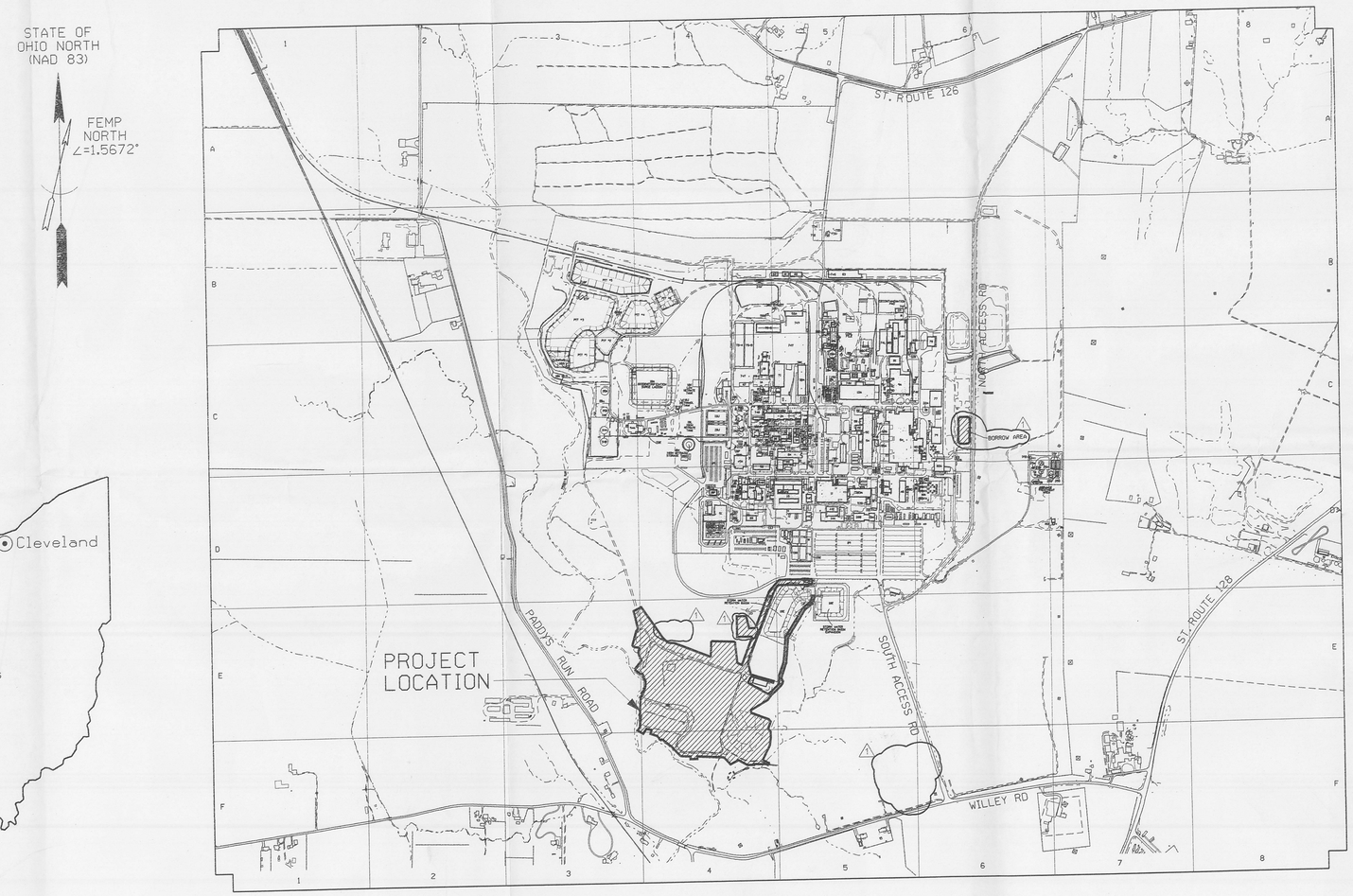
MAPS

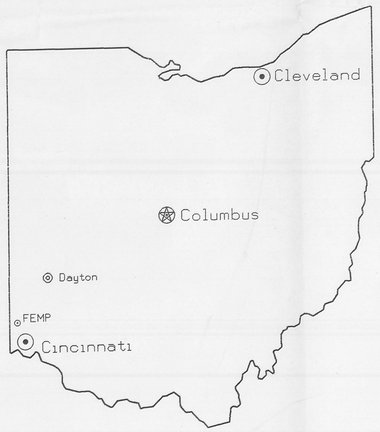
UNITED STATES
DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

WASTE UNITS REMEDIATION PROJECT

SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

SUBCONTRACT NO. FSC607
FDF PROJECT NO. 20400





PARSONS

The Ralph M. Parsons Company * Parsons Main, Inc. * Engineering-Science, Inc.

ARCHITECTS - ENGINEERS
CINCINNATI, OHIO

600' 0' 600' 1200'
GRAPHIC SCALE: 1"=600'

NOTES

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-X-00321	LEGEND AND GENERAL NOTES	X0003

1123
2-203.32 1

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
1	REVISED WOODCHIP STOCKPILE AREA AND BORROW AREA LOCATIONS PER DCN: 20401-001 AND 003	JMU	N/A	8/27/97
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	6/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
WASTE UNITS REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

DRAWING TITLE
PROJECT TITLE SHEET

STATE OF OHIO FRANKLIN M. PARTON, JR. NO. E-57614 REGISTERED PROFESSIONAL ENGINEER

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
R. ESPARZA	03/11/96	F.M. PARTON, JR.	6/12/97	K. GERARD	1/18/97

PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		1"=600'	

SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL	FERMCO PROJECT NO.
J.M. USHER 6/13/97	N/A	20400

A-E DOE PROJECT NO.	DATE	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
		WBS 1.1.1.1.2.3.6 00-90701	92X-5900-X-00319	X0001	1

PREPARED UNDER PARSONS PROJECT ORDER NUMBER
SCEP/P0165

INDEX OF DRAWINGS

INDEX CODE NO.	DRAWING NO.	SHEET NO.	REVISION NO.	DRAWING TITLE	REMARKS
	92X-5900-X-00319	X0001	1	PROJECT TITLE SHEET	
	92X-5900-X-00320	X0002	2	DRAWING INDEX	
	92X-5900-X-00321	X0003	1	LEGEND AND GENERAL NOTES	
			2		
	92X-5900-G-00350	G0001	1 2	CIVIL - TRAFFIC FLOW PLAN	
	92X-5900-G-00281	G0002	1	CIVIL - MASTER SITE/UTILITY PLAN	
	92X-5900-G-00348	G0003	1	CIVIL - EXISTING CONDITIONS PLAN	
	92X-5900-G-00400	G0004	1	CIVIL - SURVEY INFORMATION AND SOIL STRIPPING PLAN	
	92X-5900-G-00282	G0005	1	CIVIL - SITE PLAN	
	92X-5900-G-00284	G0006	1	CIVIL - SITE PLAN - SUPPORT AREA	
	92X-5900-G-00283	G0007	1	CIVIL - SITE PLAN - WHEEL WASH AREA	
	92X-5900-G-00390	G0008	1	CIVIL - SITE PLAN - PADDYS RUN AREA	
	92X-5900-G-00303	G0009	1	CIVIL - ENLARGEMENT RETENTION BASIN #1	
	92X-5900-G-00371	G0010	1	CIVIL - ENLARGEMENT RETENTION BASIN #2	
	92X-5900-G-00372	G0011	1	CIVIL - ENLARGEMENT RETENTION BASIN #3	
	92X-5900-G-00311	G0012	1	CIVIL - EROSION AND SEDIMENT CONTROL - SHEET 1 OF 2	
	92X-5900-G-00368	G0013	1	CIVIL - EROSION AND SEDIMENT CONTROL - SHEET 2 OF 2	
	92X-5900-G-00304	G0014	1	CIVIL - TRANSFER LINE - PLAN AND PROFILE - SHEET 1 OF 3	
	92X-5900-G-00305	G0015	1	CIVIL - TRANSFER LINE - PLAN AND PROFILE - SHEET 2 OF 3	
	92X-5900-G-00306	G0016	1	CIVIL - TRANSFER LINE - PLAN AND PROFILE - SHEET 3 OF 3	
	92X-5900-G-00312	G0017	1	CIVIL - WHEEL WASH PAD - STRUCTURAL DETAILS	
	92X-5900-G-00310	G0018	1	CIVIL - WHEEL WASH SUMP DISCHARGE - PROFILE AND DETAILS	
	92X-5900-G-00307	G0019	1	CIVIL - WATER LINE DETAILS	
	92X-5900-G-00309	G0020	0	CIVIL - MISCELLANEOUS DETAILS - SHEET 1 OF 3	
	92X-5900-G-00308	G0021	0	CIVIL - MISCELLANEOUS DETAILS - SHEET 2 OF 3	
	92X-5900-G-00411	G0022	2 1	CIVIL - MATERIAL DOCUMENTATION PLAN	
	92X-5900-G-00452	G0023	0	CIVIL - MISCELLANEOUS DETAILS - SHEET 3 OF 3	
	92X-5900-G-00453	G0024	2 1	CIVIL - SITE PLAN - BORROW AREA VOID DRAWING	2 VOID DRAWING PER DCN: 20401-001
	92X-5900-N-00295	N0001	0	MECHANICAL PROCESS - PIPING AND INSTRUMENTATION DIAGRAM - SYMBOLS AND LEGEND	
	92X-5900-N-00290	N0002	0	MECHANICAL PROCESS - PIPING AND INSTRUMENTATION DIAGRAM - WASTEWATER COLLECTION AND TRANSFER	
	92X-5900-N-00291	N0003	2 1	MECHANICAL PROCESS - PIPING AND INSTRUMENTATION DIAGRAM - DRINKING WATER SYSTEM	
	92X-5900-E-00405	E0001	0	ELECTRICAL - SYMBOLS AND LEGEND	
	92X-5900-E-00404	E0002	1	ELECTRICAL - SINGLE LINE DIAGRAM - WEST SIDE 13.2 KV FEEDERS	
	92X-5900-E-00377	E0003	1	ELECTRICAL - SINGLE LINE DIAGRAMS / ELEVATIONS - LIFT STATION NO. 1, 2, AND 3	
	92X-5900-E-00378	E0004	0	ELECTRICAL - SINGLE LINE DIAGRAMS / ELEVATIONS - WHEEL WASH FACILITY AND SUPPORT AREA	
	92X-5900-E-00379	E0005	1	ELECTRICAL - OVERALL SITE POWER PLAN	
	92X-5900-E-00381	E0006	0	ELECTRICAL - PANEL SCHEDULES	
	92X-5900-E-00380	E0007	1	ELECTRICAL - ELEMENTARY DIAGRAMS	
	92X-5900-E-00406	E0008	1	ELECTRICAL - CABLE AND CONDUIT SCHEDULES	
	92X-5900-E-00382	E0009	1	ELECTRICAL - DETAILS - SHEET 1	
	92X-5900-E-00407	E0010	1	ELECTRICAL - DETAILS - SHEET 2	
	92X-5900-E-00408	E0011	1	ELECTRICAL - DETAILS - SHEET 3	
	92X-5900-E-00409	E0012	1	ELECTRICAL - DETAILS - SHEET 4	
	92X-5900-E-00376	E0013	1	ELECTRICAL - DETAILS - SHEET 5	
	92X-5900-E-00454	E0014	0	ELECTRICAL - DETAILS - SHEET 6	

NOTES

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00319	PROJECT TITLE SHEET	X0001
92X-5900-X-00321	LEGEND AND GENERAL NOTES	X0003

2

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
2	DRAWING REVISED PER DCN: 20401-001, 003, 005, 006 AND 007	JMU	N/A	8/27/97
1	ELECTRICAL WORK ADDED TO CONTRACT	CS	N/A	06/24/97
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	06/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
WASTE UNITS REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

DRAWING TITLE
DRAWING INDEX

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
R. ESPARZA	03/11/96	FRANK PARTON JR.	06/12/97	K. GERARD	01/18/97

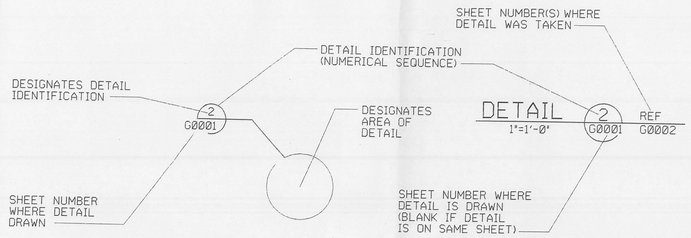
PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		NONE	

SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL	FERMCO PROJECT NO.
J.M. USHER 06/13/97 (A-E DATE)	N/A (DATE)	20400

STATE OF OHIO FRANKLIN M. PARTON, JR. NO. E-57614 REGISTERED PROFESSIONAL ENGINEER

PREPARED UNDER PARSONS PROJECT ORDER NUMBER	DOE PROJECT NO.	TEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
SCEP/P0165		WBS 1.1.1.1.2.3.6 00-90701	92X-5900-X-00320	X0002	2

GENERAL LEGEND



UTILITY SYMBOLS

EXISTING		PROPOSED
----- ST -----	STORM SEWER	—ST
-----FG -----	FUEL GAS	
-----DW -----	DRINKING WATER	—DW
----- FT -----	FILTRATE OR EFFLUENT	
----- OE -----	OVERHEAD ELECTRICAL	—OE
----- G -----	ELECTRIC GROUND	—G
----- GW -----	GROUND WATER	
----- WW -----	WASTE WATER	—WW
	TRANSFER LINE	—TRANSFER LINE
	DISCHARGE LINE AND TREATMENT LINE	—GW

SYMBOLS LEGEND

EXISTING		PROPOSED
	POST INDICATOR VALVE (PIV)	
	FIRE HYDRANT (FH)	
	MANHOLE (MH)	Ⓢ OR Ⓓ
OR	CATCH BASIN (CB)	
	POLE	
	ELECTRICAL MANHOLE	Ⓔ
	GATE VALVE	
1313	MONITORING WELL	
Ⓔ	EXTRACTION WELL	
	GRAVEL SURFACE	
	ASPHALTIC CONCRETE PAVING	
	CONCRETE PAD	
	BUILDING/TRAILER	
	CHAIN LINK FENCE	
	TREE LINE	
	DECIDUOUS TREE	
	CONIFEROUS TREE	
	CENTERLINE DRAINAGE DITCH	
	RIVER/CREEK	
	TO BE REMOVED	
	SILT FENCE	—S——S—
	SILTATION BERM	—SB——SB—
	ELECTRICAL TRANSFORMER	T
	TRANSMISSION TOWER	
	HEADWALL	
	BENCH MARK	
—xx——xx—	CONSTRUCTION/WIND BARRIER FENCE	—xx——xx—
	SIGN	
	BOLLARD/GUARD POST	
PB	ELECTRICAL PULL BOX	
	ROAD CENTERLINE OR BASELINE	
	PIPE BEND	OR
	PIPE TEE	
	REDUCER	
	FENCE GATE	
	APPROXIMATE ELEVATION OF GROUNDWATER	
	LIMIT OF WORK	
	WOODCHIP STOCKPILE AREA	
	GEOMEMBRANE LINER	
	GEOMEMBRANE LINER/ INFILTRATION BARRIER	
	APPROXIMATE LIMIT OF ABOVE WAC EXCAVATION AREA	
	APPROXIMATE LIMIT OF LEAD CONTAMINATED SOIL AREA	
	ROPE FENCING	
	FLOW LINE	

GENERAL NOTES

1. EXISTING TOPOGRAPHY PREPARED BY PARSONS FROM DIGITAL MAPPING BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY PROVIDED BY WOOLPERT CONSULTANTS FLOWN ON APRIL 9, 1992. OTHER SOURCES OF EXISTING INFORMATION SHOWN ON DRAWINGS WERE PROVIDED BY FDF; THESE SOURCES INCLUDE:

   EXISTING SITE DATA SOURCE (IN PLANT FILES)
   FEMP CADD GRID/UTILITY DRAWINGS
   FEMP CONTRACTOR PROJECT DESIGN DOCUMENTS
   FEMP OU-2 REMEDIAL INVESTIGATION REPORT, AND FEASIBILITY STUDY REPORT, 1995
   IT SURVEY, 1994

2. HORIZONTAL CONTROL SHOWN ON THE DRAWINGS IS BASED UPON NORTH AMERICAN DATUM 1983 (NAD 83). SEE SHEET G0004 FOR PROJECT SURVEY CONTROL.

3. VERTICAL CONTROL SHOWN ON THE DRAWINGS IS BASED UPON NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD 29). SEE SHEET G0004 FOR PROJECT SURVEY CONTROL.

4. GEOLOGICAL AND CROSS SECTION INFORMATION TAKEN FROM FEMP REMEDIAL INVESTIGATION REPORT (RI), 1995, FEASIBILITY REPORT (FS), 1995, SITE GEOTECHNICAL REPORT, AND FEMP 3-D CADD MODEL. THE RI AND FS ARE AVAILABLE TO THE SUBCONTRACTOR FOR REVIEW UPON REQUEST. ACTUAL LOCATIONS AND DEPTHS MAY BE DIFFERENT AND SHALL BE DETERMINED IN THE FIELD DURING CONSTRUCTION.

5. LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE. FDF IS TO LOCATE UTILITIES PRIOR TO EXCAVATION FOR CONSTRUCTION. SUBCONTRACTOR IS TO VERIFY UTILITY LOCATIONS. IF LOCATION AND DEPTH ARE DIFFERENT OR IF UNKNOWN UNCHARTED UTILITIES ARE DISCOVERED, SUBCONTRACTOR IS TO INFORM FDF BEFORE PROCEEDING.

6. FIGURED DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. CHECK GRAPHIC SCALE BEFORE SCALING.

7. DIMENSIONS AND/OR ELEVATIONS MARKED THUS (+/-) SHALL BE VERIFIED IN THE FIELD BY SUBCONTRACTOR.

8. RESTRICT ALL ACTIVITIES TO THE IMMEDIATE PROJECT AREA AND WITHIN THE "LIMIT OF WORK". ALL AREAS DISTURBED OUTSIDE THE LIMIT OF WORK SHALL BE REPAIRED BY THE SUBCONTRACTOR AT NO COST TO FDF.

9. MAINTAIN AND PROTECT UTILITY MARKINGS.

10. NOTES ON DRAWINGS SHALL BE UNDERSTOOD TO REFER TO REQUIREMENTS OF SITE PREPARATION SUBCONTRACTOR UNLESS NOTED OTHERWISE. EXAMPLE: "MAINTAIN AND PROTECT UTILITY MARKINGS" IS UNDERSTOOD TO MEAN "SITE PREPARATION SUBCONTRACTOR SHALL MAINTAIN AND PROTECT UTILITY MARKINGS".

11. REFERENCES TO SUBCONTRACTOR SHALL INDICATE THE SITE PREPARATION SUBCONTRACTOR.

ABBREVIATIONS

AFP	ACTIVE FLYASH PILE
BSL	BIODENITRIFICATION SURGE LAGOON
BF	BACKFLOW PREVENTER
EXIST	EXISTING
FDF	FLUOR DANIEL FERNALD
FEMP	FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FRL	FINAL REMEDIATION LEVEL
FS	FEASIBILITY STUDY
GMA	GREAT MIAMI AQUIFER
IFP	INACTIVE FLYASH PILE
OSDF	ON-SITE DISPOSAL FACILITY
OU-2	OPERABLE UNIT 2
RAD II	RADIOLOGICAL WORKER II
RI	REMEDIAL INVESTIGATION
SHT	SHEET
SF	SOUTH FIELD
SWM	STORMWATER MANAGEMENT
SWUS	SOUTHERN WASTE UNITS (CONSISTING OF AFP, IFP, AND SF)
TYP	TYPICAL
WAC	WASTE ACCEPTANCE CRITERIA

GRADING SYMBOLS

EXISTING		PROPOSED
X 584.9	SPOT ELEVATION	X 589.4
584	CONTOUR - MINOR	584
585	CONTOUR - MAJOR	585
(TOE)	SLOPE INDICATOR	(TOE)

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00319	PROJECT TITLE SHEET	X0001
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-G-00400	SURVEY INFORMATION AND SOIL STRIPPING PLAN	G0004

3

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
1	REVISED PER DCN: 20401-005	JMU	N/A	8/27/97
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	6/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
WASTE UNITS REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

DRAWING TITLE
LEGEND AND GENERAL NOTES

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
B. PARTON	03/11/96	F.M. PARTON, JR.	6/13/97	K. GERARD	1/18/97

PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		NONE	

SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL	FERMCO PROJECT NO.
J.M. USHER 6/13/97 (A-E DATE)	N/A (DATE)	20400

DOE PROJECT NO.	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
	WBS 1.1.1.1.2.3.6 00-90701	92X-5900-X-00321	X0003	1

PREPARED UNDER PARSONS PROJECT ORDER NUMBER
SCEP/P0165

STATE OF OHIO
FRANKLIN M. PARTON, JR.
NO. E-57614
REGISTERED PROFESSIONAL ENGINEER

NOTES

1. THE RE-ROUTED NORTH ENTRANCE ROAD WILL BE UNDER CONSTRUCTION IN THE SUMMER OF 1997, AND MAY BE COMPLETED DURING/WHILE THE SUBCONTRACTOR IS PERFORMING SITE PREPARATION WORK. DURING CONSTRUCTION, THERE MAY BE TIMES WHEN THERE IS NO OPEN NORTH ENTRANCE ROAD AT THE FEMP. THE SITE PREP SUBCONTRACTOR SHALL USE THE OPERATIONAL ROAD FOR ACCESS.

2. THE IMPACTED MATERIAL HAUL ROAD MAY BE COMPLETED OR UNDER CONSTRUCTION DURING THE SITE PREP SUBCONTACTORS WORK. THE SITE PREP SUBCONTRACTOR SHALL COORDINATE HIS WORK IN THE AREA THROUGH FDF.

- SITE ACCESS/SUPPORT AREA ACCESS
- IMPACTED MATERIAL HAUL ROAD
- LIMIT OF WORK
- WOODCHIP STOCKPILE

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-X-00321	LEGEND AND GENERAL NOTES	X0003

4

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
1	BORROW AREA AND WOODCHIP STOCKPILE AREA CHANGES PER DCN: 20401-001 AND 003	JMU	N/A	8/27/97
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	6/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY

PARSONS

THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
WASTE UNITS REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

DRAWING TITLE
CIVIL
TRAFFIC FLOW PLAN

STATE OF OHIO FRANKLIN M. PARTON, JR. NO. E-57614 REGISTERED PROFESSIONAL ENGINEER

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
D. REED	10/10/96	F.M. PARTON, JR.	6/12/97	K. GERARD	1/18/97

PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		1"=300'	

SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL	FERMCO PROJECT NO.
J.M. USHER 6/13/97	N/A	20400

A-E DATE DATE

DOE PROJECT NO.	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
	WBS 1.1.1.1.2.3.6 00-90701	92X-5900-G-00350	G0001	1

PREPARED UNDER PARSONS PROJECT ORDER NUMBER
SCEP/P0165

NOTES

1123

1. RECTANGULAR SHAPES INDICATE LIMITS OF SHEETS TO REFERENCE.

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-X-00321	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-00282	SITE PLAN	G0005
92X-5900-G-00284	SITE PLAN - SUPPORT AREA	G0006
92X-5900-G-00283	SITE PLAN - WHEEL WASH AREA	G0007
92X-5900-G-00390	SITE PLAN - PADDYS RUN AREA	G0008
92X-5900-G-00303	ENLARGEMENT RETENTION BASIN #1	G0009
92X-5900-G-00371	ENLARGEMENT RETENTION BASIN #2	G0010
92X-5900-G-00372	ENLARGEMENT RETENTION BASIN #3	G0011
92X-5900-G-00304	TRANSFER LINE - PLAN AND PROFILE - SHEET 1 OF 3	G0014
92X-5900-G-00305	TRANSFER LINE - PLAN AND PROFILE - SHEET 2 OF 3	G0015
92X-5900-G-00306	TRANSFER LINE - PLAN AND PROFILE - SHEET 3 OF 3	G0016

5

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
1	ADDED 4 ABOVE WAC AREAS PER DCN: 20401-008 REVISED WOODCHIP STOCKPILE LOCATION, ADDED SHT G0008 REFERENCE, DELETED REFERENCES TO BORROW AREA, PER DCN: 20401-001 AND 003	JMU	N/A	8/27/97
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	6/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY

PARSONS

THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME

WASTE UNITS REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

DRAWING TITLE

CIVIL
MASTER SITE/UTILITY PLAN

STATE OF OHIO — FRANKLIN M. PARTON, JR. NO. E-57614 — REGISTERED PROFESSIONAL ENGINEER

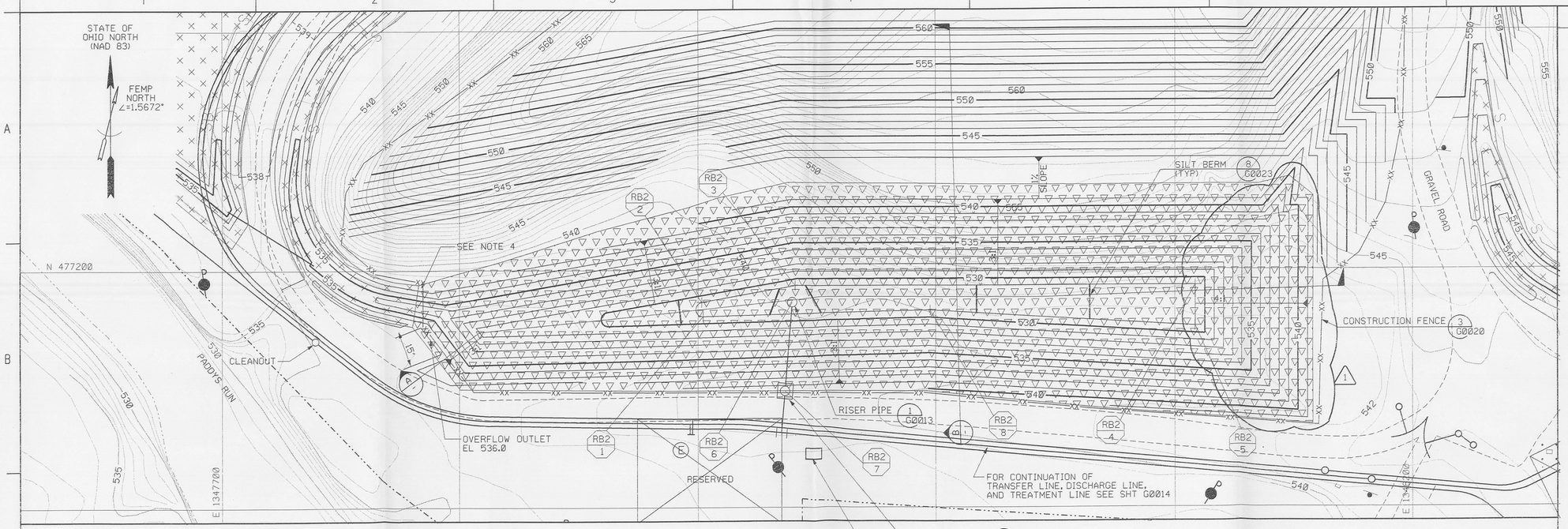
DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
D. REED	02/28/96	F.M. PARTON, JR.	6/12/97	K. GERARD	1/18/97

PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		1"=100'	

SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL	FERMCO PROJECT NO.
J.M. USHER 6/13/97	N/A	20400
A-E DATE	DATE	

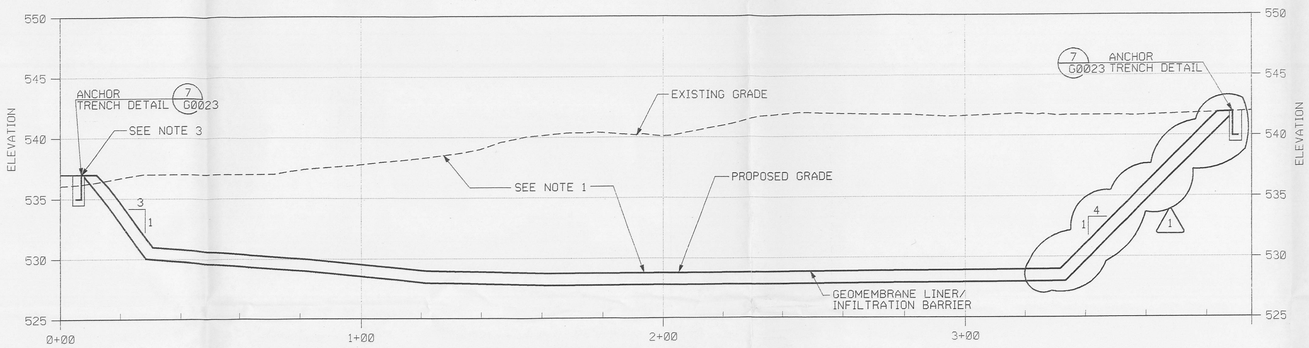
DOE PROJECT NO.	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
	WBS 1.1.1.1.2.3.6 00-90701	92X-5900-G-00281	G0002	1

PREPARED UNDER PARSONS PROJECT ORDER NUMBER
SCEP/P0165

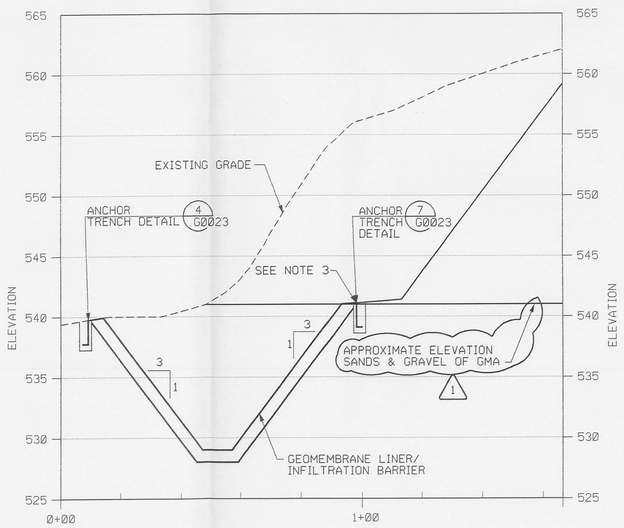


PLAN

GRAPHIC SCALE: 1"=20'



SECTION A



SECTION B

NOTES

1. TOP 12 INCHES OF MATERIAL FROM RETENTION BASIN #2 IS TO BE REMOVED AND DISPOSED OF AS IMPACTED MATERIAL IN THE IMPACTED MATERIAL STOCKPILE. REMAINING SOIL IS TO BE PLACED IN THE NON-IMPACTED MATERIAL STOCKPILES.
2. FOR UNDERGROUND UTILITIES IN AREA SEE SHT G0014.
3. EXTEND GEOMEMBRANE LINER TO COVER ALL EXPOSED SANDS AND GRAVELS OF THE GMA.
4. IN AREAS WHERE CONSTRUCTION FENCE CROSSES GEOMEMBRANE FENCE POST SHALL BE NON-PENETRATING TYPE ANCHORAGE.

