R-009-207.73

5226

HAMILTON COUNTY ALBRIGHT & WILSON NON-COMMUNITY WATER SYSTEM DETAIL PLANS OF PROPOSED WELLS NO. AWA-1, AWA-2 AND RAW WATER MAIN

03/17/93

OEPA/DOE-FN
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LETTER
OU5

OhioEPA
State of Ohio Environmental Protection Agency

P.O. Box 1049, 1800 WaterMark Dr.
Columbus, Ohio 43266-0149
(614) 644-3020
FAX (614) 644-2329

5226
LOG 6-02753
FILE 5496
Attachment ~~in Library~~ (Drawings) filed separately
MAR 18 10 01 AM '93

George V. Voinovich
Governor
Donald R. Schregardus
Director

March 17, 1993

Re: Hamilton County
Albright and Wilson c/o FERMCO
Application No. SW-2336-WS
Non-Community Water System, 3137512
Detail Plans of proposed wells no. AWA-1, AWA-2 and raw water main
Plans Received February 4, 1992;
Revised Plans Received February 9, 1993
From Ed Skintik

U.S. Department of Energy
Fernald Environmental Management Project
P.O. Box 398705
Cincinnati, OH 45239

Ladies and Gentlemen:

The Ohio Environmental Protection Agency has reviewed the enclosed plans submitted pursuant to Ohio Revised Code Sections 6109.07 et. seq. These plans are approved subject to the condition of compliance with all applicable laws, rules, regulations, and standards. Further, all construction must be supervised by a registered engineer, if required by law, or expert qualified in such work.

The enclosed report contains a description of the facilities approved which may include information regarding approved operating rates, capacities, and requirements, and is incorporated herein.

This approval shall apply only to those water supply facilities shown on the plans cited above. Any waste handling facilities shown on these plans must have a separate waste handling approval.

Sanitary control of the area shall be maintained within a 300 foot radius of each water supply well.

Lead solder and flux that exceeds 0.2 percent lead content and any pipe or pipe fitting that exceeds an 8 percent lead content shall not be used in the installation of the proposed facilities.

Should there be any questions regarding the requirements, meaning, or interpretation of any of the above which we may clarify, please contact the Division of Drinking and Ground Waters in the appropriate district office of the Ohio Environmental Protection Agency.

You are hereby notified that this action of the director is final and may be appealed to the Environmental Board of Review pursuant to Section 3745.04 of the Ohio Revised Code by any person who was a party to this proceeding. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed with the Environmental Board of Review within thirty (30) days after notice of the director's action. A copy of the appeal must be served on the director of the

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Ohio Environmental Protection Agency and the Environmental Enforcement Section of the Office of the Attorney General within three (3) days of filing with the board. An appeal may be filed with the Environmental Board of Review at the following address:

Environmental Board of Review
236 East Town Street, Room 300
Columbus, OH 43266-0557

Sincerely,

Donald R Schregardus

Donald R. Schregardus
Director

DRS/dmd

cc: Southwest District Office
Division of Drinking and Ground Waters, Central Office
Hamilton County Health Department
FERMCO

OhioEPA
State of Ohio Environmental Protection Agency

Southwest District Office
South Main Street
Dayton, Ohio 45402-2086
(513) 285-6357
FAX (513) 285-6404

- 5226

George V. Voinovich
Governor

REPORT ON DETAIL PLANS OF PROPOSED WELLS NO. AWA-1, AWA-2 AND RAW WATER MAIN TO SERVE ALBRIGHT AND WILSON AMERICAS, INC., HAMILTON COUNTY.

On February 4, 1992, detail plans of proposed wells AWA-1, AWA-2 and raw water main to serve Albright and Wilson Americas, Inc., were received from Mr. Edward Skintik, Department of Energy, Fernald Environmental Management Project (FEMP). Additional information was received May 13, June 5, 1992 and February 9, 1993.

The sites for the wells, designated as well no. AWA-1 and well no. AWA-2, received site acceptance from our office by letter dated October 23, 1991. A 300 foot isolation radius was designated at that time. Both sites are located about 300 feet north of Wiley Road at the intersection of Wiley and Crosby Roads. There are no potential source of contamination within the isolation radius. All land within the isolation radius of the wells is owned by the Department of Energy and the Fernald Environmental Management Project (FEMP). The proposed wells are not located in a flood plain.

Well no. AWA-1 was drilled to a depth of 219.5 feet. The 10 inch OD carbon steel casing was set at a depth of 149.5 feet. The Baker Monitoring PS model pitless adapter is WSC approved. The Peerless pump, model 6LB, has a capacity of 125 gpm at 300 foot TDH. It is set at a depth of 92.5 feet. The 20 HP motor is a 230 Volt, 60 Hertz, triple phase type with lightning protection.

The 10 inch OD stainless steel screen is a 0.020 inch slot, continuous wire-wrapped, 70 feet in length.

Well no. AWA-2 was drilled to a depth of 130 feet. The 10 inch OD carbon steel casing was set at a depth of 110 feet. The Baker Monitoring PS model pitless adapter is WSC approved. The 20 HP Peerless pump, model 6LB, has a capacity of 125 gpm at 300 foot TDH. It is set at a depth of 92.5 feet. The 20 HP motor is a 230 volt, 60 hertz, triple phase type with lightning protection.

The 10 inch OD stainless steel screen is a 0.020 inch slot, continuous wire-wrapped, 20 feet in length.

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ALBRIGHT AND WILSON AMERICAS
MARCH 8, 1993

The proposed raw water main consists of about 3800 feet of 6 inch pipe in Paddy's Run Road and about 4600 feet of 6 inch pipe in Wiley Road.

Raw water samples from both wells have been analyzed for volatile organic chemicals (VOCs), inorganics and radiologicals. Results indicate compliance with all applicable standards for such at this time. Raw water samples were also collected and analyzed for coliform bacteria. Both results were reported as total coliform negative (safe).

The estimated cost of construction for the project is $1,300,000.

It is recommended the plans be approved with the usual conditions.

Michael D. Joseph
Division of Drinking and Ground Waters

5226

ALTERNATE WATER SUPPLY SYSTEM

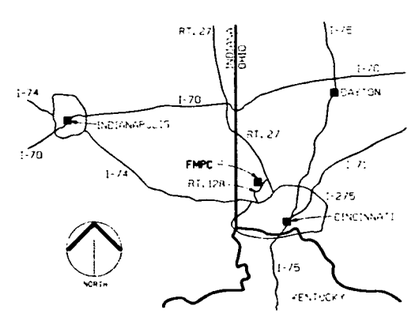
(WBS 1.1.2.4.04.01)

ENVIRONMENTAL, HEALTH & SAFETY IMPROVEMENTS, PHASE IV
FEED MATERIALS PRODUCTION CENTER,
FERNALD, OHIO

UNITED STATES DEPARTMENT OF ENERGY

DRAWING INDEX

FMPC DRAWING NO.	A.M.K. SHEET NO.	REV.	DATE	TITLE
18A-4445-X-01134	X-1	B	8-8-91	COVER SHEET
18A-4445-C-01135	AC-1	D	8-8-91	ROUTING LOCATION PLAN
18A-4445-C-01136	AC-2	A	8-8-91	SITE PLAN & PROFILE #1
18A-4445-C-01137	AC-3	B	8-8-91	SITE PLAN & PROFILE #2
18A-4445-C-01138	AC-4	B	8-8-91	SITE PLAN & PROFILE #3
18A-4445-C-01139	AC-5	B	8-8-91	SITE PLAN & PROFILE #4
18A-4445-C-01140	AC-6	A	8-8-91	SITE PLAN AT ALBRIGHT & WILSON
18A-4445-C-01141	AC-7	A	8-8-91	SITE DETAILS & SECTIONS
18A-4445-P-01142	AP-1	D	8-8-91	PIPING DETAILS
18A-4445-P-01143	AP-2	C	8-8-91	NEW ABOVEGROUND PIPE ROUTING
18A-4445-E-01144	AE-1	C	8-8-91	ELECTRICAL PLAN - POWER & CONTROL
18A-4445-E-01145	AE-2	A	8-8-91	ELECTRICAL SITE PLAN & DETAILS - WELL PUMP AREA
18A-4445-E-01146	AE-3	A	8-8-91	ELECTRICAL PLANS & DETAILS - WELL PUMP AREA



VACINITY MAP
SCALE:NONE

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	ORIGINATOR	REV
B	100% REVIEW ISSUE-ALBRIGHT & WILSON AM.	FWB 8-8-91		
A	DESIGN REVIEW ISSUE	FWB 8-6-90		

