US ARMY CORPS
OF ENGINEERS
HUNTINGTON DISTRICT

CONSTRUCTION PLANS

MASSILLON, OH

MASSILLON LEVEE
STONE SLOPE PROTECTION, TREE REMOVAL, & TOE DRAIN INVESTIGATION

15 JUNE 2011

I N D E X

SHEET NO.	SHEET ID.	TITLE		SHEET NO.	SHEET ID.	TITLE		SHEET NO.	SHEET ID.	TITLE
		GENERAL								
1	GI000	COVER SHEET								
2	GI001	INDEX SHEET								
3	CS401	MASSILLON LEVEE OVERALL SITE PLAN								
4	CS402	MASSILLON LEVEE OVERALL SITE PLAN - UTILITIES								
5	*CS403	MASSILLON LEVEE OVERALL SITE PLAN - WELLS								
6	CS101	MASSILLON LEVEE SITE PLAN STA. 41+00-71+00								
7	CS102	MASSILLON LEVEE SITE PLAN STA. 71+00-104+00								
8	CS103	MASSILLON LEVEE SITE PLAN STA. 104+00-115+00								
9	CS104	MASSILLON LEVEE SITE PLAN - TREE CLEARING								
10	CS501	TYPICAL CROSS SECTIONS MOST CRITICAL AREAS 5, 7, AND 8								
11	CS502	TYPICAL CROSS SECTIONS MEDIUM CRITICAL AREAS 1, 4, AND 6								
12	*CS503	TRAFFIC CONTROL DETAIL								
13	*CS504	TRAFFIC CONTROL DETAIL NOTES								
14	CS301	AREA 5 CROSS SECTIONS STA. 49+20-52+00								
15	CS302	AREA 5 CROSS SECTIONS STA. 52+50-55+00								
16	CS303	AREA 5 CROSS SECTIONS STA. 55+50-56+50								
17	CS304	AREA 6 CROSS SECTIONS STA. 76+00-77+50								
18	CS305	AREA 6 CROSS SECTIONS STA. 78+00-80+50								
19	CS306	AREA 7 CROSS SECTIONS STA. 82+50-85+00								
20	CS307	AREA 7 CROSS SECTIONS STA. 85+50-88+00								
21	CS308	AREA 7 CROSS SECTIONS STA. 88+50-89+50								
22	CS309	AREA 8 CROSS SECTIONS STA. 91+50-94+00								
23	CS310	AREA 8 CROSS SECTIONS STA. 94+50-97+00								
24	CS311	AREA 8 CROSS SECTIONS STA. 97+50-99+50								
25	GI002	CONSTRUCTION PRACTICES SHEET 1 OF 3								
26	GI003	CONSTRUCTION PRACTICES SHEET 2 OF 3								
27	GI004	CONSTRUCTION PRACTICES SHEET 3 OF 3								
		AS BUILT DRAWINGS								
28	*	AS BUILT DRAWING INDEX								
29	*	AS BUILT DRAWING 027i-PM2-2-16/1								
30	*	AS BUILT DRAWING 027i-PM2-2-16/2								
31	*	AS BUILT DRAWING 027i-PM2-2-16/3								
32	*	AS BUILT DRAWING 027i-PM2-2-16/4								
33	*	AS BUILT DRAWING 027i-PM2-2-16/5	ADDITIONAL AS BUILT							
34	*	AS BUILT DRAWING 027i-PM2-2-16/6	INFORMATION FOR LEVEE							
35	*	AS BUILT DRAWING 027i-PM2-2-16/7	PROJECT AND FOR SR. 21							
36	*	AS BUILT DRAWING 027i-PM2-2-16/8	AVAILABLE UPON REQUEST							
37	*	AS BUILT DRAWING 027i-PM2-2-82/1								
38	*	AS BUILT DRAWING 027i-PM2-2-82/2								
39	*	AS BUILT DRAWING 027i-PM2-2-82/3								
40	*	AS BUILT DRAWING 027i-PM2-2-82/4								
41	*	AS BUILT DRAWING 027i-PM2-2-82/6								
42	*	AS BUILT DRAWING 027i-PM2-2-82/7								

*DRAWINGS ARE FOR INFORMATION PURPOSES ONLY

US Army Corps of Engineers®
Huntington District

MARK	DESCRIPTION	DATE	APPR

MARK	DESCRIPTION	DATE	APPR

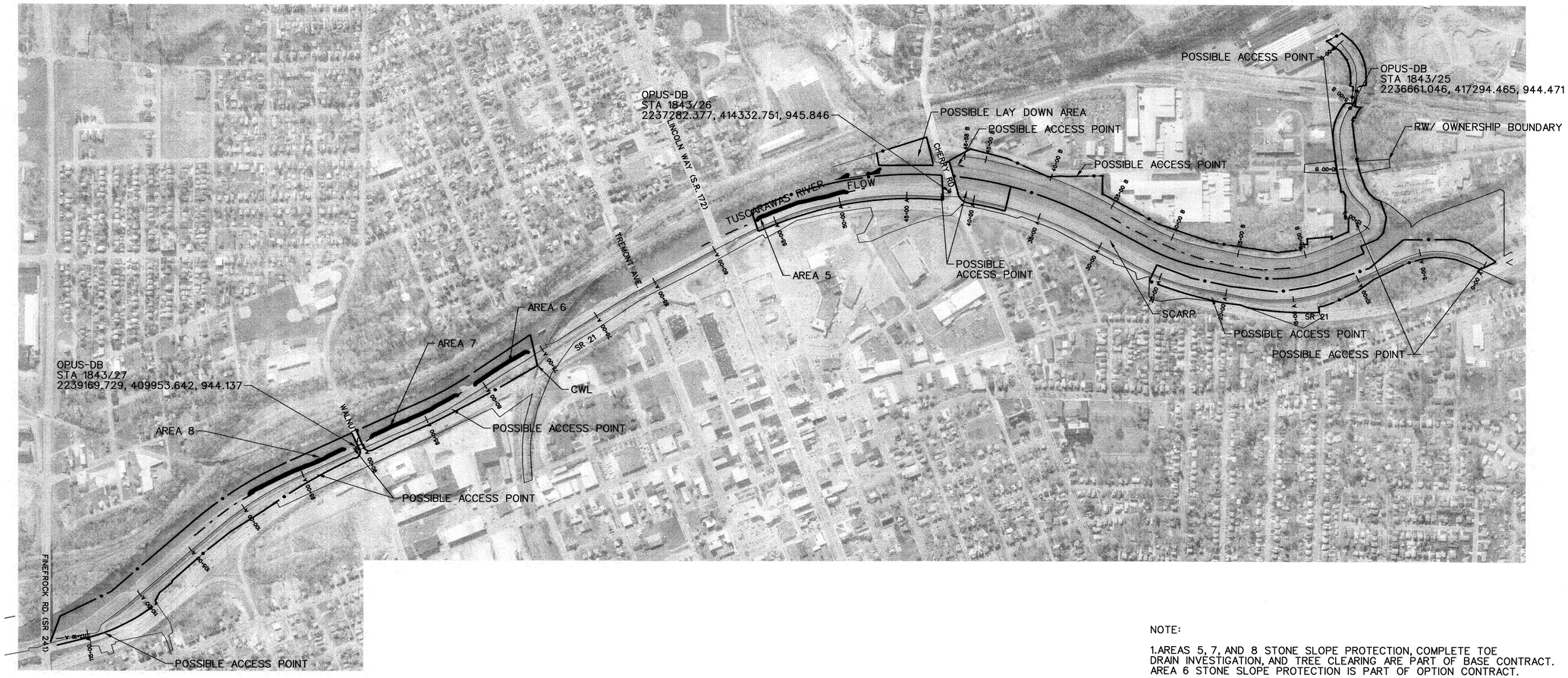
U.S. ARMY CORPS OF ENGINEERS
HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

DESIGNED BY: BWB | DATE: 06/14/2011
DWN BY: NAL | CKD BY: MGS | SOLICITATION NO.:
SUBMITTED BY: | CONTRACT NO.:
PLOT SCALE: 2:1 | PLOT DATE: 6/15/2011 | FILE NUMBER:
SIZE: | FILE NAME: GI001100.DGN

TUSCAWARAS RIVER
MASSILLON, OH
MASSILLON LPP
MASSILLON LEVEE CERTIFICATION
INDEX SHEET

SHEET IDENTIFICATION
GI001
SHEET 2 OF 27

16-JUN-2011 12:28
H:\ECL\FT IP_PWP-dms2861\05\GI001100.DGN
16-PM-AP-SC-CAESQAPP50M_I:\reference_05152008\Architecture\Project\Files InterPlot Organization\standdesign scripts\STDVS.pen
C:\Program Files\Common Files\InterPlot\IPLOT\msclocter.dlb



NOTE:

1. AREAS 5, 7, AND 8 STONE SLOPE PROTECTION, COMPLETE TOE DRAIN INVESTIGATION, AND TREE CLEARING ARE PART OF BASE CONTRACT. AREA 6 STONE SLOPE PROTECTION IS PART OF OPTION CONTRACT.

2. THE CONTRACTOR MAY CONSTRUCT ACCESS RAMPS FROM THE TOP OF THE LEVEE TO THE AREA OF SSP PLACEMENT. THE CONTRACTOR SHALL NOT DISTURB INPLACE LEVEE MATERIALS EXCEPT FOR VEGETATION AND TOPSOIL REMOVAL. TOPSOIL SHALL BE REPLACED TO ORIGINAL LINE AND GRADES AND REVEGETATED WITH AN EQUIVALENT STAND OF GRASS.

3. SEE DRAWINGS CS701, CS703-CS705, CS501, AND CS301-CS311 FOR STONE SLOPE PROTECTIONS.

4. SEE DRAWING CS706 (SHEET 21) FOR TREE CLEARING LIMITS.

5. SEE AS BUILT DRAWINGS FOR TOE DRAIN TYPICALS. THE GOVERNMENT WILL FLAG TOE DRAIN MANHOLES IN THE FIELD.

MASSILLON LEVEE – OVERALL SITE PLAN – WORK AREAS

SCALE: 1"=400'

0 400' 800'

US Army Corps of Engineers®
Huntington District

MARK	DESCRIPTION	DATE	APPR

MARK	DESCRIPTION	DATE	APPR

U.S. ARMY CORPS OF ENGINEERS
HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

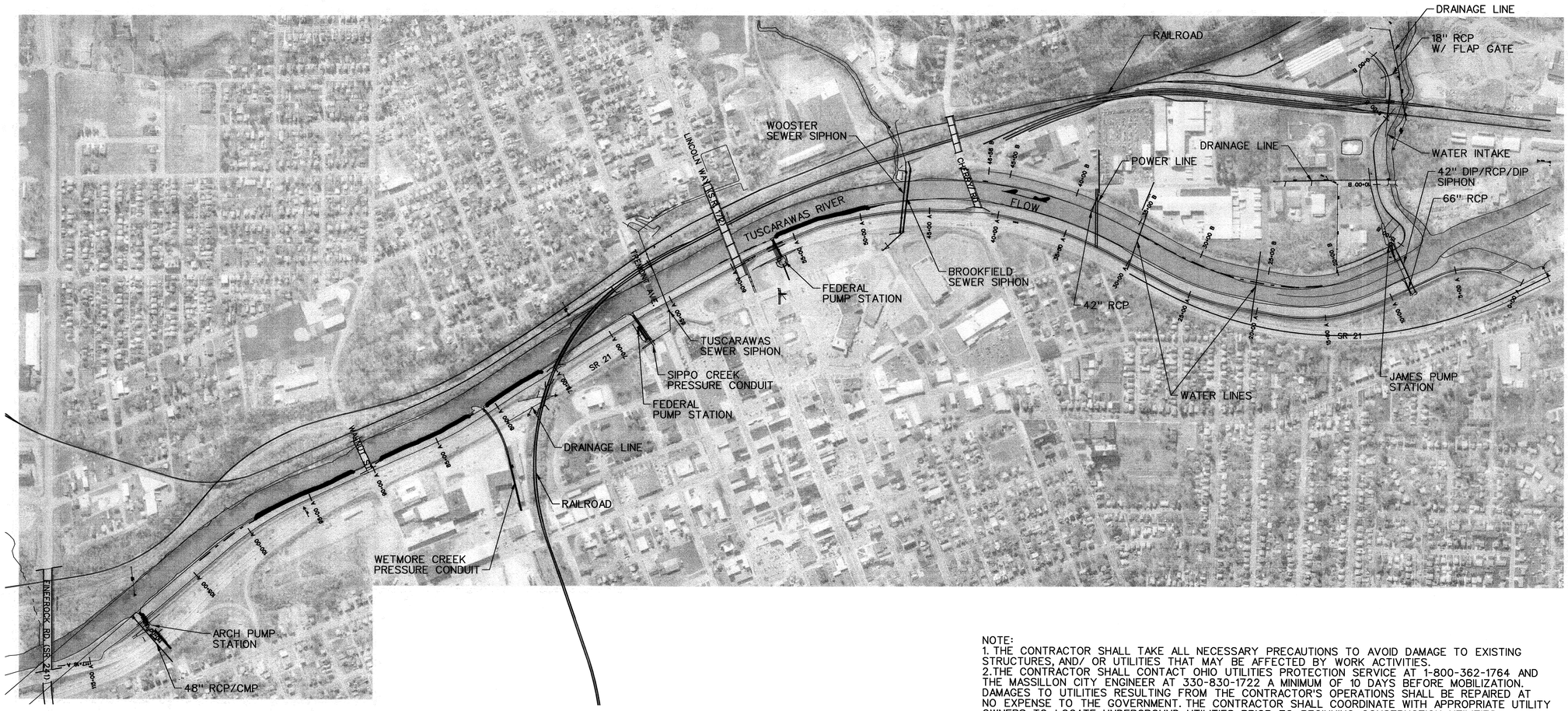
DESIGNED BY: BWB
DWN BY: MAL
CKD BY: MSS
SUBMITTED BY:
DATE: 09/14/2011
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:
PLOT SCALE: 800.00161
PLOT DATE: 9/14/2011
SIZE:
FILE NAME: CS401401-Planning.DGN

TUSCAWARAS RIVER
MASSILLON, OH
MASSILLON LPP
MASSILLON LEVEE CERTIFICATION
MASSILLON LEVEE
OVERALL SITE PLAN

SHEET IDENTIFICATION
CS401
SHEET 3 OF 27

H:\EOJFT 14-JUN-2011 18:41
P:_PWP\dms\2881010\CS401401-Planning.DGN

ILRH-AP-SC-CAEDJAPPSOM_I\reference\2515288\Hndsk\base\Project\Use Inse\Plot Organizer\mtd\design scrip\STDV18.pen
C:\Program Files\Common Files\Iser\PenPlot\DOTmed\color.dat



NOTE:
1. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO EXISTING STRUCTURES, AND/ OR UTILITIES THAT MAY BE AFFECTED BY WORK ACTIVITIES.
2.THE CONTRACTOR SHALL CONTACT OHIO UTILITIES PROTECTION SERVICE AT 1-800-362-1764 AND THE MASSILLON CITY ENGINEER AT 330-830-1722 A MINIMUM OF 10 DAYS BEFORE MOBILIZATION. DAMAGES TO UTILITIES RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT NO EXPENSE TO THE GOVERNMENT. THE CONTRACTOR SHALL COORDINATE WITH APPROPRIATE UTILITY OWNERS TO LOCATE UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION. UTILITIES ENCOUNTERED, WHICH WERE NOT PREVIOUSLY SHOWN OR OTHERWISE LOCATED, SHALL NOT BE DISTURBED WITHOUT PRIOR APPROVAL FROM THE COR.
3. OTHER STRUCTURES TO BE PROTECTED INCLUDE MONITORING WELLS, RELIEF WELLS, TOE OF LEVEE DRAINS, CULVERTS, AND DISCHARGE PIPES.