1123

LEGEND

GEOMEMBRANE LINER

GEOMEMBRANE LINER/ INFILTRATION BARRIER

BOTTOM OF BASIN COORDINATES (RB2)			
POINT	NORTHING	EASTING	DESCRIPTION
1	477180.5	1347902.7	BEGIN 3' RADIUS
2	477186.4	1347902.1	END 3' RADIUS
3	477193.9	1347942.0	CORNER BASIN
4	477193.4	1348109.0	CORNER BASIN
5	477176.1	1348109.0	CORNER BASIN
6	477186.4	1347940.1	RISER PIPE
7	477149.0	1347937.0	LIFT STATION
8	477182.9	1347998.3	CORNER BASIN

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-X-00321	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-00304	TRANSFER LINE - PLAN AND PROFILE - SHEET 1 OF 3	G0014
92X-5900-G-00368	EROSION AND SEDIMENT CONTROL - SHEET 2 OF 2	G0013
92X-5900-G-00309	MISCELLANEOUS DETAILS - SHEET 1 OF 3	G0020
92X-5900-G-00452	MISCELLANEOUS DETAILS - SHEET 3 OF 3	G0023

13

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
1	INCREASED SIZE OF RETENTION BASIN NO.2, REVISED LOCATION OF CONSTRUCTION FENCE	JMU	N/A	8/27/97
	ADDED SANDS AND GRAVEL OF GMA ELEVATION NOTE, ADD CONTOUR LABELS, PER DCN:20401-005			
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	6/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
WASTE UNIT REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

DRAWING TITLE
CIVIL
ENLARGEMENT RETENTION BASIN #2

STATE OF OHIO — FRANKLIN M. PARTON, JR. NO. E-57614 — REGISTERED PROFESSIONAL ENGINEER — 6/9/97

PROFILE (1) GRAPHIC SCALE: 1"=5' VERTICAL

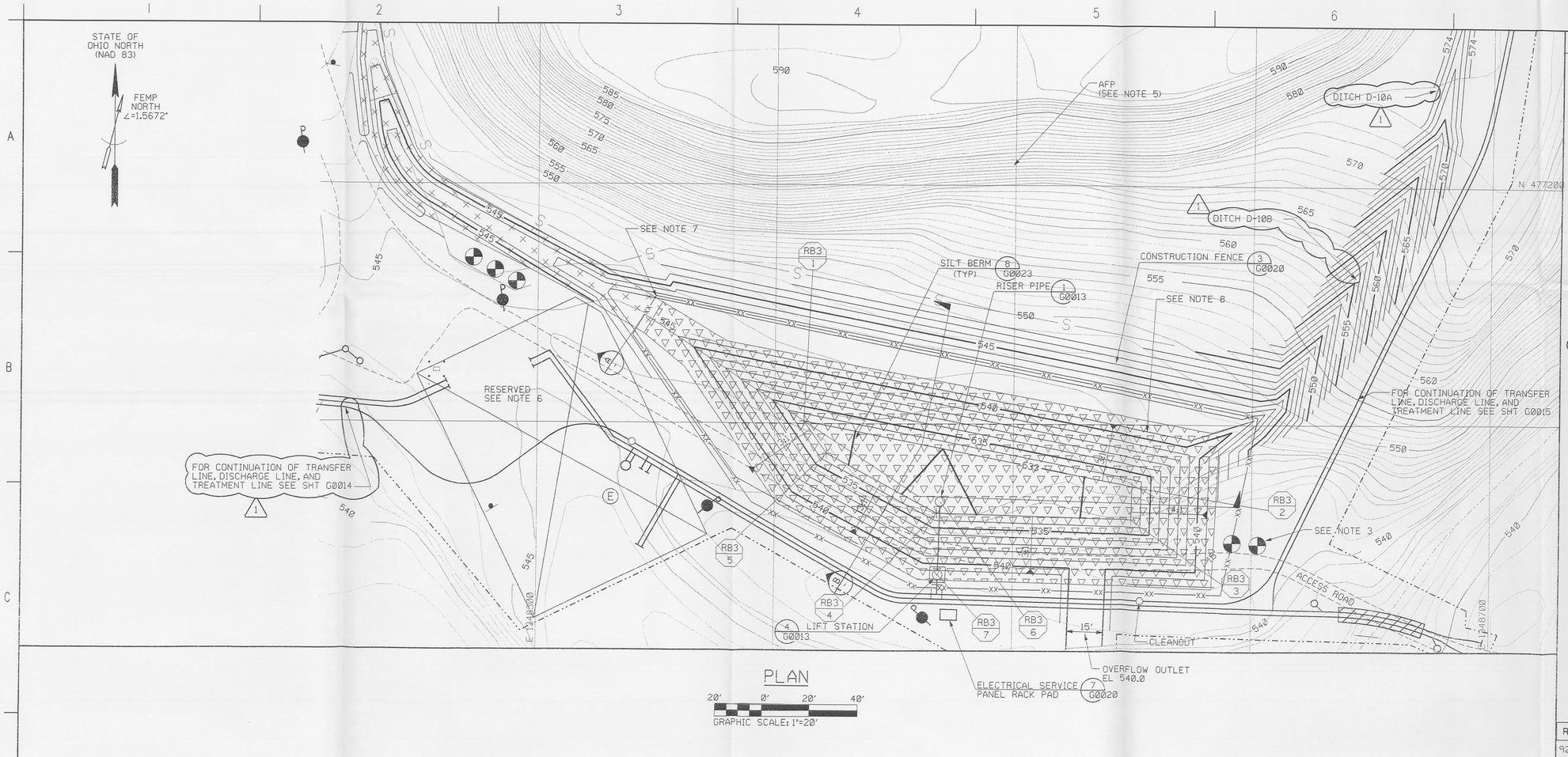
PROFILE (1) GRAPHIC SCALE: 1"=20' HORIZONTAL

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
R. LINDGREN	02/28/96	F.M. PARTON, JR.	6/12/97	K. GERARD	1/18/97

PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		1"=20'	

SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL	FERMCO PROJECT NO.
J.M. USHER 6/13/97	N/A	20400
A-E DATE	DATE	

PREPARED UNDER PARSONS PROJECT ORDER NUMBER	DOE PROJECT NO.	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
SCEP/P0165		WBS 1.1.1.1.2.3.6 00-90701	92X-5900-G-00371	G0010	1



PLAN

20' 0' 20' 40'
GRAPHIC SCALE: 1"=20'

NOTES

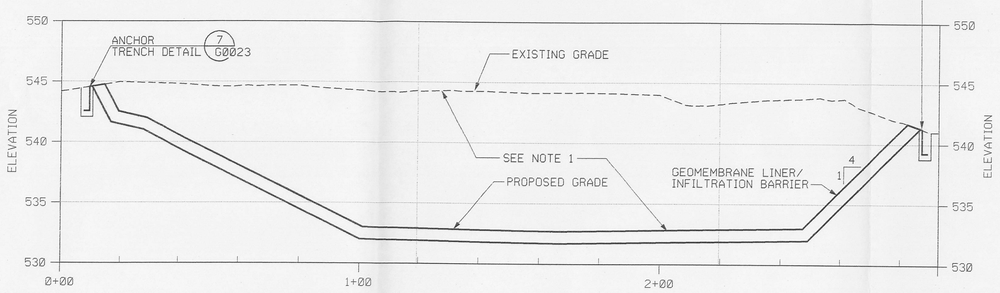
1. TOP 12 INCHES OF MATERIAL FROM RETENTION BASIN #3 IS TO BE REMOVED AND DISPOSED OF AS IMPACTED MATERIAL IN THE IMPACTED MATERIAL STOCKPILE. REMAINING SOIL IS TO BE PLACED IN THE NON-IMPACTED MATERIAL STOCKPILES. 1129
2. FOR UNDERGROUND UTILITIES IN AREA SEE SHEET G0015.
3. PROTECT ALL EXISTING MONITORING WELLS THAT ARE TO REMAIN.
4. EXTEND GEOMEMBRANE LINER TO COVER ALL EXPOSED SANDS AND GRAVELS OF THE GMA.
5. AFP SUBJECT TO LOCALIZED SLOUGHING/SLIDING DURING EXCAVATION OPERATIONS. EXERCISE EXTREME CAUTION WHEN WORKING NEAR THE TOE OF THE AFP.
6. AREAS RESERVED FOR FUTURE PROJECTS BY OTHERS EXCEPT FOR INSTALLATION OF OVERHEAD ELECTRIC AND UNDERGROUND UTILITIES. MAINTAIN AND ALLOW ACCESS TO THESE AREAS DURING CONSTRUCTION.
7. IN AREAS WHERE CONSTRUCTION FENCE CROSSES GEOMEMBRANE FENCE POST SHALL BE NON-PENETRATING TYPE ANCHORAGE.
8. ANCHOR TRENCH FOR GEOMEMBRANCE LINER SHALL BE LOCATED AT ELEVATION 541.0 OR TOP OF RETENTION BASIN SIDE SLOPE.
9. SEE SHEET G0005 FOR DITCH CONSTRUCTION INFORMATION. 1

BOTTOM OF BASIN COORDINATES (RB3)			
POINT	NORTHING	EASTING	DESCRIPTION
1	477101.1	1348412.9	CORNER BASIN
2	477074.0	1348550.6	CORNER BASIN
3	477060.2	1348550.1	CORNER BASIN
4	477062.6	1348468.7	CORNER BASIN
5	477087.6	1348422.3	CORNER BASIN
6	477067.6	1348470.0	RISER PIPE
7	477036.9	1348469.2	LIFT STATION

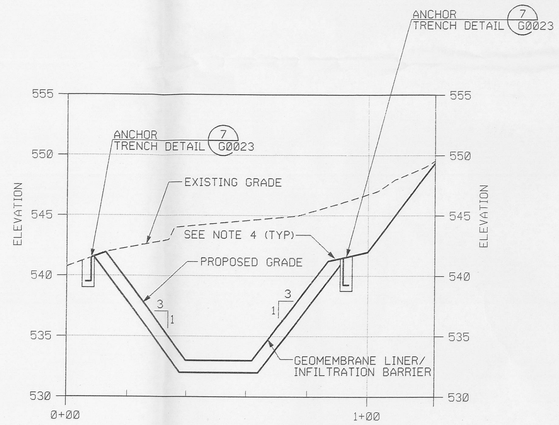
LEGEND

GEOMEMBRANE LINER

GEOMEMBRANE LINER/ INFILTRATION BARRIER



SECTION A



SECTION B

STATE OF OHIO FRANKLIN M. PARTON, JR. NO. E-57614 REGISTERED PROFESSIONAL ENGINEER 6/13/97

5' 0' 5' 10'
PROFILE GRAPHIC SCALE: 1"=5' VERTICAL

20' 0' 20' 40'
PROFILE GRAPHIC SCALE: 1"=20' HORIZONTAL

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-X-00321	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-00311	EROSION AND SEDIMENT CONTROL - SHEET 1 OF 2	G0012
92X-5900-G-00305	TRANSFER LINE - PLAN AND PROFILE - SHEET 2 OF 3	G0015
92X-5900-G-00368	EROSION AND SEDIMENT CONTROL - SHEET 2 OF 2	G0013
92X-5900-G-00309	MISCELLANEOUS DETAILS - SHEET 1 OF 3	G0020
92X-5900-G-00452	MISCELLANEOUS DETAILS - SHEET 3 OF 3	G0023

14

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
1	ADDED CONTOUR LABELS, LABEL DITCH, ADDED TEXT TO GRAPHIC SCALE, LABEL TRANSFER LINE, ADDED NOTE 9 PER DCN: 20401-005	JMU	N/A	6/27/97
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	6/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
WASTE UNIT REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

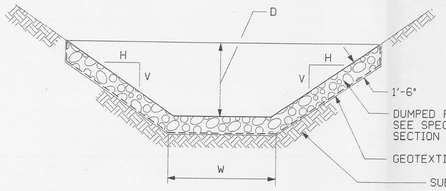
DRAWING TITLE
CIVIL
ENLARGEMENT RETENTION BASIN #3

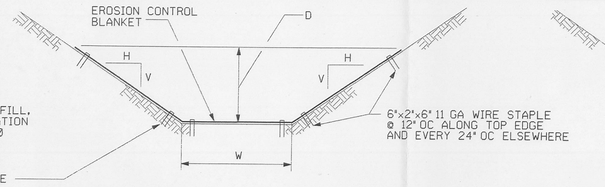
DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
R. LINDGREN	02/28/96	F.M. PARTON, JR.	6/12/97	K. GERARD	1/18/97

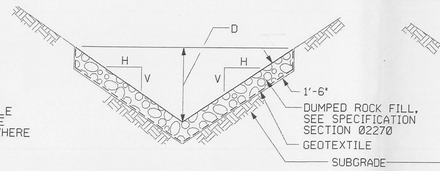
PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		1"=20'	

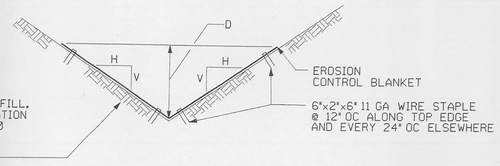
SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL	FERMCO PROJECT NO.
A-E J.M. USHER 6/13/97 DATE	N/A DATE	20400

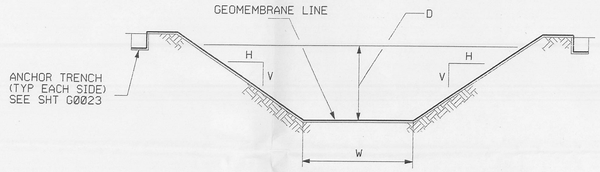
PREPARED UNDER PARSONS PROJECT ORDER NUMBER	DOE PROJECT NO.	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
SCEP/P0165		WBS 1.1.1.1.1.2.3.6 00-90701	92X-5900-G-00372	G0011	1









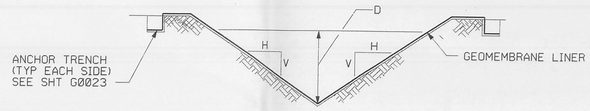


NOTE:

1. SEE DITCH SCHEDULE FOR CHANNEL LINING, DEPTH (D), BOTTOM WIDTH (W), HORIZONTAL (H) AND VERTICAL (V) COMPONENT OF DITCH SIDE SLOPE.

TYPICAL FLAT BOTTOM DITCH (FB) DETAIL

NTS — 1 / G0012 — REF G0005 G0007

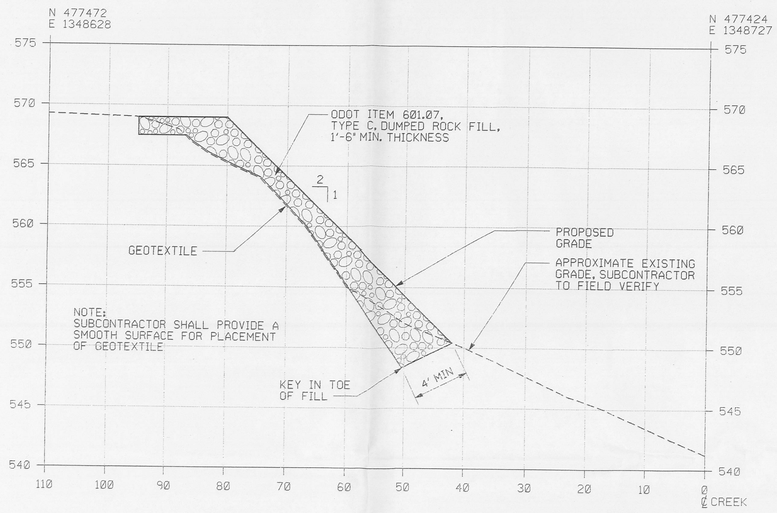


NOTE:

1. SEE DITCH SCHEDULE FOR CHANNEL LINING, DEPTH (D), HORIZONTAL (H) AND VERTICAL (V) COMPONENT OF DITCH SIDE SLOPE.

TYPICAL V-DITCH DETAIL

NTS — 2 / G0012 — REF G0005 G0007 G0008

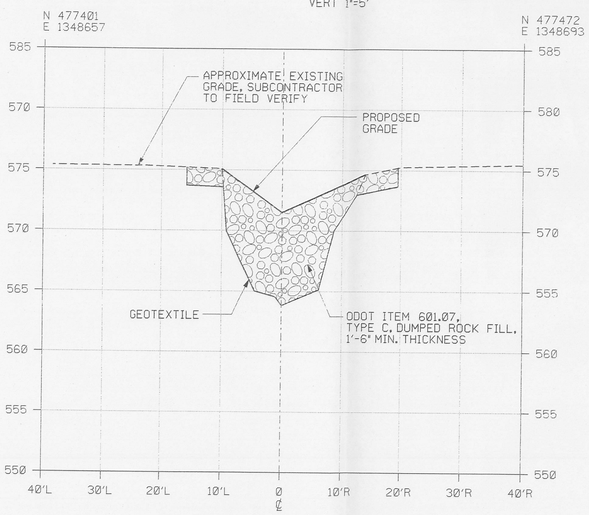


SWALE REPAIR SECTION

HORIZ 1"=10'
VERT 1"=5'

A / G0012 — REF G0005

NOTE:
SEE SHEET G0005 FOR PLAN VIEW EXTENT OF SWALE REPAIR.



SWALE REPAIR SECTION

HORIZ 1"=10'
VERT 1"=5'

B / G0012 — REF G0005

DITCH SCHEDULE

DITCH NO.	MIN. DEPTH (D) FT	BOTTOM WIDTH (W) FT	SIDE SLOPE HORIZONTAL (H)	SIDE SLOPE VERTICAL (V)	UPSTREAM INVERT (±)	DOWNSTREAM INVERT (±)	SLOPE (%)	DITCH LINING	DISPOSITION OF EXCAVATED MATERIAL (STOCKPILE)
D-1	1.5	N/A, V-DITCH	2.0	1.0	577.0	568.0	1 0.5 MIN 2.6 MAX	EROSION CONTROL BLANKET	IMPACTED
D-2A	1.5	N/A, V-DITCH	2.0	1.0	545.0	540.4	10.0 MAX	O.D.O.T. TYPE "C" DUMPED ROCK FILL	IMPACTED
D-2B	1.5	N/A, V-DITCH	2.0	1.0	540.4	538.0	0.8	GEOMEMBRANE LINER	IMPACTED
D-3	1.5	BEGIN DITCH WITH W=4', TRANSITION TO W=8'	2.0	1.0	540.4	537.0	0.7	GEOMEMBRANE LINER	IMPACTED
D-4	1.0	2.0	2.0	1.0	540.0	537.0	0.9	GEOMEMBRANE LINER	IMPACTED
D-5	1.0	2.0	2.0	1.0	539.0	534.6	1.5	GEOMEMBRANE LINER	IMPACTED
D-6	1.0	2.0	2.0	1.0	538.0	534.6	1.4	GEOMEMBRANE LINER	IMPACTED
D-7	2.0	2.0	2.0	1.0	540.0	534.0	1.1 MIN 2.9 MAX	GEOMEMBRANE LINER	IMPACTED
D-8A	0.75	N/A, V-DITCH	2.0	1.0	573.33	569.0	0.8	EROSION CONTROL BLANKET	IMPACTED
D-8B	1.0	N/A, V-DITCH	2.0	1.0	569.0	544.0	10.0 MAX	O.D.O.T. TYPE "C" DUMPED ROCK FILL	IMPACTED
D-9	2.0	4.0	2.0	1.0	549.0	542.0	1.1 MIN 6.7 MAX	GEOMEMBRANE LINER	IMPACTED
D-10A	1.0	N/A, V-DITCH	2.0	1.0	575.0	569.0	4.3	EROSION CONTROL BLANKET	IMPACTED
D-10B	1.0	N/A, V-DITCH	2.0	1.0	569.0	547.0	20.0	O.D.O.T. TYPE "C" DUMPED ROCK FILL	IMPACTED
D-11	1.0	N/A, V-DITCH	2.0	1.0	572.0	566.0	2.6 MIN 4.0 MAX	EROSION CONTROL BLANKET, ROCK CHECK DAM 1	IMPACTED
D-12	1.5	2.0	2.0	1.0	573.0	565.0	1.4 1	EROSION CONTROL BLANKET	USE FOR DEVELOPMENT OF NON IMPACTED MATERIAL STOCKPILE #2, REMAINDER-IMPACTED
D-13	1.5	2.0	3.0	1.0	565.0	563.9	1.0 MIN 5.5 MAX	EROSION CONTROL BLANKET	TOP FOOT IMPACTED, BALANCE REMAINING IN WHEEL WASH AREA
D-14	1.5	2.0	3.0	1.0	MEET EXIST	563.9	0.8	EROSION CONTROL BLANKET	TOP FOOT IMPACTED, BALANCE REMAINING IN WHEEL WASH AREA
D-15	1.0	N/A, V-DITCH	2.0	1.0	575.0	568.5	2.5 MIN 3.0 MAX	EROSION CONTROL BLANKET	IMPACTED
BA1	2.0	N/A, V-DITCH	2.0	1.0	585.0	582.0	0.8	EROSION CONTROL BLANKET	USE AS INFILTRATION BARRIER OR KEEP WITHIN BORROW AREA
BA2	1.0	N/A, V-DITCH	2.0	1.0	578.0	575.0	0.8	EROSION CONTROL BLANKET	USE AS INFILTRATION BARRIER OR KEEP WITHIN BORROW AREA

GENERAL NOTES FOR EROSION AND SEDIMENT CONTROLS

1. RETENTION BASINS AND PERIMETER SEDIMENT CONTROLS SHALL BE IN PLACE AND FUNCTIONING PRIOR TO INITIATING EXCAVATION ACTIVITIES.
2. DISTURBED AREAS WHICH WILL REMAIN UNWORKED FOR A PERIOD OF 45 DAYS OR GREATER SHALL BE STABILIZED WITH SEED AND MULCH WITHIN SEVEN DAYS, SEE SPECIFICATION SECTION 02900.
3. UNLESS OTHERWISE INDICATED ON CONSTRUCTION DRAWINGS AND SPECIFICATIONS, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED CONSISTENT WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE RAINWATER AND LAND DEVELOPMENT, OHIO'S STANDARDS FOR STORMWATER MANAGEMENT, LAND DEVELOPMENT AND URBAN STREAM PROTECTION, 2ND EDITION, 1996, AND THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, CONSTRUCTION AND MATERIAL SPECIFICATIONS, JANUARY 1, 1995. RAINWATER MANUAL WILL TAKE PRECEDENCE OVER ODOT SPECS UNLESS DIRECTED OTHERWISE BY FDF.
4. ALL WOODED AREAS WITHIN LIMIT OF WORK SHALL BE CLEARED. TREES WILL BE CUT ONE FOOT ABOVE GROUND. THE TREES WILL BE CHIPPED AND STORED IN THE WOODCHIP STOCKPILE AREA.
5. STUMPS AND ENTIRE ROOT MASS ENCOUNTERED IN THE RETENTION BASIN WILL BE GROUND IN PLACE, MIXED WITH IMPACTED MATERIAL, AND TRANSPORTED TO THE IMPACTED MATERIAL STOCKPILE (SEE SPECIFICATIONS).
6. A COPY OF THE APPROVED SURFACE WATER MANAGEMENT PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
7. THE SUBCONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL TEMPORARY EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION.
8. DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES THROUGHOUT THE DURATION OF THE CONTRACT.
9. INSPECT ALL EROSION AND SEDIMENT CONTROL MEASURES WEEKLY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT OF 0.5" OR GREATER. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY. 1
10. SEDIMENT CLEANOUT ELEVATIONS FOR EACH RETENTION BASIN ARE INDICATED ON THE DETAILS. THE SEDIMENT CLEANOUT ELEVATIONS SHALL BE INDICATED IN THE FIELD BY A FLOURESCENT ORANGE PAINTED RING ON THE RISER. ONCE ACCUMULATED SEDIMENTS REACH THE ESTABLISHED SEDIMENT CLEANOUT ELEVATIONS, THE SEDIMENTS SHALL BE REMOVED AND DISPOSED IN THE IMPACTED MATERIAL STOCKPILE.

GENERALIZED SEQUENCE OF CONSTRUCTION FOR EROSION AND SEDIMENT CONTROLS, (UNLESS OTHERWISE DIRECTED)

STEP 1. INSTALL SILT FENCE AND DIVERSION DITCHES/BERMS IN LOCATIONS INDICATED ON THE PLAN AND AS SHOWN IN THE DETAILS.

STEP 2. STRIP TOP TWELVE INCHES OF SOIL FROM AREAS DESIGNATED FOR RETENTION BASIN CONSTRUCTION AND PLACE IN THE IMPACTED MATERIAL STOCKPILE.

STEP 3. EXCAVATE RETENTION BASINS. PLACE EXCAVATED MATERIAL IN NON-IMPACTED MATERIAL STOCKPILE.

STEP 4. INSTALL RISERS, BARRELS, AND LIFT STATIONS.

STEP 5. CONSTRUCT GEOMEMBRANE LINER IN THE RETENTION BASINS.

STEP 6. DIVERT FLOW INTO THE RETENTION BASINS BY CONSTRUCTING COLLECTION DITCHES.

STEP 7. BEGIN OPERATION OF RETENTION BASINS AND LIFT STATIONS AND CONTINUE UNTIL COMPLETION OF EXCAVATION.