INITIALS AND DATE

UNITED STATES
DEPARTMENT OF ENERGY
FEED MATERIALS PRODUCTION CENTER

THIS DRAWING PREPARED BY
A. M. KINNEY, INC.
CONSULTING ENGINEERS
CINCINNATI, OHIO

PROJECT NAME
ENVIRONMENTAL, HEALTH & SAFETY IMPROVEMENTS

DRAWING TITLE
ALTERNATE WATER SUPPLY SYSTEM
COVER SHEET

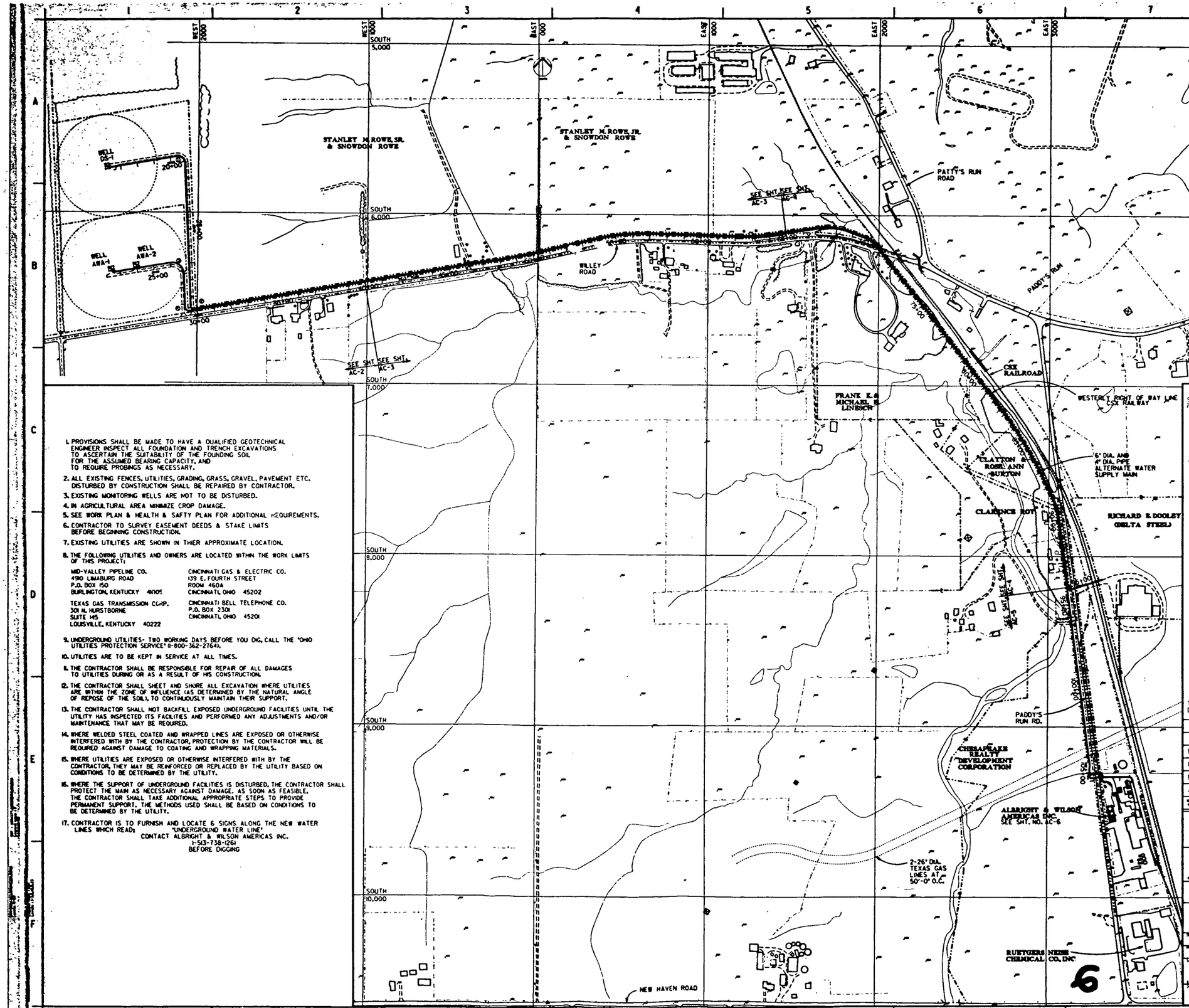
DRAWN BY	DATE	DESIGNED/CHKD BY	DATE	CHECKED BY	DATE
TPO	8-90	FWB	8-90	FWB	8-90

PLANT/BLDG NO. FMPC — FLOOR — SCALE NONE — CLASS

SUBMITTED FOR APPROVAL — APPROVAL RECOMMENDED — DRAWING APPROVED

JOB PROJECT NO.	DRAWING NO.	DRAWING NO.	SHEET NO.	REV. NO.
87-D-159	0087502 WBS 1.1.2.4.04.01	18A-4445-X-01134	X-1	B

5



1. PROVISIONS SHALL BE MADE TO HAVE A QUALIFIED GEOTECHNICAL ENGINEER INSPECT ALL FOUNDATION AND TRENCH EXCAVATIONS TO ASCERTAIN THE SUITABILITY OF THE FOUNDING SOIL FOR THE ASSUMED BEARING CAPACITY, AND TO REQUIRE PROBINGS AS NECESSARY.
2. ALL EXISTING FENCES, UTILITIES, GRADING, GRASS, GRAVEL, PAVEMENT ETC. DISTURBED BY CONSTRUCTION SHALL BE REPAIRED BY CONTRACTOR.
3. EXISTING MONITORING WELLS ARE NOT TO BE DISTURBED.
4. IN AGRICULTURAL AREA MINIMIZE CROP DAMAGE.
5. SEE WORK PLAN & HEALTH & SAFTY PLAN FOR ADDITIONAL REQUIREMENTS.
6. CONTRACTOR TO SURVEY EASEMENT DEEDS & STAKE LIMITS BEFORE BEGINNING CONSTRUCTION.
7. EXISTING UTILITIES ARE SHOWN IN THIER APPROXIMATE LOCATION.
8. THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT:

MID-VALLEY PIPELINE CO. 4910 LIMABURG ROAD P.O. BOX 150 BURLINGTON, KENTUCKY 41005	CINCINNATI GAS & ELECTRIC CO. 139 E. FOURTH STREET ROOM 460A CINCINNATI, OHIO 45202
TEXAS GAS TRANSMISSION CORP. 301 N. HURSTBORNE SUITE 145 LOUISVILLE, KENTUCKY 40222	CINCINNATI BELL TELEPHONE CO. P.O. BOX 2301 CINCINNATI, OHIO 45201

9. UNDERGROUND UTILITIES- TWO WORKING DAYS BEFORE YOU DIG, CALL THE "OHIO UTILITIES PROTECTION SERVICE" 1-800-362-2764).
10. UTILITES ARE TO BE KEPT IN SERVICE AT ALL TIMES.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF ALL DAMAGES TO UTILITES DURING OR AS A RESULT OF HIS CONSTRUCTION.
12. THE CONTRACTOR SHALL SHEET AND SHORE ALL EXCAVATION WHERE UTILITIES ARE WITHIN THE ZONE OF INFLUENCE (AS DETERMINED BY THE NATURAL ANGLE OF REPOSE OF THE SOIL), TO CONTINUOUSLY MAINTAIN THEIR SUPPORT.
13. THE CONTRACTOR SHALL NOT BACKFILL EXPOSED UNDERGROUND FACILITIES UNTIL THE UTILITY HAS INSPECTED ITS FACILITES AND PERFORMED ANY ADJUSTMENTS AND/OR MAINTENANCE THAT MAY BE REQUIRED.
14. WHERE WELDED STEEL COATED AND WRAPPED LINES ARE EXPOSED OR OTHERWISE INTERFERED WITH BY THE CONTRACTOR, PROTECTION BY THE CONTRACTOR WILL BE REQUIRED AGAINST DAMAGE TO COATING AND WRAPPING MATERIALS.
15. WHERE UTILITIES ARE EXPOSED OR OTHERWISE INTERFERED WITH BY THE CONTRACTOR, THEY MAY BE REINFORCED OR REPLACED BY THE UTILITY BASED ON CONDITIONS TO BE DETERMINED BY THE UTILITY.
16. WHERE THE SUPPORT OF UNDERGROUND FACILITES IS DISTURBED, THE CONTRACTOR SHALL PROTECT THE MAIN AS NECESSARY AGAINST DAMAGE. AS SOON AS FEASIBLE, THE CONTRACTOR SHALL TAKE ADDITIONAL APPROPRIATE STEPS TO PROVIDE PERMANENT SUPPORT. THE METHODS USED SHALL BE BASED ON CONDITIONS TO BE DETERMINED BY THE UTILITY.
17. CONTRACTOR IS TO FURNISH AND LOCATE 6 SIGNS ALONG THE NEW WATER LINES WHICH READ: "UNDERGROUND WATER LINE" CONTACT ALBRIGHT & WILSON AMERICAS INC. 1-503-738-1261 BEFORE DIGGING

STATIONING FOLLOWS AWA LINE FROM STATION 30+00 TO 94+00.

LEGEND

AWA	ALBRIGHT & WILSON AMERICAS
DS	DELTA STEEL
	FENCE
	EASEMENT LINE
	PROPERTY LINE
	PROPERTY OWNER
	NEW WATER MAIN
	CONCRETE PIPE ENCASEMENT
	EXIST. CONTOUR LINES
	OVERHEAD LINES
	UNDERGROUND LINE
WS11 2000	FMPC GRID
	CURVE DATA NO.
	HIGH TENSION TOWERS
	CULVERT
	PAVED ROAD
	GRAVEL ROAD
	HIGH TENSION TOWERS
	BUILDINGS
	TREE
	BUSHES
	CREEKS AND DITCHES
	TREE LINE
	MONITORING WELL
	UNDERGROUND LINE MARKER

TOPO BY WESTON MAY, 1986 AND A.M. KINNEY INC. JULY 2, 1990

0 100 200 400 600 800 1000

SCALE 1" = 200'

TO CORRELATE REFERENCED "AMK SHEET No's" TO FMPC DRAWING NUMBERS, SEE FMPC DRAWING No. 18A-4445-X-0034

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DRAWN	CHECKED	DATE
D	100% REVIEW ISSUE-ALBRIGHT & WILSON AM.	RPD 8-8-90		
C	DESIGN REVIEW ISSUE	RPD 8-6-90		
B	REISSUED FOR REVIEW	RPD 9-4-90		
A	ISSUED FOR REVIEW	RPD 8-28-90		

UNITED STATES DEPARTMENT OF ENERGY
FEED MATERIALS PRODUCTION CENTER

THE DRAWING PREPARED BY
A. M. KINNEY, INC.
CONSULTING ENGINEERS
CINCINNATI, OHIO

FMCO SUBCONTRACT NO. 8-7207

PROJECT NAME
ENVIRONMENTAL, HEALTH & SAFETY IMPROVEMENTS

DRAWING TITLE
ALTERNATE WATER SUPPLY SYSTEM
ROUTING LOCATION PLAN

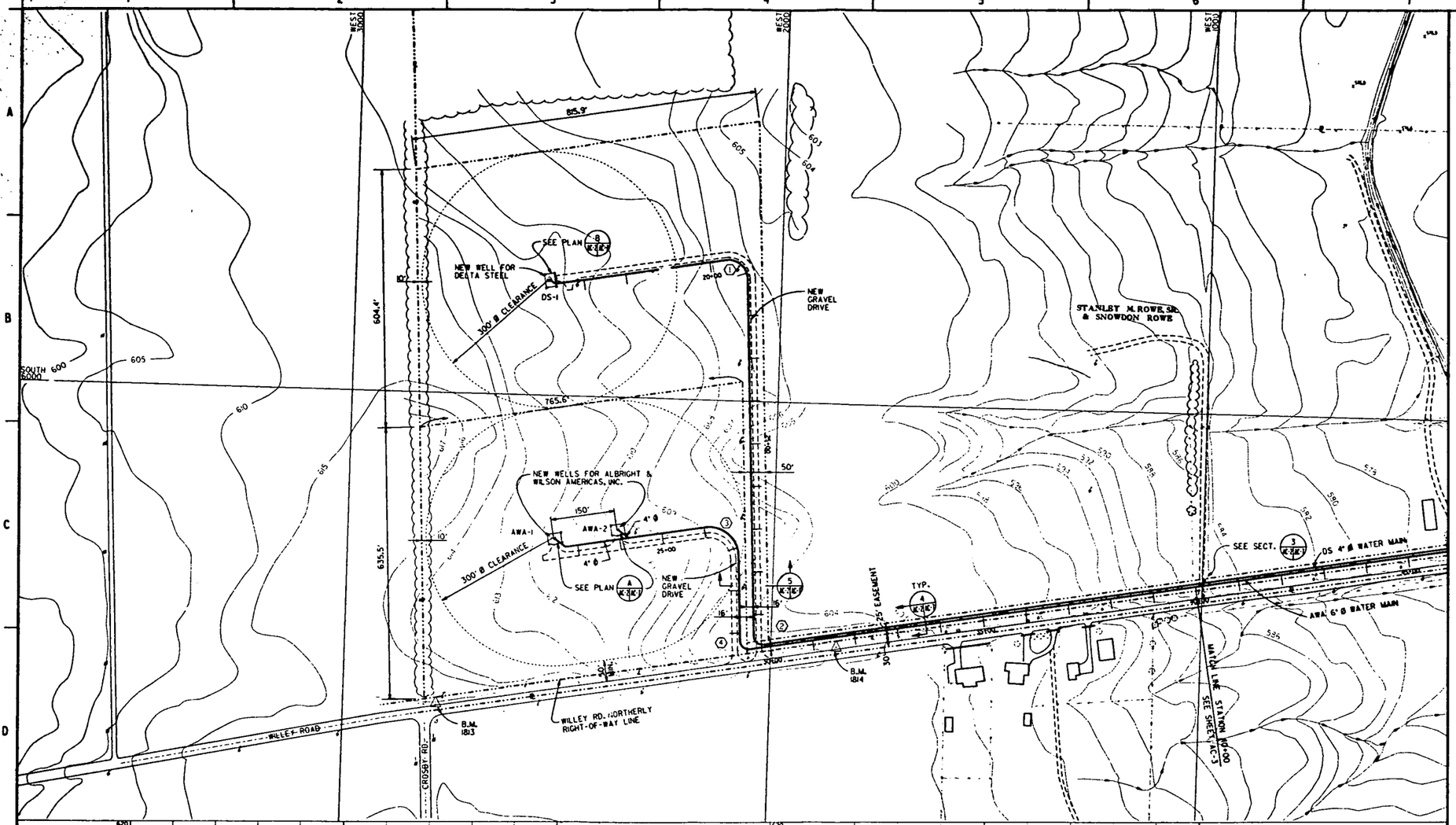
DRAWN BY	DATE	DESIGNER/CHECKED BY	DATE	CHECKED BY	DATE
JTS	8-90	LMS	8-6-90	RPD	8-6-90

