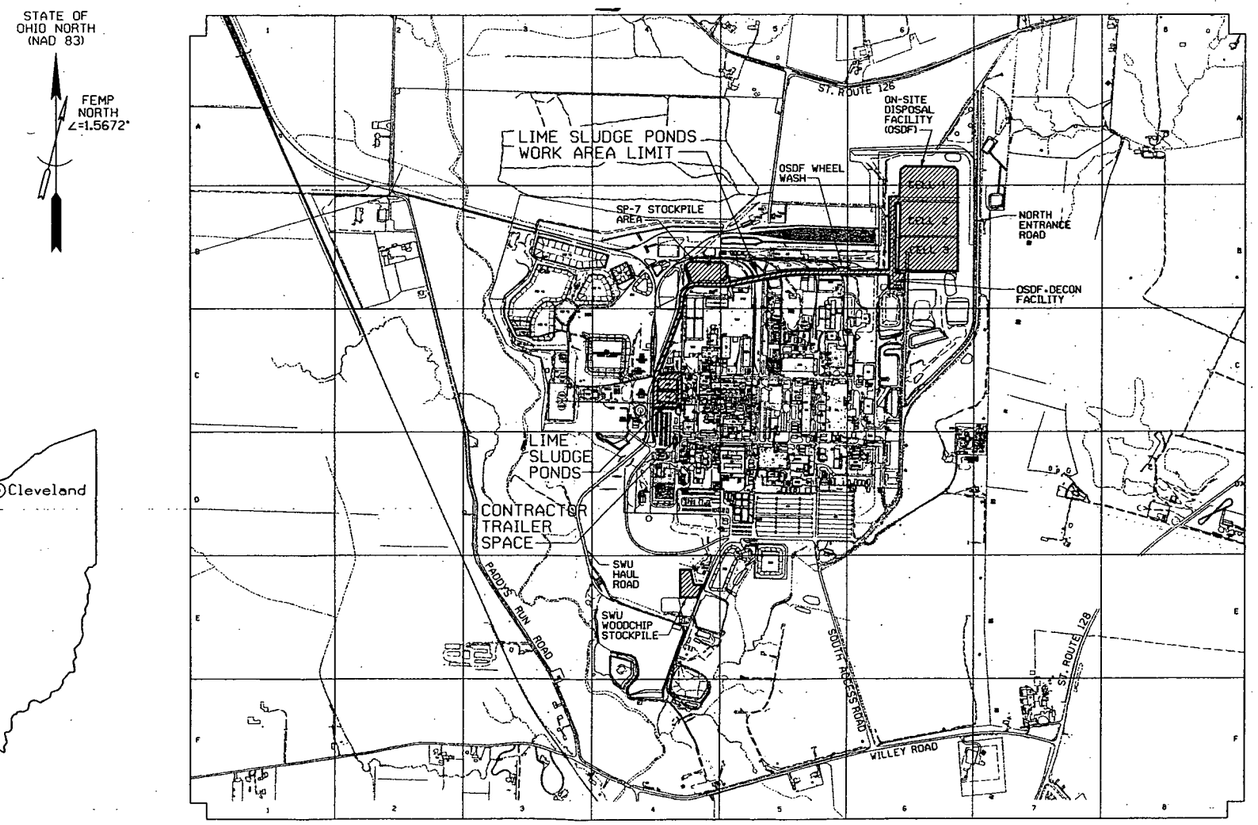
2.203.43

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

REMEDIATION AREA 3
LIME SLUDGE PONDS
CONTRACT NO.
FDF PROJECT NO. 20205



PARSONS

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

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

ARCHITECTS - ENGINEERS
CINCINNATI, OHIO

NOTES

2165

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-01006	DRAWING INDEX	X0002
92X-5900-X-01007	LEGEND AND GENERAL NOTES	X0003

PRELIMINARY
NOT FOR CONSTRUCTION

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	BY	CH	REVIEW BY
B	90% DESIGN ISSUED FOR REGULATORY REVIEW	FMP 4/12/99	CS 4/12/99	FMP 4/12/99
A	ISSUED FOR 90% DESIGN REVIEW	FMP 3/8/99	CS 3/8/99	TJB 3/8/99

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS I & T GROUP
CINCINNATI, OHIO

PROJECT NAME
REMEDIATION AREA 3
LIME SLUDGE PONDS

DRAWING TITLE
PROJECT TITLE SHEET

CONFIGURATION MANAGEMENT DRAWING
EXISTING SYSTEMS/PROJECTS/COMPONENTS AFFECTED BY THIS DRAWING MUST COMPLY WITH CONFIGURATION MANAGEMENT CONTROL. SEE NOTES.

TASK ORDER NO.	OPTIONAL NO.	SCALE	
TO P-022		SHOWN	
		DRAWN BY J.G. ASHWORTH	DATE 03/08/99
RES NO.	FDF PROJECT NO. 20205	TECHNICAL LEAD F.M. PARTON, JR.	DATE 03/08/99
		CHECKED BY F.M. PARTON, JR.	DATE 3/31/99
DRAWING INDEX CODE NO. 92X-5900-X-01005		SHEET NO. X0001	REV. NO. B

COGNIZANT ENGINEER DATE

SEAL

INDEX OF DRAWINGS

INDEX CODE NO.	DRAWING NO.	SHEET NO.	REVISION NO.	DRAWING TITLE	REMARKS
	92X-5900-X-01005	X0001	B	PROJECT TITLE SHEET	
	92X-5900-X-01006	X0002	B	DRAWING INDEX	
	92X-5900-X-01007	X0003	B	LEGEND AND GENERAL NOTES	
	92X-5900-G-01008	G0001	B	CIVIL - EXISTING CONDITIONS PLAN	
	92X-5900-G-01009	G0002	B	CIVIL - SITE PREPARATION PLAN	
	92X-5900-G-01010	G0003	B	CIVIL - EXCAVATION GRADING PLAN	
	92X-5900-G-01011	G0004	B	CIVIL - WATER MANAGEMENT FACILITY PLAN	
	92X-5900-G-01012	G0005	B	CIVIL - TRAFFIC FLOW AND MATERIAL TRACKING PLAN	
	92X-5900-G-01013	G0006	B	CIVIL - SP-7 STOCKPILE	
	92X-5900-G-01014	G0007	B	CIVIL - CROSS SECTIONS - SHEET 1 OF 3	
	92X-5900-G-01015	G0008	B	CIVIL - CROSS SECTIONS - SHEET 2 OF 3	
	92X-5900-G-01016	G0009	B	CIVIL - CROSS SECTIONS - SHEET 3 OF 3	
	92X-5900-G-01017	G0010	B	CIVIL - DETAILS - 1	
	92X-5900-G-01018	G0011	B	CIVIL - DETAILS - 2	
	92X-5900-G-01019	G0012	B	CIVIL - DETAILS - 3	
	92X-5900-N-01029	N0001	B	MECHANICAL PROCESS PIPING AND INSTRUMENTATION DIAGRAM SYMBOLS AND LEGEND	
	92X-5900-N-01030	N0002	B	MECHANICAL PROCESS PIPING AND INSTRUMENTATION DIAGRAM WATER COLLECTION AND TRANSFER	
	92X-5900-E-01021	E0001	B	ELECTRICAL - SINGLE LINE DIAGRAM, ELEVATON, AND PANEL SCHED - PMP-1 & PMP-2	
	92X-5900-E-01025	E0002	A	ELECTRICAL - ELEMENTARY DIAGRAMS	
	92X-5900-E-01026	E0003	A	ELECTRICAL - DETAILS	
	92X-5900-E-01027	E0004	A	ELECTRICAL - INTERCONNECTION DIAGRAMS AND DETAILS	
	92X-5900-E-01028	E0005	A	ELECTRICAL - ELECTRICAL PLAN	

NOTES

1. DRAWING NUMBERS ARE FOR FILE REFERENCE. DRAWINGS ARE ORDERED AND CROSS REFERENCED BY SHEET NUMBER.

2165

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-01005	PROJECT TITLE SHEET	X0001
92X-5900-X-01007	LEGEND AND GENERAL NOTES	X0003

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B	90% DESIGN ISSUED FOR REGULATORY REVIEW	FMP 4/12/99	CS 4/12/99	FMP 4/12/99
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UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS I & T GROUP
CINCINNATI, OHIO

PROJECT NAME
REMEDIATION AREA 3
LIME SLUDGE PONDS

DRAWING TITLE
DRAWING INDEX

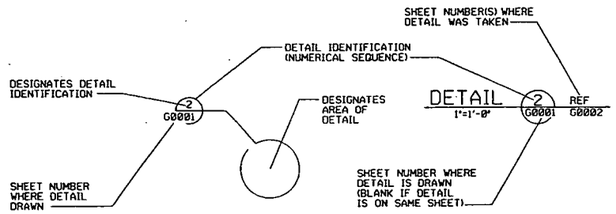
CONFIGURATION MANAGEMENT DRAWING YES NO
EXISTING STANDARDS OR COMPONENTS MAY BE USED. REFER TO PROJECT CONFIGURATION MANAGEMENT CONTROL. SEE NOTES.

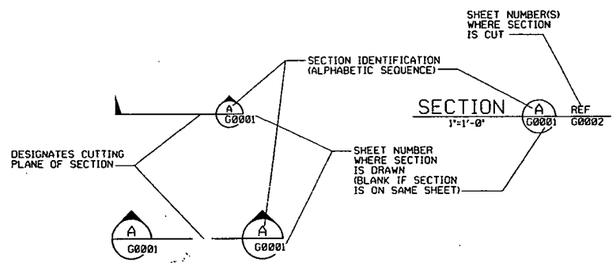
TASK ORDER NO.	OPTIONAL NO.	SCALE	
TO P-022		NONE	
		DRAWN BY J.G. ASHWORTH	DATE 3/8/99
RES NO.	FDF PROJECT NO. 20205	TECHNICAL LEAD F.M. PARTON, JR.	DATE 3/8/99
		CHECKED BY F.M. PARTON, JR.	DATE 3/31/99
COGNIZANT ENGINEER DATE	DRAWING INDEX CODE NO. 92X-5900-X-01006	SHEET NO. X0002	REV. NO. B

SEAL

2

GENERAL LEGEND





2
SECTION, DETAIL, OR ELEVATION FOUND ON SAME SHEET.

UTILITY SYMBOLS

EXISTING		PROPOSED
------ ST ------	STORM SEWER	—— ST ——
------DW ------	DRINKING WATER	NA
------FO1------	FIRE PROTECTION	NA
------ FT ------	FILTRATE OR EFFLUENT	NA
------ RW ------	RAW WATER	NA
NA	PERIMETER DRAIN	—— PD ——
------ E ------	ELECTRICAL	NA

GRADING SYMBOLS

EXISTING		PROPOSED
x 584.9	SPOT ELEVATION	589.4
——— 584 ———	CONTOUR - MINOR	——584——
——— 585 ———	CONTOUR - MAJOR	——585——

SYMBOLS LEGEND

EXISTING		PROPOSED
	PIEZOMETER	
	POST INDICATOR VALVE (PIV)	
	FIRE HYDRANT (FH)	
	MANHOLE (MH)	
D	CATCH BASIN (CB)	
	LIGHT POLE	
	PIPE SUPPORT	
	ELECTRICAL MANHOLE	
	TELEPHONE MANHOLE	
	STREET WASHERS	
	VALVE BOX	
	SURFACE DRAINAGE FLOW	
	POWER POLE	
	GRAVEL ROADWAY/DRIVEWAY	
	ASPHALT ROADWAY/DRIVEWAY	
	CONCRETE PAD/ ROADWAY/DRIVEWAY	
	BUILDING/TRAILER	
	RAILROAD TRACK	
	FENCE	
	BOUNDARY FENCE	
	TO BE REMOVED	
	TRANSMISSION TOWER	
	HEADWALL	
—xx——xx—	CONSTRUCTION/WIND BARRIER FENCE	—xx——xx—
—R——R—	CHAIN FENCE	
	RADIOLOGICAL CONTROL FENCE	
	SIGN	
	BOLLARD/GUARD POST	
	SURVEY CONTROL POINT	
	FENCE GATE	
	WORK LIMIT	
	GUARDRAIL	

ABBREVIATIONS

APPROX	APPROXIMATE	NO.	NUMBER
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	NPT	NATIONAL PIPE TAPER
AWWT	ADVANCED WASTE WATER TREATMENT	NTS	NOT TO SCALE
BSL	BIODENITRIFICATION SURGE LAGOON	ODOT	OHIO DEPARTMENT OF TRANSPORTATION
CFM	CUBIC FEET PER MINUTE	OSDF	ON-SITE DISPOSAL FACILITY
CG&E	CINCINNATI GAS & ELECTRIC COMPANY	OU	OPERABLE UNIT
℄	CENTERLINE	psi	POUNDS PER SQUARE INCH
CLR	CLEAR	PVC	POLYVINYL CHLORIDE
CONC	CONCRETE	PVMT	PAVEMENT
COR	CORRUGATED METAL	R	RADIUS
CS	CARBON STEEL	RAD	RADIOLOGICAL
DIA	DIAMETER	REF	REFERENCE
EL	ELEVATION	REQD	REQUIRED
ELEC	ELECTRIC	SCH	SCHEDULE
EXIST	EXISTING	SDR	STANDARD DIMENSION RATIO
FDF	FLUOR DANIEL FERNALD	SHT	SHEET
FEMP	FERNALD ENVIRONMENTAL MANAGEMENT PROJECT	SMTA	SPECIAL MATERIAL TRANSFER AREA
FRL	FINAL REMEDIATION LEVEL	SP	STOCK PILE
FS	FEASIBILITY STUDY	SQ	SQUARE
HDPE	HIGH DENSITY POLYETHYLENE	STL	STEEL
HORIZ	HORIZONTAL	SWRB	STORMWATER RETENTION BASIN
INV	INVERT	SWU	SOUTHERN WASTE UNIT
KV	KILOVOLT	SY	SQUARE YARDS
LCS	LEACHATE CONVEYANCE SYSTEM	Tc-99	TECHNETIUM - 99
LSP	LIME SLUDGE PONDS	TYP	TYPICAL
MAX	MAXIMUM	UV	ULTRA VIOLET
MIN	MINIMUM	VERT	VERTICAL
MH	MANHOLE	WAC	WASTE ACCEPTANCE CRITERIA
MTL	MATERIAL TRACKING LOCATION	WM	WATER MANAGEMENT
		WWF	WELDED WIRE FABRIC

NOTES

GENERAL NOTES

1. EXISTING TOPOGRAPHY PREPARED BY PARSONS FROM DIGITAL MAPPING BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY PROVIDED BY WOOLPERT CONSULTANTS FLOWN APRIL 1997. 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, AND TOPOGRAPHIC FIELD SURVEY OF PROJECT LOCATION PERFORMED BY FDF DATED FEBRUARY, 1999.
2. HORIZONTAL CONTROL SHOWN ON THE DRAWINGS IS BASED UPON NORTH AMERICAN DATUM 1983 (NAD 83). SEE SHEET G0001 FOR PROJECT SURVEY CONTROL.
3. VERTICAL CONTROL SHOWN ON THE DRAWINGS IS BASED UPON NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD 29). SEE SHEET G0001 FOR PROJECT SURVEY CONTROL.
4. REFERENCES TO SECTIONS (E.G. SEE SECTION 02205) ARE TO THE CONTRACT TECHNICAL SPECIFICATION SECTIONS.
5. LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE. CONSTRUCTION MANAGER WILL MARK ALL UTILITIES IN FIELD. IF SIZE, MATERIAL, LOCATION, OR DEPTH ARE DIFFERENT OR IF UNKNOWN UNCHARTED UTILITIES ARE DISCOVERED, INFORM THE CONSTRUCTION MANAGER BEFORE PROCEEDING.
6. PERFORM ALL EQUIPMENT FREE-RELEASE DECONTAMINATION AT THE OSDF DECON FACILITY.
7. COORDINATES, DIMENSIONS, AND/OR ELEVATIONS MARKED (+/-) ARE APPROXIMATE. VERIFY IN THE FIELD.
8. MAINTAIN AND PROTECT UTILITY MARKINGS.

2165

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-01005	PROJECT TITLE SHEET	X0001
92X-5900-X-01006	DRAWING INDEX	X0002

PRELIMINARY
NOT FOR CONSTRUCTION

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	TL	PM	REVG BY
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INITIALS AND DATE

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FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

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CINCINNATI, OHIO

PROJECT NAME
REMEDIATION AREA 3
LIME SLUDGE PONDS

DRAWING TITLE
LEGEND AND GENERAL NOTES

CONFIGURATION MANAGEMENT DRAWING — YES / NO
SYSTEMS, STRUCTURES OR COMPONENTS DEPICTED ON THIS DRAWING ARE UNDER CONFIGURATION MANAGEMENT CONTROL. SEE NOTES.

COGNIZANT ENGINEER — DATE

TASK ORDER NO.	OPTIONAL NO.	SCALE	
TO P-022		NONE	
		DRAWN BY J.G. ASHWORTH	DATE 3/8/99
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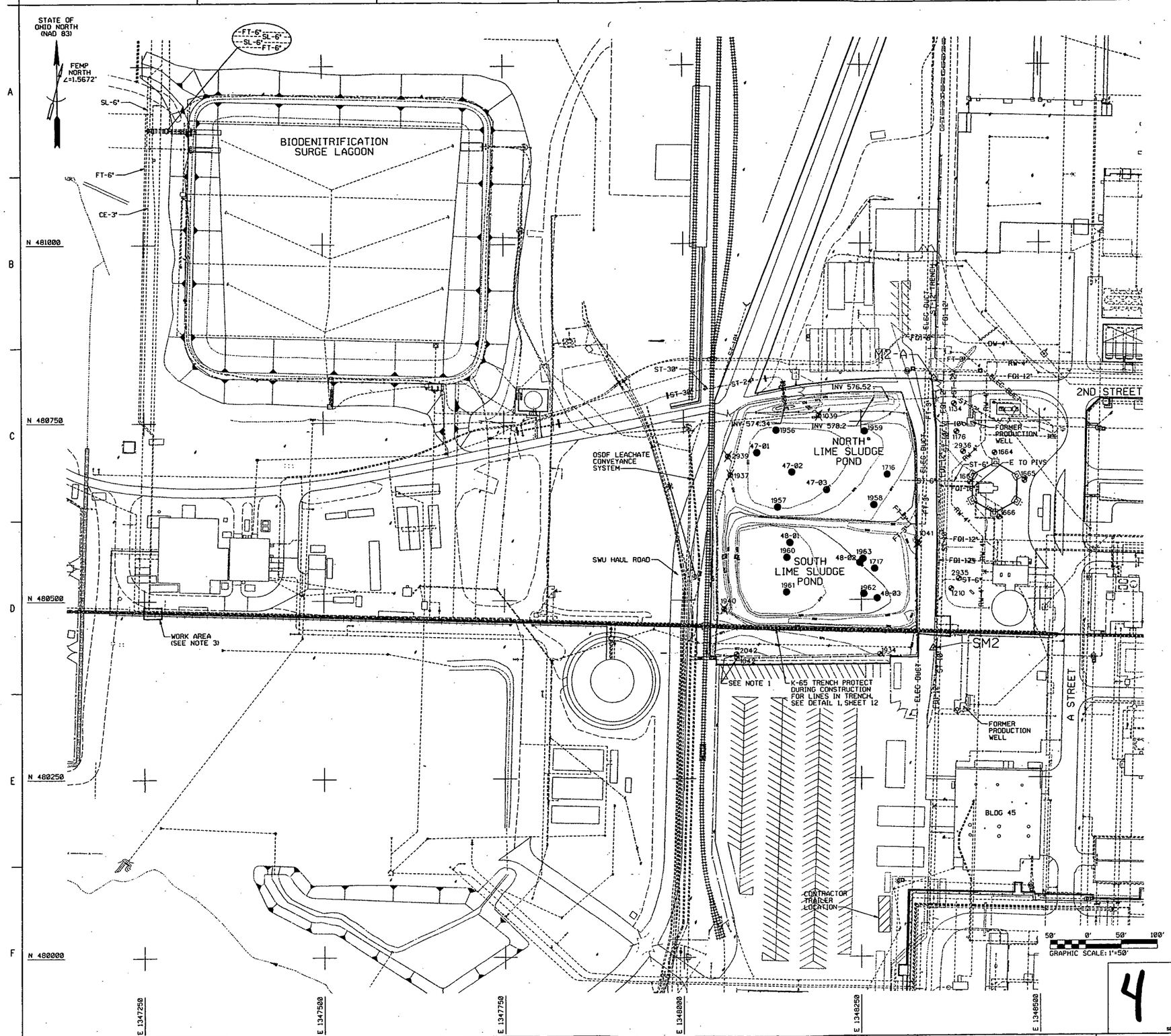
		CHECKED BY F.M. PARTON, JR.	DATE 3/31/99
DRAWING INDEX CODE NO. 92X-5900-X-01007		SHEET NO. X0003	REV. NO. B

3

SEAL



NOTES

1. PROTECT WELLS NOT ABANDONED. DAMAGED WELLS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE BY FDF.
2. SEE LIME SLUDGE PONDS SOIL BORING SUMMARY FOR BORING LOGS.
3. EXTENDING FROM PIPE CONNECTION TIE-IN POINT AT K-65 TRENCH (SHOWN ON G0002) TO THE BSL. FIELD LOCATE LOW POINT OF 6" PIPE TO BE USED AS TRANSFER PIPE WITHIN K-65 TRENCH. AT LOW POINT OF 6" PIPE PROVIDE THREADED TAP, 1" NPT, ON BOTTOM HALF OF PIPE. INSERT 1" NPT STEEL NIPPLE OF LENGTH AS REQUIRED. ATTACH THREADED BALL VALVE, APOLLO SERIES 83-100, AS MANUFACTURED BY CONBRACO INDUSTRIES, INC., OR EQUAL AS MINIMUM.