6/27/97
STATE OF OHIO
FRANKLIN M. PARTON, JR. NO. E-57614
REGISTERED PROFESSIONAL ENGINEER

PREPARED UNDER PARSONS PROJECT ORDER NUMBER
SCEP/P0165

NOTES 1123

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-X-00321	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-00282	SITE PLAN	G0005
92X-5900-G-00283	SITE PLAN - WHEEL WASH AREA	G0007
92X-5900-G-00390	SITE PLAN - PADDYS RUN AREA	G0008

15

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
1	REVISED DITCH D1 AND D12 SLOPES AND NOTE 9 PER DCN: 20401-005	JMU	N/A	8/27/97
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	6/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
WASTE UNIT REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

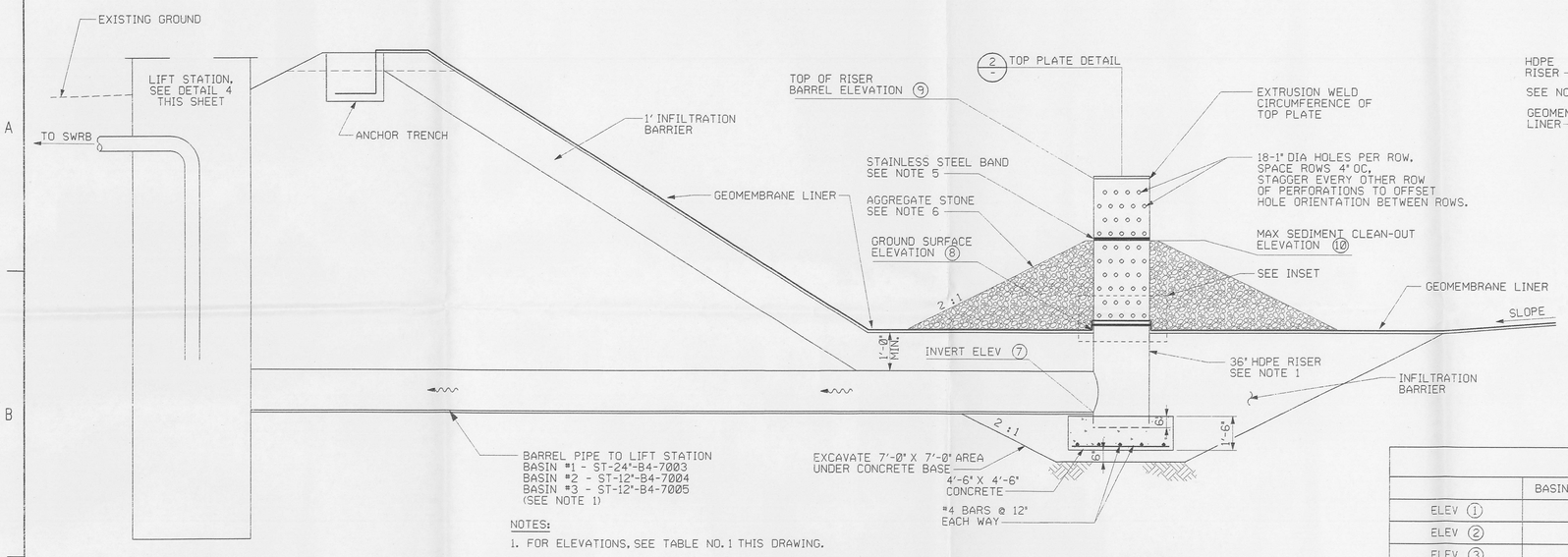
DRAWING TITLE
CIVIL
EROSION AND SEDIMENT CONTROL
SHEET 1 OF 2

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
D. REED	11/18/96	F.M. PARTON, JR.	6/12/97	K. GERARD	01/18/97

PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		NONE	

SUBMITTED FOR APPROVAL (A-E, DATE)	FERMCO CRU APPROVAL (DATE)	FERMCO PROJECT NO.
J.M. USHER 6/13/97	N/A	20400

DOE PROJECT NO.	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
	WBS 1.1.1.1.2.3.6 00-90701	92X-5900-G-00311	G0012	1



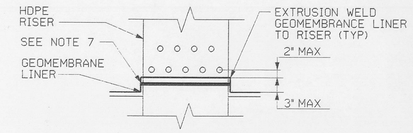
NOTES:

1. FOR ELEVATIONS, SEE TABLE NO. 1 THIS DRAWING.

SIDE VIEW

RISER PIPE DETAIL (1) G0013 — REF G0009, G0010, G0011

NTS

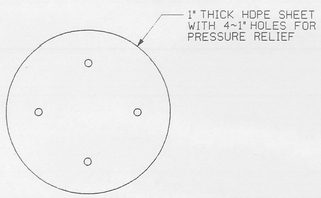


INSET

TABLE NO. 1			
	BASIN/LIFT STA 1	BASIN/LIFT STA 2	BASIN/LIFT STA 3
ELEV (1)	541.00	539.00	541.00
ELEV (2)	525.00	523.00	527.50
ELEV (3)	528.00	526.00	530.00
ELEV (4)	537.00	535.00	537.00
ELEV (5)	530.00	528.00	532.00
ELEV (6)	527.00	525.00	529.00
ELEV (7)	528.40	526.70	530.50
ELEV (8)	531.40	528.70	532.50
ELEV (9)	535.20	532.60	536.80
ELEV (10)	532.90	530.30	534.20
FORCE MAIN PIPE TO SWRB	6" CARRIER 10" CONTAINMENT	3" CARRIER 6" CONTAINMENT	3" CARRIER 6" CONTAINMENT

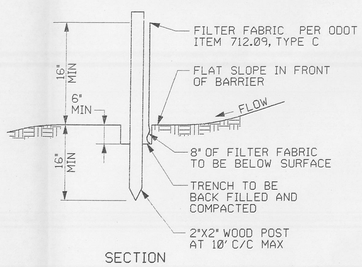
NOTES - 1123

1. BARREL AND RISER PIPES SHALL BE HDPE SDR-21.
2. VALVE AND PIPE ASSEMBLY ABOVE PUMP IS TO BE INSTALLED TO PERMIT UNOBSTRUCTED REMOVAL OF PUMP ON GUIDE CABLE ASSEMBLY.
3. HOOK ANCHORED TO CONCRETE WITH ½"X4" BOLTS. USE ¼" DIA GRADE 60 ALLOY CHAIN, RATED FOR LIFTING. SECURE TO PUMP AS PER MANUFACTURER'S INSTRUCTIONS.
4. CONNECT HDPE PIPE TO HDPE MANHOLE USING EXTRUSION WELD, BAND, ETC., AS RECOMMENDED BY THE HDPE MANHOLE MANUFACTURER.
5. INSTALL ½" STAINLESS STEEL BAND AROUND RISER AT SEDIMENT CLEANOUT ELEVATION. BAND SHALL BE PAINTED FLUORESCENT ORANGE. SUBCONTRACTOR SHALL REMOVE SEDIMENTS WHEN BUILD-UP REACHES BOTTOM OF PAINTED BAND.
6. PLACE AGGREGATE STONE UP TO MAXIMUM SEDIMENT CLEAN-OUT ELEVATION. STONE SHALL BE NO. 1 STONE WITH THE FRACTION SMALLER THAN 2" REMOVED. MATERIAL SHALL CONFORM TO ODOT ITEMS 601, 703.01 AND 703.04. (1)
7. INSTALL ½" STAINLESS STEEL BAND AROUND RISER BELOW EXTRUSION WELD



TOP PLATE DETAIL (2) G0013

NTS



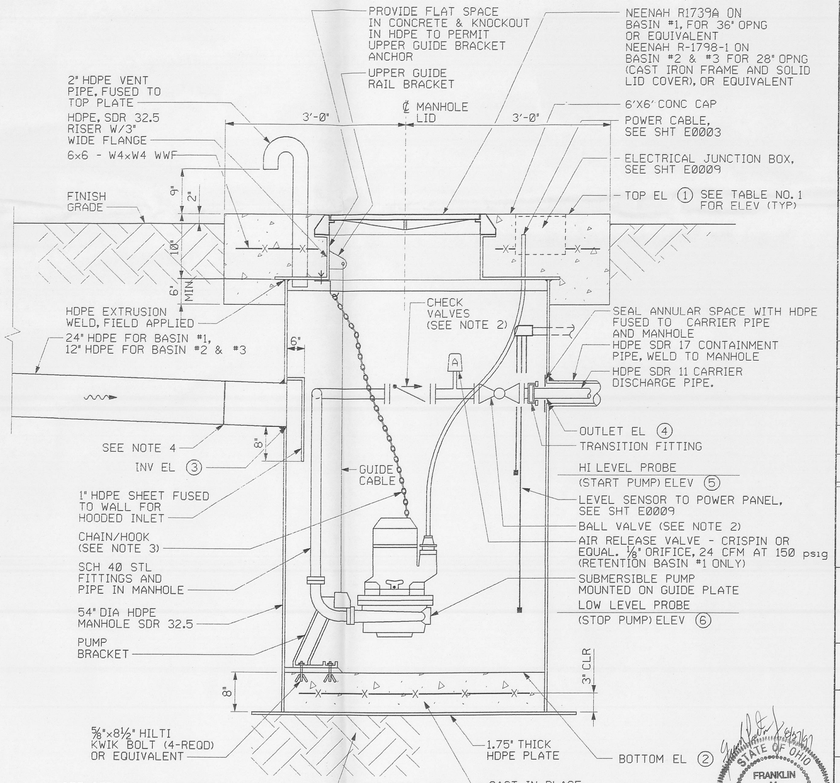
SECTION

NOTE:

1. DETAIL FOR JOINING SECTIONS OF SILT FENCE SHALL BE IN ACCORDANCE WITH RAINWATER AND LAND DEVELOPMENT, OHIO STANDARDS FOR STORMWATER MANAGEMENT, LAND DEVELOPMENT AND URBAN STREAM PROTECTION, 2ND EDITION, 1996.
2. REMOVE SEDIMENT AND RESTORE TO ORIGINAL CONDITION WHEN SEDIMENT DEPTH REACHES ONE-HALF FENCE HEIGHT, OR SOONER IF ACCUMULATED SEDIMENT PREVENTS PROPER PERFORMANCE OF SILT FENCE.

SILT FENCE DETAIL (3) G0013 — REF G0005

NTS



NOTE: SEE TABLE 1 THIS DRAWING FOR INV ELEVATIONS. SEE PLAN FOR ORIENTATION OF INLET AND OUTLET PIPES

LIFT STATION DETAIL (4) G0013 — REF G0009, G0010, G0011

NTS

STATE OF OHIO — FRANKLIN M. PARTON, JR. NO. E-57614 — REGISTERED PROFESSIONAL ENGINEER

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-X-00321	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-00303	ENLARGEMENT RETENSION BASIN #1	G0009
92X-5900-G-00371	ENLARGEMENT RETENSION BASIN #2	G0010
92X-5900-G-00372	ENLARGEMENT RETENSION BASIN #3	G0011
92X-5900-E-00377	SINGLE LINE DIAGRAMS/ELEVATIONS LIFT STATION NO. 1,2 AND 3	E0003
92X-5900-E-00382	DETAILS - SHEET 1	E0009

16

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
1	REVISED NOTE 6 PER DCN: 20401-005	JMU	N/A	8/27/97
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	6/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY

PARSONS

THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME

WASTE UNITS REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

DRAWING TITLE

CIVIL
EROSION AND SEDIMENT CONTROL
SHEET 2 OF 2

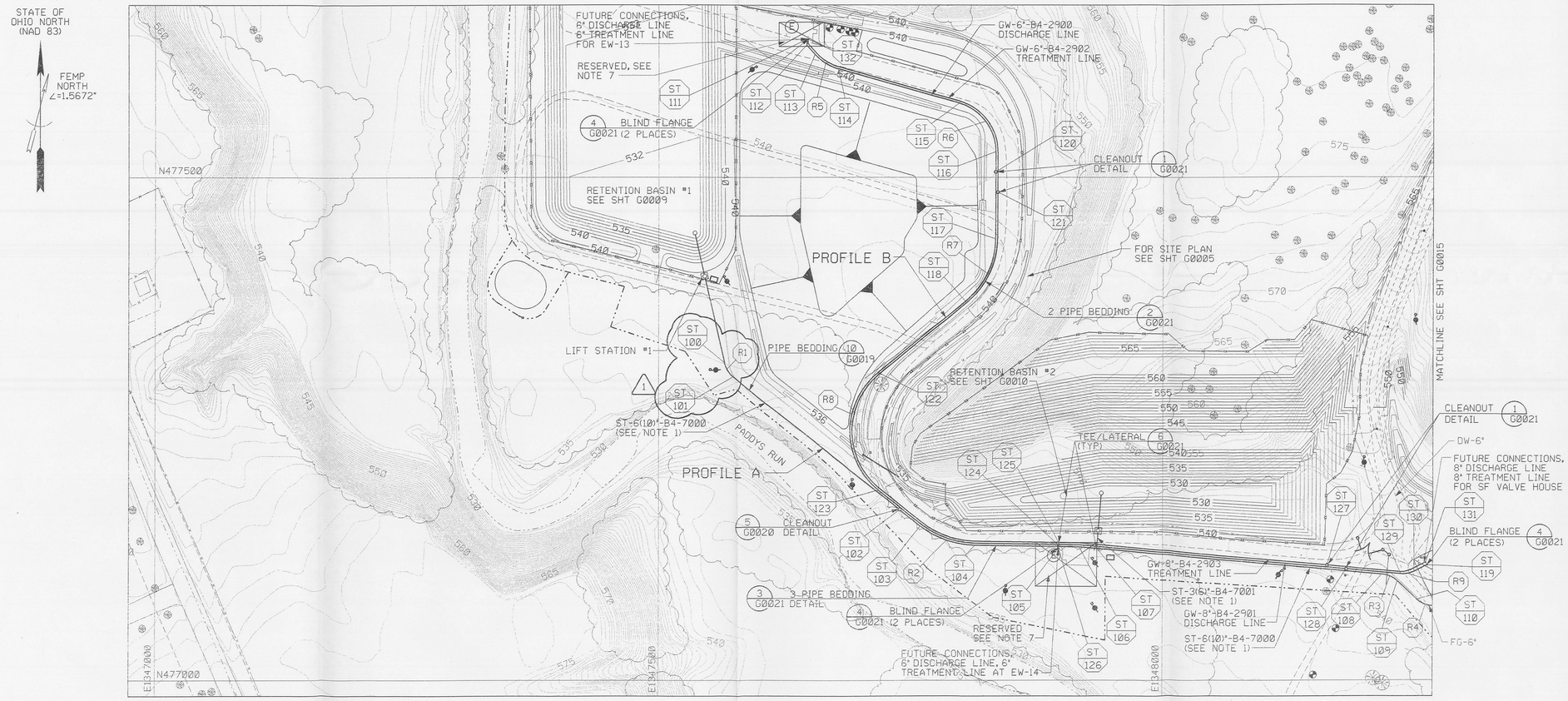
DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
K.L. RABBITT	10/16/96	F.M. PARTON, JR.	6/12/97	K. GERARD	01/18/97

PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		NONE	

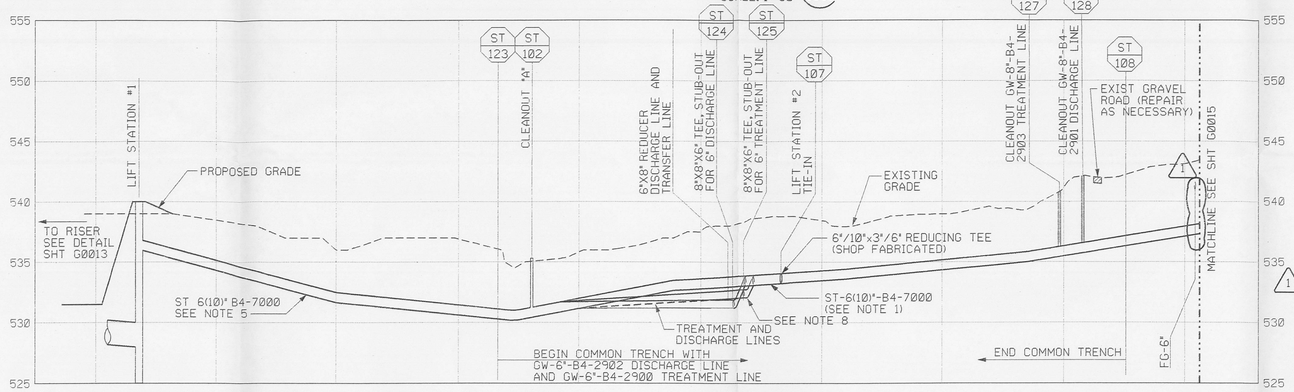
SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL	FERMCO PROJECT NO.
J.M. USHER 6/13/97	N/A	20400

A-E DATE — DATE

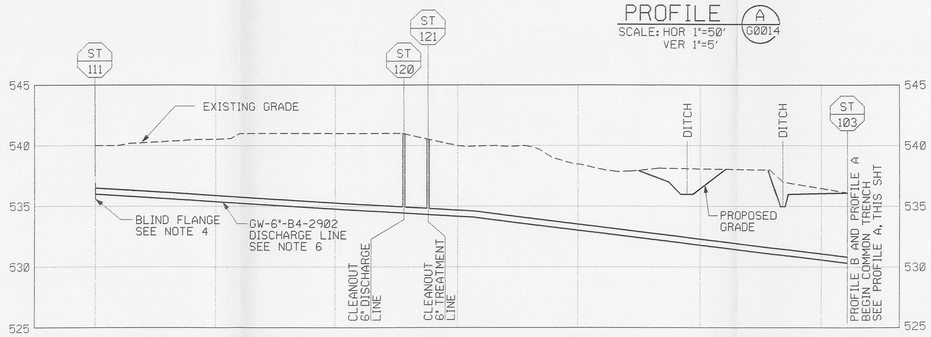
PREPARED UNDER PARSONS PROJECT ORDER NUMBER	DOE PROJECT NO.	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
SCEP/P0165		WBS 1.1.1.1.2.3.6 00-90701	92X-5900-G-00368	G0013	1



PLAN (1) G0014
SCALE: 1"=50'



PROFILE (A) G0014
SCALE: HOR 1"=50' VER 1"=5'



PROFILE (B) G0014
SCALE: HOR 1"=50' VER 1"=5'

PROFILE (1) VERTICAL GRAPHIC SCALE: 1"=5'
PROFILE (1) HORIZONTAL GRAPHIC SCALE: 1"=50'

CENTERLINE CURVE DATA				
CURVE	RADIUS	LENGTH	DELTA	TANGENT
R1	25.00'	16.76'	38°28'05"	8.72'
R2	90.00'	58.58'	37°18'37"	30.38'
R3	25.00'	17.02'	38°26'29"	8.72'
R4	25.00'	34.97'	80°07'29"	21.02'
R5	50.00'	27.69'	31°46'03"	14.22'
R6	50.00'	64.80'	74°18'13"	37.88'
R7	80.00'	70.94'	50°49'44"	38.01'
R8	75.00'	133.80'	102°15'50"	93.05'
R9	25.00'	13.60'	31°11'38"	6.98'

UNDERGROUND UTILITY COORDINATES (ST)			
POINT	NORTHING	EASTING	DESCRIPTION
100	477316.2	1347565.7	BEGIN RADIUS, R1
101	477302.2	1347574.5	END RADIUS, R1
102	477170.2	1347739.9	CLEANOUT "A"
103	477153.8	1347760.6	BEGIN RADIUS, R2
104	477134.6	1347814.9	END RADIUS, R2
105	477131.0	1347897.1	BLIND FLANGE, ELEV. 535 ±
106	477133.0	1347918.7	ANGLE POINT, TRANSFER LINE
107	477131.5	1347935.5	REDUCING TEE
108	477105.7	1348218.7	BEGIN RADIUS, R3
109	477099.0	1348234.0	END RADIUS, R3
110	477080.8	1348253.4	BEGIN RADIUS, R4
111	477636.9	1347646.6	BLIND FLANGE, ELEV. 539 ±
112	477631.0	1347646.3	ANGLE POINT, DISCHARGE LINE
113	477621.8	1347654.8	BEGIN RADIUS, R5
114	477607.5	1347678.1	END RADIUS, R5
115	477573.8	1347798.0	BEGIN RADIUS, R6
116	477525.7	1347834.4	END RADIUS, R6
117	477439.2	1347834.4	BEGIN RADIUS, R7
118	477377.2	1347805.0	END RADIUS, R7
119	477114.8	1348263.5	BLIND FLANGE, ELEV. 540 ±
120	477505.7	1347834.4	CLEANOUT, DISCHARGE LINE
121	477485.7	1347836.4	CLEANOUT, TREATMENT LINE
122	477306.4	1347718.2	BEGIN RADIUS, R8
123	477189.7	1347718.8	END RADIUS, R8
124	477135.4	1347897.1	8"x8"x6" TEE, 8" DISCHARGE LINE
125	477137.3	1347898.2	8"x8"x6" TEE, 8" TREATMENT LINE
126	477131.0	1347898.1	BLIND FLANGE, ELEV. 535 ±
127	477114.7	1348164.1	CLEANOUT, TREATMENT LINE
128	477111.0	1348183.3	CLEANOUT, DISCHARGE LINE
129	477106.0	1348237.4	BEGIN RADIUS, R9
130	477108.5	1348250.6	END RADIUS, R9
131	477117.4	1348262.2	BLIND FLANGE, ELEV. 540 ±
132	477636.8	1347647.7	BLIND FLANGE, ELEV. 539 ±

STATE OF OHIO FRANKLIN M. PARTON, JR. NO. E-57614 REGISTERED PROFESSIONAL ENGINEER 6/13/97

NOTES

1123

1. FOR TRANSFER LINE, USE HDPE SDR 11 FOR 3" AND 6" CARRIER PIPES AND SDR 21 FOR 6" AND 10" CONTAINMENT PIPES. ALL FITTINGS ARE TO BE MOLDED UNLESS NOTED OTHERWISE.
2. ALL HDPE VERTICAL ALIGNMENT IS TO BE MET USING A MINIMUM 20' RADIUS BEND OR IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION. MAINTAIN 42" MINIMUM COVER OVER TOP OF PIPE.
3. THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE. FIELD VERIFY PRIOR TO CONSTRUCTION.
4. INSTALL BLIND FLANGE ON DISCHARGE AND TREATMENT LINES AT LOCATIONS SHOWN. AT EACH BLIND FLANGE INSTALL UTILITY MARKER. UTILITY MARKER SHALL BE A MIN. 3.5" WIDE, 6' LONG WITH A MIN. 3' INSTALLED ABOVE GRADE, YELLOW IN COLOR WITH THE WORDS DISCHARGE LINE OR TREATMENT LINE WRITTEN IN BLACK LETTERS. UTILITY MARKERS SHALL BE CARSONITE INTERNATIONAL, OR EQUAL AS A MINIMUM.
5. LOCATION GIVEN FOR ST-6(10)"-B4-7000 TRANSFER LINE, GW-DISCHARGE LINE AND GW-TREATMENT LINE ARE LOCATED IN SAME TRENCH, UNLESS OTHERWISE NOTED.
6. LOCATION GIVEN FOR GW-6"-B4-2902 DISCHARGE LINE. GW-6"-B4-2900 TREATMENT LINE IS LOCATED IN SAME TRENCH, UNLESS OTHERWISE NOTED.
7. AREAS RESERVED FOR FUTURE PROJECTS BY OTHERS EXCEPT FOR INSTALLATION OF OVERHEAD ELECTRIC AND UNDERGROUND UTILITIES. MAINTAIN AND ALLOW ACCESS TO THESE AREAS DURING CONSTRUCTION.
8. PIPE TO ALWAYS SLOPE FROM LOW POINTS TO AIR RELEASE VALVES AT THE HIGH POINTS. AVOID INTERMEDIATE HIGH POINTS. FIELD ADJUST AIR RELEASE VALVES TO ENSURE THEY ARE AT THE HIGH POINT IN THE LINE.

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-X-00321	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-00282	SITE PLAN	G0005
92X-5900-G-00303	ENLARGEMENT RETENTION BASIN #1	G0009
92X-5900-G-00371	ENLARGEMENT RETENTION BASIN #2	G0010
92X-5900-G-00368	EROSION AND SEDIMENT CONTROL - SHEET 2 OF 2	G0013
92X-5900-G-00305	TRANSFER LINE - PLAN AND PROFILE - SHEET 2 OF 3	G0015
92X-5900-G-00307	WATER LINE DETAILS	G0019
92X-5900-G-00309	MISCELLANEOUS DETAILS SHEET 1 OF 3	G0020
92X-5900-G-00308	MISCELLANEOUS DETAILS SHEET 2 OF 3	G0021

17

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
1	REVISED PROFILE GRAPHIC SCALES, REMOVED DW-6" LINE, ADDED FG-6" PER DCN: 20401-005	JMU	N/A	8/27/97
	CURVE DATA FOR R1, R5, R6 AND COORDINATE FOR POINTS 100 AND 101.			
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	6/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
WASTE UNITS REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

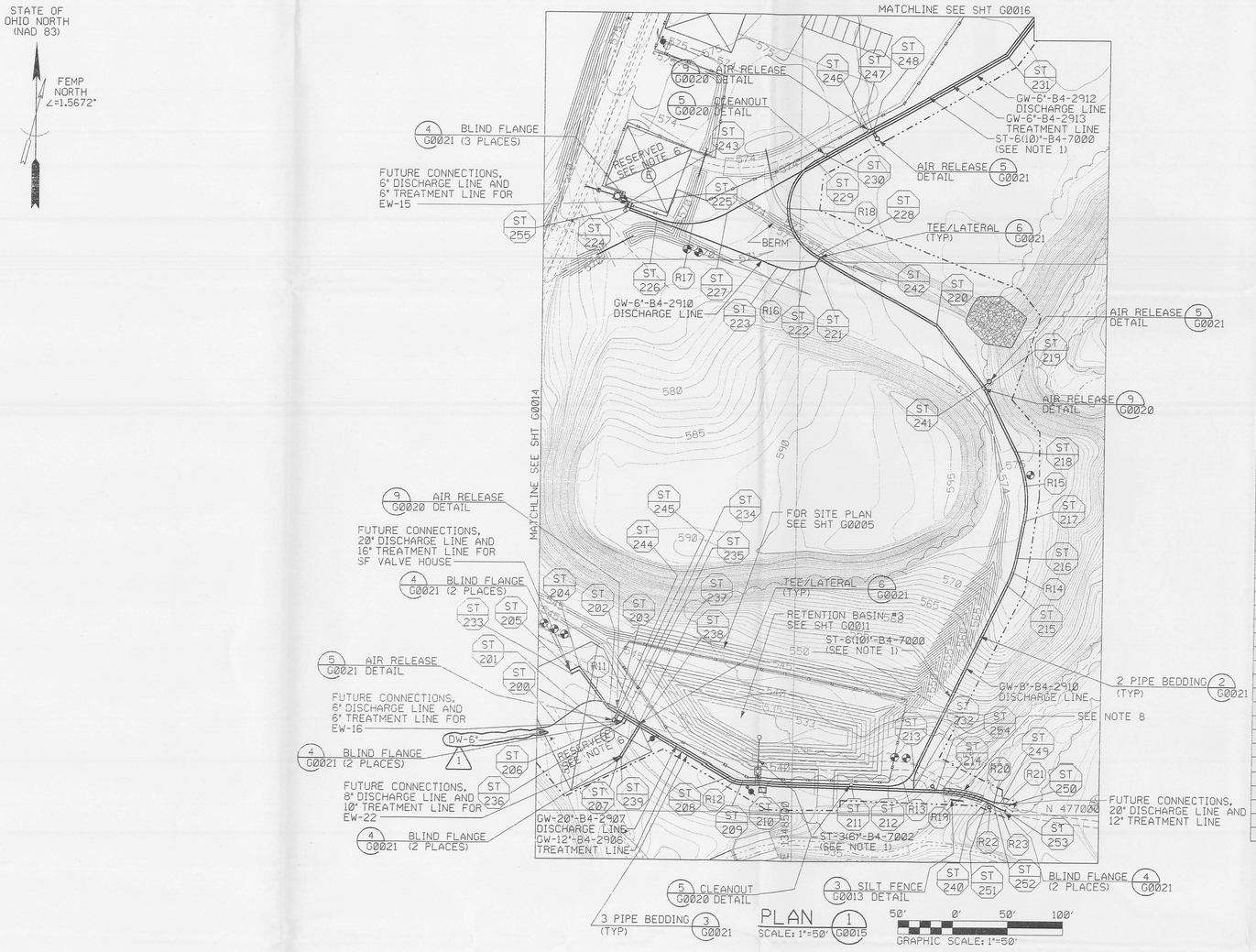
DRAWING TITLE
CIVIL
TRANSFER LINE - PLAN AND PROFILE
SHEET 1 OF 3

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
R. LINDGREN	06/12/96	F.M. PARTON, JR.	6/12/97	K. GERARD	01/18/97

PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		1"=50'	

SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL	FERMCO PROJECT NO.
J.M. USHER 6/13/97	N/A	20400
A-E DATE	DATE	

PREPARED UNDER PARSONS PROJECT ORDER NUMBER	DOE PROJECT NO.	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
SCEP/P0165		WBS 1.1.1.1.2.3.6 00-90701	92X-5900-G-00304	G0014	1



PLAN 1 G0015
SCALE: 1"=50'
GRAPHIC SCALE: 1"=50'

UNDERGROUND UTILITY COORDINATES (ST)			
POINT	NORTHING	EASTING	DESCRIPTION
200	477079.0	1348285.6	END RADIUS, R4
201	477094.3	1348305.8	BEGIN RADIUS, R11
202	477095.9	1348333.3	END RADIUS, R11
203	477092.0	1348340.1	AIR RELEASE #1
204	477130.1	1348305.7	ANGLE POINT, DISCHARGE LINE
205	477126.1	1348297.5	BLIND FLANGE, ELEV 540 ±
206	477080.6	1348344.1	BLIND FLANGE, ELEV 540 ±
207	477048.7	1348342.8	BLIND FLANGE, ELEV 540 ±
208	477032.3	1348443.9	BEGIN RADIUS, R12
209	477029.0	1348455.6	END RADIUS, R12
210	477028.6	1348469.0	REDUCING TEE, TRANSFER LINE
211	477026.2	1348554.3	CLEANOUT "B"
212	477025.3	1348587.2	BEGIN RADIUS, R13
213	477039.5	1348610.4	END RADIUS, R13
214	477021.9	1348636.0	BEGIN RADIUS, R19
215	477207.6	1348691.5	BEGIN RADIUS, R14
216	477231.8	1348699.5	END RADIUS, R14
217	477264.9	1348706.0	BEGIN RADIUS, R15
218	477328.8	1348697.3	END RADIUS, R15
219	477385.9	1348668.7	AIR RELEASE #2
220	477441.7	1348625.2	ANGLE POINT, TRANSFER LINE
221	477496.1	1348514.6	ANGLE POINT, DISCHARGE LINE
222	477493.6	1348505.5	BEGIN RADIUS, R16
223	477494.6	1348481.1	END RADIUS, R16
224	477544.4	1348345.3	ANGLE POINT, DISCHARGE LINE
225	477550.9	1348347.7	BLIND FLANGE, ELEV 569 ±
226	477537.3	1348370.5	BEGIN RADIUS, R17
227	477542.7	1348433.7	END RADIUS, R17
228	477504.5	1348514.5	BEGIN RADIUS, R18
229	477591.4	1348514.2	END RADIUS, R18
230	477596.4	1348522.8	CLEANOUT "C"
231	477689.4	1348684.3	ANGLE POINT, TRANSFER LINE
232	477022.7	1348610.0	20"X20"X8" TEE, DISCHARGE LINE
233	477123.4	1348298.8	BLIND FLANGE, ELEV 540 ±
234	477085.7	1348347.1	20"×20"×6" TEE, DISCHARGE LINE
235	477082.5	1348348.6	16"×16"×6" TEE, TREATMENT LINE
236	477079.1	1348346.6	BLIND FLANGE, ELEV 540 ±
237	477078.4	1348359.9	20"×20"×6" TEE, DISCHARGE LINE
238	477075.6	1348360.6	16"×16"×6" TEE, TREATMENT LINE
239	477047.7	1348344.5	BLIND FLANGE, ELEV 540 ±
240	477013.4	1348678.0	END RADIUS, R19-BEGIN RADIUS, R20
241	477388.7	1348669.1	8"×8"×1" TEE, DISCHARGE LINE
242	477504.2	1348519.2	8"×8"×6" TEE, DISCHARGE LINE
243	477551.8	1348345.1	BLIND FLANGE, ELEV 569 ±
244	477089.3	1348340.9	20"×20"×1" TEE, DISCHARGE LINE
245	477086.6	1348341.6	16"×16"×1" TEE, TREATMENT LINE
246	477618.8	1348561.8	AIR RELEASE #3
247	477616.4	1348565.6	6"×6"×1" TEE, TREATMENT LINE
248	477619.1	1348566.3	6"×6"×1" TEE, DISCHARGE LINE
249	477010.7	1348689.8	END RADIUS, R20-BEGIN RADIUS, R21
250	477009.3	1348697.9	END RADIUS, R21-BLIND FLANGE 535 ±
251	477011.5	1348677.4	BEGIN RADIUS, R22-CLEANOUT TEE
252	477008.2	1348684.0	END RADIUS, R22-BEGIN RADIUS, R23
253	477003.7	1348694.0	END RADIUS, R23-BLIND FLANGE 535±
254	477022.1	1348630.9	CLEANOUT TEE
255	477547.2	1348343.4	8"×8"×6" TEE

NOTES

1123

1. FOR TRANSFER LINE, USE HDPE SDR 11 FOR 3" AND 6" CARRIER PIPES AND SDR 21 FOR 6" AND 10" CONTAINMENT PIPES. ALL FITTINGS ARE TO BE MOLDED UNLESS NOTED OTHERWISE.
2. ALL HDPE VERTICAL ALIGNMENT IS TO BE MET USING A MINIMUM 20' RADIUS BEND OR IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION. MAINTAIN 42" MINIMUM COVER OVER TOP OF PIPE.
3. THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE. FIELD VERIFY PRIOR TO CONSTRUCTION.
4. INSTALL BLIND FLANGE ON DISCHARGE AND/OR TREATMENT LINES AT LOCATIONS SHOWN. AT EACH BLIND FLANGE INSTALL UTILITY MARKER. UTILITY MARKER SHALL BE A MIN. 3.5' WIDE, 6' LONG WITH A MIN. 3' INSTALLED ABOVE GRADE, YELLOW IN COLOR, WITH THE WORDS DISCHARGE LINE OR TREATMENT LINE WRITTEN IN BLACK LETTERS. UTILITY MARKERS SHALL BE CARSONITE INTERNATIONAL, OR EQUAL AS A MINIMUM.
5. LOCATION GIVEN FOR ST-6 (10)"-B4-7000 TRANSFER LINE. GW-DISCHARGE LINE AND GW-TREATMENT LINE ARE LOCATED IN THE SAME TRENCH UNLESS OTHERWISE NOTED.
6. AREAS RESERVED FOR FUTURE PROJECTS BY OTHERS EXCEPT FOR INSTALLATION OF OVERHEAD ELECTRIC AND UNDERGROUND UTILITIES. MAINTAIN AND ALLOW ACCESS TO THESE AREAS DURING CONSTRUCTION.
7. PIPE TO ALWAYS SLOPE FROM LOW POINTS TO AIR RELEASE VALVES AT THE HIGH POINTS. AVOID INTERMEDIATE HIGH POINTS. FIELD ADJUST AIR RELEASE VALVES TO ENSURE THEY ARE AT THE HIGH POINT IN THE LINE
8. PROVIDE CONCRETE ENCASEMENT ON PIPES FROM 5' EAST OF ST-232 TO 5' WEST OF ST-249. CONCRETE TO BE 6" MINIMUM THICKNESS ON ALL SIDES OF PIPES.