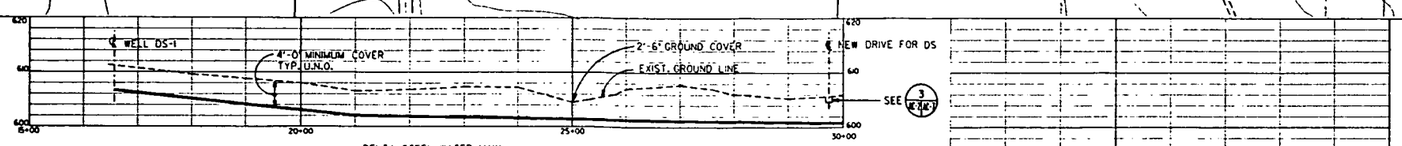
SCALE: AS SHOWN

FMPC PROJECT NO.	DRAWING NO.	REV. NO.
87-D-159	0087502 WBSL2.4.04.01	18A-4445-C-0135 AC-1 D

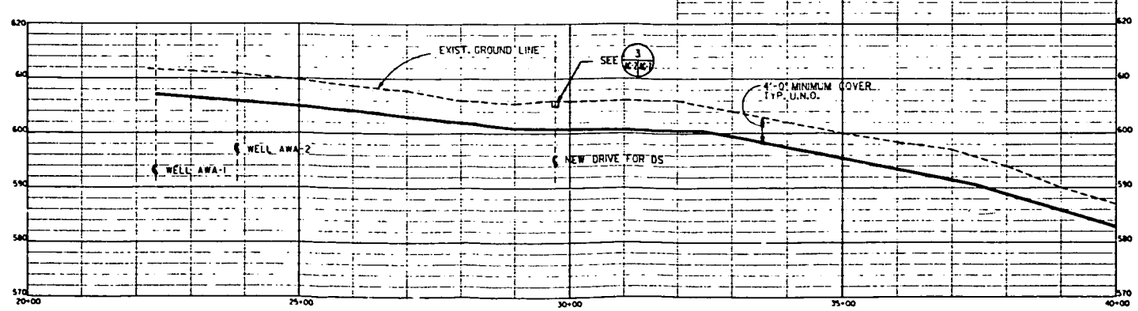
6

5226





DELTA STEEL WATER MAIN



AWA WATER MAIN

HORIZONTAL CURVE DATA

CURVE NO.	P.I. STA.	RADIUS
1	20+87.9	44.00'
2	29+73.1	20.00'
3	26+79.9	68.00'
4	29+40.2	20.00'

UNLESS OTHERWISE NOTED, A MINIMUM OF 20 FT. RADIUS IS TO BE USED FOR BOTH HORIZONTAL & VERTICAL BENDS IN THE WATER MAINS.

SECTION & DETAIL KEY

LEGEND

AWA	ALBRIGHT & WILSON AMERICAS
DS	DELTA STEEL
	FENCE
	EASEMENT LINE
	PROPERTY LINE
	PROPERTY OWNER
	NEW WATER MAIN
	CONCRETE PIPE ENCASEMENT
	EXIST. CONTOUR LINES
	OVERHEAD LINES
	UNDERGROUND LINE
WEST 2000	FMPC GRID
	CURVE NO.
	HIGH TENSION TOWERS
	CULVERT
	PAVED ROAD
	GRAVEL ROAD
	HIGH TENSION TOWERS
	BUILDINGS
	TREE
	BUSHES
	CREEKS AND DITCHES
	TREE LINE
	MONITORING WELL
	UNDERGROUND LINE MARKER
	POWER POLE
	TELEPHONE POLE
	SIGN
	HAMILTON COLD BENCH MARKS
	MAILBOX

TOPO BY WESTON, MAY 3, 1986 AND A.M. KINNEY INC. JULY 2, 1991

STATIONING FOLLOWS AWA LINE FROM 20+00 TO 34+00.

NORTH

VERTICAL SCALE 1" = 10'

HORIZONTAL AND PLAN SCALE 1" = 100'

TO CORRELATE REFERENCED "AMK SHEET No's" TO FMPC DRAWING NUMBERS, SEE FMPC DRAWING No. 18A-4445-X-0834

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	CHECKED	DATE
A	100% REVIEW ISSUE-ALBRIGHT & WILSON AM.	RPD 8-8-91		

UNITED STATES DEPARTMENT OF ENERGY
FEED MATERIALS PRODUCTION CENTER

THIS DRAWING PREPARED BY
A. M. KINNEY, INC.
CONSULTING ENGINEERS
CINCINNATI, OHIO

PROJECT NAME
ENVIRONMENTAL, HEALTH & SAFETY IMPROVEMENTS

DRAWING TITLE
ALTERNATE WATER SUPPLY SYSTEM
SITE PLAN & PROFILE
SHEET 1 OF 4

DRAWN BY	DATE	DESIGNED BY	DATE	CHECKED BY	DATE
SPF		LMS	11-6-90	RPD	11-6-90

SCALE: AS SHOWN

SIZE	DRAWING NO.	REV. NO.
87-D-159	0087502 WBS 1.1.2.4.04.01	18A-4445-C-0836	AC-2	A

LEGEND

AWA	ALBRIGHT & WILSON AMERICAS
DS	DELTA STEEL
	FENCE
	EASEMENT LINE
	PROPERTY LINE
	PROPERTY OWNER
	NEW WATER MAIN
	CONCRETE PIPE ENCASEMENT
	EXIST. CONTOUR LINES
	OVERHEAD LINES
	UNDERGROUND LINE
WEST 1000	FMPC GRID
	CURVE NO.
	HIGH TENSION TOWERS
	CULVERT
	PAVED ROAD
	GRAVEL ROAD
	HIGH TENSION TOWERS
	BUILDINGS
	TREE
	BUSHES
	CREEKS AND DITCHES
	TREE LINE
	MONITORING WELL
	UNDERGROUND LINE MARKER
	POWER POLE
	TELEPHONE POLE
	SIGN
	MAILBOX
	RAILROAD TRACK

TOPO BY WENTON MAY 3, 1986

STATIONING FOLLOWS AWA LINE FROM STATION 30+00 TO 94+00.

HORIZONTAL CURVE DATA

CURVE NO.	P.I. STA.	RADIUS
5	55+40.2	1114.58'
6	63+03.4	960.58'

UNLESS OTHERWISE NOTED, A MINIMUM OF 20 FT. RADIUS IS TO BE USED FOR BOTH HORIZONTAL & VERTICAL BENDS IN THE WATER MAINS.

NORTH

0 10 20 40 60

VERTICAL SCALE : 1" = 10'

0 50 100 200 300 400 500

HORIZONTAL AND PLAN SCALE : 1" = 100'

TO CORRELATE REFERENCED "AWA SHEET No's" TO FMPC DRAWING NUMBERS, SEE FMPC DRAWING No. 18A-4445-C-0034

REV. NO.	REVISION PURPOSE - DESCRIPTION	DATE	APPROVED	REF.
B	100% REVIEW ISSUE-ALBRIGHT & WILSON AM.	RPD 8-8-9		
A	DESIGN REVIEW ISSUE	RPD 8-6-90		

UNITED STATES DEPARTMENT OF ENERGY
FEED MATERIALS PRODUCTION CENTER

THIS DRAWING PREPARED BY
A. M. KINNEY, INC.
CONSULTING ENGINEERS
CINCINNATI, OHIO

FMPC SUBCONTRACT NO. N-17207 A-E PROJECT NO. 02902

PROJECT NAME
ENVIRONMENTAL, HEALTH & SAFETY IMPROVEMENTS

DRAWING TITLE
ALTERNATE WATER SUPPLY SYSTEM
SITE PLAN & PROFILE
SHEET 2 OF 4

DRAWN BY	DATE	DESIGNED/CHECKED BY	DATE	CHECKED BY	DATE
JAW		LMS	8-6-90	RPD	8-6-90

SCALE: AS SHOWN

A-E PROJECT NO.	SPEC. SECT. NO.	DRAWING NO.	REV. NO.
87-D-159	0087502 WBS LL2.4.04.01	18A-4445-C-0037	AC-3 B

SECTION & DETAIL KEY

LEGEND

AWA	ALBRIGHT & WILSON AMERICAS
DS	DELTA STEEL
	FENCE
	EASEMENT LINE
	PROPERTY LINE
	PROPERTY OWNER
	NEW WATER MAIN
	CONCRETE PIPE ENCASEMENT
	EXIST. CONTOUR LINES
	OVERHEAD LINES
	UNDERGROUND LINE
WEST 2000	FMPC GRID
	CURVE NO.
	HIGH TENSION TOWERS
	CULVERT
	PAVED ROAD
	GRAVEL ROAD
	HIGH TENSION TOWERS
	BUILDINGS
	TREE
	BUSHES
	CREEKS AND DITCHES
	TREE LINE
	MONITORING WELL
	UNDERGROUND LINE MARKER
	POWER POLE
	TELEPHONE POLE
	POWER/TELEPHONE POLE
	SIGN
	MAILBOX

TOPO BY WESTON MAY 3, 1986

STATIONING FOLLOWS AWA LINE FROM STATION 30+00 TO 94+00.

HORIZONTAL CURVE DATA

CURVE NO.	P.I. STA.	RADIUS
7	67+39.5	20.00'
8	68+34.9	20.00'
9	70+14.6	20.00'
10	85+70.3	2934.50.00'
11	89+29.1	20.00'

UNLESS OTHERWISE NOTED, A MINIMUM OF 20 FT. RADIUS IS TO BE USED FOR BOTH HORIZONTAL & VERTICAL BENDS IN THE WATER MAINS.

NORTH

0 10 20 40 60
VERTICAL SCALE : 1" = 10'

0 50 100 200 300 400 500
HORIZONTAL AND PLAN SCALE : 1" = 100'

TO CORRELATE REFERENCED "AMK SHEET No's" TO FMPC DRAWING NUMBERS, SEE FMPC DRAWING No.: 18A-4445-X-0834

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	APPROVED	DATE
B	100% REVIEW ISSUE-ALBRIGHT & WILSON AM.	RPD 8-8-91		
A	DESIGN REVIEW ISSUE	RPD 11-6-90		

UNITED STATES DEPARTMENT OF ENERGY
FEED MATERIALS PRODUCTION CENTER

THIS DRAWING PREPARED BY
A. M. KINNEY, INC.
CONSULTING ENGINEERS
CINCINNATI, OHIO

WMCO SUBCONTRACT NO. N-77207 A-E PROJECT NO. 02902

PROJECT NAME
ENVIRONMENTAL, HEALTH & SAFETY IMPROVEMENTS

DRAWING TITLE
ALTERNATE WATER SUPPLY SYSTEM
SITE PLAN & PROFILE
SHEET 3 OF 4

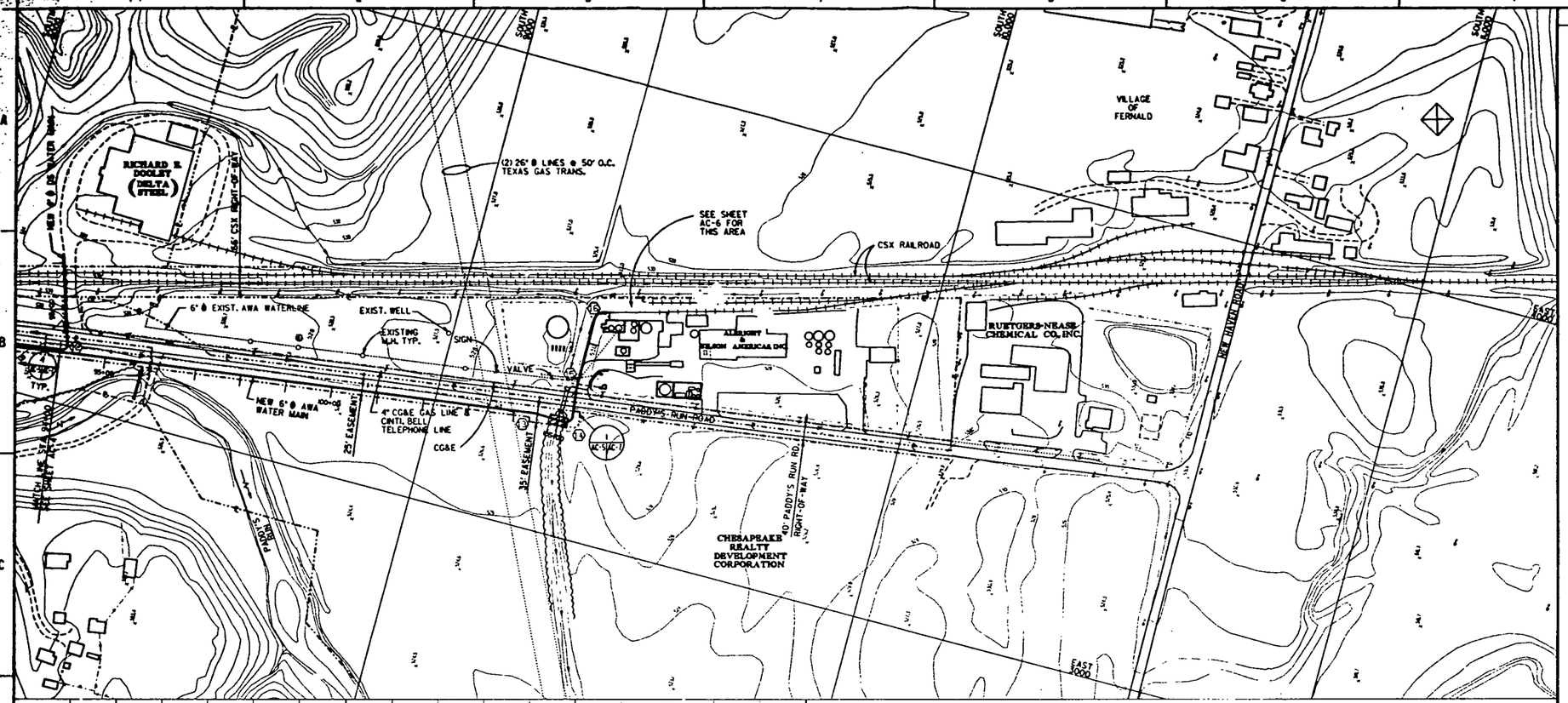
DRAWN BY	DATE	DESIGNED, CHECKED BY	DATE	CHECKED BY	DATE
JAM		LMS	11-6-90	RPD	11-6-90

