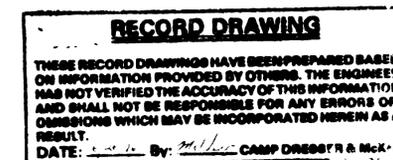


LIST OF DRAWINGS

SHEET NO.	DRAWING	DRAWING TITLE
1 OF 30	G-1	VICINITY MAP, SITE PLAN AND GENERAL NOTES
2 OF 30	G-2	GENERAL LAYOUT, LEGEND AND ABBREVIATIONS
3 OF 30	C-1	CIVIL PLANS, SECTION AND DETAILS
4 OF 30	M-1	MECHANICAL PLAN-NORTH
5 OF 30	M-2	MECHANICAL PLAN-CENTRAL
6 OF 30	M-3	MECHANICAL PLAN-SOUTH
7 OF 30	M-4	MECHANICAL SECTIONS
8 OF 30	M-5	MECHANICAL PLAN, SECTIONS AND DETAILS
9 OF 30	M-6	MECHANICAL PLANS, SECTIONS AND DETAILS
10 OF 30	M-7	MECHANICAL PLANS, SECTION AND DETAILS
11 OF 30	M-8	MECHANICAL DETAILS
12 OF 30	S-1	STRUCTURAL PLAN
13 OF 30	S-2	STRUCTURAL SECTIONS
14 OF 30	S-3	STRUCTURAL DETAILS
15 OF 30	S-4	STRUCTURAL DETAILS
16 OF 30	S-5	STRUCTURAL DETAILS
17 OF 30	E-1	ELECTRICAL LEGEND AND SYMBOLS
18 OF 30	E-2	ELECTRICAL ABBREVIATIONS AND LETTER SYMBOLS
19 OF 30	E-3	ELECTRICAL 480 VOLT POWER PLAN - NORTH
20 OF 30	E-4	ELECTRICAL 480 VOLT POWER PLAN - CENTRAL
21 OF 30	E-5	ELECTRICAL 480 VOLT POWER PLAN - SOUTH
22 OF 30	E-6	ELECTRICAL 120 VOLT POWER PLAN - NORTH
23 OF 30	E-7	ELECTRICAL 120 VOLT POWER PLAN - CENTRAL
24 OF 30	E-8	ELECTRICAL 120 VOLT POWER PLAN - SOUTH
25 OF 30	E-9	ELECTRICAL CONTROL WIRING PLAN -NORTH
26 OF 30	E-10	ELECTRICAL CONTROL WIRING PLAN - CENTRAL
27 OF 30	E-11	ELECTRICAL CONTROL WIRING PLAN - SOUTH
28 OF 30	I-1	INSTRUMENTATION AND CONTROL LEGEND AND SYMBOLS
29 OF 30	I-2	INSTRUMENTATION AND CONTROL ABBREVIATIONS AND LETTER SYMBOLS
30 OF 30	I-3	INSTRUMENTATION AND CONTROL PROCESS AND INSTRUMENTATION DIAGRAM AND RISER DIAGRAM



**CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT**

**SOUTHSIDE WATER RECLAMATION PLANT
ALBUQUERQUE, NEW MEXICO
ACTIVATED SLUDGE EXPANSION PHASE III,
CONTRACT 4
MODIFICATIONS TO ACTIVATED SLUDGE
PUMP DISCHARGE CONDUIT
SYSTEM**

PREPARED BY:

CAMP DRESSER & MCKEE
2400 LOUISIANA BOULEVARD, N.E., SUITE 740
AMERICAN FINANCIAL CENTER, BUILDING FIVE
ALBUQUERQUE, NEW MEXICO 87110
505 881-3077

CDM

environmental engineers, scientists
planners, & management consultants



ACCEPTED FOR CONSTRUCTION

DATE

Gene Leyendecker

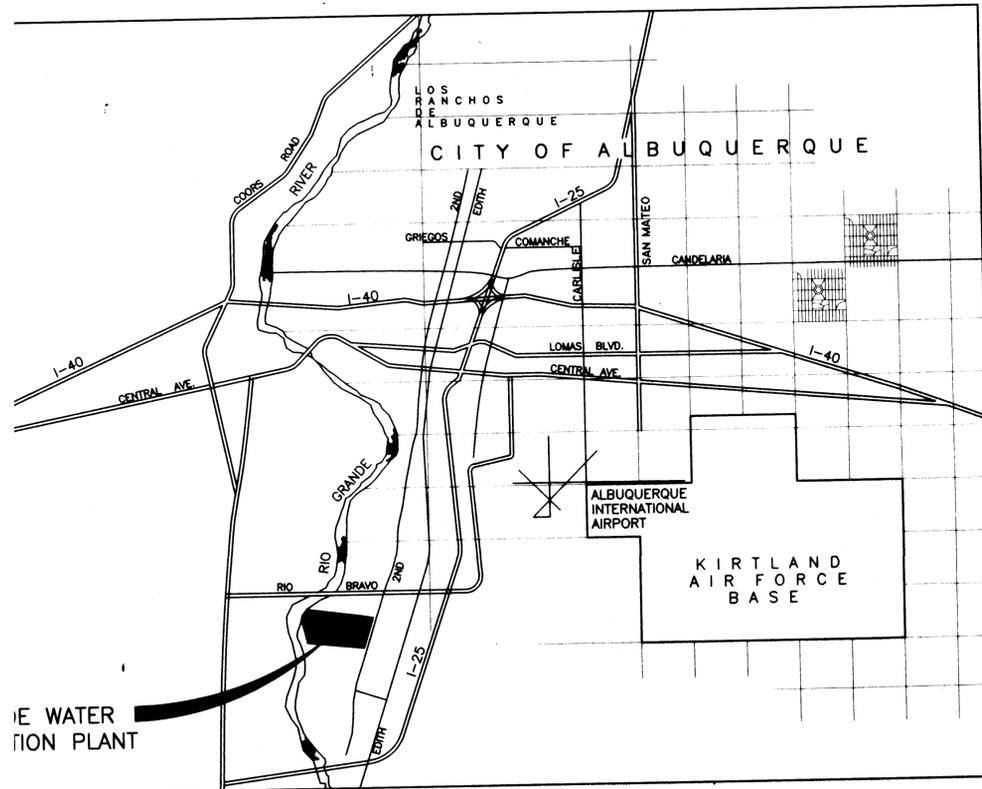
12/13/93

GENE LEYENDECKER
MANAGER, WASTEWATER UTILITIES DIVISION
PUBLIC WORKS DEPARTMENT

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
2 2 - 3 2 0 9 . 9 1 0 0 9 2

SET No. _____

CITY PROJECT NO. 3209.91



VICINITY MAP

NO SCALE

CONSTRUCTION NOTES:

THE CONTRACTOR IS REQUIRED TO FOLLOW THE CONSTRUCTION SEQUENCE STATED IN THE CONTRACT SPECIFICATIONS, FOR ALL TASKS AND ACTIVITIES LISTED IN THE SEQUENCE. REFER TO SECTION 01041 OF THE SPECIFICATIONS.

ALL WORK SHALL BE COORDINATED PRIOR TO COMMENCEMENT, INCLUDING BUT NOT NECESSARILY LIMITED TO THE ACTIVITIES LISTED IN THE CONTRACT SPECIFICATIONS OR NOTED ON THESE DRAWINGS. THE ACTIVITIES FOR PROJECT COORDINATION ARE STATED IN THE SPECIFICATIONS.

EXISTING UTILITIES, ABOVE OR BELOW GROUND, AND ANY UNDERGROUND STRUCTURES OR FEATURES SHOWN ON THESE DRAWINGS ARE NOT WARRANTED TO BE EXACT, NOR IS IT WARRANTED THAT THE DEPTHS AND UNDERGROUND STRUCTURES ARE SHOWN. ELEVATIONS OF UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE ONLY. WHERE POTENTIAL CONFLICT IS KNOWN OR ANTICIPATED OR AS DIRECTED BY THE CONTRACTOR SHALL PERFORM EXPLORATORY EXCAVATION AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL INFORMATION AND CONDITIONS IN THE FIELD, BY WHATEVER MEANS NECESSARY, AS REQUIRED FOR CONSTRUCTION OF THE WORK.

ALL WORK ON THESE PLANS TO BE PERFORMED UNDER THIS CONTRACT SHALL, EXCEPT AS OTHERWISE PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 AND UPDATES (REFERRED TO HEREIN AS THE STANDARD SPECIFICATIONS) AND THE CONTRACT DOCUMENTS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE BY CONTRACTOR AND SUBCONTRACTOR PERSONNEL WITH ALL STATE REGULATIONS AND FEDERAL OSHA STANDARDS REGARDING CONFINED SPACE AWARENESS, TRENCH SAFETY REQUIREMENTS.

THE CONTRACTOR SHALL MAINTAIN ACCESS FOR OWNER'S PLANT PERSONNEL TO ALL OPERATING AND/OR STANDBY UTILITIES THROUGHOUT THE CONSTRUCTION PERIOD. WHERE THE WORK REQUIRES TEMPORARY OR PERMANENT REMOVAL OR RELOCATION OF EXISTING ACCESS FEATURES, CONTRACTOR SHALL PROVIDE TEMPORARY ACCESS, ACCEPTABLE TO OWNER AND IN ACCORDANCE WITH CODES, REGULATIONS, AND SPECIFICATIONS, UNTIL NEW PERMANENT ACCESS IS CONSTRUCTED OR EXISTING ACCESS IS REINSTATED. REFER TO THE CONTRACT SPECIFICATIONS FOR COORDINATION AND SCHEDULING REQUIREMENTS FOR STREET OUTAGE AND CLOSURE.

CONTROL POINT NOTES:

1. COORDINATES OF FACILITIES FROM DECEMBER, 1987 SURVEY BY ALBUQUERQUE SURVEYING CO., INC. AND FEBRUARY, 1989 SURVEY BY SANTIAGO ROMERO, JR. AND ASSOCIATES, INC. MASTER CONTROL POINTS ESTABLISHED BY WILLIAM MATOTAN AND ASSOCIATES RESURVEY IN OCTOBER, 1986.

CONTROL POINT	COORDINATES NORTH	COORDINATES EAST	ELEVATION
C	117.82	1796.87	4927.11
K	1223.63	2709.04	4936.80
T2	1965.00	1325.00	4924.29

2. ELEVATIONS ARE BASED ON SEA LEVEL DATUM. ELEVATIONS GIVEN AS TWO DIGITS PRIOR TO DECIMAL INFER HEIGHT ABOVE DATUM 4900; I.E. EL 24.53 ACTUALLY EL 4924.53.

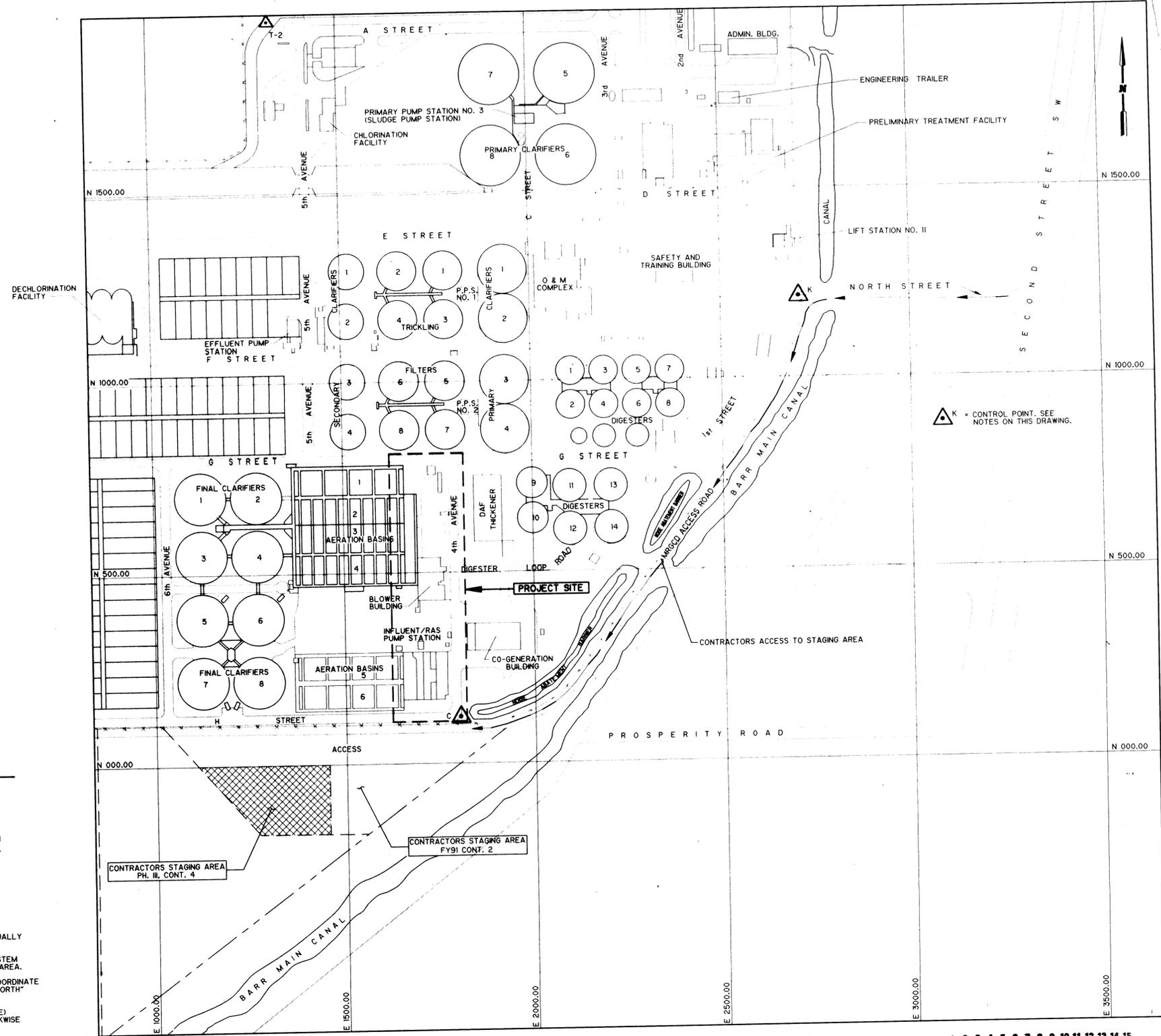
3. PLANT COORDINATE SYSTEM IS ARBITRARY LOCAL SYSTEM TO FACILITATE STRUCTURE LOCATIONS WITHIN PLANT AREA.

4. TO CONVERT "PLANT GRID NORTH" TO NEW MEXICO COORDINATE GRID NORTH, CENTRAL ZONE, ROTATE "PLANT GRID NORTH" COUNTER-CLOCKWISE 0°16'09".

5. TO CONVERT "PLANT GRID NORTH" TO GEODETIC (TRUE) NORTH, ROTATE "PLANT GRID NORTH" COUNTER-CLOCKWISE 0°01'50".

6. ALL CONTROL POINTS AND SURVEY MONUMENTS SHALL BE PRESERVED. IF CONTRACTOR'S OPERATIONS RESULT IN DISTURBANCE OF ANY SUCH POINT, THE REESTABLISHMENT OF POINT WILL BE AT CONTRACTOR'S EXPENSE PER SECTION 4.4.1 OF THE GENERAL CONDITIONS.

7. TO CONVERT HORIZONTAL GROUND DISTANCES TO N.M. COORDINATE GRID DISTANCES, MULTIPLY HORIZONTAL GROUND DISTANCES BY FACTOR 0.999682.



SITE PLAN

1" = 150'

RECORD DRAWING
 Date: 6/26/96 By: [Signature]
 CAMP DRESSER & MCKEE INC.

RECORD DRAWING
 THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.
 DATE: 6/26/96 By: [Signature] CAMP DRESSER & MCKEE



REVISION	NO.	DATE	APP.	REVISION

SOUTHSIDE WATER RECLAMATION PLANT
 ACTIVATED SLUDGE EXPANSION
 PHASE III, CONTRACT 4
 MODIFICATIONS TO ACTIVATED SLUDGE
 PUMP DISCHARGE CONDUIT SYSTEM

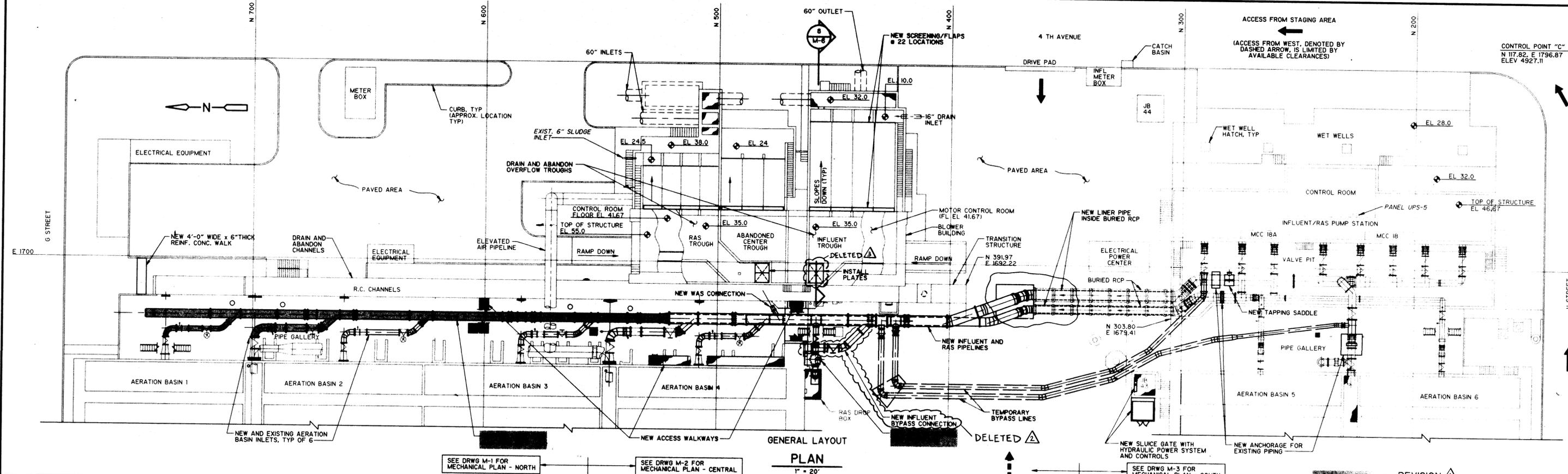
CITY OF
ALBUQUERQUE
 NEW MEXICO
 PUBLIC WORKS
 DEPARTMENT

Designed By: MLD
 Drawn By: EAC
 Checked By: MJS
 Approved By: JPC
 Date: DEC. 1993
 Scale: AS NOTED

CDM CAMP DRESSER & MCKEE INC.
 ALBUQUERQUE, NEW MEXICO
 environmental engineers, scientists
 planners, & management consultants

VICINITY MAP, SITE PLAN
 AND GENERAL NOTES

DRAWING
 G-1
 SHEET NUMBER
 1 OF 30



LEGEND

GENERAL		VALVES		PIPE JOINTS AND FITTINGS		
DESCRIPTION	SYMBOL	TYPE	SYMBOL	TYPE	SYMBOL	
					DOUBLE LINE	SINGLE LINE
PIPING	—	GATE VALVE		WELDED JOINT		
PIPING		BUTTERFLY VALVE		GROOVED OR SHOULDERED TYPE COUPLING		
MEASUREMENT (DISTANCE OR ELEVATION) TO BE FIELD VERIFIED BY CONTACTOR		PLUG VALVE		FLANGED JOINT		
TO BE REMOVED		SWING CHECK VALVE		MECHANICAL JOINT		
CONCRETE		BALL VALVE		BELL AND SPIGOT JOINT		
GRATING		SOLENOID VALVE		SLEEVE-TYPE COUPLING		
METAL PLATE				MITRED BEND		
HANDWHEEL OPERATOR				ANCHOR RING		
VERTICAL ELEVATION ON PLAN				REDUCER		
EARTH						

SECTION IDENTIFICATION

SECTION NUMBER:

SYMBOL WHERE SECTION IS TAKEN

SHEET NUMBER WHERE SECTION IS DRAWN: M-1

SECTION

SCALE:

SHEET NUMBER WHERE SECTION IS TAKEN: M-1

FUNCTION DESIGNATION OF DETAIL:

DETAIL NUMBER ON PARTICULAR SHEET: M101

STANDARD DETAIL SHEET WHERE DETAIL MAY BE FOUND: 1 FOR 1st DETAIL SHEET, 2 FOR 2nd, etc.