MASSILLON LEVEE – OVERALL SITE PLAN – UTILITIES

SCALE: 1"=400'

0 400' 800'

US Army Corps of Engineers®
Huntington District

MARK	DESCRIPTION	DATE	APPR

MARK	DESCRIPTION	DATE	APPR

U.S. ARMY CORPS OF ENGINEERS
HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

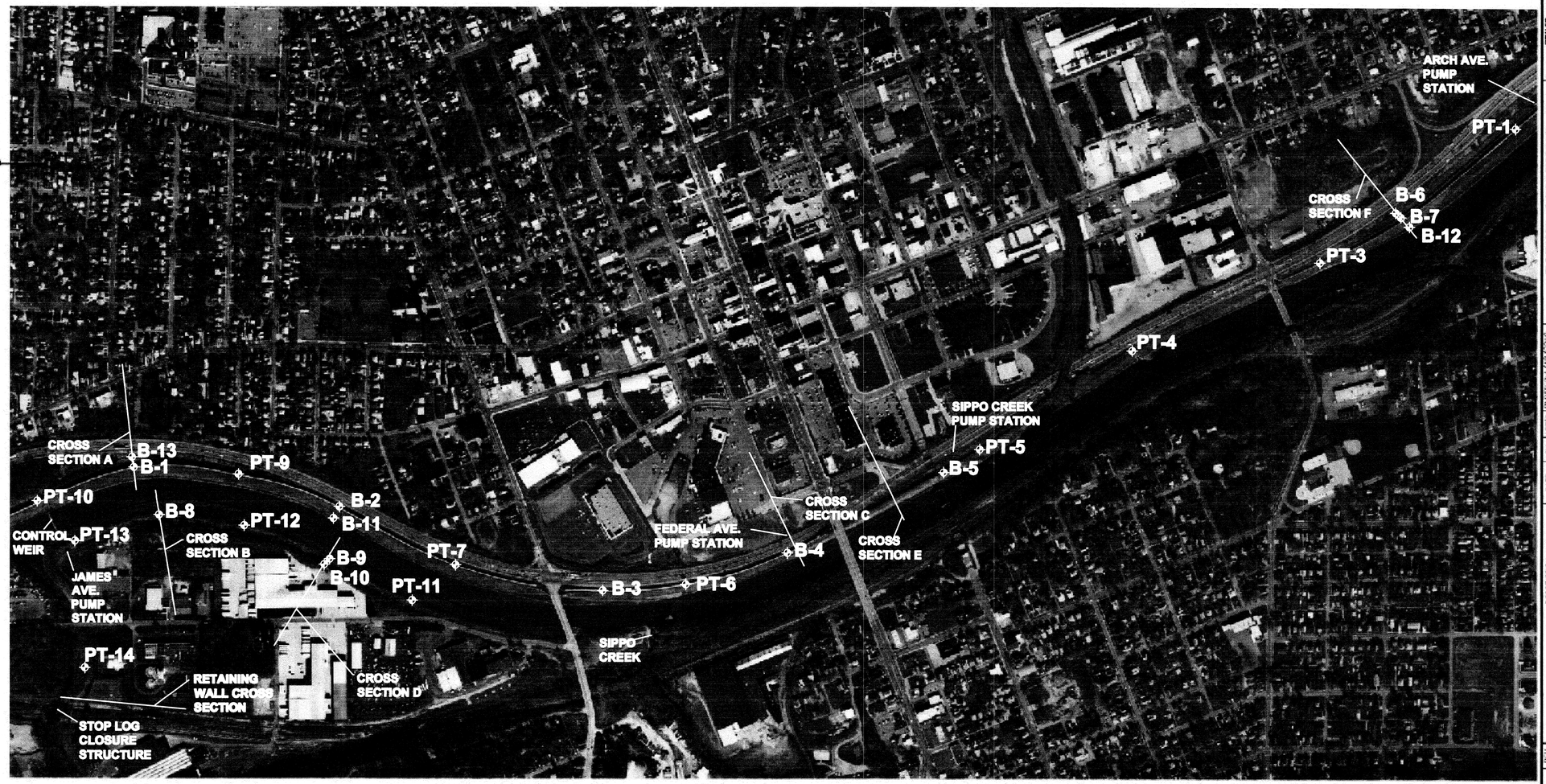
DESIGNED BY: BWB | DATE:
DWN BY: NAL | CKD BY: MSS | SOLICITATION NO.:
SUBMITTED BY: | CONTRACT NO.:
PLOT SCALE: 800.00161 | PLOT DATE: 6/14/2011 | FILE NUMBER:
SIZE: | FILE NAME: CS401401-Utility.DGN

TUSCAWARAS RIVER
MASSILLON, OH
MASSILLON LPP
MASSILLON LEVEE CERTIFICATION
MASSILLON LEVEE
OVERALL SITE PLAN
UTILITIES

SHEET IDENTIFICATION
CS402
SHEET 4 OF 27

H:\ECL\PT IP_PWP\dms\28610\CS401401-Utility.DGN 14-JUN-2011 16:42

I:\BRHJP-SC-CAE\DAPP\DWM_Workspace_05152009\Workspace\ProjectFiles files\Plot Organizer\microdesign scripts\STDV8.pen
C:\Program Files\Common Files\Bentley\PLOT\msclsdef.dlls



300 0 300 600 900

Scale: 1" = 300'

LOCATED POINTS

NO.	NORTH	EAST	ELEV.
PT-1	408566.75	2240059.00	941.3
PT-3	409699.88	2239309.49	941.1
PT-4	410849.82	2238751.62	941.7
PT-5	411768.00	2238186.33	945.1
PT-6	413566.84	2237340.10	945.8
PT-7	415005.57	2237469.22	944.7
PT-9	416292.63	2238006.13	945.6
PT-10	417528.32	2237835.38	945.9
PT-11	415252.54	2237246.84	945.3
PT-12	416271.05	2237698.88	945.6
PT-13	417304.74	2237608.15	945.5
PT-14	417222.78	2236835.82	945.4
B-1	416956.30	2238046.64	945.7
B-2	415689.62	2237805.64	945.0
B-3	414112.52	2237303.67	943.9
B-4	412984.40	2237524.07	943.5
B-5	411993.32	2238031.97	943.2
B-6	409211.44	2239807.22	928.7
B-7	409189.40	2239567.59	941.6
B-8	416803.74	2237774.44	945.2
B-9	415787.55	2237529.38	945.0
B-10	415807.95	2237482.29	927.5
B-11	415725.81	2237751.74	925.5
B-12	409156.09	2239525.39	923.9
B-13	416958.55	2238094.72	929.4

NOTES:

1. POINTS MARKED "PT" ARE 2"X2" WOOD HUBS.
2. POINTS MARKED "B" ARE MONITORING WELLS EXCEPT FOR "B-11", WHICH IS A LATH SET AT BORING.
3. ALL ELEVATIONS ARE AT GROUND LEVEL.
4. AERIAL PHOTOGRAPH SHOWN IS FROM THE STARK COUNTY GIS AND WAS TAKEN IN 2006. STREET NAMES ARE FROM STARK COUNTY TAX MAP DATA.
5. GPS (RTK METHOD) WAS USED TO LOCATE THE POINTS.

BENCHMARKS USED:

STARK COUNTY GEODETIC MARKERS:

9707
N = 407622.4667
E = 2236303.1253
ELEV = 983.805

TUS027
N = 416790.5420
E = 2233340.8190
ELEV = 1027.511

LOCATED JANUARY 14, 2010

BORING LOCATIONS

MASSILLON LEVEE
MASSILLON, OHIO

SCALES: HORZ. 1" = 300' | PROJECT NO. | SHEET NO. | OF

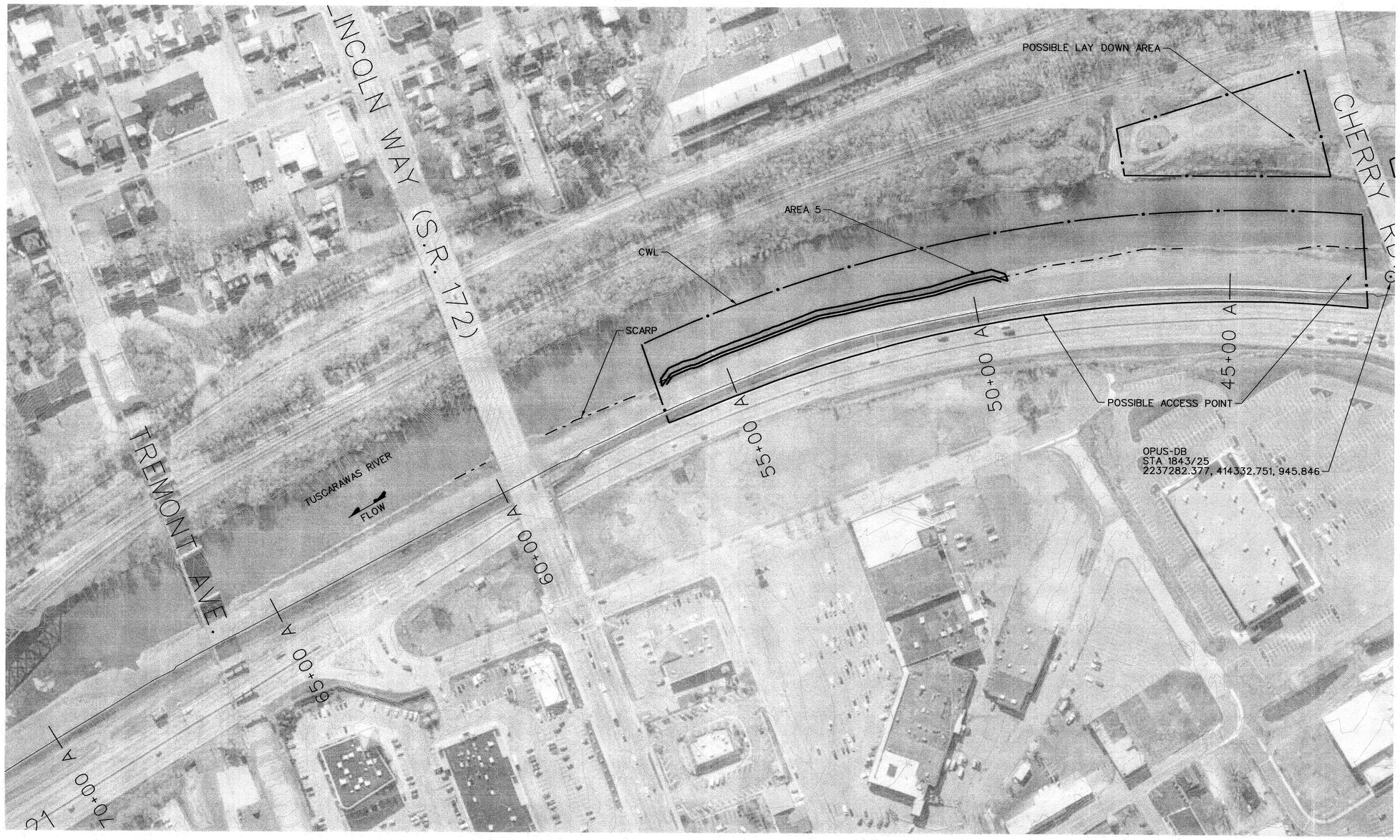
DATE	BY	APP'D	PROFILE: 1/28/2010
			DATE: 1/14/2010
			DRAWN BY: SLB
			CHECKED BY: CBG/DDD
			APP'D BY: DBD

M:\53 TUSC SURVEY\53.DWG

DESCRIPTION | DATE | BY

www.deibelsurveying.com
deibel surveying inc
1950 KIMBALL RD. S.E.
CANTON, OHIO 44707
OFFICE: (330) 455-2995
FAX: (330) 455-3299
E-mail: info@deibelsurveying.com
www.deibelsurveying.com

FOR INFORMATION PURPOSES ONLY



MASSILLON LEVEE – SITE PLAN – STA. 41+00 – 70+00 – WORK AREAS

SCALE: 1"=100'

0 100' 200'

US Army Corps of Engineers®
Huntington District

MARK	DESCRIPTION	DATE	APPR

MARK	DESCRIPTION	DATE	APPR

U.S. ARMY CORPS OF ENGINEERS
HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

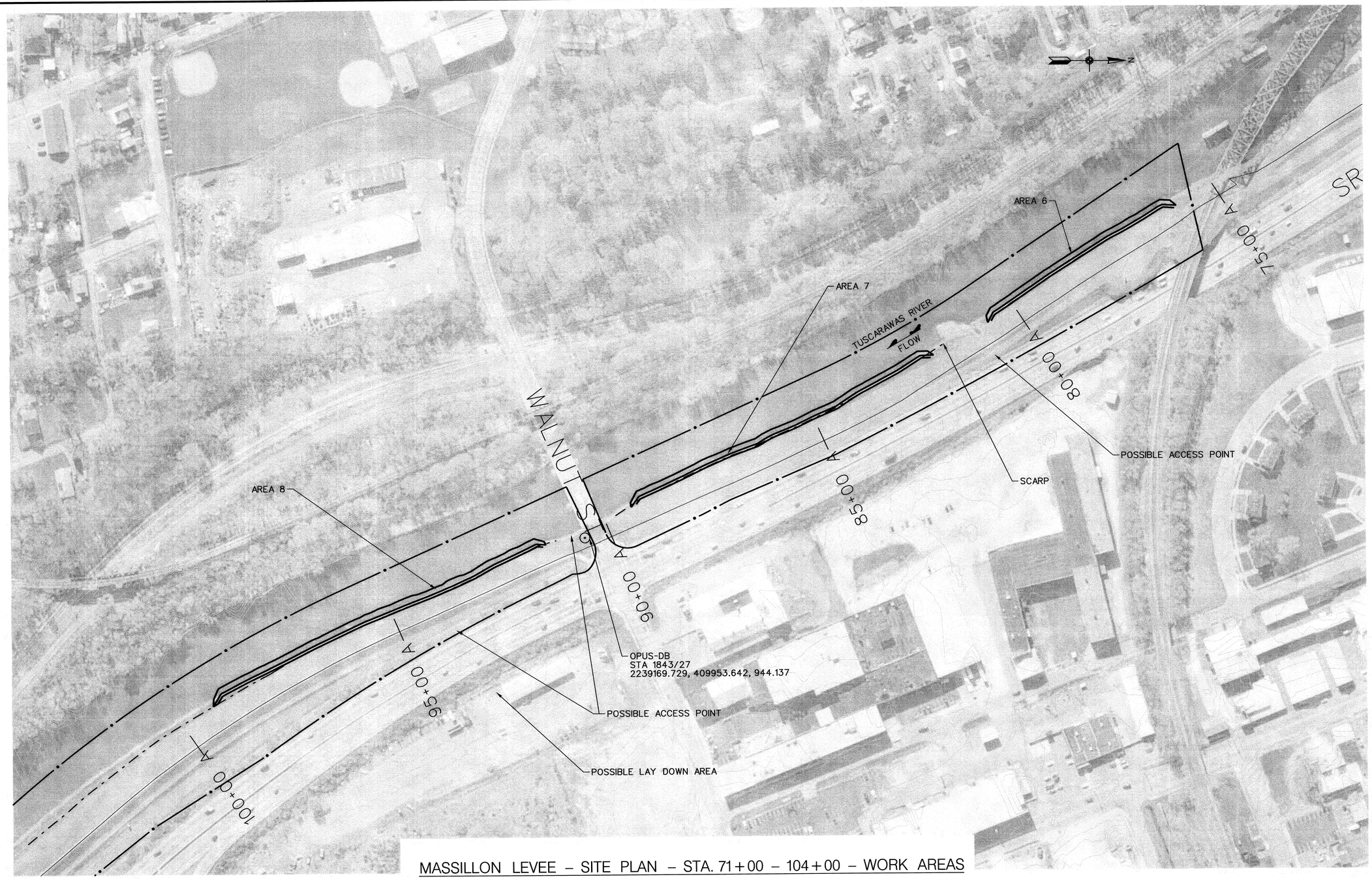
DESIGNED BY: BWB		DATE:	
DWN BY: HAL	CKD BY: MGS	SOLICITATION NO.:	
SUBMITTED BY:		CONTRACT NO.:	
PLOT SCALE: 200.0004:1	PLOT DATE: 6/14/2011	FILE NUMBER:	
SIZE:	FILE NAME: CS402A02-Planning.DGN		

TUSCARAWAS RIVER
MASSILLON, OH
MASSILLON LPP
MASSILLON LEVEE CERTIFICATION
MASSILLON LEVEE
SITE PLAN
41+00 - 71+00

SHEET IDENTIFICATION
CS101
SHEET 6 OF 27

I:\DRAFT\CAD\APPROM_WorkspaceLib\15006\Workspace\Projects\Has InterPlot Organizer\miscdesign scripts\STDV8.pen
C:\Program Files\Common Files\InterPlot\Fonts\Colors\color.db

H:\ECO-JFT-IP_PVP\dms298810\CS402A02-Planning.DGN
14-JUN-2011 18:42



MASSILLON LEVEE – SITE PLAN – STA. 71+00 – 104+00 – WORK AREAS

SCALE: 1"=100'

0 100' 200'

US Army Corps of Engineers®
Huntington District

MARK	DESCRIPTION	DATE	APPR
MARK	DESCRIPTION	DATE	APPR

U.S. ARMY CORPS OF ENGINEERS
HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

DESIGNED BY: BWB
DWN BY: NAL
CKD BY: MGS
SUBMITTED BY:
DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:
PLOT SCALE: 1'=100'
PLOT DATE: 14JUN11
SIZE:
FILE NAME: CS402A03-Planning.DGN

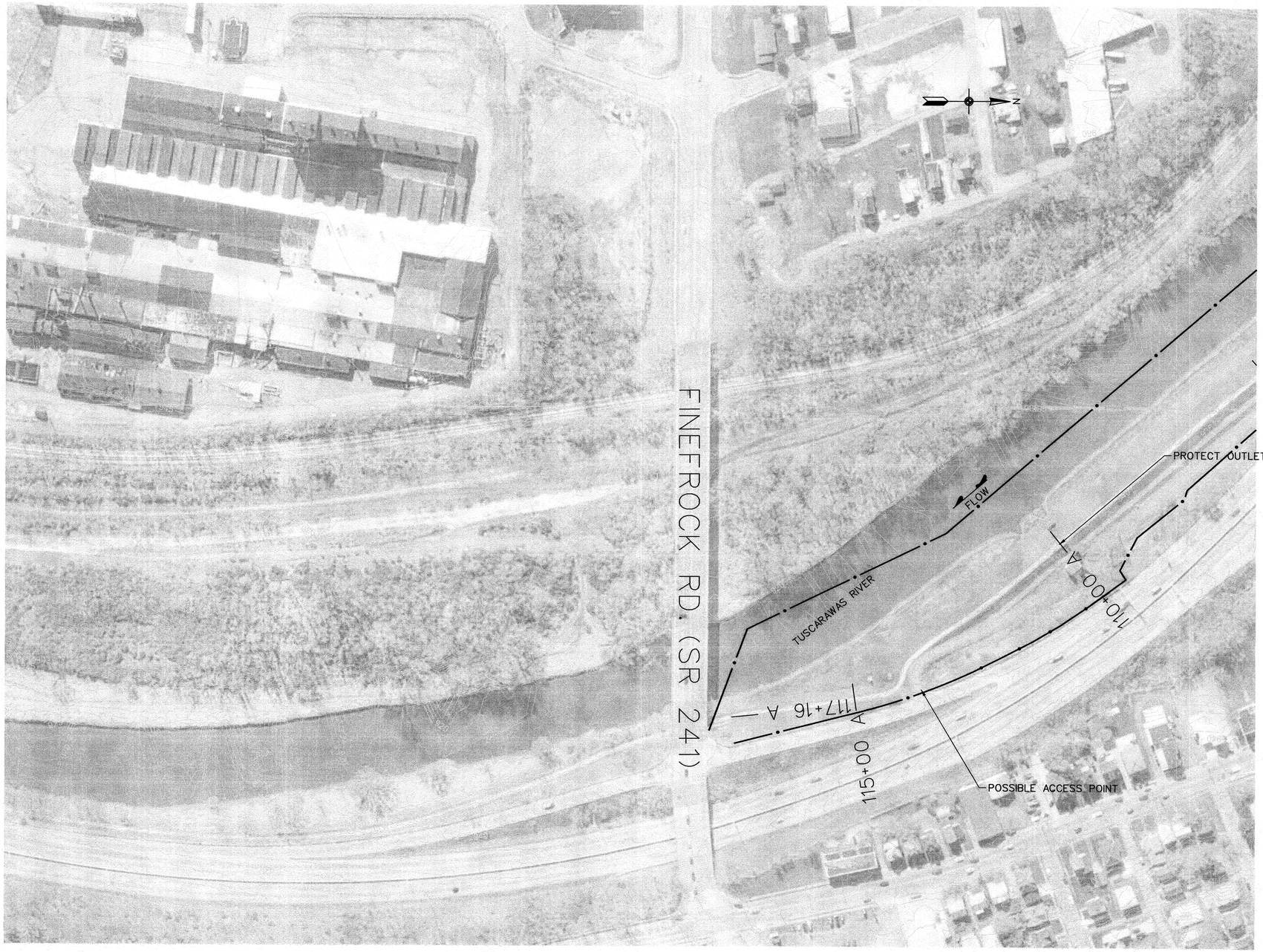
TUSCAWARAS RIVER
MASSILLON, OH
MASSILLON LPP
MASSILLON LEVEE CERTIFICATION

MASSILLON LEVEE
SITE PLAN
71+00 - 104+00

SHEET IDENTIFICATION
CS102
SHEET 7 OF 27

\\LRH-AP-EC-CAE02\APPS\XM_Workspace_05152008\Workspace\ProjectWise InterPlot Organizer\mics\design scripts\STDV8.pen
C:\Program Files\Common Files\InterPlot\IPLOT\mics\color.db

