND FOR CONSTRUCTION OF POND

SCALE: NTS

NOTE FOR DE-WATERING DETENTION POND:

1. SUBGRADE ROCK DRAINAGE TRENCH SHALL BE INSTALLED IN POND FOR DE-WATERING DURING CONSTRUCTION. TRENCH SHALL BE 4' WIDE WITH A MINIMUM DEPTH OF 2'. THE TRENCH SHALL BE FILLED WITH RIP RAP AND WRAPPED WITH A NON-WOVEN GEOTEXTILE FABRIC. THE TRENCH SHALL HAVE A 1% SLOPE RUNNING THE LENGTH OF THE POND EAST TO WEST. A VERTICAL PIPE SHALL BE LOCATED AT THE LOW END OF THE TRENCH. THIS WILL SERVE AS A SUMP WHICH WATER CAN BE PUMPED TO THE DRAINAGE CHANNEL WEST OF THE POND.

NOTES FOR 24" PVC PIPE INSTALLATION:

1. INSTALL PIPE PER PVC GRAVITY SEWER PIPE GUIDE.

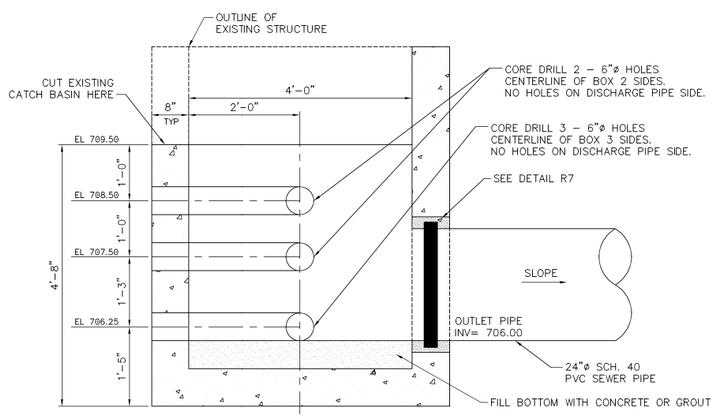
2. PIPE SHALL BE SCH. 40 PVC 24 INCH DIAMETER GRAVITY DRAIN SEWER PIPE.

3. BACK FILL SHALL BE COMPACTED CLAY WITH BENTONITE MIXED IN EACH 6 INCH LIFT (400 LBS PER LIFT). COMPACTION REQUIREMENTS FOR THE CAP SHALL BE USED FOR THIS PIPE PLACEMENT.

4. VERTICAL AND HORIZONTAL DEFLECTIONS SHALL BE LESS THAN 1.5 DEGREES.

5. JOINTS SHALL BE COATED WITH MASTIC EXTERNALLY.

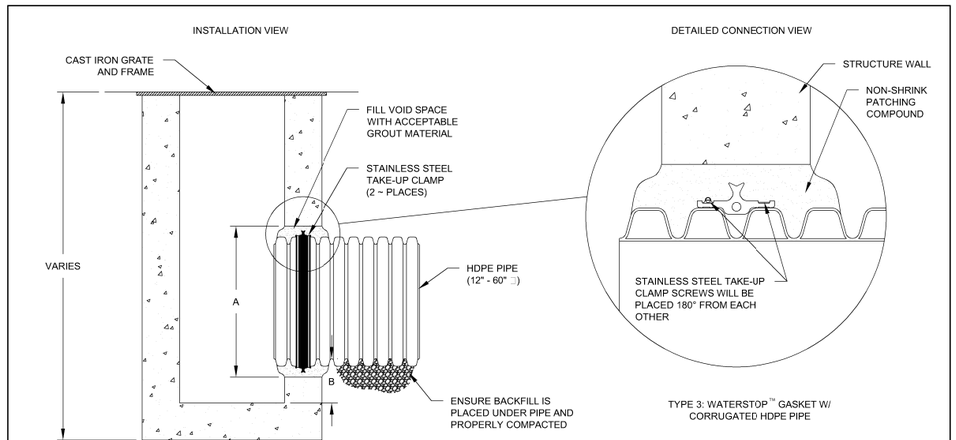
6. VOLCLAY RX 101 SHALL BE USED ON PVC PIPE AT ANTI-SEEP COLLARS AND RX 102 AT MANHOLE OR STURCTURE ENTRANCES. MATERIAL CAN BE PURCHASED FROM CETCO BUILDING PRODUCTS.



MODIFIED STRUCTURE DETAIL Q7

FOR PRECAST CONCRETE OUTLET CONTROL STRUCTURE

SCALE: 1"=1'-0"



INSTALLATION RECOMMENDATIONS ARE ALSO SPECIFIED IN INSTALLATION GUIDE 1.05: WATERSTOP INSTALLATION

PIPE SIZE (IN)	PIPE OD (IN) A-PROFILE	PIPE OD (IN) H-PROFILE	"A" MIN. HOLE ⌀ (IN)	"B" MIN. DISTANCE PIPE INVERT TO STRUCUTRE INVERT (IN)	MANUFACTURER'S PRODUCT CODE
12	14.5	14.2	19.50	3.7	1202PS
15	17.6	17.8	23.00	4.0	1502PS
18	21.2	21.5	26.50	4.2	1802PS
24	27.8	28.4	33.25	4.5	2402PS
30	35.1	35.5	40.50	5.2	3002PS
36	41.1	41.4	47.00	5.5	3602PS
42	47.7	48.0	53.00	5.7	4202PS
48	53.6	54.0	59.00	5.7	4802PS
60	66.3	67.3	72.00	6.4	6002PS

© 2007 ADS, INC

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS INTENDED TO DEPICT THE COMPONENTS AS REQUESTED. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEERS RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

REV.	DESCRIPTION	BY	MM/DD/YY	CHK'D

WATERSTOP STRUCTURE CONNECTION DETAIL

DRAWING NUMBER: STD-203

ADS. ADVANCED DRAINAGE SYSTEMS, INC. 4640 TRUEMAN BLVD HILLIARD, OHIO 43026

NTS

1 OF 1

REV. NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT ID	AS CONST	REV CD
R 0	8-13-09	CWH	SEL	DRD	LJP	KEE	BSS		WBFSLAG		J
DCN WBF-07-1000-007: INITIAL ISSUE FOR SLAG DISPOSAL AREA CLOSURE PLAN											

DISCIPLINE INTERFACE

SCALE: AS NOTED — EXCEPT AS NOTED

YARD

WATTS BAR SLAG PROCESSING AND POND AREA CLOSURE PLANS

SLAG DISPOSAL DETAILS II

DESIGNED BY: | DRAWN BY: | CHECKED BY: | REVIEWED BY: | REVIEWED BY: | ISSUED BY:

WATTS BAR FOSSIL PLANT

TENNESSEE VALLEY AUTHORITY

FOSSIL AND HYDRO ENGINEERING

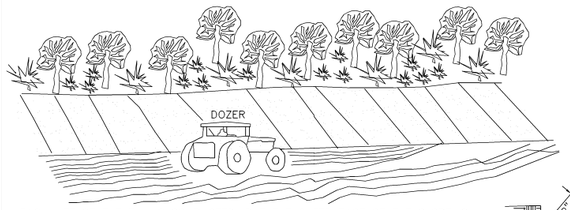
AUTOCAD R2K | DATE | 14 | C | 10W425-7 | R 0

PLOT FACTOR:3

W_TVA

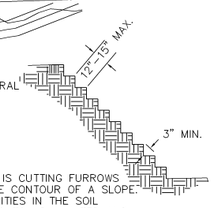
C.A.D. DRAWING DO NOT ALTER MANUALLY

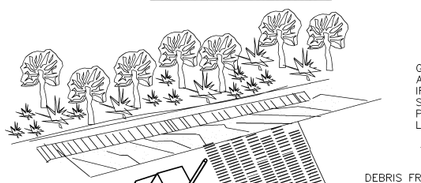
TASK COMPLETED BY: | REV NO.



EACH LIFT OF THE FILL IS COMPACTED, BUT THE OUTER FACE OF THE SLOPE IS ALLOWED TO REMAIN LOOSE SO THAT THE ROCKS, CLODS, ETC. REACH THE NATURAL ANGLE OF REPOSE.

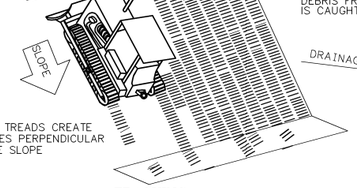
FILL SLOPE TREATMENT





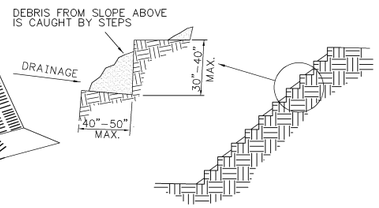
GROOVING IS CUTTING FURROWS ALONG THE CONTOUR OF A SLOPE. IRREGULARITIES IN THE SOIL SURFACE CATCH RAINWATER AND PROVIDE SOME COVERAGE OF LIME, FERTILIZER AND SEED.