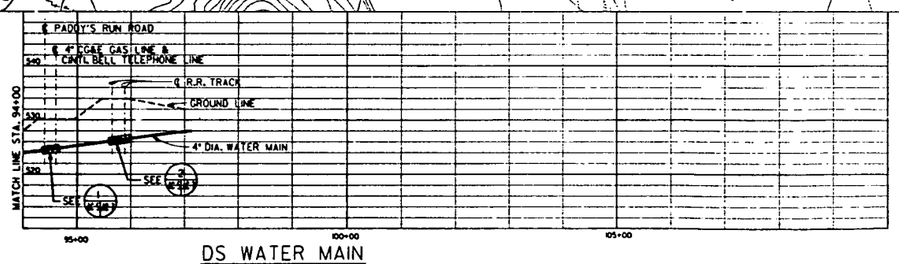
SCALE 1" = 10'

SUBMITTED FOR APPROVAL	APPROVAL RECOMMENDED	DRAWING APPROVAL

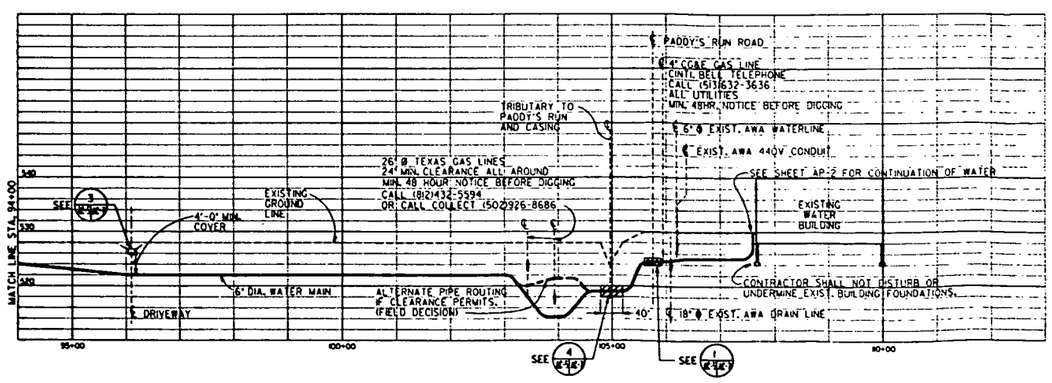
A-E PROJECT NO.	SPEC. CONTR. PROJ. NO.	DRAWING NO.	SHEET NO.	REV. NO.
87-D-159	0087502 WBS LL2.4.04.01	18A-4445-C-0838	AC-4	B

9





DS WATER MAIN



AWA WATER MAIN

HORIZONTAL CURVE DATA

CURVE NO.	P.I. STA.	RADIUS
12	94+16.4	10.00'
13	104+46.0	20.00'
14	105+29.5	15.00'
15	105+99.6	20.00'
16	107+69.2	20.00'

UNLESS OTHERWISE NOTED, A MINIMUM OF 20 FT. RADIUS IS TO BE USED FOR BOTH HORIZONTAL & VERTICAL BENDS IN THE WATER MAINS.

10

SECTION & DETAIL KEY

NOTES

LEGEND

A&W	ALBRIGHT & WILSON AMERICAS
DS	DELTA STEEL
	FENCE
	EASEMENT LINE
	PROPERTY LINE
	PROPERTY OWNER
	NEW WATER MAIN
	CONCRETE PIPE ENCASEMENT
	EXIST. CONTOUR LINES
	OVERHEAD LINES
	UNDERGROUND LINE
WEST 5000	FMPC GRID
	CURVE NO.
	HIGH TENSION TOWERS
	CULVERT
	PAVED ROAD
	GRAVEL ROAD
	HIGH TENSION TOWERS
	BUILDINGS
	TREE
	BUSHES
	STREAMS AND DITCHES
	TREE LINE
MW	MONITORING WELL
	UNDERGROUND LINE MARKER
	POWER POLE
	TELEPHONE POLE
	POWER/TELEPHONE POLE
	SIGN
	MAILBOX

TOPO BY WESTON MAY 3, 1988

STATIONING FOLLOWS AWA LINE FROM STATION 30+00 TO 94+00.

NORTH

0 10 20 40 60

VERTICAL SCALE 1" = 10'

0 50 100 200 300 400 500

HORIZONTAL AND PLAN SCALE 1" = 100'

TO CORRELATE REFERENCED "AMK SHEET No's" TO FMPC DRAWING NUMBERS, SEE FMPC DRAWING No. 18A-4445-X-0134

REV. NO.	REVISION	DRAWN	CHK'D
B	100% REVIEW ISSUE-ALBRIGHT & WILSON AM.	RPD 8-8-91	
A	DESIGN REVIEW ISSUE	RPD 9-6-90	

UNITED STATES
DEPARTMENT OF ENERGY
FEED MATERIALS PRODUCTION CENTER

THIS DRAWING PREPARED BY
A. M. KINNEY, INC.
CONSULTING ENGINEERS
CINCINNATI, OHIO

BECO SUBCONTRACT NO. 4-7720 — A-E PROJECT NO. 02902

PROJECT NAME
ENVIRONMENTAL, HEALTH & SAFETY IMPROVEMENTS

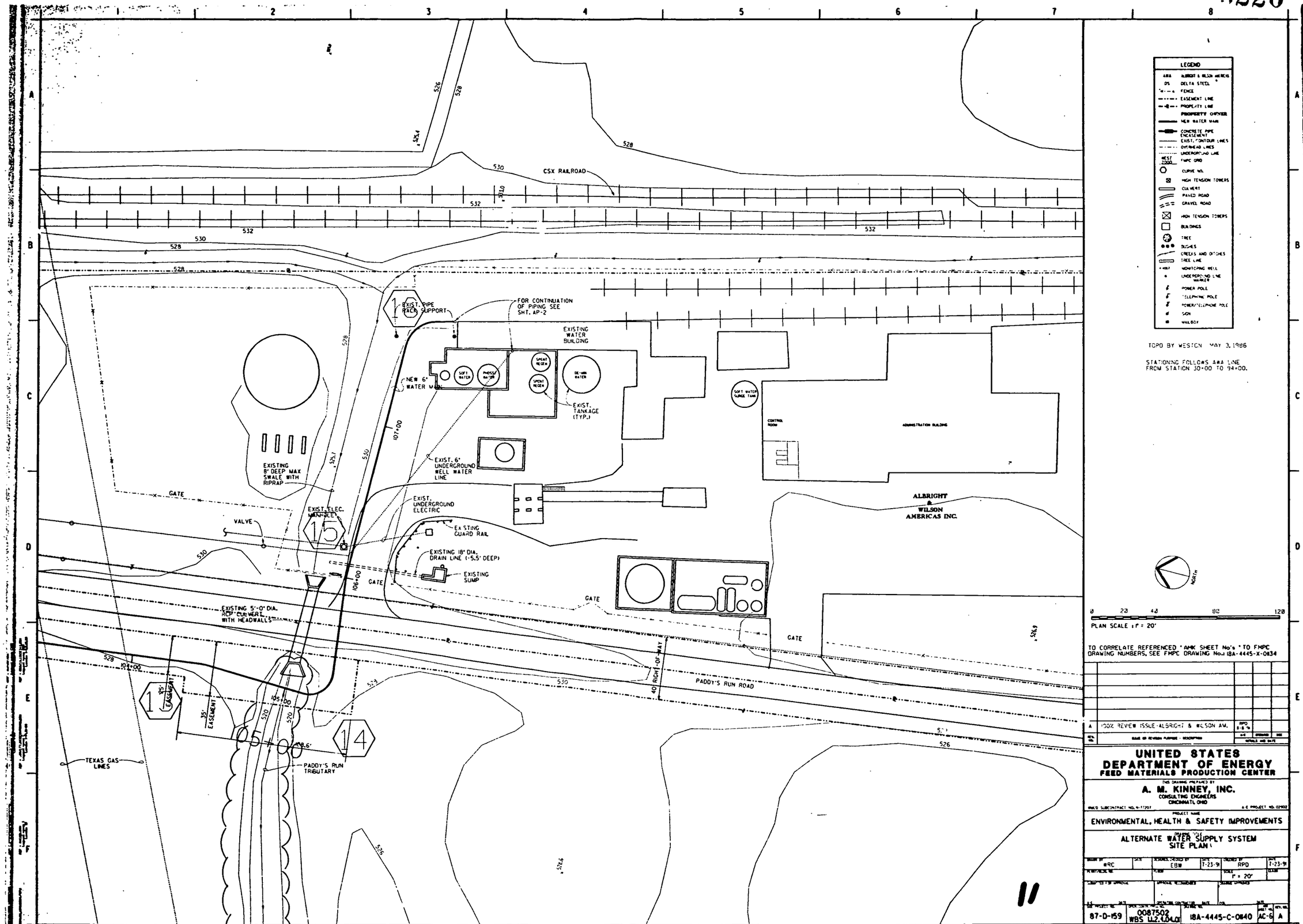
DRAWING TITLE
ALTERNATE WATER SUPPLY SYSTEM
SITE PLAN & PROFILE
SHEET 4 OF 4

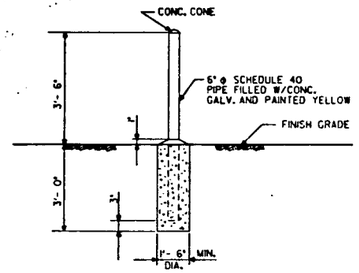
DRAWN BY	DATE	DESIGNED BY	DATE	CHECKED BY	DATE
JAM		LMS	9-6-90	RPD	9-6-90

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

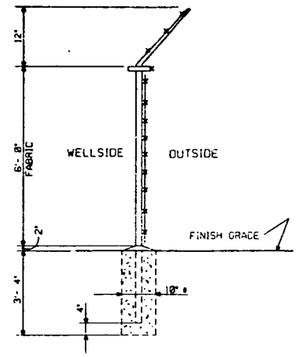
CONSTRUCTION DRAWING — APPROVAL RECOMMENDED — SCALE DRAWINGS

DOE PROJECT NO. 87-D-159 — SPEC CONTROL NO. 0087502 WBS L12.C04.01 — DRAWING NO. 18A-4445-C-0139 — SHEET NO. AC-5 — REV. NO. B