CENTERLINE CURVE DATA				
CURVE	RADIUS	LENGTH	DELTA	TANGENT
R11	25.00'	29.18'	66°52'56"	16.51'
R12	25.00'	12.32'	28°19'23"	6.28'
R13	25.00'	28.75'	65°52'46"	16.20'
R14	100.00'	25.57'	14°41'45"	12.86'
R15	100.00'	65.60'	37°32'55"	34.07'
R16	40.00'	24.82'	35°34'19"	12.84'
R17	75.00'	65.55'	50°4'18"	35.02'
R18	50.00'	105.16'	120°15'37"	87.06'
R19	125.00'	43.13'	19°46'47"	21.79'
R20	40.00'	12.09'	17°19'06"	6.10'
R21	40.00'	8.28'	11°51'31"	4.16'
R22	40.00'	7.41'	10°37'05"	3.72'
R23	40.00'	11.00'	15°46'32"	5.54'

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-X-00321	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-00282	SITE PLAN	G0005
92X-5900-G-00372	ENLARGEMENT RETENTION BASIN #3	G0011
92X-5900-G-00368	EROSION AND SEDIMENT CONTROL - SHEET 2 OF 2	G0013
92X-5900-G-00304	TRANSFER LINE - PLAN AND PROFILE - SHEET 1 OF 3	G0014
92X-5900-G-00306	TRANSFER LINE - PLAN AND PROFILE - SHEET 3 OF 3	G0016
92X-5900-G-00307	WATER LINE DETAILS	G0019
92X-5900-G-00309	MISCELLANEOUS DETAILS SHEET 1 OF 3	G0020
92X-5900-G-00308	MISCELLANEOUS DETAILS SHEET 2 OF 3	G0021

PROFILE A G0015
SCALE: HOR 1"=50' VER 1"=5'

PROFILE GRAPHIC SCALE: 1"=5' VERTICAL
PROFILE GRAPHIC SCALE: 1"=50' HORIZONTAL

18

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
1	ADDED EXISTING DW-6" LOCATION, PER DCN:20401-005	JMU	N/A	8/27/97
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	6/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
WASTE UNITS REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

DRAWING TITLE
CIVIL
TRANSFER LINE - PLAN AND PROFILE
SHEET 2 OF 3

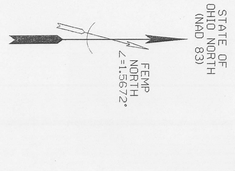
STATE OF OHIO FRANKLIN M. PARTON, JR. NO. E-57614 REGISTERED PROFESSIONAL ENGINEER

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
R. LINDGREN	06/12/96	F.P. PARTON, JR.	6/12/97	K. GERARD	01/18/97

PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		1"=50'	

SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL	FERMCO PROJECT NO.
A-E J.M. USHER 6/13/97	N/A	20400

PREPARED UNDER PARSONS PROJECT ORDER NUMBER	DOE PROJECT NO.	TEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
SCEP/P0165		WBS 1.1.1.1.2.3.6 00-90701	92X-5900-G-00305	G0015	1

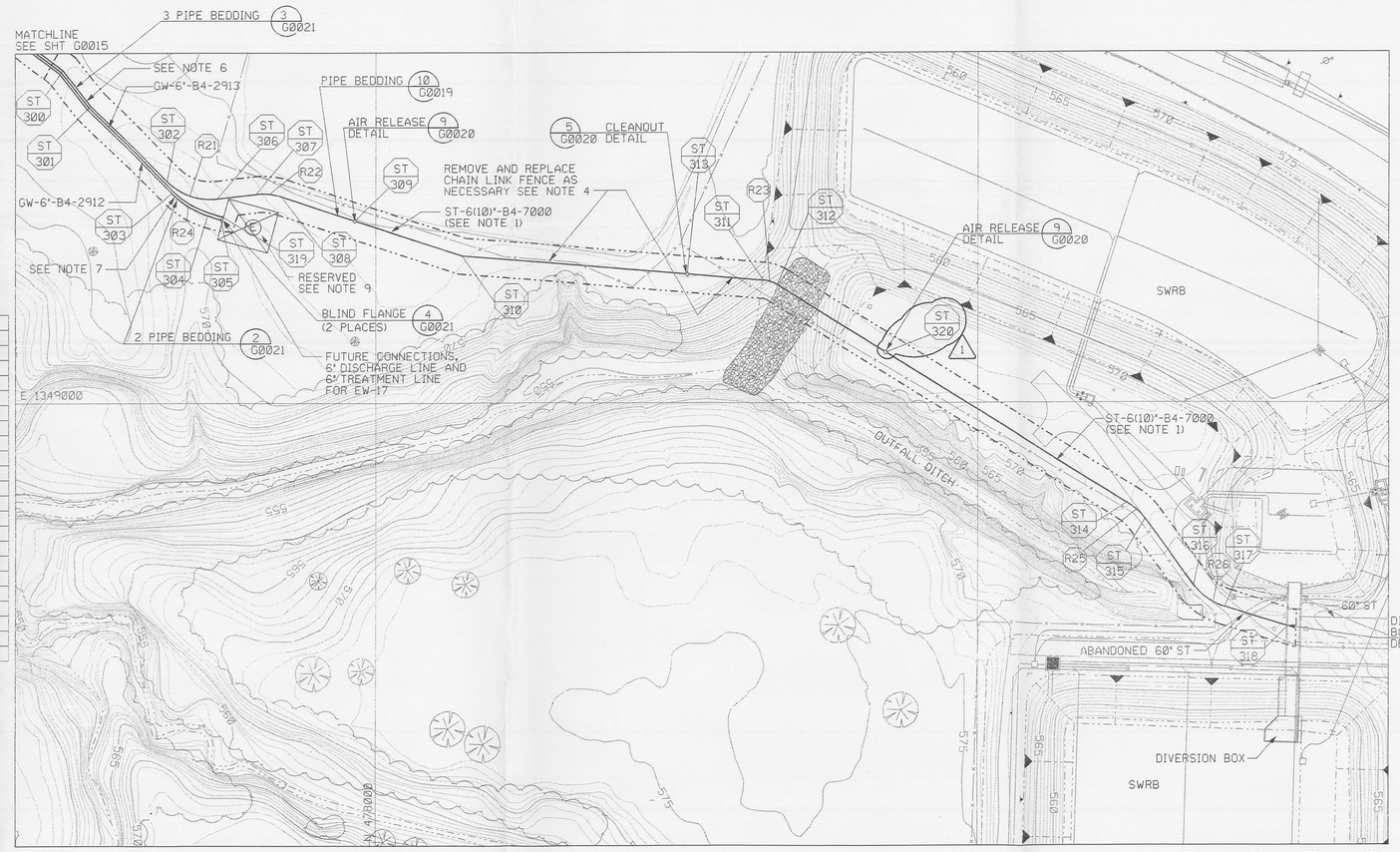


CENTERLINE CURVE DATA				
CURVE	RADIUS	LENGTH	DELTA	TANGENT
R21	50.00'	45.52'	52°01'22"	24.40'
R22	50.00'	21.77'	24°56'19"	11.06'
R23	25.00'	11.94'	27°21'20"	6.09'
R24	75.00'	35.50'	27°18'33"	18.18'
R25	50.00'	19.88'	22°50'44"	10.10'
R26	50.00'	31.89'	36°34'42"	16.52'

1

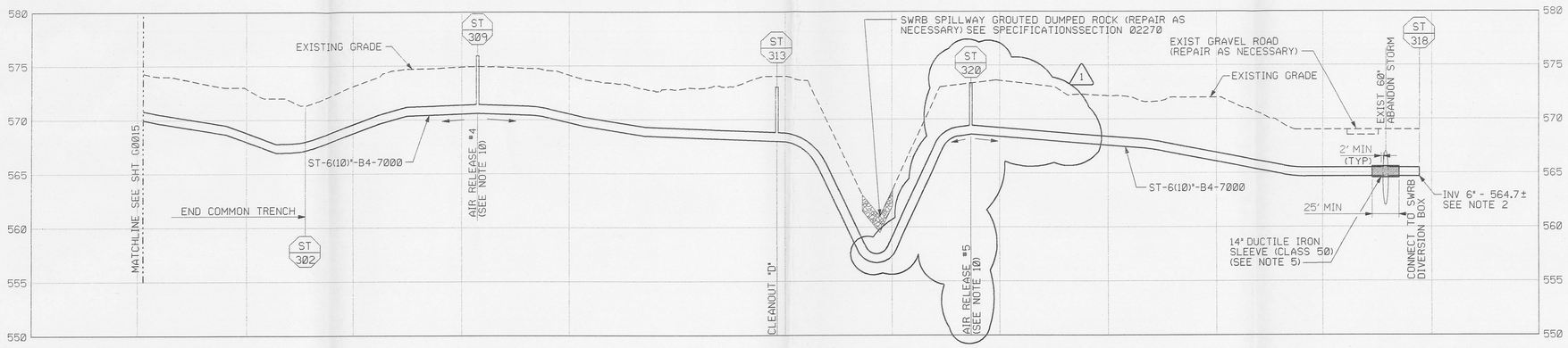
UNDERGROUND UTILITY COORDINATES (ST)			
POINT	NORTHING	EASTING	DESCRIPTION
300	477741.6	1348723.5	ANGLE POINT, TRANSFER LINE
301	477764.5	1348752.9	ANGLE POINT, TRANSFER LINE
302	477826.5	1348815.8	BEGIN RADIUS, R21
303	477830.5	1348825.6	BEGIN RADIUS, R24
304	477860.4	1348844.2	END RADIUS, R24
305	477871.4	1348847.8	BLIND FLANGE, ELEV. 568±
306	477867.9	1348830.4	END RADIUS, R21
307	477900.2	1348826.6	BEGIN RADIUS, R22
308	477921.7	1348828.7	END RADIUS, R22
309	477982.5	1348848.7	AIR RELEASE #4
310	478072.0	1348878.2	ANGLE POINT, TRANSFER LINE
311	478323.2	1348898.6	BEGIN RADIUS, R23
312	478334.4	1348902.4	END RADIUS, R23
313	478259.6	1348893.5	CLEANOUT "D"
314	478624.7	1349083.9	BEGIN RADIUS, R25
315	478639.3	1349097.1	END RADIUS, R25
316	478680.2	1349152.7	BEGIN RADIUS, R26
317	478705.7	1349170.8	END RADIUS, R26
318	478758.3	1349186.9	CONNECT TO SWRB DIVER. BOX
319	477872.3	1348872.3	BLIND FLANGE, ELEV 568±
320	478423.9	1348958.3	AIR RELEASE #5

1



PLAN 1 G0016
SCALE: 1"=50'

50' 0' 50' 100'
GRAPHIC SCALE: 1"=50'



PROFILE A G0016
SCALE: HOR 1"=50'
VER 1"=5'

1 PROFILE VERTICAL 5' 0' 5' 10' GRAPHIC SCALE: 1"=5'

PROFILE HORIZONTAL 50' 0' 50' 100' GRAPHIC SCALE: 1"=50'

STATE OF OHIO
FRANKLIN M. PARTON, JR.
NO. E-57614
REGISTERED PROFESSIONAL ENGINEER

NOTES

1128

1. FOR TRANSFER LINE, USE HDPE SDR 11 FOR 6" CARRIER PIPE AND SDR 21 FOR 10" CONTAINMENT PIPE. ALL FITTINGS ARE TO BE MOLDED UNLESS NOTED OTHERWISE.
2. ALL HDPE VERTICAL ALIGNMENT IS TO BE INSTALLED USING A MINIMUM 20' RADIUS BEND OR ACCORDANCE WITH MANUFACTURER'S RECOMENDATION. MAINTAIN 42" MINIMUM COVER OVER TOP OF PIPE.
3. THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE. FIELD VERIFY PRIOR TO CONSTRUCTION.
4. REMOVE AND REPLACE EXISTING CHAIN LINK FENCE AS REQUIRED FOR INSTALLATION OF TRANSFER LINE. COORDINATE FENCE REMOVAL AND REPLACEMENT WITH FDF.
5. SAWCUT A NOTCH INTO THE TOP OF THE EXISTING ABANDONED 60" PIPE AS NECESSARY TO INSTALL 14" DUCTILE IRON SLEEVE. THE SUBCONTRACTOR SHALL GROUT AROUND THE OPENING IN THE ABANDONED 60" PIPE AND AT THE ENDS OF THE 14" SLEEVE. (1)
6. LOCATION GIVEN FOR ST-6(10)"-B4-7000 TRANSFER LINE. GW-DISCHARGE LINE AND GW-TREATMENT LINE ARE LOCATED IN SAME TRENCH, UNLESS OTHERWISE NOTED.
7. LOCATION GIVEN FOR GW-6"-B4-2912 DISCHARGE LINE. GW-6"-B4-2913 TREATMENT LINE IS LOCATED IN SAME TRENCH.
8. INSTALL BLIND FLANGE ON DISCHARGE AND TREATMENT LINES AT LOCATIONS SHOWN. AT EACH BLIND FLANGE INSTALL UTILITY MARKER. UTILITY MARKER SHALL BE A MIN. 3.5' WIDE, 6' LONG WITH A MIN. 3' INSTALLED ABOVE GRADE, YELLOW IN COLOR, WITH WORDS "CAUTION, BURIED DISCHARGE LINE" OR "CAUTION, BURIED TREATMENT LINE" WRITTEN IN BLACK LETTERS. UTILITY MARKERS SHALL BE CARSONITE INTERNATIONAL, OR EQUAL AS A MINIMUM.
9. AREAS RESERVED FOR FUTURE PROJECTS BY OTHERS EXCEPT FOR INSTALLATION OF UNDERGROUND UTILITIES. MAINTAIN AND ALLOW ACCESS TO THESE AREAS DURING CONSTRUCTION.
10. PIPE TO ALWAYS SLOPE FROM LOW POINTS TO AIR RELEASE VALVES AT THE HIGH POINTS. AVOID INTERMEDIATE HIGH POINTS. FIELD ADJUST AIR RELEASE VALVES TO ENSURE THEY ARE AT THE HIGH POINT IN THE LINE.

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-X-00321	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-00305	TRANSFER LINE - PLAN AND PROFILE - SHEET 2 OF 3	G0015
92X-5900-G-00307	WATER LINE DETAILS	G0019
92X-5900-G-00309	MISCELLANEOUS DETAILS - SHEET 1 OF 3	G0020
92X-5900-G-00309	MISCELLANEOUS DETAILS - SHEET 2 OF 3	G0021

19

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
1	REVISED TRANSFER LINE PROFILE AND AIR RELEASE VALVE LOCATION, REVISED NOTE 5, PER DCN: 20401-005. CURVE R26 AND COORDINATE 320.	JMU	N/A	6/27/97
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	6/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
WASTE UNITS REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

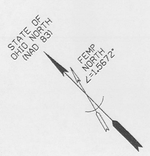
DRAWING TITLE
CIVIL
TRANSFER LINE - PLAN AND PROFILE
SHEET 3 OF 3

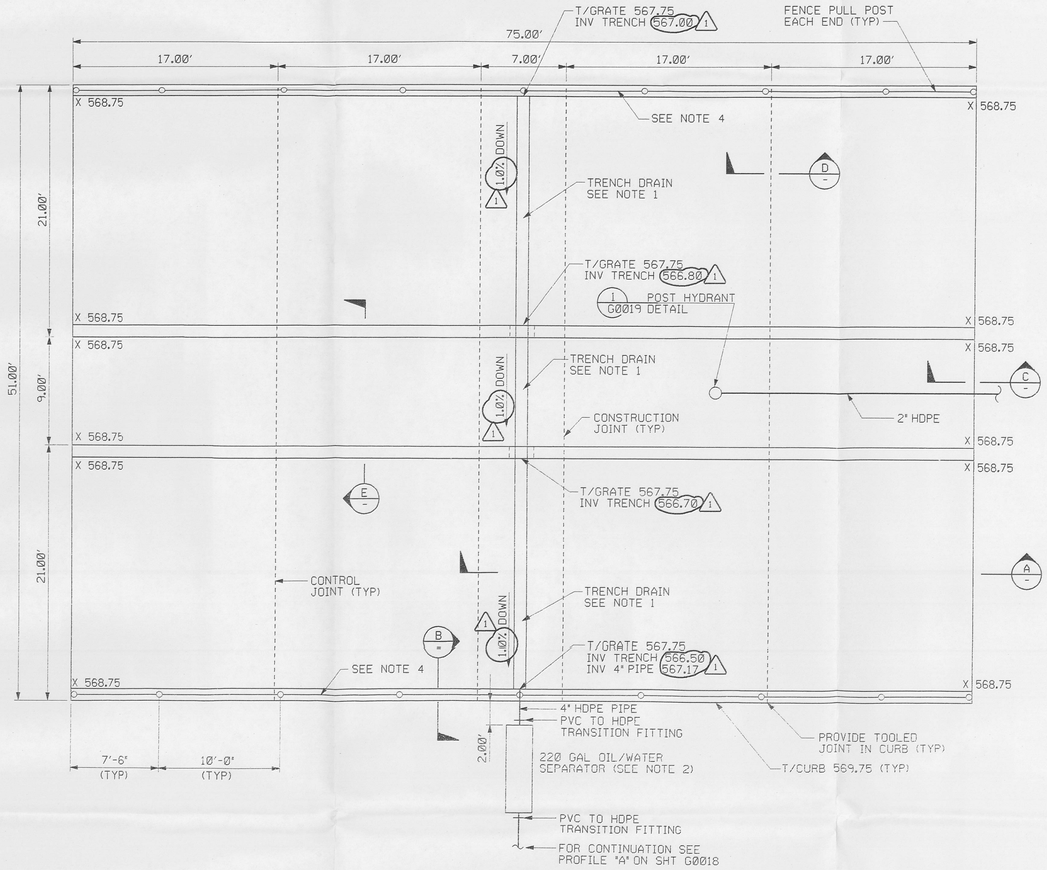
DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
R. LINDGREN	06/12/96	F.M. PARTON, JR.	6/12/97	K. GERARD	01/18/97

PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		1"=50'	

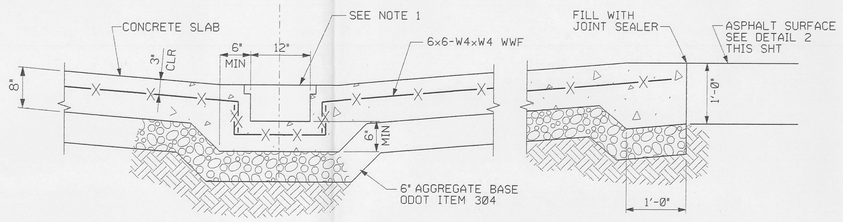
SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL	FERMCO PROJECT NO.
J.M. USHER 6/13/97	N/A	20400
A-E DATE	DATE	

PREPARED UNDER PARSONS PROJECT ORDER NUMBER	DOE PROJECT NO.	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
SCEP/P0165		WBS 1.1.1.1.2.3.6 00-90701	92X-5900-G-00306	G0016	1

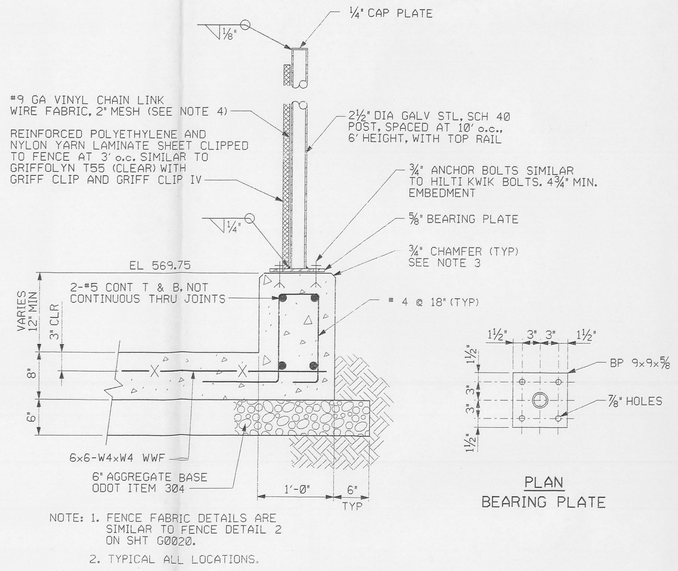




DETAIL 1 G0017 REF G0007
WASH PAD
SCALE: 1"=5'



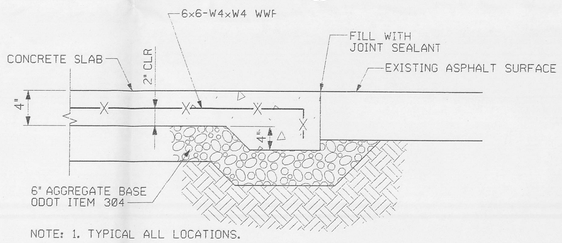
SECTION A
NTS



NOTE: 1. FENCE FABRIC DETAILS ARE SIMILAR TO FENCE DETAIL 2 ON SHT G0020.
2. TYPICAL ALL LOCATIONS.

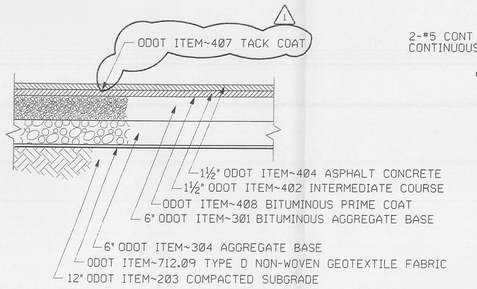
PLAN
BEARING PLATE

SECTION B
NTS

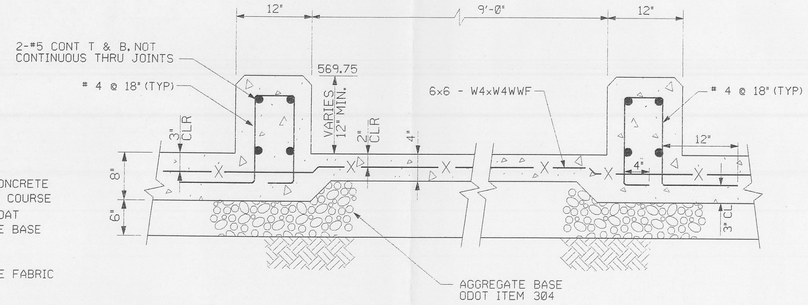


NOTE: 1. TYPICAL ALL LOCATIONS.

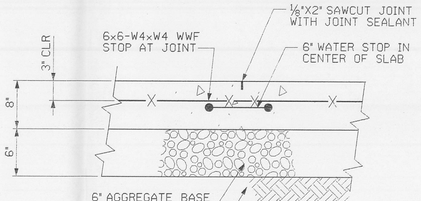
SECTION C
NTS



DETAIL 2 G0017 REF G0007
ASPHALTIC CONCRETE PAVING
NTS



SECTION E
NTS



SECTION D
NTS

NOTES

1. NEENAH R-4990-DX HEAVY DUTY DUCTILE IRON FRAME AND GRATE, OR EQUAL. SET FRAME PER MANUFACTURERS RECOMMENDATIONS.
2. 220 GALLON POLYMER CONCRETE OIL/WATER SEPARATOR SIMILAR TO ACO POLYMER PRODUCTS, INC. OIL SEPARATOR SYSTEM.
3. PROVIDE 3/4" CHAMFER ON ALL EXTERIOR CORNERS OF CURBS AND CONCRETE.
4. PROVIDE 6'-0" HIGH SPLASH SHIELD ON TOP OF EXTERIOR CURBS.