GROOVING SLOPES



DOZER TREADS CREATE GROOVES PERPENDICULAR TO THE SLOPE

TRACKING



STAIR STEPPING CUT SLOPES

(SR) SURFACE ROUGHENING
NTS

GENERAL NOTES;

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH GENERAL CONSTRUCTION SPECIFICATION NO. T-1 UNLESS OTHERWISE NOTED.

2. EARTH BORROW FOR THE SOIL CAP IS TO BE OBTAINED FROM THE ONSITE BORROW PIT THAT HAS BEEN IDENTIFIED AND TESTED. TO ACHIEVE A PERMEABILITY EQUAL TO OR GREATER THAN 1 X 10-6 COMPACTED SOIL COVER SHALL BE PLACED WITH SHEEPSFOOT ROLLERS. IN PLACE FIELD DENSITY DETERMINATIONS (ASTM D 2922) SHALL BE CHECKED BY AT LEAST ONE FIELD DENSITY TEST PER 5000 CY PLACED WITH AT LEAST ONE FIELD DENSITY TEST PER DAY FILL IS PLACED. COMPACTION EFFORT AND FILL MOISTURE SHALL BE CONTROLLED SUCH THAT THE IN-PLACE TESTING SHOWS THE COMPACTED SOIL LAYER FALLS IN THE ACCEPTABLE ZONE ON THE HYDRAULIC CONDUCTIVITY/COMPACTION CURVES PREPARED FOR THIS BORROW SITE. SEE QA/QC PLAN FOR ADDITIONAL DETAILS AND REQUIREMENTS.

3. COMPACTED SOIL COVER SHALL BE PLACED IN LOOSE LIFTS OF 8 TO 10 INCHES PRIOR TO COMPACTION.

3. RIPRAP SHALL BE 12" THICK EXCEPT AS NOTED IN THE NORTH DETENTION POND. A MINIMUM OF 50 PERCENT, BY WEIGHT, OF THE STONES SHALL BE 75 LB. EACH AND IN ACCORDANCE WITH SECTION 575.

4. PIPE SHALL BE 24 INCH DIAMETER ADS N-12 OR EQUAL. OTHER PIPE AS NEEDED SHALL BE AS NOTED ON DRAWINGS.

5. EXCAVATION AND BACKFILL FOR PIPE CULVERTS SHALL CONFORM TO SECTION 125.

6. TEMPORARY SEEDING SHALL MEET THE REQUIREMENTS OF T-1 SECTION 583.

7. MULCHING SHALL MEET THE REQUIREMENTS OF T-1 SECTION 581.

8. FINAL SPRING SEEDING SHALL BE:
PARTRIDGE PEA - 8 LBS/ACRE
RED CLOVER - 6 LBS/ACRE
SAND LOVEGRASS - 3 LBS/ACRE
SIDE OATS GRAMMA - 8 LBS/ACRE

ON AREAS THAT ARE 5:1 OR STEEPER ADD ANNUAL RYE GRASS AT A RATE OF 60 LBS/ACRE

9. THE SEEDS ARE TO ORDERED THE LAST OF NOVEMBER 2007 AND KEPT AT A TEMPERATURE BETWEEN 34 AND 42 DEGREES FOR A MINIMUM OF 30 DAYS BEFORE PLANTING. AIR MUST BE ALLOWED TO CIRCULATE UNDER THE CONTAINER OF SEEDS DURING STORAGE.

10. SEEDS SHOULD BE "DRILLED" WITH THE "GREAT PLAINS, NO TILL DRILL." FIELD TO INQUIRE WITH THE STATE OF TENNESSEE (MR. ROSS SKULURD (615) 781-6610) ABOUT USE OF THEIR MACHINE. PLANTING IS TO BE BETWEEN MAY 15 & 24, 2008.

11. THE SEED ARE NOT TO BE REMOVED MORE THAN 3 DAYS FROM THE COOL STORAGE AREA BEFORE PLANTING. A CULTIPACKER IS TO BE USED OVER THE AREA AFTER THE SEEDS ARE SOWN.

12. SEEDED AREA TO BE MAINTAINED UNTIL A SATISFACTORY COVER OF PLANT MATERIAL IS SECURED. ALL AREAS SHALL BE PRESERVED AND PROTECTED AND REPAIRED AS SPECIFIED FOR THIS PURPOSE. AREAS HAVING A POOR STAND OF PLANTS SHALL BE RESEEDED AND FERTILIZED AT THE PROPER RATES.

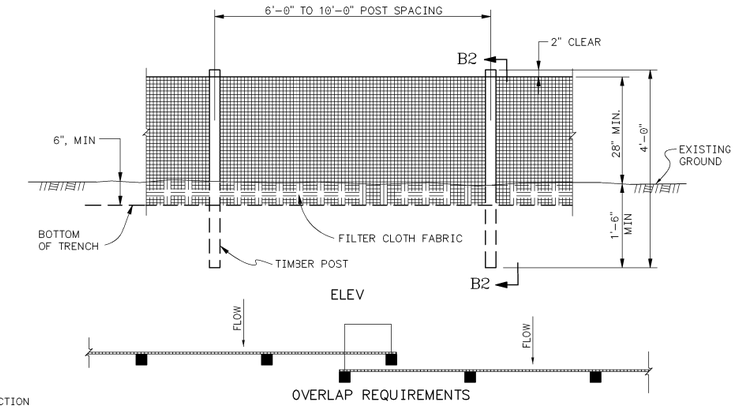
13. BORROW AREA AND OTHER DISTURBED AREAS SHALL BE SEEDED (TYPE 8 MIXTURE 1, FOR FALL SEEDING OR TYPE 6 MIXTURE 1 FOR SPRING SEEDING), FERTILIZED, AND MULCHED IN ACCORDANCE WITH SECTION 580 AND 582 OF THE T-1 SPECS.

14. ALL FILL MATERIAL SHALL BE EQUIPMENT COMPACTED IN 12 INCH TO 18 INCH LIFTS. EARTH SHALL BE COMPACTED WITH SHEEP-FOOT ROLLER AND ASH FILL COMPACTED WITH A SELF-PROPELLED VIBRATORY ROLLER.

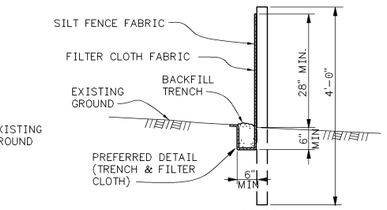
15. RIP RAP TO CONFORM TO TENNESSEE DEPARTMENT OF TRANSPORATION, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, MARCH 1, 2006, SECTION 709.03, CLASS A-1 EXCEPT AS NOTED.

16. #57 STONE TO MEET TDOT SECTION 903.22.

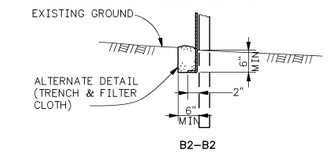
17. GEOTEXTILE FILTER FABRIC TO MEET T-1 SECTION 571, CLASS C OR EQUIVALENT.



(SF) SILT FENCE - TYPE 4
NTS



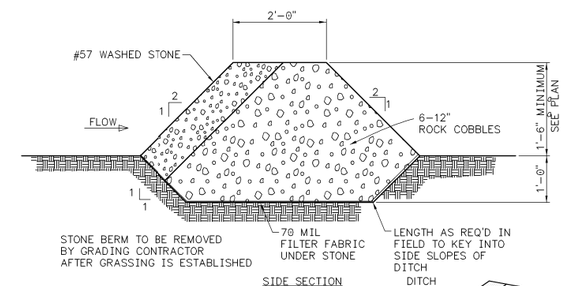
PREFERRED TRENCH

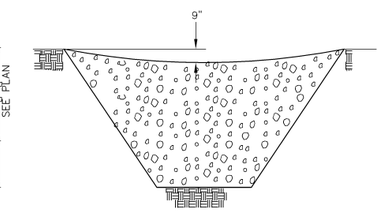


ALTERNATE TRENCH

LEGEND

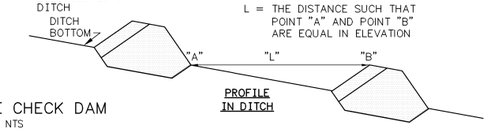
- (DI) DIVERSION
- (OP) OUTLET PROTECTION
- (ST) SEDIMENT TRAP
- (CD) CHECK DAM
- (TS) TEMPORARY SEEDING
- (PS) PERMANENT SEEDING
- (MU) MULCH
- (SF) SILT FENCE
- (MA) EROSION CONTROL MAT
- (CE) CONSTRUCTION ENTRANCE/EXIT
- (FR) FILTER RING
- (A) CONSTRUCTION TRAFFIC SIGNAGE
- (B) FLASHING WARNING LIGHT