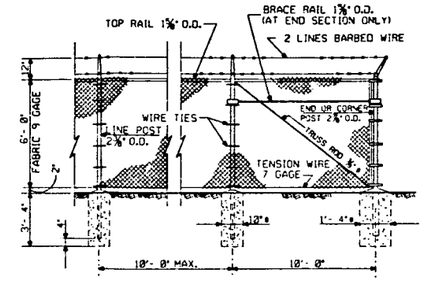

CSX RAILROAD
EXIST. PIPE RACK SUPPORT
FOR CONTINUATION OF PIPING SEE SHT. AP-2
EXISTING WATER BUILDING
NEW 6" WATER MAIN
SOFT WATER
PHOSS WATER
SPENT REGEN
DE-MIN WATER
EXIST. TANKAGE (TYP.)
SOFT WATER SURGE TANK
CONTROL ROOM
ADMINISTRATION BUILDING
EXISTING 8' DEEP MAX SWALE WITH RIPRAP
EXIST. 6" UNDERGROUND WELL WATER LINE
EXIST. UNDERGROUND ELECTRIC
EXIST. ELEC. MANHOLE
EXISTING GUARD RAIL
EXISTING 18" DIA. DRAIN LINE (-5.5' DEEP)
EXISTING SUMP
GATE
VALVE
EXISTING 5'-0" DIA. RCP CULVERT WITH HEADWALLS
ALBRIGHT & WILSON AMERICAS INC.
PADDY'S RUN ROAD
40' RIGHT-OF-WAY
35' EASEMENT
TEXAS GAS LINES
PADDY'S RUN TRIBUTARY
LEGEND
DELTA STEEL
FENCE
EASEMENT LINE
PROPERTY LINE
PROPERTY OWNER
NEW WATER MAIN
CONCRETE PIPE ENCASEMENT
EXIST. CONTOUR LINES
OVERHEAD LINES
UNDERGROUND LINE
FMPC GRID
CURVE NO.
HIGH TENSION TOWERS
CULVERT
PAVED ROAD
GRAVEL ROAD
HIGH TENSION TOWERS
BUILDINGS
TREE
BUSHES
CREEKS AND DITCHES
TREE LINE
MONITORING WELL
UNDERGROUND LINE MARKER
POWER POLE
TELEPHONE POLE
POWER/TELEPHONE POLE
SIGN
MAILBOX
TOPO BY WESTON MAY 3, 1986
STATIONING FOLLOWS AWA LINE FROM STATION 30+00 TO 94+00.
NORTH
PLAN SCALE : 1" = 20'
TO CORRELATE REFERENCED "AMK SHEET No's" TO FMPC DRAWING NUMBERS, SEE FMPC DRAWING No.: 18A-4445-X-0834
A 100% REVIEW ISSUE-ALBRIGHT & WILSON AM.
UNITED STATES DEPARTMENT OF ENERGY
FEED MATERIALS PRODUCTION CENTER
A. M. KINNEY, INC.
CONSULTING ENGINEERS
CINCINNATI, OHIO
ENVIRONMENTAL, HEALTH & SAFETY IMPROVEMENTS
ALTERNATE WATER SUPPLY SYSTEM
SITE PLAN
87-D-159
0087502
WBS 1.1.2.1.0.4.01
18A-4445-C-0840
AC-6
A



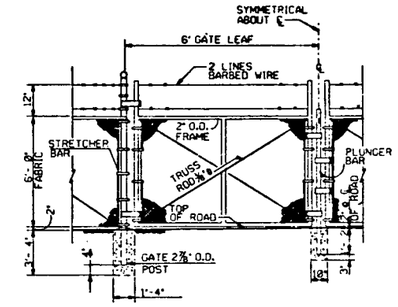
GUARD POST DETAIL
SCALE: NTS



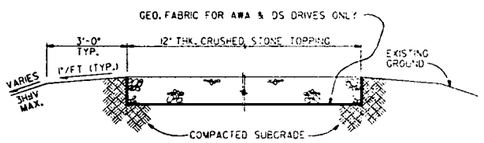
TYP. SECTION
CHAIN LINK FENCE



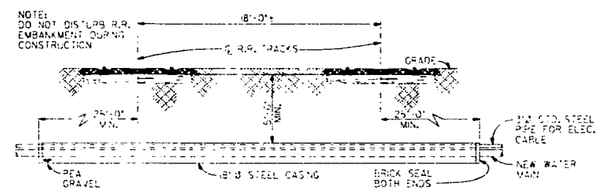
ELEVATION
CHAIN LINK FENCE



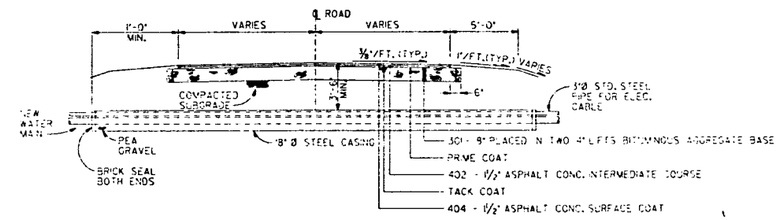
DOUBLE SWING GATE
CHAIN LINK FENCE



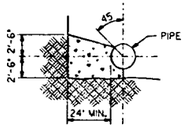
GRAVEL DRIVE (3)
NEW & REPLACEMENT AC-2 AC-7
SCALE: ½" = 1'-0"



RAILROAD CROSSING (2)
SCALE: ¼" = 1'-0"
AC-5 AC-7

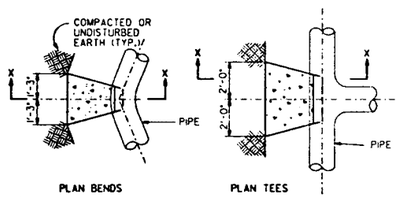


ROADWAY REPLACEMENT (1)
SCALE: ¼" = 1'-0"
AC-5 AC-7



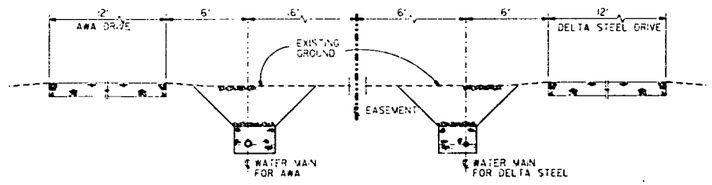
SECTION X-X
BENDS & TEES

NOTE:
THRUST BLOCKS ARE REQUIRED AT ALL PIPE BENDS 45° OR LARGER.



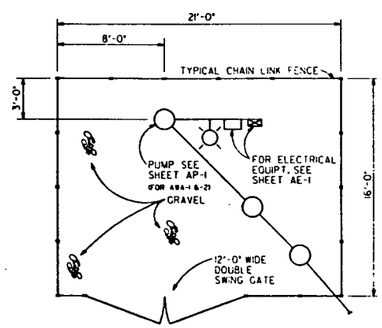
PLAN BENDS
PLAN TEES

THRUST BLOCKS
SCALE: NTS

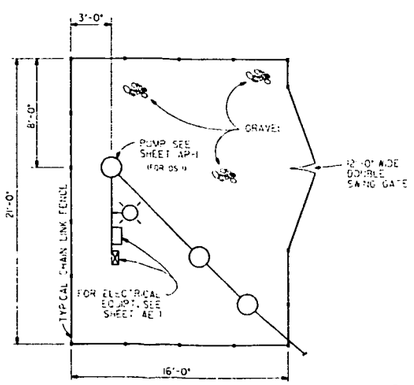


FOR ADDITIONAL INFORMATION SEE SECTIONS 3 & 4, THIS SHEET

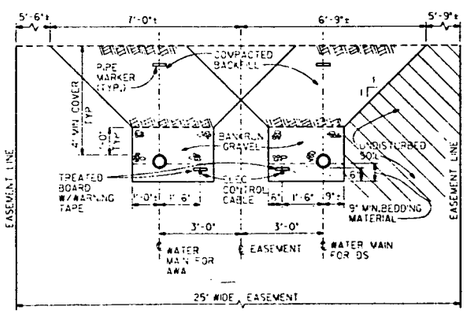
SECTION (5)
SCALE: ¼" = 1'-0"
AC-2 AC-7



WELL PUMP PLAN (A)
SCALE: ¼" = 1'-0"
AC-2 AC-7



WELL PUMP PLAN (B)
SCALE: ¼" = 1'-0"
AC-2 AC-7



NOTE:
1. AT BREEK CROSSINGS REPLACE BANKRUN GRAVEL AND BEDDING MATERIAL WITH CONCRETE. INCASE ELEC. CABLE WITH 3"ø HDPE PIPE CONDUIT. CONDUIT MAY BE SLIT OPEN FOR EASE OF CONSTRUCTION.
2. CONSTRUCTION MAY BE ONE TRENCH, AT CONTRACTORS OPTION.

PIPE BEDDING (4)
SCALE: ½" = 1'-0"
AC-2
AC-3
AC-4
AC-5
AC-7

12

SECTION & DETAIL KEY

TO CORRELATE REFERENCED "AMK SHEET No's" TO FMPC DRAWING NUMBERS, SEE FMPC DRAWING No.: 18A-4445-X-0134

REV. NO.	REVISION PURPOSE - DESCRIPTION	DETAILS AND DATE	APPROVED	DATE
B	100% REVIEW ISSUE-ALBRIGHT & WILSON AM.	RPD 8-6-90		
A	DESIGN REVIEW ISSUE	RPD 8-6-90		

UNITED STATES DEPARTMENT OF ENERGY
FEED MATERIALS PRODUCTION CENTER

THIS DRAWING PREPARED BY
A. M. KINNEY, INC.
CONSULTING ENGINEERS
CINCINNATI, OHIO

RMCO SUBCONTRACT NO. 4-17207 — A-K PROJECT NO. 12902

PROJECT NAME
ENVIRONMENTAL, HEALTH & SAFETY IMPROVEMENTS

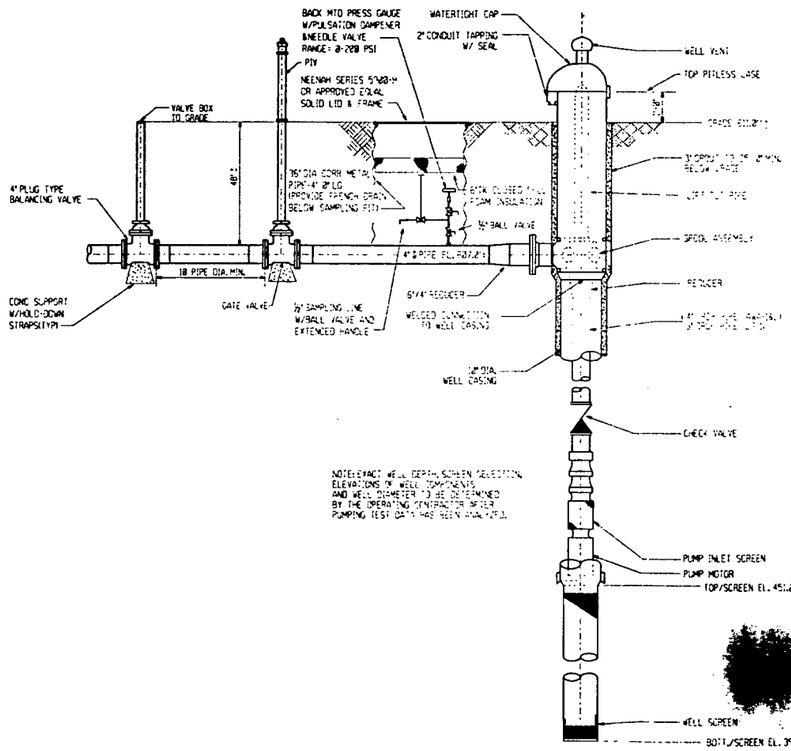
DRAWING TITLE
ALTERNATE WATER SUPPLY SYSTEM
SITE DETAILS & SECTIONS

DRAWN BY	DATE	DESIGNED, CHECKED BY	DATE	CHECKED BY	DATE
		LMS	8-6-90	RPD	8-6-90

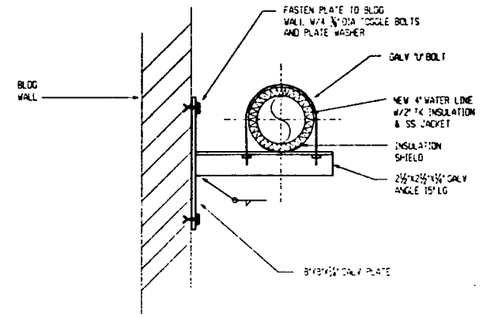
PLANT BLDG. NO.	FLOOR	SCALE	CLASS
		AS NOTED	

SUBMITTED FOR APPROVAL	APPROVAL RECOMMENDED	ACCEPTED FOR PROJECT	DATE

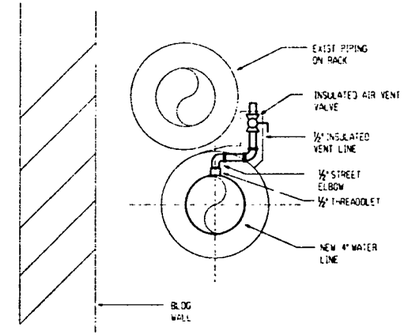
A-E PROJECT NO.	DATE	DATE	DATE	DATE	DATE	DWG. NO.	REV. NO.
87-D-159		0087502 WBS LL2.4.04.01		18A-4445-C-0141		AC-7	B