2165

LEGEND

G2-169	SOIL BORING
1970	MONITORING WELL
2939	ABANDONED MONITORING WELL (SEE NOTE 2)

SURVEY CONTROL POINT INFORMATION				
CONTROL PT.	NORTHING	EASTING	ELEVATION	DESCRIPTION
SM2	480341.24	1348350.87	580.33	IRON PIN
M2-A	480810.44	1348352.46	580.25	CONC MONUMENT

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-01006	DRAWING INDEX	X0002
92X-5900-X-01007	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-01019	DETAILS - 3	G0012

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CINCINNATI, OHIO

PROJECT NAME
REMEDIATION AREA 3
LIME SLUDGE PONDS

DRAWING TITLE
CIVIL
EXISTING CONDITIONS PLAN

TASK ORDER NO. TO P-022	OPTIONAL NO.	SCALE 1"=50'	
		DRAWN BY J.G. ASHWORTH	DATE 3/8/99
RES NO.	FDF PROJECT NO. 20205	TECHNICAL LEAD F.M. PARTON, JR.	DATE 3/8/99
		CHECKED BY F.M. PARTON, JR.	DATE 3/31/99
DRAWING INDEX CODE NO. 92X-5900-G-01008		SHEET NO. G0001	REV. NO. B

CONFIGURATION MANAGEMENT DRAWING — YES / NO
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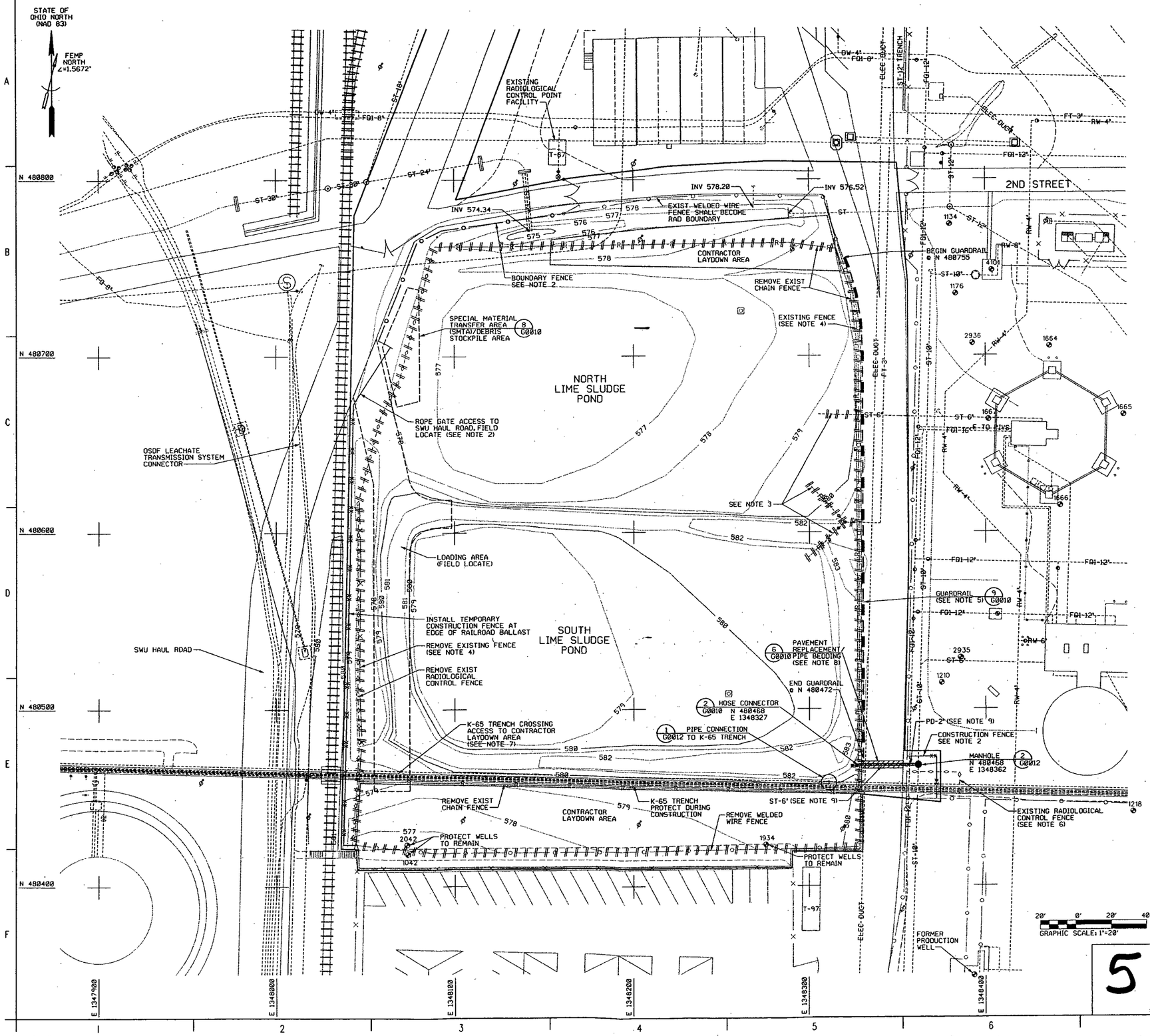
COGNIZANT ENGINEER — DATE

SEAL



NOTES

1. PROTECT ALL EXISTING FACILITIES, APPURTENANCES, AND PAVED ROADWAYS TO REMAIN FROM DAMAGE DURING CONSTRUCTION.
2. INSTALL CONSTRUCTION FENCE, BOUNDARY FENCE AND MOVE RADIOLOGICAL CONTROL FENCE AS SHOWN PRIOR TO EXCAVATION ACTIVITIES. INSTALL ROPE GATE AT ACCESS POINT TO SWU HAUL ROAD.
3. REMOVE ST-6", FT-3" AND ASSOCIATED VALVES TO EDGE OF EXISTING ASPHALT PAVEMENT. PLUG REMAINING SECTION OF PIPE WITH NON-SHRINK GROUT TO FORM PIPE END SEAL.
4. REMOVE EXISTING FENCE ALONG EDGE OF ROADWAY AS REQUIRED FOR CONSTRUCTION.
5. INSTALL GUARDRAIL PRIOR TO EXCAVATION.
6. ADJUST EXISTING RADIOLOGICAL CONTROL FENCE AS REQUIRED FOR INSTALLATION OF CONSTRUCTION FENCE.
7. INSTALL 1" THICK (MIN) STEEL PLATE OVER K-65 TRENCH CROSSING TO CONTRACTOR LAYDOWN AREA.
8. MAINTAIN FLOW OF TRAFFIC ON ROAD AT ALL TIMES.
9. FOR PROFILE OF ST-6", SEE WATER MANAGEMENT SYSTEM TRANSFER LINE PROFILE, SHEET G0011. FOR PROFILE OF PD-2", SEE PERIMETER DRAIN DISCHARGE SYSTEM PROFILE, SHEET G0012.

2165

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-01006	DRAWING INDEX	X0002
92X-5900-X-01007	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-01010	EXCAVATION GRADING PLAN	G0003
92X-5900-G-01017	DETAILS - 1	G0010
92X-5900-G-01018	DETAILS - 2	G0011
92X-5900-G-01019	DETAILS - 3	G0012

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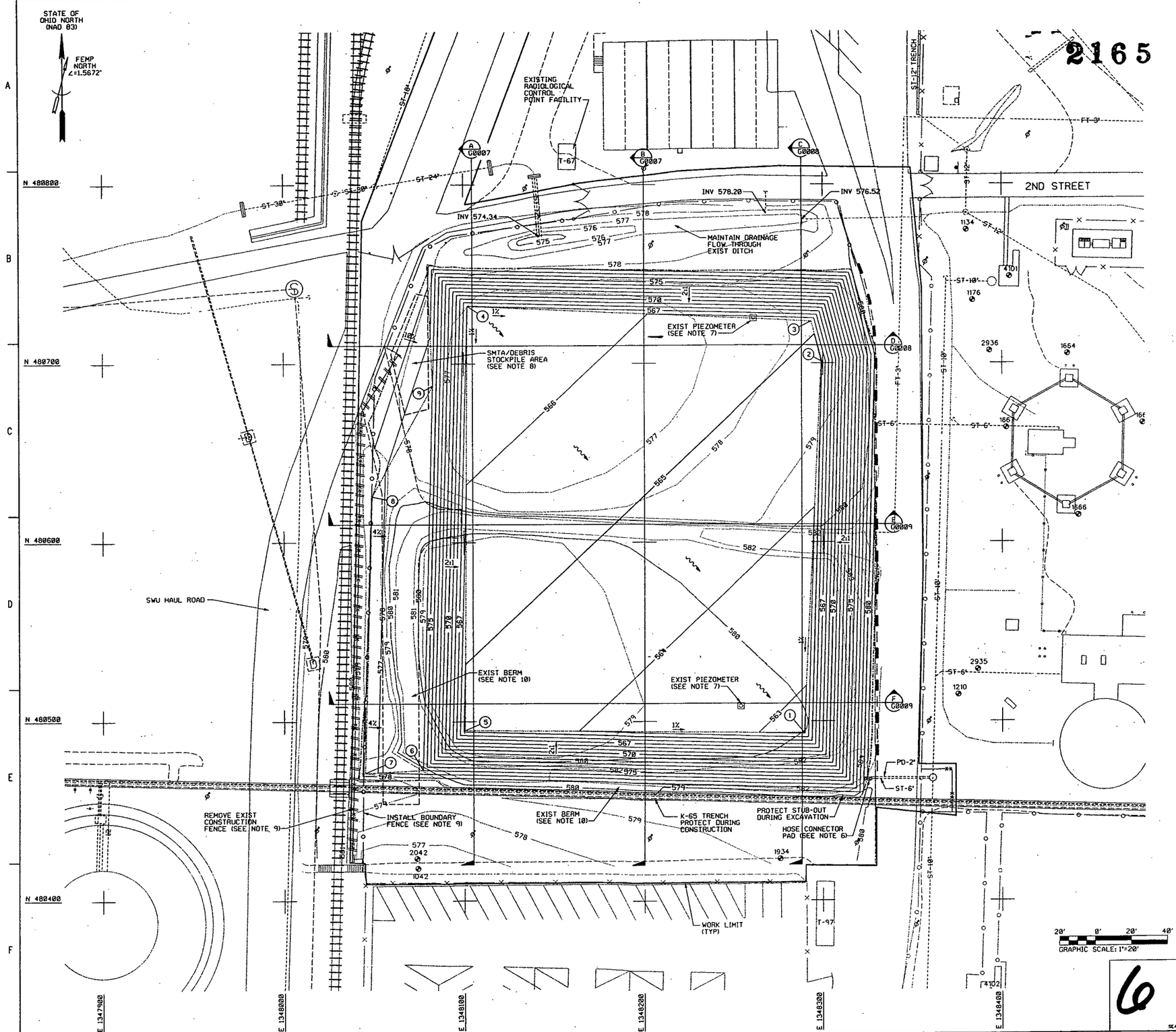
PROJECT NAME
REMEDIATION AREA 3
LIME SLUDGE PONDS

DRAWING TITLE
CIVIL
SITE PREPARATION PLAN

CONFIGURATION MANAGEMENT DRAWING
SYSTEM STRUCTURE OR COMPONENTS REFERENCED ON THIS DRAWING ARE UNDER CONFIGURATION MANAGEMENT CONTROL. SEE NOTES.

TASK ORDER NO.	OPTIONAL NO.	SCALE	
TO P-022		1"=20'	
		DRAWN BY J.G. ASHWORTH	DATE 3/8/99
RES NO.	FDF PROJECT NO.	TECHNICAL LEAD F.M. PARTON, JR.	DATE 3/8/99
	20205	CHECKED BY F.M. PARTON, JR.	DATE 3/31/99
COGNIZANT ENGINEER	DATE	DRAWING INDEX CODE NO. 92X-5900-G-01009	SHEET NO. G0002 / REV. NO. B

SEAL



NOTES

1. INSTALL TEMPORARY DEWATERING PUMPS. DURING CONSTRUCTION KEEP EXCAVATION FREE OF STANDING WATER. DISCHARGE ALL WATER GENERATED DURING EXCAVATION THROUGH STORM DRAIN VIA HOSE CONNECTION PAD.
2. CUT SLOPES SHALL NOT EXCEED A MAXIMUM SLOPE OF 2H:1V UNLESS SLOPE STABILITY REQUIRES A FLATTER SLOPE OR AS DIRECTED BY CONSTRUCTION MANAGER.
3. THE EXCAVATION CONTOURS ARE BASED UPON ESTIMATED IMPACTED MATERIAL LIMITS. EXCAVATION LIMIT MAY VARY AND WILL DEPEND UPON ACTUAL CONDITIONS REVEALED DURING CONSTRUCTION.
4. TRANSPORT TRUCKS HAULING EXCAVATED MATERIAL SHALL NOT ENTER THE EXCAVATION. LOADING OF TRANSPORT TRUCKS WILL ONLY BE ALLOWED ON THE LOADING AREA.
5. PROTECT ALL EXISTING FACILITIES, APPURTENANCES, PAVED ROADWAYS AND FENCING TO REMAIN FROM DAMAGE DURING CONSTRUCTION.
6. COMPLETE GRADING AROUND HOSE CONNECTOR JUST PRIOR TO REMOVAL OF HOSE CONNECTOR.
7. REMOVE EXISTING ABANDONED PIEZOMETERS DURING EXCAVATION.
8. PERFORM GRADING IN THIS AFTER REMOVAL OF SMTA AND DEBRIS STOCKPILE AREA.
9. INSTALL BOUNDARY FENCING 15' FROM CENTERLINE OF RAILROAD AFTER EXCAVATION HAS BEEN PERFORMED IN THIS AREA. AFTER PERMANENT FENCING HAS BEEN INSTALLED, REMOVE TEMPORARY CONSTRUCTION FENCE.
10. REMOVE EXISTING BERM FROM K-65 TRENCH TOWARD NEW POND AT A 1% SLOPE TO PROVIDE POSITIVE DRAINAGE AWAY FROM K-65 TRENCH. REMOVE EXISTING BERM FROM BOTTOM OF EXISTING DITCH TOWARD NEW POND AT 4% SLOPE AS SHOWN TO PROVIDE POSITIVE DRAINAGE AWAY FROM RAILROAD TOE OF SLOPE.

COORDINATE POINT LISTING

NO.	NORTHING	EASTING	EL	DESCRIPTION
1	480494	1348289	562.7	POND BOTTOM
2	480701	1348299	564.8	POND BOTTOM
3	480723	1348294	565.1	POND BOTTOM
4	480732	134810 2	567.0	POND BOTTOM
5	480495	1348100	564.6	POND BOTTOM
6	480473	1348077	576.0	SLOPE BREAK
7	480471	1348045	577.3	SLOPE BREAK
8	480626	1348049	577.3	SLOPE BREAK
9	480688	1348083	576.0	SLOPE BREAK

LEGEND

- SLOPE BREAKLINE
- LIMIT OF EXCAVATION
- (1) COORDINATE POINT NUMBER

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-01006	DRAWING INDEX	X0002
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92X-5900-G-01008	EXISTING CONDITIONS PLAN	G0001
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92X-5900-G-01011	WATER MANAGEMENT FACILITY PLAN	G0004
92X-5900-G-01014	CROSS SECTIONS - SHEET 1 OF 3	G0007
92X-5900-G-01015	CROSS SECTIONS - SHEET 2 OF 3	G0008
92X-5900-G-01016	CROSS SECTIONS - SHEET 3 OF 3	G0009

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CINCINNATI, OHIO

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REMEDIATION AREA 3
LIME SLUDGE PONDS

DRAWING TITLE
CIVIL
EXCAVATION GRADING PLAN

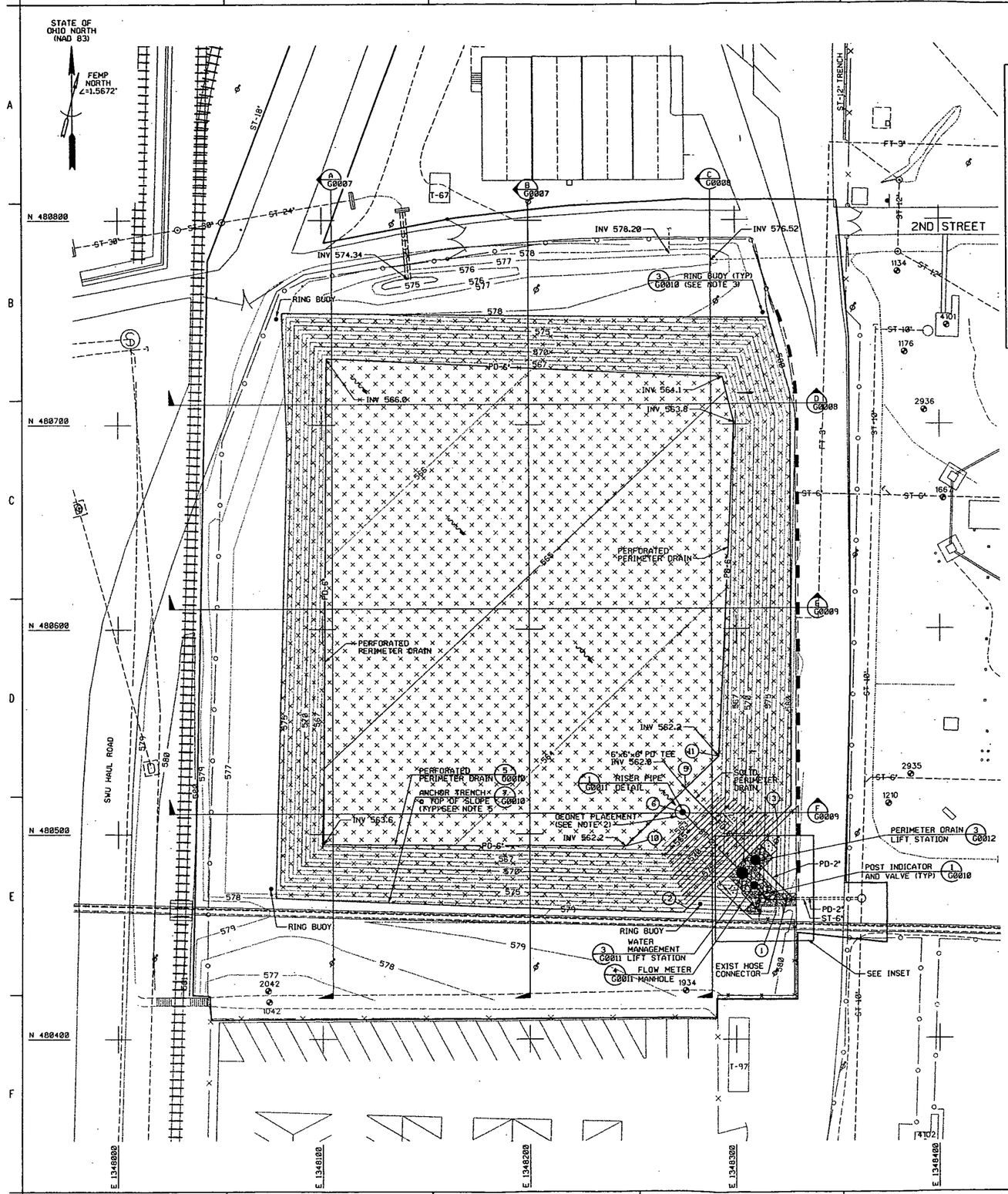
TASK ORDER NO.	OPTIONAL NO.	SCALE 1"=20'	
TO P-022		DRAWN BY J.G. ASHWORTH	DATE 3/8/99
RES NO.	FOF PROJECT NO. 20205	TECHNICAL LEAD F.M. PARTON, JR.	DATE 3/8/99
		CHECKED BY F.M. PARTON, JR.	DATE 3/31/99
DRAWING INDEX CODE NO. 92X-5900-G-01010		SHEET NO. G0003	REV. NO. B

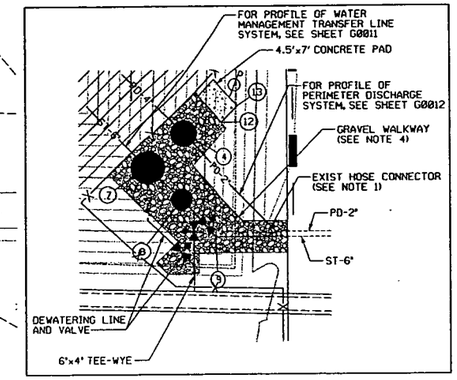
CONFIGURATION MANAGEMENT DRAWING — YES / NO
SYSTEMS, STRUCTURES OR COMPONENTS LOCATED ON THIS DRAWING ARE UNDER CONFIGURATION MANAGEMENT CONTROL. SEE NOTES.