H1EOJFT
14-JUN-2011 18:43
IP_FVP-dms29810\CS402A03-Planning.DGN



MASSILLON LEVEE – SITE PLAN – STA. 104+00 – 115+00

SCALE: 1"=100'

0 100' 200'

US Army Corps of Engineers®
Huntington District

MARK	DESCRIPTION	DATE	APPR

MARK	DESCRIPTION	DATE	APPR

U.S. ARMY CORPS OF ENGINEERS
HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

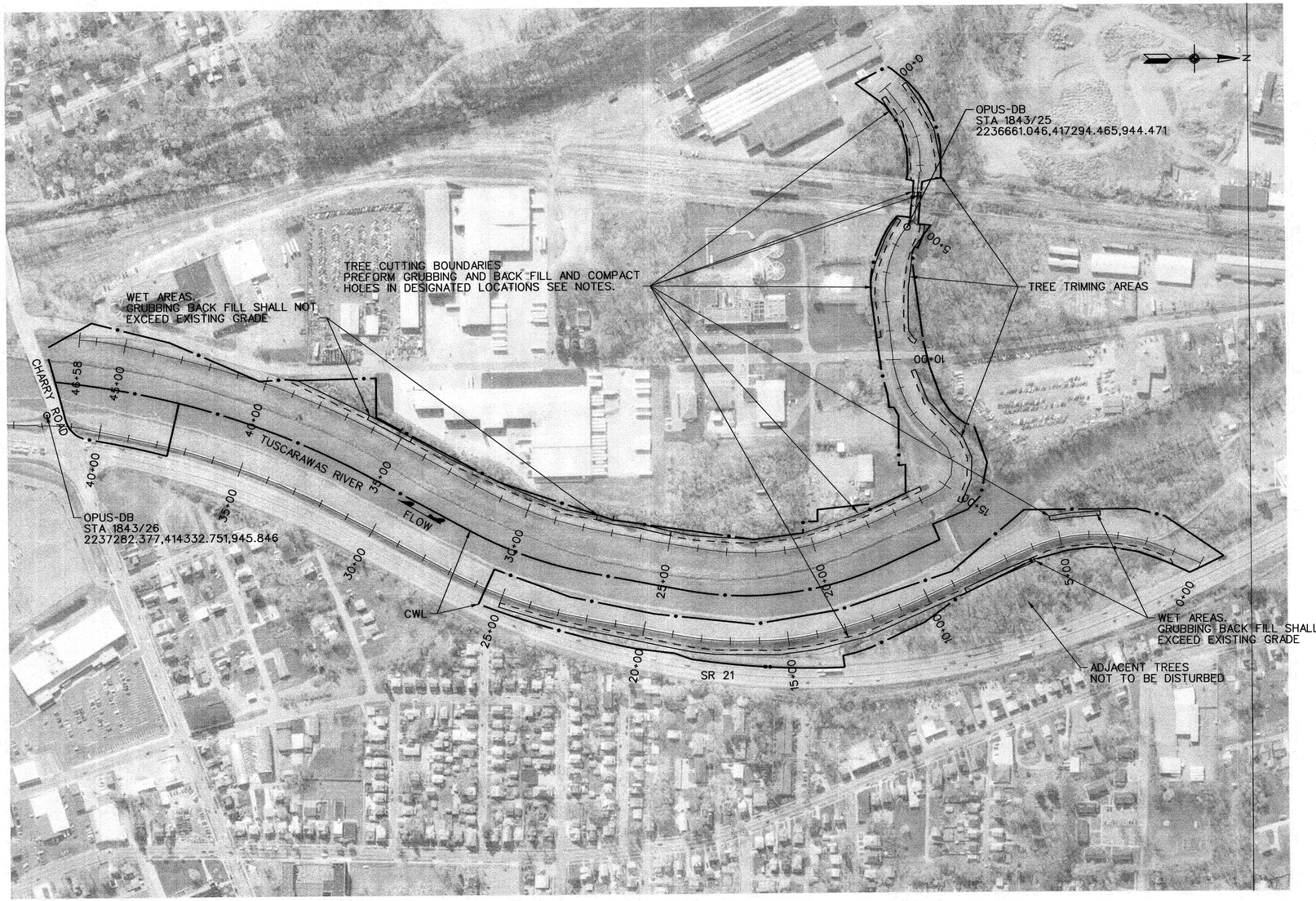
DESIGNED BY: BWB		DATE:	
DWN BY: KAL	CKD BY: MGS	SOLICITATION NO.:	
SUBMITTED BY:		CONTRACT NO.:	
PLOT SCALE: 200.0004:1	PLOT DATE: 6/14/2011	FILE NUMBER:	
SIZE:	FILE NAME: CS402A04-Planning.DGN		

TUSCARAWAS RIVER
MASSILLON, OH
MASSILLON LPP
MASSILLON LEVEE CERTIFICATION
MASSILLON LEVEE
SITE PLAN
104+00 - 114+00

SHEET IDENTIFICATION
CS103
SHEET 8 OF 27

\\LRH-AFEC-CAE02\APPS\XM_Workspace_05-152008\Workspace\ProjectWise InterPlot Organizer\mrisckdesign scripts\STDV8.pen
C:\Program Files\Common Files\Interplot\PLOTTmisdcddor.ctb

H:\ECDJFT
14-JUN-2011 18:45
IP_PWP-dms29810\CS402A04-Planning.DGN



NOTES

1. SEE SCOPE OF WORK FOR INFORMATION ON TREE CLEARING, GRUBBING AND TRIMING.
2. TREE CUTTING SHALL NOT START UNTIL 15 OCTOBER 2011 AND SHALL BE COMPLETED BY 1 APRIL 2012.

MASSILLON LEVEE – TREE CLEARING BOUNDARIES

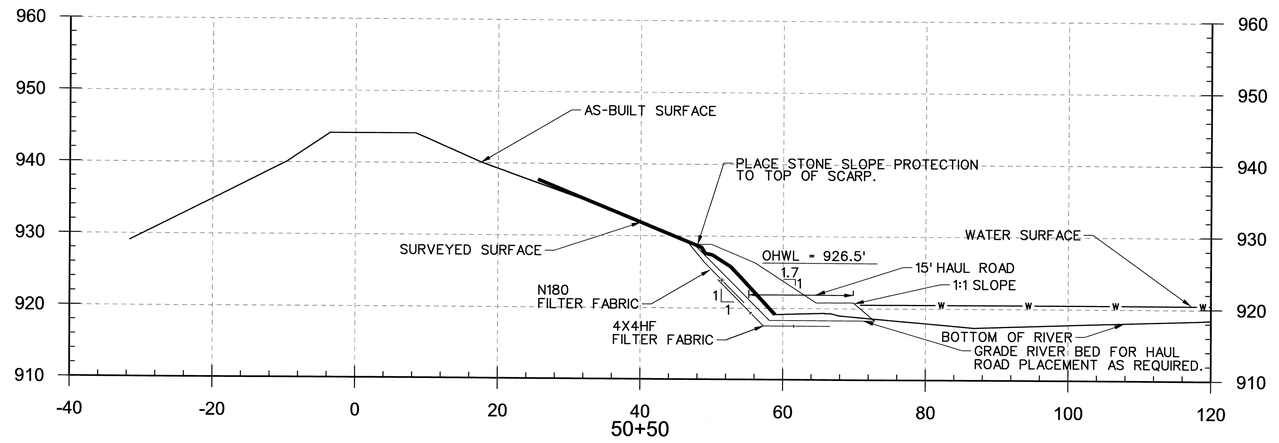
SCALE: 1"=200'

0 200' 400'

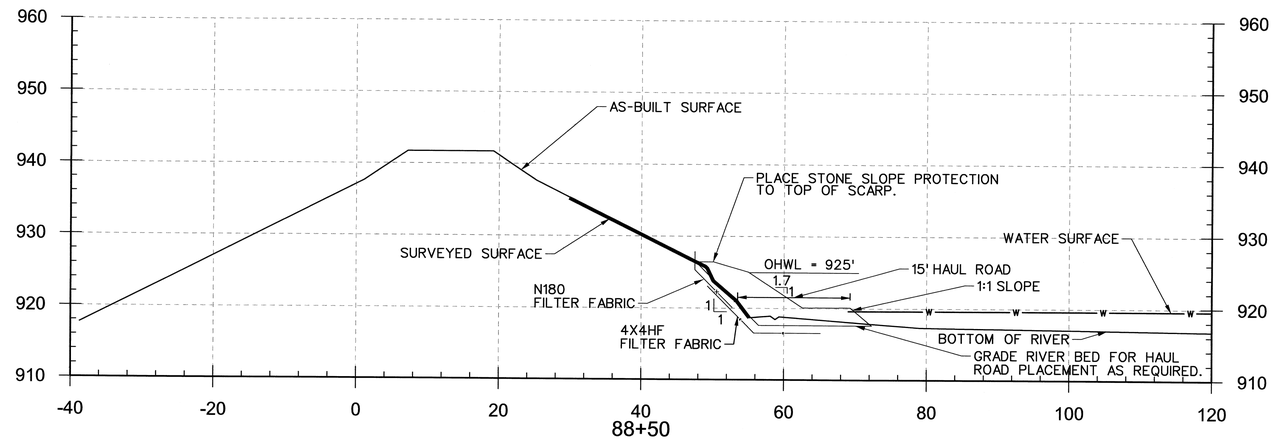
US Army Corps of Engineers®
Huntington District

MARK	DESCRIPTION	DATE	APPR

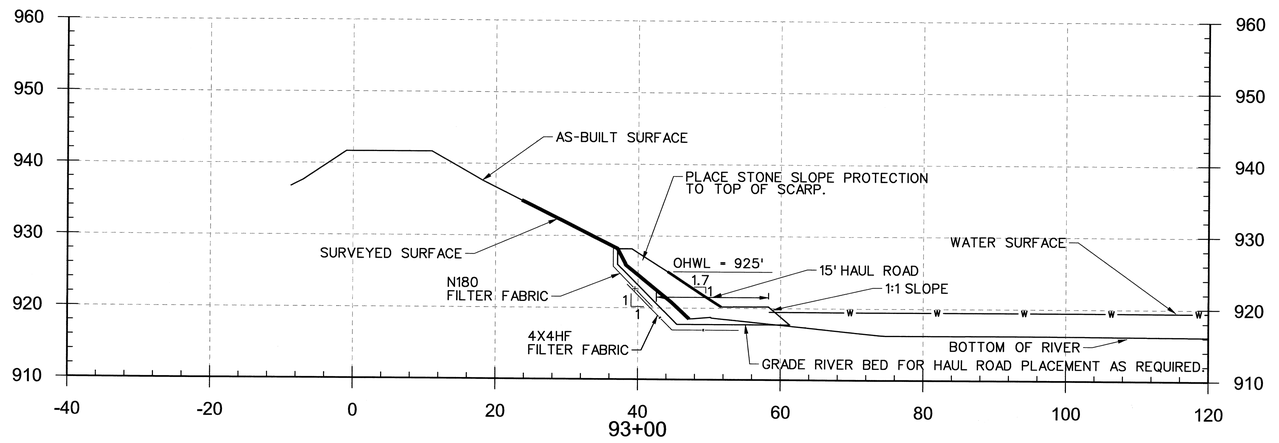
AREA 5



AREA 7



AREA 8



NOTE:
1. LAP 4X4HF FILTER FABRIC UNDER N180 FILTER FABRIC BY 3 FOOT MINIMUM.

MASSILLON LEVEE TYPICAL TREATMENT SECTIONS
AREAS 5, 7, AND 8

SCALE: 1"=10'

0 10' 20'

US Army Corps of Engineers®
Huntington District

MARK	DESCRIPTION	DATE	APPR
APPR.	DESCRIPTION	DATE	APPR.

DESIGNED BY: BWB
DRAWN BY: NAL
SUBMITTED BY:
DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:
PLOT SCALE: 20.000041
PLOT DATE: 6/14/2011
FILE NAME: TYPICAL SECT. - Critical Areas X-Sections.DGN
SIZE:

U.S. ARMY CORPS OF ENGINEERS
HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

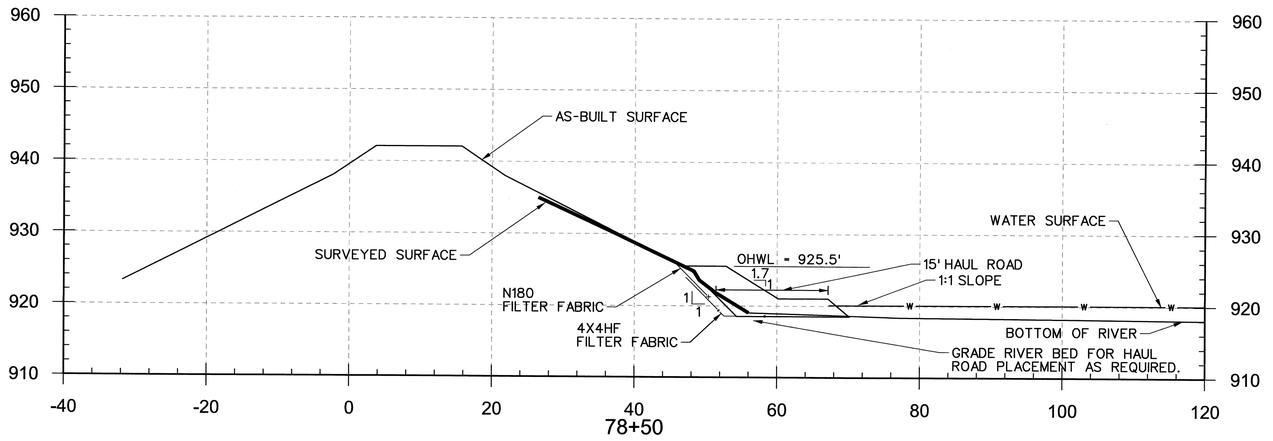
TUSCAWARAS RIVER
MASSILLON, OH
MASSILLON LPP
MASSILLON LEVEE CERTIFICATION
TYPICAL CROSS SECTIONS
MOST CRITICAL AREAS
5, 7, AND 8

SHEET IDENTIFICATION
CS501
SHEET 10 OF 27

14-JUN-2011 13:46
H:\ECX.IFT
IP_PWF:dms288101(TYPICAL SECT. - Critical Areas X-Sections.DGN

!ILRH-AP-EC-DAE02\APPSXM_Workspace_DS152008\Workspace\ProjectWise InterPlot Organizer\mlsc\design scripts\STDV8.pen
C:\Program Files\Common Files\InterPlot\PLOT\mlsc\color.cdb

AREA 6



NOTE:

1. AREA 6 IS IN OPTION 1 CONTRACT.

MASSILLON LEVEE TYPICAL TREATMENT SECTIONS
AREA 6

SCALE: 1"=10'

0 10' 20'

US Army Corps of Engineers®
Huntington District

MARK	DESCRIPTION	DATE	APPR

MARK	DESCRIPTION	DATE	APPR

MARK	DESCRIPTION	DATE	APPR

U.S. ARMY CORPS OF ENGINEERS
HUMPHREYS ENGINEERING CENTER WEST
DAVIS, CALIFORNIA

DESIGNED BY: BWB
DRAWN BY: NAL
SUBMITTED BY:
PLOT SCALE: 20.00004:1
PLOT DATE: 6/14/2011
FILE NAME: TYPICAL SECT. - Med. Critical Areas X-Sections.DGN
SIZE:
DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:
CHD BY: MGS

TUSCAWARAS RIVER
MASSILLON, OH
MASSILLON LPP
MASSILLON LEVEE CERTIFICATION
TYPICAL CROSS SECTIONS
MEDIUM CRITICALITY AREAS
1, 4, AND 6

SHEET IDENTIFICATION
CS502
SHEET 11 OF 27

\\LRH-AP-EC-CAE02\APPS\XM_Workspace_05152008\Workspace\ProjectWise Interim\Pdt Organizer\mlsdesign scripts\STDVB.pen
C:\Program Files\Common Files\Bentley\Delivery\Resources\PlotIPLOT\mlsfcolor.ctb