TYP PITLESS WELLHEAD PUMP DETAIL (A)
SCALE: NONE
ELEVATION VIEW
AC-7 AP-1



PIPE SUPPORT DETAIL (C)
SCALE: NONE
AP-2 AP-1



AIR VENT DETAIL (B)
SCALE: NONE
AP-2 AP-1

NOTES

TO CORRELATE REFERENCED "AMK SHEET No's" TO FMPC DRAWING NUMBERS, SEE FMPC DRAWING No.: 18A-4445-X-01134

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	APPROVED	DATE
D	100% REVIEW ISSUE-ALBRIGHT&WILSON AM.	FWB 8-8-90		
C	DESIGN REVIEW ISSUE	FWB 8-8-90		
B	REISSUED FOR REVIEW	FWB 8-8-90		
A	ISSUED FOR REVIEW	FWB 8-30-90		

UNITED STATES DEPARTMENT OF ENERGY
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THIS DRAWING PREPARED BY
A. M. KINNEY, INC.
CONSULTING ENGINEERS
CINCINNATI, OHIO
MMCO SUBCONTRACT NO. N-77207 A-E PROJECT NO. 02902

PROJECT NAME
ENVIRONMENTAL, HEALTH & SAFETY IMPROVEMENTS

DRAWING TITLE
ALTERNATE WATER SUPPLY SYSTEM PIPING DETAILS

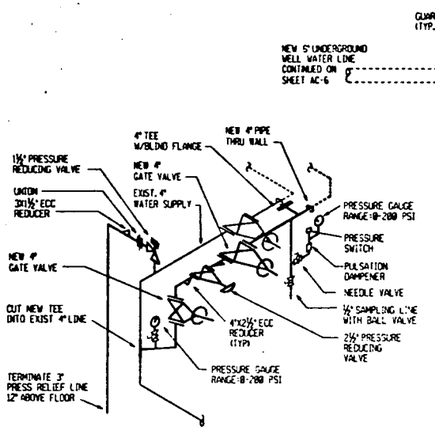
DRAWN BY	DATE	DESIGNED, CHECKED BY	DATE	CHECKED BY	DATE
MPW	8-90	FWB	8-90	J	

SUBMITTED FOR APPROVAL	APPROVAL RECOMMENDED	DRAWING APPROVED

DOE PROJECT NO.	WELL NO.	DRAWING NO.	SHEET NO.	REV. NO.
87-D-159	0087502 WBS U.2.4.04.01	18A-4445-P-01142	AP-1	D

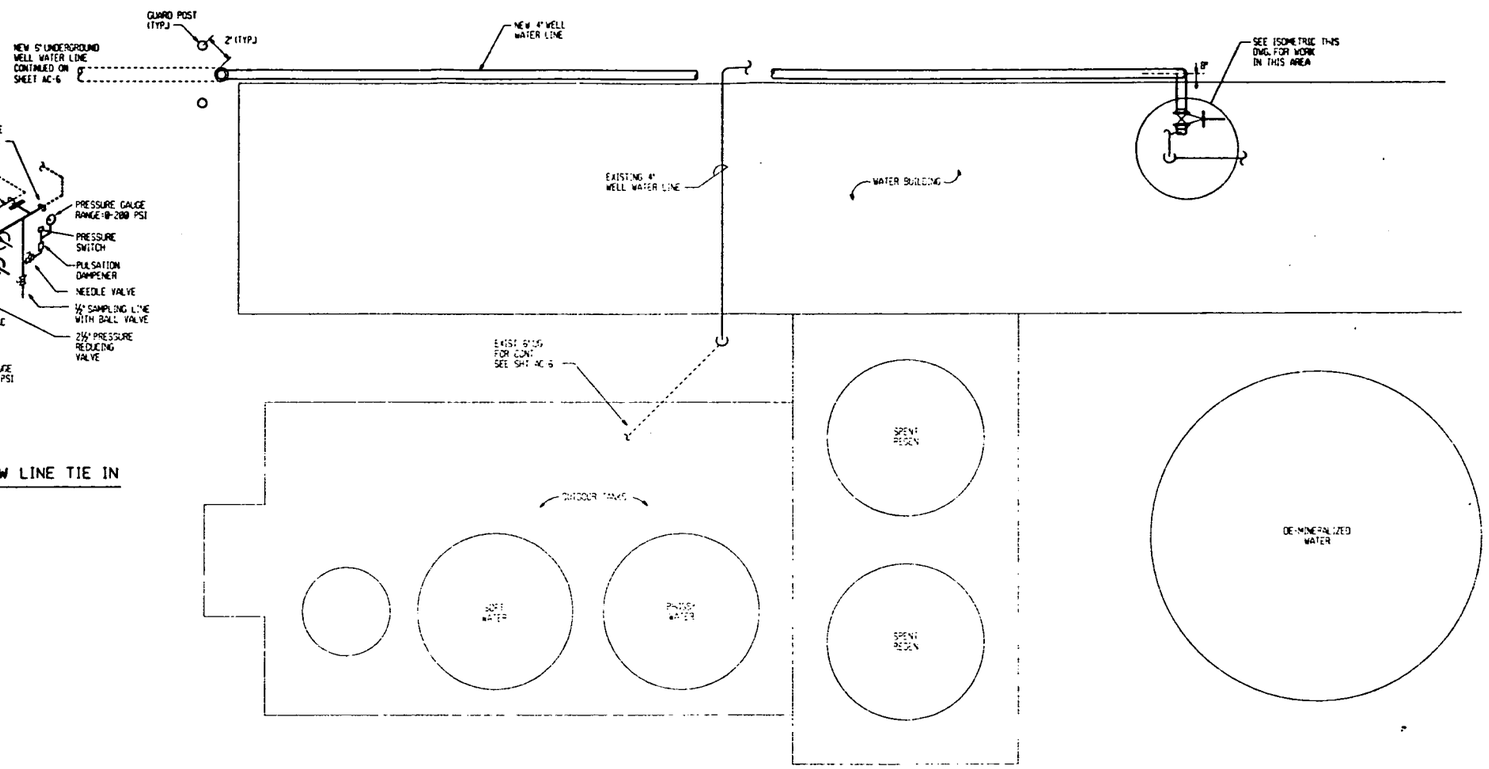
13

SECTION & DETAIL KEY



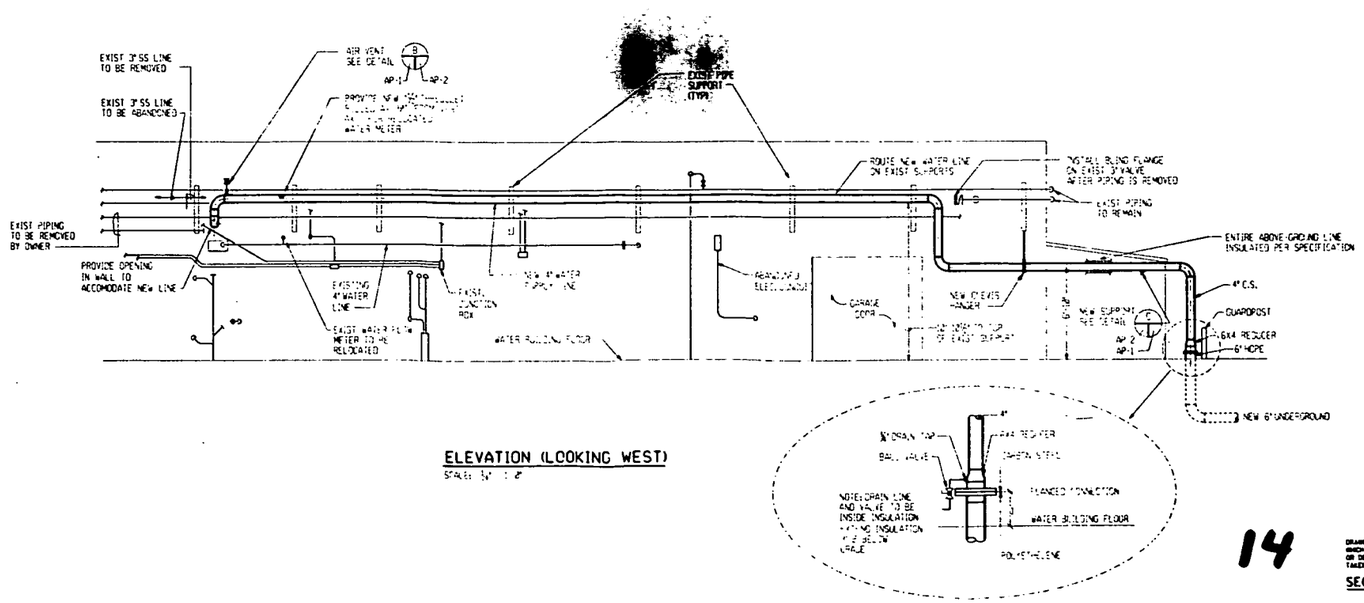
ISOMETRIC-NEW LINE TIE IN

SCALE: NONE



PIPE ROUTING PLAN

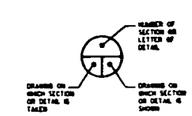
SCALE: 3/8"=1'-0"



ELEVATION (LOOKING WEST)

SCALE: 3/8"=1'-0"

14



SECTION & DETAIL KEY

NOTES

1. CONTRACTOR SHALL VERIFY EXISTING FIELD CONDITIONS PRIOR TO FABRICATION AND CONSTRUCTION

LEGEND

NEW

EXISTING

SCALE: 1/4"=1'-0"

TO CORRELATE REFERENCED "AMK SHEET No's" TO FMPC DRAWING NUMBERS, SEE FMPC DRAWING No.: 18A-4445-A-0134

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DRAWN	CHECKED	APPROVED
C	100% REVIEW ISSUE-ALBRIGHT&WILSON AM	FWB		
B	DESIGN REVIEW ISSUE	FWB		
A	ISSUED FOR REVIEW	FWB		

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THIS DRAWING PREPARED BY
A. M. KINNEY, INC.
CONSULTING ENGINEERS
CINCINNATI, OHIO