NOTE: EACH FUNCTION DESIGNATION IN THIS PLAN SET HAS STANDARD DETAIL SHEETS, I.e., C, M, etc., WHICH ARE LOCATED AT THE END OF THE PARTICULAR FUNCTION DRAWING GROUP.

STANDARD DETAIL DESIGNATION

NEW: ———

EXISTING: - - - - -

DISTINGUISHING CHARACTERISTICS OF LINE TYPES USED ON DRAWINGS

ABBREVIATIONS

Apply to Drawings Only
(G, C, M and S Sheets only)

AB	AERATION BASIN	FTG	FOOTING	PE	PLAIN END
ALUM	ALUMINUM	GRG	GRATING	PV	PLUG VALVE
APPROX	APPROXIMATE	GALV STL	GALVANIZED STEEL	PW	POTABLE WATER
AS	ACTIVATED SLUDGE	GSP	GALVANIZED STEEL PIPE	Q	FLOW
BLDG	BUILDING	HORIZ	HORIZONTAL	R	RADIUS
BOT	BOTTOM	H P	HIGH POINT	RAS	RETURN ACTIVATED SLUDGE
BTWN	BETWEEN	INFL	INFLUENT	RC	REINFORCED CONCRETE
BFV	BUTTERFLY VALVE	INSUL	INSULATE, INSULATION	RCP	REINFORCED CONCRETE PIPE
C TO C, C-C	CENTER TO CENTER	INV	INVERT	REINF	REINFORCE
CI	CAST IRON	JB	JUNCTION BOX	REQD	REQUIRED
C	CENTER LINE	JT	JOINT	SCH	SCHEDULE
CML	CEMENT-MORTAR LINED	LG	LONG	RM	ROOM
CMP	CORRUGATED METAL PIPE	LOC	LOCATION	SECT	SECTION
CO	CLEAN OUT	LF	LINEAL FEET	SPEC	SPECIFIED
CONC	CONCRETE	MAX	MAXIMUM	SPECS	SPECIFICATIONS
CTR	CENTER	MCC	MOTOR CONTROL CENTER	SQ	SQUARE
CW	CHAINWHEEL	MFR	MANUFACTURER	SS	STAINLESS STEEL
DAF	DISSOLVED AIR FLOTATION	MH	MANHOLE	STD	STANDARD
DI	DUCTILE IRON	MIN	MINIMUM	STL	STEEL
DIA	DIAMETER	MISC	MISCELLANEOUS	SUPP	SUPPORT
DN	DOWN	MJ	MECHANICAL JOINT	SYMM	SYMMETRICAL
DR	DRAIN	N-S	NORTH-SOUTH DIRECTION	TEMP	TEMPORARY
DRWG	DRAWING	NO	NUMBER	TOW	TOP OF WALL
E-W	EAST-WEST DIRECTION	NOM	NOMINAL	TYP	TYPICAL
EA	EACH	NTS	NOT TO SCALE	UON	UNLESS OTHERWISE NOTED
ECC	ECCENTRIC	OC	ON CENTER	V	VERTICAL
ELEV, EL	ELEVATION	OD	OUTSIDE DIAMETER	WAS	WASTE ACTIVATED SLUDGE
EXIST	EXISTING	OPNG	OPENING	WW	WASH WATER
FDN	FOUNDATION	PSP	POUNDS PER SQUARE FOOT		
FIN	FINISH/FINAL	PSI	POUNDS PER SQUARE INCH		
FIN GR	FINISHED GRADE				
FL	FLANGED				
FRP	FIBER REINFORCED PLASTIC				
FT	FEET				

RECORD DRAWING
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 By: *[Signature]*
 Camp Dresser & McKee Inc.

6/16/94	MJS	CHANGE REQUEST NO. 1			
6/16/94	MJS	CORRECTED COORDINATES			
SEP 94	MJS	CHANGE REQUEST NO. 2			
OCT 95	MJS	AS-BUILT CONDITION			
NO.	DATE	APP.	REVISION	NO.	DATE

SOUTHSIDE WATER RECLAMATION PLANT
ACTIVATED SLUDGE EXPANSION
PHASE II, CONTRACT 4
MODIFICATIONS TO ACTIVATED SLUDGE
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
ALBUQUERQUE
NEW MEXICO
PUBLIC WORKS
DEPARTMENT



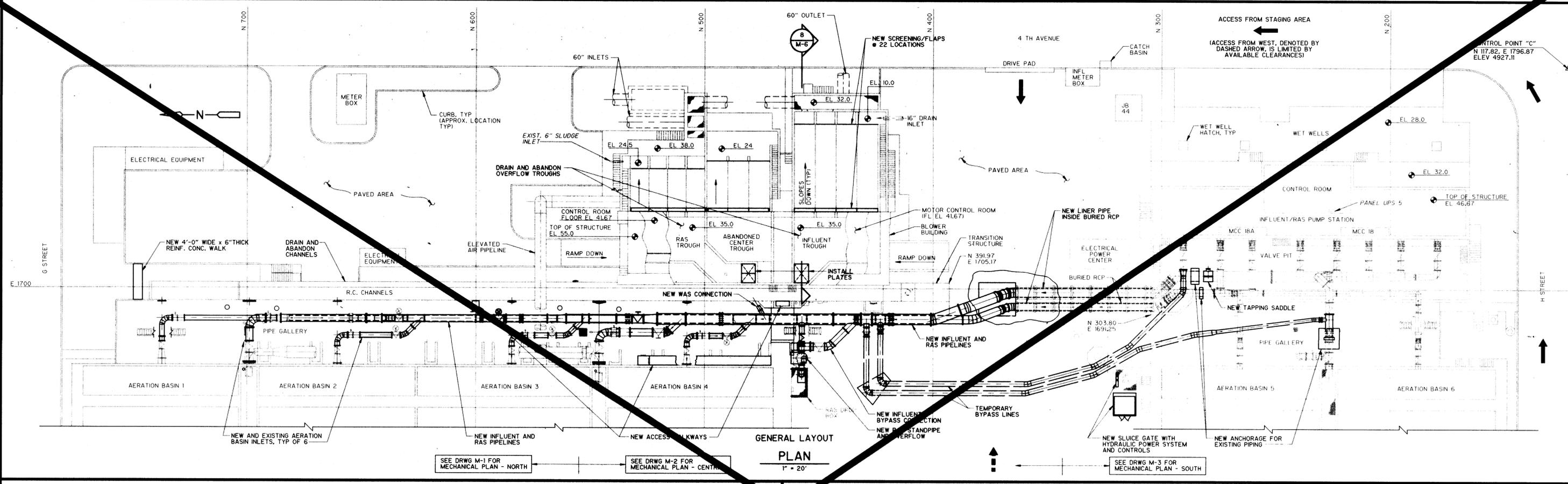
Designed By: MLD
Drawn By: STAFF
Checked By: MJS
Approved By: JPC

CDM CAMP DRESSER & MCKEE INC.
ALBUQUERQUE, NEW MEXICO
environmental engineers, scientists
planners, & management consultants

RECORD DRAWING
Date: 6/26/96 By: *[Signature]*
CAMP DRESSER & MCKEE INC.

**GENERAL LAYOUT,
LEGEND AND
ABBREVIATIONS**
REVISED

DRAWING
G-2-R
SHEET NUMBER
2 OF 30



LEGEND

ABBREVIATIONS

GENERAL		VALVES		PIPE JOINTS AND FITTINGS	
DESCRIPTION	SYMBOL	TYPE	SYMBOL	TYPE	SYMBOL
PIPING		GATE VALVE		WELDED JOINT	
PIPING		BUTTERFLY VALVE		GROOVED OR SHOULDERED TYPE COUPLING	
MEASUREMENT (DISTANCE OR ELEVATION) TO BE FIELD VERIFIED BY CONTACTOR		PLUG VALVE		FLANGED JOINT	
TO BE REMOVED		SWING CHECK VALVE		MECHANICAL JOINT	
CONCRETE		BALL VALVE		BELL AND SPIGOT JOINT	
GRATING		SOLENOID VALVE		SLEEVE-TYPE COUPLING	
METAL PLATE				MITRED BEND	
HANDWHEEL OPERATOR				ANCHOR RING	
VERTICAL ELEVATION ON PLAN				REDUCER	
EARTH					

SECTION IDENTIFICATION

SECTION NUMBER:

SYMBOL WHERE SECTION IS TAKEN

SHEET NUMBER WHERE SECTION IS DRAWN:

SECTION

SCALE:

SHEET NUMBER WHERE SECTION IS TAKEN:

NORTH ARROW

FUNCTION DESIGNATION OF DETAIL:

DETAIL NUMBER ON PARTICULAR SHEET

STANDARD DETAIL SHEET WHERE DETAIL MAY BE FOUND: 1 FOR 1st DETAIL SHEET, 2 FOR 2nd, etc.

NOTE: EACH FUNCTION DESIGNATION IN THIS PLAN SET HAS STANDARD DETAIL SHEETS: I.e., C, M, etc., WHICH ARE LOCATED AT THE END OF THE PARTICULAR FUNCTION DRAWING GROUP.

STANDARD DETAIL DESIGNATION

NEW EXISTING

DISTINGUISHING CHARACTERISTICS OF LINE TYPES USED ON DRAWINGS

Apply to Drawings Only (G, C, M and S Sheets only)

AB	AERATION BASIN	FTG	FOOTING	PE	PLAIN END
ALUM	ALUMINUM	GRTG	GRATING	PV	PLUG VALVE
APPROX	APPROXIMATE	GALV STL	GALVANIZED STEEL	PW	POTABLE WATER
AS	ACTIVATED SLUDGE	GSP	GALVANIZED STEEL PIPE	Q	FLOW
BLDG	BUILDING	HORIZ	HORIZONTAL	R	RADIUS
BOT	BOTTOM	H P	HIGH POINT	RAS	RETURN ACTIVATED SLUDGE
BTWN	BETWEEN	INFL	INFLUENT	RC	REINFORCED CONCRETE
BFV	BUTTERFLY VALVE	INSUL	INSULATE, INSULATION	RCP	REINFORCED CONCRETE PIPE
C TO C, C-C	CENTER TO CENTER	INVERT	INVERT	REINF	REINFORCE
CI	CAST IRON	JB	JUNCTION BOX	REQD	REQUIRED
CL	CENTER LINE	JT	JOINT	SCH	SCHEDULE
CML	CEMENT-MORTAR LINED	LG	LONG	RM	ROOM
CMP	CORRUGATED METAL PIPE	LOC	LOCATION	SECT	SECTION
CO	CLEAN OUT	LF	LINEAL FEET	SPEC	SPECIFIED
CONC	CONCRETE	MAX	MAXIMUM	SPECS	SPECIFICATIONS
CTR	CENTER	MCC	MOTOR CONTROL CENTER	SQ	SQUARE
CW	CHAINWHEEL	MFR	MANUFACTURER	SS	STAINLESS STEEL
DAF	DISSOLVED AIR FLOTATION	MH	MANHOLE	STD	STANDARD
DI	DUCTILE IRON	MIN	MINIMUM	STL	STEEL
DIA	DIAMETER	MISC	MISCELLANEOUS	SUPP	SUPPORT
DN	DOWN	MJ	MECHANICAL JOINT	SYMM	SYMMETRICAL
DR	DRAIN	MTL	METAL	TEMP	TEMPORARY
DRWG	DRAWING	N-S	NORTH-SOUTH DIRECTION	TOW	TOP OF WALL
E-W	EAST-WEST DIRECTION	NO	NUMBER	TYP	TYPICAL
EA	EACH	NOM	NOMINAL	UON	UNLESS OTHERWISE NOTED
ECC	ECCENTRIC	NTS	NOT TO SCALE	VERT	VERTICAL
ELEV, EL	ELEVATION	OC	ON CENTER	WAS	WASTE ACTIVATED SLUDGE
EXIST	EXISTING	OD	OUTSIDE DIAMETER	WW	WASH WATER
FDN	FOUNDATION	OPNG	OPENING		
FIN	FINISH/FINAL	PSP	POUNDS PER SQUARE FOOT		
FIN GR	FINISHED GRADE	PSI	POUNDS PER SQUARE INCH		
FL	FLANGED				
FRP	FIBER REINFORCED PLASTIC				
FT	FEET				

RECORD DRAWING

1 2 3 4 5 6 7 8 9 10 11 12 13 14
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 DATE: 5/26/96 BY: JPC
 CAMP DRESSER & MCKEE INC.

NO.	DATE	APP.	REVISION
1	5/21/96	MJS	SHEET DELETED BY CHANGE REQUEST NO. 1

SOUTHSIDE WATER RECLAMATION PLANT
 ACTIVATED SLUDGE EXPANSION
 PHASE III, CONTRACT 4
 MODIFICATIONS TO ACTIVATED SLUDGE
 PUMP DISCHARGE CONDUIT SYSTEM