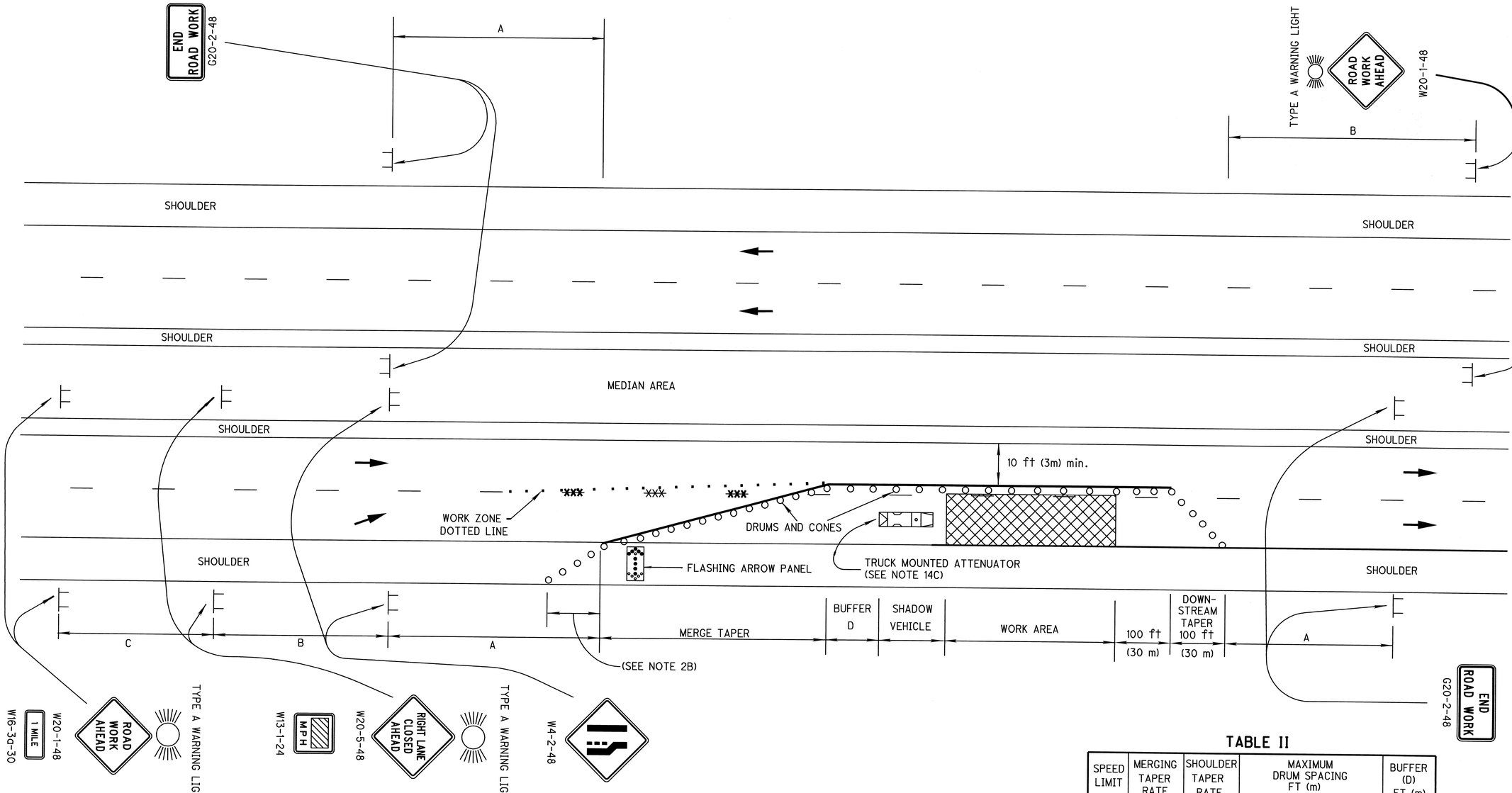
H:\ECL\PT_IP_PWP.dms\2861\07\TYPICAL SECT. - Med. Critical Areas X-Sections.DGN
14-JUN-2011 13:46

CLOSING RIGHT OR LEFT LANE OF A MULTI-LANE DIVIDED HIGHWAY WITH DRUMS

07-17-09

OFFICE OF TRAFFIC ENGINEERING

MT-95.30



LEGEND

DRUMS	○ ○ ○ ○ ○ ○
REMOVE EXISTING MARKINGS	~~XXXXXXX~~
DIRECTION OF TRAVEL	→

TABLE I (SIGN SPACING)

ROAD TYPE	DISTANCE BETWEEN SIGNS FT(m)		
	A	B	C
MAJOR CONVENTIONAL	500 (150)	500 (150)	500 (150)
FREEWAY & EXPRESSWAY	1000 (300)	1500 (450)	2640 (800)

TABLE II

SPEED LIMIT (MPH)	MERGING TAPER RATE MINIMUM	SHOULDER TAPER RATE MINIMUM	MAXIMUM DRUM SPACING FT (m)		BUFFER (D) FT (m) MINIMUM
			Taper sec.	Tangent sec.	
25	11:1	4:1	25 (7.5)	40 (12)	155 (45)
30	15:1	5:1	30 (9)	40 (12)	200 (60)
35	21:1	7:1	35 (10.5)	40 (12)	250 (75)
40	27:1	9:1	40 (12)	80 (24)	305 (95)
45	45:1	15:1	45 (13.5)	80 (24)	360 (110)
50	50:1	17:1	50 (15)	80 (24)	425 (130)
55	55:1	18:1	55 (16.5)	80 (24)	495 (150)
60	60:1	20:1	60 (18)	120 (36)	570 (175)
65	65:1	22:1	65 (19.5)	120 (36)	645 (200)

FOR INFORMATION ONLY

SHB/LAM

GENERAL NOTES:

DESIGN SPEED

1. The design speed used for taper rates should typically be the permanent legal speed. However, on construction projects for which the speed limit is reduced, the reduced speed may be used in determining the taper rate when the taper is not the first active construction area within the project.

TAPERS

2A. The minimum acceptable length for the merge taper shall be determined by multiplying the width of offset by the merge taper rate. The merge taper rate is provided in Table II.

2B. The minimum acceptable length for the shoulder taper shall be determined by multiplying the width of the shoulder by the shoulder taper rate. The shoulder taper rate is provided in Table II.

SIGN SPACING

3A. The work zone sign spacings shown in Table I are minimums. Maximum spacing should not be greater than 1.5 times the distances shown in Table I.

3B. Sign spacing should be adjusted to avoid conflict with existing signs. Minimum spacing to existing signs shall be 200 feet (60 meters) for speeds of 45 mph or less and a minimum of 400 feet (120 meters) for speeds 50 mph or greater.

ADJUSTMENTS FOR SIGHT DISTANCE

4. The location of the merging taper and the advance warning signs should be adjusted to provide for adequate sight distance for the existing vertical and horizontal roadway alignment.

BASIC SIGNING

5A. ROAD WORK AHEAD (W20-1) signs shall be provided on entrance ramps or roadways entering the work limits.

5B. END ROAD WORK (G20-2) signs are only required for lane closures of more than 1 day. It is intended that these signs be placed on the mainline, on all exit ramps, and on roadways exiting the work limits.

5C. Overlapping of signing for adjacent projects should be avoided where the messages could be confusing. Any W20-1 or G20-2 sign which falls within the limits of another traffic control zone shall be omitted or covered during the period when both projects are active.

SIGNING DETAILS

6A. The Advisory Speed plaque W13-1 shall be used when specified in the plan.

6B. When the approach speed limit is 40 mph or less 36-inch (900-millimeter) warning signs may be used.

6C. The Distance plaque W16-3a (or W16-2a if the distance shown is in feet) shall indicate the distance to the beginning of the merging taper. Distances less than 1 mile may be expressed in feet. The plaque may be omitted if Extra Advance Sign Groups are not used.

6D. Provide signing on the inactive side of the highway, as shown, when specified in the plans.

6E. Provide the appropriate word or symbol legend necessary on lane reduction signs (W4-2, W20-5) to correctly identify which lane is to be closed.

EXTRA ADVANCE WARNING SIGNING

7. Extra Advance Warning Sign Groups consisting of ROAD WORK AHEAD (W20-1), LANE CLOSED AHEAD (W20-5) and WATCH FOR STOPPED TRAFFIC (W3-H7) signs plus Distance plaques may be specified in the plans or may be required to be erected, as determined by the the Engineer (see Standard Construction Drawing MT-95.50).

PAVEMENT MARKING/RPMs

8A. If the construction operation requires a lane closure for more than 1 day, then the existing conflicting reflectors shall be removed from the raised pavement markers (RPMs).

8B. Additionally, if a lane closure of greater than 3 days is required, then the following shall be performed:

a) The appropriate color work zone edge lines shall be applied along the taper.
b) The existing conflicting pavement markings shall be removed or covered per CMS 614.11G.
c) Work Zone Dotted Lines, 3 feet (0.9 meters) in length separated by 9 foot (2.7 meter) gaps, shall be provided to identify the merge.

8C. Work zone edge lines shall be provided along the tangent section when specified in the plans.

8D. Work zone pavement markings which would conflict with the final traffic lanes shall be removable tape (CMS 740.06 Type I) unless the area will be resurfaced prior to project completion.

8E. After completion of the work, pavement markings other than CMS 740.06, Type I shall be removed in accordance with CMS 614.11I. The original markings and raised pavement marker reflectors shall be restored at no additional cost unless separately itemized in the plans.

EQUIPMENT/MATERIALS STORAGE

9A. No equipment or material shall be located within the taper or buffer zone.

9B. When no work is being performed, all material and equipment shall be stored per CMS 614.03.

FLASHING ARROW PANEL

10. The flashing arrow panel shall be chosen from the ODOT approved list available on the ODOT web site.
Click on the Alphabetical List of choices and select TestLab/Materials Management. Then click on Approved List. Then click on Flashing Arrow Panel located near the bottom of the screen.

FLASHING WARNING LIGHTS

11. Type A flashing warning lights shown on the ROAD WORK AHEAD (W20-1) signs and on the LANE CLOSED AHEAD (W20-5) signs are required whenever a night lane closure is necessary.

INTERSECTION/DRIVEWAY ACCESS

12. Within the length of the closure, provision shall be made to control traffic entering from intersecting streets and major drives as necessary to prevent wrong-way movements and to keep vehicles off of new pavement not ready for traffic. The contractor shall:

a) Place across the closed lane, either 3 drums (cones) or barricades; and/or

b) Provide an additional flagger at every public street intersection and major driveway.

Drums (cones) placed across the closed lane shall be located 25 feet (7.5 meters) beyond the projected pavement edges of the driveway or cross highway, as shown in Standard Construction Drawing MT-97.11. For barricades, see Standard Construction Drawing MT-101.60.

Existing STOP signs shall be relocated as necessary to assure proper location for the traffic conditions.

The method of control shall be subject to the approval of the Engineer.

DRUMS/CONES

13A. The maximum drum spacing along tapers and along tangent sections shall be as shown in Table II. A minimum of 5 drums shall be used to close the upstream shoulder.

13B. Cones may be substituted for drums as follows:

a) Use of cones is permissible for either daytime operation or for nighttime operation, but shall not be used continuously, day and night. Upon completion of work within the work period, the cones shall be removed. They may again be placed on the highway in order to resume work in the following such work period.
b) Cones used for daytime traffic control shall have a minimum height of 28 inches (0.7 meters).
c) Cones used for nighttime traffic control shall have a minimum height of 42 inches (1.1 meters).
d) Use of cones at night shall be prohibited along tapers.
e) Cone spacing at night shall be at a maximum of 40 feet (12 meters).
f) Where cones are substituted for drums along tangents, intermixing of channelizing devices within the same run will not be permitted. Either cones shall be used for the entire length of the tangent section, or drums shall be used for the entire length.

13C. Provisions shall be made to stabilize the cones and drums to prevent them from blowing over.

SHADOW VEHICLE

14A. The shadow vehicle shall be in place and unoccupied whenever workers are in the work area. This vehicle shall be removed from the pavement whenever workers are not in the work area.

14B. The shadow vehicle shall be equipped with a high-intensity yellow rotating, flashing, oscillating, or strobe light(s).

14C. The vehicle shall be equipped with a truck-mounted attenuator (TMA) when specified in the plans.

07-17-09

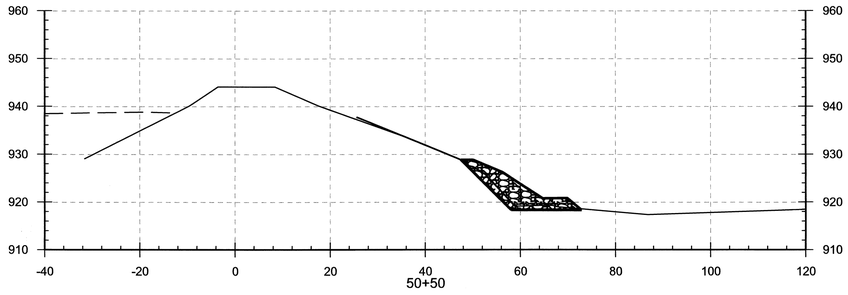
CLOSING RIGHT OR LEFT LANE OF A MULTI-LANE DIVIDED HIGHWAY WITH DRUMS

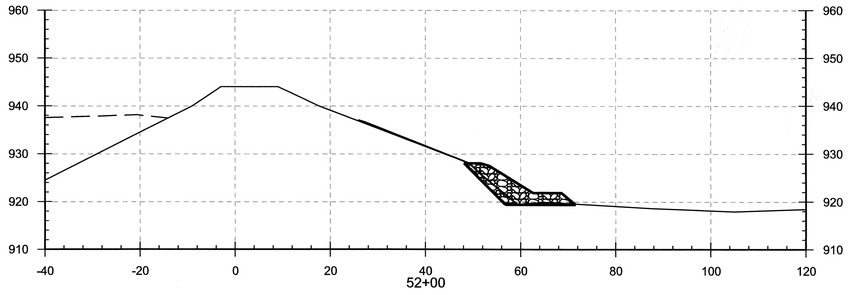
OFFICE OF TRAFFIC ENGINEERING

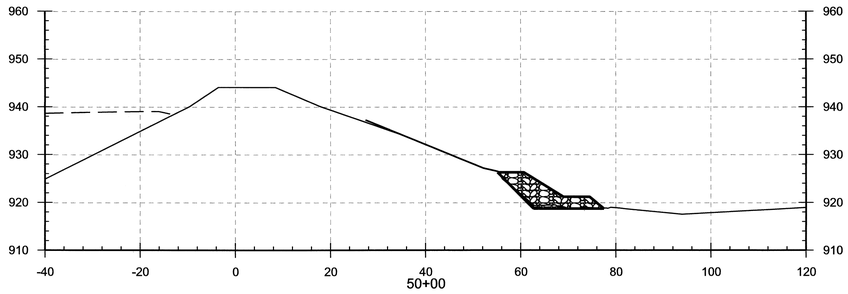
MT-95.30

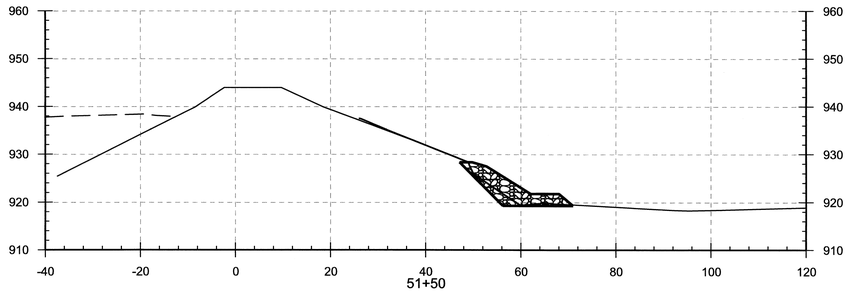
FOR INFORMATION ONLY

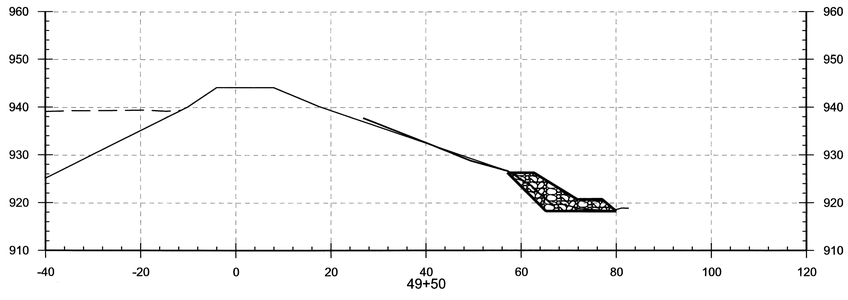
SHB/LAM

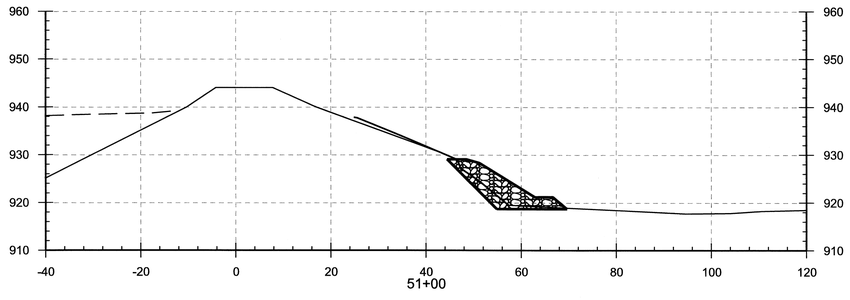












MASSILLON LEVEE – AREA 5 CROSS SECTIONS – STA. 49+20 TO 52+00

NOTES:
1. FOR PLAN VIEW, SEE SHEETS CS401 AND CS101.
2. FOR TYPICAL DETAILS, SEE SHEET CS501.