COGNIZANT ENGINEER — DATE

SEAL

6





INSET
SCALE: 1"=10'

COORDINATE POINT LISTING

NO.	NORTHING	EASTING	EL	DESCRIPTION
1	480462	1348319	578.3	SLOPE BREAK
2	480464	1348276	578.0	SLOPE BREAK
3	480507	1348320	578.0	SLOPE BREAK
4	480487	1348309	—	PD LIFT STATION
5	480522	1348275	—	6"x6"x6" PD TEE
6	480510	1348274	—	RISER PIPE
7	480481	1348303	—	WM LIFT STATION
8	480475	1348309	—	FLOW METER MANHOLE
9	480468	1348316	—	45° PIPE BEND
10	480494	1348247	—	PD BEND
11	480538	1348291	—	PD BEND
12	480489	1348314	—	CORNER CONC PAD
13	480493	1348319	—	CORNER CONC PAD

NOTES

1. REMOVE EXISTING HOSE CONNECTOR, VALVE, CONCRETE PAD AND PIPING TO FLANGE PRIOR TO CONNECTING NEW SD-6" FROM WATER MANAGEMENT LIFT STATION.
2. GEONET PLACEMENT SHALL STOP AT A POINT 2' FROM OUTSIDE OF RISER PIPE AS SHOWN.
3. PLACE RING BUOYS 1' BEHIND ANCHOR TRENCH IN APPROXIMATE LOCATIONS SHOWN.
4. FIELD LOCATE 29 SY x 6" THICK GRAVEL WALKWAY AROUND MANHOLES, VALVES AND ELECTRICAL PANEL IN APPROXIMATE LOCATION SHOWN.
5. LOCATE ANCHOR TRENCH AT TOP OF SLOPE AS SHOWN. ALONG STREET ON EAST SIDE OF POND, PLACE ANCHOR TRENCH AT TOP OF SLOPE WHERE POSSIBLE OR INSTALL AT A POINT 2.5' FROM EDGE OF PAVEMENT.

2165

LEGEND

GEOMEMBRANE LINER/GEONET

(1) COORDINATE POINT NUMBER

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-01006	DRAWING INDEX	X0002
92X-5900-X-01007	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-01008	EXISTING CONDITIONS PLAN	G0001
92X-5900-G-01009	SITE PREPARATION PLAN	G0002
92X-5900-G-01010	EXCAVATION GRADING PLAN	G0003
92X-5900-G-01014	CROSS SECTIONS - SHEET 1 OF 3	G0007
92X-5900-G-01015	CROSS SECTIONS - SHEET 2 OF 3	G0008
92X-5900-G-01016	CROSS SECTIONS - SHEET 3 OF 3	G0009
92X-5900-G-01017	DETAILS - 1	G0010
92X-5900-G-01018	DETAILS - 2	G0011
92X-5900-G-01019	DETAILS - 3	G0012
92X-5900-E-01021	SINGLE LINE DIAG., ELEV., & PANEL SCHED.	E0001

PRELIMINARY
NOT FOR CONSTRUCTION

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	RL	PM	REVD BY
B	90% DESIGN ISSUED FOR REGULATORY REVIEW	FMP 4/12/99	GS 4/12/99	TJB 4/12/99
A	ISSUED FOR 90% DESIGN REVIEW	FMP 3/8/99	CS 3/8/99	TJB 3/8/99

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS I & T GROUP
CINCINNATI, OHIO

PROJECT NAME
REMEDIATION AREA 3
LIME SLUDGE PONDS

DRAWING TITLE
CIVIL
WATER MANAGEMENT FACILITY PLAN

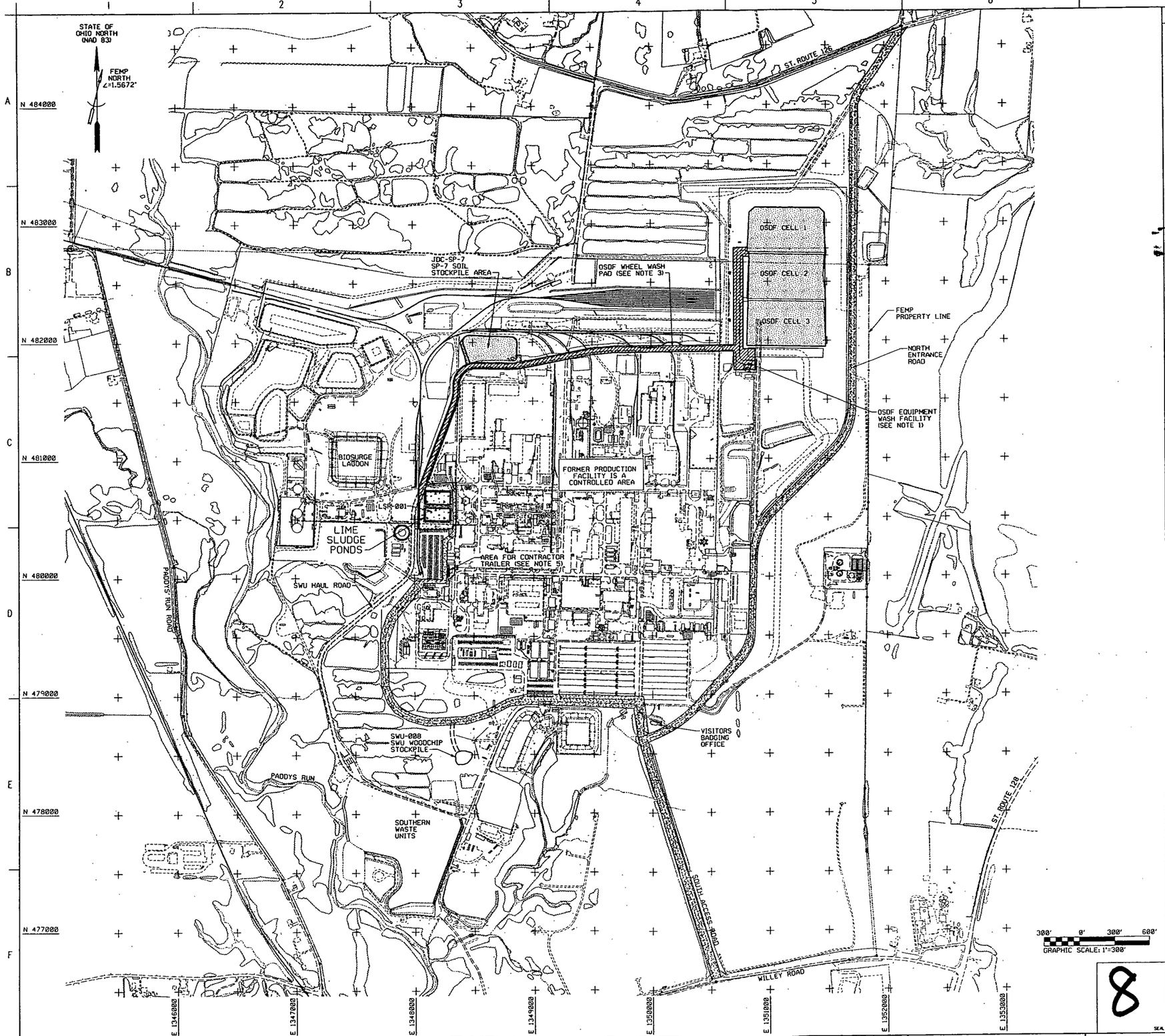
20' 0' 20' 40'
GRAPHIC SCALE: 1"=20'

7

CONFIGURATION MANAGEMENT DRAWING
EXISTING STRUCTURES OR COMPONENTS MAY BE AFFECTED BY CHANGES IN CONFIGURATION MANAGEMENT CONTROL. SEE NOTES.

TASK ORDER NO.	OPTIONAL NO.	SCALE 1"=20'	
TO P-022		DRAWN BY J.G. ASHWORTH	DATE 2-05-99
RES NO.	TOF PROJECT NO. 20205	TECHNICAL LEAD F.M. PARTON, JR.	DATE 3/8/99
		CHECKED BY T.J. BROWN	DATE 3/8/99
COGNIZANT ENGINEER	DATE	DRAWING INDEX CODE NO. 92X-5900-G-01011	SHEET NO. G0004 / REV. NO. B

SEAL



NOTES

1. USE THE OSDF EQUIPMENT WASH FACILITY TO WASH EQUIPMENT FOR FREE RELEASE FROM SWU IMPACTED MATERIAL HAUL ROAD OR OSDF IMPACTED MATERIAL ROAD.
2. PERFORM DUST CONTROL WITHIN THE DUST CONTROL/WORK LIMITS. MATERIAL STOCKPILES, ACCESS ROADS, AND OTHER AREAS OF WORK SPECIFIED IN PART 6 AND TECHNICAL SPECIFICATIONS OF THE CONTRACT DOCUMENTS.
3. USE OSDF WHEEL WASH PAD FOR VEHICLES LEAVING OSDF AND RETURNING TO LSP.
4. SEE PART 6 AND PART 8 FOR WHEEL WASHING AND OTHER REQUIREMENTS TO GO FROM DIFFERENT CONTAMINATED, CONTROLLED, UNCONTROLLED, CERTIFIED, NONCERTIFIED AND OTHER AREAS.
5. AREA RESERVED FOR CONTRACTOR TRAILER.
6. MATERIAL TRACKING LOCATIONS (MTLS):
   LSP-001 - LIME SLUDGE PONDS
   JDC-SP-7 - SP-7 STOCKPILE
   SWU-008 - SWU WOODCHIP STOCKPILE

2165

LEGEND:

- SWU HAUL ROAD
- SITE ACCESS/SUPPORT AREA ACCESS
- CERTIFIED AREA
- CONTROLLED LSP AREA
- CONTAMINATED AREA
- UNCONTROLLED AREA
- LIMITS OF WORK AREA AND CONTRACTOR DUST CONTROL LIMITS (SEE NOTE 2)

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-01006	DRAWING INDEX	X0002
92X-5900-X-01007	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-01013	SP-7 STOCKPILE	G0006

PRELIMINARY
NOT FOR CONSTRUCTION

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	TL	PM	REVD BY
B	90% DESIGN ISSUED FOR REGULATORY REVIEW	FMP 4/12/99	CS 4/12/99	FMP 4/12/99
A	ISSUED FOR 90% DESIGN REVIEW	FMP 3/8/99	CS 3/8/99	TJB 3/8/99

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS I & T GROUP
CINCINNATI, OHIO

PROJECT NAME
REMEDIATION AREA 3
LIME SLUDGE PONDS

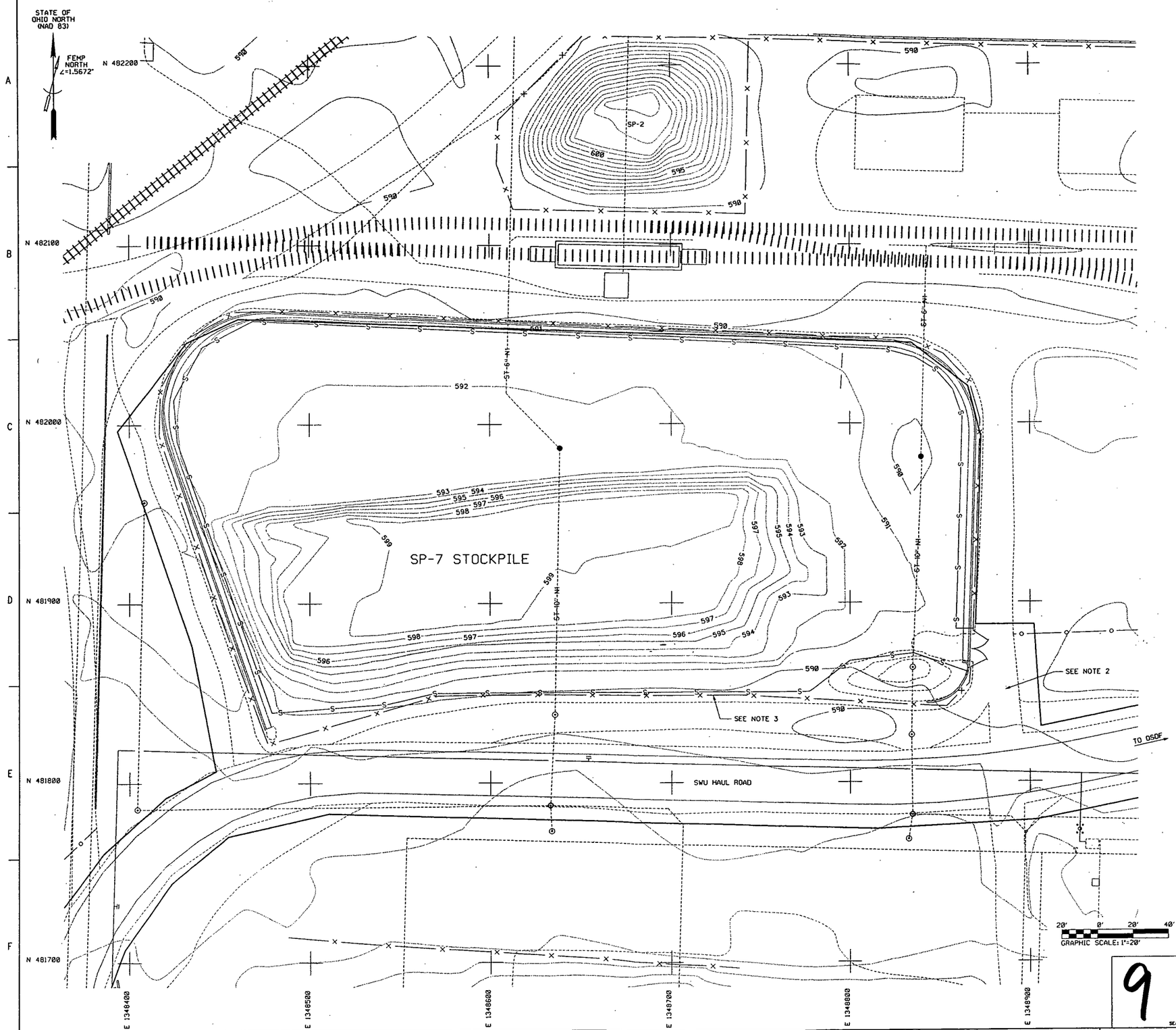
DRAWING TITLE
CIVIL
TRAFFIC FLOW AND MATERIAL TRACKING PLAN

CONFIGURATION MANAGEMENT DRAWING
SYSTEMS, STRUCTURES, OR COMPONENTS DEPICTED ON THIS DRAWING ARE UNDER CONFIGURATION MANAGEMENT CONTROL. SEE NOTES.

TASK ORDER NO.	OPTIONAL NO.	SCALE	
TO P-022		1"=300'	
		DRAWN BY J.G. ASHWORTH	DATE 3/8/99
RES NO.	FOF PROJECT NO. 20205	TECHNICAL LEAD F.M. PARTON, JR.	DATE 3/8/99
		CHECKED BY F.M. PARTON, JR.	DATE 3/31/99
DRAWING INDEX CODE NO. 92X-5900-G-01012		SHEET NO. G0005	REV. NO. B

COGNIZANT ENGINEER DATE

8



NOTES

1. EXISTING TOPOGRAPHY BASED ON EXISTING CONDITIONS AS OF AUGUST 1998. ADDITIONAL MATERIAL HAS BEEN PLACED WITHIN SP-7. VERIFY EXISTING CONDITIONS PRIOR TO PLACING MATERIAL.
2. PRIOR TO ENTERING SWU HAUL ROAD FROM SP-7 STOCKPILE AREA, VEHICLES MUST BE VISIBLY CLEAN OF MUD AND DIRT. USE WHEEL WASH EQUIPMENT AND/OR UNLOADING TECHNIQUES AS NECESSARY.
3. EXISTING CHAIN LINK FENCE IS A RADIOLOGICAL CONTROL BOUNDARY. AREA WITHIN FENCE IS A SOIL CONTAMINATED AREA. AREA OUTSIDE FENCE IS A BUFFER AREA.

2165

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-01006	DRAWING INDEX	X0002
92X-5900-X-01007	LEGEND AND GENERAL NOTES	X0003

PRELIMINARY
NOT FOR CONSTRUCTION

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	TL	PM	REVD BY
B	90% DESIGN ISSUED FOR REGULATORY REVIEW	FMP 4/12/99	CS 4/12/99	FMP 4/12/99
A	ISSUED FOR 90% DESIGN REVIEW	FMP 3/8/99	CS 3/8/99	TJB 3/8/99

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS I & T GROUP
CINCINNATI, OHIO

PROJECT NAME
REMEDIATION AREA 3
LIME SLUDGE PONDS

DRAWING TITLE
CIVIL
SP-7 STOCKPILE

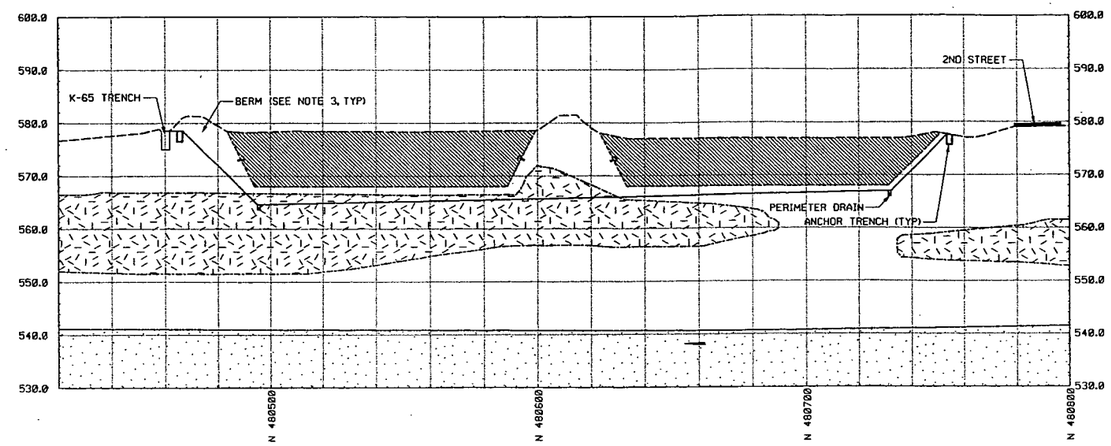
CONFIGURATION MANAGEMENT DRAWING
SYSTEMS STRUCTURES OR COMPONENTS DEPICTED ON THIS DRAWING ARE UNDER CONFIGURATION MANAGEMENT CONTROL. SEE NOTES.

TASK ORDER NO.	OPTIONAL NO.	SCALE 1"=20'	
TO P-022		DRAWN BY J.G. ASHWORTH	DATE 3/8/99
RES NO.	FDF PROJECT NO. 20205	TECHNICAL LEAD F.M. PARTON, JR.	DATE 3/8/99
		CHECKED BY F.M. PARTON, JR.	DATE 3/31/99

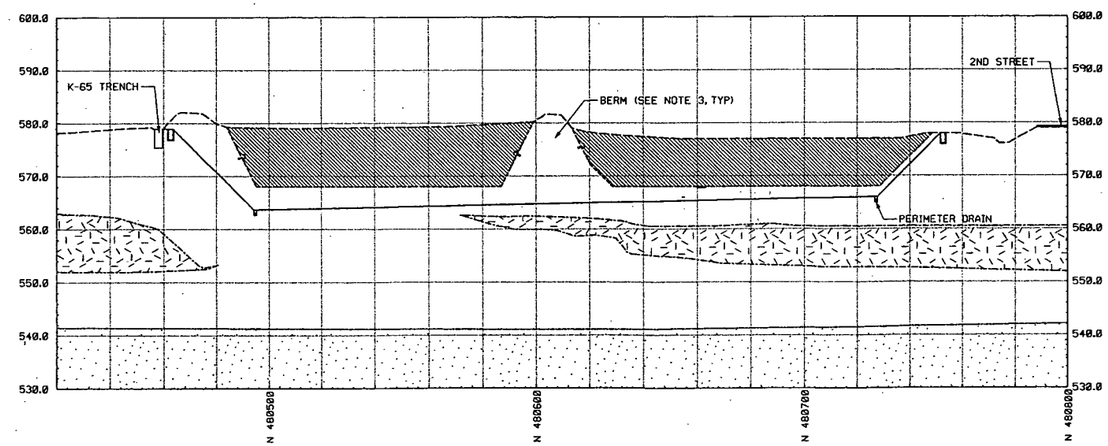
COGNIZANT ENGINEER DATE

DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
92X-5900-G-01013	G0006	B

9



SECTION @ E 1348105 (A / G0007) REF G0003 G0004
SCALE: 1"=20' HORIZ
1"=10' VERT



SECTION @ E 1348200 (B / G0007) REF G0003 G0004
SCALE: 1"=20' HORIZ
1"=10' VERT

10' 0' 10' 20'
VERTICAL GRAPHIC SCALE: 1"=10'

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

10

NOTES

1. THE CROSS SECTIONS ARE BASED ON FIELD RUN TOPOGRAPHY BY FDF DATED 2-99, COARSE GRAIN UNIT MODELING BY FDF DATED 2-99, AND ORIGINAL LIME SLUDGE DESIGN DRAWING TITLED "SLUDGE PITS FOR BLOWDOWN LINE", DRAWING NO. 3008-A-05-A, DATED 2-12-52.
2. THE EXCAVATION LIMITS DEPICTED ARE AS SHOWN ON SHEET NO. G0003. THE ACTUAL EXCAVATION LIMITS MAY VARY DEPENDING ON FIELD CONDITION AS DETERMINED BY THE CONSTRUCTION MANAGER.
3. HEIGHT OF BERM AROUND SOUTH LIME SLUDGE POND INCREASED AFTER ORIGINAL DESIGN. BERM AND LIME SLUDGE INTERFACE UNKNOWN. REMOVE BERM AS IMPACTED MATERIAL.