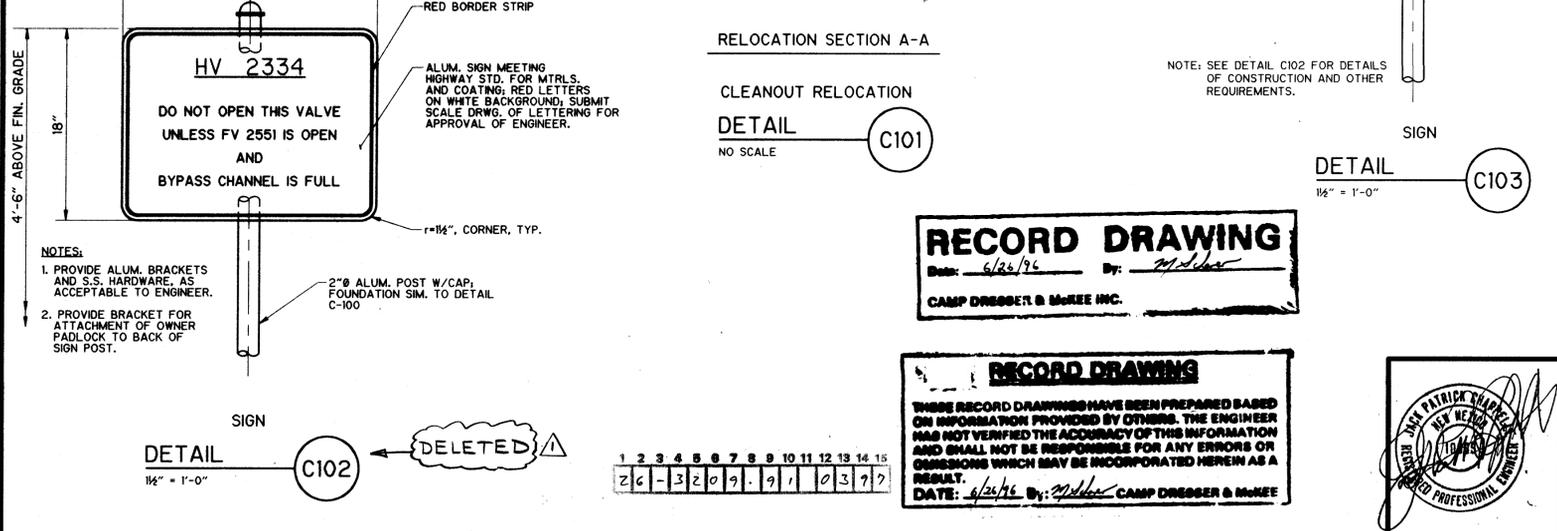
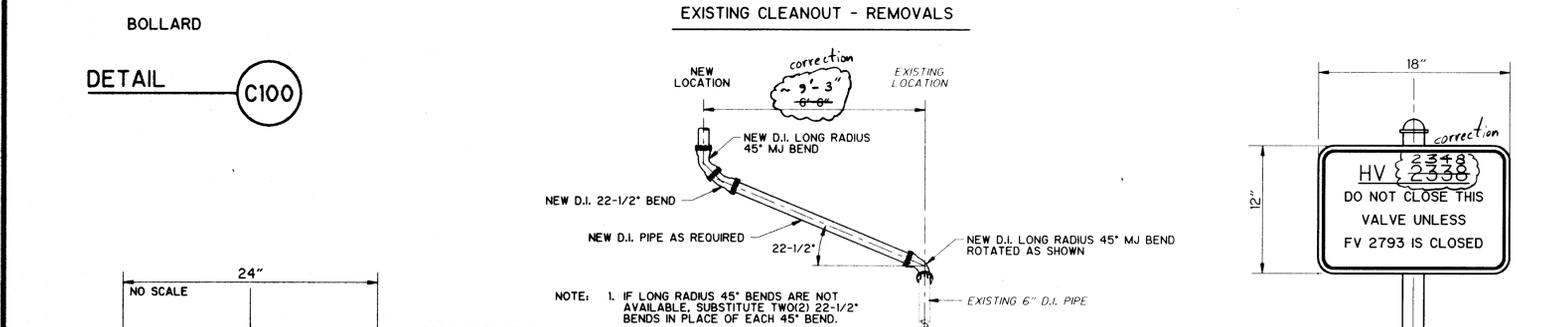
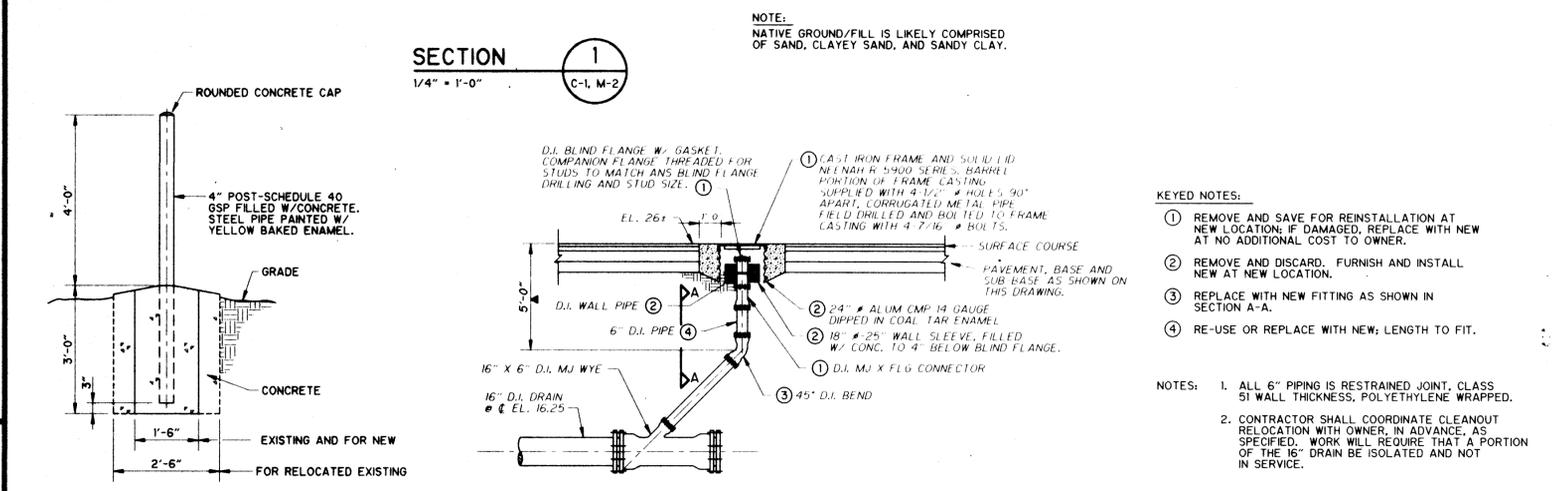
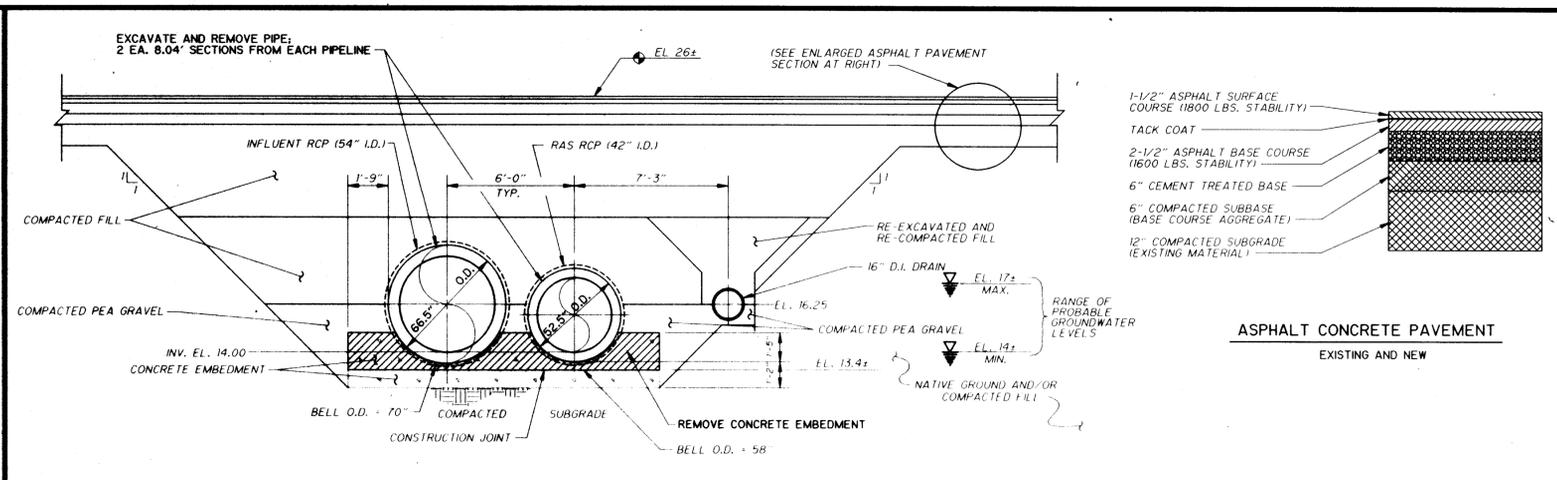
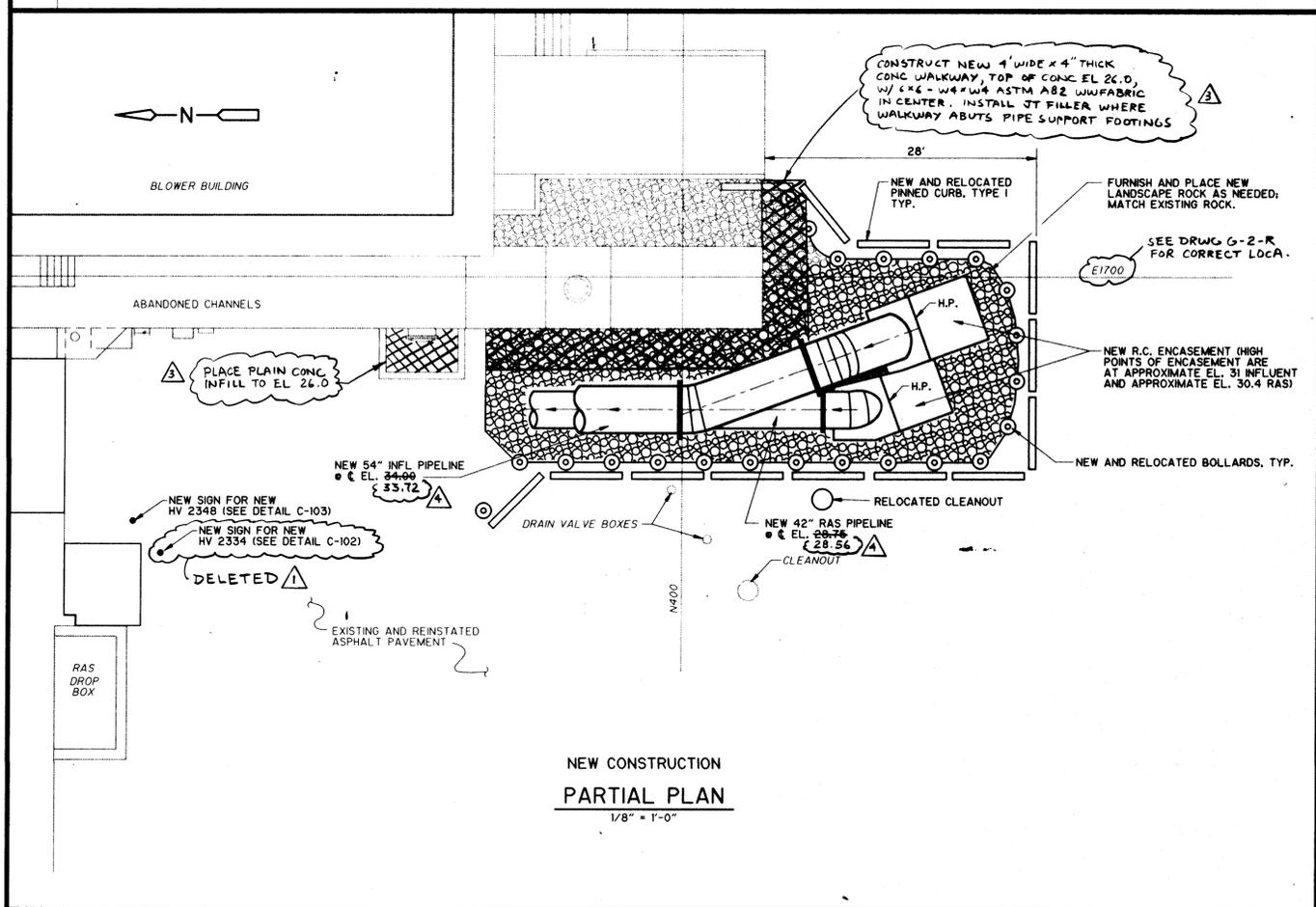
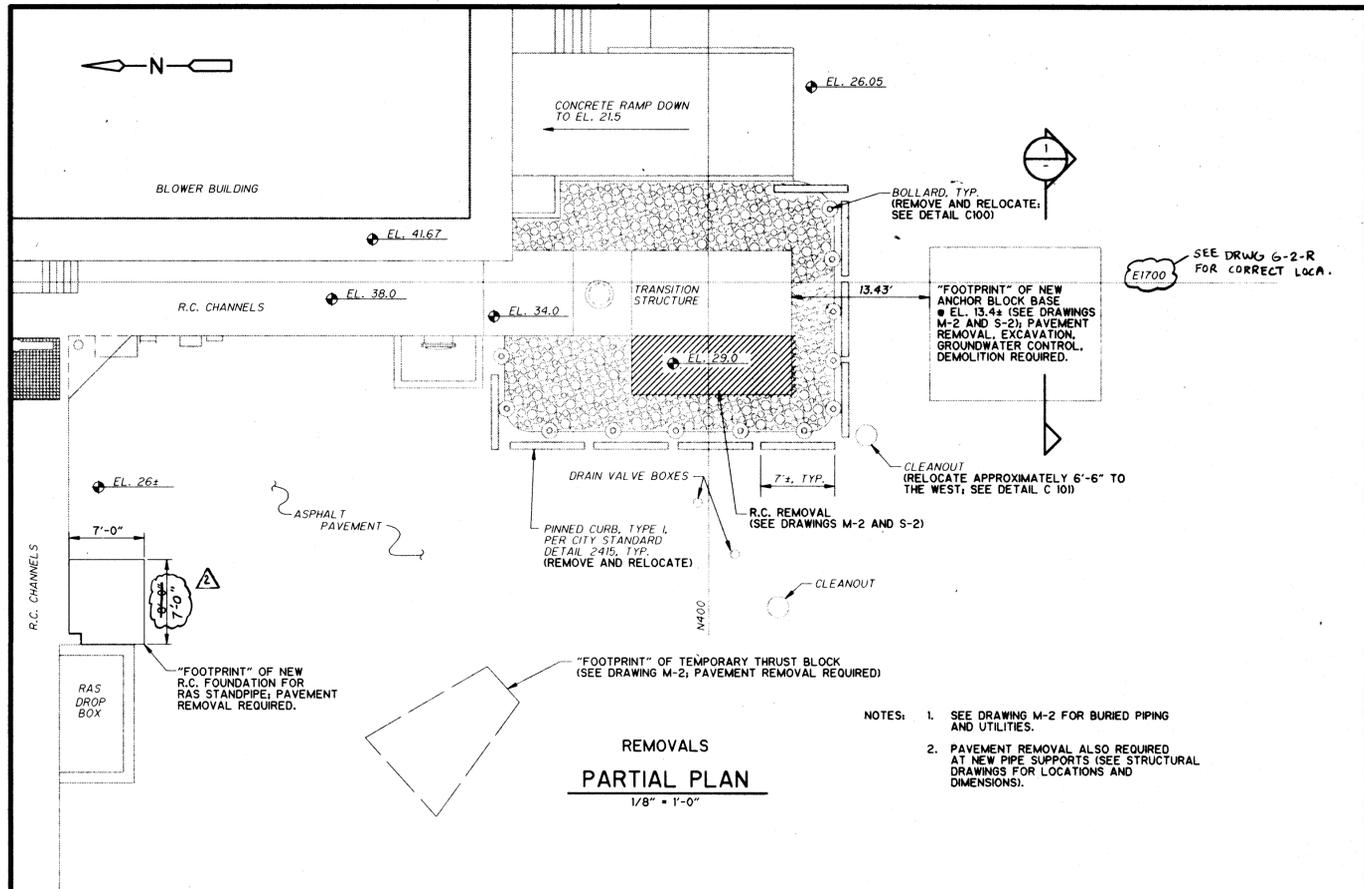
CITY OF ALBUQUERQUE
 NEW MEXICO
 PUBLIC WORKS DEPARTMENT

Designed By: MLD
 Drawn By: STAFF
 Checked By: MJS
 Approved By: JPC

CDM CAMP DRESSER & MCKEE INC.
 ALBUQUERQUE, NEW MEXICO
 environmental engineers, scientists
 planners, & management consultants

GENERAL LAYOUT,
 LEGEND AND
 ABBREVIATIONS

DRAWING G-2
 SHEET NUMBER 2 OF 30



NO.	DATE	APP.	REVISION	NO.	DATE	APP.	REVISION
▲	SEP 94	MJS	CHANGE REQUEST NO. 2				
▲	MAR 94	MJS	ADDENDUM NO. 1				
▲	SEP 95	MJS	CHANGE REQUEST NO. 13				
▲	OCT 95	MJS	AS-BUILT CONDITION				

SOUTHSIDE WATER RECLAMATION PLANT
ACTIVATED SLUDGE EXPANSION
PHASE III, CONTRACT 4
MODIFICATIONS TO ACTIVATED SLUDGE PUMP DISCHARGE CONDUIT SYSTEM

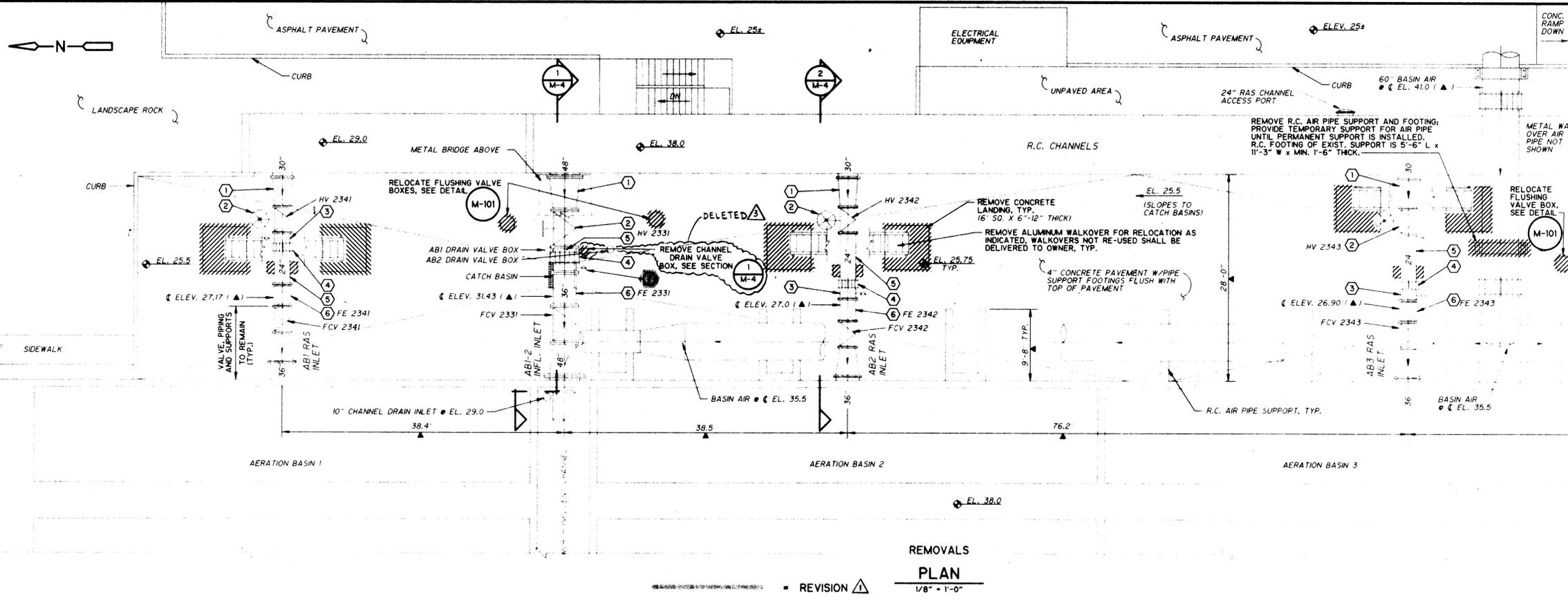
CITY OF ALBUQUERQUE
NEW MEXICO
PUBLIC WORKS DEPARTMENT

Designed By: MLD
Drawn By: STAFF
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CDM CAMP DRESSER & MCKEE INC.
ALBUQUERQUE, NEW MEXICO
environmental engineers, scientists, planners, & management consultants

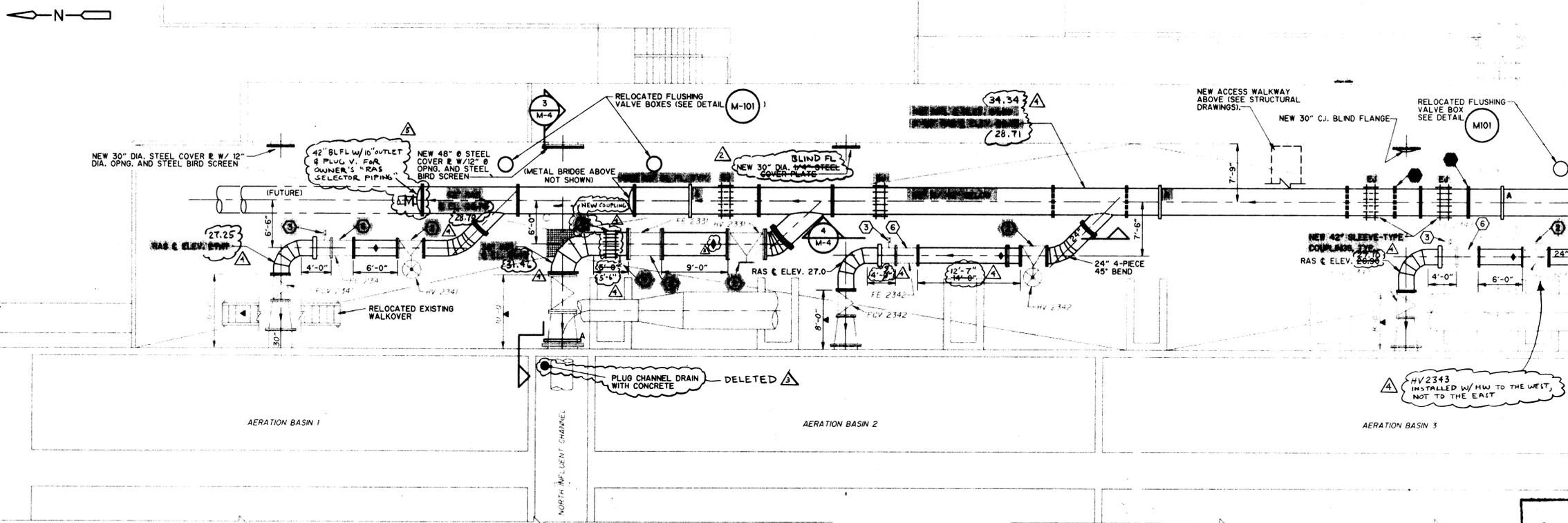
CIVIL PLANS, SECTION AND DETAILS

DRAWING C-1
SHEET NUMBER 3 OF 30



- KEYED NOTES:**
- REMOVE C.M.L. STEEL FL X FL REDUCER; DELIVER TO OWNER.
 - REMOVE VALVE FOR RELOCATION; ALSO REMOVE SUPPORT TO GRADE; SUPPORT FOOTING TO REMAIN UNLESS IT INTERFERES WITH NEW CONSTRUCTION, IN WHICH CASE REMOVE.
 - REMOVE C.M.L. STEEL FL X PE SPOOL WITH TANGENT BLOWOFF. FOR MODIFICATION AND RELOCATION.
 - REMOVE SLEEVE-TYPE COUPLING. FOR RELOCATION AS SHOWN ON DRAWINGS. COUPLINGS NOT RE-USED SHALL BE DELIVERED TO OWNER.
 - REMOVE C.M.L. STEEL FL X PE SPOOL, FOR RELOCATION OR DELIVERY TO OWNER; ALSO, FOR RAS LINES ONLY, REMOVE SUPPORT TO GRADE; SUPPORT FOOTING TO REMAIN UNLESS IT INTERFERES WITH NEW CONSTRUCTION, IN WHICH CASE REMOVE.
 - REMOVE MAGNETIC FLOW METER AND GROUNDING RINGS & STRAPS. FOR RELOCATION. SEE ELECTRICAL DRAWINGS FOR ELECTRICAL REMOVALS AND RELOCATIONS.
 - REMOVE C.M.L. STEEL FL X PE SPOOL WITH TANGENT BLOWOFF; DISATTACH 4" PLUG VALVE FOR RELOCATION; DELIVER SPOOL TO OWNER.
- GENERAL NOTES:**
- ELECTRICAL CONDUITS AND BOXES NOT SHOWN. CONTRACTOR IS ADVISED THAT A NUMBER OF CONDUITS ARE ROUTED ALONG METAL BRIDGES ABOVE AB INFLUENT INLETS.
 - NOT ALL PIPE SUPPORTS ARE SHOWN. REFER TO SECTIONS AND DETAILS.
 - ALL DAMAGED PAVEMENT SHALL BE REPLACED WITH NEW. REINFORCE WITH 6 X 6-W4x4 ASTM A82 WELDED WIRE FABRIC. IN CENTER.
 - BASIN AIR LINES WILL REMAIN IN SERVICE AT ALL TIMES.
 - GUARDRAIL NOT SHOWN.
 - BURIED PIPING NOT SHOWN. SEE SECTIONS.
 - SEE STRUCTURAL DRAWINGS FOR LOCATIONS OF NEW PIPE SUPPORTS; PAVEMENT REMOVAL AND EXCAVATION WILL BE REQUIRED AT THOSE LOCATIONS. REINSTATE PAVEMENT AS REQUIRED, INCLUDING NEW WELDED WIRE FABRIC.
- LEGEND:**
- HV = HAND VALVE; THIS IS A MANUALLY OPERATED PLUG VALVE; HANDWHEEL POSITION AS SHOWN.
 FCV = FLOW CONTROL VALVE; THIS IS A MOTOR-OPERATED PLUG VALVE.
 FE = FLOW ELEMENT; THIS IS A MAGNETIC FLOW METER.
- REFER TO SPECIFICATIONS FOR DESCRIPTION OF EXISTING AND NEW ITEMS DESCRIBED IN THIS LEGEND.