FMPC CONTRACT NO. 4-77707 — A-E PROJECT NO. 52902

PROJECT NAME
ENVIRONMENTAL, HEALTH & SAFETY IMPROVEMENTS

DRAWING TITLE
ALTERNATE WATER SUPPLY SYSTEM
NEW 4" ABOVEGROUND PIPE ROUTING

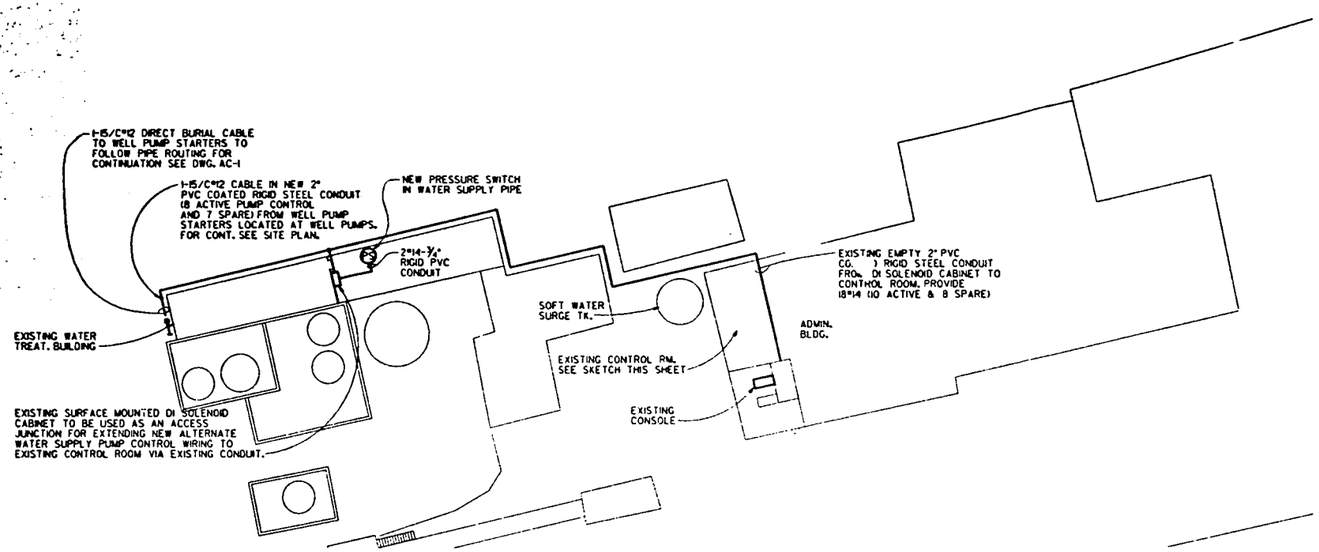
DESIGN BY	DATE	DESIGNED, DRAWN BY	DATE	CHECKED BY	DATE
MRW	8-90	FWB	8-90		

PC NOTEBOOK NO. — FLOOR — SCALE — CLASS

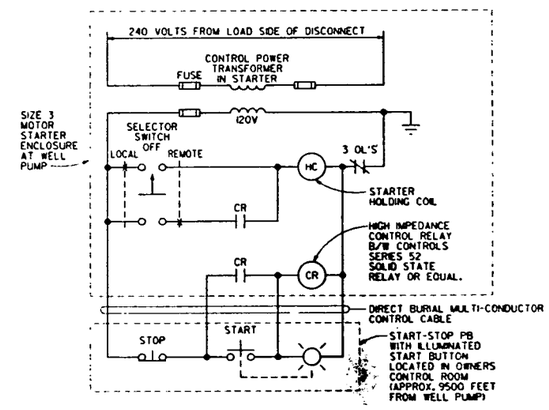
CONTRACTOR'S APPROVAL — OPERATIONAL RECOMMENDATIONS — DESIGNER APPROVED

A-E — DATE — PROJECT MGR. — DATE — CONTRACTOR — DATE — CON. — DATE

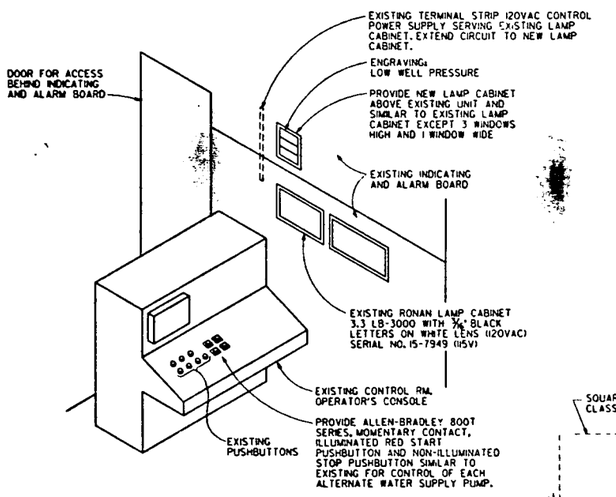
A-E PROJECT NO.	PROJECT NO.	DRAWING NO.	SHEET NO.	REV. NO.
87-D-159	0087502 WBS U2.4.04.01	18A-4445-P-0143	AP-2	C



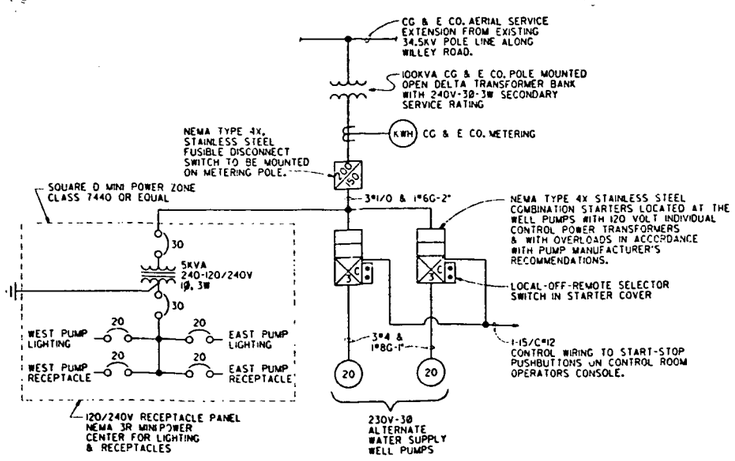
PARTIAL AWA ELECTRICAL PLAN
SCALE: 1"=20'-0"



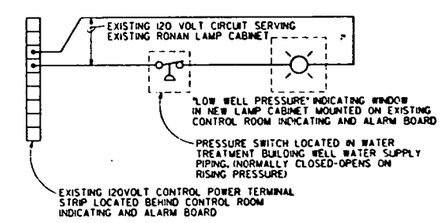
ALTERNATE WATER SUPPLY
WELL PUMP CONTROL SCHEMATIC
(TYPICAL FOR TWO PUMPS)



EXISTING AWA CONTROL ROOM SKETCH
SCALE: NONE

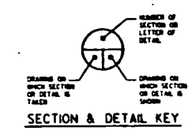


ALTERNATE WATER SUPPLY SINGLE LINE DIAGRAM
AWA WELL PUMPS



WELL WATER SUPPLY
INDICATING LOOP

15



SECTION & DETAIL KEY

NOTES

TO CORRELATE REFERENCED "AMK SHEET No's" TO FMPC DRAWING NUMBERS, SEE FMPC DRAWING No.: 18A-4445-E-0134

REV. NO.	REVISION PURPOSE - DESCRIPTION	DRAWN	CHECKED	DATE
C	100% REVIEW ISSUE-ALBRIGHT & WILSON AM.	DBP 8-8-91		
B	DESIGN REVIEW ISSUE	DJB 9-06-90		
A	ISSUED FOR REVIEW	DJB 8-28-90		

UNITED STATES
DEPARTMENT OF ENERGY
FEED MATERIALS PRODUCTION CENTER

THIS DRAWING PREPARED BY
A. M. KINNEY, INC.
CONSULTING ENGINEERS
CINCINNATI, OHIO

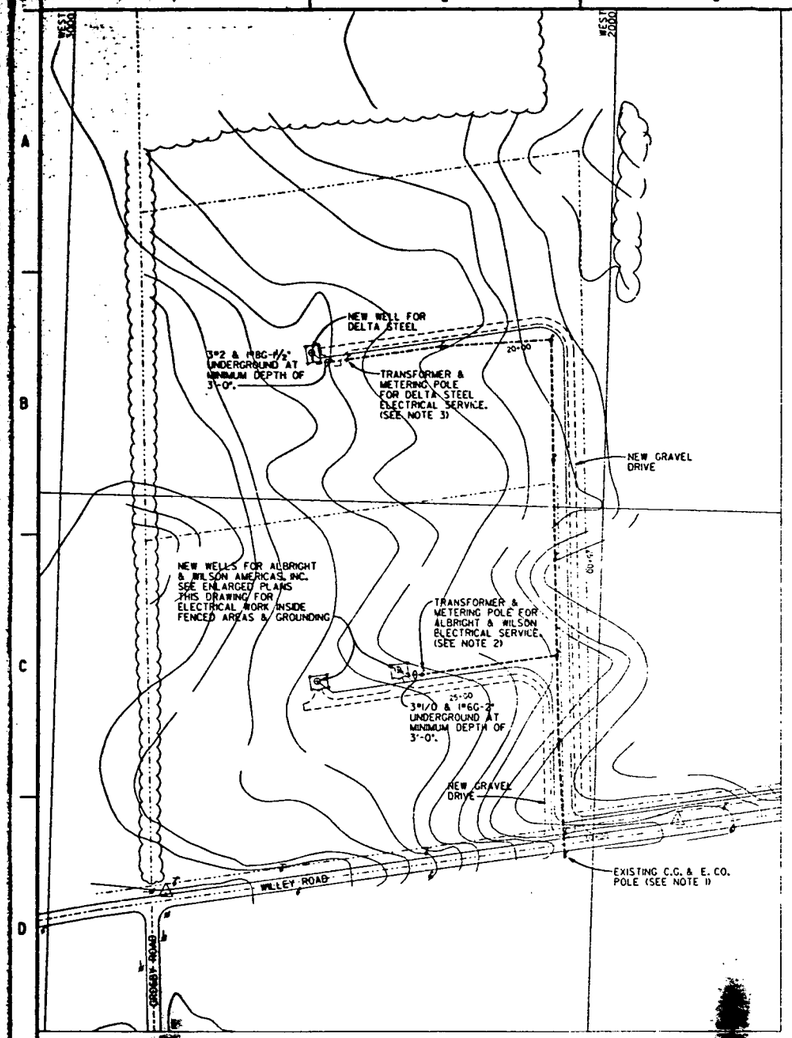
PROJECT NAME: ENVIRONMENTAL, HEALTH & SAFETY IMPROVEMENTS

DRAWING TITLE: ALTERNATE WATER SUPPLY SYSTEM
ELECTRICAL PLAN - POWER & CONTROL

DRAWN BY	DATE	REVIEWED CHECKED BY	DATE	CHECKED BY	DATE
PGD	8-22-90	DJB	8-22-90		

SCALE: AS NOTED

87-D-159	0087502 WBS U2.4.04.01	18A-4445-E-0144	SHEET NO. AE-1	REV. NO. C



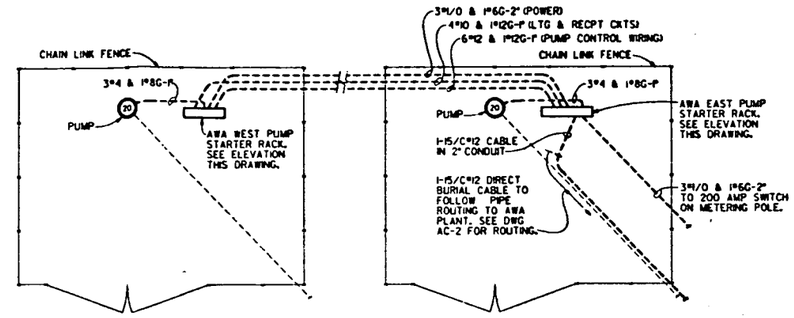
WELL PUMP AREA - ELECTRICAL SITE PLAN

SCALE: 1"=100'-0"

NORTH

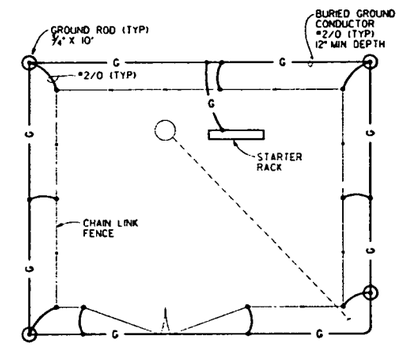
ELECTRICAL SITE PLAN NOTES:

1. OVERHEAD 34.5 KV POLE LINE TO BE EXTENDED FROM EXISTING CINCINNATI GAS & ELECTRIC CO. POLE ON WILLEY ROAD NORTH TO AND INCLUDING METERING POLES FOR ALBRIGHT & WILSON AND DELTA STEEL ELECTRICAL SERVICES BY THE CINCINNATI GAS & ELECTRIC COMPANY.
2. ELECTRICAL CONTRACTOR TO INSTALL 200 AMPERE NEMA 4X STAINLESS STEEL FUSED DISCONNECT SWITCH ON METERING POLE FOR ALBRIGHT & WILSON SERVICE AND ROUTE FEEDER UNDERGROUND TO ALBRIGHT & WILSON WELL SITE.
3. ELECTRICAL CONTRACTOR TO INSTALL 100 AMPERE NEMA 4X STAINLESS STEEL FUSED DISCONNECT SWITCH ON METERING POLE FOR DELTA STEEL SERVICE AND ROUTE FEEDER UNDERGROUND TO DELTA STEEL WELL SITE.