US Army Corps of Engineers®
Huntington District

MARK	DESCRIPTION	DATE	APPR

MARK	DESCRIPTION	DATE	APPR

U.S. ARMY CORPS OF ENGINEERS
HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

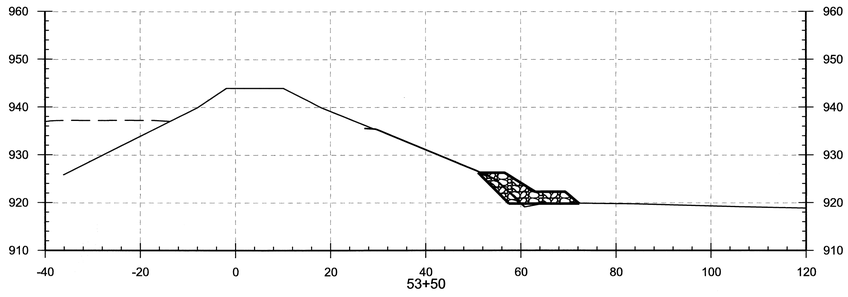
DESIGNED BY: BWB
DWN BY: NAL
CKD BY: MGS
SUBMITTED BY:
SIZE:
FILE NAME: CS305A01.DGN
DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:
PLOT SCALE: 1.000000 '= 1 INCH
PLOT DATE: 14-JUN-2011

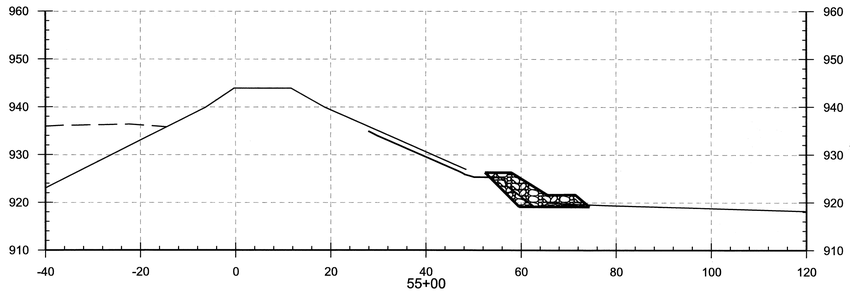
TUSCAWARAS RIVER
MASSILLON, OH
MASSILLON LPP
MASSILLON LEVEE CERTIFICATION

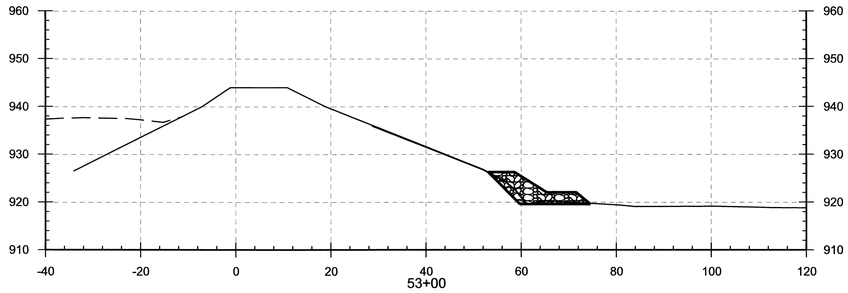
MASSILLON LEVEE
AREA 5 CROSS SECTIONS
49+50 - 52+00

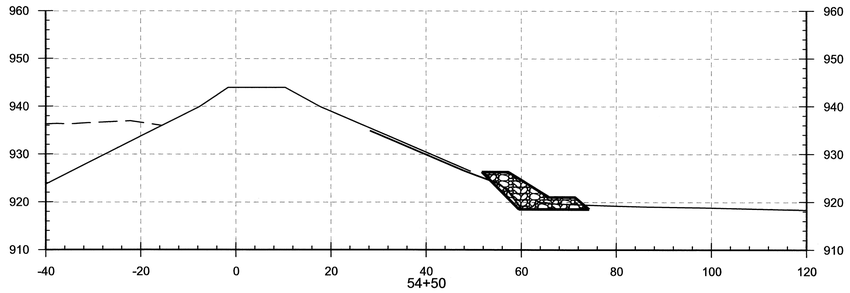
SHEET IDENTIFICATION
CS301
SHEET 14 OF 27

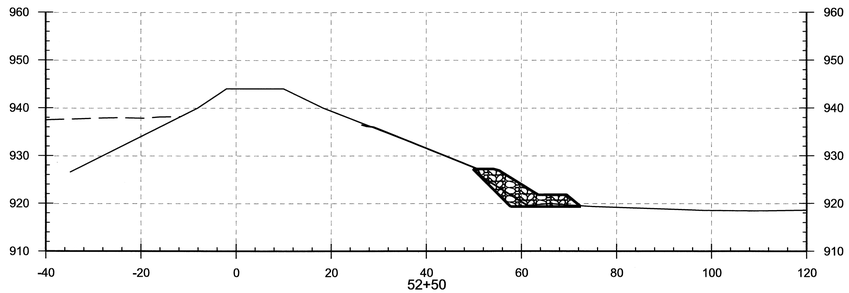
\\LRH-AP-EC-CAE02\APPSWM_Workspace_05152008\Workspace\ProjectWise InterPlot Organizer\mlacdesign scripts\STDV8.pen
C:\Program Files\Common Files\Bentley\PLOTS\mlacfcolor.ctb
H1ECXJFT
IP_PWP.dms2881\0\CS305A01.DGN
14-JUN-2011 18:46

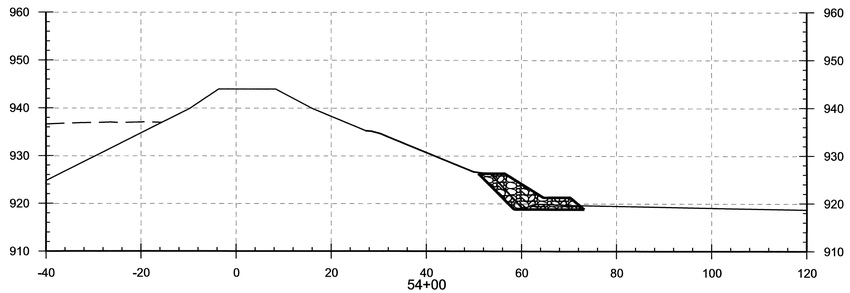












MASSILLON LEVEE – AREA 5 CROSS SECTIONS – STA. 52+50 TO 55+00

NOTES:
1. FOR PLAN VIEW, SEE SHEETS CS401 AND CS101.
2. FOR TYPICAL DETAILS, SEE SHEET CS501.

US Army Corps of Engineers®
Huntington District

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:
DESIGNED BY: BWB
DRN BY: NAL
CKD BY: MGS
SUBMITTED BY:
PLOT SCALE: 1.0000 '= 1 INCH
PLOT DATE: 14-JUN-2011
FILE NAME: CS305A02.DGN
SIZE:

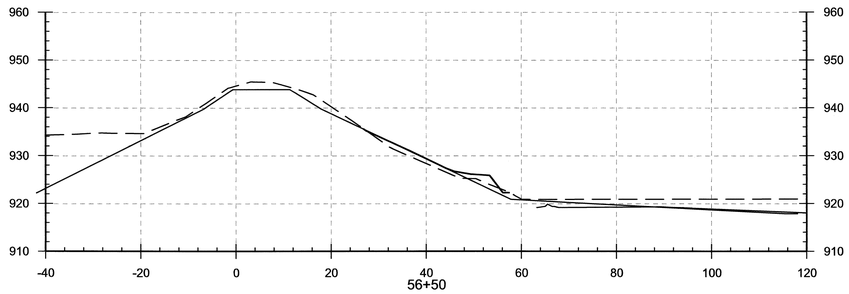
U.S. ARMY CORPS OF ENGINEERS
HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

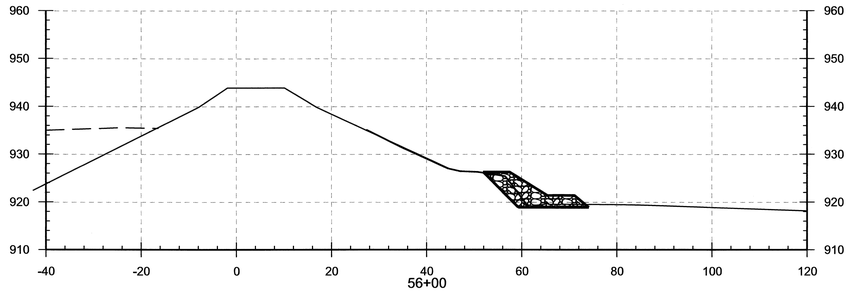
TUSCAWARAS RIVER
MASSILLON, OH
MASSILLON LPP
MASSILLON LEVEE CERTIFICATION
MASSILLON LEVEE
AREA 5 CROSS SECTIONS
52+50 - 55+00

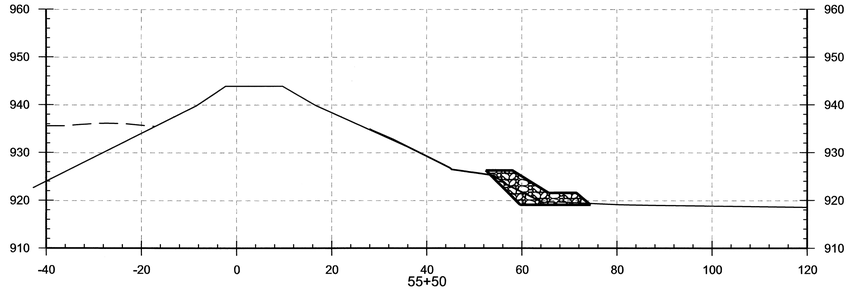
SHEET IDENTIFICATION
CS302
SHEET 15 OF 27

\\LRH-AP-EC-CAE02\APPS\XM_Workspace_05152008\Workspace\ProjectWise InterPlot Organizer\mtsc\design scrip\STDV8.pen
C:\Program Files\Common Files\Interplot\IPLOT\mtsc5color.ctb

H1EOXJFT
14-JUN-2011 18:46
IP_PWP-dms2810\CS305A02.DGN







NOTES:
1. FOR PLAN VIEW, SEE SHEETS CS401 AND CS101.
2. FOR TYPICAL DETAILS, SEE SHEET CS501.

MASSILLON LEVEE – AREA 5 CROSS SECTIONS – STA. 55+50 – 56+40

US Army Corps of Engineers®
Huntington District

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

DESIGNED BY: RWB | DATE:
DWN BY: NAL | CKD BY: MGS | SOLICITATION NO.:
SUBMITTED BY: | CONTRACT NO.:
PLOT SCALE: 50.000000 | PLOT DATE: 07-JUN-2011 | FILE NUMBER:
SIZE: | FILE NAME: CS305A03.DGN

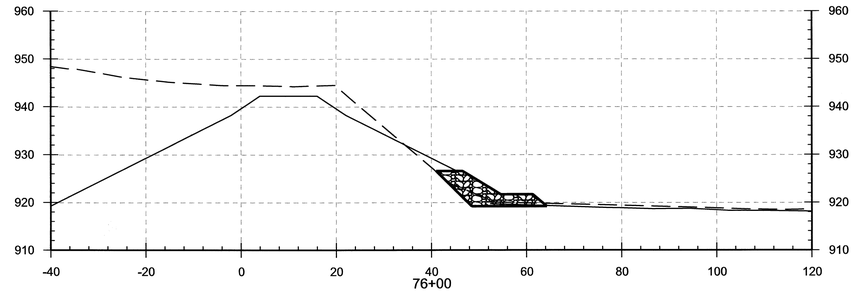
TUSCAWARAS RIVER
MASSILLON, OH
MASSILLON LPP
MASSILLON LEVEE CERTIFICATION

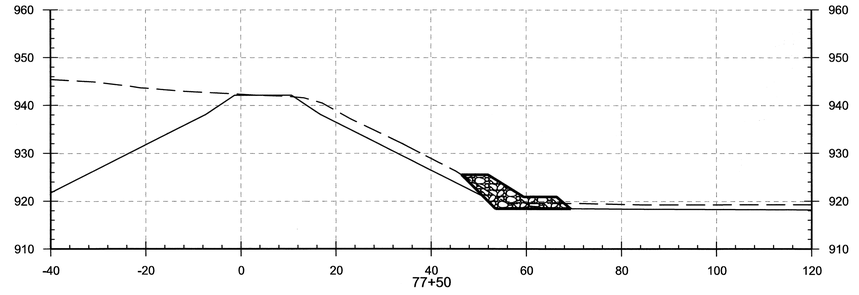
MASSILLON LEVEE
AREA 5 CROSS SECTIONS
55+50 - 56+50

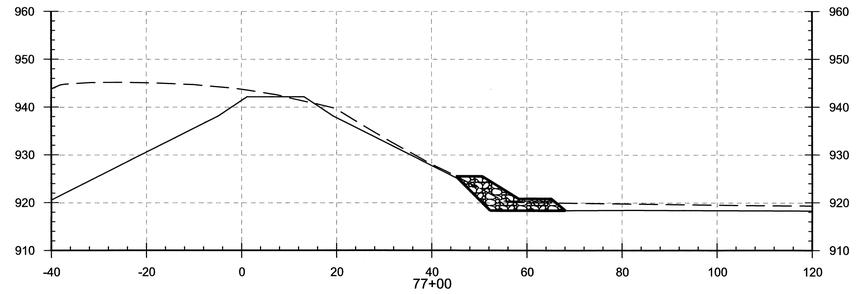
SHEET IDENTIFICATION
CS303
SHEET 16 OF 27

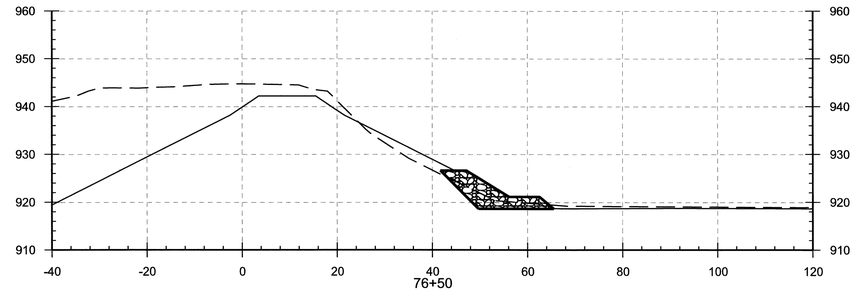
H1ECXJFT
IP_PWP-dms2981\0\CS305A03.DGN
14-JUN-2011 18:46

\\LRH-AP-EC-CAE02\APPS\XM_Workspace_05152008\Workspace\ProjectWise InterRot Organizer\msc\design script\STDV8.pen
C:\Program Files\Common Files\InterRot\PLOT\msc\color.ctb









MASSILLON LEVEE – AREA 6 CROSS SECTIONS – STA. 76+00 TO 77+50

NOTES:
1. FOR PLAN VIEW, SEE SHEETS CS401 AND CS102.
2. FOR TYPICAL DETAILS, SEE SHEET CS502.

US Army Corps of Engineers®
Huntington District

MARK	DESCRIPTION	DATE	APPR.
MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

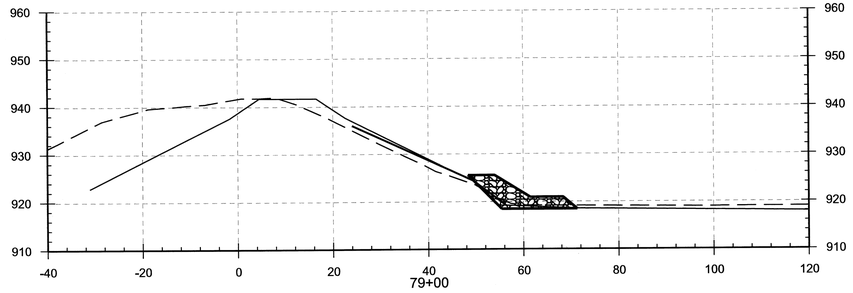
DESIGNED BY: BWB
DRN BY: NAL
CKD BY: MSS
SUBMITTED BY:
DATE:
SOLICITATION NO.:
CONTRACT NO.:
PLOT SCALE: 50.000001 '=1"
PLOT DATE: 14-Jun-2011
FILE NUMBER:
SIZE:
FILE NAME: CS306A01.DGN

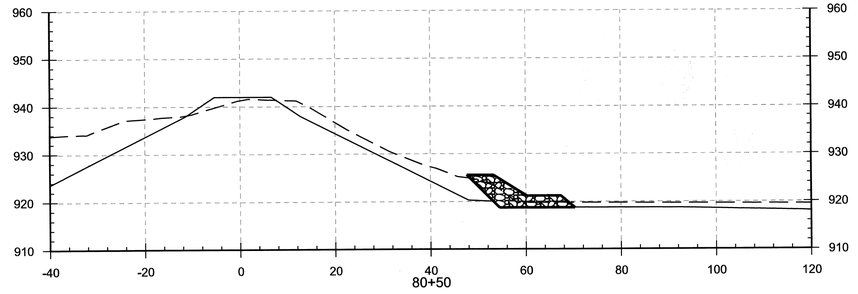
TUSCAWARAS RIVER
MASSILLON, OH
MASSILLON LPP
MASSILLON LEVEE CERTIFICATION

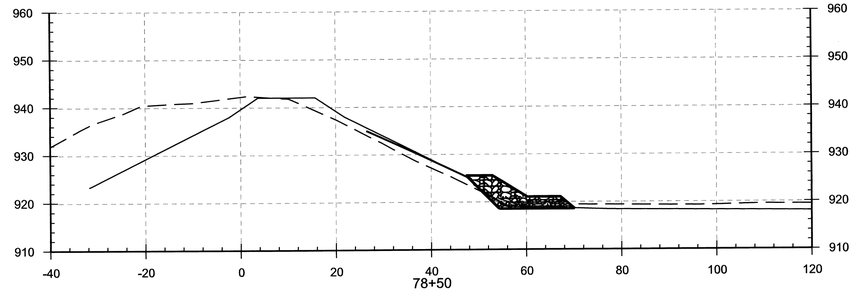
MASSILLON LEVEE
AREA 6 CROSS SECTIONS
76+00 - 77+50