REMOVALS
PLAN
 1/8" = 1'-0"

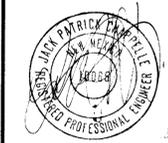


- KEYED NOTES:**
- RELOCATED EXISTING HAND VALVE; HANDWHEEL POSITION AS SHOWN; SEATING END IS DOWNSTREAM.
 - MODIFIED AND RELOCATED EXISTING FL X PE SPOOL WITH TANGENT BLOWOFF. SEE DETAIL M-102 FOR MODIFICATION WORK.
 - RELOCATED EXISTING SLEEVE-TYPE COUPLING. SEE DETAIL M-103.
 - RELOCATED EXISTING FL X PE SPOOL.
 - RELOCATED EXISTING MAGNETIC FLOW METER.
- GENERAL NOTES:**
- PIPE SUPPORTS NOT SHOWN. REFER TO STRUCTURAL DRAWINGS.
 GUARDRAIL NOT SHOWN.
- LEGEND:**
- SEE REMOVALS PLAN.
- ADDITIONAL LEGEND:**
- SLEEVE-TYPE COUPLING EMPLOYED AS EXPANSION JOINT; REFER TO DETAIL M-103 FOR DETAILS.
 - ANCHOR RING OR RINGS; FIELD WELDED AT SOME LOCATIONS (REFER TO SECTIONS AND STRUCTURAL DETAILS).
 - NEW 2" OUTLET CROWN OF PIPE WITH BALL VALVE
 - DITTO, FOR LOWER PIPE
 - LOCATION OF TEMPORARY BLIND FLANGE. FOR STAGED CONSTRUCTION. REFER TO SPECIFICATIONS.

NEW CONSTRUCTION
PLAN
 1/8" = 1'-0"

RECORD DRAWING
 THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.
 DATE: 6/26/96 By: MLD CAMP DRESSER & MCKEE INC.

RECORD DRAWING
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 DATE: 6/26/96 By: MLD CAMP DRESSER & MCKEE INC.



NO.	DATE	APP	REVISION	NO.	DATE	APP	REVISION
1	6/16/94	MJS	CHANGE REQUEST NO. 1	5	SEP 95	MJS	CHANGE REQUEST NO. 5
2	DEC 94	MJS	CHANGE REQUEST NO. 7				
3	SEP 95	MJS	CHANGE REQUEST NO. 13				
4	OCT 95	MJS	AS-BUILT CONDITION				

SOUTHSIDE WATER RECLAMATION PLANT
 ACTIVATED SLUDGE EXPANSION
 PHASE III, CONTRACT 4
 MODIFICATIONS TO ACTIVATED SLUDGE
 PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
ALBUQUERQUE
 NEW MEXICO
 PUBLIC WORKS
 DEPARTMENT

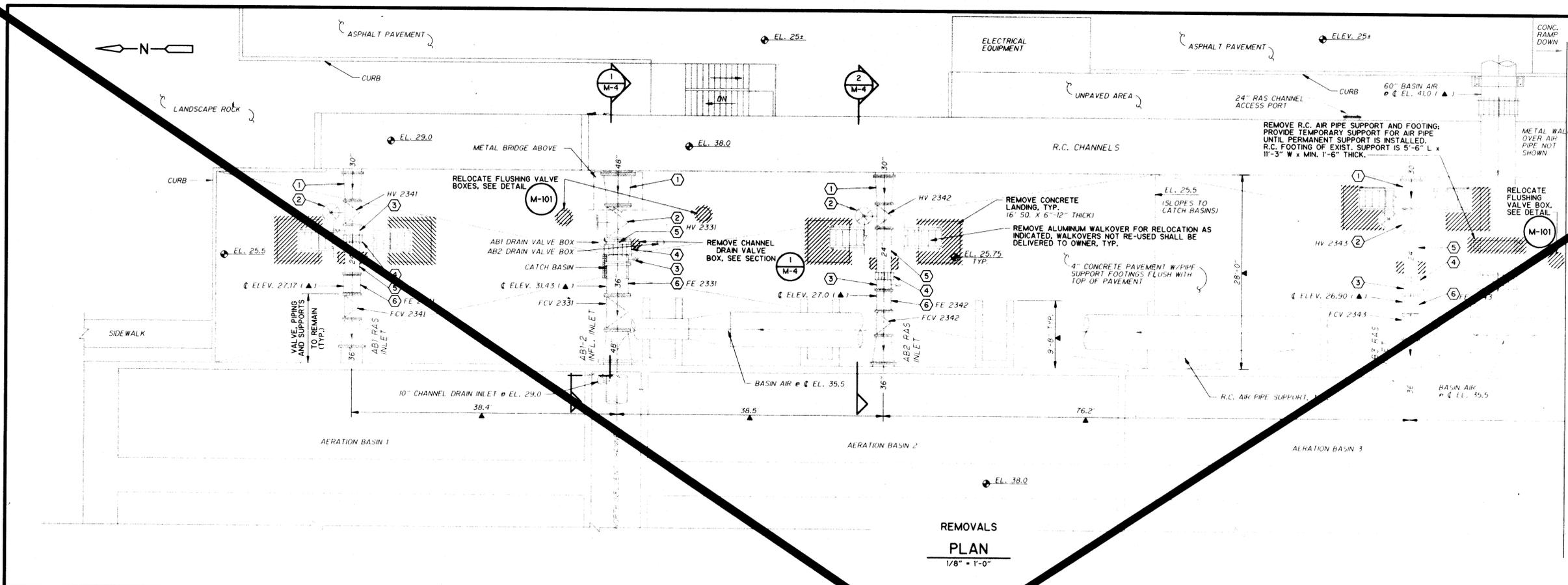
Designed By: MLD
 Drawn By: STAFF
 Checked By: MJS
 Approved By: [Signature]

Date: DEC. 1993
 Scale: AS NOTED

CDM CAMP DRESSER & MCKEE INC.
 ALBUQUERQUE, NEW MEXICO
 environmental engineers, scientists
 planners, & management consultants

MECHANICAL PLAN
 -NORTH
 REVISED

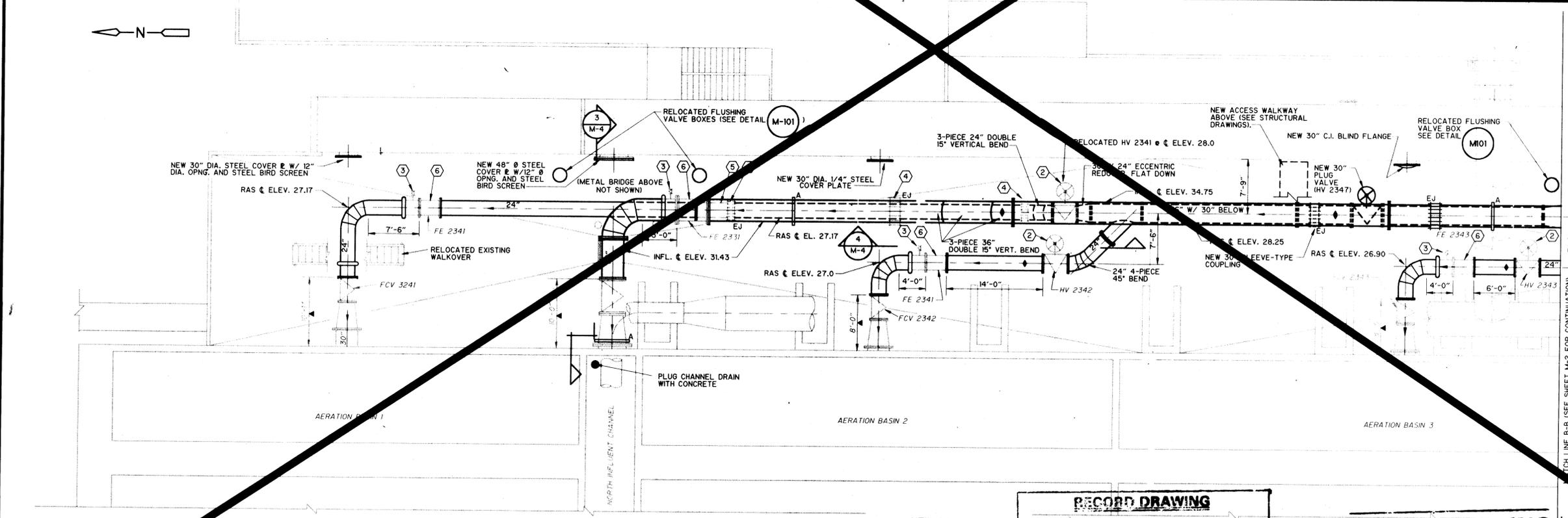
DRAWING
M-1-R
 SHEET NUMBER
 4 OF 30



- KEYED NOTES:**
- 1 REMOVE C.M.L. STEEL FL X PE SPOOL; DELIVER TO OWNER.
 - 2 REMOVE VALVE FOR RELOCATION; ALSO REMOVE SUPPORT TO GRADE; SUPPORT FOOTINGS TO REMAIN UNLESS IT INTERFERES WITH NEW CONSTRUCTION, IN WHICH CASE REMOVE.
 - 3 REMOVE C.M.L. STEEL FL X PE SPOOL WITH TANGENT BLOWOFF, FOR MODIFICATION AND RELOCATION.
 - 4 REMOVE SLEEVE-TYPE COUPLING, FOR RELOCATION AS SHOWN ON DRAWINGS. COUPLINGS NOT RE-USED SHALL BE DELIVERED TO OWNER.
 - 5 REMOVE C.M.L. STEEL FL X PE SPOOL, FOR RELOCATION OR DELIVERY TO OWNER; ALSO, FOR RAS LINES ONLY, REMOVE SUPPORT TO GRADE; SUPPORT FOOTINGS TO REMAIN UNLESS IT INTERFERES WITH NEW CONSTRUCTION, IN WHICH CASE REMOVE.
 - 6 REMOVE MAGNETIC FLOW METER AND GROUNDING RINGS & STRAPS, FOR RELOCATION. SEE ELECTRICAL DRAWINGS FOR ELECTRICAL REMOVALS AND RELOCATIONS.

- GENERAL NOTES:**
1. ELECTRICAL CONDUITS AND BOXES NOT SHOWN. CONTRACTOR IS ADVISED THAT A NUMBER OF CONDUITS ARE ROUTED ALONG METAL BRIDGES ABOVE AB INFLUENT INLETS.
 2. NOT ALL PIPE SUPPORTS ARE SHOWN. REFER TO SECTIONS AND DETAILS.
 3. ALL DAMAGED PAVEMENT SHALL BE REPLACED WITH NEW, REINFORCE WITH 6 X 6-W4XW4 ASTM A82 WELDED WIRE FABRIC, IN CENTER.
 4. BASIN AIR LINES WILL REMAIN IN SERVICE AT ALL TIMES.
 5. GUARDRAIL NOT SHOWN.
 6. BURIED PIPING NOT SHOWN, SEE SECTIONS.
 7. SEE STRUCTURAL DRAWINGS FOR LOCATIONS OF NEW PIPE SUPPORTS; PAVEMENT REMOVAL AND EXCAVATION WILL BE REQUIRED AT THOSE LOCATIONS. REINSTATE PAVEMENT AS REQUIRED, INCLUDING NEW WELDED WIRE FABRIC.

- LEGEND:**
- HV - HAND VALVE; THIS IS A MANUALLY OPERATED PLUG VALVE; HANDWHEEL POSITION AS SHOWN.
- FCV - FLOW CONTROL VALVE; THIS IS A MOTOR-OPERATED PLUG VALVE.
- FE - FLOW ELEMENT; THIS IS A MAGNETIC FLOW METER.
- REFER TO SPECIFICATIONS FOR DESCRIPTION OF EXISTING AND NEW ITEMS DESCRIBED IN THIS LEGEND.



- KEYED NOTES:**
- 2 RELOCATED EXISTING HAND VALVE; HANDWHEEL POSITION AS SHOWN; SEATING END IS DOWNSTREAM.
 - 3 MODIFIED AND RELOCATED EXISTING FL X PE SPOOL WITH TANGENT BLOWOFF. SEE DETAIL M-102 FOR MODIFICATION WORK.
 - 4 RELOCATED EXISTING SLEEVE-TYPE COUPLING. SEE DETAIL M-103.
 - 5 RELOCATED EXISTING FL X PE SPOOL.
 - 6 RELOCATED EXISTING MAGNETIC FLOW METER.

- GENERAL NOTES:**
1. PIPE SUPPORTS NOT SHOWN. REFER TO STRUCTURAL DRAWINGS.
 2. GUARDRAIL NOT SHOWN.

- LEGEND:**
- SEE REMOVALS PLAN.
- ADDITIONAL LEGEND:**
- EJ - SLEEVE-TYPE COUPLING EMPLOYED AS EXPANSION JOINT; REFER TO DETAIL M-103 FOR DETAILS.
 - A - ANCHOR RING OR RINGS; FIELD WELDED AT SOME LOCATIONS (REFER TO SECTIONS AND STRUCTURAL DETAILS).
 - ◆ - NEW 2" OUTLET @ CROWN OF PIPE WITH BALL VALVE
 - ◆ - DITTO, FOR LOWER PIPE

NEW CONSTRUCTION
PLAN
1/8" = 1'-0"

RECORD DRAWING

THESE DRAWINGS HAVE BEEN REPAIRED BASED ON THE INFORMATION PROVIDED BY DTLE'S. THE ENGINEER HAS NO LIABILITY FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

Date: 6/26/96 By: MLD
CAMP DRESSER & MCKEE

RECORD DRAWING

Date: 6/26/96 By: MLD
CAMP DRESSER & MCKEE INC.

NO.	DATE	APP.	REVISION
1	5/31/96	MNS	SHEET DELETED BY CHANGE REQUEST NO. 1

SOUTHSIDE WATER RECLAMATION PLANT
ACTIVATED SLUDGE EXPANSION
PHASE III, CONTRACT 4
MODIFICATIONS TO ACTIVATED SLUDGE
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
ALBUQUERQUE
NEW MEXICO

PUBLIC WORKS
DEPARTMENT



Designed By: MLD
Drawn By: STAFF
Checked By: MJS
Approved By: JPC

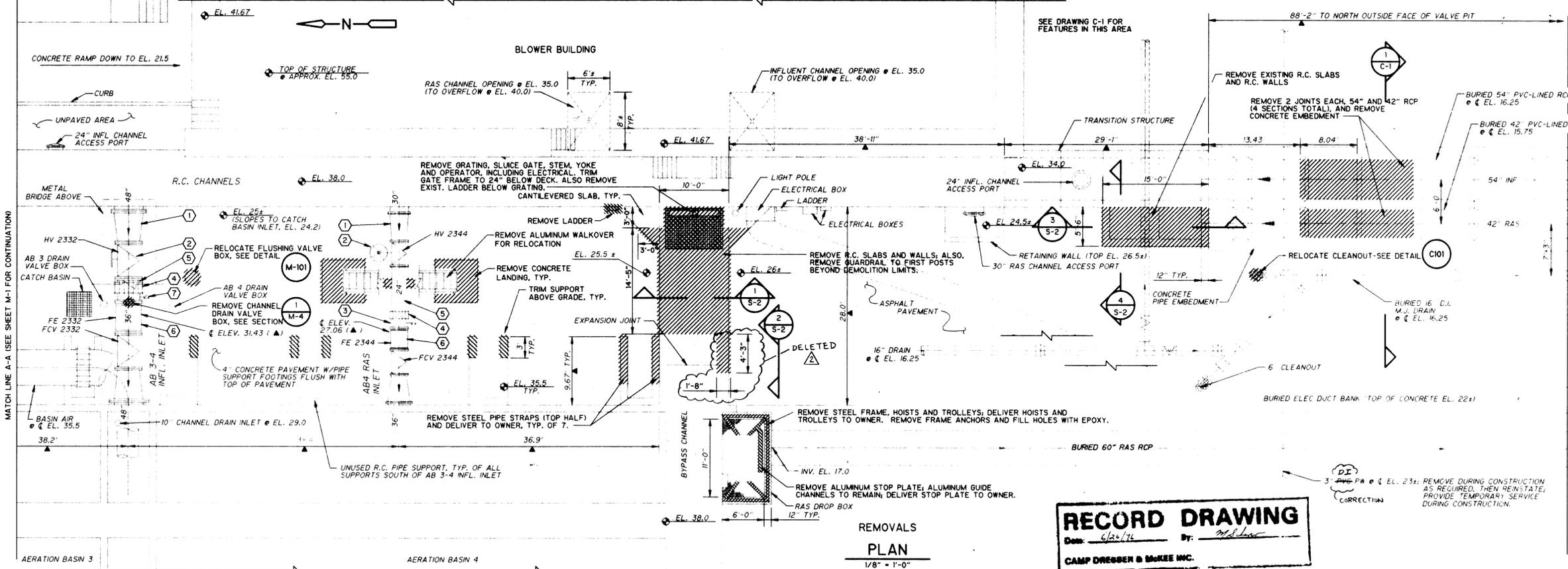
Date: DEC. 1993
Scale: AS NOTED

CDM CAMP DRESSER & MCKEE INC.
ALBUQUERQUE, NEW MEXICO
environmental engineers, scientists
planners, & management consultants

MECHANICAL PLAN
- NORTH



DRAWING
M-1
SHEET NUMBER
4 OF 30



- KEYED NOTES:**
- 1 REMOVE C.M.L. STEEL FL X FL REDUCER; DELIVER TO OWNER.
 - 2 REMOVE VALVE FOR RELOCATION; ALSO REMOVE SUPPORT TO GRADE; SUPPORT FOOTING TO REMAIN UNLESS IT INTERFERES WITH NEW CONSTRUCTION, IN WHICH CASE REMOVE.
 - 3 REMOVE C.M.L. STEEL FL X PE SPOOL WITH TANGENT BLOWOFF; FOR MODIFICATION AND RELOCATION.
 - 4 REMOVE SLEEVE-TYPE COUPLING; FOR RELOCATION AS SHOWN ON DRAWINGS; COUPLINGS NOT RE-USED SHALL BE DELIVERED TO OWNER.
 - 5 REMOVE C.M.L. STEEL FL X PE SPOOL; FOR RELOCATION OR DELIVERY TO OWNER; ALSO FOR RAS LINES ONLY; REMOVE SUPPORT TO GRADE; SUPPORT FOOTING TO REMAIN UNLESS IT INTERFERES WITH NEW CONSTRUCTION, IN WHICH CASE REMOVE.
 - 6 REMOVE MAGNETIC FLOW METER AND GROUNDING RINGS & STRAPS; FOR RELOCATION; SEE ELECTRICAL DRAWINGS FOR ELECTRICAL REMOVALS AND RELOCATIONS.
 - 7 REMOVE C.M.L. STEEL FL X PE SPOOL WITH TANGENT BLOWOFF; DISATTACH 4\" PLUG VALVE FOR RELOCATION; DELIVER SPOOL TO OWNER.

FOR GENERAL NOTES AND LEGEND, SEE DRAWING M-1.

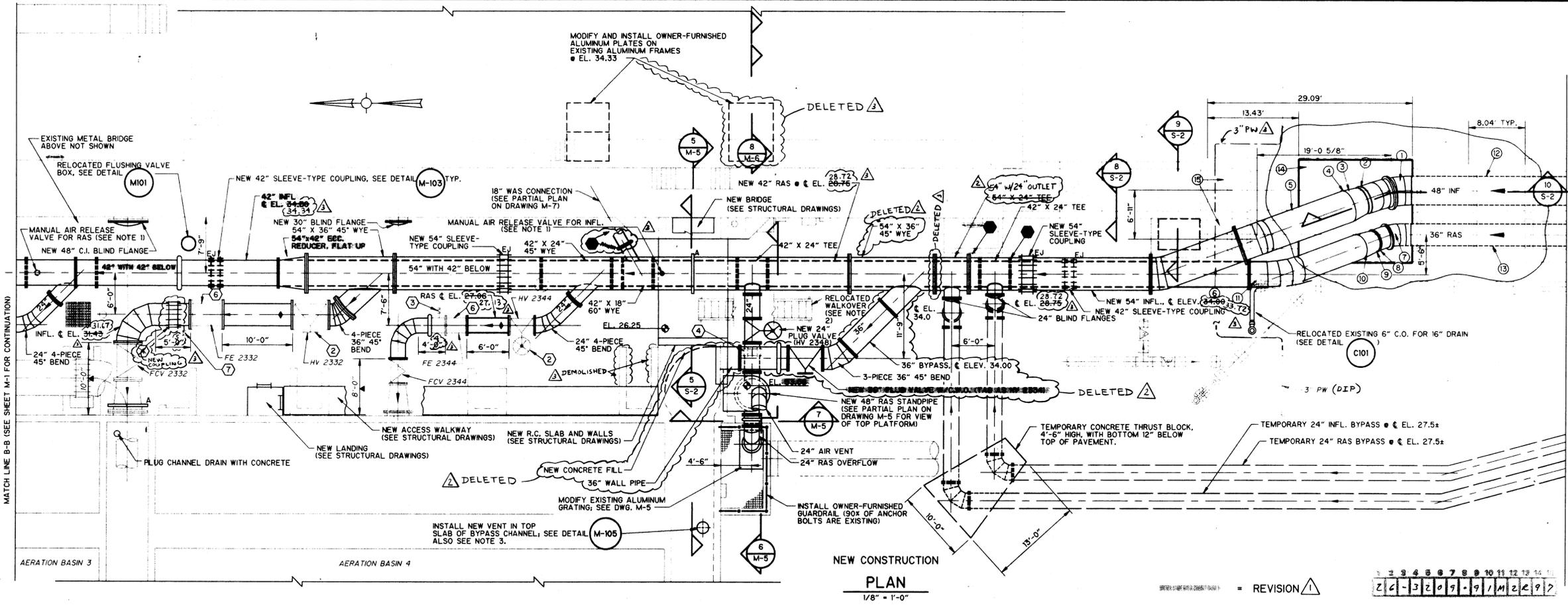
- ADDITIONAL NOTES:**
1. EXISTING BURIED RCP ARE LOW SPOTS IN THE EXISTING CONDUIT SYSTEM AND MUST BE DRAINED, ALL DEPOSITED MATERIAL REMOVED FROM WITHIN, AND INTERIOR WALLS CLEANED OF ADHERENT MATERIAL AS SPECIFIED PRIOR TO LINER PIPE INSTALLATION.