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-X-00321	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-00283	SITE PLAN - WHEEL WASH AREA	G0007
92X-5900-G-00310	WHEEL WASH SUMP DISCHARGE - PROFILES AND DETAILS	G0018
92X-5900-G-00307	WATER LINE DETAILS	G0019
92X-5900-G-00309	MISCELLANEOUS DETAILS - SHEET 1 OF 3	G0020

20

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
1	REVISED INVERTS AND SLOPE OF WASH PAD TRENCH AND ADDED TACK COAT NOTE, PER DCN: 20401-005	JMU	N/A	8/27/97
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	6/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
WASTE UNITS REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

DRAWING TITLE
CIVIL
WHEEL WASH PAD
STRUCTURAL DETAILS

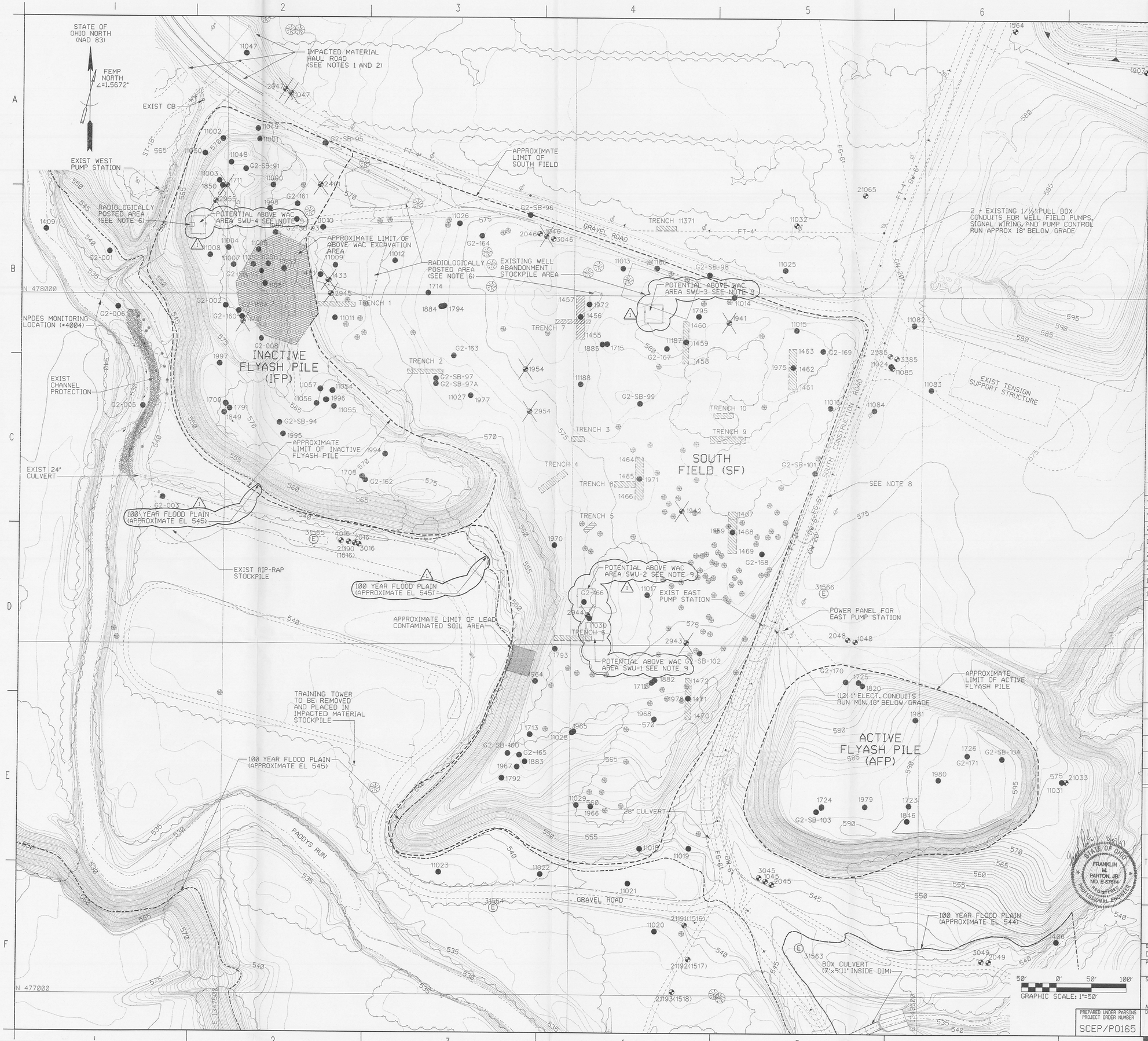
DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
R. LINDGREN	03/08/96	F.M. PARTON, JR.	6/12/97	K. GERARD	1/18/97

PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		NONE	

SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL	FERMCO PROJECT NO.
J.M. USHER 6/13/97	N/A	20400
A-E DATE	DATE	

PREPARED UNDER PARSONS PROJECT ORDER NUMBER	DOE PROJECT NO.	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
SCEP/P0165		WBS 1.1.1.1.2.3.6 00-90701	92X-5900-G-00312	G0017	1

STATE OF OHIO FRANKLIN M. PARTON, JR. NO. E-57814 REGISTERED PROFESSIONAL ENGINEER



NOTES

1193

1. IMPACTED MATERIAL HAUL ROAD WILL BE CONSTRUCTED IN THE SUMMER OF 1997 AND MAY NOT BE COMPLETED WHEN SOUTHERN WASTE UNITS SITE PREPARATION CONSTRUCTION BEGINS.
2. THE TOPOGRAPHIC AND PLANIMETRIC FEATURES SHOWN IN THE WHEEL WASH AREA AS EXISTING ARE FROM DESIGN DRAWINGS AND NOT "AS-BUILT". THE SUBCONTRACTOR SHALL INSPECT THE WORK AREA PRIOR TO STARTING WORK AND NOTIFY FDF OF ANY DISCREPANCIES IN WRITING.
3. SEE FLYASH PILES AND SOUTH FIELD WASTE UNITS GEOTECHNICAL REPORT DATED APRIL, 1996 REVISION Ø FOR SOIL BORING LOCATIONS AND INFORMATION.
4. THE LIMITS OF THE INACTIVE FLYASH PILE (IFP), SOUTH FIELD (SF), AND ACTIVE FLYASH PILE (AFP) SHOWN ON THIS DRAWING ARE SHOWN FOR GENERAL INFORMATION ONLY.
5. FDF WILL COORDINATE ABANDONMENT OF DESIGNATED MONITORING WELLS BY OTHERS. PROTECT ALL EXISTING MONITORING WELLS AND EXTRACTION WELLS THAT ARE TO REMAIN. SEE SPECIFICATION 02120.
6. NOTIFY FDF 24 HOURS PRIOR TO PERFORMING WORK WITHIN EXISTING RADIOLOGICALLY POSTED AREAS. ALL WORK WITHIN THESE AREAS SHALL BE PERFORMED BY RAD II PERSONNEL WITH APPROPRIATE PPE REQUIREMENTS.
7. SUBCONTRACTOR TO USE CAUTION WHEN CROSSING EXISTING UTILITIES THAT RUN NORTH/SOUTH ALONG EXISTING ROAD.
8. DW-6", HDPE, 3.5' DEPTH
   REF DRAWING 22A-5500-G-00807 AND 18A-4445-G-01086

   FG-6", HDPE, 2' DEPTH
   REF DRAWING 22X-5500-P-00868 AND 22X-5500-P-00872

   GW-20", HDPE FORCE MAIN, 4' DEPTH
   REF DRAWING 18A-4445-G-01095 AND 18A-4445-G-01086
9. POTENTIAL ABOVE WAC SOIL AREA. SOIL NOT TO BE DISTURBED DURING CLEARING OPERATIONS.

LEGEND

G2-169	SOIL BORING
1970	MONITORING WELL TO REMAIN
1970	MONITORING WELL TO BE ABANDONED BY OTHERS
1463 1462 1461	INVESTIGATION TRENCH (BACKFILLED)
(E)	EXTRACTION WELL TO REMAIN

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-X-00321	LEGEND AND GENERAL NOTES	X0003
22A-5500-G-00807	AS-BUILT PLAN	N/A
18A-4445-G-01086	DESIGN PLAN/PROFILE	N/A
22X-5500-P-00868	AS-BUILT PLAN	N/A
22X-5500-P-00872	AS-BUILT PIPE BEDDING DESIGN	N/A
18A-4445-G-01095	DESIGN PIPE BEDDING	N/A
18A-4445-G-01086	DESIGN PLAN/PROFILE	N/A

6

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
1	ADDED 4 ABOVE WAC AREAS AND NOTE 9 PER DCN: 20401-008 FLOOD PLAIN LABEL PER DCN: 20401-005	JMU	N/A	8/27/97
Ø	CERTIFIED FOR CONSTRUCTION	JMU	N/A	6/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
WASTE UNITS REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

DRAWING TITLE
CIVIL
EXISTING CONDITIONS PLAN

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
D. REED	10/10/96	F.M. PARTON, JR.	6/12/97	K. GERARD	1/18/97

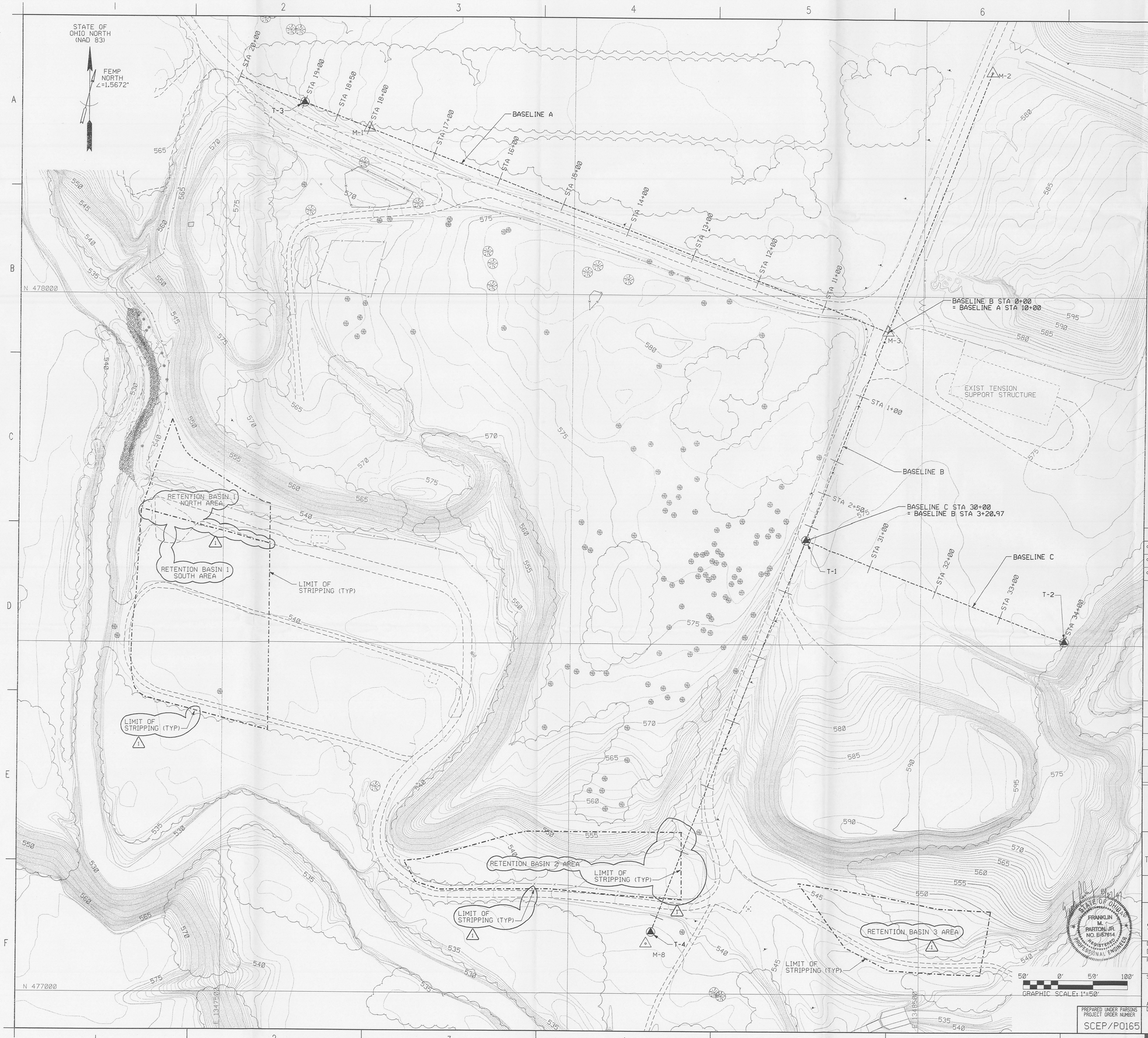
PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		1"=50'	

SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL	FERMCO PROJECT NO.
J.M. USHER 6/13/97	N/A	20400
A-E DATE	DATE	

DOE PROJECT NO.	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
	WBS 1.1.1.1.2.3.6 00-90701	92X-5900-G-00348	G0003	1

PREPARED UNDER PARSONS PROJECT ORDER NUMBER
SCEP/P0165

STATE OF OHIO FRANKLIN M. PARTON, JR. NO. E-57014 REGISTERED PROFESSIONAL ENGINEER



NOTES

1. EXISTING BENCHMARK INFORMATION PROVIDED BY FDF.
2. ANY BENCHMARKS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED BY FDF AT THE SUBCONTRACTOR'S EXPENSE.
3. STRIP THE RETENTION BASIN AREAS TO THE FOLLOWING DEPTHS:
   RETENTION BASIN 1 NORTH AREA - 18"
   RETENTION BASIN 1 SOUTH AREA - 12"
   RETENTION BASIN 2 - 42"
   RETENTION BASIN 3 - 12"
   PLACE MATERIAL IN IMPACTED MATERIAL STOCKPILE AS SHOWN ON SHEET G0005.

1123

BENCHMARK INFORMATION

BENCHMARK	NORTHING	EASTING	ELEVATION	REMARKS
M-1	478238.04	1347705.25	573.848	A
M-2	478321.86	1348595.65	576.678	A
M-3	477948.93	1348451.10	577.413	A
M-8	477071.65	1348110.41	537.47	A
T-1	477649.66	1348335.09	TBS	TBS
T-2	477505.09	1348708.05	TBS	TBS
T-3	478274.21	1347611.94	TBS	TBS
T-4	477088.48	1348117.58	TBS	TBS

A CONCRETE MONUMENT WITH X IN 3-1/2" ALUMINUM PLATE

TBS TO BE SET WITH IRON PIN AND PLASTIC SURVEYORS CAP A MINIMUM OF 48" DEEP.

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-X-00321	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-00282	SITE PLAN	G0005

7

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
1	REVISED LIMITS OF STRIPPING AND NOTE 3 PER DCN: 20401-008	JMU	N/A	8/27/97
	REVISED LIMIT OF STRIPPING PER DCN: 20401-005			
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	6/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
WASTE UNITS REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

DRAWING TITLE
CIVIL
SURVEY INFORMATION AND SOIL STRIPPING PLAN

STATE OF OHIO FRANKLIN M. PARTON, JR. NO. 55784 REGISTERED PROFESSIONAL ENGINEER

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
D. REED	12/17/96	F.M. PARTON, JR.	6/12/97	K. GERARD	1/18/97

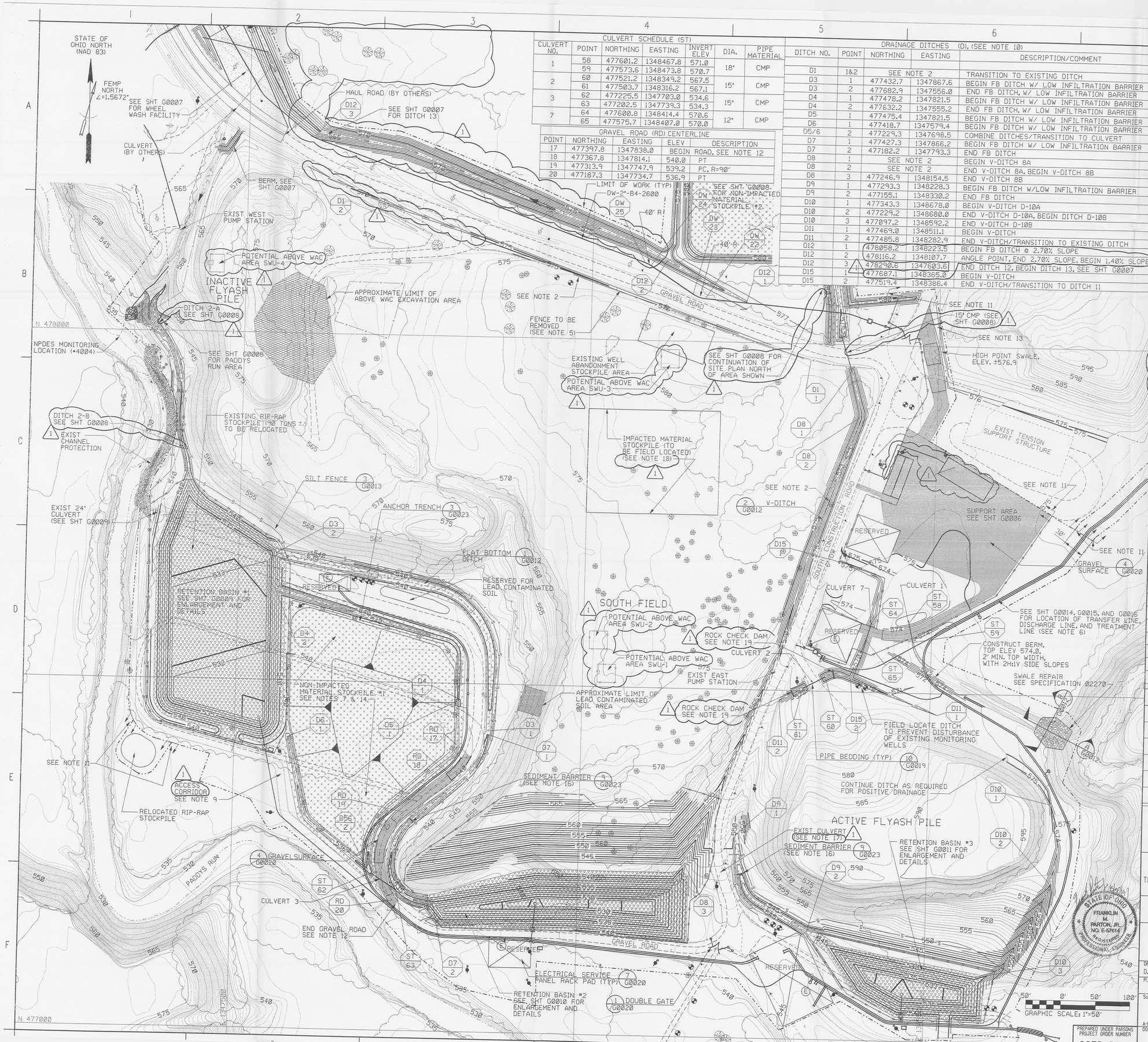
PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		1"=50'	

SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL	FERMCO PROJECT NO.
J.M. USHER 6/13/97	N/A	20400

A-E DATE

DOE PROJECT NO.	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
	WBS 1.1.1.1.2.3.6 00-90701	92X-5900-G-00400	G0004	1

PREPARED UNDER PARSONS PROJECT ORDER NUMBER
SCEP/P0165



CULVERT SCHEDULE (ST)

CULVERT NO.	POINT	NORTHING	EASTING	INVERT ELEV	DIA.	PIPE MATERIAL
1	58	477601.2	1348467.8	571.0	18"	CMP
	59	477573.6	1348473.8	570.7		
2	60	477521.2	1348349.2	567.5	15"	CMP
	61	477503.7	1348316.2	567.1		
3	62	477225.5	1347703.0	534.6	15"	CMP
	63	477202.5	1347739.3	534.3		
7	64	477600.8	1348414.4	570.6	12"	CMP
	65	477575.7	1348407.0	570.0		

GRAVEL ROAD (RD) CENTERLINE

POINT	NORTHING	EASTING	ELEV	DESCRIPTION
17	477397.8	1347838.0	BEGIN ROAD, SEE NOTE 12	
18	477367.8	1347814.1	540.0	PT
19	477313.9	1347747.9	539.2	PC, R=90'
20	477187.3	1347734.7	536.9	PT

DRAINAGE DITCHES (D), (SEE NOTE 10)

DITCH NO.	POINT	NORTHING	EASTING	DESCRIPTION/COMMENT
D1	1&2	SEE NOTE 2		TRANSITION TO EXISTING DITCH
D3	1	477432.7	1347867.6	BEGIN FB DITCH W/ LOW INFILTRATION BARRIER
D3	2	477682.9	1347556.0	END FB DITCH, W/ LOW INFILTRATION BARRIER
D4	1	477478.2	1347821.5	BEGIN FB DITCH W/ LOW INFILTRATION BARRIER
D4	2	477632.2	1347555.2	END FB DITCH, W/ LOW INFILTRATION BARRIER
D5	1	477475.4	1347821.5	BEGIN FB DITCH W/ LOW INFILTRATION BARRIER
D6	1	477418.7	1347579.4	BEGIN FB DITCH W/ LOW INFILTRATION BARRIER
D5/6	2	477229.3	1347698.5	COMBINE DITCHES/TRANSITION TO CULVERT
D7	1	477427.3	1347866.2	BEGIN FB DITCH W/ LOW INFILTRATION BARRIER
D7	2	477182.2	1347793.3	END FB DITCH
D8	1	SEE NOTE 2		BEGIN V-DITCH 8A
D8	2	SEE NOTE 2		END V-DITCH 8A, BEGIN V-DITCH 8B
D8	3	477246.9	1348154.5	END V-DITCH 8B
D9	1	477293.3	1348228.3	BEGIN FB DITCH W/LOW INFILTRATION BARRIER
D9	2	477155.1	1348330.2	END FB DITCH
D10	1	477343.3	1348678.0	BEGIN V-DITCH D-10A
D10	2	477229.2	1348680.0	END V-DITCH D-10A, BEGIN DITCH D-10B
D10	3	477097.2	1348592.2	END V-DITCH D-10B
D11	1	477469.0	1348511.1	BEGIN V-DITCH
D11	2	477485.8	1348282.9	END V-DITCH/TRANSITION TO EXISTING DITCH
D12	1	478058.2	1348223.5	BEGIN FB DITCH @ 2.70% SLOPE
D12	2	478116.2	1348107.7	ANGLE POINT, END 2.70% SLOPE, BEGIN 1.40% SLOPE
D12	3	478290.6	1347603.6	END DITCH 12, BEGIN DITCH 13, SEE SHT G0007
D15	1	477687.1	1348365.0	BEGIN V-DITCH
D15	2	477519.4	1348386.4	END V-DITCH/TRANSITION TO DITCH 11

NOTES

1123

1. RESERVED AREAS SHALL BE USED BY OTHER CONTRACTORS. SITE PREP CONTRACTOR SHALL ALLOW ACCESS TO THESE AREAS.
2. FIELD ROUTE THE DITCH. A MINIMUM OF 5' SHALL BE MAINTAINED FROM THE EDGE OF EXISTING ROAD TO CENTERLINE OF DITCH. AVOID EXISTING UTILITY/SEEPAGE COLLECTION LINES.
3. EROSION/SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO EXCAVATION.
4. PROTECT ALL EXISTING MONITORING WELLS AND EXTRACTION WELLS TO REMAIN. SEE SPECIFICATION 02100.
5. REMOVE EXISTING PLASTIC CHAIN FENCE, POSTS, AND SIGNS WITHIN LIMIT OF WORK.
6. LIMIT OF WORK FOR THE TRANSFER, DISCHARGE AND TREATMENT LINES IS 15' BEYOND THE OUTSIDE LINE.
7. SURFACE OF NON-IMPACTED MATERIAL STOCKPILE AREAS SHALL BE COVERED WITH A GEOMEMBRANE LINER PRIOR TO PLACEMENT OF NON-IMPACTED MATERIAL.
8. SEE SHT G0012 FOR EROSION AND SEDIMENT CONTROL CONSTRUCTION SEQUENCE AND NOTES.
9. CLEAR TREES TO PROVIDE ACCESS CORRIDOR TO EXIST CHANNEL PROTECTION AT THE INACTIVE FLYASH PILE.
10. SEE SHT G0012 FOR DETAILS AND INVERT ELEVATIONS OF DITCHES.
11. THE LIMIT OF WORK AS SHOWN ON THE DRAWINGS INDICATES THE LOCATION OF THE PROPOSED CONSTRUCTION FENCE, EXCEPT BETWEEN MARKERS INDICATED.
12. GRADE TO MATCH EXISTING ROAD.
13. GRADE SWALE TO PROVIDE POSITIVE DRAINAGE.
14. NON-IMPACTED MATERIAL STOCKPILES SHALL BE IN ACCORDANCE WITH SPECIFICATION 02200 FOR MAXIMUM HEIGHT AND SIDE SLOPE LIMITS, AND SEGREGATION REQUIREMENTS.
15. THE LIMIT OF WORK AS SHOWN ON DRAWINGS INDICATES CLEARING LIMITS EXCEPT AS NOTED ON THE PLAN SHEETS.
16. PLACE BARRIER AT UPSTREAM RADIUS POINT OF CURVE OF DITCH.
17. PLUG BOTH ENDS OF EXISTING 28" DIAMETER CULVERT WITH LEAN CONCRETE (ODOT CLASS 'S' CONCRETE IN ACCORDANCE WITH ITEM NO. 499 OF THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS).
18. PLACE A GEOTEXTILE OVER AREA OF IMPACTED MATERIAL STOCKPILE AS DIRECTED BY FDF PRIOR TO PLACEMENT OF IMPACTED MATERIAL.
19. ROCK CHECK DAM SHALL BE DUMPED ROCK FILL AS DESCRIBED BY ODOT EXCEPT SIZE SHALL BE LIMITED TO 4"-6" SIZE. ROCK CHECK DAM SHALL BE 1' HIGH BY 2' THICK ACROSS WIDTH OF DITCH.

DRINKING WATER COORDINATES (DW)

POINT	NORTHING	EASTING	DESCRIPTION
22	478062.1	1348164.0	BEGIN BEND
23	478068.3	1348145.7	END BEND
24	478108.1	1348084.0	BEGIN BEND
25	478112.2	1348075.7	END BEND

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-X-00321	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-00348	EXISTING CONDITIONS PLAN	G0003
92X-5900-G-00284	SITE PLAN - SUPPORT AREA	G0006
92X-5900-G-00283	SITE PLAN - WHEEL WASH AREA	G0007
92X-5900-G-00390	SITE PLAN - PADDYS RUN AREA	G0008
92X-5900-G-00303	ENLARGEMENT RETENTION BASIN #1	G0009
92X-5900-G-00371	ENLARGEMENT RETENTION BASIN #2	G0010
92X-5900-G-00372	ENLARGEMENT RETENTION BASIN #3	G0011
92X-5900-G-00311	EROSION AND SEDIMENT CONTROL - SHEET 1 OF 2	G0012
92X-5900-G-00368	EROSION AND SEDIMENT CONTROL - SHEET 2 OF 2	G0013
92X-5900-G-00304	TRANSFER LINE - PLAN AND PROFILE - SHEET 1 OF 3	G0014
92X-5900-G-00305	TRANSFER LINE - PLAN AND PROFILE - SHEET 2 OF 3	G0015
92X-5900-G-00306	TRANSFER LINE - PLAN AND PROFILE - SHEET 3 OF 3	G0016
92X-5900-G-00309	MISCELLANEOUS DETAILS - SHEET 1 OF 3	G0020
92X-5900-G-00452	MISCELLANEOUS DETAILS - SHEET 3 OF 3	G0023

8

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
1	ADDED 4 ABOVE WAC AREAS PER DCN: 20401-008 LABELED/REVISED DITCH COORDINATES, REVISED	JMU	N/A	6/27/97
	DITCH 12, ADDED NOTE 17, ADDED CONTOUR LABELS PER DCN: 20401-005 AND 007, REVISED			
	DITCH D1, ADDED ROCK CHECK DAM PER DCN: 20401-005			
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	6/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY

PARSONS

THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME

WASTE UNIT REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

DRAWING TITLE

CIVIL
SITE PLAN

STATE OF OHIO — FRANKLIN M. PARTON, JR. NO. E-57614 — REGISTERED PROFESSIONAL ENGINEER

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
D. REED	02/28/96	F.M. PARTON, JR.	6/12/97	K. GERARD	1/18/97

PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		1"=50'	

SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL	FERMCO PROJECT NO.
J.M. USHER 6/13/97	N/A	20400

A-E DATE — DATE

DOE PROJECT NO.	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
	WBS 1.1.1.1.2.3.6			

ROADWAY COORDINATES (RD)			
POINT	NORTHING	EASTING	DESCRIPTION
1	477760.3	1348667.7	MEET EXIST GRAVEL
2	477645.1	1348589.8	ANGLE POINT IN GRAVEL
3	477638.0	1348565.6	C/L OF GRAVEL ROAD
4	477598.0	1348496.0	PC OF CURVE
5	477590.3	1348406.7	PT OF CURVE
6	477644.3	1348564.5	PC OF CURVE
7	477662.4	1348562.8	PT OF CURVE
8	477704.7	1348441.6	ANGLE POINT IN GRAVEL
9	477734.4	1348452.1	ANGLE POINT IN GRAVEL
10	477742.4	1348429.5	ANGLE POINT IN GRAVEL
11	477780.9	1348423.5	ANGLE POINT IN GRAVEL
12	477784.4	1348424.7	C/L OF GRAVEL WALK
13	477797.0	1348388.2	C/L OF GRAVEL WALK
14	477881.8	1348458.6	MEET EXIST ROAD
15	478042.1	1348479.2	C/L (MEET EXIST ROAD)
16	477915.9	1348507.0	C/L (MEET EXIST ROAD)
17	477867.9	1348482.5	MEET EXIST ROAD

DRINKING WATER COORDINATES (DW)			
POINT	NORTHING	EASTING	DESCRIPTION
1	478025.6	1348429.7	CONNECT TO EXIST
2	N/A	N/A	NOT USED
3	478034.7	1348400.6	CENTER BACKFLOW PREV.
4	N/A	N/A	NOT USED
5	478043.0	1348375.2	BEGIN BEND
6	478044.8	1348366.2	END BEND
7	477820.1	1348398.8	CONNECT TO EXIST
8	477808.3	1348431.8	TRAILER CONNECT
9	477566.0	1348305.4	CONNECT TO EXIST
10	477557.1	1348334.3	CENTER BACKFLOW PREV.
11	N/A	N/A	NOT USED
12	477555.2	1348339.7	BEGIN BEND
13	477549.0	1348343.0	END BEND
14	477544.0	1348341.4	YARD HYDRANT

NOTES

1123

1. UTILITY LOCATIONS ARE APPROXIMATE. INSPECT THE WORK AREA PRIOR TO CONSTRUCTION AND STARTING WORK AND NOTIFY FDF OF ANY DISCREPANCIES IN WRITING.
2. POST HYDRANT AT AFP FOR DUST CONTROL WATER SUPPLY ONLY. DIRECT CONNECTION TO HYDRANT FOR SPRAYING. NOT AUTHORIZED. PROVIDE TEMPORARY STORAGE TANK FOR SPRAY WATER. USE THE POST HYDRANT TO FILL TEMPORARY STORAGE TANK DURING NON-PEAK PERIODS OF WATER DEMAND AT THE FEMP.
3. SANITARY WATER IS TO BE COLLECTED IN TANK IN ACCORDANCE WITH SPECIFICATION 13125 AND LATER REMOVED AND DISPOSED OF BY SUBCONTRACTOR AT DIRECTIVE OF FDF.
4. DOUBLE SWING GATE AND ROADWAY MUST REMAIN CLEAR AT ALL TIMES FOR EMERGENCY VEHICLE ACCESS INTO PROJECT AREA. THE GATE IS TO BE CLOSED EXCEPT FOR EMERGENCY ACCESS.
5. AREAS RESERVED ARE FOR OTHER PROJECTS BUT CAN BE USED FOR INSTALLATION OF OVERHEAD ELECTRIC AND WATER LINES. MAINTAIN AND ALLOW ACCESS TO THESE AREAS DURING CONTRUCTION.
6. FIELD LOCATE 1' DEEP DRAINAGE SWALE NORTH OF SUBCONTRACTOR LAYDOWN AREA WITHIN THE SOIL CONTAMINATION AREA TO PREVENT SURFACE WATER RUN ON.
7. LOCATE 1' DEEP DRAINAGE SWALE AROUND PERIMETER OF SUBCONTRACTOR LAYDOWN AREA AS SHOWN. GRADE FOR POSITIVE DRAINAGE TO DITCH 11.
8. RELOCATE EXISTING FENCE AND GATE AS REQUIRED TO CONSTRUCT GRAVEL SURFACE AND DITCH. REINSTALL THE FENCE AND GATE ALONG LIMIT OF WORK.