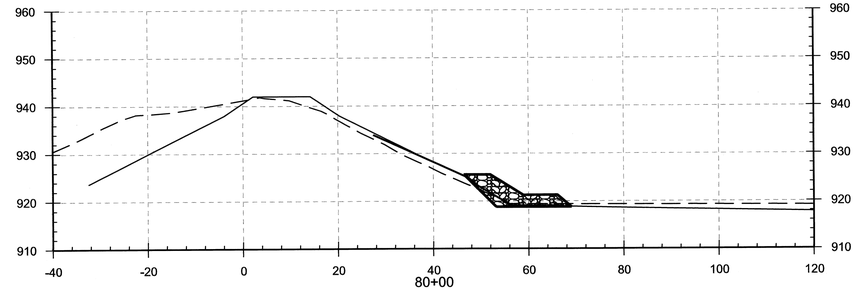
SHEET IDENTIFICATION
CS304
SHEET 17 OF 27

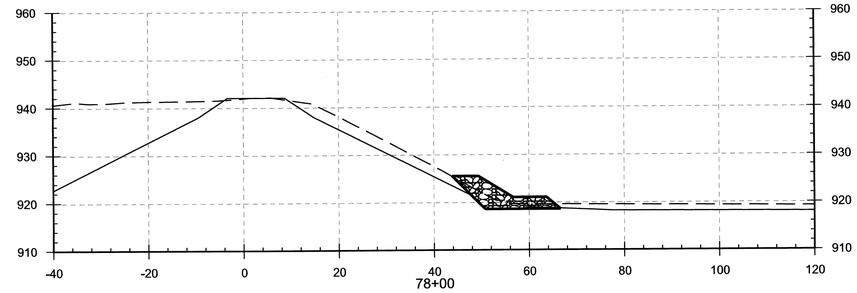
\\LRH-AP-EC-CAE02\APPS\XM_Workspace_05152008\Workspace\ProjectWise InterPlot Organizer\mlac0design s:\rpt\STDV8.pen
C:\Program Files\Common Files\InterPlot\IPLOT\mlac1color.ctb
H1ECXJFT
14-JUN-2011 18:46
IP_PWP-dms29810\CS306A01.DGN

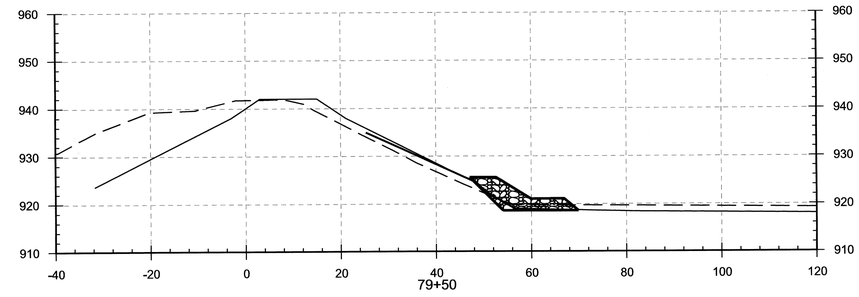












NOTES:
1. FOR PLAN VIEW, SEE SHEETS CS401 AND CS102.
2. FOR TYPICAL DETAILS, SEE SHEET CS502.

MASSILLON LEVEE – AREA 6 CROSS SECTIONS – STA. 78+00 TO 80+80

US Army Corps of Engineers®
Huntington District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: BWB
DWN BY: MJL
CKD BY: MGS
SUBMITTED BY:
DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:
PLOT SCALE: 30.000061
PLOT DATE: 6/14/2011
SIZE:
FILE NAME: CS305A02.DGN

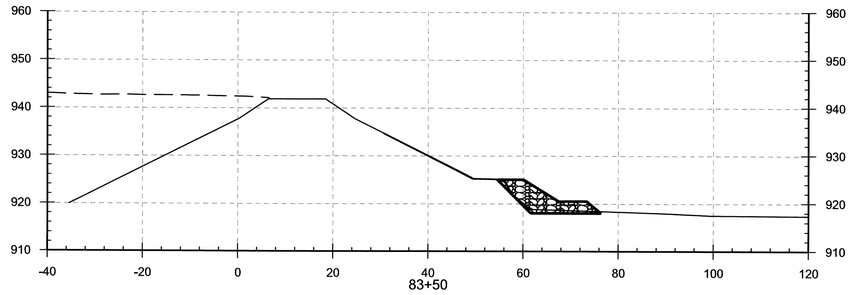
U.S. ARMY CORPS OF ENGINEERS
HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

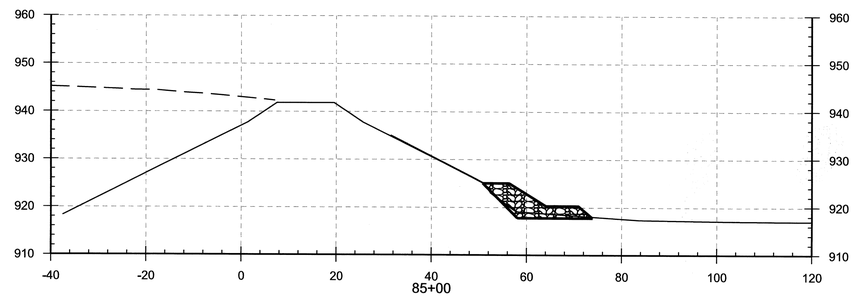
TUSCAWARAS RIVER
MASSILLON, OH
MASSILLON LPP
MASSILLON LEVEE CERTIFICATION
MASSILLON LEVEE
AREA 6 CROSS SECTIONS
78+00 - 80+50

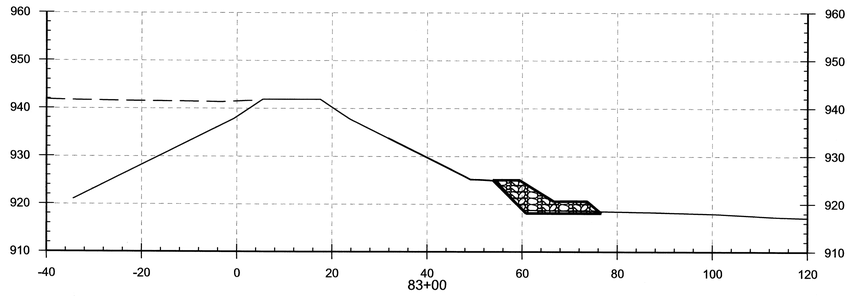
SHEET IDENTIFICATION
CS305
SHEET 18 OF 27

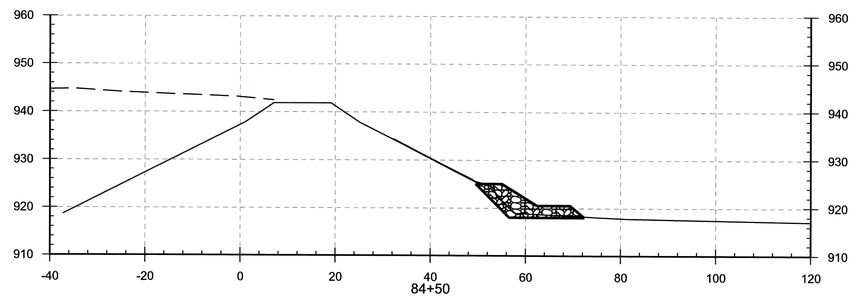
I:\LRH-AP-EC-CAE\2\APPS\XML Workspace_05152008\Workspace\ProjectWise InterPlot Organizer\mlw\design scripts\STD\V8.pen
C:\Program Files\Common Files\InterPlot\IPLOT\mlw\color.ctb

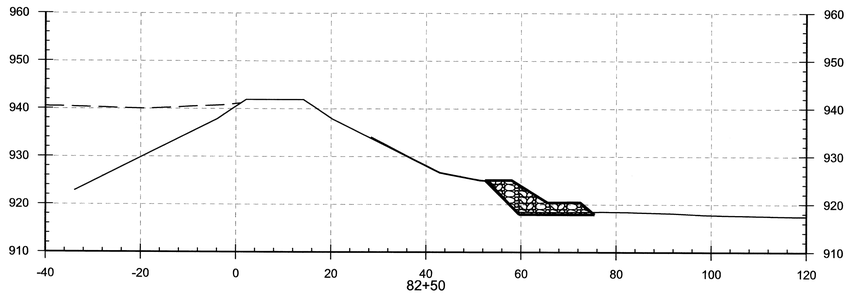
H1EDXJFT
IP_PWF-dms290161\CS305A02.DGN
14-JUN-2011 18:54

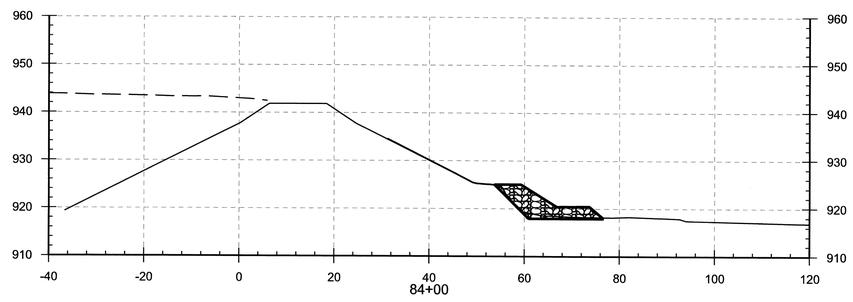












MASSILLON LEVEE – AREA 7 CROSS SECTIONS – STA. 82+20 TO 85+00

NOTES:
1. FOR PLAN VIEW, SEE SHEETS CS401 AND CS102.
2. FOR TYPICAL DETAILS, SEE SHEET CS501.

US Army Corps of Engineers®
Huntington District

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

DESIGNED BY: BWB | DRAWN BY: NAL | CHKD BY: MSS | SUBMITTED BY:
DATE: | SOLICITATION NO.: | CONTRACT NO.: | FILE NUMBER:
PLOT SCALE: 30.000000 ' / 1 IN | PLOT DATE: 14-JUN-2011 | SIZE: | FILE NAME: CS307A01.DGN

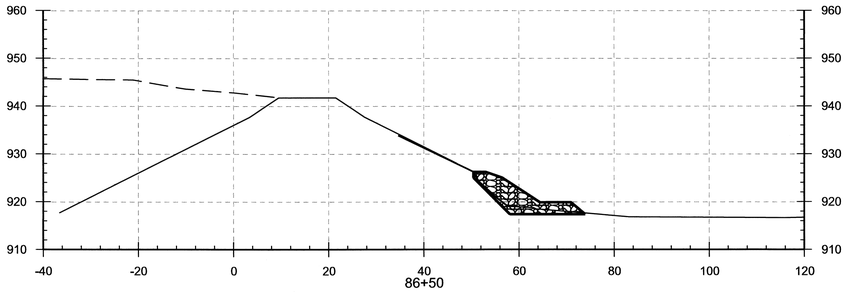
TUSCAWARAS RIVER
MASSILLON, OH
MASSILLON LPP
MASSILLON LEVEE CERTIFICATION

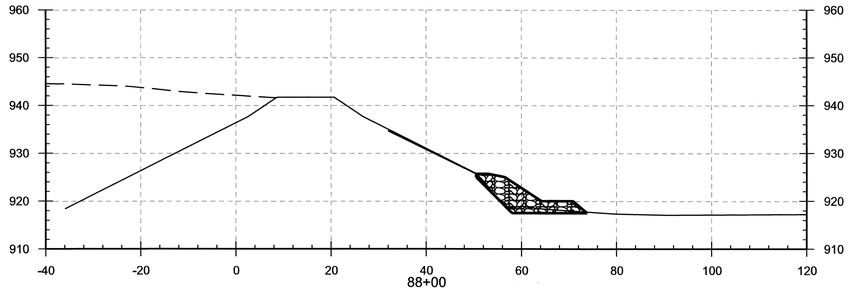
MASSILLON LEVEE
AREA 7 CROSS SECTIONS
82+50 - 85+00

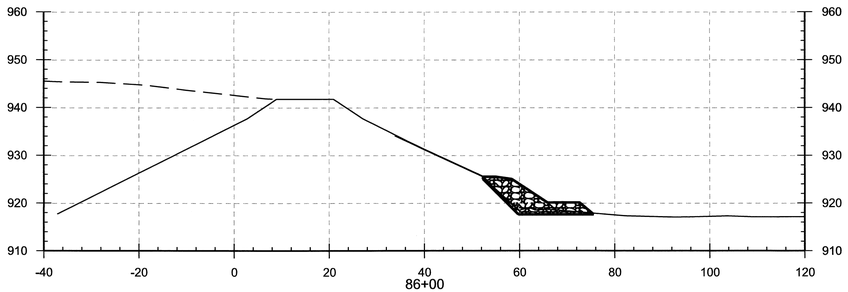
SHEET IDENTIFICATION
CS306
SHEET 19 OF 27

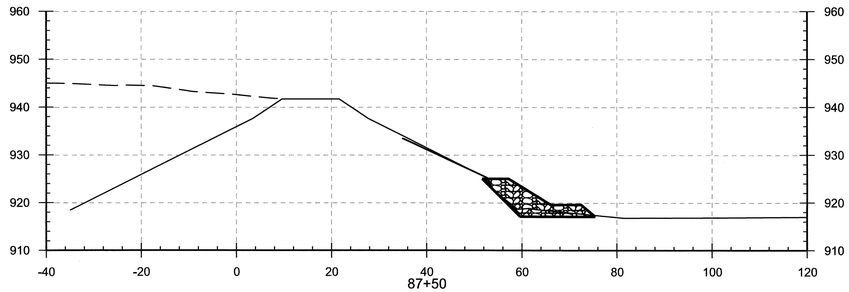
H:\ECX\JFT
lP_PWP.dms\28810\CS307A01.DGN
14-JUN-2011 18:46

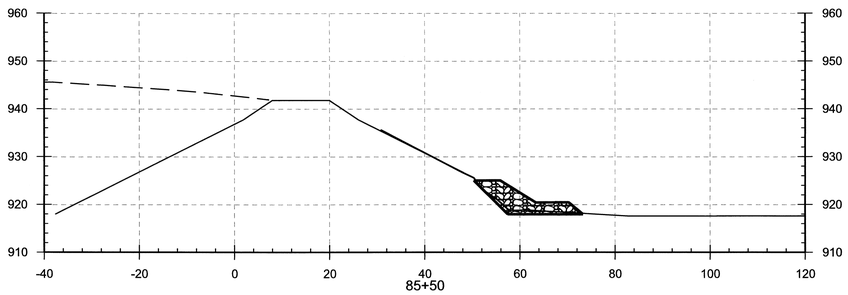
\\LRH-AP-EC-CAE02\APPSWM_Workspace_d315208\Workspace\Project\Visa InterPlot Organizer\mlaidesign scripts\STDV8.pen
C:\Program Files\Common Files\InterPlot\PLOTVmlaiColor.ctb

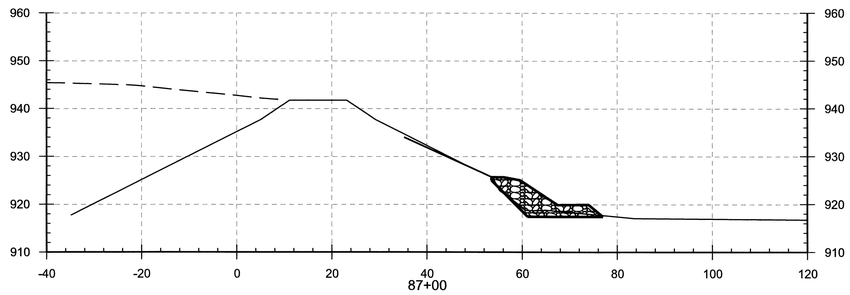












MASSILLON LEVEE – AREA 7 CROSS SECTIONS – STA. 85+50 TO 88+00

NOTES:
1. FOR PLAN VIEW, SEE SHEETS CS401 AND CS102.
2. FOR TYPICAL DETAILS, SEE SHEET CS501.

US Army Corps of Engineers®
Huntington District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

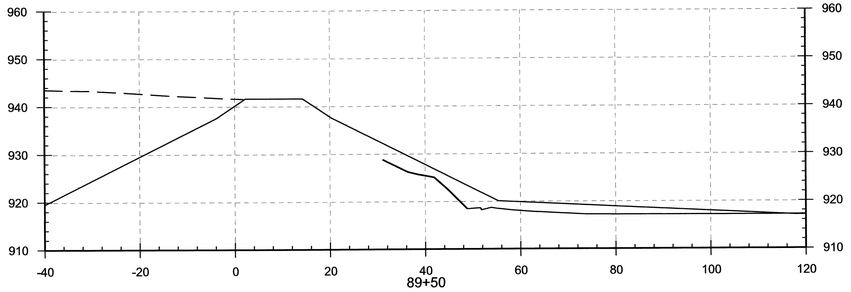
U.S. ARMY CORPS OF ENGINEERS
HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

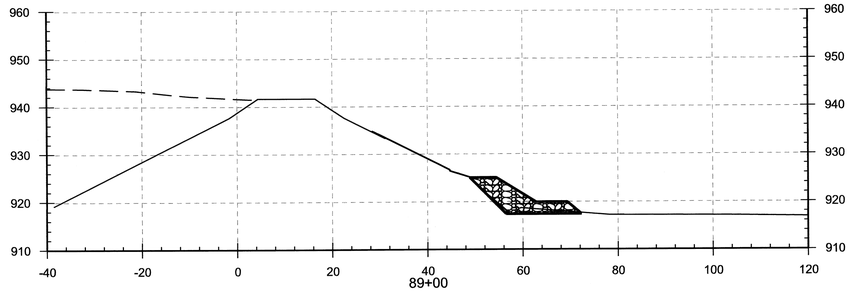
DESIGNED BY: BWB
DWN BY: MA
CKD BY: RSS
SUBMITTED BY:
DATE:
SOLICITATION NO.:
CONTRACT NO.:
PLOT SCALE: 50.00000:1
PLOT DATE: 07/14/2011
FILE NUMBER:
SIZE:
FILE NAME: CS307A02.DGN

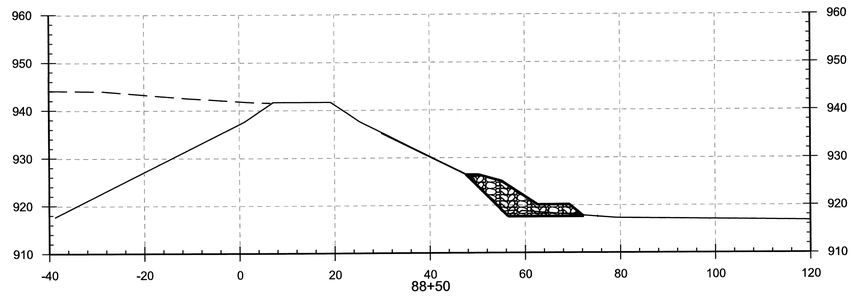
TUSCAWARAS RIVER
MASSILLON, OH
MASSILLON LPP
MASSILLON LEVEE CERTIFICATION
MASSILLON LEVEE
AREA 7 CROSS SECTIONS
85+50 - 88+00

SHEET IDENTIFICATION
CS307
SHEET 20 OF 27

\\LRH-AP-EC-CAE02\APPS\XM_Workspace_05152008\Workspace\ProjectWise InterPlot Organizer\misc\design scripts\STD\V8.pen
C:\Program Files\Common Files\MicroPlot\IPLOT\misc\color.ctb
14-JUN-2011 18:47
H1ECXJFT
IP_PWP.dms\28810\CS307A02.DGN







NOTES:
1. FOR PLAN VIEW, SEE SHEETS CS401 AND CS102.
2. FOR TYPICAL DETAILS, SEE SHEET CS501.