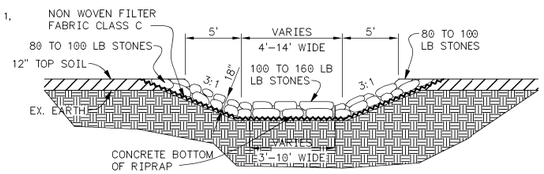
CROSS-SECTION IN DITCH

L = THE DISTANCE SUCH THAT POINT "A" AND POINT "B" ARE EQUAL IN ELEVATION

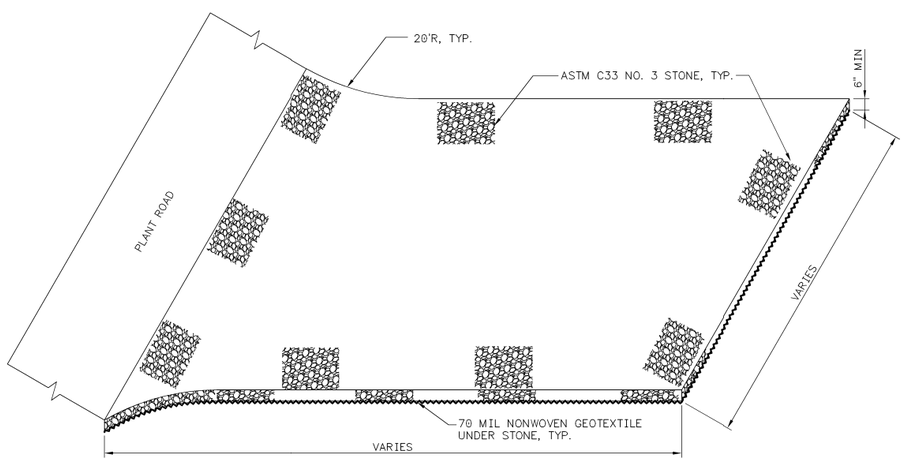


PROFILE IN DITCH

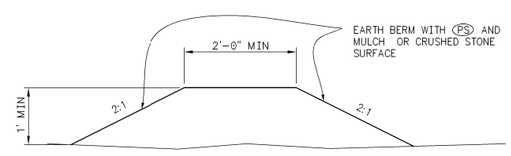
(CD) STONE CHECK DAM
NTS



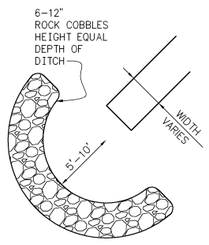
EXISTING RIPRAP DITCH TIE-IN SECTION
NTS



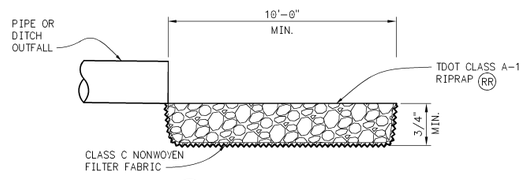
(CE) TYPICAL CONSTRUCTION ENTRANCE/EXIT
NTS



(DI) DIVERSION BERM
NTS



(FR) FILTER RING
NTS



(OP) OUTLET PROTECTION
NTS

NOTES:
1. SEE THE CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR ADDITIONAL REQUIREMENTS FOR THE STORM WATER DISCHARGE AND SEDIMENTATION CONTROL.
2. SEE SHEET 10W425-08 & 10W425-09 FOR LEGEND.
3. CONSTRUCTION SIGNAGE SHALL BE AS SHOWN ON THE DRAWINGS SUBJECT TO THE FOLLOWING:
   A. SIGN SUBSTRATE SHALL BE .080" ALUMINUM, 30"x30"
   B. ENGINEER GRADE REFLECTIVE, CONSTRUCTION WORK ZONE ORANGE
   C. SIGNAGE SHALL BE S3030W414EAC AS MANUFACTURED A & H SAFETY SUPPLY, CHATTANOOGA TN, (423) 265-3054 OR APPROVED EQUIVALENT
4. HDPE PIPE SHALL BE CORRUGATED WITH SMOOTH INTERIOR WALL, ADS N-12 OR APPROVED EQUIVALENT.
5. EROSION CONTROL MATTING (MA), SHALL BE NORTH AMERICAN GREEN DS150 (DOUBLE POLYPROPYLENE NET WITH STRAW) INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, OR APPROVED EQUIVALENT.

REV. NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT ID	AS CONST	REV. CD
R 0	8-13-09	CWH	SEL	DRD	LJP	KEE	BSS		WBFSLAG		J

DCN WBF-07-1000-008: INITIAL ISSUE FOR SLAG DISPOSAL AREA CLOSURE PLAN

DISCIPLINE INTERFACE: 1 2 3 4

SCALE: 1"=100' EXCEPT AS NOTED

YARD

WATTS BAR SLAG PROCESSING AND POND AREA CLOSURE PLANS SLAG DISPOSAL DETAILS III

DESIGNED BY: | DRAWN BY: | CHECKED BY: | PREPARED BY: | REVIEWED BY: | APPROVED BY: | ISSUED BY:

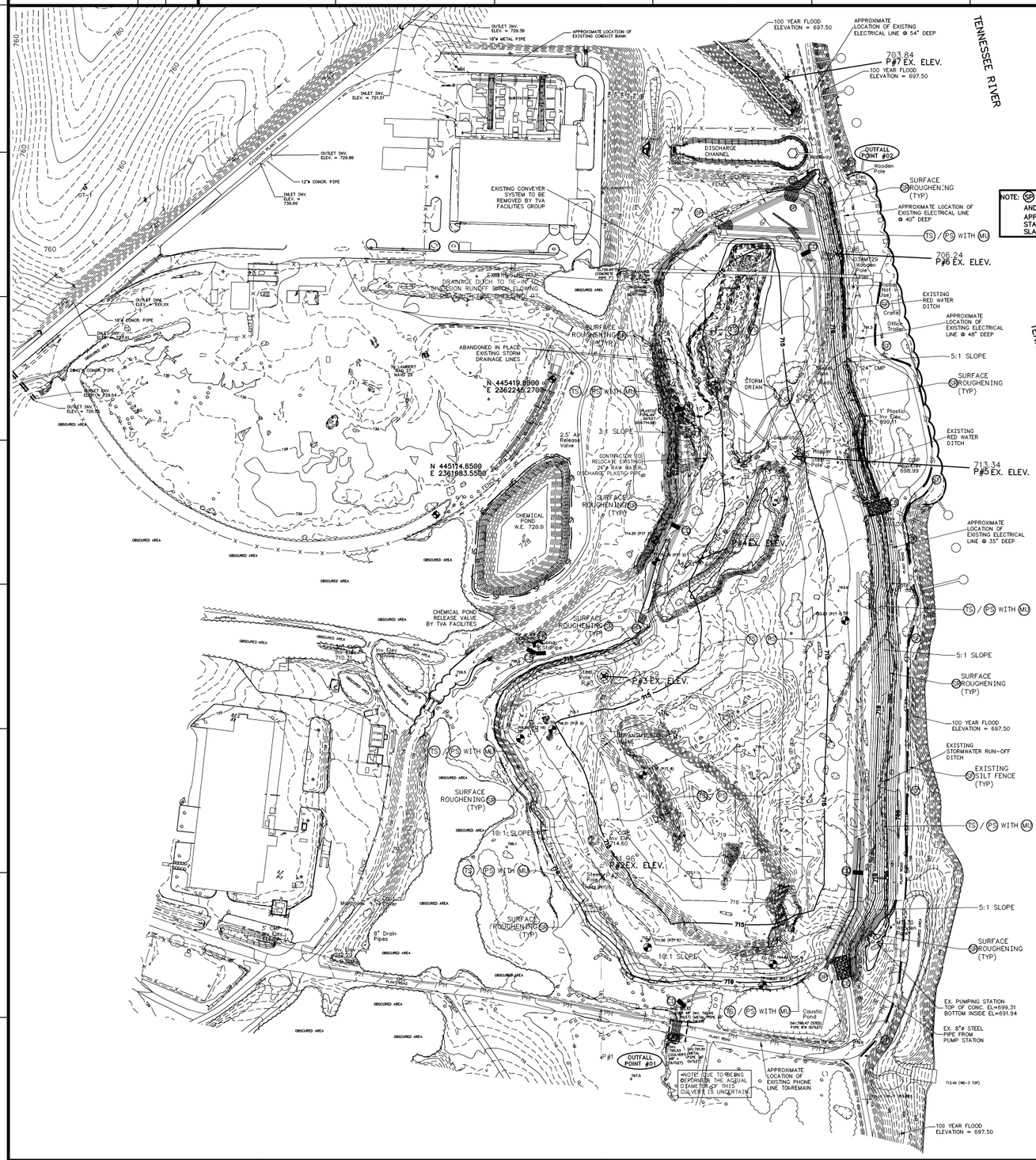
WATTS BAR FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

AUTOCAD R 2K | DATE | 14 C 10W425-8 | R 0

PLOT FACTOR:1
W_TVA

C.A.D. DRAWING DO NOT ALTER MANUALLY

TASK COMPLETED BY: | REV NO.