FENCE COORDINATES (FL)			
POINT	NORTHING	EASTING	DESCRIPTION
1	478033.6	1348428.1	BEGIN OF NEW FENCE
2	478010.2	1348472.0	ANGLE POINT ON FENCE
3	477991.8	1348476.1	END OF NEW

PROPOSED TRAILER COORDINATES (TR)			
POINT	NORTHING	EASTING	DESCRIPTION
1	477836	1348468	NE CORNER
2	477787	1348426	SW CORNER
3	477841	1348518	NW CORNER
4	477778	1348570	SE CORNER

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-X-00321	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-00281	MASTER SITE/UTILITY PLAN	G0002
92X-5900-G-00282	SITE PLAN	G0005
92X-5900-G-00283	SITE PLAN - WHEEL WASH AREA	G0007
92X-5900-G-00304	TRANSFER LINE - PLAN AND PROFILE - SHEET 1 OF 3	G0014
92X-5900-G-00305	TRANSFER LINE - PLAN AND PROFILE - SHEET 2 OF 3	G0015
92X-5900-G-00306	TRANSFER LINE - PLAN AND PROFILE - SHEET 3 OF 3	G0016
92X-5900-G-00307	WATER LINE DETAILS	G0019
92X-5900-G-00309	MISCELLANEOUS DETAILS - SHEET 1 OF 3	G0020
92X-5900-E-00379	ELECTRICAL - OVERALL SITE POWER PLAN	E0005

9

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
1	REVISED FDF TRAILER SIZE & COORDINATES, ADDED 1" WATER LINE, ADDED DITCH LABELS.	JMU	N/A	8/21/97
	ADDED CONTOUR LABELS PER DCN: 20401-005 AND 006			
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	6/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
WASTE UNITS REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

DRAWING TITLE
CIVIL
SITE PLAN - SUPPORT AREA

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
D.R. FOX	02/28/96	F.M. PARTON, JR.	6/12/97	K. GERARD	01/18/97

PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		1"=20'	

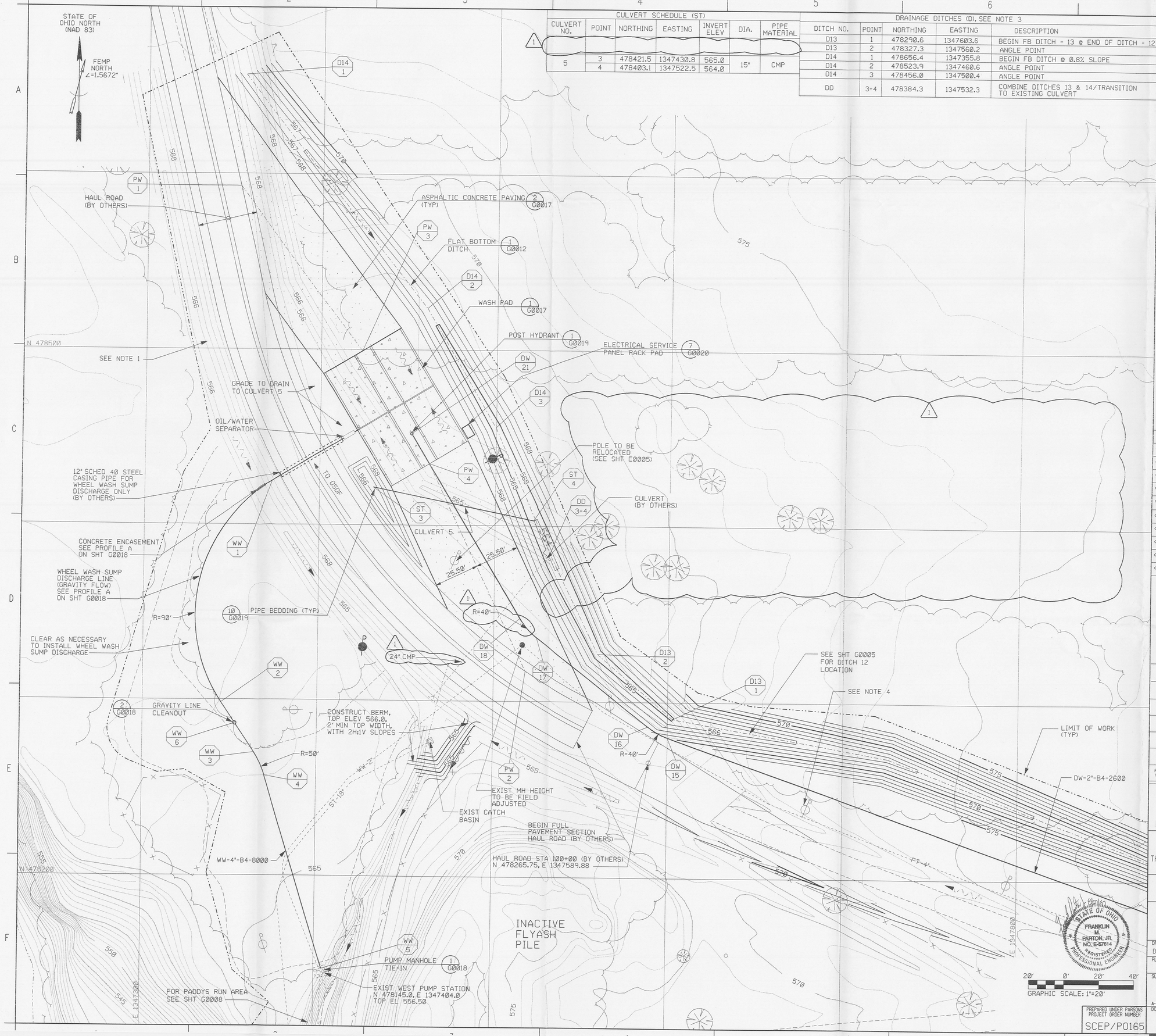
SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL	FERMCO PROJECT NO.
J.M. USHER 6/13/97	N/A	20400

A-E DATE

DOE PROJECT NO.	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
	WBS 1.1.1.1.2.3.6 00-90701	92X-5900-G-00284	G0006	1

PREPARED UNDER PARSONS PROJECT ORDER NUMBER
SCEP/P0165

STATE OF OHIO FRANKLIN M. PARTON, JR. NO. E-57614 REGISTERED PROFESSIONAL ENGINEER



CULVERT SCHEDULE (ST)						
CULVERT NO.	POINT	NORTHING	EASTING	INVERT ELEV	DIA.	PIPE MATERIAL
5	3	478421.5	1347430.8	565.0	15"	CMP
	4	478403.1	1347522.5	564.0		

DRAINAGE DITCHES (D), SEE NOTE 3				
DITCH NO.	POINT	NORTHING	EASTING	DESCRIPTION
D13	1	478290.6	1347603.6	BEGIN FB DITCH - 13 @ END OF DITCH - 12
D13	2	478327.3	1347569.2	ANGLE POINT
D14	1	478656.4	1347355.8	BEGIN FB DITCH @ 0.8% SLOPE
D14	2	478523.9	1347460.6	ANGLE POINT
D14	3	478456.0	1347500.4	ANGLE POINT
DD	3-4	478384.3	1347532.3	COMBINE DITCHES 13 & 14/TRANSITION TO EXISTING CULVERT

NOTES

1123

1. CONTOURS SHOWN ALONG THE PROPOSED HAUL ROAD WERE GENERATED FROM DESIGN DRAWINGS AND ARE APPROXIMATE AND COULD VARY. FIELD VERIFY AND INFORM FDF OF DIFFERENT CONDITIONS.
2. 1
3. SEE SHT G0012 FOR DETAILS AND INVERT ELEVATIONS OF DITCHES.
4. ADJUST GRADING AS NECESSARY TO PREVENT DISTURBANCE OF EXISTING POLES.

PAVEMENT AND WHEEL WASH COORDINATES (PW)			
POINT	NORTHING	EASTING	DESCRIPTION
1	478593.1	1347353.3	℄ OF PAVEMENT
2	478317.4	1347518.8	℄ OF PAVEMENT
3	478499.3	1347423.8	℄ WHEEL WASH
4	478435.2	1347462.6	℄ WHEEL WASH

DRINKING WATER COORDINATES (DW)			
POINT	NORTHING	EASTING	DESCRIPTION
15	478280.1	1347600.6	BEGIN BEND
16	478286.3	1347589.2	END BEND
17	478336.6	1347525.0	BEGIN BEND
18	478347.5	1347515.4	END BEND
19	N/A	N/A	NOT USED
20	N/A	N/A	NOT USED
21	478452.26	1347452.22	YARD HYDRANT

WASTE WATER COORDINATES (WW)			
POINT	NORTHING	EASTING	DESCRIPTION
1	478425.1	1347373.5	BEGIN BEND
2	478298.3	1347345.1	END BEND
3	478270.0	1347364.3	BEGIN BEND
4	478256.9	1347370.6	END BEND
5	478147.1	1347404.9	CONNECT TO EXIST
6	478286.5	1347353.1	CLEANOUT

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-X-00321	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-00282	SITE PLAN	G0005
92X-5900-G-00390	SITE PLAN - PADDYS RUN AREA	G0008
92X-5900-G-00311	EROSION AND SEDIMENT CONTROL - SHEET 1 OF 2	G0012
92X-5900-G-00312	WHEEL WASH PAD - PLAN AND DETAILS	G0017
92X-5900-G-00310	WHEEL WASH SUMP DISCHARGE	G0018
92X-5900-G-00307	WATER LINE DETAILS	G0019
92X-5900-G-00309	MISCELLANEOUS DETAILS - SHEET 1 OF 3	G0020
92X-5900-E-00379	OVERALL SITE POWER PLAN	E0005

10

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
1	ADDED CONTOUR LABELS, MOVED WOODCHIP STOCKPILE AREA, DELETED ACCESS ROAD AND CULVERT 4, REVISED DITCH GRADING PER DCN:20401-003 AND 005	JMU	N/A	8/27/97
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	8/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
WASTE UNITS REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

DRAWING TITLE
CIVIL
SITE PLAN - WHEEL WASH AREA

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
D. REED	02/28/96	F.M. PARTON, JR.	6/12/97	K. GERARD	01/18/97

PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		1"=20'	

SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL	FERMCO PROJECT NO.
J.M. USHER 6/13/97	N/A	20400

A-E DATE DATE

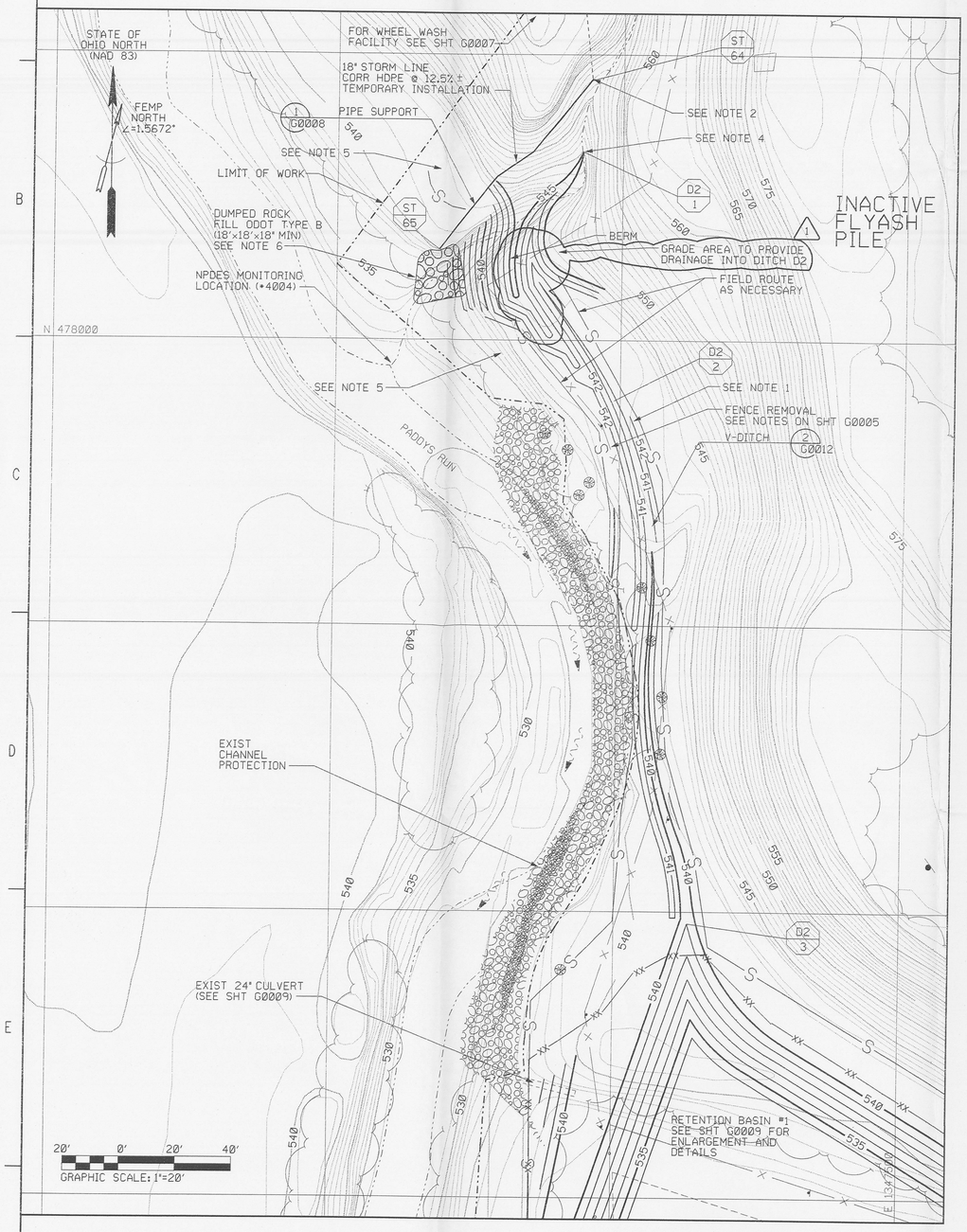
DOE PROJECT NO.	TEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
	WBS 1.1.1.1.1.2.3.6 00-90701	92X-5900-G-00283	G0007	1

PREPARED UNDER PARSONS PROJECT ORDER NUMBER
SCEP/P0165

STATE OF OHIO FRANKLIN M. PARTON, JR. NO. E-57614 REGISTERED PROFESSIONAL ENGINEER

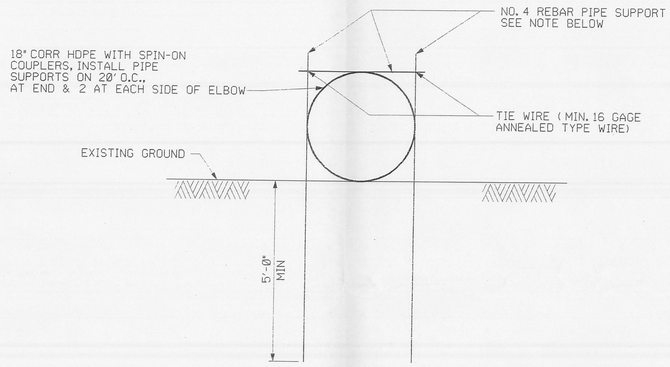
PIPE SCHEDULE (ST)					
POINT	NORTHING	EASTING	INVERT ELEV	DIA.	PIPE MATERIAL
64	MEET EXIST			18"	CORR. HDPE
65	EXTEND PIPE ALONG TOE OF SLOPE TO ELEV 540.0				

DRAINAGE DITCHES (D), SEE NOTE 3				
DITCH NO.	POINT	NORTHING	EASTING	DESCRIPTION/COMMENT
D2	1	478066	1347387	BEGIN V-DITCH 2A WITH INFILTRATION BARRIER
D2	2	477979	1347398	END V-DITCH 2A, BEGIN V-DITCH 2B WITH INFILTRATION BARRIER
D2	3	477796	1347427	END V-DITCH 2B



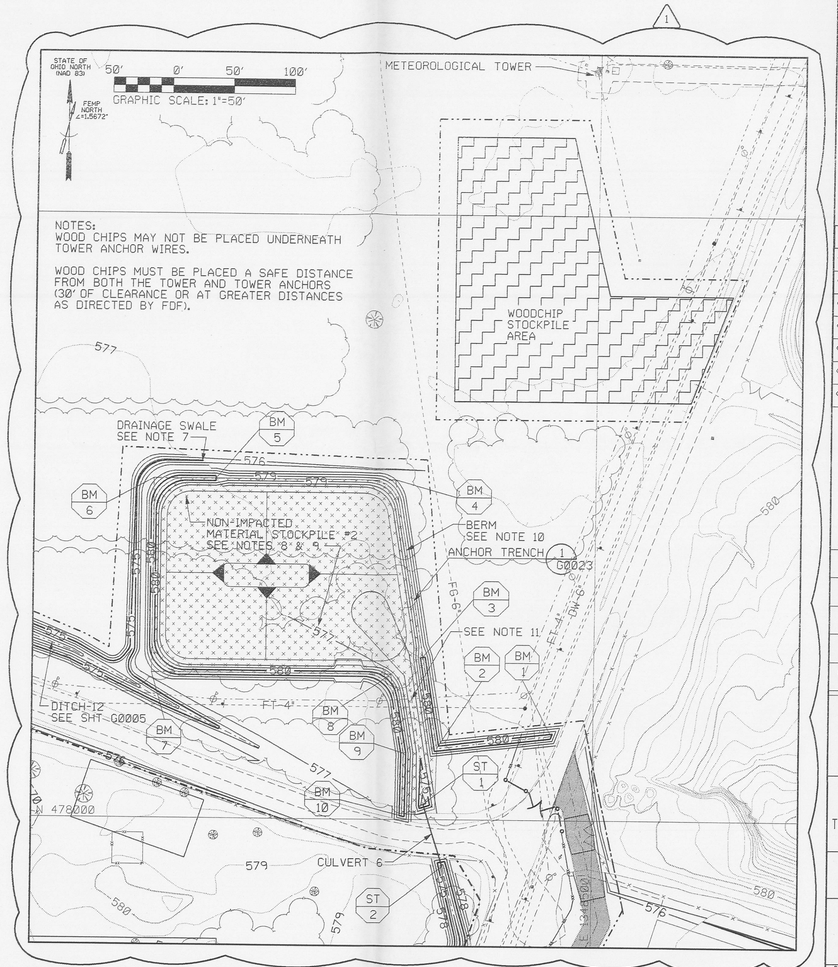
BERM SCHEDULE (BM)				
POINT	NORTHING	EASTING	ELEV	DESCRIPTION
1	478070.1	1348466.3	580.0	END BERM
2	478059.3	1348371.6	580.0	ANGLE POINT
3	478134.6	1348359.0	580.0	GRADE BREAK
4	478281.5	1348334.4	——	PI, R=25'
5	478281.5	1348185.5	580.0	GRADE BREAK
6	478281.5	1348134.1	——	PI, R=25'
7	478120.7	1348134.1	——	PI, R=25'
8	478120.7	1348332.2	——	PI, R=25'
9	478055.4	1348343.6	580.0	ANGLE POINT
10	478003.4	1348342.6	580.0	END BERM

1



NOTE:
LOCATE SUPPORT RODS FIRMLY AGAINST SIDE OF PIPE IN VALLEY OF CORR. PLACE TOP SUPPORT ROD SNUG AGAINST TOP OF PIPE AND TIE WIRE TO SIDE SUPPORT RODS.

DETAIL 1 G0008 REF
PIPE SUPPORT
NTS



NON-IMPACTED MATERIAL STOCKPILE #2

CULVERT SCHEDULE (ST)						
CULVERT NO.	POINT	NORTHING	EASTING	INVERT ELEV	DIA.	PIPE MATERIAL
6	1	478013.2	1348360.6	573.9	15"	CMP
	2	477962.0	1348377.0	573.3		

STATE OF OHIO FRANKLIN M. PARTON, JR. NO. E-57614 REGISTERED PROFESSIONAL ENGINEER 6/27/97

PREPARED UNDER PARSONS PROJECT ORDER NUMBER SCEP/P0165

NOTES

1123

1. FIELD ROUTE DITCH D2. MAINTAIN THE EXISTING CHANNEL PROTECTION (RIP-RAP). CUT MATERIAL IS TO BE DISPOSED OF AS AN IMPACTED MATERIAL. FILL MATERIAL WILL BE "BORROW" SOIL.
2. EXPOSE END OF EXISTING 18" CORR HDPE PIPE AS REQUIRED TO CONNECT NEW HDPE TO EXISTING PIPE. USE CONNECTING BAND OR TRANSITION COLLAR, OR OTHER METHOD AS RECOMMENDED BY THE MANUFACTURER TO MAKE CONNECTION. BACKFILL EXPOSED PORTION OF EXISTING PIPE.
3. SEE SHT G0012 FOR DETAILS AND INVERT ELEVATIONS OF DITCHES.
4. BEGIN DITCH AND GRADE TO INTERCEPT ALL FLOW FROM EXISTING STREAM.
5. MAINTAIN EXISTING TREES NEAR PADDYS RUN AND WEST OF 18 INCH STORM LINE TO THE EXTENT POSSIBLE.
6. INSTALL GEOTEXTILE PRIOR TO PLACEMENT OF DUMPED ROCK FILL.
7. CONSTRUCT MINIMUM 1' DEEP GRASS-LINED DRAINAGE SWALE ON NORTH AND WEST SIDES OF BERM. GRADE TO DRAIN INTO DITCH 12 AS SHOWN. 1
8. NON-IMPACTED MATERIAL STOCKPILE SHALL BE IN ACCORDANCE WITH SPECIFICATION 02200 FOR MAXIMUM HEIGHT AND SIDE SLOPES.
9. SURFACE OF NON-IMPACTED MATERIAL STOCKPILE AREA SHALL BE COVERED WITH A GEOMEMBRANE LINER PRIOR TO PLACEMENT OF NON-IMPACTED MATERIAL.
10. CONSTRUCT BERM TO THE LINES AND GRADES SHOWN WITH A 1.5' MIN. TOP WIDTH AND 2H:1V SIDE SLOPES.
11. CONSTRUCT MINIMUM 1' DEEP GRASS-LINED DRAINAGE SWALE BETWEEN BERMS. GRADE TO DRAIN INTO CULVERT NUMBER 6 AS SHOWN. 1

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-X-00321	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-00282	SITE PLAN	G0005
92X-5900-G-00283	SITE PLAN - WHEEL WASH AREA	G0007
92X-5900-G-00303	ENLARGEMENT RETENTION BASIN #1	G0009
92X-5900-G-00311	EROSION AND SEDIMENT CONTROL - SHEET 1 OF 2	G0012
92X-5900-G-00452	MISCELLANEOUS DETAILS - SHEET 3 OF 3	G0023

11

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
1	ADDED CONTOUR LABELS, ADD WOODCHIP STOCKPILE AREA, REVISED NOTE 7, ADDED NOTE 11, ADDED DRAINAGE NOTE, MOVED COORDINATE TABLES, REV. BERM ELEVATIONS, PER DCN: 20401-003 AND 005	JMU	N/A	8/27/97
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	6/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
WASTE UNITS REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

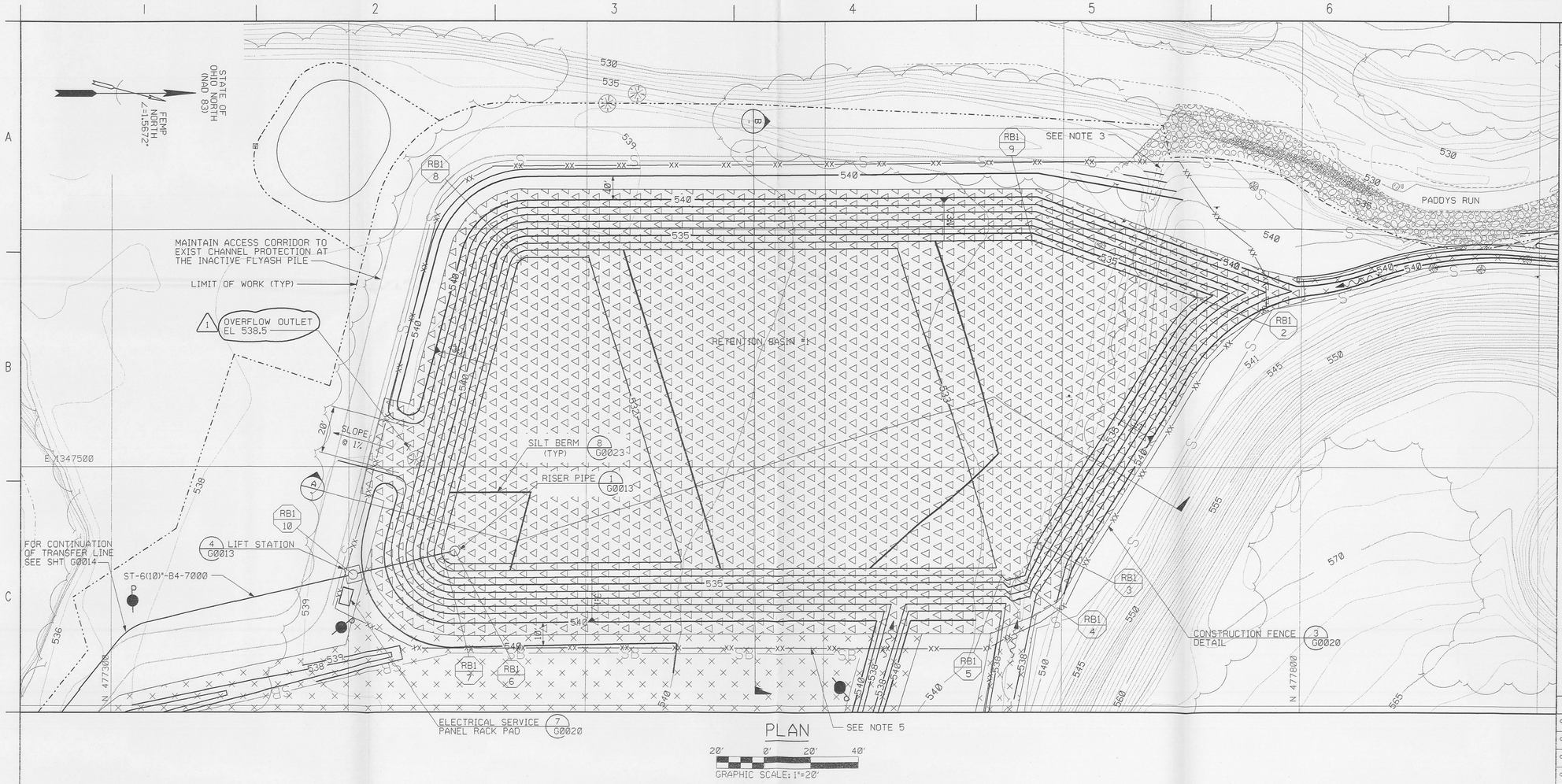
DRAWING TITLE
CIVIL
SITE PLAN - PADDYS RUN AREA

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
D. REED	12/26/96	F.M. PARTON, JR.	6/12/97	K. GERARD	01/18/97

PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		AS SHOWN	

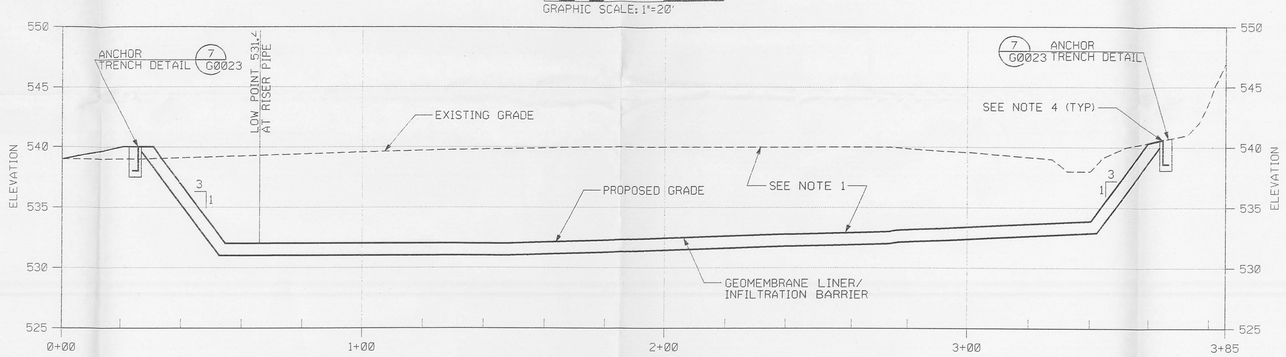
SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL	FERMCO PROJECT NO.
J.M. USHER 6/13/97 (A-E DATE)	N/A (DATE)	20400

DOE PROJECT NO.	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
	WBS 1.1.1.1.2.3.6 00-90701	92X-5900-G-00390	G0008	1

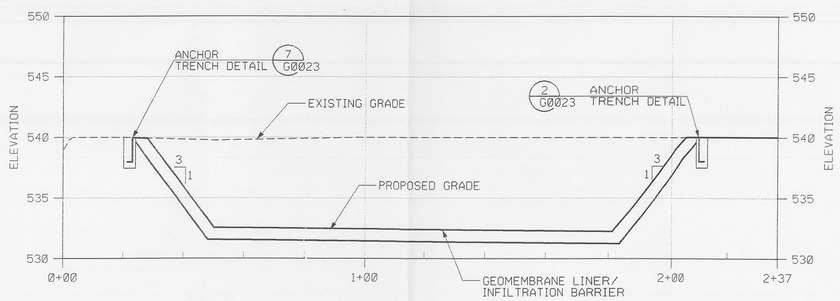


PLAN

20' 0' 20' 40'
GRAPHIC SCALE: 1"=20'



SECTION A -



SECTION B -

NOTES

1. TOP TWELVE INCHES OF MATERIAL FROM RETENTION BASIN #1 IS TO BE REMOVED AND DISPOSED OF AS IMPACTED MATERIAL IN THE IMPACTED MATERIAL STOCKPILE. REMAINING SOIL IS TO BE PLACED IN THE NON-IMPACTED MATERIAL STOCKPILES.
2. FOR UNDERGROUND UTILITIES IN AREA SEE SHT G0014.
3. REMOVE CULVERT AND BACKFILL TO EXISTING GRADE. COMPACT BACKFILL TO 95% STANDARD PROCTOR. COVER WITH ROCK. CULVERT TO BE DISPOSED IN THE IMPACTED MATERIAL STOCKPILE.
4. EXTEND GEOMEMBRANE LINER TO COVER ALL EXPOSED SANDS AND GRAVELS OF THE GMA.
5. IN AREAS WHERE CONSTRUCTION FENCE CROSSES GEOMEMBRANE FENCE POST SHALL BE NON-PENETRATING TYPE ANCHORAGE.