RECORD DRAWING

THESE RECORD DRAWINGS HAVE BEEN PREPARED BY THE ENGINEER ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCURRED DURING CONSTRUCTION.

DATE: 6/24/94 BY: MLD

CAMP DRESSER & MCKEE INC.



- KEYED NOTES:**
- 1 48\" - 45\" BEND (5-PIECE), W/ANCHOR RING, ROTATED 21\" ± WEST
 - 2 48\" BUTT WELDED JOINT (48\" SHOULDERED-TYPE COUPLING)
 - 3 54\" X 48\" REDUCER
 - 4 54\" BUTT WELDED JOINT (FIELD)
 - 5 54\" PIPE W/4-PIECE 41\" ± VERT. BEND
 - 6 54\" PIPE W/3-PIECE 20\" HORIZ. BEND
 - 7 36\" 45\" BEND (5-PIECE), W/ANCHOR RING, ROTATED 14\" ± WEST (23\" CORRECTION)
 - 8 36\" SHOULDERED-TYPE COUPLING
 - 9 42\" BUTT WELDED JOINT
 - 10 42\" X 36\" REDUCER
 - 11 42\" PIPE W/5-PIECE 45\" BEND ROTATED 17\" ± EAST (23\" CORRECTION)
 - 12 NEW 48\" C.M.L. STEEL OR FRP LINER PIPE @ E.L. 16.25
 - 13 NEW 36\" C.M.L. STEEL OR FRP LINER PIPE @ E.L. 15.75
 - 14 NEW ANCHOR BLOCK FOUNDATION; ANCHOR BLOCK NOT SHOWN (SEE STRUCTURAL DRAWINGS)
 - 15 EXISTING RCP TO REMAIN (PLUG WITH CONCRETE)

- 2 RELOCATED EXISTING HAND VALVE; HANDWHEEL POSITION AS SHOWN; SEATING END IS DOWNSIDE.
- 3 MODIFIED AND RELOCATED EXISTING FL X PE SPOOL WITH TANGENT BLOWOFF; SEE DETAIL M-102 FOR MODIFICATION WORK.
- 4 RELOCATED EXISTING SLEEVE-TYPE COUPLING; SEE DETAIL M-103.
- 5 RELOCATED EXISTING MAGNETIC FLOW METER.
- 6 RELOCATED EXIST. 4\" PLUG VALVE ON NEW TANGENT BLOWOFF, ON NEW SPOOL; TANGENT BLOWOFF PER AWWA M-11, THIRD EDITION, FIG. 3-1, FL END TO ACCEPT 4\" VALVE.

GENERAL NOTES: FOR GENERAL NOTES SEE DRAWING M-1.

LEGEND: SEE DRAWING M-1.

• LOCATION OF TEMPORARY BLIND FLANGE, FOR STAGED CONSTRUCTION. REFER TO SPECIFICATIONS.

- ADDITIONAL NOTES:**
1. SEE DETAIL M-104 FOR NEW MANUAL AIR RELEASE VALVES.
 2. NEW R.C. LANDING REQ'D, ONLY SOUTH OF NEW SLAB AT EL. 26.25; SEE DETAIL S207
 3. ALSO INSTALL ANOTHER NEW VENT, PER DETAIL M-105, LOCATED 218 FT. TO THE EAST (WEST) CORRECTION.

NO.	DATE	APP.	REVISION	NO.	DATE	APP.	REVISION
1	6/17/94	MJS	CHANGE REQUEST NO.1				
2	SEP 94	MJS	CHANGE REQUEST NO.2				
3	OCT 94	MJS	AS-BUILT CONDITION				

SOUTHSIDE WATER RECLAMATION PLANT
ACTIVATED SLUDGE EXPANSION
PHASE III, CONTRACT 4
MODIFICATIONS TO ACTIVATED SLUDGE
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF ALBUQUERQUE
NEW MEXICO
PUBLIC WORKS DEPARTMENT

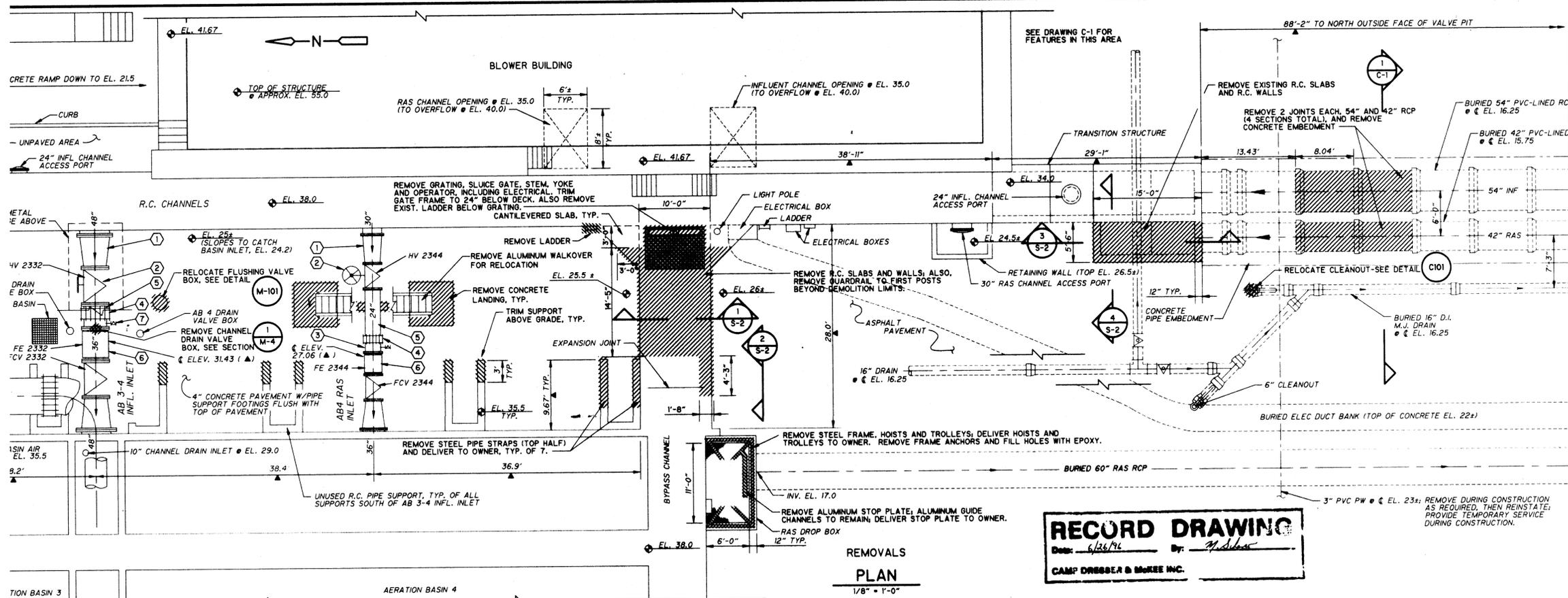
Designed By: MLD
Drawn By: STAFF
Checked By: MJS
Approved By: [Signature]

CDM CAMP DRESSER & MCKEE INC.
ALBUQUERQUE, NEW MEXICO
environmental engineers, scientists
planners, & management consultants

MECHANICAL PLAN
-CENTRAL
REVISED

DRAWING
M-2-R
SHEET NUMBER
5 OF 30





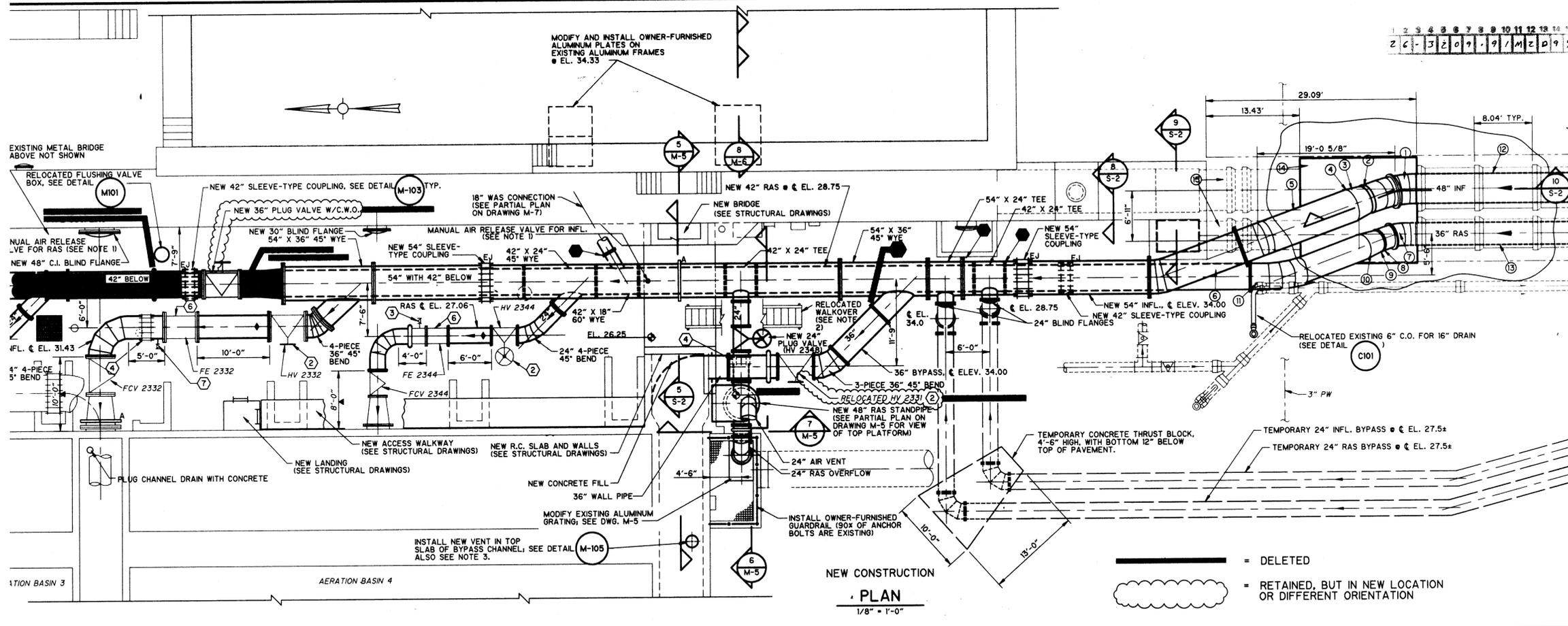
RECORD DRAWING
 Date: 6/26/94 By: J. S. [Signature]
 CAMP DRESSER & MCKEE INC.

- KEYED NOTES:**
- REMOVE C.M.L. STEEL FL X FL REDUCER; DELIVER TO OWNER.
 - REMOVE VALVE FOR RELOCATION; ALSO REMOVE SUPPORT TO GRADE; SUPPORT FOOTING TO REMAIN UNLESS IT INTERFERES WITH NEW CONSTRUCTION, IN WHICH CASE REMOVE.
 - REMOVE C.M.L. STEEL FL X PE SPOOL WITH TANGENT BLOWOFF. FOR MODIFICATION AND RELOCATION.
 - REMOVE SLEEVE-TYPE COUPLING, FOR RELOCATION AS SHOWN ON DRAWINGS. COUPLINGS NOT RE-USED SHALL BE DELIVERED TO OWNER.
 - REMOVE C.M.L. STEEL FL X PE SPOOL, FOR RELOCATION OR DELIVERY TO OWNER; ALSO, FOR RAS LINES ONLY, REMOVE SUPPORT TO GRADE; SUPPORT FOOTING TO REMAIN UNLESS IT INTERFERES WITH NEW CONSTRUCTION, IN WHICH CASE REMOVE.
 - REMOVE MAGNETIC FLOW METER AND GROUNDING RINGS & STRAPS, FOR RELOCATION. SEE ELECTRICAL DRAWINGS FOR ELECTRICAL REMOVALS AND RELOCATIONS.
 - REMOVE C.M.L. STEEL FL X PE SPOOL WITH TANGENT BLOWOFF; DISATTACH 4" PLUG VALVE FOR RELOCATION; DELIVER SPOOL TO OWNER.

ADDITIONAL NOTES:

- EXISTING BURIED RCP ARE LOW SPOTS IN THE EXISTING CONDUIT SYSTEM AND MUST BE DRAINED. ALL DEPOSITED MATERIAL REMOVED FROM WITHIN, AND INTERIOR WALLS CLEANED OF ADHERENT MATERIAL AS SPECIFIED PRIOR TO LINER PIPE INSTALLATION.

RECORD DRAWING
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 DATE: 6/26/94 By: J. S. [Signature] CAMP DRESSER & MCKEE



- KEYED NOTES:**
- 48" - 45" BEND (5-PIECE), W/ANCHOR RING, ROTATED 21° ± WEST
 - 48" SHOULDERED-TYPE COUPLING.
 - 54" X 48" REDUCER
 - BUTT WELDED JOINT (FIELD)
 - 54" PIPE W/4-PIECE 41" ± VERT. BEND
 - 54" PIPE W/3-PIECE 20" HORIZ. BEND
 - 36" 45" BEND (5-PIECE), W/ANCHOR RING, ROTATED 17.5° ± WEST
 - 36" SHOULDERED-TYPE COUPLING
 - 42" X 36" REDUCER
 - BUTT WELDED JOINT (FIELD)
 - 42" PIPE W/5-PIECE 45" BEND ROTATED 17.5° EAST
 - NEW 48" C.M.L. STEEL OR FRP LINER PIPE @ EL. 16.25
 - NEW 36" C.M.L. STEEL OR FRP LINER PIPE @ EL. 15.75
 - NEW ANCHOR BLOCK FOUNDATION, ANCHOR BLOCK NOT SHOWN, (SEE STRUCTURAL DRAWINGS)
 - EXISTING RCP TO REMAIN (PLUG WITH CONCRETE)

- GENERAL NOTES:**
- RELOCATED EXISTING HAND VALVE; HANDWHEEL POSITION AS SHOWN; SEATING END IS DOWNSTREAM.
 - MODIFIED AND RELOCATED EXISTING FL X PE SPOOL WITH TANGENT BLOWOFF. SEE DETAIL M-102 FOR MODIFICATION WORK.
 - RELOCATED EXISTING SLEEVE-TYPE COUPLING. SEE DETAIL M-103.
 - RELOCATED EXISTING MAGNETIC FLOW METER.
 - RELOCATED EXIST. 4" PLUG VALVE ON NEW TANGENT BLOWOFF, ON NEW SPOOL. TANGENT BLOWOFF PER AWWA M-11, THIRD EDITION, FIG. 9-1. FL END TO ACCEPT 4" VALVE.

GENERAL NOTES:
 FOR GENERAL NOTES SEE DRAWING M-1.

LEGEND:
 SEE DRAWING M-1.

ADDITIONAL NOTES:

- SEE DETAIL M-104 FOR NEW MANUAL AIR RELEASE VALVES.
- NEW R.C. LANDING REQ'D. ONLY SOUTH OF NEW SLAB AT EL. 26.25. SEE DETAIL M-105.
- ALSO INSTALL ANOTHER NEW VENT, PER DETAIL M-105, LOCATED 218 FT. TO THE EAST.

REVISION	NO.	DATE	APP.	REVISION

SOUTHSIDE WATER RECLAMATION PLANT
 ACTIVATED SLUDGE EXPANSION
 PHASE III, CONTRACT 4
 MODIFICATIONS TO ACTIVATED SLUDGE
 PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
ALBUQUERQUE
 NEW MEXICO
 PUBLIC WORKS
 DEPARTMENT

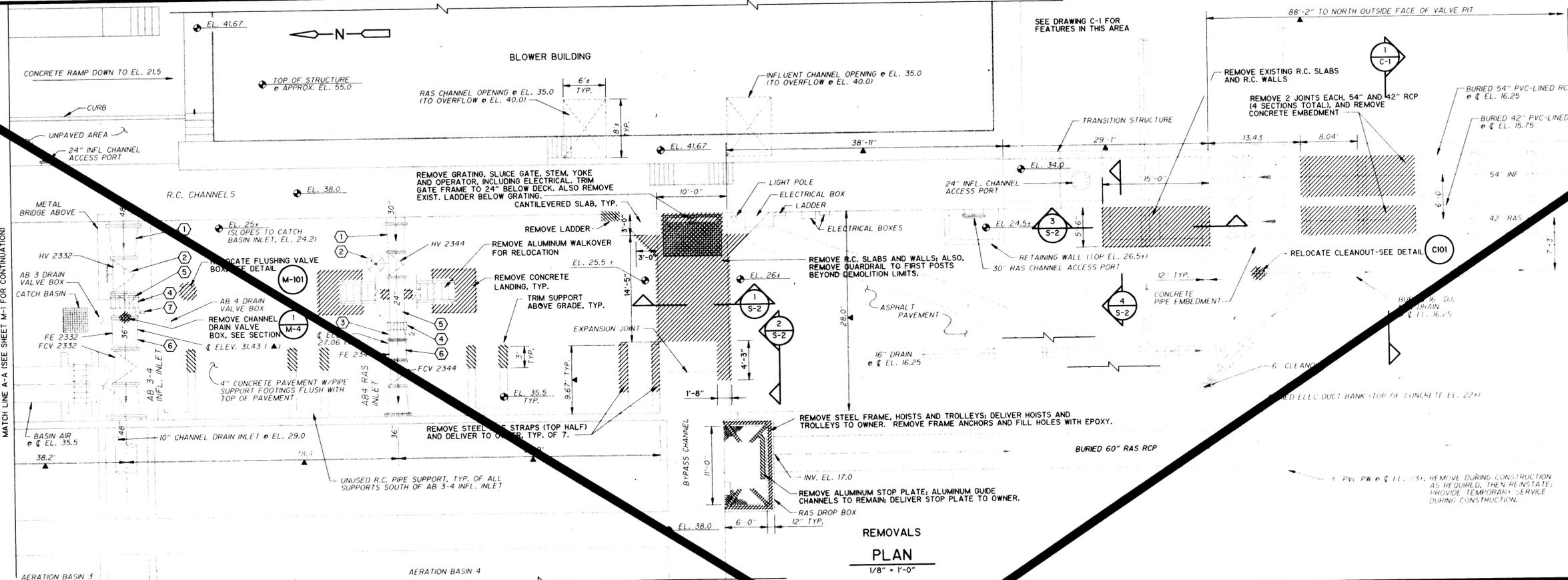
Designed By: MLD
 Drawn By: STAFF
 Checked By: MJS
 Approved By: [Signature]

Date: JUNE, 1994
 Scale: AS NOTED

CDM CAMP DRESSER & MCKEE INC.
 ALBUQUERQUE, NEW MEXICO
 environmental engineers, scientists
 planners, & management consultants

MECHANICAL PLAN
-CENTRAL-
 CHANGE REQUEST NO. 1 DELETIONS

DRAWING
M-2-D
 SHEET NUMBER
5 OF 30



REMOVALS PLAN
1/8" = 1'-0"

- KEYED NOTES:**
- 1 REMOVE C.M.L. STEEL FL X FL REDUCER; DELIVER TO OWNER.
 - 2 REMOVE VALVE FOR RELOCATION; ALSO REMOVE SUPPORT TO GRADE; SUPPORT FOOTING TO REMAIN UNLESS IT INTERFERES WITH NEW CONSTRUCTION, IN WHICH CASE REMOVE.
 - 3 REMOVE C.M.L. STEEL FL X PE SPOOL WITH TANGENT BLOWOFF, FOR MODIFICATION AND RELOCATION.
 - 4 REMOVE SLEEVE-TYPE COUPLING, FOR RELOCATION AS SHOWN ON DRAWINGS; COUPLINGS NOT RE-USED SHALL BE DELIVERED TO OWNER.
 - 5 REMOVE C.M.L. STEEL FL X PE SPOOL, FOR RELOCATION OR DELIVERY TO OWNER; ALSO, FOR RAS LINES ONLY, REMOVE SUPPORT TO GRADE; SUPPORT FOOTING TO REMAIN UNLESS IT INTERFERES WITH NEW CONSTRUCTION, IN WHICH CASE REMOVE.
 - 6 REMOVE MAGNETIC FLOW METER AND GROUNDING RINGS & STRAPS, FOR RELOCATION; SEE ELECTRICAL DRAWINGS FOR ELECTRICAL REMOVALS AND RELOCATIONS.
 - 7 REMOVE C.M.L. STEEL FL X PE SPOOL WITH TANGENT BLOWOFF; SPOOL TO OWNER.