MASSILLON LEVEE – AREA 7 CROSS SECTIONS – STA. 88+50 TO 89+10

US Army Corps of Engineers®
Huntington District

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: BWB
DWN BY: NAL
CKD BY: MSS
SUBMITTED BY:
PLOT SCALE: 30.0000x:1
PLOT DATE: 6/14/2011
FILE NAME: CS307A03.DGN
SIZE:

U.S. ARMY CORPS OF ENGINEERS
HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

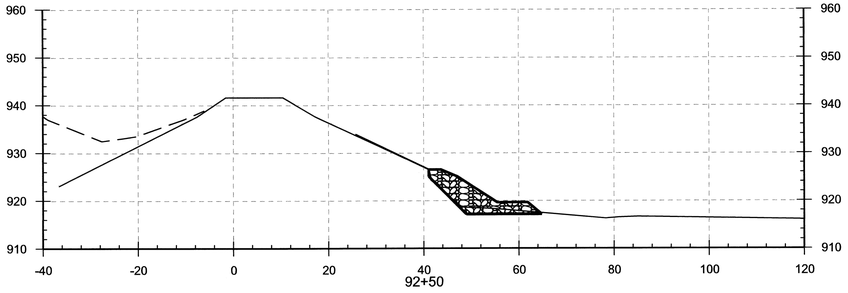
DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:

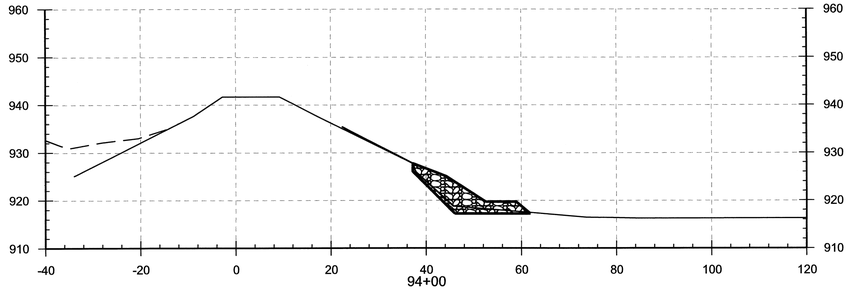
TUSCAWARAS RIVER
MASSILLON, OH
MASSILLON LPP
MASSILLON LEVEE CERTIFICATION
MASSILLON LEVEE
AREA 7 CROSS SECTIONS
88+50 - 89+50

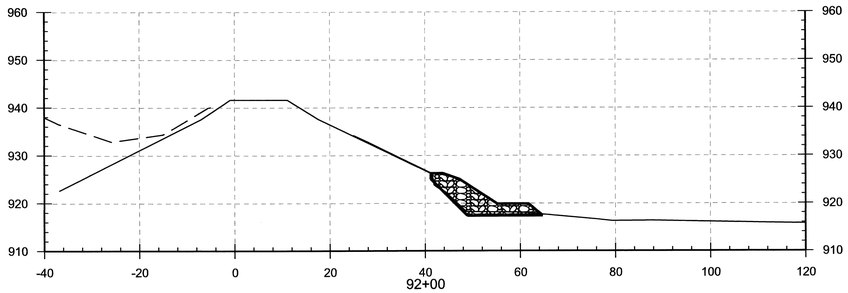
SHEET IDENTIFICATION
CS308
SHEET 21 OF 27

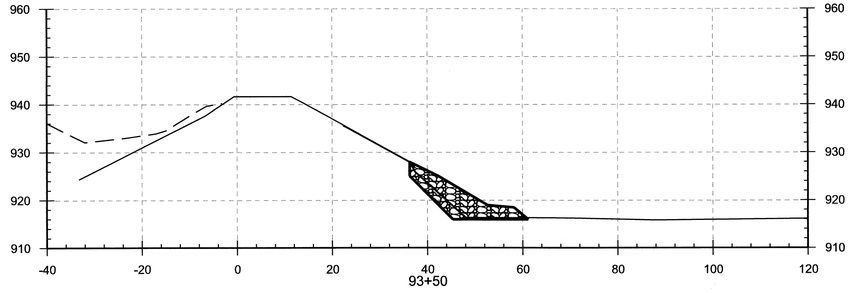
\\LRH-AP-EC-CAE\DATA\PPSWM_Worksapce_05150308\Worksapce\Project\Visio Inter\Pck Organize\mtcl\design scrip\MSTDVR.pan
C:\Program Files\Common Files\Intergraph\DPL\OT\mtcolor.otb

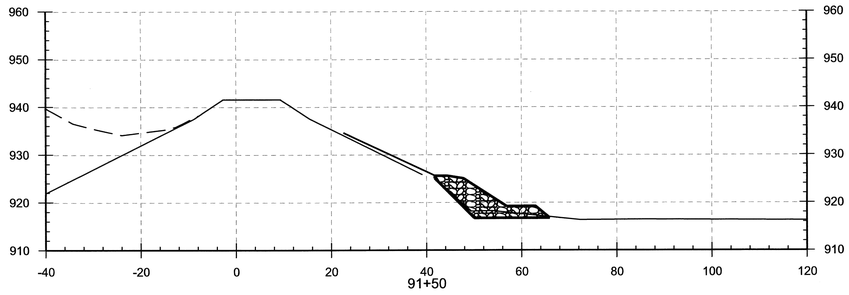
H:\ECX.IFT
IF_PWP.dms\2881\0\CS307A03.DGN
14-JUN-2011 18:47

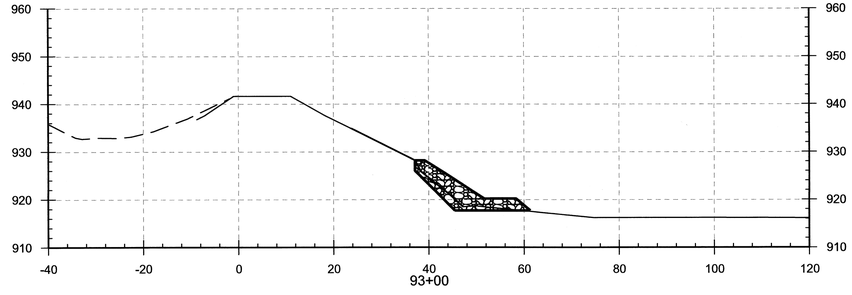












MASSILLON LEVEE – AREA 8 CROSS SECTIONS – STA. 91+40 TO 94+00

NOTES:
1. FOR PLAN VIEW, SEE SHEETS CS401 AND CS102.
2. FOR TYPICAL DETAILS, SEE SHEET CS501.

US Army Corps of Engineers®
Huntington District

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: BWB
DRN BY: MAL
CKD BY: MSS
SUBMITTED BY:
DATE:
SOLICITATION NO.:
CONTRACT NO.:
PLOT SCALE: 30.00006:1
PLOT DATE: 6/14/2011
FILE NUMBER:
FILE NAME: CS309A01.DGN
SIZE:

U.S. ARMY CORPS OF ENGINEERS
HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

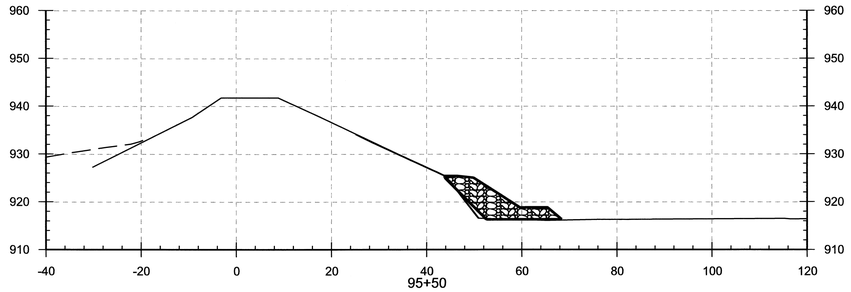
TUSCAWARAS RIVER
MASSILLON, OH
MASSILLON LPP
MASSILLON LEVEE CERTIFICATION

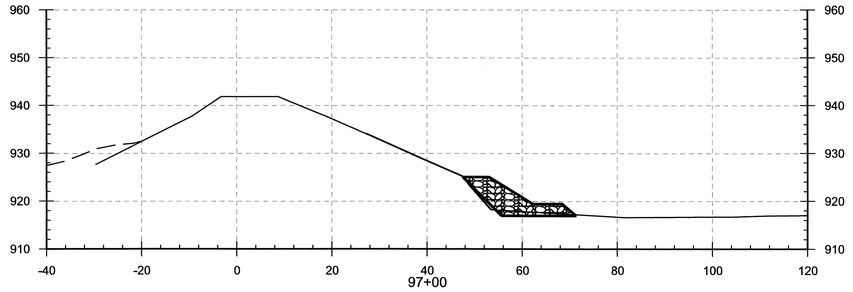
MASSILLON LEVEE
AREA 8 CROSS SECTIONS
91+50 - 94+00

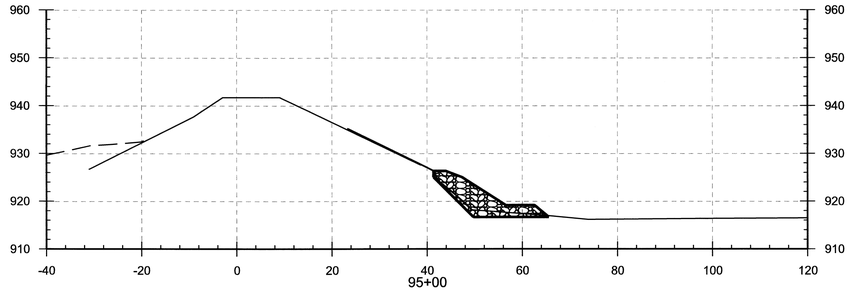
SHEET IDENTIFICATION
CS309
SHEET 22 OF 27

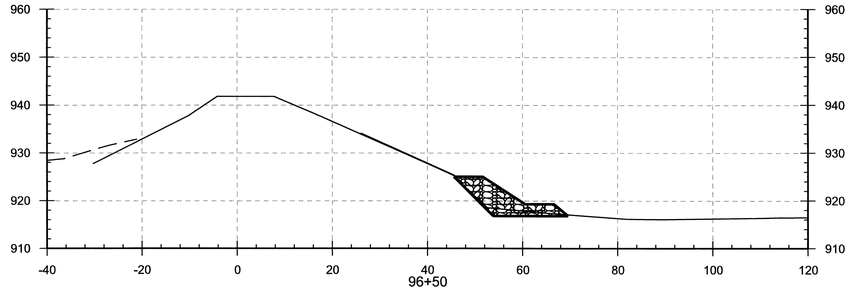
\\LRH-AP-EC-CAE02\APPS\WA_Workspace_05152008\Workspace\Projects\Wes InterPlot Organizer\misc\design scripts\STDV8.pen
C:\Program Files\Common Files\InterPlot\IPUTmisc\color.ctb

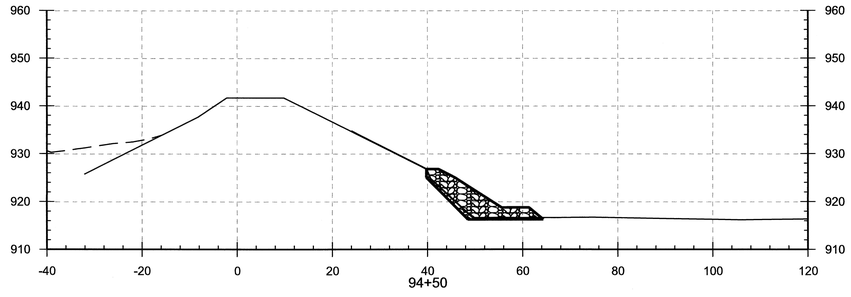
14-JUN-2011 18:47
H:\ECL\PT
P:_PWP\mm2861\DCS\306A01.DGN

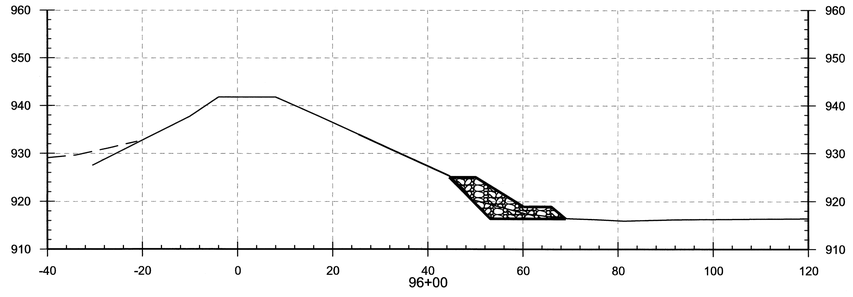












MASSILLON LEVEE – AREA 8 CROSS SECTIONS – STA. 94+50 TO 97+00

NOTES:
1. FOR PLAN VIEW, SEE SHEETS CS401 AND CS102.
2. FOR TYPICAL DETAILS, SEE SHEET CS501.

US Army Corps of Engineers®
Huntington District

MARK	DESCRIPTION	DATE	APPR
MARK	DESCRIPTION	DATE	APPR

DESIGNED BY: BWB
DWN BY: MLJ
CKD BY: MGS
SUBMITTED BY:
DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:
PLOT SCALE: 30.00008:1
PLOT DATE: 6/14/2011
SIZE:
FILE NAME: CS308A02.DGN

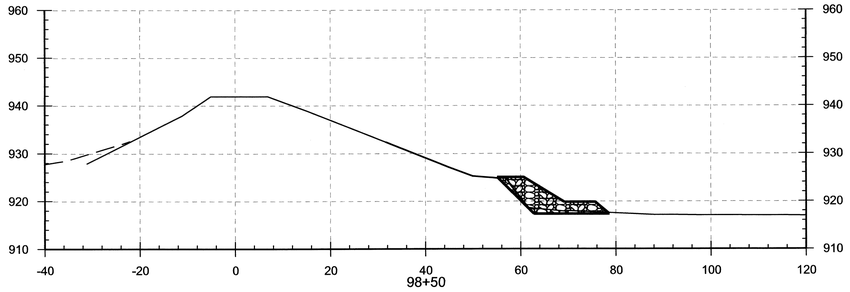
U.S. ARMY CORPS OF ENGINEERS
HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

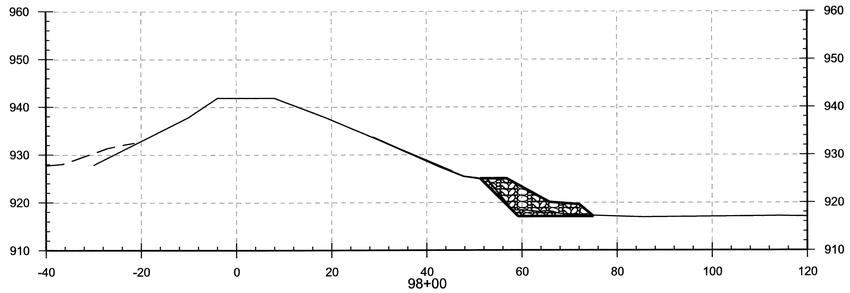
TUSCAWARAS RIVER
MASSILLON, OH
MASSILLON LPP
MASSILLON LEVEE CERTIFICATION
MASSILLON LEVEE
AREA 8 CROSS SECTIONS
94+50 - 97+00

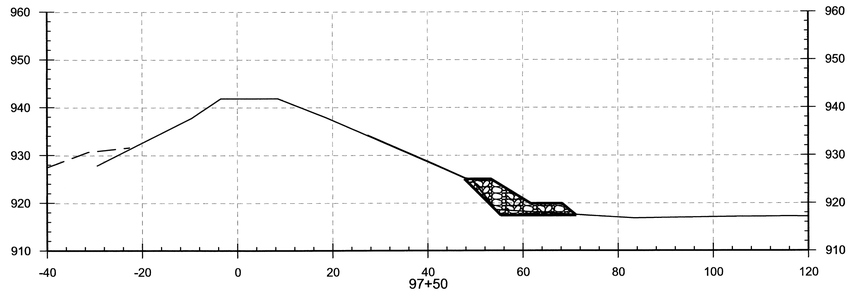
SHEET IDENTIFICATION
CS310
SHEET 23 OF 27

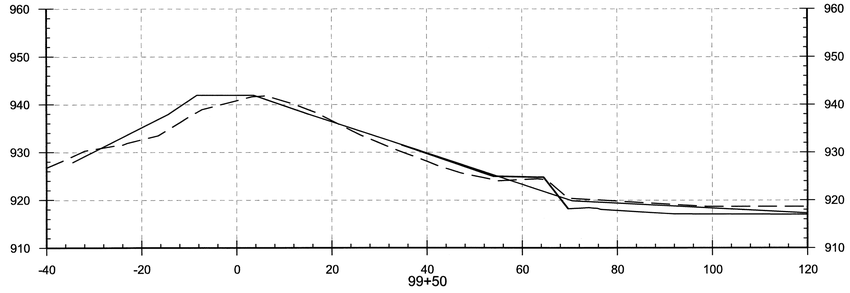
ILRH-AP-EC-CAED\APPS\XM_Worksapce_05152008\Worksapce\ProjectWise InterPlot Organizer\mics\design scripts\STDVB.pen
C:\Program Files\Common Files\InterPlot\IPLOT\mics\color.cdb

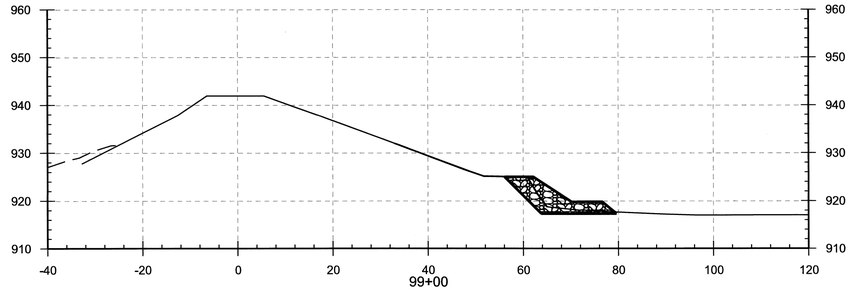
H:\ECL\FT 14-JUN-2011 18:47
IP_PWP.dms\298105\CS308A02.DGN











MASSILLON LEVEE – AREA 8 CROSS SECTIONS – STA. 97+50 TO 99+00

NOTES:
1. FOR PLAN VIEW, SEE SHEETS CS401 AND CS102.
2. FOR TYPICAL DETAILS, SEE SHEET CS501.