BOTTOM OF BASIN COORDINATES (RB1)

POINT	NORTHING	EASTING	DESCRIPTION
1	N/A	N/A	NOT USED
2	477756.3	1347429.3	CORNER BASIN
3	477689.6	1347532.4	CORNER BASIN
4	477680.5	1347547.3	CORNER BASIN
5	477673.9	1347546.0	CORNER BASIN
6	477445.0	1347535.9	RISER PIPE
7	477440.5	1347539.4	CORNER BASIN
8	477472.3	1347413.7	CORNER BASIN
9	477686.9	1347405.3	CORNER BASIN
10	477402.0	1347545.9	LIFT STATION

1

LEGEND

GEOMEMBRANE LINER

GEOMEMBRANE LINER/ INFILTRATION BARRIER

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-X-00321	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-00304	TRANSFER LINE - PLAN AND PROFILE - SHEET 1 OF 3	G0014
92X-5900-G-00368	EROSION AND SEDIMENT CONTROL - SHEET 2 OF 2	G0013
92X-5900-G-00309	MISCELLANEOUS DETAILS - SHEET 1 OF 3	G0020
92X-5900-G-00452	MISCELLANEOUS DETAILS - SHEET 3 OF 3	G0023

12

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
1	REVISED OVERFLOW OUTLET ELEVATION, ADDED CONTOUR LABELS, PER DCN: 20401-005.	JMU	N/A	8/27/97
	REVISED COORDINATE 10.			
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	6/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
WASTE UNIT REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

DRAWING TITLE
CIVIL
ENLARGEMENT RETENTION BASIN #1

STATE OF OHIO — FRANKLIN M. PARTON, JR. NO. E-57614 — REGISTERED PROFESSIONAL ENGINEER — 6/27/97

5' 0' 5' 10'
1 PROFILE VERTICAL GRAPHIC SCALE: 1"=5'
20' 0' 20' 40'
PROFILE HORIZONTAL GRAPHIC SCALE: 1"=20'

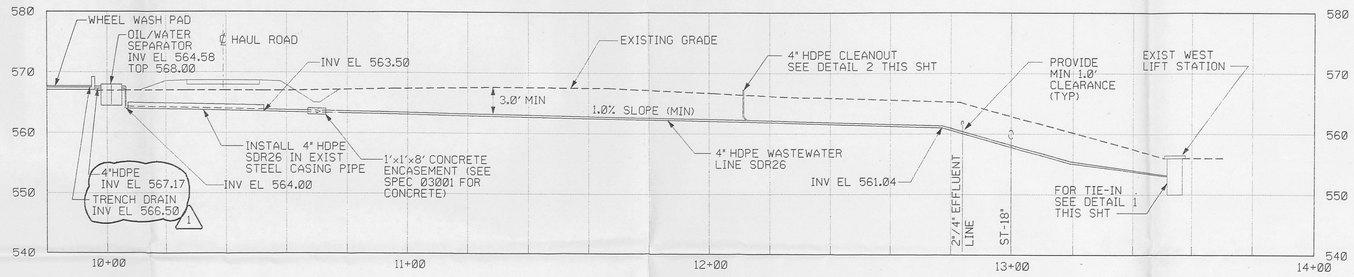
DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
R. LINDGREN	02/28/96	F.M. PARTON, JR.	6/12/97	K. GERARD	1/18/97

PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		1"=20'	

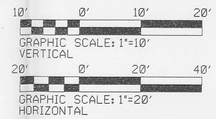
SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL	FERMCO PROJECT NO.
J.M. USHER 6/13/97	N/A	20400

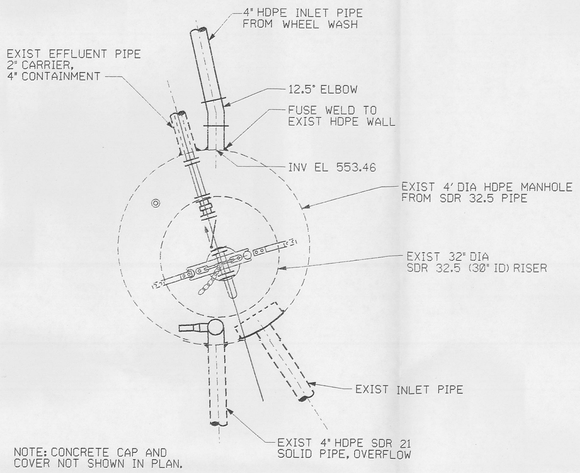
A-E DATE — DATE

PREPARED UNDER PARSONS PROJECT ORDER NUMBER	DOE PROJECT NO.	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
SCEP/P0165		WBS 1.1.1.1.2.3.6 00-90701	92X-5900-G-00303	G0009	1



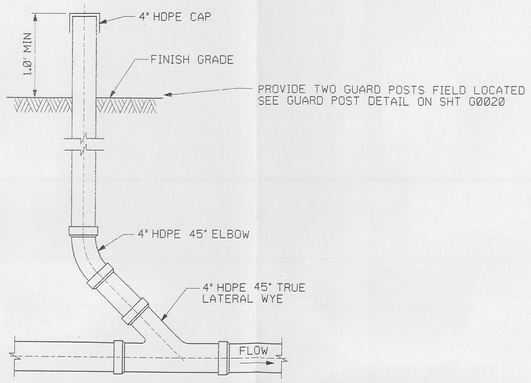
PROFILE (A) REF
SCALE: HOR 1"=20' VER 1"=10'
G0018 G0007 G0017





NOTE: CONCRETE CAP AND COVER NOT SHOWN IN PLAN.

DETAIL (1) REF
PUMP MANHOLE TIE-IN
G0018 G0007
NTS



DETAIL (2) REF
GRAVITY LINE CLEANOUT
G0018 G0007
NTS

NOTES

1123

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-G-00321	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-00282	SITE PLAN	G0005
92X-5900-G-00283	SITE PLAN - WHEEL WASH AREA	G0007
92X-5900-G-00312	WHEEL WASH PAD - STRUCTURAL DETAILS	G0017
92X-5900-G-00309	MISCELLANEOUS DETAILS - SHEET 1 OF 3	G0020

21

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
1	REVISED ELEVATIONS PER DCN: 20401-005	JMU	N/A	8/21/97
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	6/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
WASTE UNITS REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

DRAWING TITLE
CIVIL
WHEEL WASH SUMP DISCHARGE
PROFILE AND DETAILS

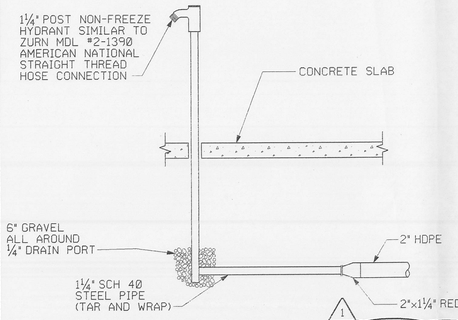
STATE OF OHIO
FRANKLIN M. PARTON, JR.
NO. E-57614
REGISTERED PROFESSIONAL ENGINEER

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
D.R. FOX	11/15/96	F.M. PARTON, JR.	6/12/97	K. GERARD	01/18/97

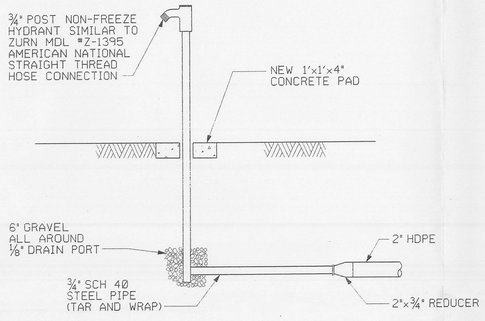
PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		AS SHOWN	

SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL	FERMCO PROJECT NO.
J.M. USHER 6/13/97 (A-E, DATE)	N/A (DATE)	20400

PREPARED UNDER PARSONS PROJECT ORDER NUMBER	DOE PROJECT NO.	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
SCEP/P0165		WBS 1.1.1.1.2.3.6 00-90701	92X-5900-G-00310	G0018	1

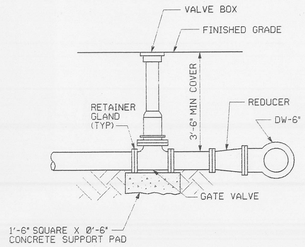


POST HYDRANT DETAIL (1/G0019) REF G0007 G0017
NTS

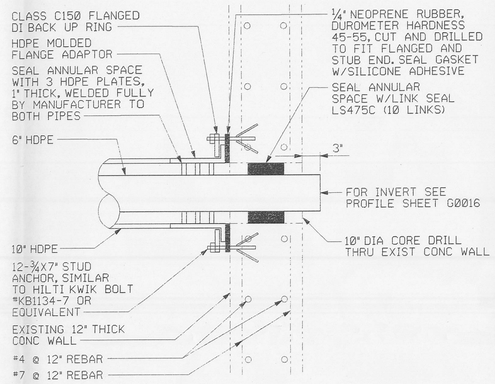


NOTE (DETAILS 1&2): FOR GATE VALVE LOCATIONS SEE SHEET G0006 AND N0003. FOR GATE VALVE DETAILS SEE DETAIL NO. 3 THIS SHEET.

POST HYDRANT DETAIL (2/G0019) REF G0006
NTS



GATE VALVE DETAIL (3/G0019) REF G0006
NTS

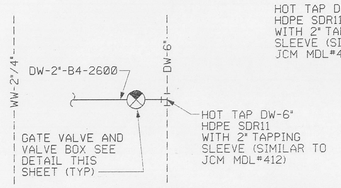


SWRB DIVERSION BOX TAP DETAIL (4/G0019) REF G0016
NTS

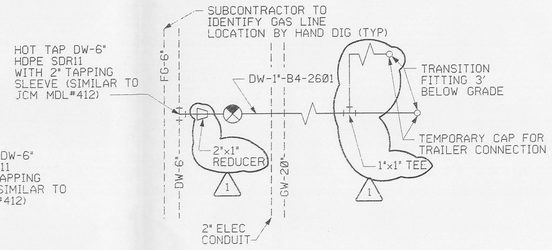
NOTES - 1123

1. INSPECT ALL BACKFLOW PREVENTERS ON A WEEKLY BASIS. THE BACKFLOW PREVENTER VAULT SHALL BE MAINTAINED IN A DRY CONDITION AT ALL TIMES TO MINIMIZE POTENTIAL CROSS CONTAMINATION. SUBCONTRACTOR SHALL PUMP VAULT AS NECESSARY. AT THE COMPLETION OF THE CONTRACT, INSPECTION AND MAINTENANCE RESPONSIBILITIES SHALL BE ASSUMED BY THE EXCAVATION SUBCONTRACTOR.

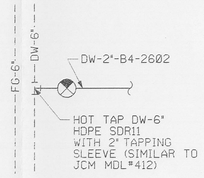
2. TEST COCKS SHALL BE PLUGGED.



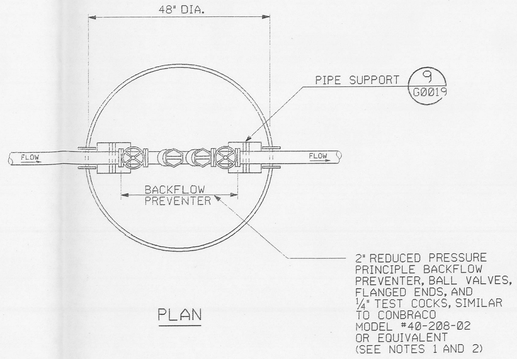
TIE-IN DETAIL (5/G0019) REF G0006
NTS



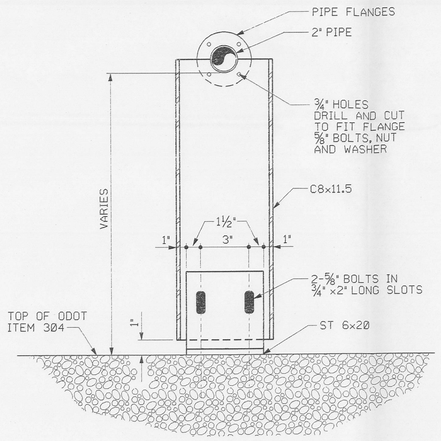
TIE-IN DETAIL (6/G0019) REF G0006
NTS



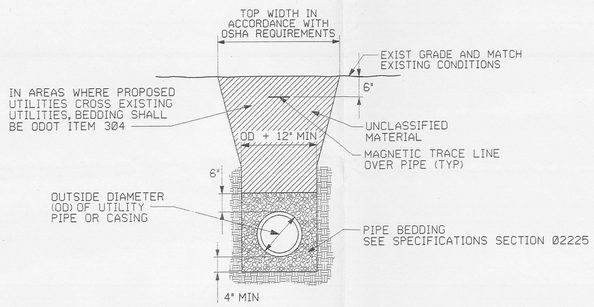
TIE-IN DETAIL (7/G0019) REF G0006
NTS



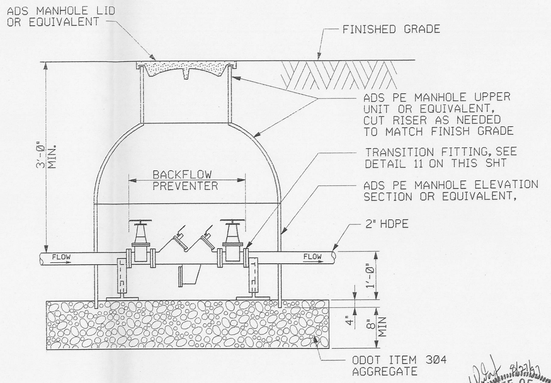
PLAN



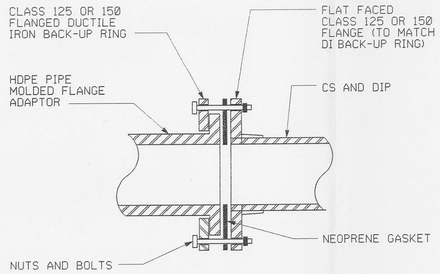
PIPE SUPPORT DETAIL (9/-)
NTS



PIPE BEDDING DETAIL (10/G0019) REF G0005 G0007 G0014 G0015 G0016
NTS



SECTION



TYPICAL TRANSITION FITTING DETAIL (11/G0019) REF G0021
NTS

BACKFLOW PREVENTER DETAIL (8/G0019) REF G0006
NTS

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-X-00321	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-00284	SITE PLAN	G0005
92X-5900-G-00284	SITE PLAN - SUPPORT AREA	G0006
92X-5900-G-00283	SITE PLAN - WHEEL WASH AREA	G0007
92X-5900-G-00304	TRANSFER LINE - PLAN AND PROFILE - SHEET 1 OF 3	G0014
92X-5900-G-00305	TRANSFER LINE - PLAN AND PROFILE - SHEET 2 OF 3	G0015
92X-5900-G-00306	TRANSFER LINE - PLAN AND PROFILE - SHEET 3 OF 3	G0016
92X-5900-G-00312	WHEEL WASH PAD - PLAN AND DETAILS	G0017
92X-5900-G-00308	MISCELLANEOUS DETAILS - SHEET 2 OF 3	G0021
92X-5900-N-00291	PIPING AND INSTRUMENTATION DIAGRAM-DRINKING WATER SYSTEM	N0003

22

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
1	REVISED TIE-IN DETAIL, ADDED NOTE FOR POST HYDRANT DETAILS, ADDED RELATED SHEET PER DCN: 20401-005 AND 006	JMU	N/A	8/27/97
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	6/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
WASTE UNITS REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

DRAWING TITLE
CIVIL
WATER LINE DETAILS

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
D.R.FOX	03/08/96	F.M. PARTON, JR.	6/12/97	K. GERARD	1/18/97

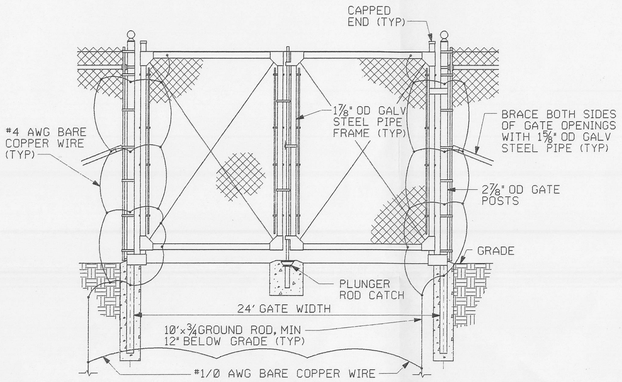
PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		NONE	

SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL	FERMCO PROJECT NO.
J.M. USHER 6/13/97	N/A	20400

A-E DATE DATE

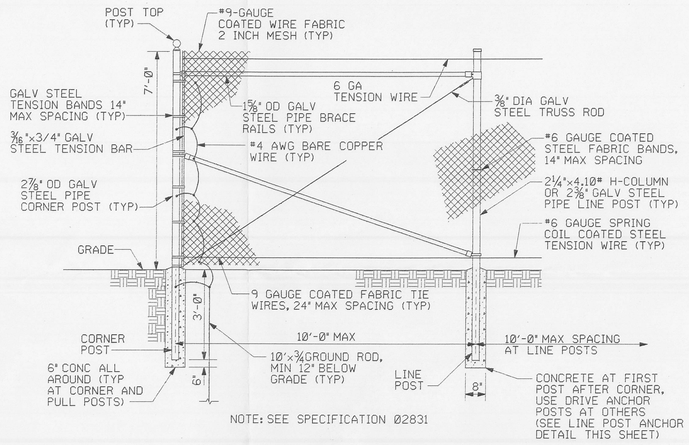
PREPARED UNDER PARSONS PROJECT ORDER NUMBER	DOE PROJECT NO.	TEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
SCEP/P0165		WBS 1.1.1.1.2.3.6 00-90701	92X-5900-G-00307	G0019	1

STATE OF OHIO FRANKLIN M. PARTON, JR. NO. E-57614 REGISTERED PROFESSIONAL ENGINEER



DOUBLE GATE DETAIL (1 / G0020)

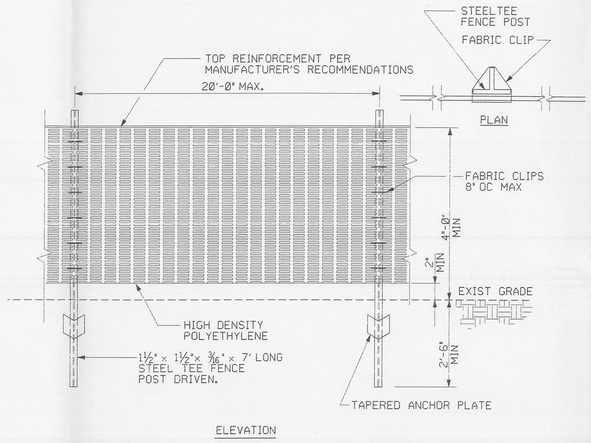
NTS — REF G0005, G0006



NOTE: SEE SPECIFICATION 02831

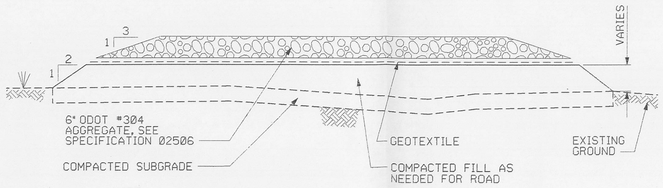
CHAINLINK FENCE DETAIL (2 / G0020)

NTS — REF G0006



CONSTRUCTION FENCE DETAIL (3 / G0020)

NTS — REF G0006, G0009, G0010, G0011



NOTE:

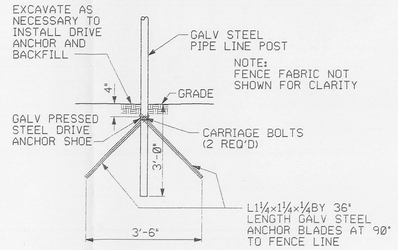
GRAVEL ACCESS ROAD SHALL BE 20' WIDE UNLESS NOTED OTHERWISE ON DRAWINGS. PROVIDE POSITIVE CROSS DRAINAGE.

THE SUPPORT AREA GEOTEXTILE IS TO BE PLACED DIRECTLY ON GROUND WITH MINIMAL GRADING (NO CLEARING AND GRUBBING)

FOR GEOTEXTILE SEE SPECIFICATION SECTION 02506

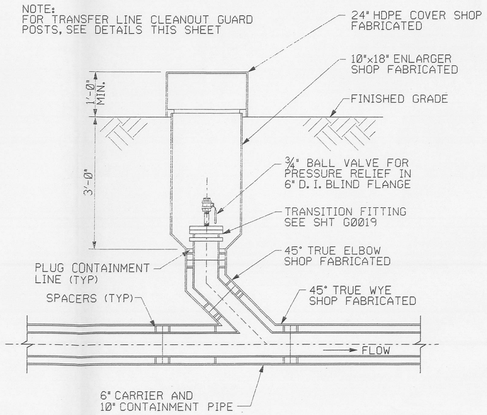
GRAVEL SURFACE DETAIL (4 / G0020)

NTS — REF G0005, G0006, G0007



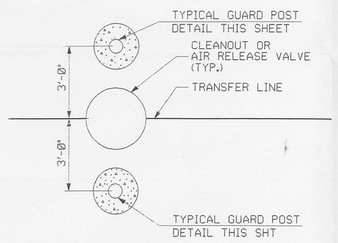
LINE POST DRIVE ANCHOR DETAIL

NTS



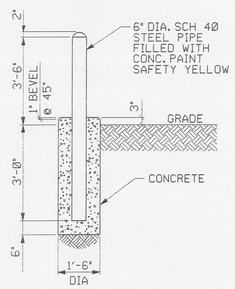
TRANSFER LINE CLEANOUT DETAIL (5 / G0020)

NTS (SEE NOTE 1) — REF G0014, G0015, G0016



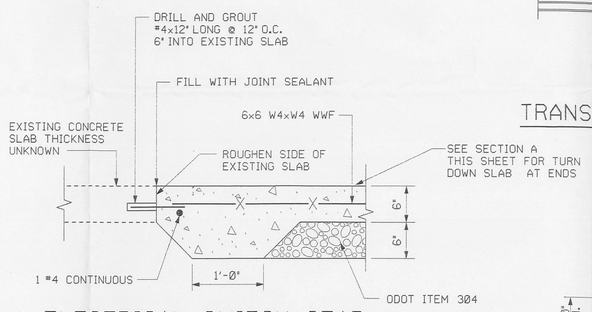
GUARD POST LAYOUT DETAIL (6 / G0020)

NTS



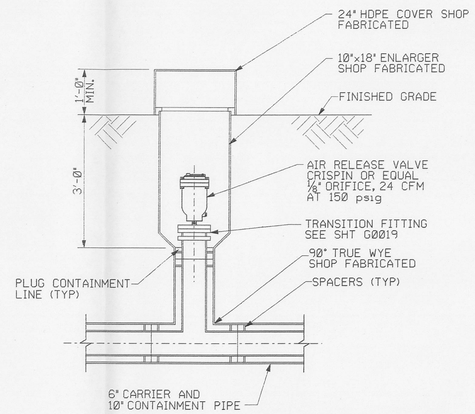
TYPICAL GUARD POST DETAIL

NTS



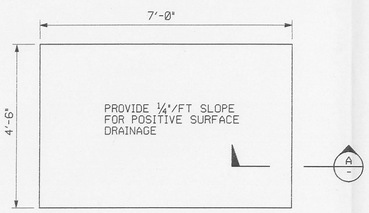
ELECTRICAL SWITCH GEAR PAD EXTENSION (8 / G0020)

NTS — REF E0012



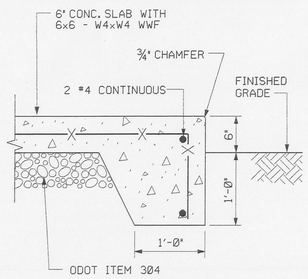
TRANSFER LINE AIR RELEASE VALVE DETAIL (9 / G0020)

NTS — REF G0014, G0015, G0016



ELECTRICAL SERVICE PANEL RACK PAD DETAIL (7 / G0020)

NTS — REF G0005, G0006, G0007, G0009, G0010, G0011



SECTION (A / -)

NTS

NOTES

1. AIR RELEASE VALVE AND CLEANOUT ASSEMBLIES SHALL BE SHOP FABRICATED AND TESTED. ALLOW FOR FIELD CONNECTION TO PIPELINE.