FOR GENERAL NOTES AND LEGEND, SEE DRAWING M-1.

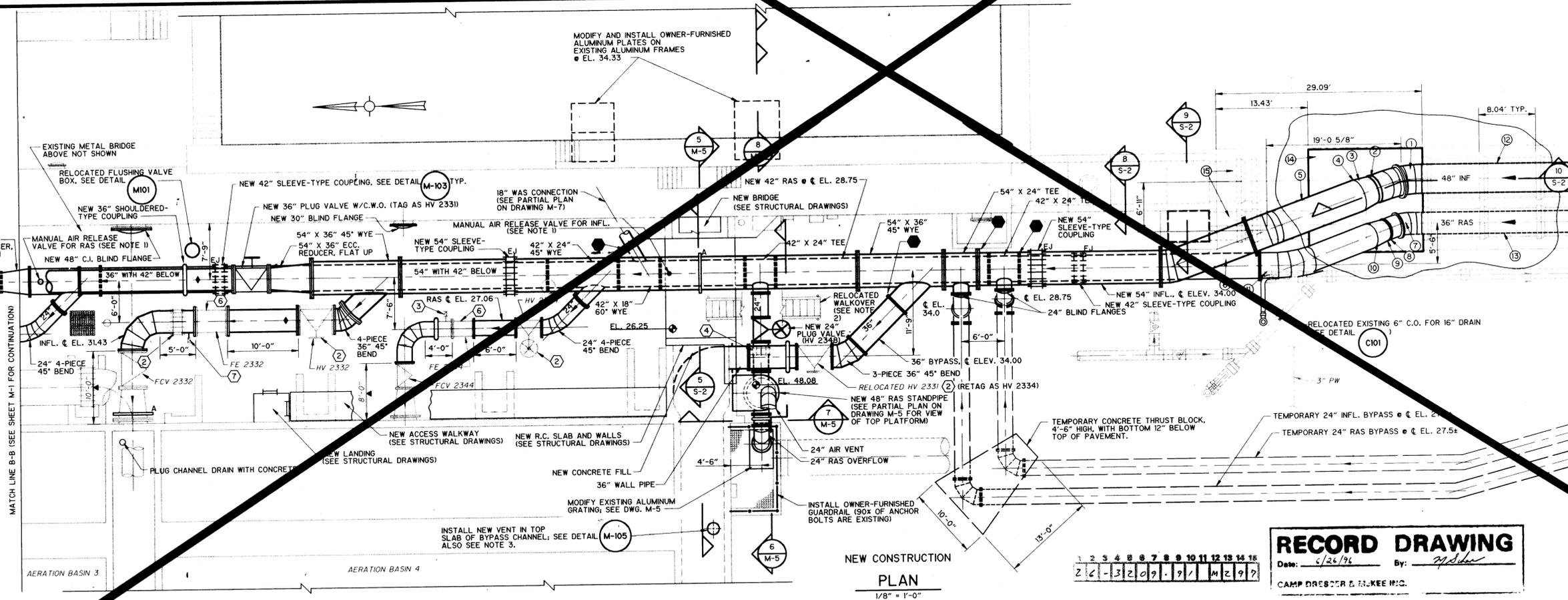
ADDITIONAL NOTES:

1. EXISTING BURIED RCP ARE LOW SPOTS IN THE EXISTING CONDUIT SYSTEM AND MUST BE DRAINED. ALL DEPOSITED MATERIAL REMOVED FROM WITHIN, AND INTERIOR WALLS CLEANED OF ADHERENT MATERIAL AS SPECIFIED PRIOR TO LINER PIPE INSTALLATION.

RECORD DRAWING

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DATE: 6/26/96 BY: [Signature] CAMP DRESSER & MCKEE



NEW CONSTRUCTION PLAN
1/8" = 1'-0"

- KEYED NOTES:**
- 1 48" - 45" BEND (5-PIECE), W/ANCHOR RING, ROTATED 21° WEST
 - 2 48" SHOULDERED-TYPE COUPLING.
 - 3 54" X 48" REDUCER
 - 4 BUTT WELDED JOINT (FIELD)
 - 5 54" PIPE W/4-PIECE 41° VERT. BEND
 - 6 54" PIPE W/3-PIECE 20° HORIZ. BEND
 - 7 36" 45" BEND (5-PIECE), W/ANCHOR RING, ROTATED 17.5° WEST
 - 8 36" SHOULDERED-TYPE COUPLING
 - 9 42" X 36" REDUCER
 - 10 BUTT WELDED JOINT (FIELD)
 - 11 42" PIPE W/5-PIECE 45° BEND ROTATED 17.5° EAST
 - 12 NEW 48" C.M.L. STEEL OR FRP LINER PIPE @ EL. 16.25
 - 13 NEW 36" C.M.L. STEEL OR FRP LINER PIPE @ EL. 15.75
 - 14 NEW ANCHOR BLOCK FOUNDATION, ANCHOR BLOCK NOT SHOWN, (SEE STRUCTURAL DRAWINGS)
 - 15 EXISTING RCP TO REMAIN (PLUG WITH CONCRETE)
- RELOCATED EXISTING HAND VALVE; HANDWHEEL POSITION AS SHOWN; SEATING END IS DOWNSTREAM.
- MODIFIED AND RELOCATED EXISTING FL X PE SPOOL WITH TANGENT BLOWOFF. SEE DETAIL M-102 FOR MODIFICATION WORK.
- RELOCATED EXISTING SLEEVE-TYPE COUPLING. SEE DETAIL M-103.
- RELOCATED EXISTING MAGNETIC FLOW METER.
- RELOCATED EXIST. 4" PLUG VALVE ON NEW TANGENT BLOWOFF, ON NEW SPOOL, TANGENT BLOWOFF PER AWWA M-11, THIRD EDITION, FIG. 9-1, FL END TO ACCEPT 4" VALVE.

GENERAL NOTES:

FOR GENERAL NOTES SEE DRAWING M-1.

LEGEND:

SEE DRAWING M-1.

● = LOCATION OF TEMPORARY BLIND FLANGE, FOR STAGED CONSTRUCTION. REFER TO SPECIFICATIONS.

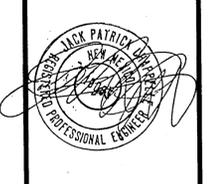
ADDITIONAL NOTES:

1. SEE DETAIL M-104 FOR NEW MANUAL AIR RELEASE VALVES.
2. NEW RAS STANDING REOD, ONLY SOUTH OF RAS SLAB AT EL. 26.25. SEE DETAIL M-105.
3. ALSO INSTALL ANOTHER REOD, PER DETAIL M-105, LOCATED 10' WEST TO THE EAST.

RECORD DRAWING

Date: 6/26/96 By: [Signature]

CAMP DRESSER & MCKEE INC.



NO.	DATE	APP.	REVISION	NO.	DATE	APP.	REVISION
1	5/21/96	MJS	SHEET DELETED BY CHANGE REQUEST NO. 1				

SOUTHSIDE WATER RECLAMATION PLANT
ACTIVATED SLUDGE EXPANSION
PHASE III, CONTRACT 4
MODIFICATIONS TO ACTIVATED SLUDGE
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF ALBUQUERQUE
NEW MEXICO
PUBLIC WORKS DEPARTMENT

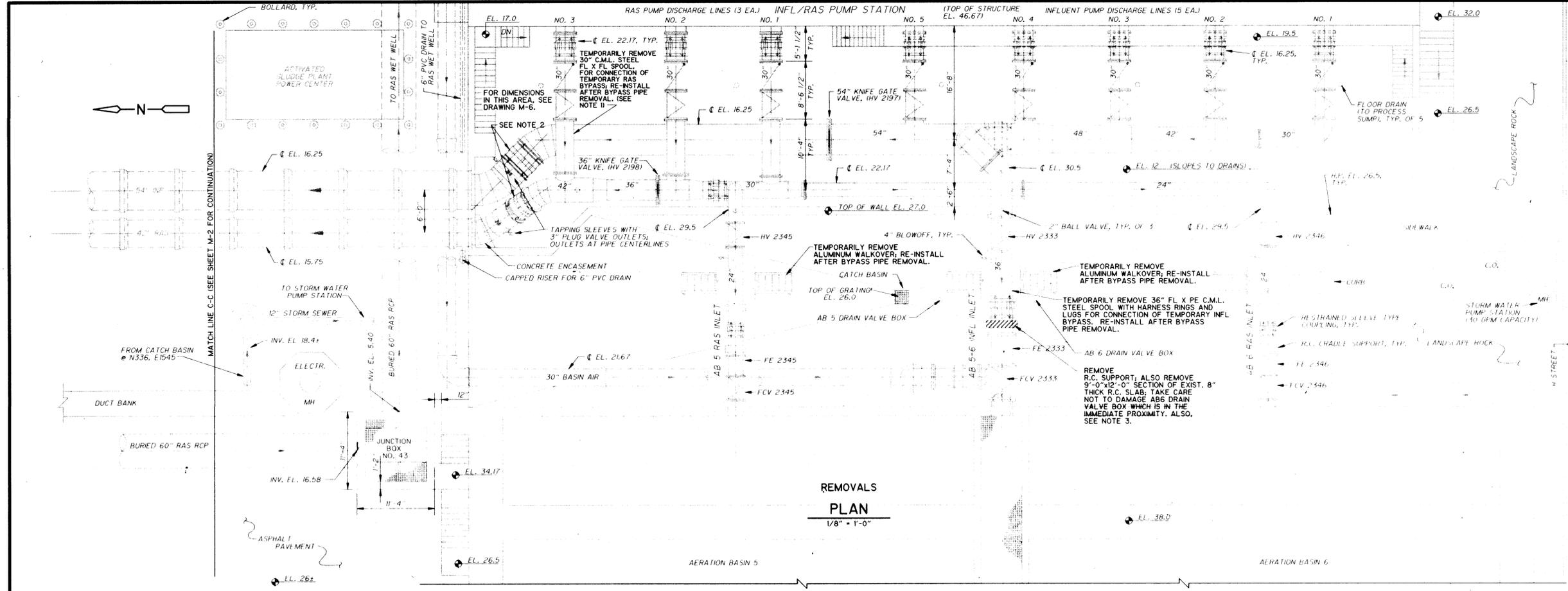
Designed By: MLD
Drawn By: STAFF
Checked By: MJS
Approved By:

Date: DEC. 1993
Scale: AS NOTED

CDM CAMP DRESSER & MCKEE INC.
ALBUQUERQUE, NEW MEXICO
environmental engineers, scientists
planners, & management consultants

MECHANICAL PLAN - CENTRAL

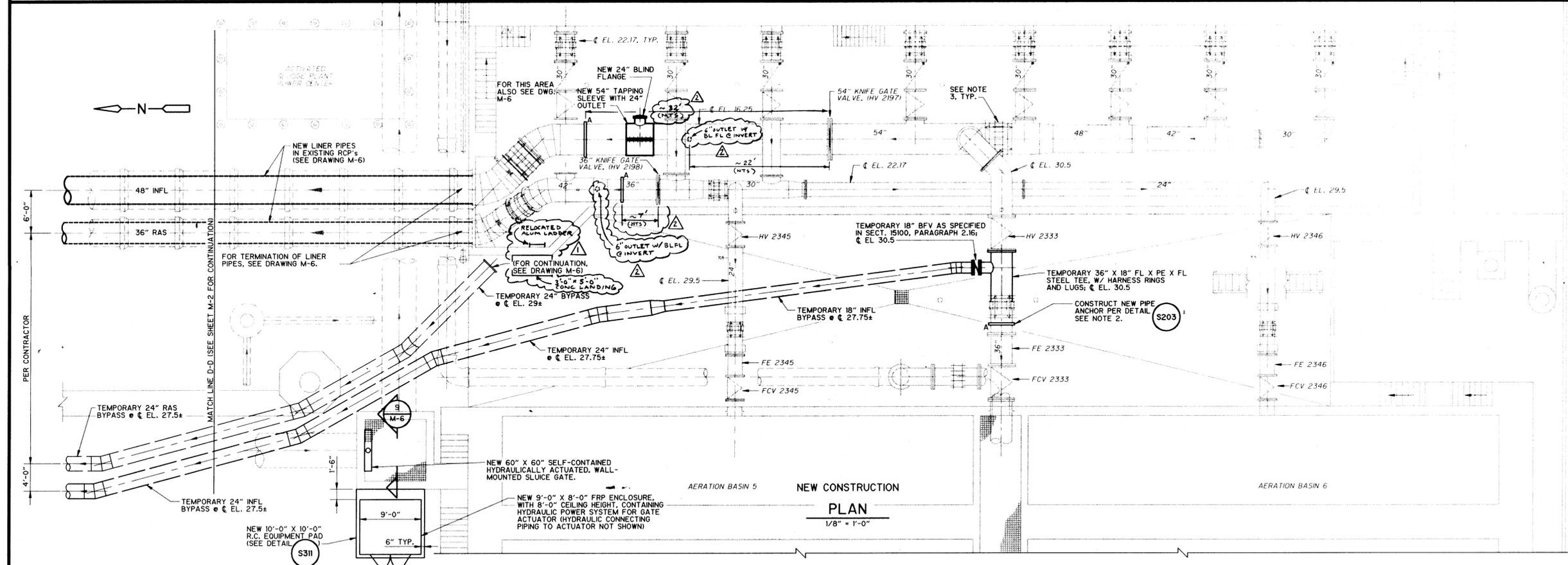
DRAWING M-2
SHEET NUMBER 5 OF 30



- SEE DRAWING M-1 FOR GENERAL NOTES AND LEGEND.
- ADDITIONAL NOTES:
- REMOVAL AND REINSTALLATION OF EXISTING 30" SPOOL WILL EACH REQUIRE TEMPORARY DISASSEMBLY OF 30" HARNESS-COUPLING JOINT TO THE EAST, AND TEMPORARY REMOVAL OF 30" PLUG VALVE AND CHECK VALVE. APPROXIMATE COMBINED WEIGHT OF VALVES = 10,500 LB. TEMPORARY REMOVAL OF CHECK VALVE WILL REQUIRE TEMPORARY ELECTRICAL DISCONNECT AT VALVE LIMIT SWITCH.
 - RELEASE HARNESS RODS AT EXISTING COUPLINGS BY LOOSENING NUTS WHILE PIPES ARE EMPTY DURING CONSTRUCTION, AND PROVIDE SHADE OVER PIPES BETWEEN HV2197 AND HV2198 AND NORTH WALL OF VALVE PIT. RETIGHTEN HARNESSES BEFORE RETURNING PIPES TO SERVICE. ENSURE THAT HARNESSES ARE SNUG WHEN PIPE IS REFILLED WITH LIQUID AND AT NORMAL OPERATING TEMPERATURE.
 - REMOVALS MUST BE PERFORMED WITH EXISTING AB 5-6 INFLUENT INLET IN SERVICE. PROVIDE TEMPORARY SUPPORT UNTIL NEW PIPE ANCHOR IS COMPLETED. SEE SPECIFICATION SECTION 01041 FOR COORDINATION AND CONSTRUCTION STAGING REQUIREMENTS.
 - CONTRACTOR IS ADVISED TO ANTICIPATE LEAKAGE PAST THE EXISTING KNIFE GATE VALVES (HV 2197 AND HV 2198). CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING SUCH LEAKAGE FROM INTERFERING WITH THE SUCCESSFUL PROSECUTION OF THE WORK, BY TEMPORARY BULKHEADING OR OTHER ACCEPTED MEANS, AS PROVIDED IN THE SPECIFICATIONS. CONTRACTOR SHALL REQUEST OWNER ASSISTANCE IN PROVIDING FOR PLANT SHUTDOWNS TO ENABLE CONTRACTOR TO INSTALL AND REMOVE TEMPORARY BULKHEADS, SHUTDOWNS, IF NEEDED, WILL BE OF LIMITED DURATION, AND WILL BE CONFINED TO PERIODS OF LOW PLANT FLOW (NORMALLY EARLY MORNING HOURS). ALL COSTS IN CONNECTION WITH NECESSARY TEMPORARY MEASURES SHALL BE INCLUDED IN THE BID PRICE.

RECORD DRAWING
 Date: 6/26/96 By: [Signature]
 CAMP DRESSER & MCKEE INC.