2165

LEGEND:

- EXISTING GRADE
- EXCAVATION GRADE LINE
- COARSE GRAIN UNIT (CGU)
- GREAT MIAMI AQUIFER
- LIME SLUDGE (BASED ON ORIGINAL DESIGN)

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-01006	DRAWING INDEX	X0002
92X-5900-X-01007	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-01010	EXCAVATION GRADING PLAN	G0003
92X-5900-G-01011	WATER MANAGEMENT FACILTY PLAN	G0004

PRELIMINARY
NOT FOR CONSTRUCTION

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	TL	PM	REVD BY
B	90% DESIGN ISSUED FOR REGULATORY REVIEW	FMP 4/12/99	CS 4/12/99	FMP 4/12/99
A	ISSUED FOR 90% DESIGN REVIEW	FMP 3/8/99	CS 3/8/99	TJB 3/8/99

INITIALS AND DATE

UNITED STATES
DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS I & T GROUP
CINCINNATI, OHIO

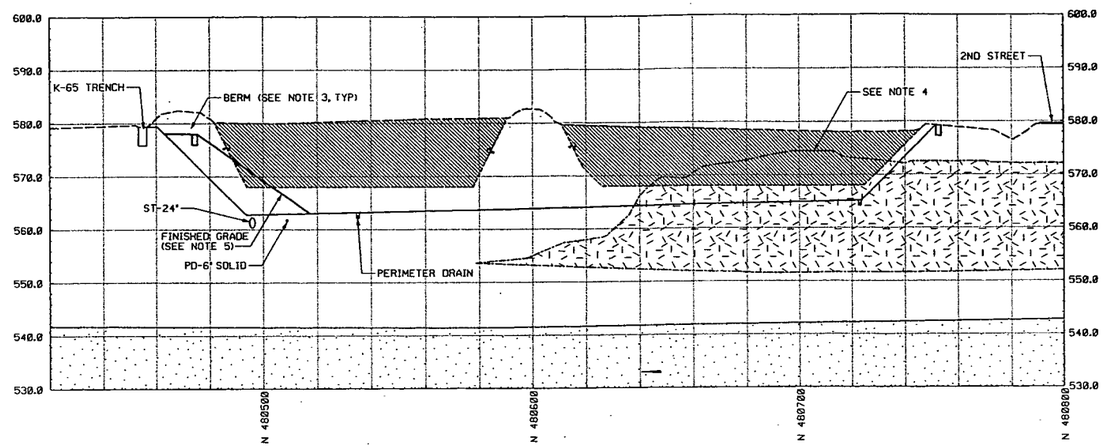
PROJECT NAME
REMEDIATION AREA 3
LIME SLUDGE PONDS

DRAWING TITLE
CIVIL
CROSS SECTIONS - SHEET 1 OF 3

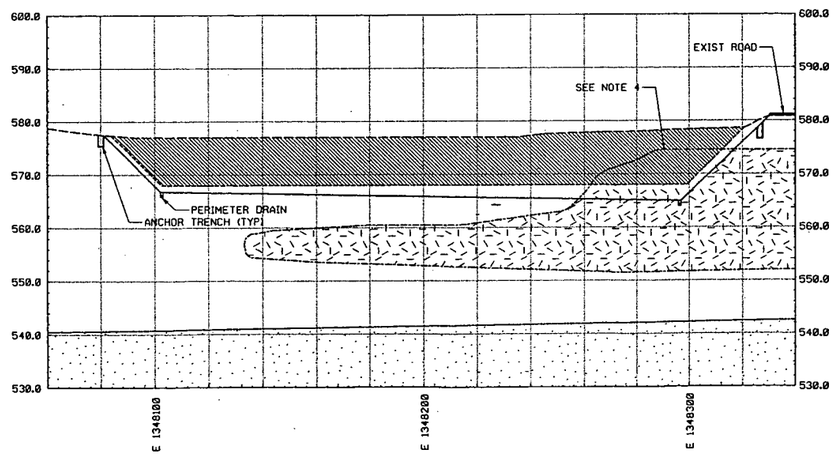
CONFIGURATION MANAGEMENT DRAWING
SYSTEMS, STRUCTURES OR COMPONENTS DEPICTED ON THIS DRAWING ARE UNDER CONFIGURATION MANAGEMENT CONTROL. SEE NOTES.

TASK ORDER NO.	OPTIONAL NO.	SCALE	
TO P-022		AS SHOWN	
		DRAWN BY: J.G. ASHWORTH	DATE: 3/8/99
RES NO.	FDF PROJECT NO. 20205	TECHNICAL LEAD: F.M. PARTON, JR.	DATE: 3/8/99
		CHECKED BY: F.M. PARTON, JR.	DATE: 3/31/99
DRAWING INDEX CODE NO. 92X-5900-G-01014		SHEET NO. G0007	REV. NO. B

COGNIZANT ENGINEER DATE
SEAL



SECTION @ E 1348288 (C) G0008 REF G0003 G0004
SCALE: 1"=20' HORIZ
1"=10' VERT



SECTION @ N 480710 (D) G0008 REF G0003 G0004
SCALE: 1"=20' HORIZ
1"=10' VERT

10' 0' 10' 20'
VERTICAL GRAPHIC SCALE: 1"=10'

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

11

NOTES

1. THE CROSS SECTIONS ARE BASED ON FIELD RUN TOPOGRAPHY BY FDF DATED 2-99, COARSE GRAIN UNIT MODELING BY FDF DATED 2-99, AND ORIGINAL LIME SLUDGE DESIGN DRAWING TITLED "SLUDGE PITS FOR BLOWDOWN LINE", DRAWING NO. 3008-A-05-A, DATED 2-12-52.
2. THE EXCAVATION LIMITS DEPICTED ARE AS SHOWN ON SHEET NO. G0003. THE ACTUAL EXCAVATION LIMITS MAY VARY DEPENDING ON FIELD CONDITION AS DETERMINED BY THECONSTRUCTION MANAGER.
3. HEIGHT OF BERM AROUND SOUTH LIME SLUDGE POND INCREASED AFTER ORIGINAL DESIGN. BERM AND LIME SLUDGE INTERFACE UNKNOWN. REMOVE BERM AS IMPACTED MATERIAL.
4. MODELING INDICATES COARSE GRAIN UNIT EXTENDED INTO LIME SLUDGE AREA.
5. BACKFILL SOUTHEAST CORNER OF LSP EXCAVATION AFTER EXCAVATION IS APPROVED. USE FILL FROM WEST SIDE OF LSP EXCAVATION AS DIRECTED BY CONSTRUCTION MANAGER.

2165

LEGEND:

- EXISTING GRADE
- EXCAVATION GRADE LINE
- COARSE GRAIN UNIT (CGU)
- GREAT MIAMI AQUIFER
- LIME SLUDGE (BASED ON ORIGINAL DESIGN)

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-01006	DRAWING INDEX	X0002
92X-5900-X-01007	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-01010	EXCAVATION GRADING PLAN	G0003
92X-5900-G-01011	WATER MANAGEMENT FACILITY PLAN	G0004

PRELIMINARY
NOT FOR CONSTRUCTION

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	TL	PM	REVD BY
B	90% DESIGN ISSUED FOR REGULATORY REVIEW	FMP 4/12/99	CS 4/12/99	FMP 4/12/99
A	ISSUED FOR 90% DESIGN REVIEW	FMP 3/8/99	CS 3/8/99	TJB 3/8/99

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS I & T GROUP
CINCINNATI, OHIO

PROJECT NAME
REMEDIATION AREA 3
LIME SLUDGE PONDS

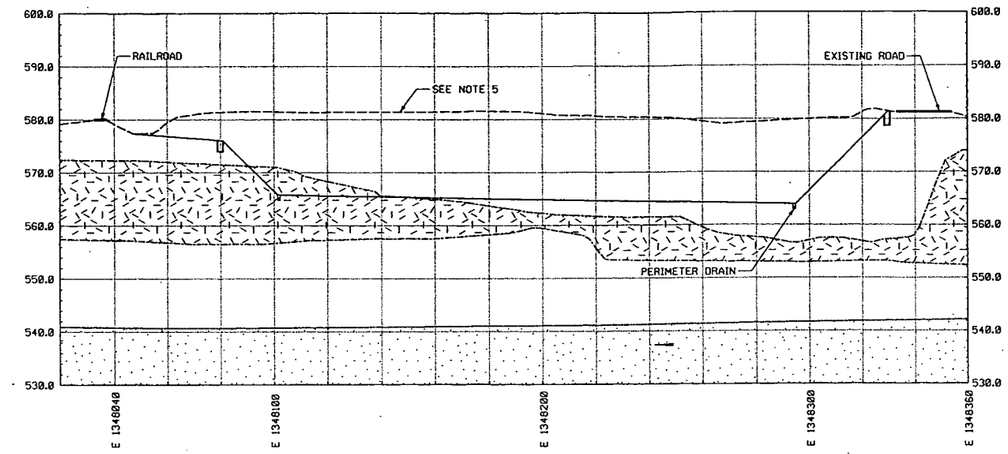
DRAWING TITLE
CIVIL
CROSS SECTIONS - SHEET 2 OF 3

CONFIGURATION MANAGEMENT DRAWING
SYSTEMS, STRUCTURES OR COMPONENTS DEPICTED ON THIS DRAWING ARE UNDER CONFIGURATION MANAGEMENT CONTROL. SEE NOTES.

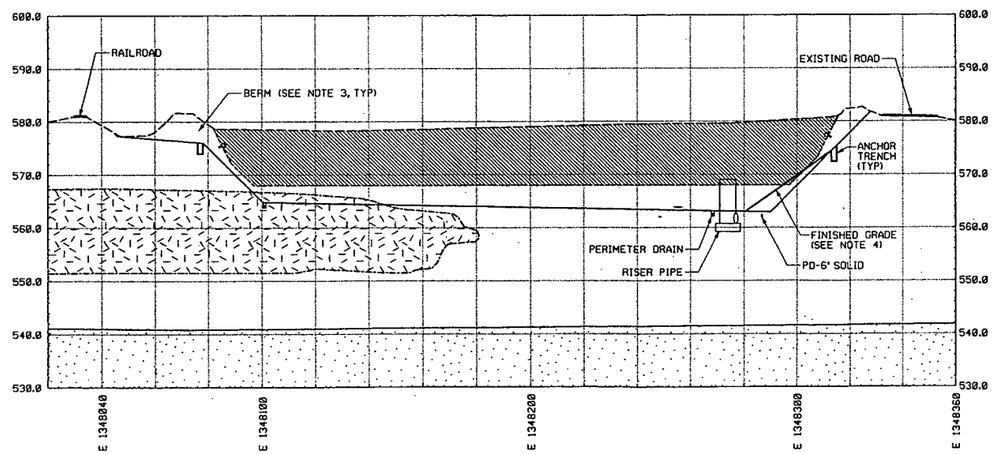
TASK ORDER NO.	OPTIONAL NO.	SCALE	
TO P-022		AS SHOWN	
		DRAWN BY J.G. ASHWORTH	DATE 3/8/99
RES NO.	FDF PROJECT NO. 20205	TECHNICAL LEAD F.M. PARTON, JR.	DATE 3/8/99
		CHECKED BY F.M. PARTON, JR.	DATE 3/31/99

COGNIZANT ENGINEER DATE

DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
92X-5900-G-01015	G0008	B



SECTION @ N 480610 (E / G0009) REF G0003 G0004
SCALE: 1"=20' HORIZ
1"=10' VERT



SECTION @ N 480510 (F / G0009) REF G0003 G0004
SCALE: 1"=20' HORIZ
1"=10' VERT

10' 0' 10' 20'
VERTICAL GRAPHIC SCALE: 1"=10'

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

12

NOTES

1. THE CROSS SECTIONS ARE BASED ON FIELD RUN TOPOGRAPHY BY FDF DATED 2-99, COARSE GRAIN UNIT MODELING BY FDF DATED 2-99, AND ORIGINAL LIME SLUDGE DESIGN DRAWING TITLED "SLUDGE PITS FOR BLOWDOWN LINE", DRAWING NO. 3008-A-05-A, DATED 2-12-52.
2. THE EXCAVATION LIMITS DEPICTED ARE AS SHOWN ON SHEET NO. G0003. THE ACTUAL EXCAVATION LIMITS MAY VARY DEPENDING ON FIELD CONDITION AS DETERMINED BY CONSTRUCTION MANAGER.
3. HEIGHT OF BERM AROUND SOUTH LIME SLUDGE POND INCREASED AFTER ORIGINAL DESIGN. BERM AND LIME SLUDGE INTERFACE UNKNOWN. REMOVE BERM AS IMPACTED MATERIAL.
4. BACKFILL SOUTHEAST CORNER OF LSP EXCAVATION AFTER EXCAVATION IS APPROVED. EXCAVATE FROM WEST SIDE OF LSP EXCAVATION FOR FILL MATERIAL AS DIRECTED BY CONSTRUCTION MANAGER.
5. SECTION E CUTS THROUGH BERM SEPARATING THE LIME SLUDGE PONDS.

2165

LEGEND:

- EXISTING GRADE
- EXCAVATION GRADE LINE
- COARSE GRAIN UNIT (CGU)
- GREAT MIAMI AQUIFER
- LIME SLUDGE (BASED ON ORIGINAL DESIGN)

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-01006	DRAWING INDEX	X0002
92X-5900-X-01007	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-01010	EXCAVATION GRADING PLAN	G0003
92X-5900-G-01011	WATER MANAGEMENT FACILITY PLAN	G0004

PRELIMINARY
NOT FOR CONSTRUCTION

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	TL	PW	REVD BY
B	90% DESIGN ISSUED FOR REGULATORY REVIEW	FMP 4/12/99	CS 4/12/99	FMP 4/12/99
A	ISSUED FOR 90% DESIGN REVIEW	FMP 3/8/99	CS 3/8/99	TJB 3/8/99

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS I & T GROUP
CINCINNATI, OHIO

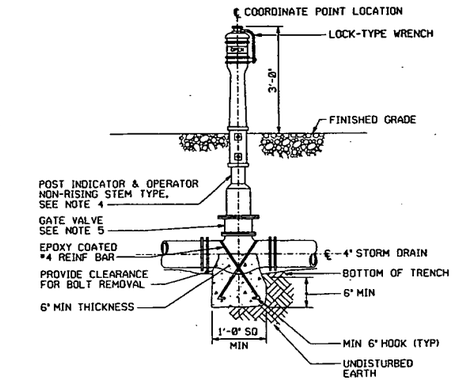
PROJECT NAME
REMEDIATION AREA 3
LIME SLUDGE PONDS

DRAWING TITLE
CIVIL
CROSS SECTIONS - SHEET 3 OF 3

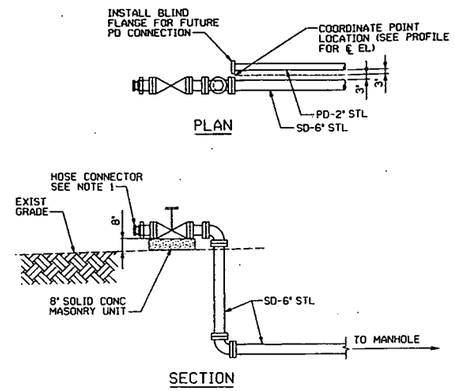
CONFIGURATION MANAGEMENT DRAWING
SYSTEMS, STRUCTURES OR COMPONENTS DEPICTED ON THIS DRAWING ARE UNDER CONFIGURATION MANAGEMENT CONTROL. SEE NOTES.

TASK ORDER NO.	OPTIONAL NO.	SCALE	
TO P-022		AS SHOWN	
		DRAWN BY: J.G. ASHWORTH	DATE: 3/8/99
RES NO.	FDF PROJECT NO. 20205	TECHNICAL LEAD: F.M. PARTON, JR.	DATE: 3/8/99
		CHECKED BY: F.M. PARTON, JR.	DATE: 3/31/99
COGNIZANT ENGINEER	DATE	DRAWING INDEX CODE NO. 92X-5900-G-01016	SHEET NO. G0009 / REV. NO. B

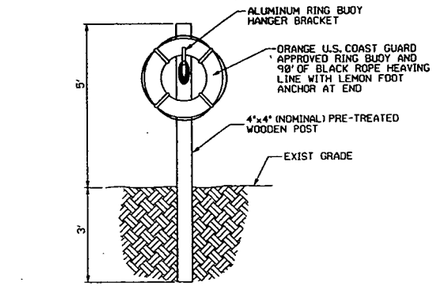
SEAL



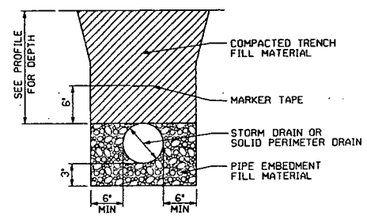
POST INDICATOR AND VALVE (1 / G0010) REF G0004
NTS



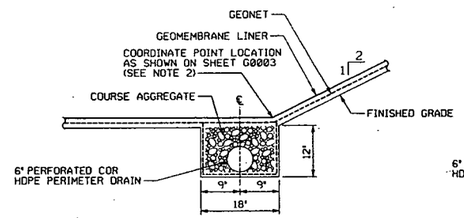
HOSE CONNECTOR DETAIL (2 / G0010) REF G0002
NTS



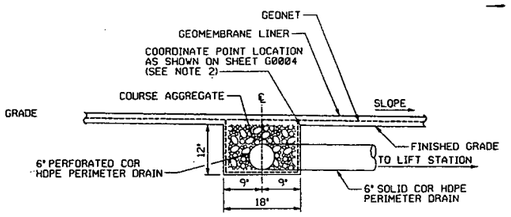
RING BUOY DETAIL (3 / G0010) REF G0004
NTS



PIPE BEDDING DETAIL (4 / G0010) REF G0011 G0012
NTS

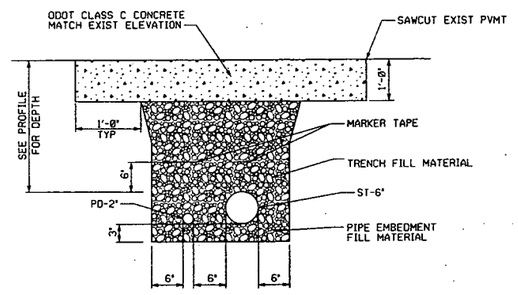


AT TOE OF SLOPE

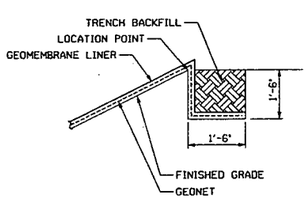


ON POND BOTTOM (@ 6"x6"x6" TEE)

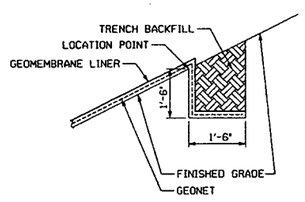
PERIMETER DRAIN (5 / G0010) REF G0004
NTS



PAVEMENT REPLACEMENT/
PIPE BEDDING DETAIL (6 / G0010) REF G0002
NTS

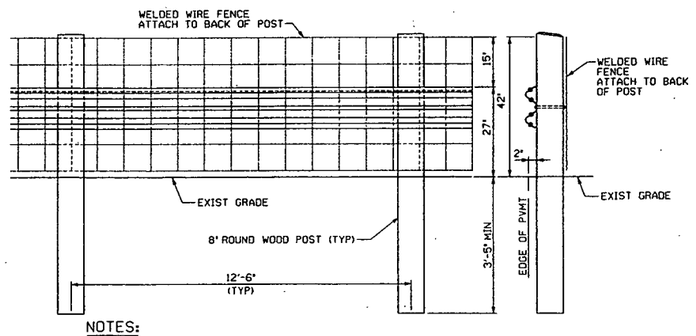


TRENCH @ TOP OF SLOPE



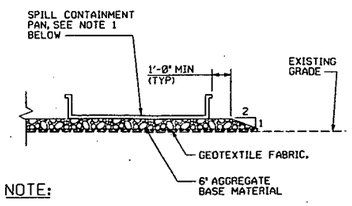
TRENCH ON 2:1 SLOPE

ANCHOR TRENCH DETAIL (7 / G0010) REF G0004
NTS



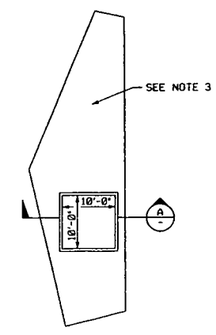
NOTES:
1. GUARDRAIL SHALL BE IN ACCORDANCE WITH ODOT GUARDRAIL TYPE 4, EXCEPT AS SHOWN.
2. ATTACH FENCE TO POST USING WIRE RINGS OR STAPLES.