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-X-00321	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-00282	SITE PLAN	G0005
92X-5900-G-00284	SITE PLAN - SUPPORT AREA	G0006
92X-5900-G-00303	ENLARGEMENT RETENTION BASIN #1	G0009
92X-5900-G-00371	ENLARGEMENT RETENTION BASIN #2	G0010
92X-5900-G-00372	ENLARGEMENT RETENTION BASIN #3	G0011
92X-5900-G-00304	TRANSFER LINE - PLAN AND PROFILE SHEET 1 OF 3	G0014
92X-5900-G-00305	TRANSFER LINE - PLAN AND PROFILE SHEET 2 OF 3	G0015
92X-5900-G-00306	TRANSFER LINE - PLAN AND PROFILE SHEET 3 OF 3	G0016
92X-5900-G-00307	WATER LINE DETAILS	G0019
92X-5900-E-00409	ELECTRICAL - DETAILS - SHEET 4	E0012

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REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	6/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
WASTE UNITS REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

DRAWING TITLE
CIVIL
MISCELLANEOUS DETAILS
SHEET 1 OF 3

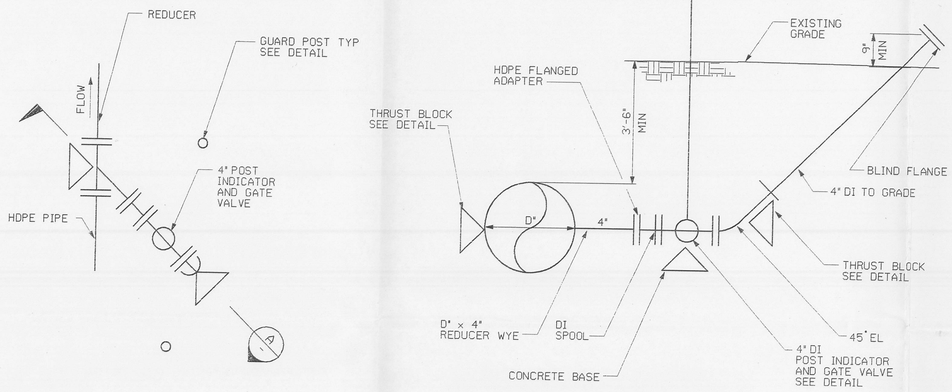
DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
R. LINDGREN	06/06/96	F.M. PARTON, JR.	6/13/97	K. GERARD	1/20/97

PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		NONE	

SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL	FERMCO PROJECT NO.
J.M. USHER 6/13/97	N/A	20400
A-E DATE	DATE	

PREPARED UNDER PARSONS PROJECT ORDER NUMBER	DOE PROJECT NO.	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
SCEP/P0165		WBS 1.1.1.1.2.3.6 00-90701	92X-5900-G-00309	G0020	0

STATE OF OHIO — FRANKLIN M. PARTON, JR. NO. E-57614 — REGISTERED PROFESSIONAL ENGINEER

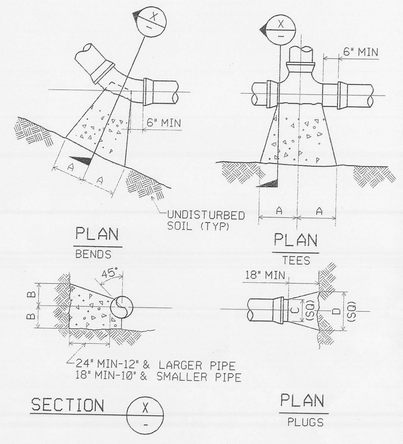


TYPICAL CLEANOUT DETAIL (1 / G0021)

TREATMENT LINE
DISCHARGE LINE

NTS

REF G0014 G0015 G0016

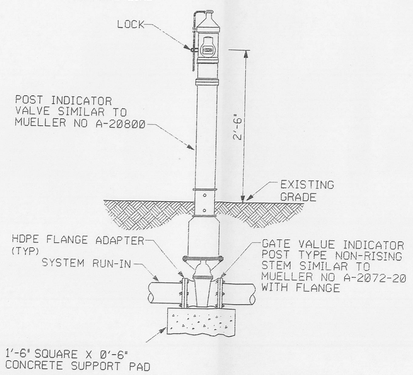


TYPE	SIZE	1/4 BENDS		1/8 BENDS		1/16 BENDS		TEES		PLUGS	
		A	B	A	B	A	B	A	B	C	D
2000 PSF SOIL	6"	16"	10"	9"	10"	6"	8"	10"	12"	10"	21"
	8"	22"	13"	12"	13"	8"	10"	13"	16"	12"	29"
	10"	26"	17"	14"	17"	10"	13"	16"	20"	14"	36"
	12"	29"	21"	16"	21"	11"	16"	18"	24"	16"	41"
	16"	38"	27"	-	-	-	-	24"	30"	-	-
	20"	42"	30"	-	-	-	-	27"	30"	-	-
	24"	48"	30"	-	-	-	-	36"	30"	-	-

NOTE: BASED ON 150 PSI STATIC PRESSURE PLUS A.W.W.A. WATER HAMMER. ALL BEARING SURFACES TO BE CARRIED TO UNDISTURBED GROUND.

THRUST BLOCK DETAILS

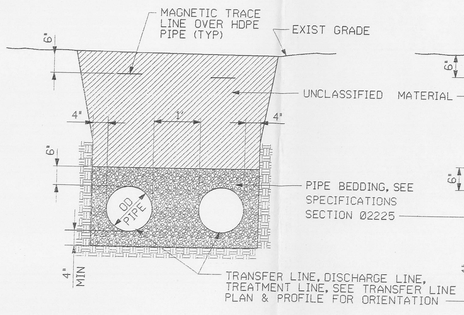
NTS



POST INDICATOR VALVE DETAIL

LINES SIZES 12" AND LESS

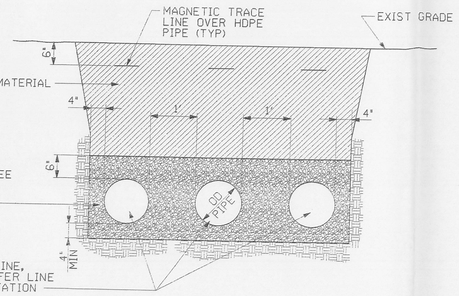
NTS



TYPICAL 2 PIPE BEDDING DETAIL (2 / G0021)

NTS

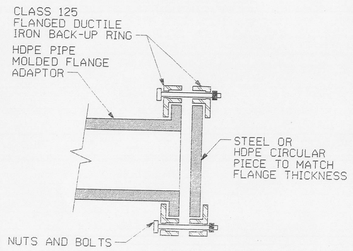
REF G0014 G0015 G0016



TYPICAL 3 PIPE BEDDING DETAIL (3 / G0021)

NTS

REF G0014 G0015 G0016

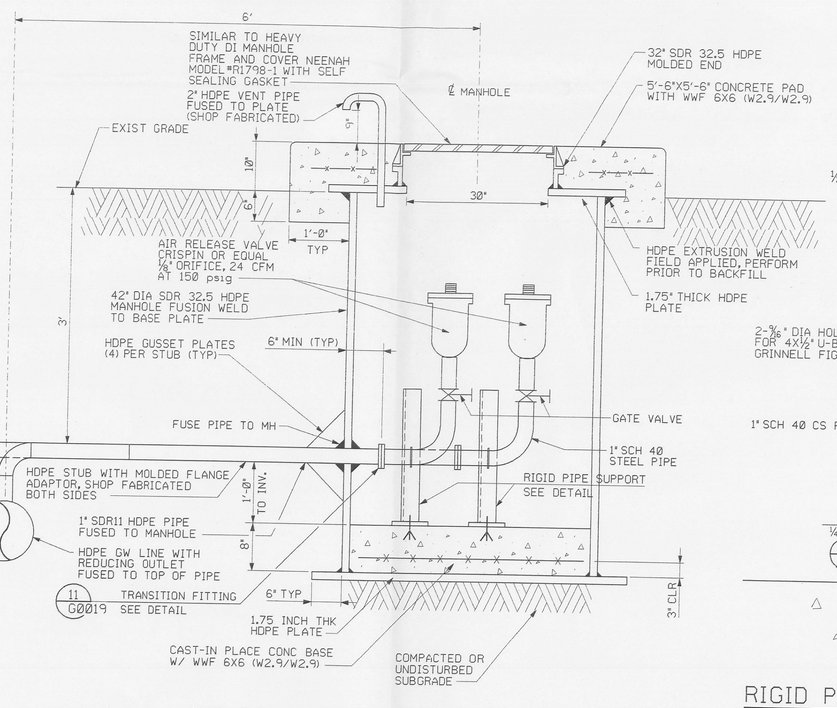


TYPICAL BLIND FLANGE DETAIL (4 / G0021)

END PIPE

NTS

REF G0014 G0015 G0016

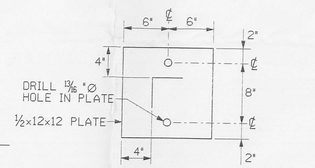


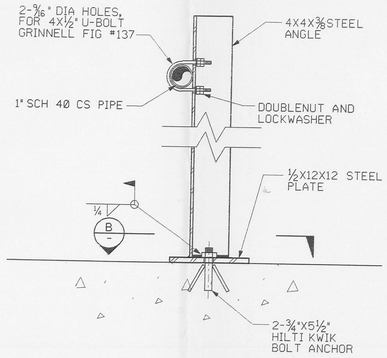
AIR RELEASE MANHOLE DETAIL (5 / G0021)

TREATMENT LINE
DISCHARGE LINE

NTS

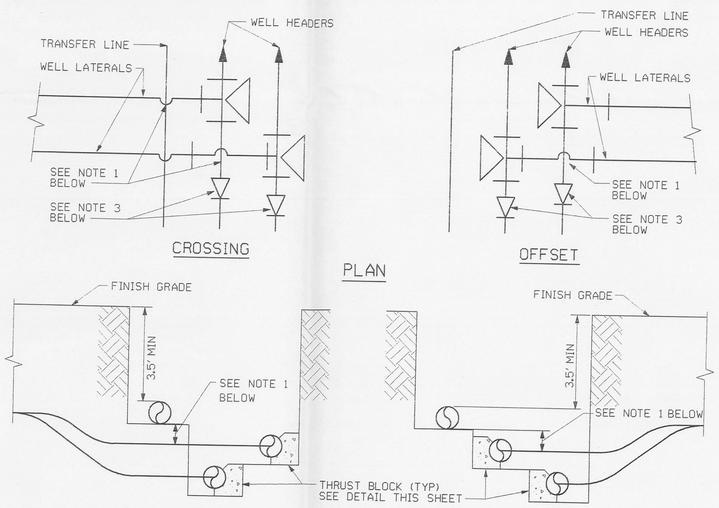
REF G0015





RIGID PIPE SUPPORT DETAIL

NTS



NOTE:

1. BEND LATERAL(S) AND HEADER TO PROVIDE 8" CLEARANCE. MINIMUM BEND RADIUS IS 20 DIAMETERS OR AS SPECIFIED BY PIPE MANUFACTURER.
2. COMMON TRENCH WITH 2 LATERIAL TEES SHOWN WITH THRUST BLOCK BEARING ON NATIVE SOIL. COMMON TRENCH WITH 1 LATERAL TEE WILL BE SIMILAR.
3. REDUCERS MAY BE REQUIRED UPSTREAM OF TEE. TEE SIZE SHALL MATCH DOWNSTREAM PIPE SIZE. SEE SHT G0014 AND SHT G0015.

TYPICAL TEE/ LATERAL DETAIL (6 / G0021)

NTS

REF G0014 G0015

STATE OF OHIO FRANKLIN M. PARTON, JR. NO. E-57614 REGISTERED PROFESSIONAL ENGINEER

NOTES

1. UNLESS OTHERWISE NOTED ALL CONCRETE SHALL BE 3000 PSI AS SPECIFIED IN THE SPECIFICATIONS.

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-X-00321	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-00304	TRANSFER LINE - PLAN AND PROFILE - SHEET 1 OF 3	G0014
92X-5900-G-00305	TRANSFER LINE - PLAN AND PROFILE - SHEET 2 OF 3	G0015
92X-5900-G-00306	TRANSFER LINE - PLAN AND PROFILE - SHEET 3 OF 3	G0016
92X-5900-G-00309	MISCELLANEOUS DETAILS - SHEET 1 OF 3	G0020
92X-5900-G-00307	WATER LINE DETAILS	G0019

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REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	6/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
WASTE UNITS REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

DRAWING TITLE
CIVIL
MISCELLANEOUS DETAILS
SHEET 2 OF 3

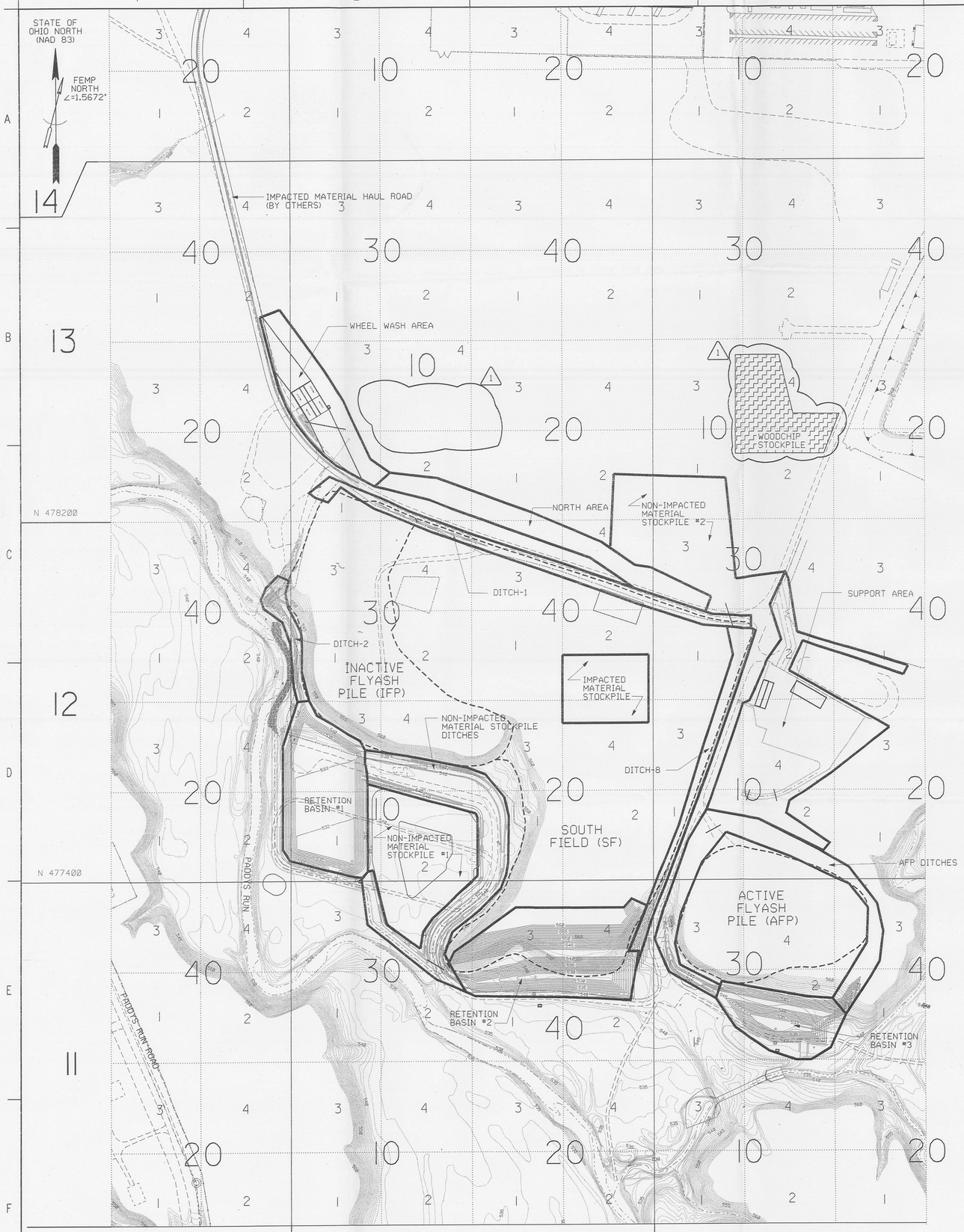
DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
T. BROWN	03-20-97	F.M. PARTON, JR.	6/13/97	K. GERARD	1/20/97

PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		NONE	

SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL
J.M. USHER 6/13/97	NA

A-E DATE DATE

PREPARED UNDER PARSONS PROJECT ORDER NUMBER	DOE PROJECT NO.	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
SCEP/P0165		WBS 1.1.1.1.2.3.6 00-90701	92X-5900-G-00320	G0021	0



AREA	DISPOSITION OF MATERIAL
WHEEL WASH AREA	BALANCE GRADING IN AREA WITH DITCHES 13 & 14
NORTH AREA	USE FOR DEVELOPMENT OF NON IMPACTED STOCKPILE #2 REMAINDER-IMPACTED
SUPPORT AREA (INCLUDING BERM NORTH OF AFP)	BALANCE GRADING IN AREA
DITCHES	SEE SHEET G0012
RETENTION BASIN 1	TOP FOOT - IMPACTED
	REMAINDER - NON IMPACTED
RETENTION BASIN 2 (ABOVE ELEV. 541	TOP FOOT - IMPACTED
	REMAINDER
RETENTION BASIN 2 (BELOW ELEV. 541	TOP FOOT - IMPACTED
	REMAINDER - NON IMPACTED
RETENTION BASIN 3	TOP FOOT - IMPACTED
	REMAINDER - NON IMPACTED
ROAD RE-GRADING (AT RETENTION BASIN 2)	EXCESS MATERIAL - IMPACTED
	FILL - NEAREST SOURCE OF NON IMPACTED MATERIAL
SWALE REPAIR AT AFP	IMPACTED
BORROW AREA	~~TOP FOOT - NON IMPACTED PLACE IN STOCKPILE AT BORROW AREA~~ ~~REMAINDER~~ INFILTRATION BARRIER 1

1123

NOTES

1. PERFORM MATERIAL DOCUMENTATION IN ACCORDANCE WITH SPECIFICATION SECTION 01450.
2. TRACK USING MATERIAL TRACKING LOCATION (MTL) SHOWN ON THIS DRAWING. USE GRID BOUNDARY (200' X 200') IF MTL BOUNDARIES ARE NOT APPLICABLE.

LEGEND

GRID BOUNDARY

MATERIAL TRACKING LOCATION (MTL) BOUNDARY

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-X-00321	LEGEND AND GENERAL NOTES	X0003

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REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
1	DELETED BORROW AREA, REVISED WOODCHIP STOCK -PILE LOCATION PER DCN: 20401-001 AND 003	JMU	N/A	8/29/97
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	6/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
WASTE UNITS REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

DRAWING TITLE
CIVIL
MATERIAL DOCUMENTATION PLAN

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
T. BROWN	02/11/97	F.M. PARTON, JR.	6/12/97	F. PARTON	02/17/97

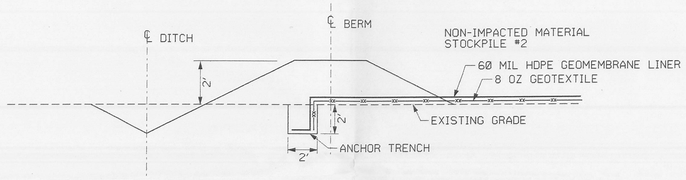
PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		1"=100'	

SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL	FERMCO PROJECT NO.
J.M. USHER 6/13/97		20400
A-E DATE	DATE	

PREPARED UNDER PARSONS PROJECT ORDER NUMBER	DOE PROJECT NO.	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
SCEP/P0165		WBS 1.1.1.1.2.3.6 00-90701	92X-5900-G-00411	G0022	1

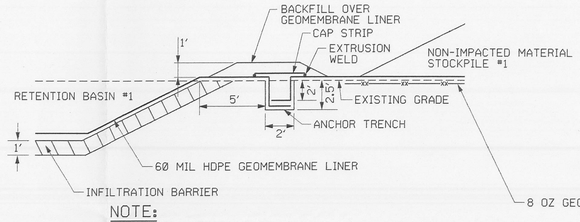
100' 0' 100' 200'
GRAPHIC SCALE: 1"=100'

STATE OF OHIO KENNETH F. GERALD, JR. P-6116 REGISTERED PROFESSIONAL ENGINEER
Kenneth F. Gerald Jr. 8/29/97



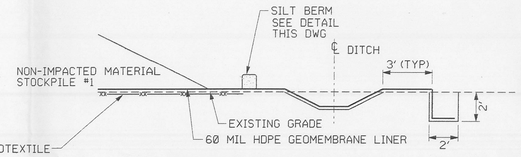
NOTE:
BACKFILL ANCHOR TRENCH WITH CL MATERIAL AND COMPACT TO 95% STANDARD PROCTOR (ASTM D698).

ANCHOR TRENCH DETAIL (1 / G0023) REF G0008
NON-IMPACTED MATERIAL STOCKPILE #2
NTS



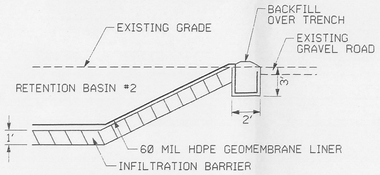
NOTE:
1. BACKFILL ANCHOR TRENCH WITH CL MATERIAL AND COMPACT TO 95% STANDARD PROCTOR (ASTM D698).
2. CAP STRIP SHALL BE THE SAME MATERIAL AS HDPE GEOMEMBRANE LINER.

ANCHOR TRENCH DETAIL (2 / G0023) REF G0009
RETENTION BASIN #1/
NON-IMPACTED MATERIAL STOCKPILE #1
NTS



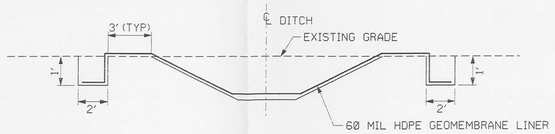
NOTE:
BACKFILL ANCHOR TRENCH WITH CL MATERIAL AND COMPACT TO 95% STANDARD PROCTOR (ASTM D698).

ANCHOR TRENCH DETAIL (3 / G0023) REF G0005
NON-IMPACTED MATERIAL STOCKPILE #1/DITCH
NTS



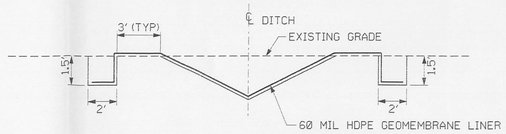
NOTE:
BACKFILL ANCHOR TRENCH WITH CL MATERIAL AND COMPACT TO 95% STANDARD PROCTOR (ASTM D698).

ANCHOR TRENCH DETAIL (4 / G0023) REF G0011
RETENTION BASIN #2/EXISTING ROAD
NTS



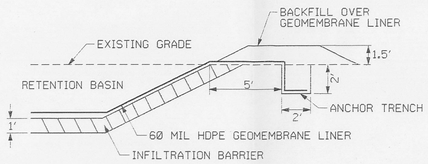
NOTE:
BACKFILL ANCHOR TRENCH WITH CL MATERIAL AND COMPACT TO 95% STANDARD PROCTOR (ASTM D698).

ANCHOR TRENCH DETAIL (5 / G0023) REF G0012
FLAT BOTTOM DITCH (TYP)
NTS



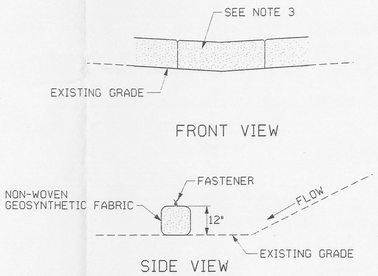
NOTE:
BACKFILL ANCHOR TRENCH WITH CL MATERIAL AND COMPACT TO 95% STANDARD PROCTOR (ASTM D698).

ANCHOR TRENCH DETAIL (6 / G0023) REF G0012
V - DITCH (TYP)
NTS



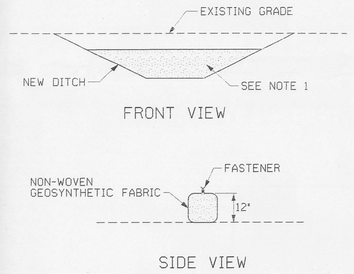
NOTE:
BACKFILL ANCHOR TRENCH WITH CL MATERIAL AND COMPACT TO 95% STANDARD PROCTOR (ASTM D698).

ANCHOR TRENCH DETAIL (7 / G0023) REF G0009 G0010 G0011
RETENTION BASIN (TYP)
NTS



NOTES:
1. LENGTH OF INDIVIDUAL SILT BERM MAY VARY AS REQUIRED FOR HANDLING
2. WHERE TWO ENDS OF SILT BERM MEET OVERLAP 1 FOOT MIN.
3. #57 STONE, ODOT ITEM 703.01

SILT BERM DETAIL (8 / G0023)
NTS



NOTES:
1. #57 STONE, ODOT ITEM 703.01

SEDIMENT BARRIER DETAIL (9 / G0023) REF G0005
NTS

NOTES

1123

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-X-00321	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-00282	SITE PLAN	G0005
92X-5900-G-00390	SITE PLAN - PADDYS RUN AREA	G0008
92X-5900-G-00303	ENLARGEMENT RETENTION BASIN #1	G0009
92X-5900-G-00371	ENLARGEMENT RETENTION BASIN #2	G0010
92X-5900-G-00372	ENLARGEMENT RETENTION BASIN #3	G0011
92X-5900-G-00311	EROSION AND SEDIMENT CONTROL - SHEET 1 OF 2	G0012

26

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	6/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
WASTE UNITS REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

DRAWING TITLE
CIVIL
MISCELLANEOUS DETAILS
SHEET 3 OF 3

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
D.R. FOX	05/22/97	F.M. PARTON, JR.	6/13/97	TIM BROWN	6/6/97

PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		NONE	

SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL	FERMCO PROJECT NO.
J.M. USHER 6/13/97	N/A	20400
A-E DATE	DATE	

PREPARED UNDER PARSONS PROJECT ORDER NUMBER	DOE PROJECT NO.	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
SCEP/P0165		WBS 1.1.1.1.2.3.6 00-90701	92X-5900-G-00452	G0023	0

6/6/97
STATE OF OHIO
FRANKLIN M. PARTON, JR. NO. E-57614
REGISTERED PROFESSIONAL ENGINEER

NOTES

1123

1. UTILITY LOCATIONS ARE APPROXIMATE. INSPECT THE WORK AREA PRIOR TO CONSTRUCTION AND STARTING WORK AND NOTIFY FDF OF ANY DISCREPANCIES IN WRITING.
2. STRIP TOP 6 INCHES OF TOPSOIL AND STOCKPILE ON SITE. PROVIDE EROSION AND SEDIMENT CONTROL FOR STOCKPILE.
3. EXCAVTE MAXIMUM OF 5' OF DEPTH FOR BORROW MATERIAL. MATERIAL EXCAVATED DEEPER THAN 5' OF DEPTH SHALL NOT BE USED UNLESS APPROVED BY FDF.
4. FOR SOIL BORING INFORMATION SEE GEOTECHNICAL DATA AND EVALUATION REPORT FOR EAST AND SOUTHFIELD BORROW AREAS, REVISION 0, DATED JUNE 1996.
5. PLACE NO.3 STONE, ODOT ITEM 703.01. AS SHOWN ON THE PLAN. ALL EXISTING WELLS ARE TO BE PROTECTED DURING CONSTRUCTION AND OPERATION.
6. SEE SHT G0012 FOR DETAILS AND INVERT ELEVATIONS OF DITCHES.
7. CONSTRUCT SPILLWAY WITH 12' WIDE BOTTOM WIDTH, 3H:1V SIDE SLOPES. LINE SPILLWAY WITH 8 oz. NON-WOVEN GEOTEXTILE. INSTALL 1.5' THICK (MINIMUM) DUMPED ROCK FILL ON TOP OF GEOTEXTILE TO FINISH GRADE. DUMPED ROCK FILL SHALL BE O.D.O.T. ITEM 601.07, TYPE "C" DUMPED ROCK FILL.
8. BORROW AREA HAS BEEN PREVIOUSLY CERTIFIED BY FDF. CONSTRUCTION EQUIPMENT TO BE USED WITHIN BORROW AREA SHALL BE APPROVED BY FDF PRIOR TO ENTRANCE INTO CERTIFIED AREA. VEHICLES USED FOR HAULING BORROW MATERIAL TO CONSTRUCTION AREAS SHALL NOT CROSS INTO THE CERTIFICATION UNIT. BORROW MATERIAL SHALL BE LOADED INTO THE HAUL VEHICLES ACROSS THE CERTIFICATION LIMIT. CONSTRUCTION EQUIPMENT TO BE USED FOR LOADING THE HAUL VEHICLES SHALL NOT CROSS THE CERTIFICATION LIMIT WITH TIRES OR TRACKS.

VOID 1

THIS DRAWING IS VOID PER DCN: 20401-001

DRAINAGE DITCHES (D), (SEE NOTE 6)

DITCH NO.	POINT	NORTHING	EASTING	DESCRIPTION/COMMENT
BA1	1	476689.2	1350061.0	BEGIN V-DITCH
BA1	2	477033.5	1349834.7	END V-DITCH
BA2	1	476769.3	1350398.2	BEGIN V-DITCH
BA2	2	477228.8	1350264.9	END V-DITCH

SEDIMENT TRAP (SD)

POINT	NORTHING	EASTING	ELEV	DESCRIPTION/COMMENT
1	477044.9	1349845.2	571.0	CORNER TRAP
2	477041.0	1349799.3	571.0	CORNER TRAP
3	477126.7	1349792.1	571.0	CORNER TRAP
4	477130.6	1349837.9	571.0	CORNER TRAP
5	477125.6	1349783.1	574.0	HP SPILLWAY
6	477153.3	1349717.8	572.5	END SPILLWAY

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RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-00320	DRAWING INDEX	X0002
92X-5900-X-00321	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-00368	EROSION AND SEDIMENT CONTROL - SHEET 2 OF 2	G0013
92X-5900-G-00452	MISCELLANEOUS DETAILS - SHEET 3 OF 3	G0023

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERMCO	DATE
1	VOID DRAWING PER DCN: 20401-001	JMU	N/A	8/21/97
0	CERTIFIED FOR CONSTRUCTION	JMU	N/A	6/13/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
WASTE UNITS REMEDIATION
SOUTHERN WASTE UNITS - SITE PREPARATION PACKAGE

DRAWING TITLE
CIVIL
SITE PLAN - BORROW AREA

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
D. REED	06/05/97	F.M. PARTON, JR.	6/12/97		

PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		1"=50'	

SUBMITTED FOR APPROVAL	FERMCO CRU APPROVAL	FERMCO PROJECT NO.
J.M. USHER 6/13/97	N/A	20400
A-E DATE	DATE	

DOE PROJECT NO.	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
	WBS 1.1.1.1.2.3.6 00-90701	92X-5900-G-00453	G0024	1

PREPARED UNDER PARSONS PROJECT ORDER NUMBER
SCEP/P0165

FRANKLIN M. PARTON, JR. NO. E-57614 REGISTERED PROFESSIONAL ENGINEER STATE OF OHIO 6/12/97