RECORD DRAWING
 THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.
 DATE: 6/26/96 By: [Signature] CAMP DRESSER & MCKEE



- SEE DRAWING M-1 FOR GENERAL NOTES AND LEGEND.
- ADDITIONAL NOTES:
- CONTRACTOR RESPONSIBLE FOR EXACT ROUTING AND SUPPORT OF TEMPORARY BYPASS LINES WITHIN GENERAL CONCEPT SHOWN. CONTRACTOR ALSO RESPONSIBLE FOR SELECTION OF JOINTS AND RESTRAINTS, FOR THERMAL CONSIDERATIONS, AND FOR FITTING DESIGN, ALL FOR THE TEMPORARY BYPASS LINES, UNLESS SPECIFICALLY CALLED OUT ON THE DRAWINGS OR SPECIFIED. BYPASS LINES TO MEET PRESSURE REQUIREMENTS STATED IN THE SPECIFICATIONS. TEMPORARY BYPASS LINES MUST NOT TRANSMIT STRESSES TO EXISTING AND NEW PERMANENT PIPELINES FROM THERMAL EXPANSION OR CONTRACTION OF THE BYPASS LINES.
 - NEW PIPE ANCHOR TO BE CONSTRUCTED WITH AB 5-6 INFLUENT IN SERVICE AND PRIOR TO CONNECTION AND OPERATION OF TEMPORARY INFLUENT BYPASS. SEE SPECIFICATION SECTION 01041 FOR COORDINATION AND CONSTRUCTION STAGING REQUIREMENTS.
 - ENSURE THAT HARNESSES AT EXISTING COUPLINGS ARE SNUG WHEN PIPES ARE FULL OF LIQUID AND AT NORMAL OPERATING TEMPERATURES.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
 2 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

SEP 95	MJS	CHANGE REQUEST NO.13			
OCT 95	MJS	AS-BUILT CONDITION			
NO.	DATE	APP	REVISION	NO.	DATE

SOUTHSIDE WATER RECLAMATION PLANT
 ACTIVATED SLUDGE EXPANSION
 PHASE III, CONTRACT 4
 MODIFICATIONS TO ACTIVATED SLUDGE
 PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
ALBUQUERQUE
 NEW MEXICO
 PUBLIC WORKS
 DEPARTMENT

Designed By: MLD
 Drawn By: STAFF
 Checked By: MJS
 Approved By: _____

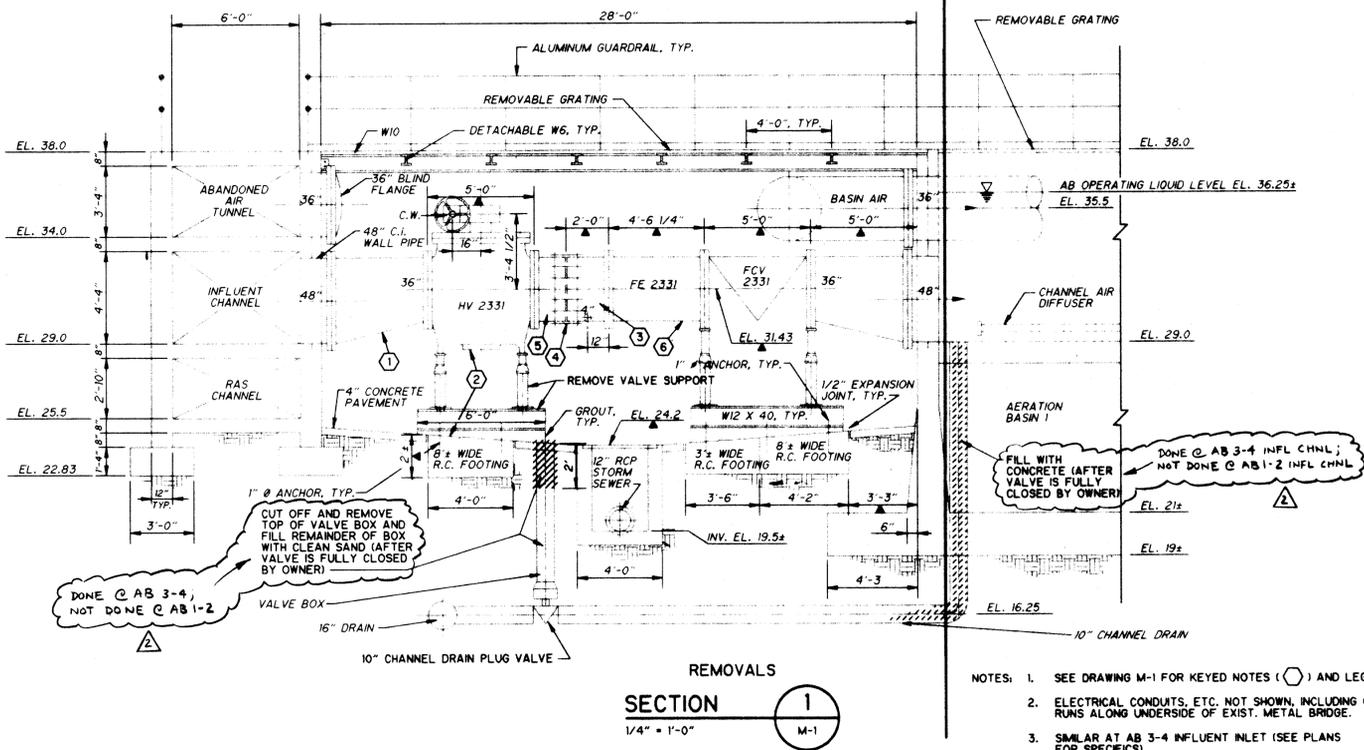
Date: DEC. 1993
 Scale: AS NOTED

CDM CAMP DRESSER & MCKEE INC.
 ALBUQUERQUE, NEW MEXICO
 environmental engineers, scientists
 planners, & management consultants

DRAWING
M-3
 SHEET NUMBER
 6 OF 30

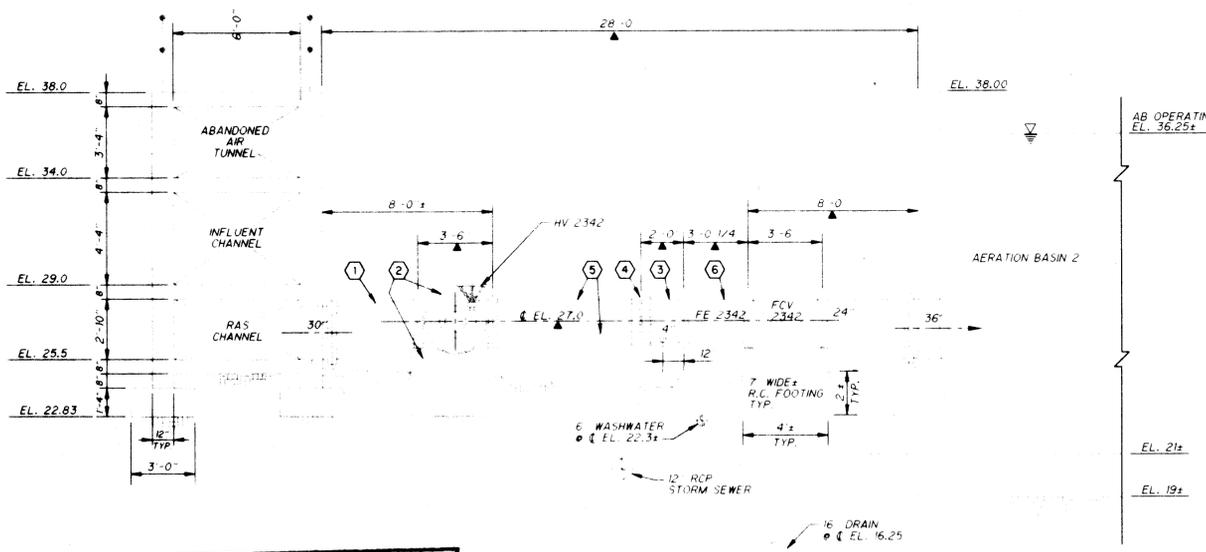
MECHANICAL PLAN
 -SOUTH





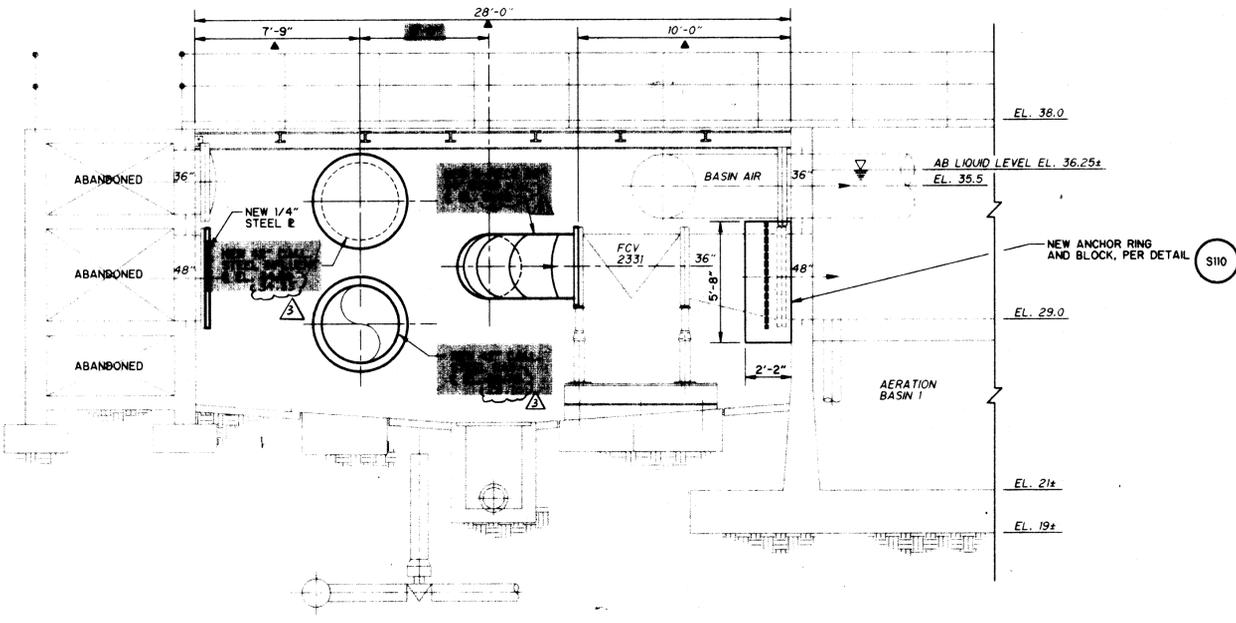
REMOVALS
SECTION 1
1/4" = 1'-0"

- NOTES:
1. SEE DRAWING M-1 FOR KEYED NOTES (○) AND LEGEND.
 2. ELECTRICAL CONDUITS, ETC. NOT SHOWN, INCLUDING CONDUIT RUNS ALONG UNDERSIDE OF EXIST. METAL BRIDGE.
 3. SIMILAR AT AB 3-4 INFLUENT INLET (SEE PLANS FOR SPECIFICS).



REMOVALS
SECTION 2
1/4" = 1'-0"

- NOTES:
1. SEE DRAWING M-1 FOR KEYED NOTES (○) AND LEGEND.
 2. ELECTRICAL CONDUITS, ETC. NOT SHOWN.
 3. SIMILAR AT AB 1, AB 3 AND AB 4 RAS INLETS. (SEE PLANS FOR SPECIFICS).
 4. WALKOVER AND LANDING NOT SHOWN.



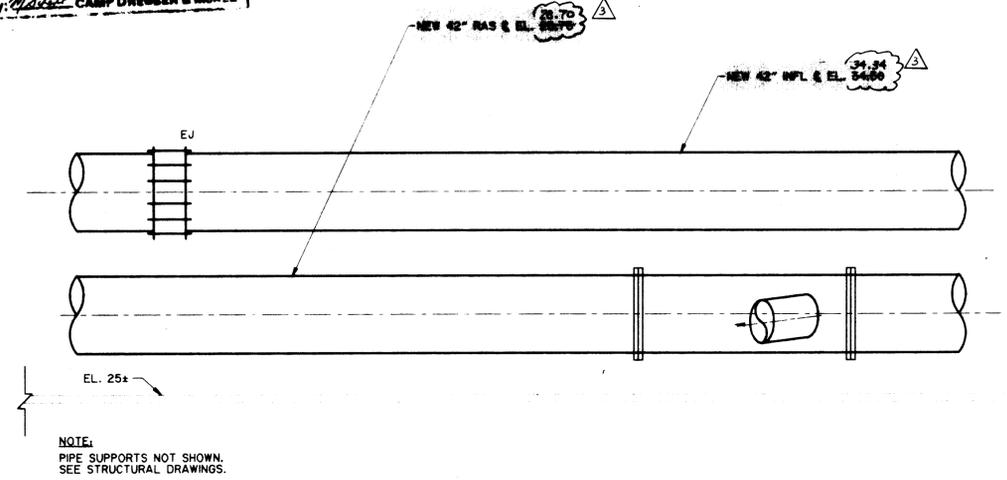
NEW CONSTRUCTION
SECTION 3
1/4" = 1'-0"

- NOTES:
1. ELECTRICAL CONDUIT, ETC., NOT SHOWN.
 2. SIMILAR AT AB 3-4 INFLUENT INLET (SEE PLANS FOR SPECIFICS).
 3. NEW PIPE SUPPORTS NOT SHOWN.

REVISION

RECORD DRAWING
Date: 6/24/93 By: M. J. Sear
CAMP DRESSER & MCKEE INC.

RECORD DRAWING
THESE RECORD DRAWINGS HAVE BEEN PREPARED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.
DATE: 6/24/93 By: M. J. Sear CAMP DRESSER & MCKEE



NEW CONSTRUCTION
SECTION 4
1/4" = 1'-0"

NOTE:
PIPE SUPPORTS NOT SHOWN.
SEE STRUCTURAL DRAWINGS.

CHANGE REQUEST NO.1				
CHANGE REQUEST NO.13				
AS-BUILT CONDITION				
REVISION	NO.	DATE	APP	REVISION

SOUTHSIDE WATER RECLAMATION PLANT
ACTIVATED SLUDGE EXPANSION
PHASE III, CONTRACT 4
MODIFICATIONS TO ACTIVATED SLUDGE
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
ALBUQUERQUE
NEW MEXICO
PUBLIC WORKS
DEPARTMENT



Designed By: MLD
Drawn By: STAFF
Checked By: MJS
Approved By: JPC

Date: DEC. 1993
Scale: AS NOTED

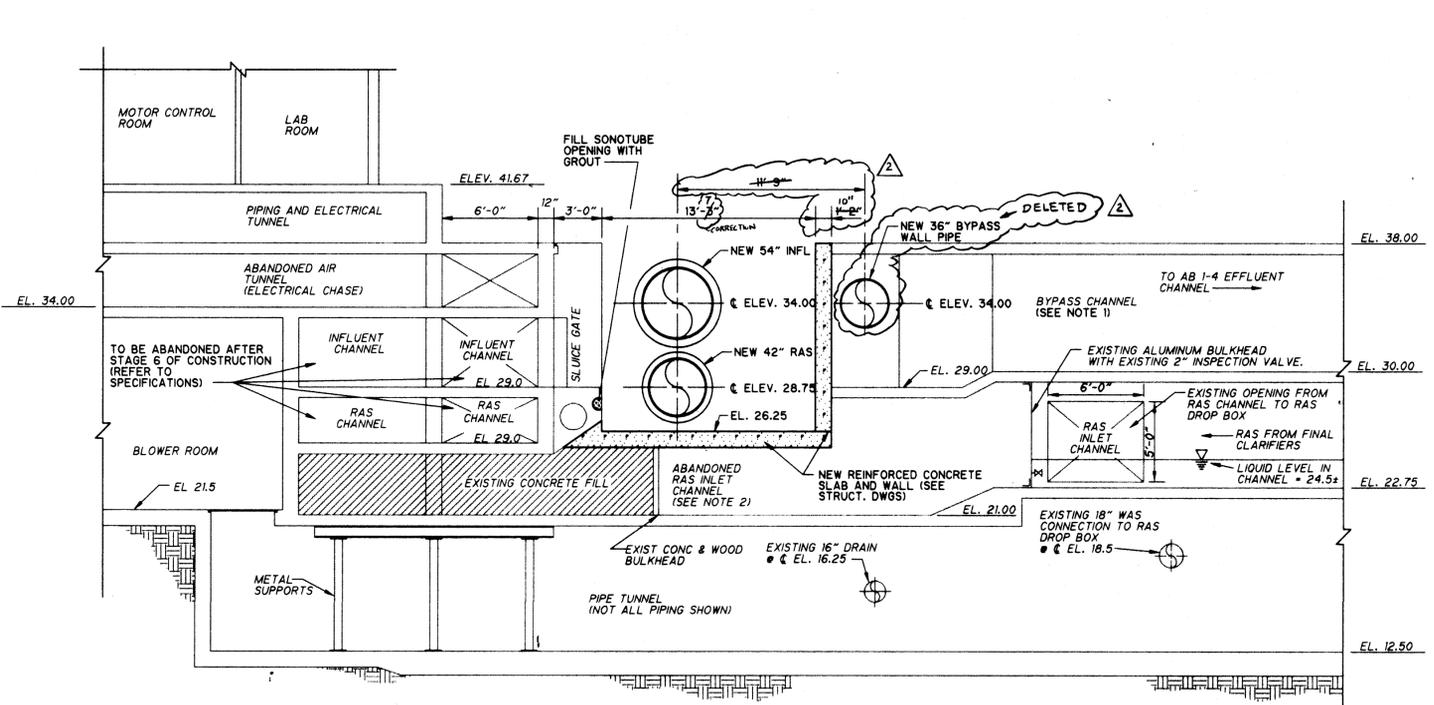
CDM CAMP DRESSER & MCKEE INC.
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MECHANICAL SECTIONS
REVISED



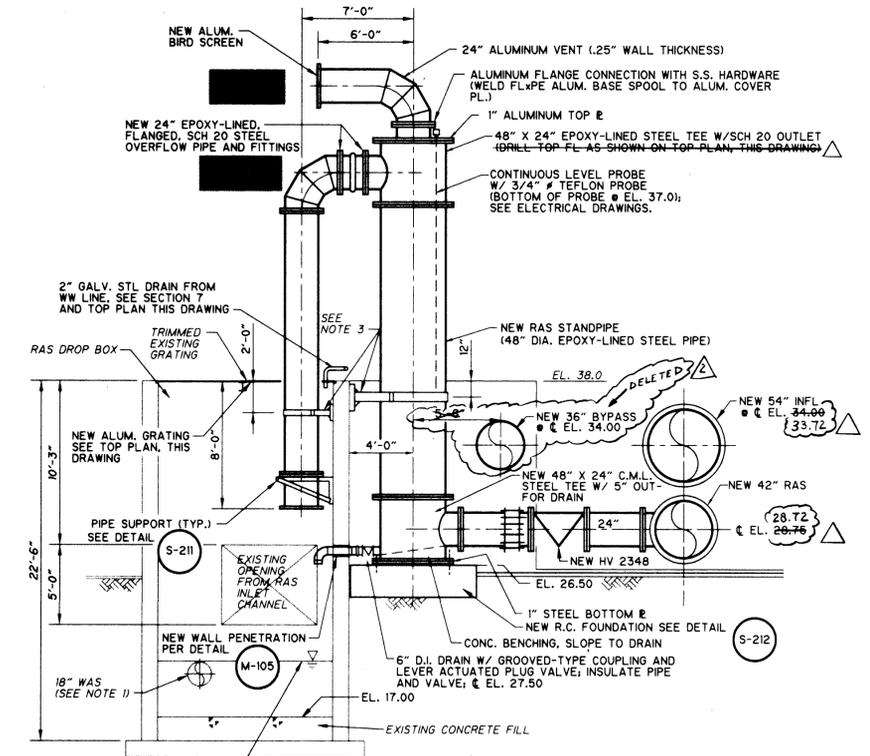
DRAWING
M-4-R
SHEET NUMBER
7 OF 30

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2	1	3	2	0	9	9	1	1	4	2	9	7		



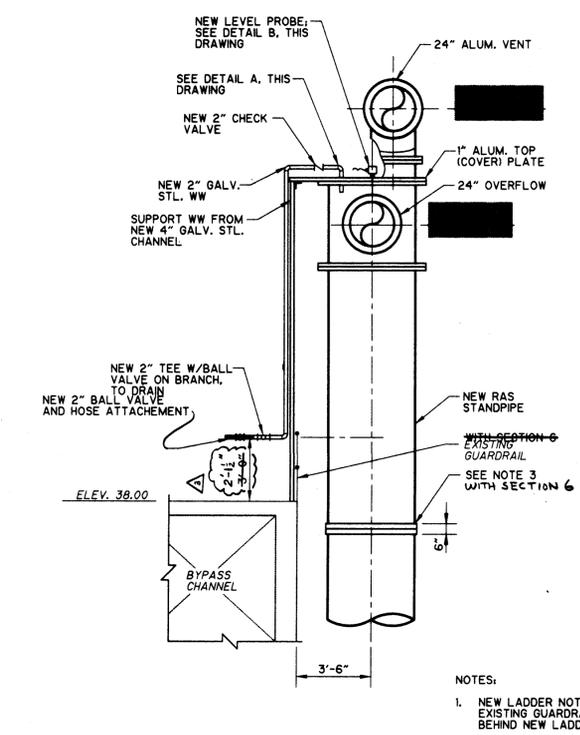
SECTION 5
3/16" = 1'-0"

- NOTES:
- AT THE TIME OF DESIGN, EXISTING BYPASS CHANNEL IS DRY AND NOT IN USE. EXISTING SLUICE GATE SHOWN, AS WELL AS EXISTING SLUICE GATE (V 250) AT AB 1-4 EFFLUENT CHANNEL (APPROX. 280' TO THE WEST) ARE FULLY CLOSED. CONTRACTOR SHALL VERIFY CONDITIONS PRIOR TO COMMENCING REMOVALS.
 - CONTRACTOR IS CAUTIONED THAT LIQUID (RAS) MAY BE PRESENT IN THE ABANDONED SEGMENT OF THE RAS INLET CHANNEL, EAST OF THE EXISTING ALUMINUM BULKHEAD SHOWN. CONTRACTOR SHALL REQUEST OWNER SHUTDOWN AND DEWATERING OF THE RAS INLET CHANNEL WEST OF THE BULKHEAD, AND SHALL VERIFY CONDITIONS PRIOR TO COMMENCING REMOVAL OF EXISTING CHANNEL SLAB AND WALLS. VERIFICATION SHALL INCLUDE TEMPORARY REMOVAL OF EXIST. BULKHEAD PLATE, DURING AN EARLY MORNING HOUR SHUTDOWN.
 - GUARDRAILING NOT SHOWN.