NOTE: SP TO BE REGRADED AND TS / PS WITH ML APPLIED UPON FINAL STABILIZATION OF THE SLAG PROCESSING AREA

GENERAL NOTES;

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH GENERAL CONSTRUCTION SPECIFICATION NO. T-1 UNLESS OTHERWISE NOTED.

2 EARTH BORROW FOR THE SOIL CAP IS TO BE OBTAINED FROM THE ONSITE BORROW PIT THAT HAS BEEN IDENTIFIED AND TESTED. TO ACHIEVE A PERMEABILITY EQUAL TO OR GREATER THAN 1 X 10-6 COMPACTED SOIL COVER SHALL BE PLACED WITH SHEEPSFOOT ROLLERS. IN PLACE FIELD DENSITY DETERMINATIONS (ASTM D 2922) SHALL BE CHECKED BY AT LEAST ONE FIELD DENSITY TEST PER 5000 CY PLACED WITH AT LEAST ONE FIELD DENSITY TEST PER DAY FILL IS PLACED. COMPACTION EFFORT AND FILL MOISTURE SHALL BE CONTROLLED SUCH THAT THE IN-PLACE TESTING SHOWS THE COMPACTED SOIL LAYER FALLS IN THE ACCEPTABLE ZONE ON THE HYDRAULIC CONDUCTIVITY/COMPACTION CURVES PREPARED FOR THIS BORROW SITE. SEE QA/QC PLAN FOR ADDITIONAL DETAILS AND REQUIREMENTS.

3. COMPACTED SOIL COVER SHALL BE PLACED IN LOOSE LIFTS OF 8 TO 10 INCHES PRIOR TO COMPACTION.

3. RIPRAP SHALL BE 12" THICK EXCEPT AS NOTED IN THE NORTH DETENTION POND. A MINIMUM OF 50 PERCENT, BY WEIGHT, OF THE STONES SHALL BE 75 LB. EACH AND IN ACCORDANCE WITH SECTION 575.

4. PIPE SHALL BE 24 INCH DIAMETER ADS N-12 OR EQUAL. OTHER PIPE AS NEEDED SHALL BE AS NOTED ON DRAWINGS.

5. EXCAVATION AND BACKFILL FOR PIPE CULVERTS SHALL CONFORM TO SECTION 125.

6. TEMPORARY SEEDING SHALL MEET THE REQUIREMENTS OF T-1 SECTION 583.

7. MULCHING SHALL MEET THE REQUIREMENTS OF T-1 SECTION 581.

8. FINAL SPRING SEEDING SHALL BE:
PARTRIDGE PEA - 8 LBS/ACRE
RED CLOVER - 6 LBS/ACRE
SAND LOVEGRASS - 3 LBS/ACRE
SIDE OATS GRAMMA - 8 LBS/ACRE

ON AREAS THAT ARE 5:1 OR STEEPER ADD ANNUAL RYE GRASS AT A RATE OF 60 LBS/ACRE

9. THE SEEDS ARE TO ORDERED THE LAST OF NOVEMBER 2007 AND KEPT AT A TEMPERATURE BETWEEN 34 AND 42 DEGREES FOR A MINIMUM OF 30 DAYS BEFORE PLANTING. AIR MUST BE ALLOWED TO CIRCULATE UNDER THE CONTAINER OF SEEDS DURING STORAGE.

10. SEEDS SHOULD BE "DRILLED" WITH THE "GREAT PLAINS, NO TILL DRILL." FIELD TO INQUIRE WITH THE STATE OF TENNESSEE (MR. ROSS SKULURD (615) 781-6610) ABOUT USE OF THEIR MACHINE. PLANTING IS TO BE BETWEEN MAY 15 & 24, 2008.

11. THE SEED ARE NOT TO BE REMOVED MORE THAN 3 DAYS FROM THE COOL STORAGE AREA BEFORE PLANTING. A CULTIPACKER IS TO BE USED OVER THE AREA AFTER THE SEEDS ARE SOWN.

12. SEEDED AREA TO BE MAINTAINED UNTIL A SATISFACTORY COVER OF PLANT MATERIAL IS SECURED. ALL AREAS SHALL BE PRESERVED AND PROTECTED AND REPAIRED AS SPECIFIED FOR THIS PURPOSE. AREAS HAVING A POOR STAND OF PLANTS SHALL BE RESEEDED AND FERTILIZED AT THE PROPER RATES.

13. BORROW AREA AND OTHER DISTURBED AREAS SHALL BE SEEDED (TYPE 8 MIXTURE 1, FOR FALL SEEDING OR TYPE 6 MIXTURE 1 FOR SPRING SEEDING), FERTILIZED, AND MULCHED IN ACCORDANCE WITH SECTION 580 AND 582 OF THE T-1 SPECS.

14. ALL FILL MATERIAL SHALL BE EQUIPMENT COMPACTED IN 12 INCH TO 18 INCH LIFTS. EARTH SHALL BE COMPACTED WITH SHEEP-FOOT ROLLER AND ASH FILL COMPACTED WITH A SELF-PROPELLED VIBRATORY ROLLER.

15. RIP RAP TO CONFORM TO TENNESSEE DEPARTMENT OF TRANSPORATION, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, MARCH 1, 2006, SECTION 709.03, CLASS A-1 EXCEPT AS NOTED.

16. #57 STONE TO MEET TDOT SECTION 903.22.

17. GEOTEXTILE FILTER FABRIC TO MEET T-1 SECTION 571, CLASS C OR EQUIVALENT.

SITE LEGEND

- EXISTING TRANSMISSION LINE
- TEST PIT LOCATION
- UTILITY POLE LOCATION
- MH UTILITY MANHOLE LOCATION
- 100 YEAR FLOOD ELEVATION
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- WBCI-6 SURVEY BENCH MARK LOCATION (CONTROL POINT)
- RIP RAP AREAS
- SLAG CAP MINOR CONTOUR
- SLAG CAP MAJOR CONTOUR
- CONSTRUCTION LIMITS

TDEC BEST MANAGEMENT PRACTICES MANUAL (BMP) CHART

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
CD	CHECK DAM			A SMALL TEMPORARY BARRIER OR DAM CONSTRUCTED ACROSS A SWALE, DRAINAGE DITCH OR AREA OF CONCENTRATED FLOW.
CE	CONSTRUCTION ENTRANCE		CE (Label)	A CRUSHED STONE PAD LOCATED AT THE CONSTRUCTION SITE EXIT TO PROVIDE A PLACE FOR REMOVING MUD FROM TIRES THEREBY PROTECTING PUBLIC STREETS.
DD	DIVERSION DIKE			AN EARTH CHANNEL OR DIKE LOCATED ABOVE ACROSS A SLOPE TO DIVERT RUNOFF. THIS MAY BE A TEMPORARY OR PERMANENT STRUCTURE.
SF	SEDIMENT BARRIER		TYPE (INDICATE TYPE)	A BARRIER TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. IT MAY BE SANDBAGS, BALES OR STRAW OR HAY, BRUSH, LOGS & POLES, GRAVEL, OR A SEDIMENT FENCE. THE BARRIERS ARE USUALLY TEMPORARY & INEXPENSIVE.
OP	STORM DRAIN OUTLET PROTECTION		SF	A PAVED OR SHORT SECTION OF RIP RAP CHANNEL AT THE OUTLET OF A STORM DRAIN SYSTEM PREVENTING EROSION FROM THE CONCENTRATED RUNOFF.
TS PS	DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)		TS PS	ESTABLISHING TEMPORARY & PERMANENT VEGETATIVE COVER SUCH AS TREES, SHRUBS, VINES, GRASSES, SOD, OR LEGUMES ON DISTURBED AREAS.
SR	SURFACE ROUGHENING		SR	A ROUGH SOIL SURFACE WITH HORIZONTAL DEPRESSIONS ON A CONTOUR OR SLOPES LEFT IN A ROUGHENED CONDITION AFTER GRADING.

SITE INFORMATION:
SITE AREA: 27.6 ACRES
LAND DISTURBANCE AREA: 24.7 ACRES

PROPERTY OWNER: TENNESSEE VALLEY AUTHORITY
WATTS BAR FOSSIL PLANT
SPRING CITY, TENNESSEE
PHONE NO.: 423-365-8157
FAX NO.: 423-697-4252

DATA INFORMATION:
Q = RUNOFF COEFF. = 0.35
NAME OF RECORD:
EAST AND WEST SIDE OF PROPERTY DRAINS INTO AN UNNAMED TRIBUTARY WHICH DISCHARGES INTO TENNESSEE RIVER.

N

TN. LAMBERT NAD 27

NOTE:
CONTRACTOR SHALL INSPECT OUTFALL POINTS AFTER ANY STORM EVENT & MAKE NECESSARY ADJUSTMENTS TO (BMP)S TO ELIMINATE SEDIMENT FROM EXITING SITE.