US Army Corps of Engineers®
Huntington District

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: BWB
DWN BY: NAL
CKD BY: MGS
SUBMITTED BY:
PLOT SCALE: 30.000061:1
PLOT DATE: 6/14/2011
SIZE:
FILE NAME: CS308A03.DGN

U.S. ARMY CORPS OF ENGINEERS
HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

DATE:
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:

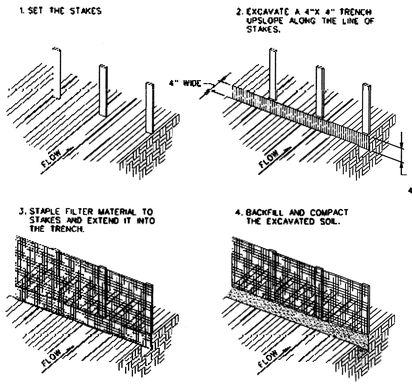
TUSCAWARAS RIVER
MASSILLON, OH
MASSILLON LPP
MASSILLON LEVEE CERTIFICATION

MASSILLON LEVEE
AREA 8 CROSS SECTIONS
97+50 - 99+50

SHEET IDENTIFICATION
CS311
SHEET 24 OF 27

I:\LRN-AP-EC-CAE\D3\APPS\KM_Workspace_05150008\Workspace\Projects\Files InterPlot Organizer\mics\design scripts\STDVB.pen
C:\Program Files\Common Files\InterPlot\IP-OT\mics\color.ctb

14-JAN-2011 18:47
H:\EXLIFT
E:_PWP_dmt2858105\CS308A03.DGN

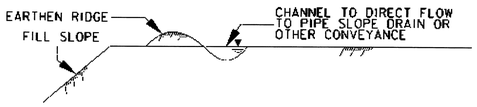


CONSTRUCTION OF A FILTER BARRIER

NOTES: AT A MINIMUM ALL EROSION CONTROLS ON THE SITE SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF RAIN PER 24 HOUR PERIOD.

DETAIL 2 - SILT FENCE DETAIL

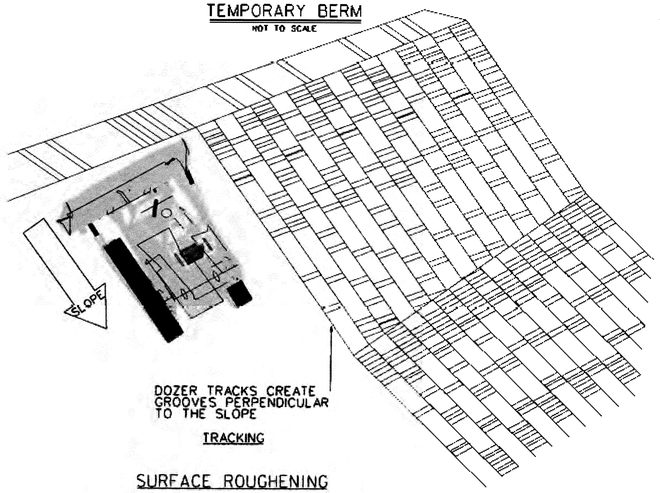
NOT TO SCALE



NOTE: CONTINUALLY SLOPE BACK AS FILL IS CONSTRUCTED. SEED AND MULCH SLOPE EVERY 10 FEET OF FILL OR EVERY 7 DAYS, WHICHEVER COMES FIRST

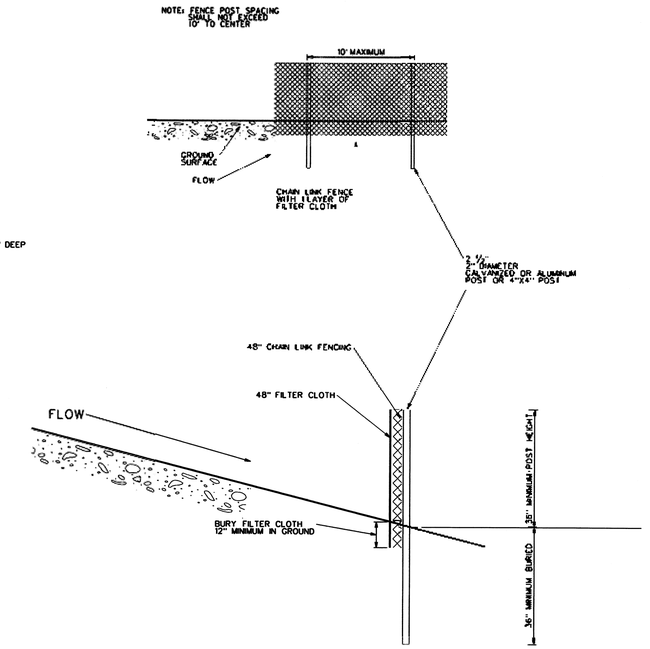
TEMPORARY BERM

NOT TO SCALE



SURFACE ROUGHENING

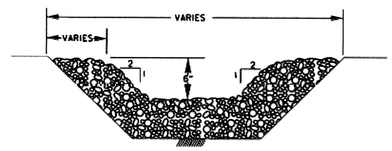
NOT TO SCALE

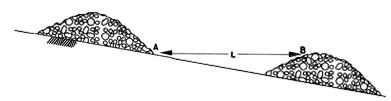


NOTE: AT A MINIMUM ALL EROSION CONTROLS ON THE SITE SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITH IN 24 HOURS AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF RAIN PER 24 HOUR PERIOD.

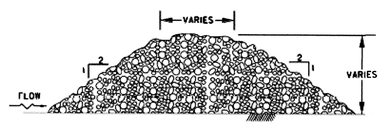
SUPER SILT FENCE

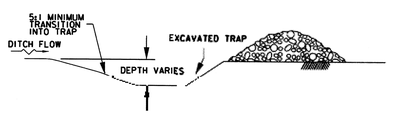
NOT TO SCALE





NOTE: L= THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION. MAXIMUM DISTANCE 300'

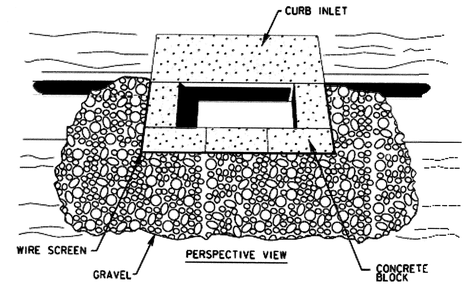




NOTE: CHECK DAMS SHALL BE CONSTRUCTED WITH CLASS I STONE SLOPE PROTECTION. SEE SPECS.

ROCK CHECK DAM

NOT TO SCALE



NOTES: 1. GRAVEL SHALL BE CLEAN 3/4" TO 8" COARSE AGGREGATE
2. THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE AN OVERFLOW CAPABILITY IS NECESSARY TO PREVENT EXCESSIVE PONDING OR FLOODING

BLOCK & GRAVEL CURB INLET PROTECTION

NOT TO SCALE

NOTE

US Army Corps of Engineers
Huntington District

MARK	DESCRIPTION	DATE	APPR.
MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

DESIGNED BY: BWB
DWN BY: NM
SUBMITTED BY:
DATE:
SOLICITATION NO.
CONTRACT NO.
CKD BY: WSS
PLOT SCALE: 100.000000 = 1'
PLOT DATE: 5/14/2011
FILE NUMBER
SIZE
FILE NAME: C5601.dgn

TUSCAWARAS RIVER
MASSILLON, OH
MASSILLON LPP
MASSILLON LEVEE CERTIFICATION

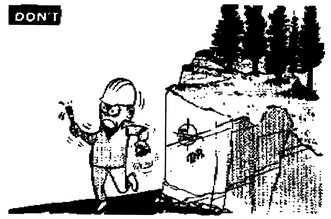
CONSTRUCTION PRACTICES
SHEET 1 OF 3

SHEET IDENTIFICATION
GI002
SHEET 25 OF 27

L:\BHJP-EC-CAE02-APPS\NM_Workspace_05122008\Workspace\Project\Plot Files\Plot Organizer\misc\design_tools\STD-B.pen
C:\Program Files\Common Files\InterPlot\PLOT\misc\color.tbl

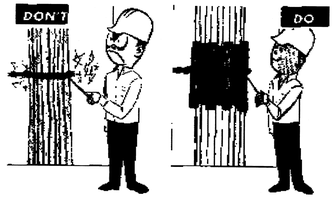
H:\ECA_PT 14-JUN-2011 18:52
@_PWP\mod2810\C5601.dgn

EPM No. 1.—The Contractor shall conduct frequent on the job training courses, not less than monthly, for the purpose of emphasizing the environmental protection requirements of the contract. He shall emphasize that protection of damage to the environment is the primary goal and that restoration should be necessary only when damage is unavoidable.

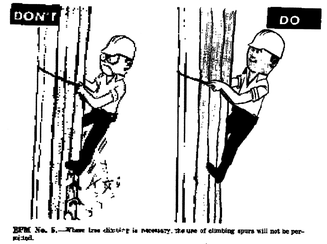


EPM No. 2.—Stone from and other interesting geologic features, including natural, boat landings which will be exposed by drawdown of the reservoir shall be preserved.

EPM No. 3.—Survey lines shall be located to avoid cutting large trees and to restrict clearing beyond established clearing limits. Clearing of brush and branches for sight lines shall be held to the minimum practical limits.

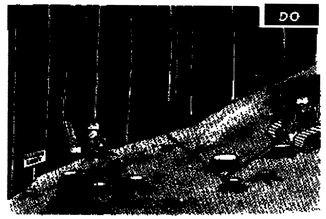


EPM No. 4.—Every in areas to be cleared, no cause, cables or guys shall be fastened to or attached to trees unless specifically authorized by the Contracting Officer. Where such attachment is permitted, the trunk shall first be wrapped with not less than 4 layers of burlap or equivalent padding over which softwood cleats shall be laid before any rope, cable or wire is placed.

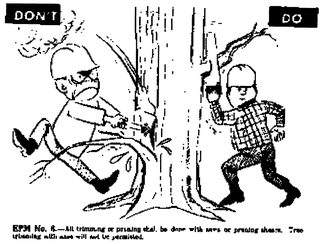


EPM No. 5.—Where tree climbing is necessary, the use of climbing spurs will not be permitted.

EPM No. 6.—During clearing operations, trees and debris shall not be allowed to fall outside the clearing limits where such fall would damage or injure trees and shrubs which are to remain and where operations for removal of felled materials will damage or injure trees and shrubs which are to remain.



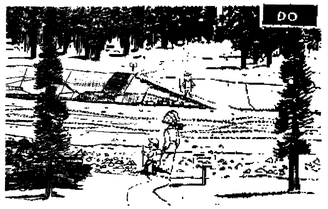
EPM No. 7.—Ropes, guys or other means shall be used where necessary to restrain materials from damaging trees or shrubs which are to remain.



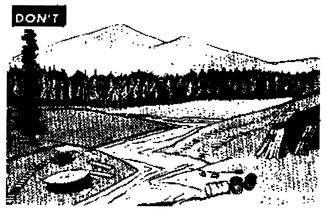
EPM No. 8.—All trimming or pruning shall be done with saws or pruning shears. Tree trimming with axes will not be permitted.

EPM No. 9.—All treated wounds and specified pruning cuts shall be painted with an approved tree pruning compound of a color approximately matching the color of the bark.

EPM No. 10.—Where game trails or hiking trails cross construction areas, such trails shall not be covered by debris and shall be maintained in a safe and passable condition at all times.

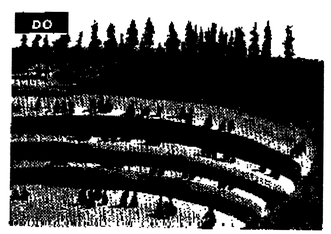


EPM No. 11.—Ramps shall be constructed in fill areas as trails shall be provided to provide access. Location of rerouted trails shall be advised to the approval of the Contracting Officer. Traffic warning signs shall be provided at entry ends and maintained during construction operations.

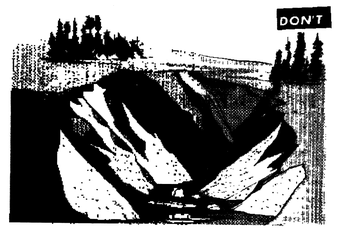


EPM No. 12.—When work is completed, whether on Government-owned lands or on private lands, all sheds, storage and other construction buildings shall be removed, and the sites restored to a neat and presentable condition appropriate to the landscape, unless otherwise specified.

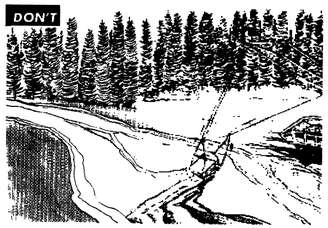
EPM No. 13. The contractor shall erect the bridges in sensitive locations to prevent excavated material from escaping down the slope. The ag barriers shall be placed at the edge of the cleared area or in other locations up the slope as approved by the Contracting Officer.



EPM No. 14. Development and reclamation of borrow areas shall be in accordance with the approved borrow area reclamation plan.

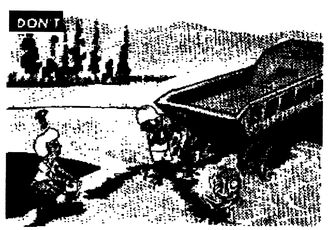


EPM No. 15.—Slopes of the borrow site shall be graded and dressed to blend with the adjacent terrain.



EPM No. 16.—Borrow areas shall not be located in or adjacent to live streams

EPM No. 17.—At all times of the year, special measures shall be taken to prevent chemicals, fuels, oils, grease, lubricants, mortars, wash water, bitumens, insecticides, lime, wet concrete, cement, or organic or other deleterious material from entering waterways.



EPM No. 18. Wastes used to wash down equipment shall be disposed of in a manner to prevent their entry into a waterway.

EPM No. 19.—The use of explosives within streams shall be held to that necessary for preparing a base for cofferdams and for channel excision only.

US Army Corps of Engineers®
Huntington District

MARK	DESCRIPTION	DATE	APPR

EPM No. 20.—Where frequent stream crossings are necessary, temporary culverts or bridges shall be provided.

EPM No. 21.—The Contractor shall perform all work in a manner to prevent any interference or disturbance to the safe passage and spawning of game fish.

EPM No. 22.—The Contractor shall maintain all excavations, embankments, stockpiles, roads, plant sites, waste areas, borrow areas, and all other work areas within or without the project boundaries free from dust which would cause a hazard or nuisance to others.

EPM No. 23.—Approved temporary methods of stabilization consisting of sprinkling, chemical treatment, light bituminous treatment or equal methods shall be provided to control dust.

EPM No. 24.—Except as restricted by the Fire Control Officer, burning shall assure continuous, rapid and complete combustion. To meet this requirement, burning piles shall be kept under constant attendance by heavy equipment and operators who shall stack or push in burning piles from the edges, or shall feed fires with additional combustibles.

EPM No. 25. Burn piles and individual pieces of burned materia. shall not be allowed to smolder.

EPM No. 26. High heat burning shall be done in burning boxes, portable incinerators, open pits or trenches.

EPM No. 27.—Waste materials shall not be dumped on slopes.

EPM No. 28. The pattern of drilling and the depth, size and loading of holes along the outer edge of bench cuts shall be such as to provide retention ridges of rock to act as a restraint against loss of material down the slope.

EPM No. 28.—The pattern of drilling and the depth, size and loading of holes along the outer edge of bench cuts shall be such as to provide retention ridges of rock to act as a restraint against loss of material down the slope. (See DO for proper procedure.)

EPM No. 29.—Excavation of blasted material shall be conducted in such a manner that operation of excavation equipment does not contribute to loss of material down the slope.

EPM No. 29.—Excavation of blasted material shall be conducted in such a manner that operation of excavator equipment does not contribute to loss of material down the slope. (See DO for proper procedure.)

EPM No. 30.—Full U-blades shall be used on down excavating on slopes.

EPM No. 30.—Full U-blades shall be used on down excavating on slopes. (See DO for proper procedure.)

EPM No. 31.—In other than solid rock, the tops of excavated slopes shall be rounded off as shown on the contract drawings.

EPM No. 32. Loose rocks, cobbles and boulders falling outside the finished slopes shall be removed where operations for removal of such material will not deface the landscape.

US Army Corps of Engineers®
Huntington District

MARK	DESCRIPTION	DATE	APPR.