GUARDRAIL DETAIL (9 / G0010) REF G0002
NTS



NOTE:
1. SPILL CONTAINMENT PAN SHALL BE DURABLE METAL APPROXIMATELY 10 FOOT BY 4 INCHES IN DIMENSION, LEAK PROOF, RESISTANT TO THE EFFECTS OF EXPOSURE TO THE ELEMENTS (OR APPROVED EQUAL).

SECTION (A / -)
NTS



SPECIAL MATERIAL TRANSFER AREA/
DEBRIS STOCKPILE AREA DETAIL (8 / G0010) REF G0002
NTS

NOTES

1. FOR EXCAVATION SUMP CONNECTION, 4" CLASS 150# CAM AND GROOVE FLANGED MALE ADAPTOR, STAINLESS STEEL, SIMILAR TO ANDREWS PART #300AL-SS. MATCH TO FIT HOSE.
2. FIELD ADJUST LOCATION OF PERIMETER DRAIN AS DIRECTED BY THE CONSTRUCTION MANAGER BASED ON ACTUAL EXCAVATION CONDITIONS.
3. CONSTRUCT SPECIAL MATERIAL TRANSFER AREA/DEBRIS STORAGE AREA USING APPROX 19 CUBIC YARDS OF AGGREGATE BASE MATERIAL. FIELD LOCATE EXTENT OF GRAVEL TO ACCOMMODATE GRADING ACTIVITIES.
4. INDICATOR POST SHALL BE ADJUSTABLE FOR USE WITH BURIED 4" NON-RISING STEM GATE VALVE, WITH L-SHAPED STANDARD WRENCH WITH "OPEN-SHUT" INDICATOR. INDICATOR POST SHALL BE SERIES-A240 AS MANUFACTURERED BY AMERICAN FLOW CONTROL, OR EQUAL AS A MINIMUM. INSTALL INDICATOR POST IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
5. GATE VALVE SHALL BE 4" FLANGED, RESILIENT WEDGE TYPE, NON-RISING STEM SUITABLE FOR USE WITH INDICATOR POST. GATE VALVE SHALL BE SERIES 2500 AS MANUFACTURERED BY AMERICAN FLOW CONTROL, OR EQUAL AS A MINIMUM. INSTALL GATE VALVE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

2165

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-01006	DRAWING INDEX	X0002
92X-5900-X-01007	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-01009	SITE PREPARATION PLAN	G0002
92X-5900-G-01010	EXCAVATION GRADING PLAN	G0010
92X-5900-G-01011	WATER MANAGEMENT FACILITY PLAN	G0004

PRELIMINARY
NOT FOR CONSTRUCTION

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	TL	PM	REVIEW BY
		INITIALS AND DATE		
B	90% DESIGN ISSUED FOR REGULATORY REVIEW	FMP 4/12/99	CS 4/12/99	FMP 4/12/99
A	ISSUED FOR 90% DESIGN REVIEW	FMP 3/8/99	CS 3/8/99	TJB 3/8/99

UNITED STATES
DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS I & T GROUP
CINCINNATI, OHIO

PROJECT NAME
REMEDIATION AREA 3
LIME SLUDGE PONDS

DRAWING TITLE
CIVIL
DETAILS - 1

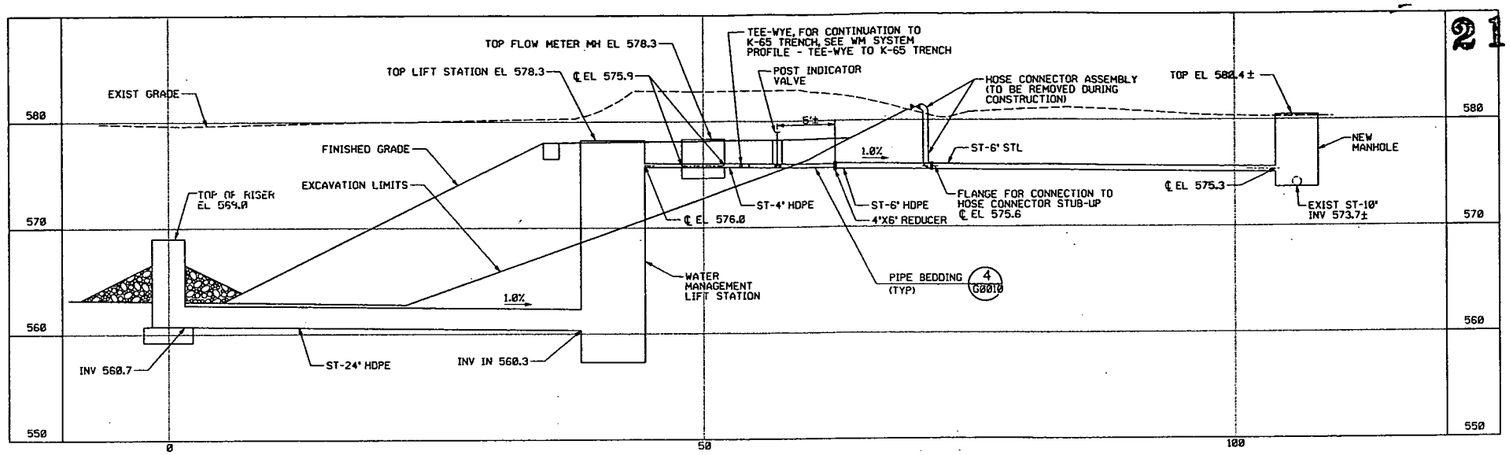
CONFIGURATION MANAGEMENT DRAWING
YES / NO
STATUS: STRUCTURES OR COMPONENTS SHOWN ON THIS DRAWING ARE UNDER CONFIGURATION MANAGEMENT CONTROL. SEE NOTES.

TASK ORDER NO.	OPTIONAL NO.	SCALE	
TO P-022		NONE	
		DRAWN BY J.G. ASHWORTH	DATE 3/8/99
RES NO.	FDF PROJECT NO. 20205	TECHNICAL LEAD F.M. PARTON, JR.	DATE 3/8/99
		CHECKED BY F.M. PARTON, JR.	DATE 3/31/99
COGNIZANT ENGINEER	DATE	DRAWING INDEX CODE NO. 92X-5900-X-01017	SHEET NO. G0010 / REV. NO. B

SEAL

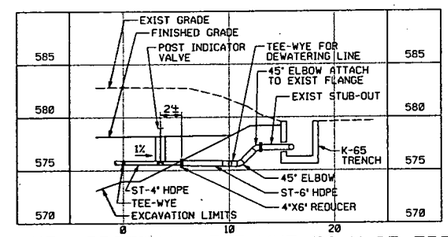
13

2165



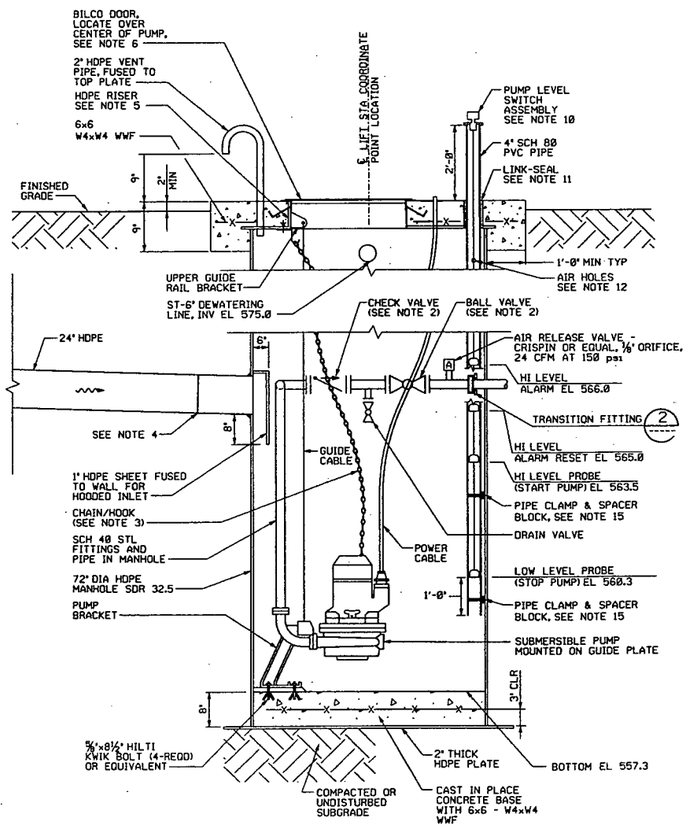
WATER MANAGEMENT SYSTEM TRANSFER LINE PROFILE

SCALE: 1"=5' HORIZ & VERT — REF G0002, G0003, G0004



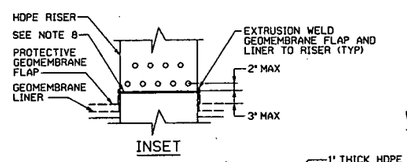
WM SYSTEM PROFILE - TEE-WYE TO K-65 TRENCH

SCALE: 1"=5' HORIZ & VERT — REF G0002, G0004



WATER MANAGEMENT LIFT STATION DETAIL

NTS — 3 G0011 — REF G0004



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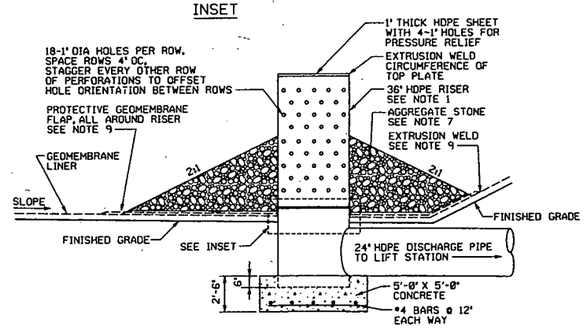
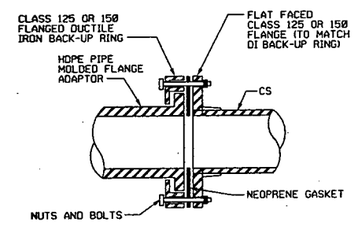


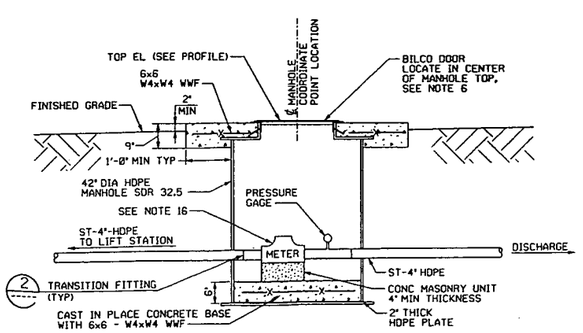
RISER PIPE DETAIL

NTS — 1 G0011 — REF G0004



TRANSITION FITTING DETAIL (TYP)

NTS — 2 G0011 — REF G0012



FLOW METER MANHOLE DETAIL

NTS — 4 G0011 — REF G0004

14

NOTES

1. BARREL PIPE SHALL BE HDPE SDR-17 AND RISER PIPE 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. CHECK VALVE AND BALL VALVE MAY BE MOUNTED VERTICALLY IF REQURIED FOR FABRICATION.
3. HOOK ANCHORED TO CONCRETE WITH 1/2"X4" BOLTS. USE 1/4" 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. TOP AND RISER TO BE MADE FROM 1.75" HDPE PLATE. FABRICATE RISER OPENING TO FIT DIMENSION OF BILCO DOOR FRAME.
6. BILCO DOORS:
   WATER MANAGEMENT LIFT STATION = TYPE D-AL-3 - 2'-6" x 3'-0"
   FLOW METER MANHOLE = TYPE D-AL-1 - 2'-0" x 2'-0"
   WITH 3" x 3" x 1/4" ANGLE FRAME, AS MANUFACTURERED BY THE BILCO DOOR COMPANY, OR EQUAL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
7. PLACE AGGREGATE STONE APPROX. HALFWAY UP RISER. STONE SHALL BE NO. 1 STONE AND SHALL CONFORM TO ODOT ITEMS 601, 703.01 AND 703.04.
8. INSTALL 1/2" STAINLESS STEEL BAND AROUND RISER BELOW EXTRUSION WELD.
9. INSTALL PROTECTIVE GEOMEMBRANE FLAP AROUND RISER. EXTEND FLAP A MINIMUM 1 FT BEYOND EXTENT OF AGGREGATE. STONE. EXTRUSION WELD TAG END OF FLAP TO GEOMEMBRANE LINER.
10. PUMP LEVEL SWITCH ASSEMBLY SHALL BE LOCATED BY CONTRACTOR AS REQUIRED FOR CONSTRUCTION. CONTRACTOR SHALL FURNISH LEVEL SWITCH UNIT LSHL/LSHH-101, MAGNETROL XC10-1H2A-QMB, ARRANGEMENT A, S.G.=1, LENGTH=21' OR EQUAL.
11. USE LINK-SEAL MODEL LS-300-C OR EQUAL FOR SEAL AROUND PVC CONDUIT. INSTALL USING EITHER LINK-SEAL WALL SLEEVE CAST IN CONCRETE, CORE DRILL, OR PRE-CAST OPENING IN ACCORDANCE WITH LINK-SEAL INSTALLATION INSTRUCTIONS.
12. DRILL TWO AIR HOLES, 1/2" DIA, 180° APART THROUGH PVC CONDUIT. LOCATE AIR HOLES APPROX. 1 FT. FROM TOP.
13. PROVIDE 1" CHAMFER ON ALL EXTERIOR CORNERS OF CONCRETE.
14. FOR PUMP, PUMP SWITCHES, VALVES, METER, PRESSURE GAGE, AND STEEL PIPING SEE DIVISION 15 OF THE TECHNICAL SPECIFICATIONS. FOR ELECTRICAL BOX AND POWER CABLE SEE DIVISION 16 OF THE TECHNICAL SPECIFICATIONS.
15. FABRICATE PIPE CLAMPS FROM 20 MIL MIN. HDPE SHEET, 1" MIN WIDTH. EXTRUSION WELD TO MH WALL. WELD HDPE SPACER BLOCK BETWEEN PVC CONDUIT AND MH WALL USING BLOCK THICKNESS AS REQUIRED TO SECURE CONDUIT IN VERTICAL POSITION.
16. CONTRACTOR SHALL FURNISH 4" MAG TUBE AND REMOTE RATE INDICATOR/TOTALIZER, FE-102 AND FQI-102, HERSEY MEASUREMENT CO. MODEL 62040S0TSA0000 AND 60523G200 OR EQUAL.

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
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92X-5900-X-01007	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-01009	SITE PREPERATION PLAN	G0002
92X-5900-G-01010	EXCAVATION GRADING PLAN	G0003
92X-5900-G-01011	WATER MANAGEMENT FACILITY PLAN	G0004
92X-5900-G-01017	DETAILS - 1	G0010
92X-5900-G-00019	DETAILS - 3	G0012

PRELIMINARY
NOT FOR CONSTRUCTION

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	TL	PM	REVIS BY
		BATCHES AND DATE		
B	90% DESIGN ISSUED FOR REGULATORY REVIEW	FMP 4/12/99	CS 4/12/99	FMP 4/12/99
A	ISSUED FOR 90% DESIGN REVIEW	FMP 3/8/99	CS 3/8/99	TJB 3/8/99

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS I & T GROUP
CINCINNATI, OHIO

PROJECT NAME
REMEDIATION AREA 3
LIME SLUDGE PONDS

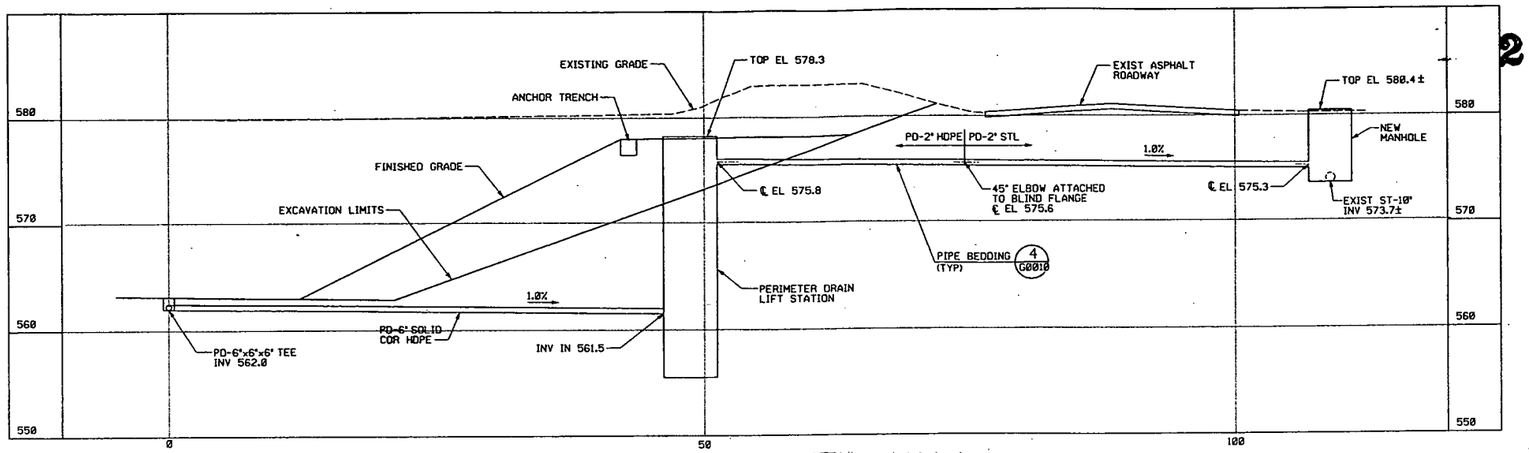
DRAWING TITLE
CIVIL
DETAILS - 2

CONFIGURATION MANAGEMENT DRAWING — ICN / NCN

SYSTEM STRUCTURES OR COMPONENTS CONTAINING HAZARDOUS, RADIOACTIVE OR MIXED WASTE MANAGEMENT CONTROL SIZE NOTED.