OUTFALL POINT #XX

REV. NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT ID	AS CONST	REV CD
R 0	8-13-09	CWH	SEL	DRD	JLP	KEE	BSS		WBFSLAG		J

DCN WBF-07-1000-009: INITIAL ISSUE FOR SLAG DISPOSAL AREA CLOSURE PLAN

SCALE: 1"=100' EXCEPT AS NOTED

YARD

WATTS BAR SLAG PROCESSING AND POND AREA CLOSURE PLANS EROSION CONTROL PLAN (SLAG AREA)

DESIGNED BY: | DRAWN BY: | CHECKED BY: | PROJECT ENGR: | REVIEWED BY: | SUPERVISED BY: | ISSUED BY:

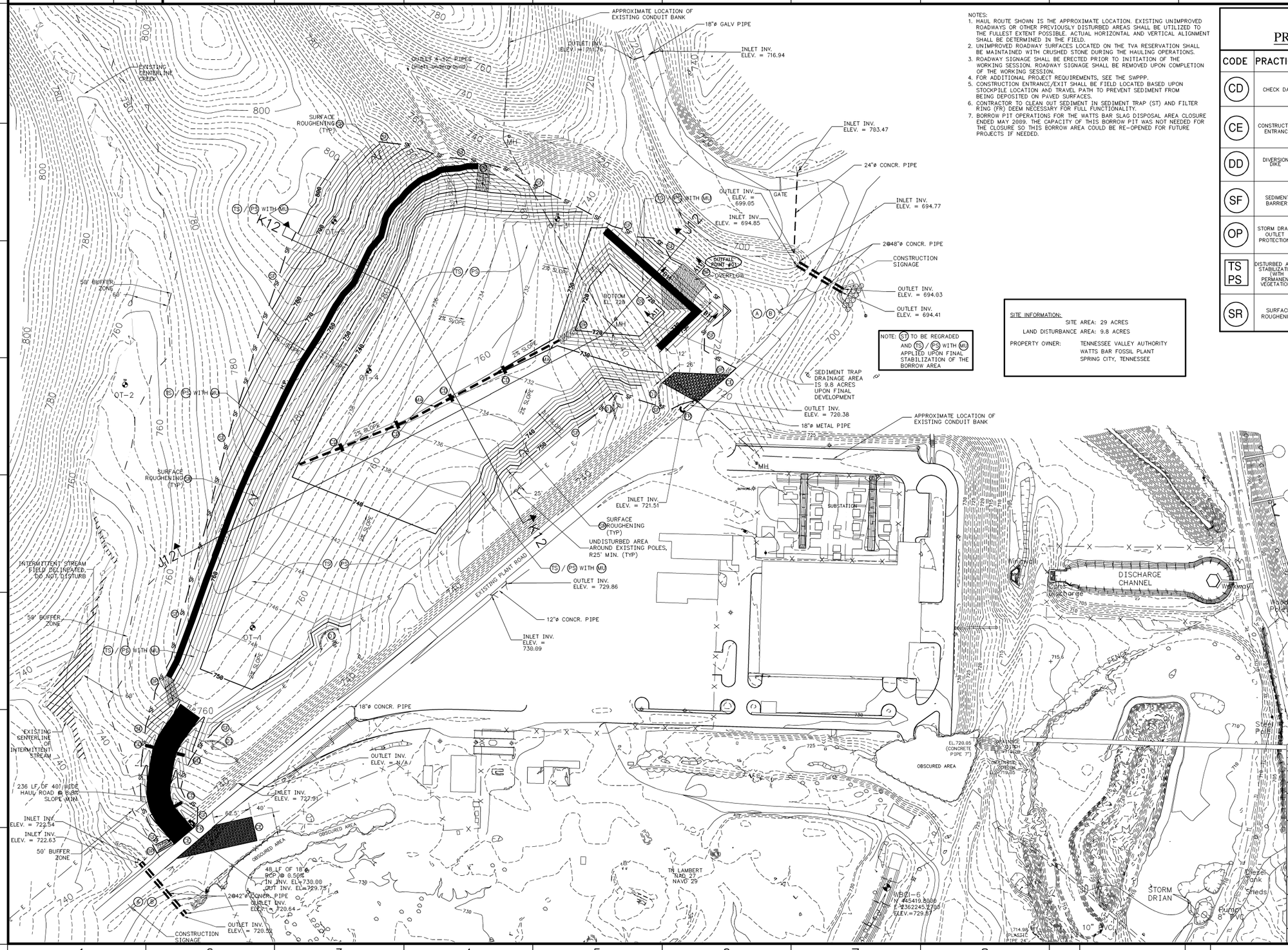
WATTS BAR FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

AUTOCAD R 2K | DATE | 14 | C | 10W425-9 | R 0

TASK COMPLETED BY: | REV NO.

PLOT FACTOR:1
W_TVA

C.A.D. DRAWING DO NOT ALTER MANUALLY



NOTES:
1. HAUL ROUTE SHOWN IS THE APPROXIMATE LOCATION. EXISTING UNIMPROVED ROADWAYS OR OTHER PREVIOUSLY DISTURBED AREAS SHALL BE UTILIZED TO THE FULLEST EXTENT POSSIBLE. ACTUAL HORIZONTAL AND VERTICAL ALIGNMENT SHALL BE DETERMINED IN THE FIELD.
2. UNIMPROVED ROADWAY SURFACES LOCATED ON THE TVA RESERVATION SHALL BE MAINTAINED WITH CRUSHED STONE DURING THE HAULING OPERATIONS.
3. ROADWAY SIGNAGE SHALL BE ERECTED PRIOR TO INITIATION OF THE WORKING SESSION. ROADWAY SIGNAGE SHALL BE REMOVED UPON COMPLETION OF THE WORKING SESSION.
4. FOR ADDITIONAL PROJECT REQUIREMENTS, SEE THE SWPPP.
5. CONSTRUCTION ENTRANCE/EXIT SHALL BE FIELD LOCATED BASED UPON STOCKPILE LOCATION AND TRAVEL PATH TO PREVENT SEDIMENT FROM BEING DEPOSITED ON PAVED SURFACES.
6. CONTRACTOR TO CLEAN OUT SEDIMENT IN SEDIMENT TRAP (ST) AND FILTER RING (FR) DEEM NECESSARY FOR FULL FUNCTIONALITY.
7. BORROW PIT OPERATIONS FOR THE WATTS BAR SLAG DISPOSAL AREA CLOSURE ENDED MAY 2009. THE CAPACITY OF THIS BORROW PIT WAS NOT NEEDED FOR THE CLOSURE SO THIS BORROW AREA COULD BE RE-OPENED FOR FUTURE PROJECTS IF NEEDED.

NOTE: (ST) TO BE REGRADED AND (TS) / (PS) WITH (ML) APPLIED UPON FINAL STABILIZATION OF THE BORROW AREA

SITE INFORMATION:
SITE AREA: 29 ACRES
LAND DISTURBANCE AREA: 9.8 ACRES
PROPERTY OWNER: TENNESSEE VALLEY AUTHORITY
WATTS BAR FOSSIL PLANT
SPRING CITY, TENNESSEE

TDEC BEST MANAGEMENT PRACTICES MANUAL (BMP) CHART

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
CD	CHECK DAM			A SMALL TEMPORARY BARRIER OR DAM CONSTRUCTED ACROSS A SWALE, DRAINAGE DITCH OR AREA OF CONCENTRATED FLOW.
CE	CONSTRUCTION ENTRANCE		CE (Label)	A CRUSHED STONE PAD LOCATED AT THE CONSTRUCTION SITE EXIT TO PROVIDE A PLACE FOR REMOVING MUD FROM TIRES THEREBY PROTECTING PUBLIC STREETS.
DD	DIVERSION DIKE			AN EARTH CHANNEL OR DIKE LOCATED ABOVE ACROSS A SLOPE TO DIVERT RUNOFF. THIS MAY BE A TEMPORARY OR PERMANENT STRUCTURE.
SF	SEDIMENT BARRIER		TYPE (INDICATE TYPE)	A BARRIER TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. IT MAY BE SANDBAGS, BALES OR STRAW OR HAY, BRUSH, LOGS & POLES, GRAVEL, OR A SEDIMENT FENCE. THE BARRIERS ARE USUALLY TEMPORARY & INEXPENSIVE.
OP	STORM DRAIN OUTLET PROTECTION		SF	A PAVED OR SHORT SECTION OF RIP RAP CHANNEL AT THE OUTLET OF A STORM DRAIN SYSTEM PREVENTING EROSION FROM THE CONCENTRATED RUNOFF.
TS PS	DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)		TS PS	ESTABLISHING TEMPORARY & PERMANENT VEGETATIVE COVER SUCH AS TREES, SHRUBS, VINES, GRASSES, SOD, OR LEGUMES ON DISTURBED AREAS.
SR	SURFACE ROUGHENING		SR	A ROUGH SOIL SURFACE WITH HORIZONTAL DEPRESSIONS ON A CONTOUR OR SLOPES LEFT IN A ROUGHENED CONDITION AFTER GRADING.

NOTE:
CONTRACTOR SHALL INSPECT OUTFALL POINTS AFTER ANY STORM EVENT & MAKE NECESSARY ADJUSTMENTS TO (BMP)S TO ELIMINATE SEDIMENT FROM EXITING SITE.