ENLARGED PLAN - AWA WELL PUMP AREA

SCALE: 1/4"=1'-0"



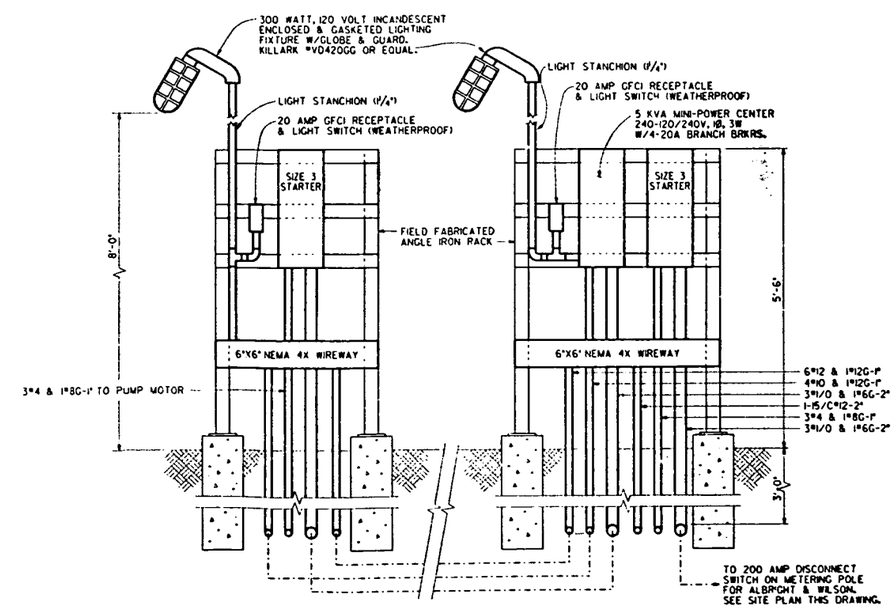
WELL PUMP GROUNDING PLAN

SCALE: 1/4"=1'-0"

(TYPICAL FOR 3 LOCATIONS)

GROUNDING NOTES:

1. FENCE GROUNDING SHALL COMPLY WITH ANSI C2 (NATIONAL ELECTRICAL SAFETY CODE).
2. UNDERGROUND CONNECTIONS TO BE BRAZED OR FUSION WELDED (CADWELDED) AND ABOVE GROUND CONNECTIONS TO BE MADE WITH CONNECTORS OR STRAPS.



ELEVATION LOOKING NORTH AWA WEST PUMP STARTER RACK

NTS

ELEVATION LOOKING NORTH AWA EAST PUMP STARTER RACK

NTS

16

NUMBER OF SECTION OR LETTER OF DETAIL

DRAWING ON WHICH SECTION OR DETAIL IS TAKEN

DRAWING ON WHICH SECTION OR DETAIL IS SHOWN

SECTION & DETAIL KEY

LEGEND

- FENCE
- EASEMENT LINE
- PROPERTY LINE
- NEW WATER MAIN
- EXIST. CONTOUR LINES
- OVERHEAD LINES
- UNDERGROUND LINE
- FMPC GRID
- PAVED ROAD
- GRAVEL ROAD
- TREE LINE
- POWER POLE
- TELEPHONE POLE
- SIGN
- HAMILTON CO. BENCH MARK

0 50 100 200 300 400 500

PLAN SCALE 1" = 100'

TO CORRELATE REFERENCED "AMK SHEET No's" TO FMPC DRAWING NUMBERS, SEE FMPC DRAWING No.: 16A-4445-X-0834

REV. NO.	NATURE OF REVISION PURPOSE - DESCRIPTION	DRAWN	CHECKED	DATE
A	100% REVIEW ISSUE-ALBRIGHT & WILSON AM.	DBP 6-8-91		

UNITED STATES DEPARTMENT OF ENERGY
FEED MATERIALS PRODUCTION CENTER

THIS DRAWING PREPARED BY
A. M. KINNEY, INC.
CONSULTING ENGINEERS
CINCINNATI, OHIO

WRCO SUBCONTRACT NO. N-77207 — A.K. PROJECT NO. 02902

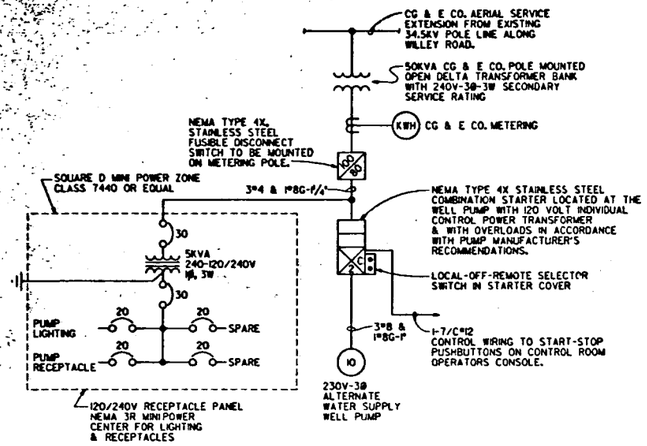
PROJECT NAME: ENVIRONMENTAL, HEALTH & SAFETY IMPROVEMENTS

DRAWING TITLE: ALTERNATE WATER SUPPLY SYSTEM ELECTRICAL SITE PLAN & DETAILS WELL PUMP AREA

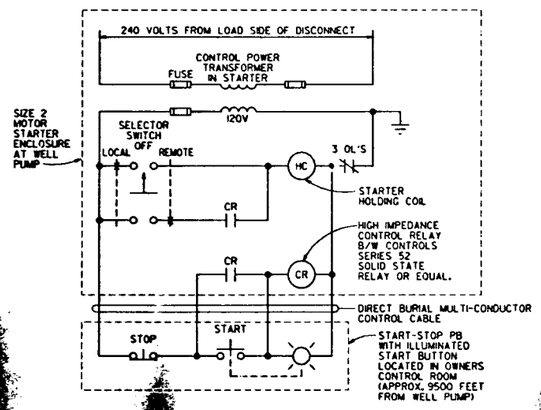
DRAWN BY	DATE	DESIGNED BY	DATE	APPROVED BY	DATE
WRC	7-31-91	DBP	7-31-91		

SCALE: AS NOTED

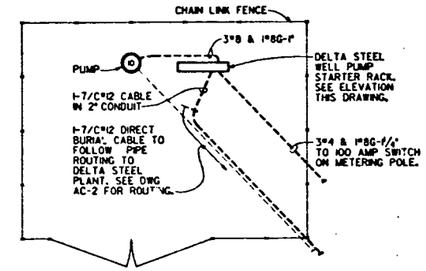
A/E PROJECT NO.	DRAWING NO.	REV. NO.
87-D-159	0087502 WBS 1.1.2.4.04.01 / 18A-4445-E-01145	AE-2 / A



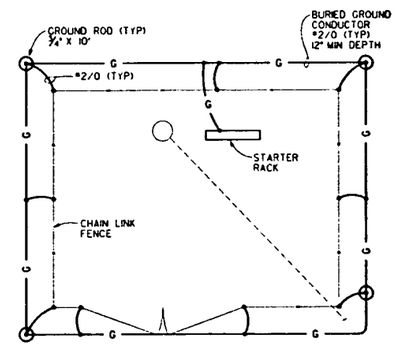
ALTERNATE WATER SUPPLY SINGLE LINE DIAGRAM
DELTA STEEL WELL PUMP



ALTERNATE WATER SUPPLY
WELL PUMP CONTROL SCHEMATIC
(FOR DELTA STEEL WELL PUMP)



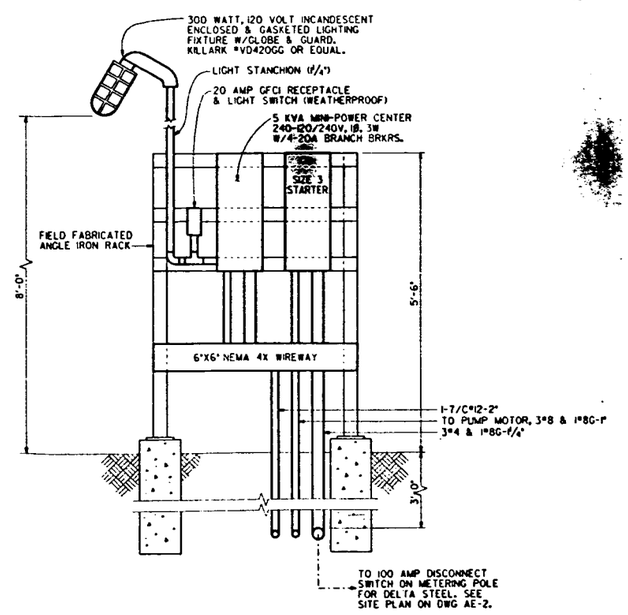
ENLARGED PLAN - DELTA STEEL WELL PUMP AREA
SCALE: 1/4"=1'-0"



GROUNDING NOTES:

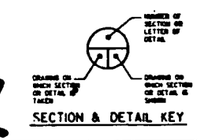
1. FENCE GROUNDING SHALL COMPLY WITH ANSI C2 (NATIONAL ELECTRICAL SAFETY CODE).
2. UNDERGROUND CONNECTIONS TO BE BRAZED OR FUSION WELDED (CADWELDED) AND ABOVE GROUND CONNECTIONS TO BE MADE WITH CONNECTORS OR STRAPS.

DELTA STEEL WELL PUMP GROUNDING PLAN
SCALE: 1/4"=1'-0"
(TYPICAL FOR 3 LOCATIONS)



ELEVATION LOOKING WEST
DELTA STEEL WELL PUMP STARTER RACK
NTS

17



SECTION & DETAIL KEY

TO CORRELATE REFERENCED "AMK SHEET No's." TO FMPC DRAWING NUMBERS, SEE FMPC DRAWING No.: 18A-4445-X-01834

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DRAWN BY	CHECKED BY	APPROVED BY
A	100% REVIEW ISSUE-ALBRIGHT & WILSON AM.	DBP 8-8-91		

UNITED STATES
DEPARTMENT OF ENERGY
FEED MATERIALS PRODUCTION CENTER

A. M. KINNEY, INC.
CONSULTING ENGINEERS
CINCINNATI, OHIO

WMCO SUBCONTRACT NO. 8-77207 — A.K. PROJECT NO. 5290

PROJECT NAME: ENVIRONMENTAL, HEALTH & SAFETY IMPROVEMENTS

DRAWING TITLE: ALTERNATE WATER SUPPLY SYSTEM
ELECTRICAL PLANS & DETAILS
WELL PUMP AREA

DRAWN BY	DATE	DESIGNED BY	DATE		DATE
WPC	8-7-91	DBP	8-7-91		

PLANT DWG. NO.	TITLE	SCALE	SHEET NO.
		AS NOTED	

SUBMITTED FOR APPROVAL: APPROVAL DATE

JOB PROJECT NO.	DATE	DWG. CODE NO.	DRAWING NO.	SHEET NO.	REV. NO.
87-D-159		0087502 WBS 1.1.2.4.04.01	18A-4445-E-01146	AE-3	A