TASK ORDER NO.	OPTIONAL NO.	SCALE	
TO P-022		AS SHOWN	
		DRAWN BY J.G. ASHWORTH	DATE 3/8/99
RES NO.	FDF PROJECT NO. 20205	TECHNICAL LEAD F.M. PARTON, JR.	DATE 3/8/99
		CHECKED BY F.M. PARTON, JR.	DATE 3/31/99
COGNIZANT ENGINEER	DATE	DRAWING INDEX CODE NO. 92X-5900-G-01018	SHEET NO. G0011 / REV. NO. B

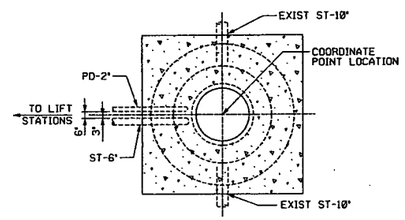
SEAL



PERIMETER DRAIN DISCHARGE SYSTEM PROFILE

SCALE: 1"=5' HORIZ
1"=5' VERT

REF G0002
G0003
G0004



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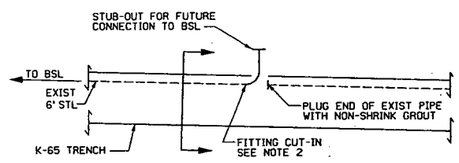

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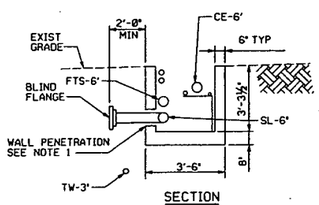
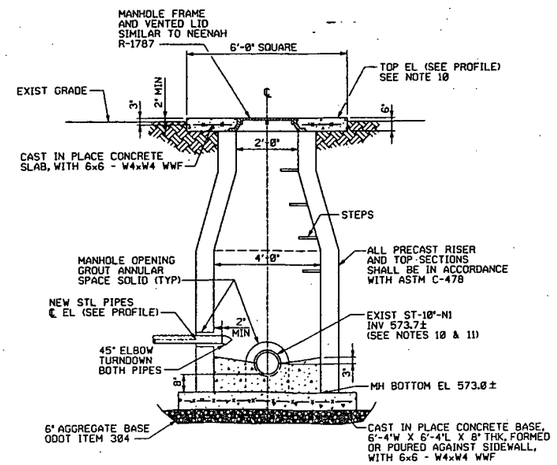


SECTION

PIPE CONNECTION TO K-65 TRENCH DETAIL

1 G0012 REF G0002

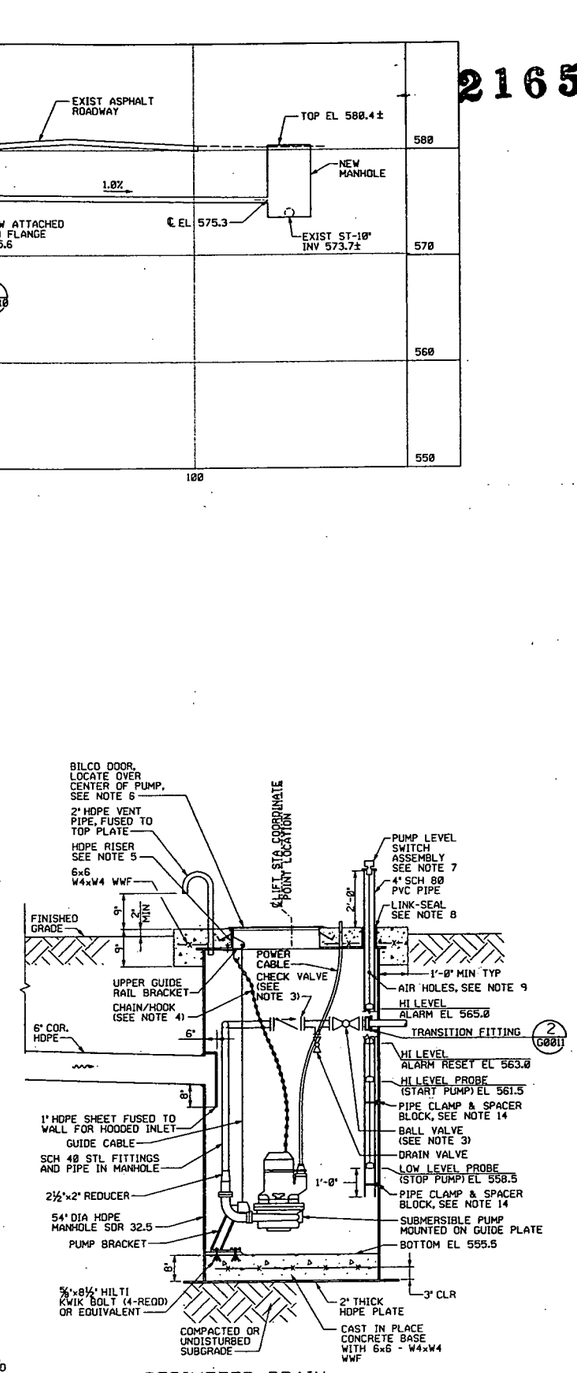
NTS



MANHOLE DETAIL

2 G0012 REF G0002

NTS



PERIMETER DRAIN LIFT STATION DETAIL

3 G0012 REF G0004

NTS

2165

15

NOTES

1. MAKE WALL PENETRATION IN K-65 TRENCH AS DIRECTED BY CONSTRUCTION MANAGER. REMOVE WALL SECTION AS REQUIRED FOR PIPE CUT-IN. RESTORE WALL OF K-65 TRENCH AFTER TIE-IN USING NON-SHRINK GROUT.
2. PERFORM PIPE CUT-IN BY REMOVING SECTION OF EXISTING PIPE TO CREATE SPIGOT ENDS AS NECESSARY FOR INSTALLATION OF NEW ELBOW FITTING. USE DRESSER COUPLING OR EQUIVALENT FOR ATTACHING ELBOW TO SPIGOT END.
3. VALVE AND PIPE ASSEMBLY ABOVE PUMP TO BE INSTALLED TO PERMIT REMOVAL OF PUMP ON GUIDE CABLE ASSEMBLY. CHECK VALVE AND BALL VALVE MAY BE MOUNTED VERTICALLY IF REQUIRED FOR FABRICATION.
4. HOOK ANCHORED TO CONCRETE WITH ½" X 4" BOLTS. USE ¼" GRADE 60 ALLOY CHAIN RATED FOR LIFTING. SECURE TO PUMP AS PER MANUFACTURER'S INSTRUCTIONS.
5. TOP AND RISER TO BE MADE FROM 1.75" HDPE PLATE. FABRICATE RISER OPENING TO FIT DIMENSION OF BILCO DOOR FRAME.
6. BILCO DOOR, TYPE D-AL-1 - 2'-0" x 2'-0", WITH 3" x 3" x ¼" ANGLE FRAME, AS MANUFACTURERED BY THE BILCO DOOR COMPANY, OR EQUAL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
7. PUMP LEVEL SWITCH ASSEMBLY SHALL BE LOCATED BY CONTRACTOR AS REQUIRED FOR CONSTRUCTION. CONTRACTOR SHALL FURNISH LEVEL SWITCH UNIT LSHL/LSHH-103, MAGNETROL XC10-1H2A-QMB, ARRANGEMENT A, S.G.=1, LENGTH=20' OR EQUAL.
8. USE LINK-SEAL MODEL LS-300-C, OR EQUAL FOR SEAL AROUND PVC CONDUIT. INSTALL USING EITHER LINK-SEAL WALL SLEEVE CAST IN CONCRETE, CORE DRILL, OR PRE-CAST OPENING IN ACCORDANCE WITH LINK-SEAL INSTALLATION INSTRUCTIONS.
9. DRILL TWO AIR HOLES, ½" DIA, 180° APART THROUGH PVC CONDUIT. LOCATE AIR HOLES APPROX. 1 FT. FROM TOP.
10. ELEVATIONS BASED ON EXISTING SITE UTILITY DATA AND ARE APPROXIMATE. VERIFY ELEVATIONS IN THE FIELD PRIOR TO STARTING WORK RELATING TO THE MANHOLE. INFORM CONSTRUCTION MANAGER OF ANY DISCREPANCIES AND HAVE THEM RESOLVED PRIOR TO PERFORMING WORK RELATING TO THE MANHOLE.
11. EXCAVATE SOIL AROUND THE EXISTING UTILITIES, AS NECESSARY, TO INSTALL THE MANHOLE AS SHOWN. SUPPORT THE EXISTING PIPE WITH CONCRETE BRICKS, AS NECESSARY, TO MINIMIZE DAMAGE AND DISTORTION TO THE PIPE. PLACE CONCRETE FILL UNDER AND AROUND THE EXISTING PIPE AND FORM THE BENCH AS SHOWN. SAWCUT THROUGH EXISTING PIPE TO FORM GUTTER AFTER CONCRETE FILL HAS HARDENED. ONLY SAWCUTTING WILL BE ALLOWED TO FORM THE GUTTER.
12. CONCRETE SHALL BE 3,000 PSI ODOT ITEM 499, CLASS C OR F. PROVIDE 1" CHAMFER ON ALL EXTERIOR CORNERS OF CONCRETE.
13. FOR PUMP, PUMP SWITCHES, VALVES, AND STEEL PIPING SEE DIVISION 15 OF THE TECHNICAL SPECIFICATIONS. FOR ELECTRICAL BOX AND POWER CABLE SEE DIVISION 16 OF THE TECHNICAL SPECIFICATIONS.
14. FABRICATE PIPE CLAMPS FROM 20 MIL MIN. HDPE SHEET, 1" MIN WIDTH. EXTRUSION WELD TO MH WALL. WELD HDPE SPACER BLOCK BETWEEN PVC CONDUIT AND MH WALL USING BLOCK THICKNESS AS REQUIRED TO SECURE CONDUIT IN VERTICAL POSITION.

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-01006	DRAWING INDEX	X0002
92X-5900-X-01007	LEGEND AND GENERAL NOTES	X0003
92X-5900-G-01009	SITE PREPARATION PLAN	G0002
92X-5900-G-01010	EXCAVATION GRADING PLAN	G0003
92X-5900-G-01011	WATER MANAGEMENT FACILITY PLAN	G0004
92X-5900-G-01017	DETAILS - 1	G0010
92X-5900-G-01018	DETAILS - 2	G0011

PRELIMINARY
NOT FOR CONSTRUCTION

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A	ISSUED FOR 90% DESIGN REVIEW	FMP 3/8/99	CS 3/8/99	TJB 3/8/99

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS I & T GROUP
CINCINNATI, OHIO

PROJECT NAME
REMEDIATION AREA 3
LIME SLUDGE PONDS

DRAWING TITLE
CIVIL
DETAILS - 3

CONFIGURATION MANAGEMENT DRAWING
SYSTEMS, STRUCTURES OR COMPONENTS CONTROLLED BY THIS DRAWING ARE SUBJECT TO CONFIGURATION MANAGEMENT CONTROL. SEE NOTES.

TASK ORDER NO.	OPTIONAL NO.	SCALE	
TO P-022		NONE	
		DRAWN BY J.G. ASHWORTH	DATE 3/8/99
RES NO.	FDF PROJECT NO.	TECHNICAL LEAD F.M. PARTON, JR.	DATE 3/8/99
	20205	CHECKED BY F.M. PARTON, JR.	DATE 3/31/99
DRAWING INDEX CODE NO. 92X-5900-G-01019		SHEET NO. G0012	REV. NO. B

COGNIZANT ENGINEER DATE

SEAL

PIPING VALVES

CONFIGURATIONS FOR VALVE TYPE

ANGLE STRAIGHT 3-WAY 4-WAY

VALVE TYPES (STRAIGHT CONFIG.)

- AIR RELEASE VALVE
- AIR AND VACUUM VALVE
- BACKPRESSURE REGULATOR
- BACKFLOW PREVENTER
- BALL
- BLOWDOWN
- BUTTERFLY/DAMPER
- CHECK, SWING TYPE
- CHECK, WAFER TYPE
- DELUGE
- DIAPHRAGM
- DIFFERENTIAL PRESSURE REGULATOR
- FLOAT
- FOOT
- GATE
- GLOBE
- HOSE
- KNIFE
- NEEDLE
- PINCH
- POST INDICATOR VALVE
- PLUG
- SAFETY RELIEF
- SLIDING GATE
- STOP CHECK
- VACUUM

PIPING SEGMENT BREAKS

- CONSTRUCTION REQUIREMENTS
- INSULATION REQUIREMENTS
- PIPING MATERIAL REQUIREMENTS
- UNDERGROUND ROUTING (SHADED AREA INDICATES DIRECTION OF UNDERGROUND)

PIPING FITTINGS

- BASKET STRAINER - SINGLE
- BASKET STRAINER - DUPLEX
- CAP
- CONCENTRIC REDUCER
- CONE STRAINER
- ECCENTRIC REDUCER
- EXPANSION FLANGE
- EXPANSION JOINT
- FILTER
- FLANGE
- FLEXIBLE HOSE
- HOSE CONNECTION
- HOSE QUICK COUPLING
- MECHANICAL COUPLING
- ORIFICE
- ORIFICE UNION
- PLUG
- REDUCING FLANGE
- STEAM TRAP
- SUMP STRAINER
- TEMPORARY STRAINER
- Y-STRAINER

PIPING SYMBOLOGY

- PRIMARY PIPING
- SECONDARY PIPING
- EXISTING PIPING
- FLEXIBLE HOSE (A=6L2806)
- FUTURE PIPING
- TIE-IN POINT

EQUIPMENT SYMBOLS

- AGITATOR (MIXER)
- CENTRIFUGAL BLOWER
- DEFINED BOUNDARY (AREA NAME)
- HORIZONTAL CENTRIFUGAL PUMP
- PACKAGED SYSTEM BOUNDARY (SYSTEM NAME)
- SUBMERSIBLE TURBINE PUMP
- SUMP PUMP WITH MOTOR

PIPING LINE NUMBER FORMAT

GW-6100*-B4-2930-ET

- MEDIUM CODE
- NOMINAL PIPE SIZE
- NOMINAL CONTAINMENT PIPE SIZE (WHERE SHOWN)
- MATERIAL CODE
- LINE NUMBER
- INSULATION CODE

MEDIUM FLOW DIRECTION

ABBREVIATIONS

AC	AIR TO CLOSE
AG	AGITATOR
AO	AIR TO OPEN
ARV	AIR RELEASE VALVE
AVV	AIR AND VACUUM VALVE
AWWT	ADVANCED WASTEWATER TREATMENT
BLW	BLOWER
BTU	BRITISH THERMAL UNIT
CFM	CUBIC FEET/MINUTE
CO	CLEAN OUT
CU FT	CUBIC FEET
ECC	ECCENTRIC
EF	EXHAUST FAN
FC	FAIL CLOSED
FO	FAIL OPEN
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GV	GRAVITY VENTILATOR
HDPE	HIGH DENSITY POLYETHYLENE
IA	INSTRUMENT AIR
KW	KILOWATT
LB/HR	POUNDS PER HOUR
MATL	MATERIAL
MED	MEDIUM
MS	MIST ELIMINATOR
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
PIV	POST INDICATOR VALVE
PMP	PUMP
RED	REDUCER
RH	RELATIVE HUMIDITY
SCFM	STANDARD CUBIC FEET/MINUTE
SFES	SOUTH FIELD EXTRACTION SYSTEM
SWRB	STORMWATER RETENTION BASIN
TBD	TO BE DETERMINED
TF	TOP FLAT
TNK	TANK
TYP	TYPICAL
UH	UNIT HEATER
1	SOLENOID VALVE COMMON PORT
2	SOLENOID VALVE NORM. OPEN PORT
3	SOLENOID VALVE NORM. CLOSED PORT
ID	INJECTION DEMONSTRATION
SPO	SOUTH PLUME OPTIMIZATION

PIPING SPECIFICATIONS

FLOWING MEDIUM	MED. CODE	MATL. CODE
BACK WASH	BW	T
BLOWER AIR	BA	A
CHILLED WATER	CHS, CHR	A
CHLORINE	CL	B1
CONDENSATE	LC	W, T
CONDENSER WATER	CWS, CWR	A
COOLING WATER	WS, WR	A
DRAIN	DR	A, B4, T
DRINKING WATER	DW	A, B4, C1
FILTRATE EFFLUENT	FT	A
FLOCCULANT	FL	A
FLUSH WATER	FW	T
FORCE MAIN	FM	M
GROUND WATER	GW	A, B, B4, M
INSTRUMENT AIR	IA	T
MELTER OFF-GAS	OG	T
NITRIC ACID	AN	T1
PERCHED GND WATER	PGW	B
PHOSPHORIC ACID	PAPH	T1
PLANT AIR	PA	W
PERIMETER DRAIN	PD	A, B4
PROCESS WATER	TW, TWX1	A, B4
PROCESS WASTEWATER	CE	A
RAW WATER	RW	A
RECYCLE WATER	RC	T, B2
SCRUBBER RECYCLE	RSL	T
SLURRY	SL	T
SODIUM CARBONATE	SC	A
SODIUM HYDROXIDE	NA	T
SODIUM SILICATE	SS	A
STORM WATER	ST	A, A7, B4
SULFURIC ACID	SB	T1
SUMP DISCHARGE	SU	T
THICKENER OVERFLOW	TO	T
VACUUM	V	A
VENTILATION AIR	VE	T, A
WASTE WATER	WW	T, B, B4

MATL. CODE	DESCRIPTION
A	A53 SEAMLESS CARBON STEEL
A7	CORRUGATED METAL PIPE
B	PVC
B1	PVDF
B2	PVDF, 100PSI
B3	CPVC
B4	HDPE
B5	CORRUGATED HDPE
C1	CLASS 150, COPPER TUBING
L	FIBERGLASS REINFORCED PLASTIC
M	DUCTILE IRON
T	304L, STAINLESS STEEL
T1	316L, STAINLESS STEEL
W	A53, GR. A, GALVANIZED STEEL

INSUL. CODE	DESCRIPTION
ET	ELECTRIC TRACED AND INSULATED
IC	ANTI-CONDENSATION INSULATION
ST	STEAM TRACED AND INSULATED

INSTRUMENT ACTUATOR LABELS

- BALL FLOAT
- CAPACITY SENSOR
- DIAPHRAGM
- DISPLACING FLOAT
- DUAL ACTION PISTON
- DUAL SOLENOID
- MANUAL
- MOTOR
- PILOT
- SINGLE ACTION PISTON
- SINGLE SOLENOID
- SINGLE SOLENOID WITH RESET

INSTRUMENT DEVICE TAG TYPES

- IN-LINE TAG WITH LEADER LINE
- LOCAL MOUNTED DEVICE
- FRONT OF PANEL MOUNTED DEVICE
- FRONT OF PANEL MOUNTED DEVICE AUXILLARY LOCATION
- REAR OF PANEL MOUNTED DEVICE
- REAR OF PANEL MOUNTED DEVICE AUXILLARY LOCATION
- SHARED DISPLAY COMPUTER CONTROL AND OPERATOR INTERFACE

EXAMPLE OF TAG CALLOUTS

- INSTRUMENT TAG TYPE
- LETTERS OF INSTRUMENT IDENT.
- LOOP NUMBER SUFFIX
- LOOP NUMBER
- SPECIAL DESIGNATION

MISC. INSTRUMENTATION SYMBOLS

- INTERLOCK
- DIAPHRAGM SEAL
- INSTRUMENT AIR SUPPLY

INSTRUMENT IN-LINE DEVICES

- AVERAGING PITOT
- FLOW NOZZLE
- FLUME
- MAGNETIC FLOW METER
- ORIFICE PLATE
- POSITIVE DISPLACEMENT
- PROPELLER
- STRAIGHTING VANE
- SILENCER
- THERMOWELL
- TRAP
- ULTRASONIC FLOW METER
- VARIABLE AREA FLOW METER
- VENTURI
- VORTEX SHEDDING FLOW METER
- WEIR

INSTRUMENT SIGNAL LINES

- CONNECT TO PROCESS
- MECHANICAL LINK
- ELECTRIC BINARY
- PNEUMATIC BINARY
- GUIDED ELECTROMAG OR SONIC
- SOFTWARE/DATA LINK
- CAPILLARY
- PNEUMATIC
- HYDRAULIC
- UNGUIDED ELECTROMAG OR SONIC
- UNDEFINED

INSTRUMENT SPECIAL DESIGNATIONS

DESIGNATION	FUNCTION / ABBREVATION
C	CLOSED
DIF	DIFFERENTIAL
EX	EXISTING INSTRUMENTATION
H	HIGH
HH	HIGH HIGH
HL	HIGH LOW
HOA	HAND-OFF-AUTO
IA	IN-AUTO
I/I	CURRENT TO CURRENT
I/O	INPUT/OUTPUT
I/P	CURRENT TO PNEUMATIC TREANSDUCER
L	LOW
LL	LOW LOW
LOR	LOCAL-OFF-REMOTE
O	OPEN
OA	ON-OFF
OCA	OPEN-CLOSED-AUTO
R	RUNNING
Y	UNDETERMINED COMPUTING RELAY

LETTERS OF INSTRUMENT IDENTIFICATION

LETTER	1ST LETTER	2ND LETTER	3RD OR 4TH LETTER
	MEASURED OR INITIATING VARIABLE	MODIFIER	READ OUT OR PASSIVE FUNCTION
A	ANALYSIS	ALARM	ALARM
B	BURNER FLAME	----	----
C	CAMERA	CONTROLLER	CLOSED
D	DENSITY	DIFFERENTIAL	----
E	VOLTAGE	ELEMENT	ELEMENT
F	FLOW RATE	RATIO (FRACTION)	----
G	GAGING (DIM)	VIEWING DEVICE	GLASS
H	HAND (MANUAL)	----	----
I	CURRENT (ELEC)	INDICATE	INDICATE
J	POWER	SCAN	----
K	TIME	----	----
L	LEVEL	LIGHT	LOW
M	MOIST. OR HUMIDITY	----	----
N	----	----	----
O	OBSERVATION	ORIFICE	OPEN
P	PRESSURE OR VACUUM	----	POINT (TEST)
Q	QUANTITY OR EVENT	TOTALIZER	----
R	RESTRICTIVE	RECORDER	RECORDER
S	SPEED OR FREQUENCY	SAFETY/SWITCH	SWITCH
T	TEMPERATURE	TRANSMITTER	TRANSMITTER
U	USER'S GUIDE	----	MULTIFUNCTION
V	VISCOSITY	----	VENT. VALVE
W	WEIGHT OR FORCE	WELL	----
X	UNCLASSIFIED	----	UNCLASSIFIED
Y	RELAY	RELAY	----
Z	POSITION	----	----

FUNCTION LABELS

SYMBOLS	DESCRIPTION
AVG	AVERAGING
−	BIAS MINUS
+	BIAS PLUS
±	BIAS PLUS/MINUS
d/dt	DERIVATIVE
÷	DIVIDING
∫	INTEGRAL
×	MULTIPLYING
K	PROPORTIONAL
X^n	RAISE TO POWER
REV	REVERSE ACTION
$\sqrt{\ }$	ROOT EXTRACT
Σ	SUMMING

16

NOTES

2165

REF DWG NO.	DRAWING TITLE	
92X-5900-X-01006	DRAWING INDEX	X0001

PRELIMINARY
NOT FOR CONSTRUCTION

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	IL	PM	REVD BY
B	90% DESIGN ISSUED FOR REGULATORY REVIEW	JG 4/12/99	CS 4/12/99	DLL 4/14/99
A	ISSUED FOR 90% DESIGN REVIEW (DRAFT)	JG 3/8/99	CS 3/8/99	DLL 3/8/99
		INITIALS AND DATE		

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS I & T GROUP
CINCINNATI, OHIO