OUTFALL POINT #XX

EXISTING LEGEND
- TEST PIT LOCATION
- UTILITY POLE LOCATION
- MH UTILITY MANHOLE LOCATION
- WBCI-6 SURVEY BENCH MARK LOCATION (CONTROL POINT)
- INTERMITTENT STREAM LOCATION
- BUFFER ZONE
- CONDUIT BANK LOCATION

REV. NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT ID	AS CONST	REV CD
R 0	8-13-09	CWH	SEL	DRD	LJP	KEE	BSS		WBFSLAG		J
DCN WBF-07-1000-010: INITIAL ISSUE FOR SLAG DISPOSAL AREA CLOSURE PLAN											

DISCIPLINE INTERFACE

SCALE: 1"=60' EXCEPT AS NOTED

YARD

WATTS BAR SLAG DISPOSAL AREA CLOSURE PLANS (BORROW PIT) SITE GRADING & SWPPP PLAN

DESIGNED BY: | DRAWN BY: | CHECKED BY: | SUPERVISED BY: | REVIEWED BY: | APPROVED BY: | ISSUED BY:

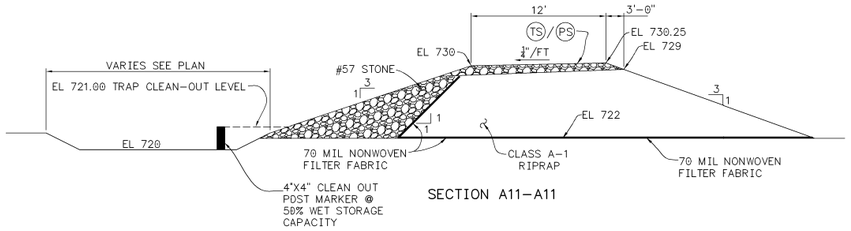
WATTS BAR FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

AUTOCAD R 2K | DATE | 14 | C | 10W425-10 | R 0

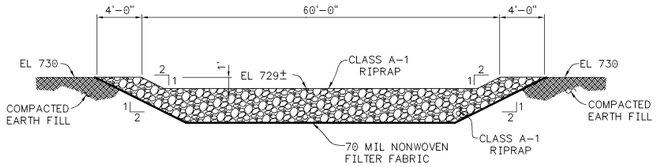
TASK COMPLETED BY: | REV NO.

PLOT FACTOR:1
W_TVA

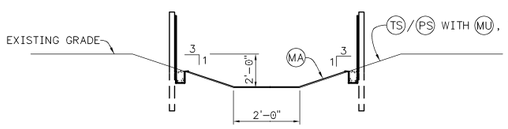
C.A.D. DRAWING
DO NOT ALTER MANUALLY



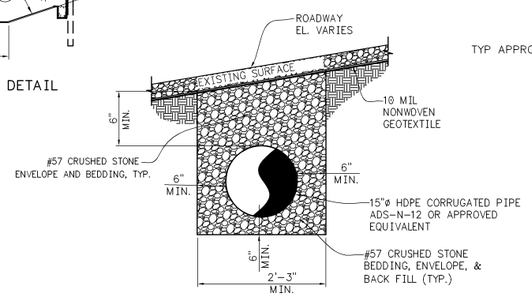
SECTION A11–A11



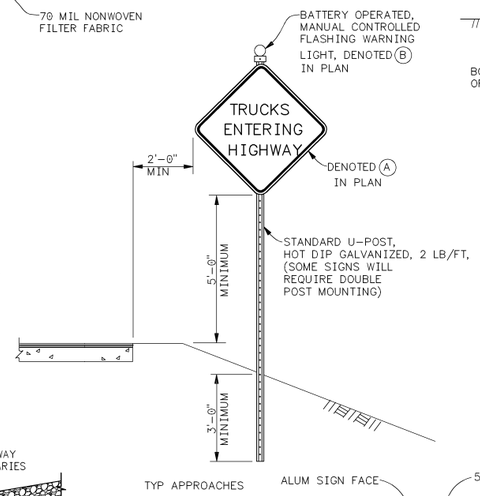
SECTION B11–B11
NTS



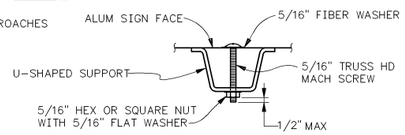
TYPICAL DITCH DETAIL
NTS



TYPICAL SECTION PIPE BEDDING
NTS

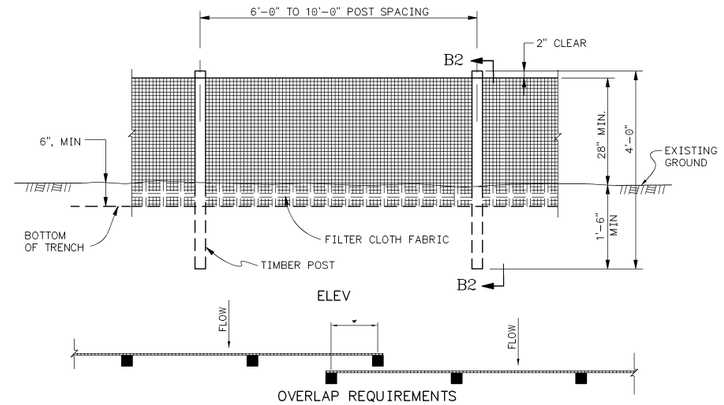


TYP APPROACHES



CONNECTION DETAIL
SIGN TO U-POST

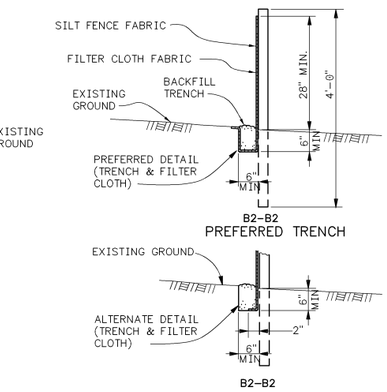
A B CONSTRUCTION SIGNAGE
NTS



ELEV

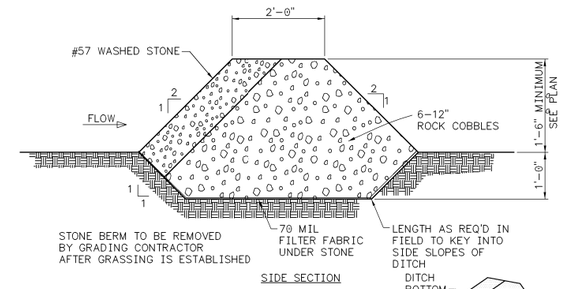
OVERLAP REQUIREMENTS

SF SILT FENCE – TYPE 4
NTS

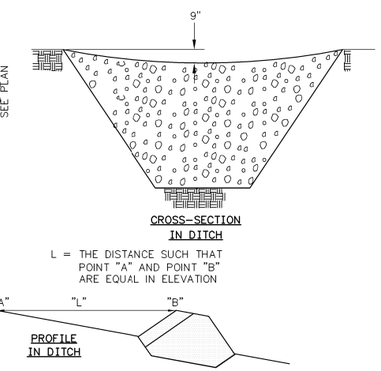


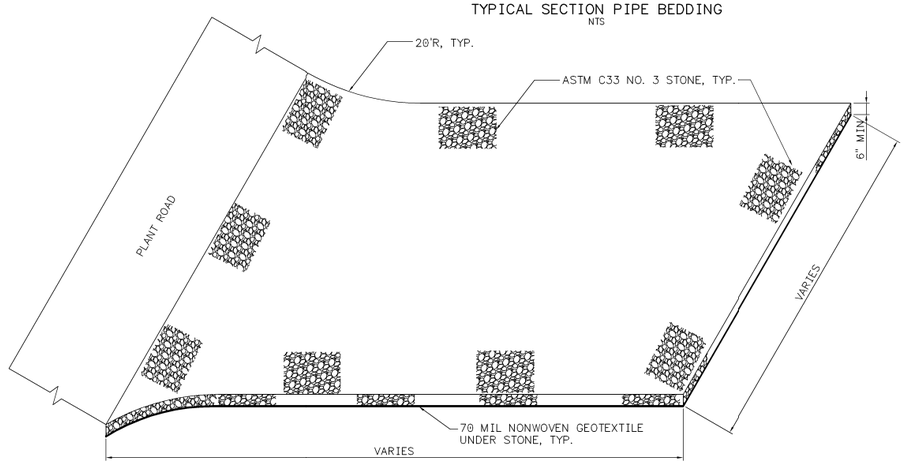
LEGEND

- D1 DIVERSION
- OP OUTLET PROTECTION
- ST SEDIMENT TRAP
- CD CHECK DAM
- TS TEMPORARY SEEDING
- PS PERMANENT SEEDING
- MU MULCH
- SF SILT FENCE
- MA EROSION CONTROL MAT
- CE CONSTRUCTION ENTRANCE/EXIT
- FR FILTER RING
- A CONSTRUCTION TRAFFIC SIGNAGE
- B FLASHING WARNING LIGHT

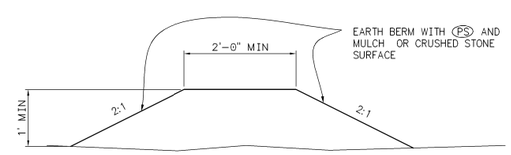


CD STONE CHECK DAM
NTS

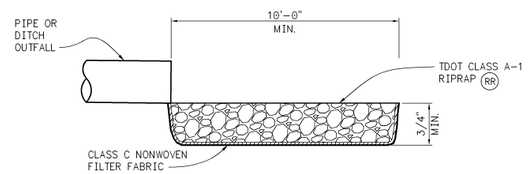




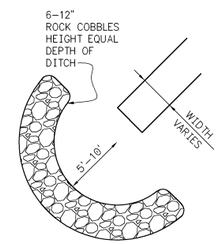
CE TYPICAL CONSTRUCTION ENTRANCE/EXIT
NTS



DI DIVERSION BERM
NTS



OP OUTLET PROTECTION
NTS



FR FILTER RING
NTS

NOTES:

1. SEE THE CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR ADDITIONAL REQUIREMENTS FOR THE STORM WATER DISCHARGE AND SEDIMENTATION CONTROL.
2. SEE SHEET 10W425-10 & 10W425-11 FOR LEGEND.
3. CONSTRUCTION SIGNAGE SHALL BE AS SHOWN ON THE DRAWINGS SUBJECT TO THE FOLLOWING:
   A. SIGN SUBSTRATE SHALL BE .080" ALUMINUM, 30"x30"
   B. ENGINEER GRADE REFLECTIVE, CONSTRUCTION WORK ZONE ORANGE
   C. SIGNAGE SHALL BE S3030W414EAC AS MANUFACTURED A & H SAFETY SUPPLY, CHATTANOOGA TN, (423) 265-3054 OR APPROVED EQUIVALENT
4. HDPE PIPE SHALL BE CORRUGATED WITH SMOOTH INTERIOR WALL, ADS N-12 OR APPROVED EQUIVALENT.
5. EROSION CONTROL MATTING (MA), SHALL BE NORTH AMERICAN GREEN DS150 (DOUBLE POLYPROPYLENE NET WITH STRAW) INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, OR APPROVED EQUIVALENT.
6. CONTRACTOR TO CLEAN OUT SEDIMENT IN SEDIMENT TRAP (ST), FILTER RING (FR), AND CHECK DAMS (CD) AT 50% CAPACITY.
7. BORROW PIT OPERATIONS FOR THE WATTS BAR SLAG DISPOSAL AREA CLOSURE ENDED MAY 2009. THE CAPACITY OF THIS BORROW PIT WAS NOT NEEDED FOR THE CLOSURE SO THIS BORROW AREA COULD BE RE-OPENED FOR FUTURE PROJECTS IF NEEDED.

REV. NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT ID	AS CONST
R 0	8-13-09	CWH	SEL	DRD	LJP	KEE	BSS		WBFSLAG	

DCN WBF-07-1000-011: INITIAL ISSUE FOR SLAG DISPOSAL AREA CLOSURE PLAN

SCALE: 1"=60' EXCEPT AS NOTED

YARD

WATTS BAR SLAG DISPOSAL AREA CLOSURE PLANS (BORROW PIT) BORROW PIT SWPPP DETAILS I

DESIGNED BY: | DRAWN BY: | CHECKED BY: | REVIEWED BY: | REVIEWED BY: | ISSUED BY:

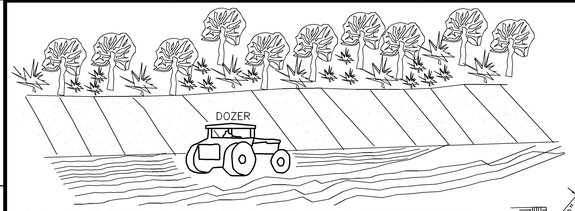
WATTS BAR FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

AUTOCAD R 2K | DATE | 14 | C | 10W425-11 | R 0

PLOT FACTOR:1
W_TVA

C.A.D. DRAWING DO NOT ALTER MANUALLY

TASK COMPLETED BY: | REV NO.

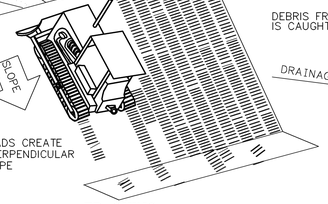


EACH LIFT OF THE FILL IS COMPACTED, BUT THE OUTER FACE OF THE SLOPE IS ALLOWED TO REMAIN LOOSE SO THAT THE ROCKS, CLODS, ETC. REACH THE NATURAL ANGLE OF REPOSE.

FILL SLOPE TREATMENT

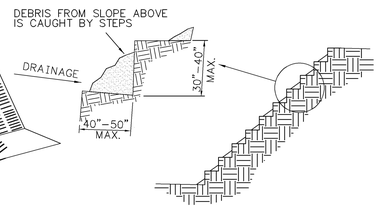
GROOVING IS CUTTING FURROWS ALONG THE CONTOUR OF A SLOPE. IRREGULARITIES IN THE SOIL SURFACE CATCH RAINWATER AND PROVIDE SOME COVERAGE OF LIME, FERTILIZER AND SEED.

GROOVING SLOPES



DOZER TREADS CREATE GROOVES PERPENDICULAR TO THE SLOPE

TRACKING



STAIR STEPPING CUT SLOPES

(SR) SURFACE ROUGHENING
NTS

GENERAL NOTES;

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH GENERAL CONSTRUCTION SPECIFICATION NO. T-1 UNLESS OTHERWISE NOTED.

2 EARTH BORROW FOR THE SOIL CAP IS TO BE OBTAINED FROM THE ONSITE BORROW PIT THAT HAS BEEN IDENTIFIED AND TESTED. TO ACHIEVE A PERMEABILITY EQUAL TO OR GREATER THAN 1 X 10-6 COMPACTED SOIL COVER SHALL BE PLACED WITH SHEEPSFOOT ROLLERS . IN PLACE FIELD DENSITY DETERMINATIONS (ASTM D 2922) SHALL BE CHECKED BY AT LEAST ONE FIELD DENSITY TEST PER 5000 CY PLACED WITH AT LEAST ONE FIELD DENSITY TEST PER DAY FILL IS PLACED. COMPACTION EFFORT AND FILL MOISTURE SHALL BE CONTROLLED SUCH THAT THE IN-PLACE TESTING SHOWS THE COMPACTED SOIL LAYER FALLS IN THE ACCEPTABLE ZONE ON THE HYDRAULIC CONDUCTIVITY/COMPACTION CURVES PREPARED FOR THIS BORROW SITE. SEE QA/QC PLAN FOR ADDITIONAL DETAILS AND REQUIREMENTS.

3. COMPACTED SOIL COVER SHALL BE PLACED IN LOOSE LIFTS OF 8 TO 10 INCHES PRIOR TO COMPACTION.

3. RIPRAP SHALL BE 12 ? THICK. A MINIMUM OF 50 PERCENT, BY WEIGHT, OF THE STONES SHALL BE 75 LB. EACH AND IN ACCORDANCE WITH SECTION 575.

4. PIPE SHALL BE 24 INCH DIAMETER ADS N-12 OR EQUAL . OTHER PIPEAS NEEDED SHALL BE AS NOTED ON DRAWINGS.

5. EXCAVATION AND BACKFILL FOR PIPE CULVERTS SHALL CONFORM TO SECTION 125.

6. TEMPORARY SEEDING SHALL MEET THE REQUIREMENTS OF T-1 SECTION 583.

7. MULCHING SHALL MEET THE REQUIREMENTS OF T-1 SECTION 581

8. SEEDED AREA TO BE MAINTAINED UNTIL A SATISFACTORY COVER OF PLANT MATERIAL IS SECURED. ALL AREAS SHALL BE PRESERVED AND PROTECTED AND REPAIRED AS SPECIFIED FOR THIS PURPOSE. AREAS HAVING A POOR STAND OF PLANTS SHALL BE RESEEDED AND FERTILIZED AT THE PROPER RATES

9. SEEDING SHALL BE:

TEMPORARY SEEDING

WINTER (9/15 - 4/15):
ANNUAL RYEGRASS - 80 LBS/ACRE
WHITE CLOVER - 10 LBS/ACRE

SUMMER (4/15 - 9/15):
*KOREAN LESPEDEZA - 20 LBS/ACRE
FOXTAIL MILLET - 20 LBS/ACRE
OR
RED CLOVER - 20 LBS/ACRE
WEEPING LOVEGRASS - 10 LBS/ACRE