PROJECT NAME
REMEDIATION AREA 3
LIME SLUDGE PONDS

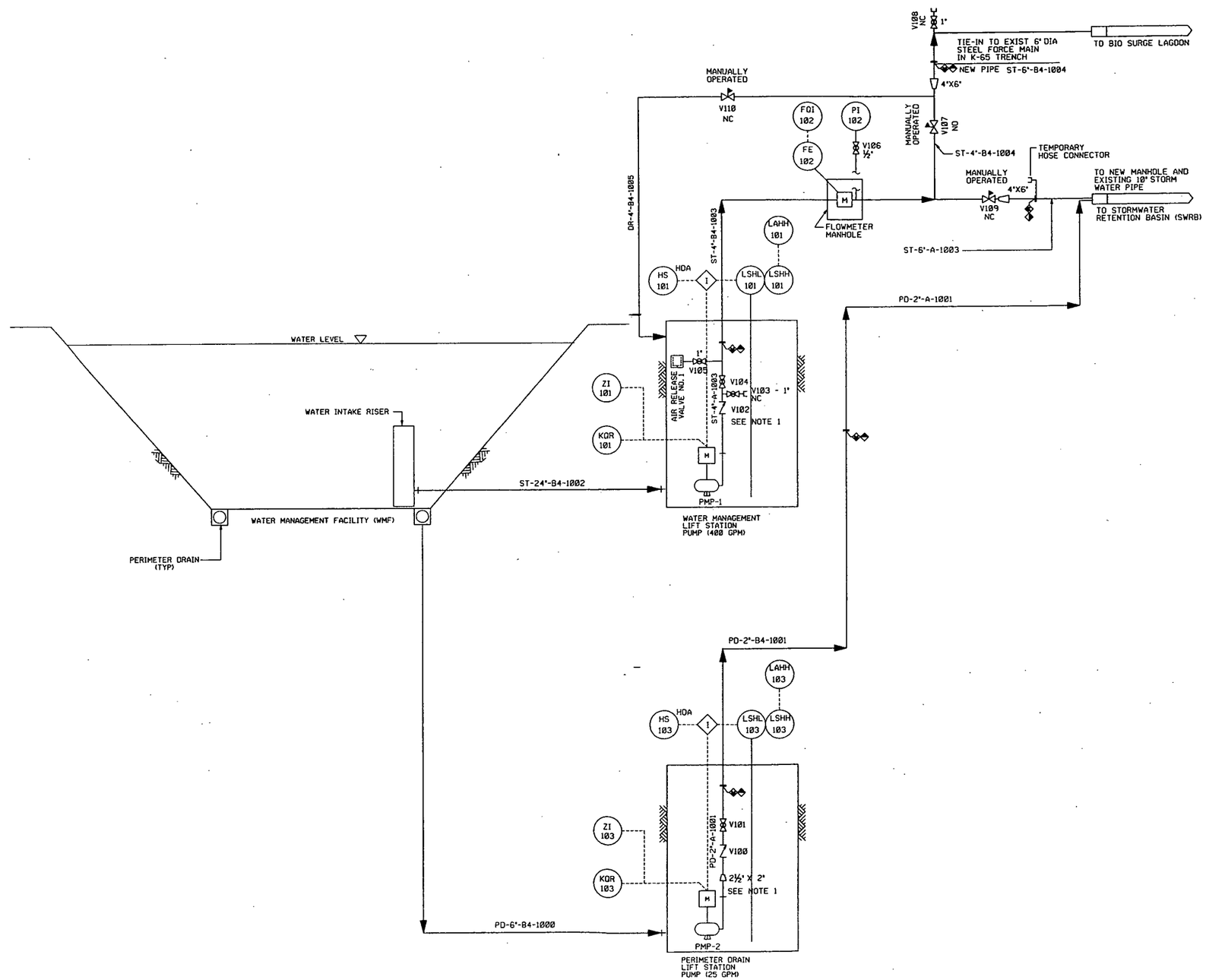
DRAWING TITLE
MECHANICAL PROCESS
PIPING AND INSTRUMENTATION DIAGRAM
SYMBOLS AND LEGEND

CONFIGURATION MANAGEMENT DRAWING

TASK ORDER NO.	OPTIONAL NO.	SCALE	NONE
TO P-022		DRAWN BY DLL	DATE 03/08/99
RES NO.	FSF PROJECT NO.	TECHNICAL LEAD JG	DATE 03/08/99
	20205	CHECKED BY CS	DATE 03/08/99
DRAWING INDEX CODE NO.		SHEET NO.	REV. NO.
92X-5900-N-01029		N0001	B

COGNIZANT ENGINEER DATE SEAL

1"=1'-0"



NOTES

1. SPECIFICATION SECTION 15060 TYPICALLY CALLS FOR STEEL PIPE INSIDE THE LIFT STATIONS. THE CONSTRUCTION MANAGER SHALL BE NOTIFIED IN WRITING IF EXCEPTION IS TAKEN TO THE SPECIFICATION.
2. DRAIN VALVES (V103, 108, & 110) ARE TO BE USED FOR PIPE DRAINAGE IN WINTER FOR SHUTDOWN.

2165

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-01006	DRAWING INDEX	X0001
92X-5900-N-01029	SYMBOLS AND LEGEND	N0001

PRELIMINARY
NOT FOR CONSTRUCTION

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	TL	PM	REVD BY
B	90% DESIGN ISSUED FOR REGULATORY REVIEW	[illegible] 4/12/99	CS 4/12/99	[illegible] 4/12/99
A	ISSUED FOR 90% DESIGN REVIEW (DRAFT)	JG 3/8/99	CS 3/8/99	DLL 3/8/99

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS I & T GROUP
CINCINNATI, OHIO

PROJECT NAME
REMEDIATION AREA 3
LIME SLUDGE PONDS

DRAWING TITLE
MECHANICAL PROCESS
PIPING AND INSTRUMENTATION DIAGRAM
WATER COLLECTION AND TRANSFER

CONFIGURATION MANAGEMENT DRAWING

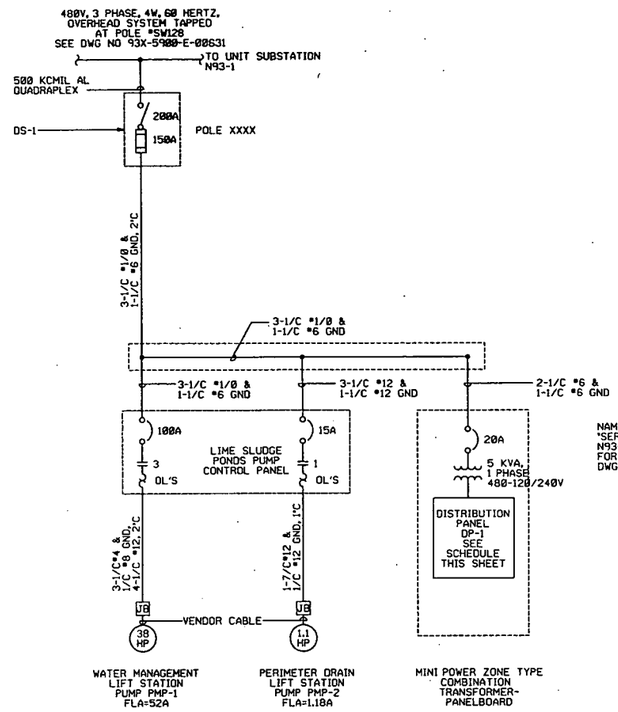
SYSTEMS, STRUCTURES OR COMPONENTS DEPICTED ON THIS DRAWING ARE UNDER CONFIGURATION MANAGEMENT CONTROL. SEE NOTES.

TASK ORDER NO.	OPTIONAL NO.	SCALE	
TO P-022		NONE	
		DRAWN BY DLL	DATE 2/18/99
RES NO.	FDF PROJECT NO. 20205	TECHNICAL LEAD JG	DATE 03/08/99
		CHECKED BY CS	DATE 03/08/99

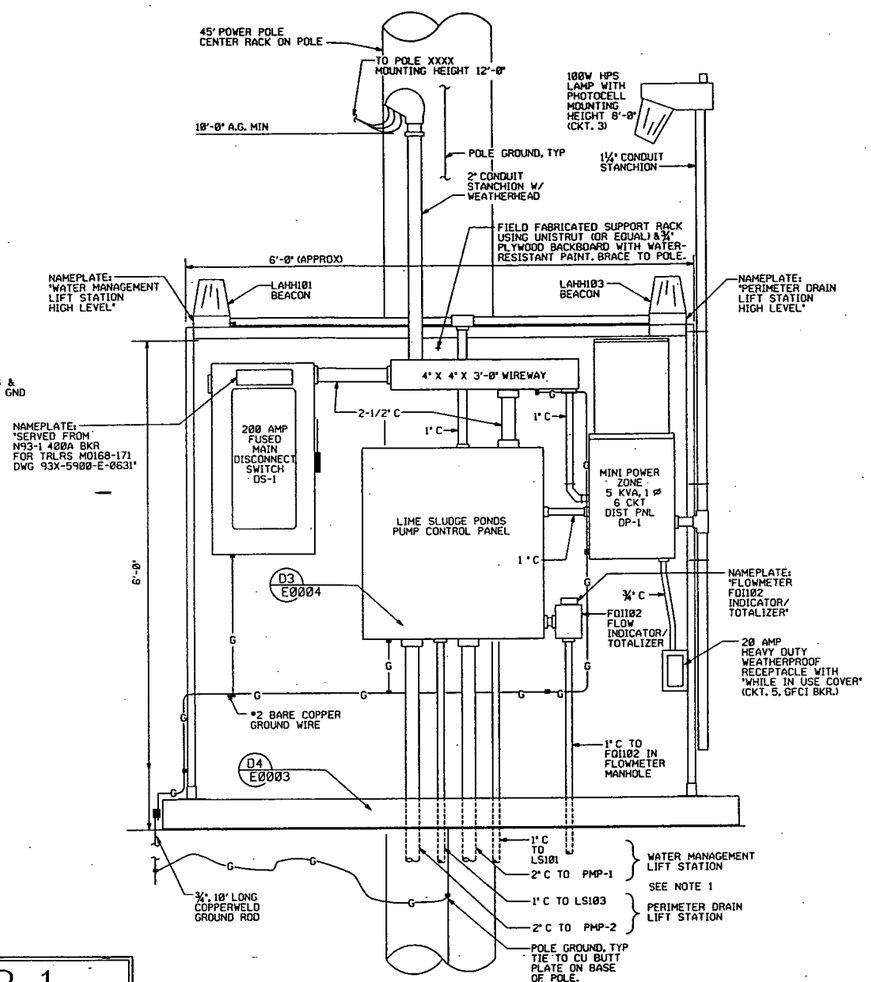
COGNIZANT ENGINEER DATE

DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
92X-5900-N-01030	N0002	B

17



SINGLE LINE DIAGRAM



ELEVATION (E1) REF E0001 E0005
SERVICE PANEL RACK @ POLE xxxxxx
NTS

DISTRIBUTION PANEL DP-1

VOLTAGE : 240/120V, 1 PHASE
MAIN BKR : 30 AMPS
MOUNTING : SURFACE

REMARKS : 1. * INDICATES 6MA GFCI CLASS A, ** INDICATES 30MA GFCI CLASS B

DIRECTORY	WATTS LOAD L1	WATTS LOAD L2	CKT NO	WIRE SIZE	BKR AMPS		BKR AMPS	WIRE SIZE	CKT NO	WATTS LOAD L1	WATTS LOAD L2	DIRECTORY
LAHH101/ FIT102	60		1	12	20	L1 L2 30 A MAIN	30	12	2	60		LAHH103
POLE MTD HPS LIGHT		150	3	12	20		30		4			SPARE
120 VAC RECEPTACLE	180		5	12	20		30		6			SPARE
SUB-TOTALS	240	150	NEUTRAL BUS							60		SUB-TOTALS
	L1	L2								L1	L2	

TOTAL WATTS L1 : 300 TOTAL WATTS L2 : 150 TOTAL WATTS : 450

NOTES

1. ROUTE CONDUITS UNDERGROUND TO LIFT STATIONS. USE RGS CONDUITS ABOVE GRADE & THROUGH FIRST 90 DEGREE BEND TO 36" MIN. DEPTH. USE PVC CONDUIT UNDERGROUND.

2165

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-01006	DRAWING INDEX	X0001
92X-5900-E-01025	ELEMENTARY DIAGRAMS	E0002
92X-5900-E-01026	DETAILS	E0003
92X-5900-E-01027	INTERCONNECTION DIAGRAMS AND DETAILS	E0004
92X-5900-E-01028	PLAN	E0005
93X-5900-E-00631	SINGLE LINE DIAGRAM - PLANT 1 AREA	N/A
92X-5900-G-01011	WATER MANAGEMENT FACILITY PLAN	G0004

PRELIMINARY
NOT FOR CONSTRUCTION

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	TL	PM	BCM BY
B	90% DESIGN ISSUED FOR REGULATORY REVIEW	4/12/99	CS 4/12/99	4/14/99
A	ISSUED FOR 90 % DESIGN REVIEW (DRAFT)	TF 3/8/99	CS 3/8/99	CS 3/8/99

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS I & T GROUP
CINCINNATI, OHIO

PROJECT NAME
REMEDIATION AREA 3
LIME SLUDGE PONDS

DRAWING TITLE
ELECTRICAL
SINGLE LINE DIAG., ELEV., & PANEL SCHED, PMP-1 & PMP-2

CONFIGURATION MANAGEMENT DRAWING
DESIGNED ENTITIES ARE COMPONENT OF THE CONFIGURATION MANAGEMENT CONTROL. SEE NOTES.

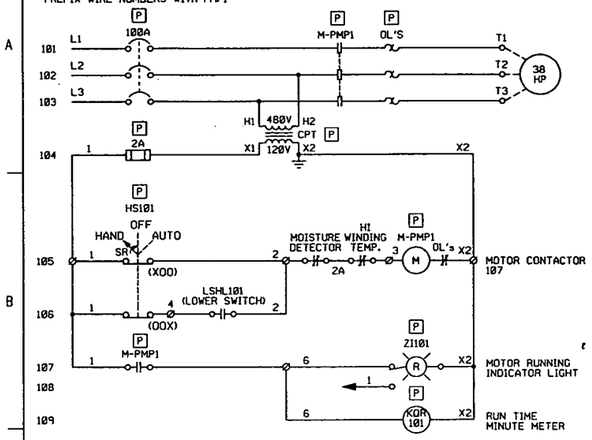
TASK ORDER NO.	OPTIONAL NO.	SCALE	
TO P-022		NONE	
		DRAWN BY T. FERRELL	DATE 2/19/99
RES NO.	FDF PROJECT NO. 20205	TECHNICAL LEAD T. FERRELL	DATE 2/19/99
		CHECKED BY R. PROSKI	DATE 3/8/99
DRAWING INDEX CODE NO. 92X-5900-E-01021		SHEET NO. E0001	REV. NO. B

COGNIZANT ENGINEER DATE

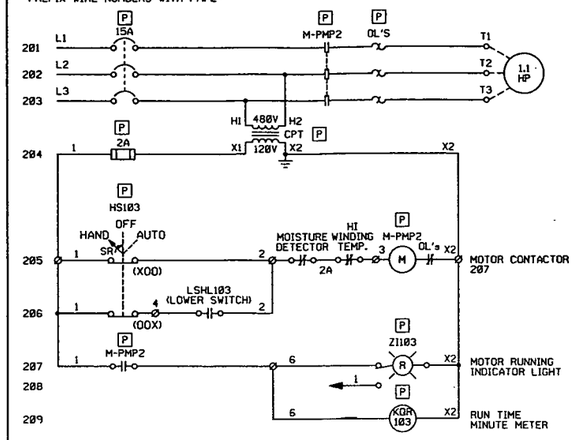
SEAL

18

EQUIPMENT NAME : WATER MANAGEMENT LIFT STATION PUMP
EQUIPMENT NO. : PMP-1
S/L SHT. NO. : E0001
PLAN SHT. NO. : G0004
PREFIX WIRE NUMBERS WITH PMP1-

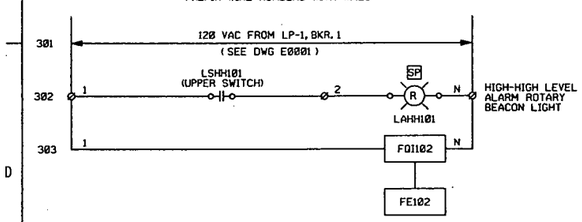


EQUIPMENT NAME : PERIMETER DRAIN LIFT STATION PUMP
EQUIPMENT NO. : PMP-2
S/L SHT. NO. : E0001
PLAN SHT. NO. : G0004
PREFIX WIRE NUMBERS WITH PMP2-



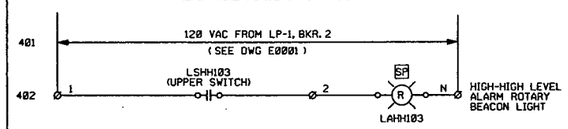
WATER MANAGEMENT LIFT STATION PUMP CONTROL CIRCUIT

PREFIX WIRE NUMBERS WITH WMLS-



PERIMETER DRAIN LIFT STATION PUMP CONTROL CIRCUIT

PREFIX WIRE NUMBERS WITH PDLS-



NOTES

1. UNLESS OTHERWISE NOTED, ALL DEVICES ARE LOCATED LOCAL (AT EQUIPMENT).
2. UNLESS OTHERWISE NOTED, ALL DEVICES SHOWN OR INDICATED ON THIS DRAWING ARE TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

2165

LEGEND:

- [P] LIME SLUDGE PONDS PUMP CONTROL PANEL
- [SP] SERVICE PANEL RACK
- Ø TERMINAL INSIDE LIME SLUDGE PONDS PUMP CONTROL PANEL

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-01006	DRAWING INDEX	X0001
92X-5900-E-01021	SINGLE LINE DIAG., ELEV. & PANEL SCH.	E0001
92X-5900-E-01026	DETAILS	E0003
92X-5900-E-01027	INTERCONNECTION DIAGRAMS AND DETAILS	E0004
92X-5900-E-01028	ELECTRICAL PLAN	E0005
93X-5900-G-01011	WATER MANAGEMENT FACILITY PLAN	G0004

PRELIMINARY
NOT FOR CONSTRUCTION

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	INITIALS AND DATE		
A	90% DESIGN ISSUED FOR REGULATORY REVIEW	4/12/99	4/12/99	4/12/99

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS I & T GROUP
CINCINNATI, OHIO

PROJECT NAME
REMEDIATION AREA 3
LIME SLUDGE PONDS

DRAWING TITLE
ELECTRICAL
ELEMENTARY DIAGRAMS

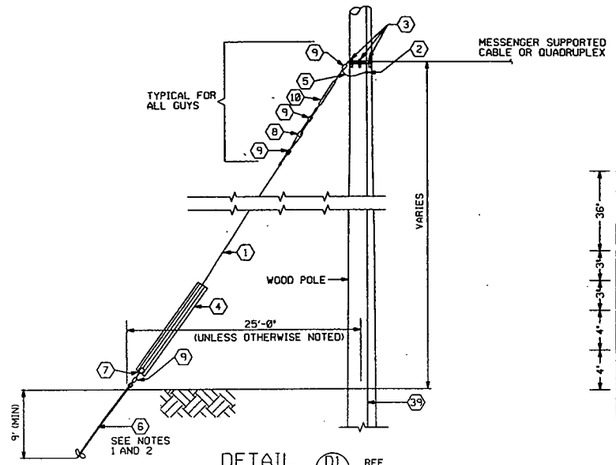
CONFIGURATION MANAGEMENT DRAWING — YES / NO
SYSTEMS, STRUCTURES OR COMPONENTS DEPICTED ON THIS DRAWING ARE UNDER CONFIGURATION MANAGEMENT CONTROL. SEE NOTES.