FINAL SEEDING

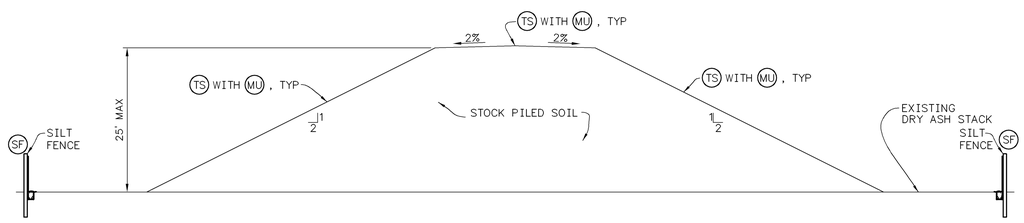
SPRING (3/15 - 5/15) & FALL (8/15 - 10/15):
REBEL FESCUE - 40 LBS/ACRE
HARD FESCUE - 10 LBA/ACRE
WHITE CLOVER - 5 LBS/ACRE

SUMMER (5/15 - 8/15):
BERMUDA GRASS (HULLED) - 40 LBS/ACRE
*KOREAN LESPEDEZA - 10 LBS/ACRE

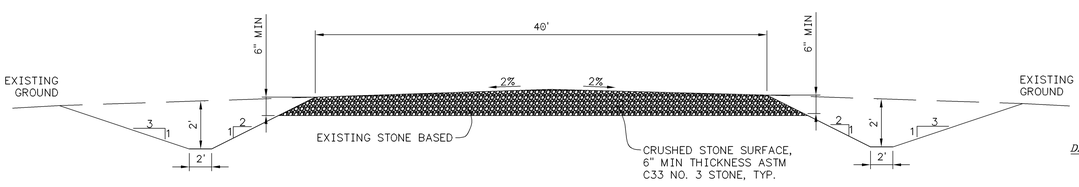
*KOREAN LESPEDEZA SHALL NOT BE USED IN LANDFILL AREAS.

FERTILIZER: UREAFORM (38-0-0) AT 200 LBS PER ACRE WITH EITHER (15-15-15) PLACED AT 400 LBS PER ACRE OR (6-12-12) AT 600 LBS PER ACRE.

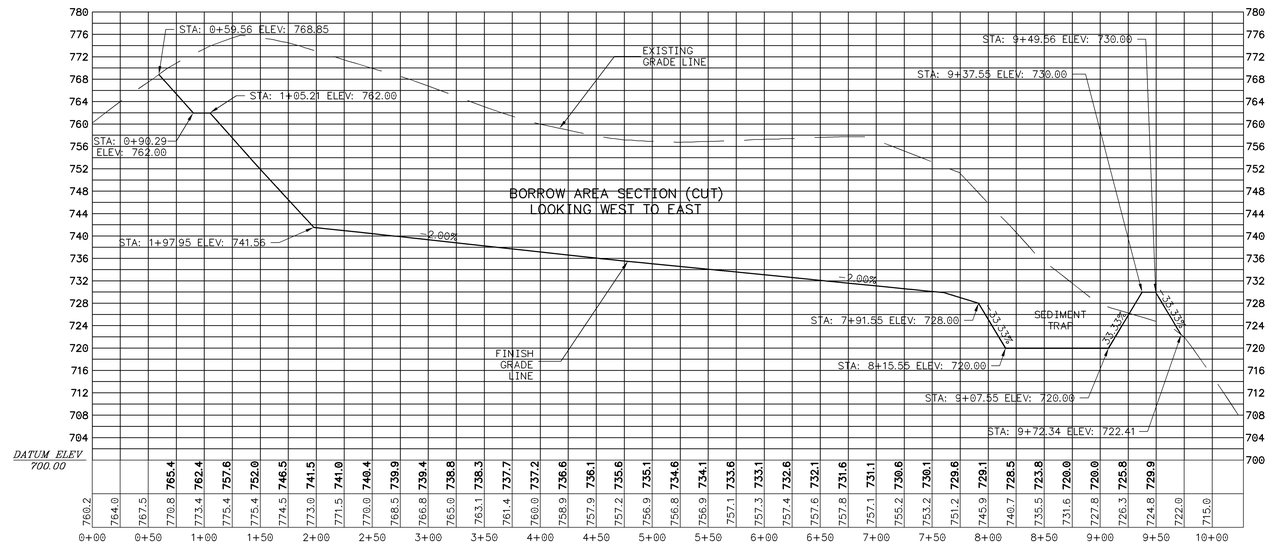
LIME: AGRICULTURAL LIMESTONE AT 3 TONS PER ACRE OR HYDRATED LIME AT 1.5 TON PER ACRE.



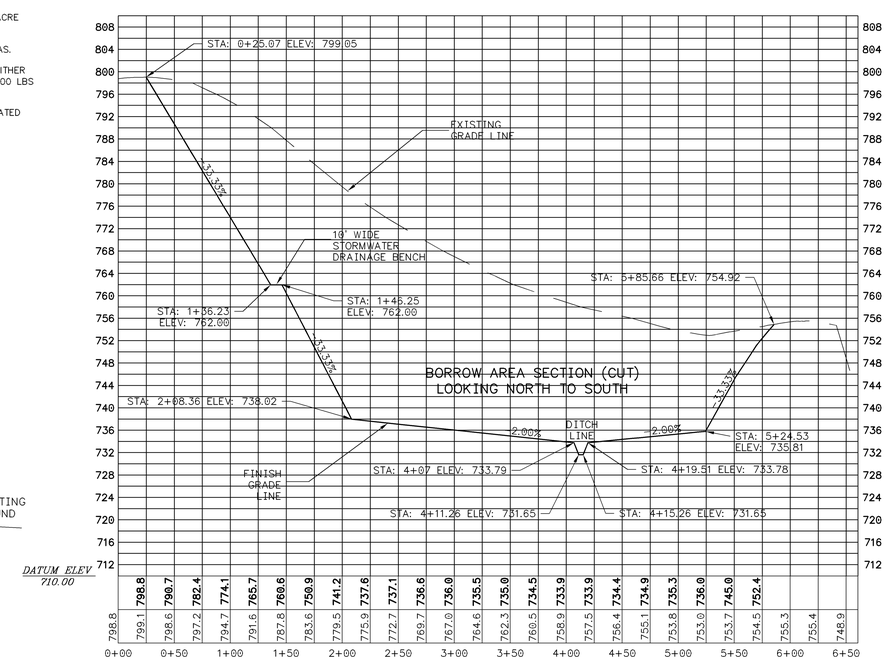
TYPICAL SOIL STOCK PILE
NTS



TYPICAL SECTION HAUL ROAD
NTS



SECTION J12-J12
SCALE 1"=50'



SECTION K12-K12
SCALE 1"=50'

NOTES:
1. SEE THE CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR ADDITIONAL REQUIREMENTS FOR THE STORM WATER DISCHARGE AND SEDIMENTATION CONTROL.
2. SEE SHEET 10W425-10 & 10W425-11 FOR LEGEND.
3. CONSTRUCTION SIGNAGE SHALL BE AS SHOWN ON THE DRAWINGS SUBJECT TO THE FOLLOWING:
   A. SIGN SUBSTRATE SHALL BE .080" ALUMINUM, 30"x30"
   B. ENGINEER GRADE REFLECTIVE, CONSTRUCTION WORK ZONE ORANGE
   C. SIGNAGE SHALL BE S3030W414EAC AS MANUFACTURED A & H SAFETY SUPPLY, CHATTANOOGA TN, (423) 265-3054 OR APPROVED EQUIVALENT
4. HDPE PIPE SHALL BE CORRUGATED WITH SMOOTH INTERIOR WALL, ADS N-12 OR APPROVED EQUIVALENT.
5. EROSION CONTROL MATTING (MA), SHALL BE NORTH AMERICAN GREEN DS150 (DOUBLE POLYPROPYLENE NET WITH STRAW) INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, OR APPROVED EQUIVALENT.
6. CONTRACTOR TO CLEAN OUT SEDIMENT IN SEDIMENT TRAP (ST), FILTER RING (FR), AND CHECK DAMS (CD) AT 50% CAPACITY.
7. BORROW PIT OPERATIONS FOR THE WATTS BAR SLAG DISPOSAL AREA CLOSURE ENDED MAY 2009. THE CAPACITY OF THIS BORROW PIT WAS NOT NEEDED FOR THE CLOSURE SO THIS BORROW AREA COULD BE RE-OPENED FOR FUTURE PROJECTS IF NEEDED.

REV NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT ID	AS CONST	REV CD
R											
R 0	8-13-09	CWH	SEL	DRD	LJP	KEE	BSS		WBFSLAG		J

DCN WBF-07-1000-012: INITIAL ISSUE FOR SLAG DISPOSAL AREA CLOSURE PLAN

DISCIPLINE INTERFACE

SCALE: 1"=5' EXCEPT AS NOTED

YARD

WATTS BAR SLAG DISPOSAL AREA CLOSURE PLANS (BORROW PIT)
BORROW PIT SWPPP DETAILS II

DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:

WATTS BAR FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

AUTOCAD R 2K | DATE | 14 | C | 10W425-12 | R 0

PLOT FACTOR:1
W_TVA

C.A.D. DRAWING DO NOT ALTER MANUALLY

TASK COMPLETED BY: | REV NO.