COGNIZANT ENGINEER — DATE

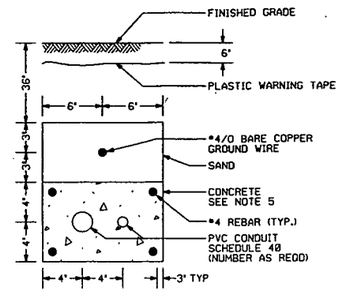
TASK ORDER NO.	OPTIONAL NO.	SCALE	
TO P-022		NONE	
RES NO.	FDF PROJECT NO.	DRAWN BY: K. S. STEVENS	DATE: 3/25/99
	20205	TECHNICAL LEAD: K. S. STEVENS	DATE: 4/12/99
		CHECKED BY: R. PROSKI	DATE: 4/12/99
DRAWING INDEX CODE NO.		SHEET NO.	REV. NO.
92X-5900-E-01025		E0002	A

19

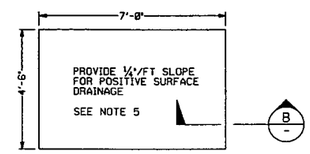
SEAL



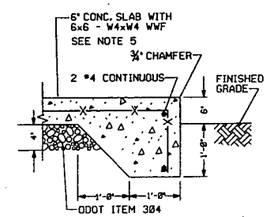
DETAIL D1 E0003 REF G0004
GUY HARDWARE
NTS



SECTION A E0003 REF E0001
UNDERGROUND DUCTBANK
NTS



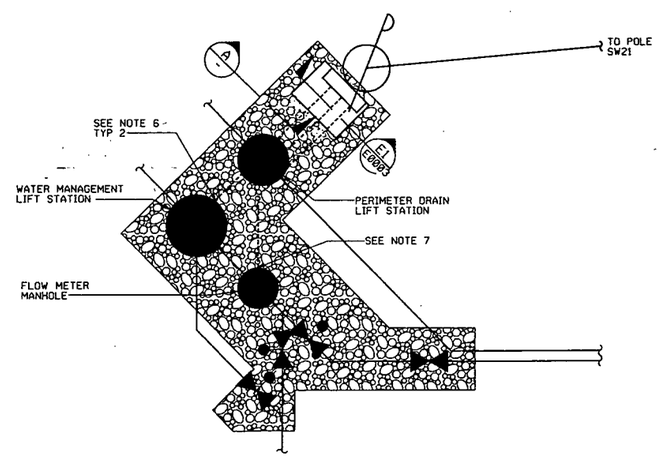
DETAIL D3 E0003 REF E0001
ELECTRICAL SERVICE PANEL RACK PAD
NTS



SECTION B
NTS
FINISH GRADE AND TOP OF CONCRETE VARIES

MATERIAL LIST

1. 5/8" DIA. GALVANIZED STEEL STRUCTURAL ROPE WITH A MINIMUM BREAKING STRENGTH OF 15 TONS.
2. COMPRESSION GROUND FITTING.
3. GUY AND LOAD PLATE, W/ ANGLE THIMBLE EYE BOLT.
4. GUY WIRE MARKER, HALF ROUND, 2" WIDE, 84" LONG, W/ REQ'D HARDWARE, UV RESISTANT.
5. #4 AWG, BARE SOLID COPPER GROUND CONDUCTOR.
6. 12" DIA. HELICAL SCREW TYPE GUY ANCHOR WITH MINIMUM PULLOUT CAPACITY OF 23000 POUNDS.
7. 1/2" THREADED ROD WITH NUTS, LENGTH AS REQUIRED.
8. GUY STRAIN INSULATOR, ANSI CLASS 54-4, FOR 5/8" GUY WIRE.
9. GUY GRIP, FOR STATIC WIRE, PREFORMED WIRE TYPE.
10. FIBERGLASS GUY STRAIN INSULATOR-16,000 LBS. RATING, HOT-DIPPED GALVANIZED CLEVIS-THIMBLE-EYE FITTINGS, LENGTH AS REQUIRED, MINIMUM 5 FEET.



PARTIAL PLAN D4 E0003 REF E0005
NTS

NOTES

1. INSTALL SOIL ANCHORS ACCORDING TO MANUFACTURER'S INSTRUCTIONS.
2. PRIOR TO INSTALLATION OF EARTH ANCHORS, VERIFY LOCATION OF NEARBY UNDERGROUND UTILITIES AND PUSH SMALL DIAMETER STEEL SOIL PROBE THROUGH AREA TO VERIFY THAT NO UNDERGROUND OBSTRUCTIONS ARE PRESENT.
3. ADJUST ELEVATIONS OF EXISTING POWER/SIGNAL CABLE(S) AND GUY TO THOSE SHOWN.
4. INSTALL GUY STRAIN INSULATORS (FIBERGLASS ROD TYPE) TO MAINTAIN LINE TO GROUND CLEARANCE TO ANY CONDUCTIVE PART OF THE GUY ASSEMBLY. USE MINIMUM 5 FOOT INSULATOR, IN SERIES, IF REQUIRED.
5. CONCRETE NOTES: USE ODOT ITEM 499, CLASS F - 3000 PSI, WELDED WIRE FABRIC ODOT ITEM 709.10. REBAR ODOT ITEM 709.01 CONCRETE PLACEMENT & WORKMANSHIP SHALL BE IN ACCORDANCE WITH ACI 318. DUCT BANK CONCRETE SHALL USE RED PIGMENTATION.
6. CONDUITS TO LIFT STATIONS: ABOVE GRADE USE RGS. TRANSITION TO BELOW GRADE WITH 90 DEG RGS MOUNT JUNCTION BOX ON UNISTRUT SUPPORTS MIN. 2'-0" AG. CONNECT TO LEVEL SWITCH & PUMP CABLES ACCORDING TO SUPPLIERS INSTRUCTIONS. SUBMIT CONDUIT/ JUNCTION BOX DETAILS FOR APPROVAL PRIOR TO INSTALLATION.
7. CONDUIT TO FLOW METER: ABOVE GRADE USE RGS. TRANSITION TO BELOW GRADE WITH 90 DEG RGS CONDUIT. STUB UP THROUGH CONCRETE BASE & MANHOLE TO FLOW METER WITH 90 DEG. RGS CONDUIT & FITTINGS. CONNECT TO FLOW METER ACCORDING TO SUPPLIERS INSTRUCTIONS. SUBMIT CONDUIT/ JUNCTION BOX DETAILS FOR APPROVAL PRIOR TO INSTALLATION.

2165

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-01006	DRAWING INDEX	X0001
92X-5900-E-01021	SINGLE LINE DIAG., ELEV. & PANEL SCHED.	E0001
92X-5900-E-01028	PLAN	E0005

PRELIMINARY
NOT FOR CONSTRUCTION

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	TL	PM	REVIS BY
A	90% DESIGN ISSUED FOR REGULATORY REVIEW	3/16/99	4/12/99	4/2/99

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS I & T GROUP
CINCINNATI, OHIO

PROJECT NAME
REMEDIATION AREA 3
LIME SLUDGE PONDS

DRAWING TITLE
ELECTRICAL DETAILS

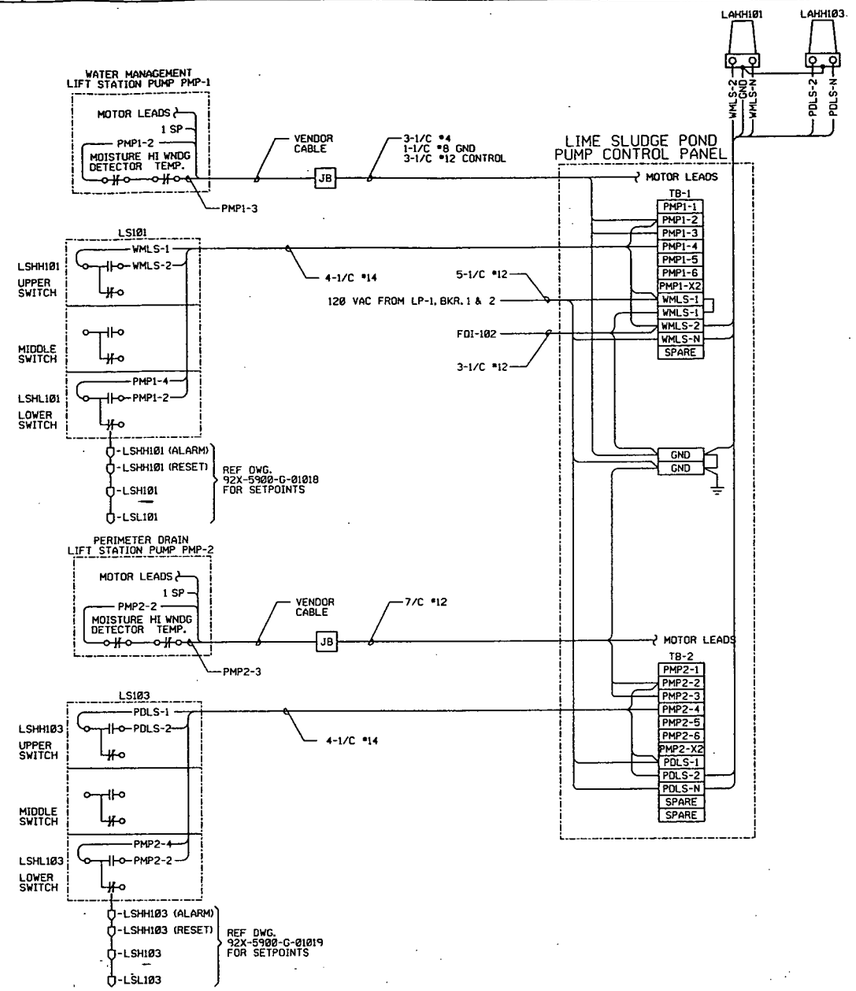
CONFIGURATION MANAGEMENT DRAWING YES NO
DEFINES STRUCTURES OR COMPONENTS SUBJECT TO CONFIGURATION MANAGEMENT CONTROL. SEE NOTES.

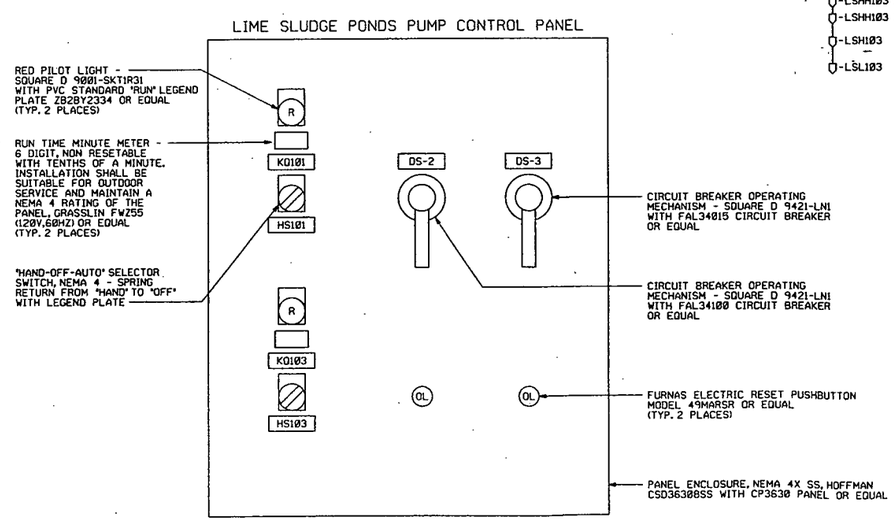
TASK ORDER NO.	OPTIONAL NO.	SCALE	
TO P-022		NONE	
		DRAWN BY: T. FERRELL	DATE: 4/2/99
RES NO.	FDF PROJECT NO. 20205	TECHNICAL LEAD	DATE
		CHECKED BY	DATE

COGNIZANT ENGINEER DATE
SEAL

DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
92X-5900-E-01026	E0003	A

20





DETAIL D3 REF
NTS E0004 E0001

TAG	FIRST LINE	SECOND LINE	THIRD LINE
KQ101	WATER MANAGEMENT	LIFT STATION PUMP	PMP-1 RUN TIME
HS101	WATER MANAGEMENT	LIFT STATION PUMP	PMP-1
KQ103	PERIMETER DRAIN	LIFT STATION PUMP	PMP-2 RUN TIME
HS103	PERIMETER DRAIN	LIFT STATION PUMP	PMP-2
DS-2	WATER MANAGEMENT	LIFT STATION PUMP	PMP-1 DISCONNECT
DS-3	PERIMETER DRAIN	LIFT STATION PUMP	PMP-2 DISCONNECT

NAMEPLATE SCHEDULE
(SEE NOTE 2)

21

NOTES

1. ALL TERMINAL BLOCKS SHOWN ON THIS DRAWING ARE TO BE
1. SUPPLIED BY CONTRACTOR. TERMINAL BLOCKS SHALL BE 600V, 30A, NEMA TYPE G, BOX LUG TERMINATION TYPE.
2. NAMEPLATES SHALL BE ENGRAVED LAMACOID, 1" x 3" WITH BLACK LETTERING ON WHITE BACKGROUND, FOR SCREW FASTENING TO DOOR.
3. CONTROL PANEL SHALL INCLUDE THE FOLLOWING ADDITIONAL DEVICES MOUNTED ON THE INSIDE BACK PANEL (NOT SHOWN): WIRE PER ELEMENTARY DIAGRAM SHOWN ON DWG. 92X-5900-E-01025.
   A) QTY. 1 STARTER, NEMA SIZE 1, FURNAS ELECTRIC MODEL 14DP32AA71 WITH OVERLOAD ELEMENTS OR EQUAL
   B) QTY. 1 STARTER, NEMA SIZE 3, FURNAS ELECTRIC MODEL 14HP32AA71 WITH OVERLOAD ELEMENTS OR EQUAL
   E) QTY. 2 CONTROL TRANSFORMERS (150 VA), FERN ELECTRIC B-150 OR EQUAL
   F) POWER TERMINAL BLOCK, MARATHON 1403404 OR EQUAL
   G) FUSE BLOCK, 250V 30A (2), BUSS R250030-3PR WITH 2A FUSE, FRNR-2A OR EQUAL
4. A 2/C #16 TWISTED, SHIELDED CABLE IS REQUIRED TO BE TERMINATED BETWEEN FQI-102 AND FE-102 (NOT SHOWN).

2165

RELATED DWG NO.	DRAWING TITLE	SHEET NO.
92X-5900-X-01006	DRAWING INDEX	X0001
92X-5900-E-01021	SINGLE LINE DIAG., ELEV. & PANEL SCHED.	E0001
92X-5900-E-01025	ELEMENTARY DIAGRAMS	E0002
92X-5900-E-01026	DETAILS	E0003
92X-5900-E-01028	ELECTRICAL PLAN	E0005
92X-5900-G-01011	WATER MANAGEMENT FACILITY PLAN	G0004
92X-5900-G-01018	CIVIL DETAILS - 2	G0011
92X-5900-G-01019	CIVIL DETAILS - 3	G0012

PRELIMINARY
NOT FOR CONSTRUCTION

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	INITIALS AND DATE		
A	90% DESIGN ISSUED FOR REGULATORY REVIEW	JH 4/6/99	CS 4/12/99	JH 4/16/99
		EL	PM	REVIEW BY

UNITED STATES
DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS I & T GROUP
CINCINNATI, OHIO

PROJECT NAME
REMEDIATION AREA 3
LIME SLUDGE PONDS

DRAWING TITLE
ELECTRICAL
INTERCONNECTION DIAGRAMS AND DETAILS

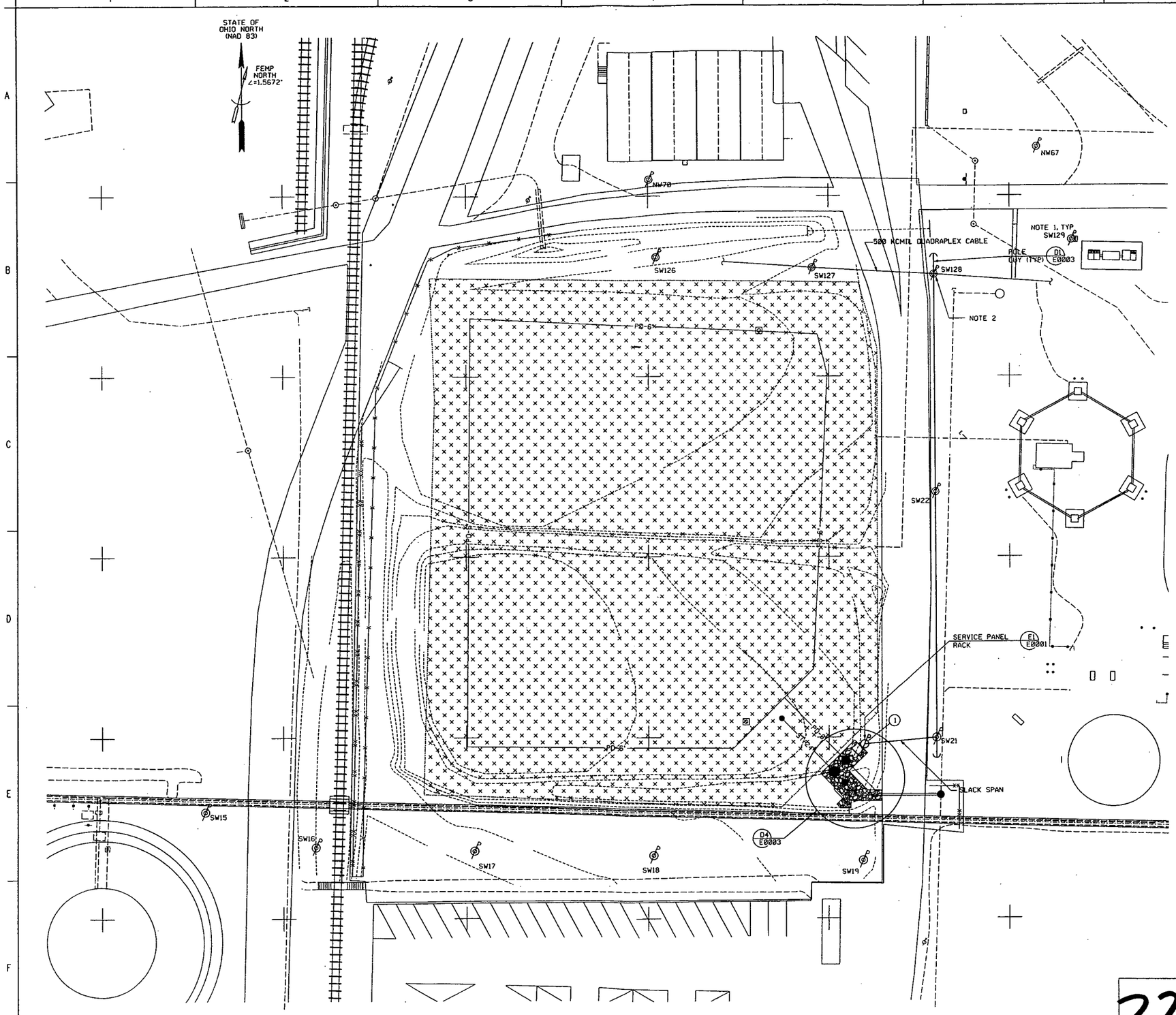
CONFIGURATION MANAGEMENT DRAWING YES NO

SYSTEMS, STRUCTURES OR COMPONENTS CONSIDERED IN THIS DRAWING ARE UNDER CONFIGURATION MANAGEMENT CONTROL. SEE NOTES.

COGNIZANT ENGINEER DATE

TASK ORDER NO.	OPTIONAL NO.	SCALE	
TO P-022		NONE	
		DRAWN BY K. S. STEVENS	DATE 3/29/99
RES NO.	FDF PROJECT NO. 20205	TECHNICAL LEAD K. S. STEVENS	DATE 4/12/99
		CHECKED BY R. PROSKI	DATE 4/12/99
DRAWING INDEX CODE NO. 92X-5900-E-01027		SHEET NO. E0004	REV. NO. A

SEAL



NOTES

1. AFFIX ALUMINUM POLE NUMBER MARKERS, CHARACTERS MIN. 2-1/2", 4'-6" A.G. ON EACH POLE ON THIS DRAWING. LOCATE FOR MAXIMUM VISIBILITY FROM ROADWAY. FASTEN WITH ALUMINUM NAILS.
2. FIELD ROUTE 500 KCMIL ALUMINUM QUADRAPLEX CABLE. TAP EXISTING QUADRAPLEX CIRCUIT AT POLE SW128 (2ND CIRCUIT FROM TOP). GUY TO NORTH. ATTACH TO POLES SW22 & SW21 ON TOP, 1'-0" MIN ABOVE EXISTING CABLES. GUY TO SOUTH ON POLE SW21. OFFSET MIN REQUIRED TO CLEAR
3. SEE 92X-5900-G-01011 FOR EQUIPMENT LOCATIONS.

COORDINATE POINT LISTING

NO.	NORTHING	EASTING	EL	DESCRIPTION
1	480496	1348320	—	POLE XXXX

2165

LEGEND

480 V AERIAL CABLE, MESSENGER SUPPORTED
ELECTRICAL FEATURES: NEW, BOLD; EXISTING, LIGHT
POLE GUY
POWER POLE

92X-5900-E-01006	DRAWING INDEX	X0001
92X-5900-E-01021	SINGLE LINE DIAG., ELEV. & PANEL SCHED.	E0001
92X-5900-E-01028	DETAILS	E0003
92X-5900-G-01011	WATER MANAGEMENT FACILITY PLAN	G0004

PRELIMINARY
NOT FOR CONSTRUCTION

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	TL	PM	RCB BY
A	90% DESIGN ISSUED FOR REGULATORY REVIEW	4/16/99	4/17/99	4/19/99
		INITIALS AND DATE		

UNITED STATES
DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS I & T GROUP
CINCINNATI, OHIO

PROJECT NAME
REMEDIATION AREA 3
LIME SLUDGE PONDS

DRAWING TITLE
ELECTRICAL
PLAN

CONFIGURATION MANAGEMENT DRAWING — REF. / INFO.
SYSTEMS, STRUCTURES OR COMPONENTS CONSIDERED "SAFETY SIGNIFICANT" OR "SAFETY CONTROL" MANAGEMENT CONTROL. SEE NOTES.

TASK ORDER NO.	OPTIONAL NO.	SCALE	
TO P-022		1"= 20'	
RES NO.	FOR PROJECT NO.	DRAWN BY T. FERRELL	DATE 4/7/99
	20205	TECHNICAL LEAD T. FERRELL	DATE 4/7/99
		CHECKED BY R. PROSKI	DATE 4/8/99
COGNIZANT ENGINEER	DATE	DRAWING INDEX CODE NO. 92X-5900-E-01028	SHEET NO. E0005 / REV. NO. A

SEAL

22