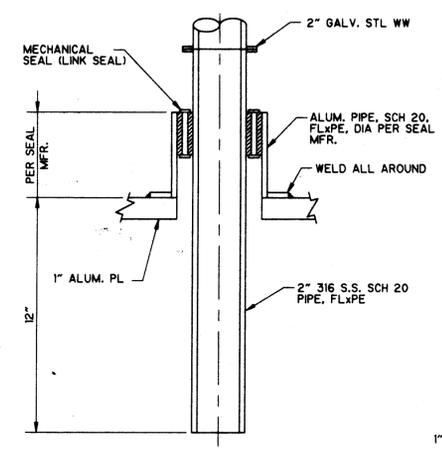
SECTION 6
3/16" = 1'-0"

- NOTES:
- EXISTING WAS SLUICE GATE NOT SHOWN.
 - GUARDRAIL NOT SHOWN.
 - STEEL RESTRAINTS (SEE DETAIL S-103)

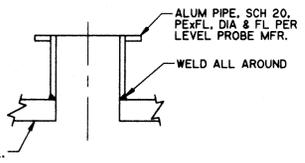


SECTION 7
1/4" = 1'-0"

- NOTES:
- NEW LADDER NOT SHOWN; TRIM EXISTING GUARDRAIL FROM BEHIND NEW LADDER.
 - SCALE OF WW PIPE FITTINGS EXAGGERATED FOR CLARITY.



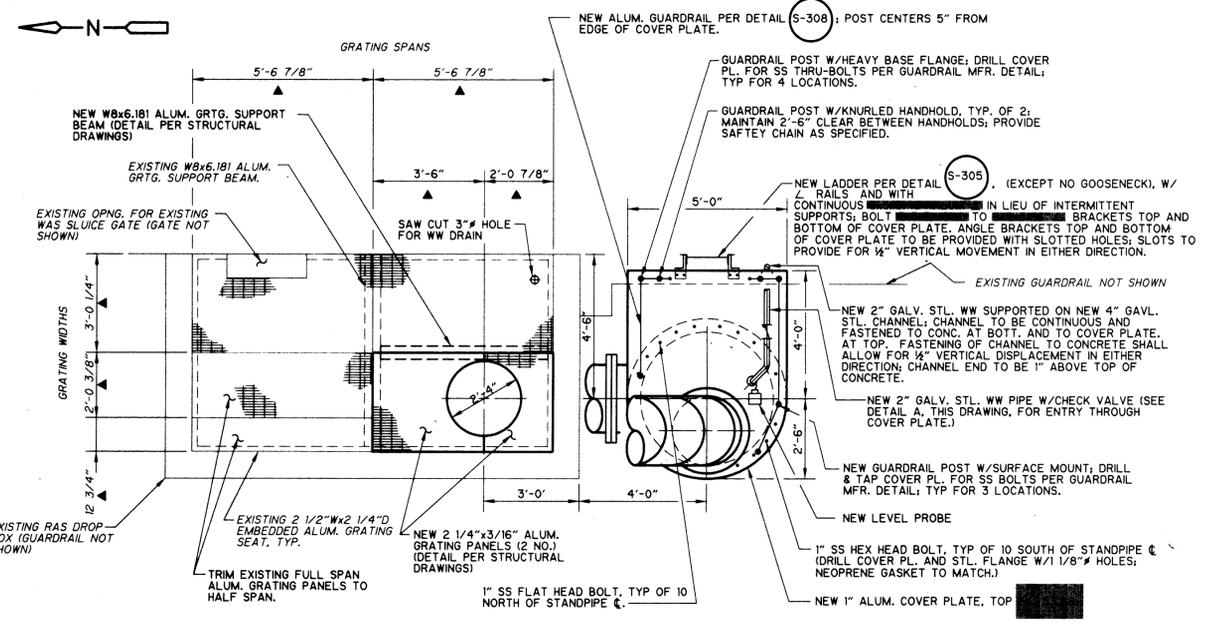
DETAIL A
NO SCALE



DETAIL B
NO SCALE

RECORD DRAWING
Date: 6/28/95 By: MJS
CAMP DRESSER & MCKEE INC.

RECORD DRAWING
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DATE: 6/28/95 By: MJS CAMP DRESSER & MCKEE



PARTIAL PLAN
3/8" = 1'

NO.	DATE	APP.	REVISION	NO.	DATE	APP.	REVISION
1	6/16/94	MJS	CHANGE REQUEST NO. 1	3	OCT 95	MJS	AS-BUILT CONDITION
			RAS STANDPIPE HEIGHTENED 5'-0"				
			LADDER SUPPORT ANGLE REVISED				
2	SEP 94	MJS	CHANGE REQUEST NO. 2				

SOUTHSIDE WATER RECLAMATION PLANT
ACTIVATED SLUDGE EXPANSION
PHASE III, CONTRACT 4
MODIFICATIONS TO ACTIVATED SLUDGE
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
ALBUQUERQUE
NEW MEXICO
PUBLIC WORKS
DEPARTMENT



Designed By: MLD
Drawn By: STAFF
Checked By: MJS
Approved By: JPC

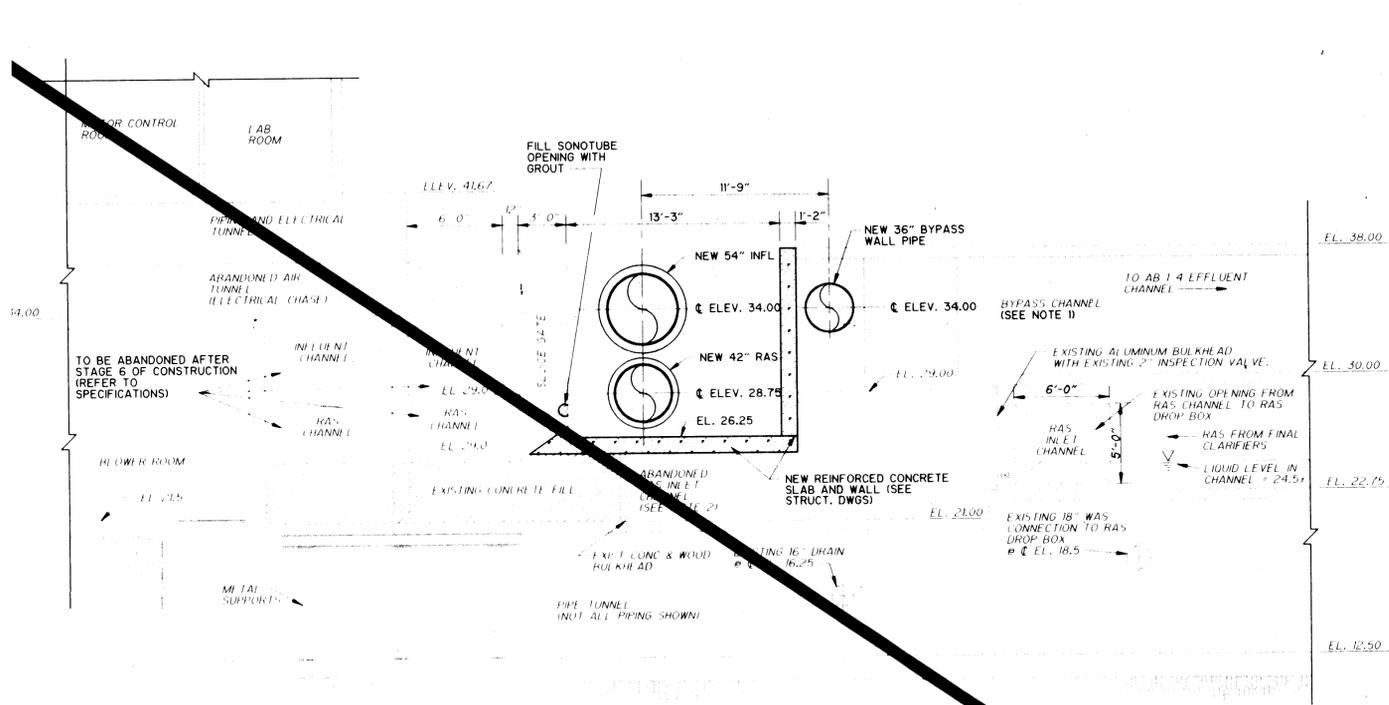
Date: DEC., 1993
Scale: AS NOTED

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ALBUQUERQUE, NEW MEXICO
environmental engineers, scientists
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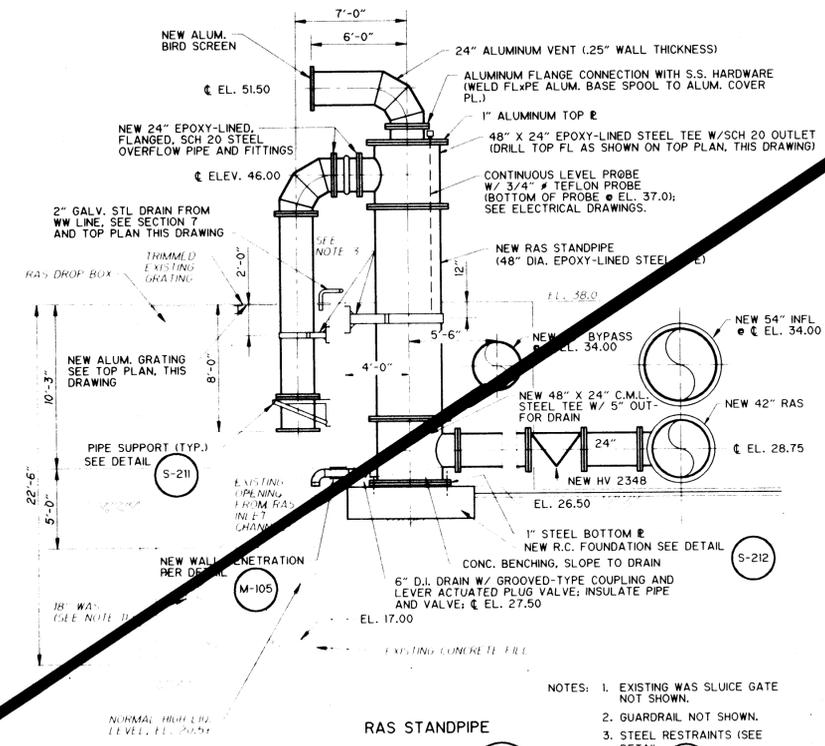
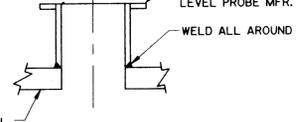
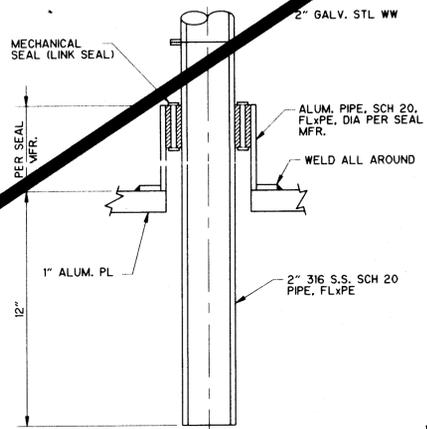
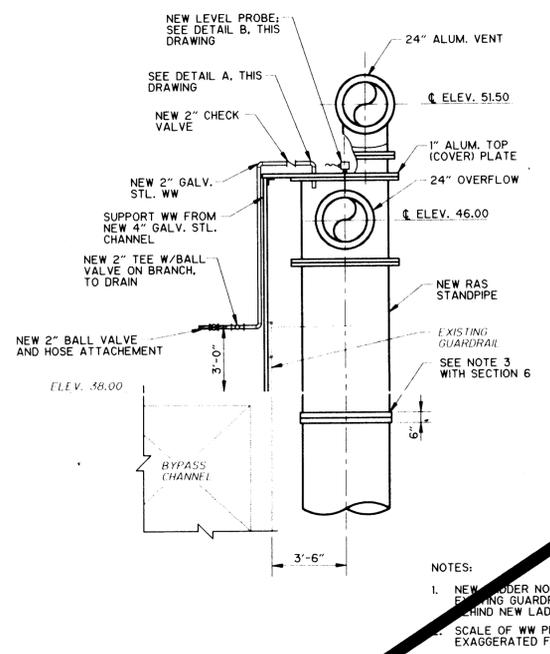
**MECHANICAL PLAN
SECTIONS AND DETAILS**
REVISED



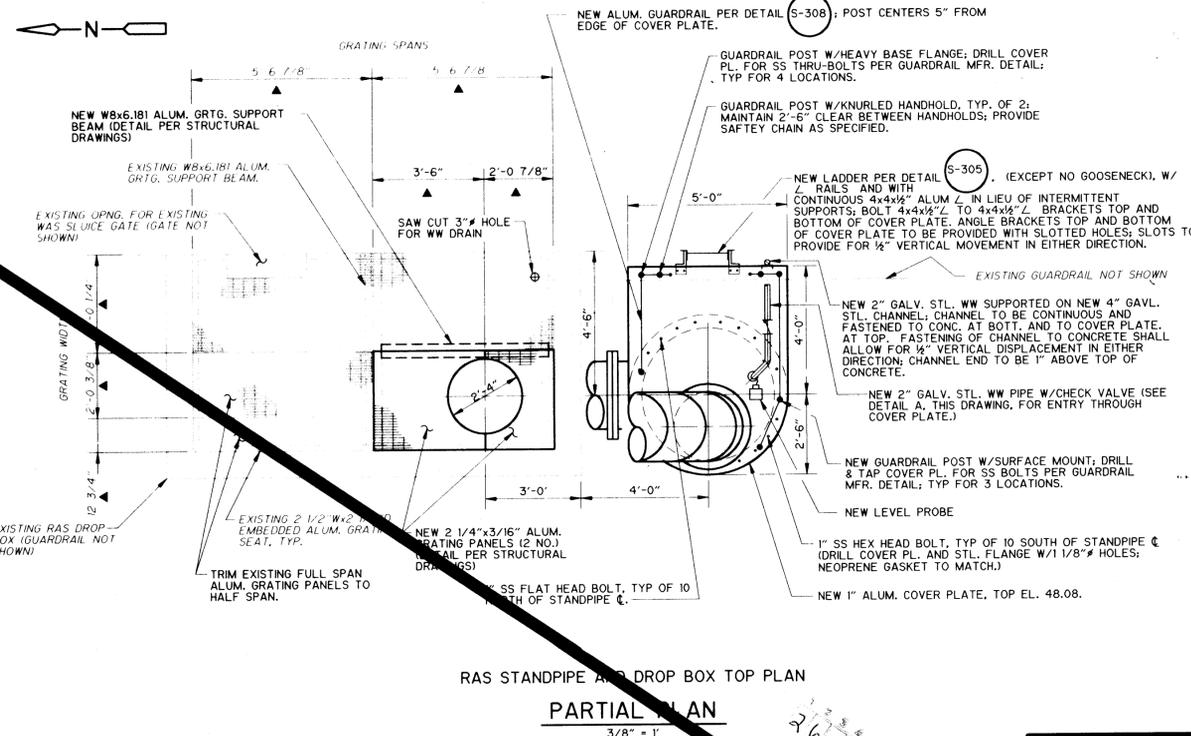
DRAWING
M-5-R
SHEET NUMBER
8 of 30



- NOTES:
1. AT THE TIME OF DESIGN, EXISTING BYPASS CHANNEL IS DRY AND NOT IN USE. EXISTING SLUICE GATE SHOWN, AS WELL AS EXISTING SLUICE GATE (FV 2551) AT AB 1-4 EFFLUENT CHANNEL (APPROX. 280' TO THE WEST) ARE FULLY CLOSED. CONTRACTOR SHALL VERIFY CONDITIONS PRIOR TO COMMENCING REMOVALS.
 2. CONTRACTOR IS CAUTIONED THAT LIQUID (RAS) MAY BE PRESENT IN THE ABANDONED SEGMENT OF THE RAS INLET CHANNEL, EAST OF THE EXISTING ALUMINUM BULKHEAD SHOWN. CONTRACTOR SHALL REQUEST OWNER SHUTDOWN AND DEWATERING OF THE RAS INLET CHANNEL WEST OF THE BULKHEAD, AND SHALL VERIFY CONDITIONS PRIOR TO COMMENCING REMOVAL OF EXISTING CHANNEL SLAB AND WALLS. VERIFICATION SHALL INCLUDE TEMPORARY REMOVAL OF EXIST. BULKHEAD PLATE, DURING AN EARLY MORNING HOUR SHUTDOWN.
 3. GUARDRAILING NOT SHOWN.



- NOTES:
1. EXISTING WAS SLUICE GATE NOT SHOWN.
 2. GUARDRAIL NOT SHOWN.
 3. STEEL RESTRAINTS (SEE DETAIL S-103)



RECORD DRAWING
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 DATE: 6/26/96 BY: MJD/CMP
 CAMP DRESSER & MCKEE

RECORD DRAWING
 Date: 6/26/96 By: MJD/CMP
 CAMP DRESSER & MCKEE INC.



APP	REVISION	NO.	DATE	APP	REVISION

SOUTHSIDE WATER RECLAMATION PLANT
 ACTIVATED SLUDGE EXPANSION
 PHASE III, CONTRACT 4
 MODIFICATIONS TO ACTIVATED SLUDGE
 PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
ALBUQUERQUE
 NEW MEXICO
 PUBLIC WORKS
 DEPARTMENT

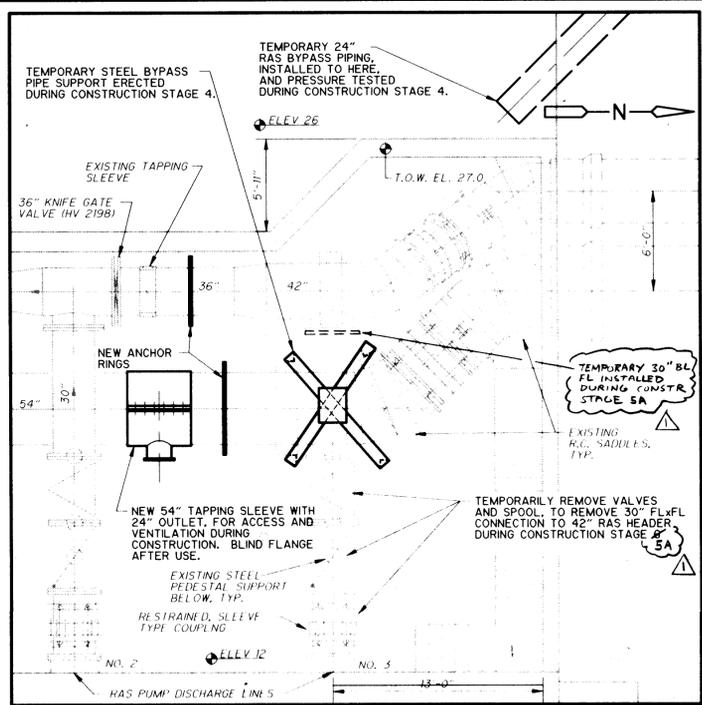
Designed By: MLD
 Drawn By: STAFF
 Checked By: MJS
 Approved By: JPC

Date: DEC. 1993
 Scale: AS NOTED

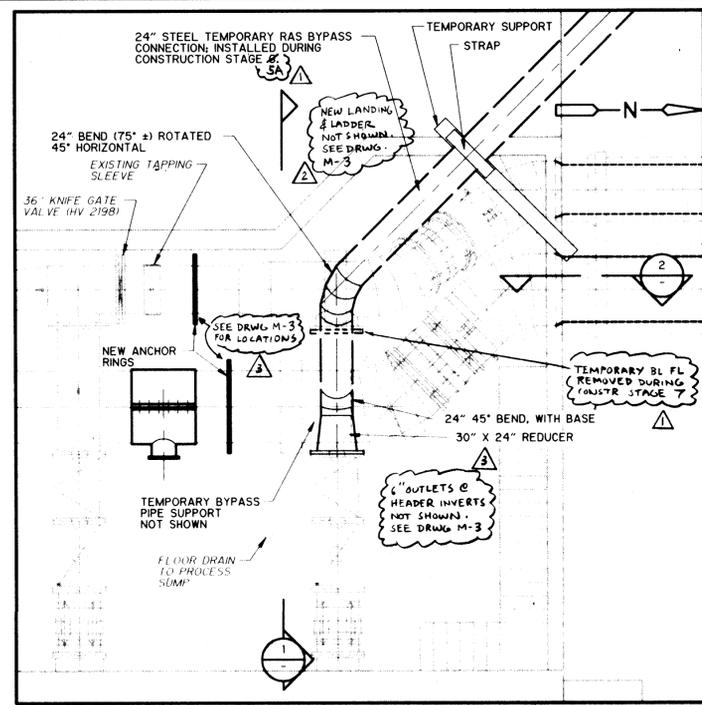
CDM CAMP DRESSER & MCKEE INC.
 ALBUQUERQUE, NEW MEXICO
 environmental engineers, scientists
 planners, & management consultants

MECHANICAL PLAN
 SECTIONS AND DETAILS

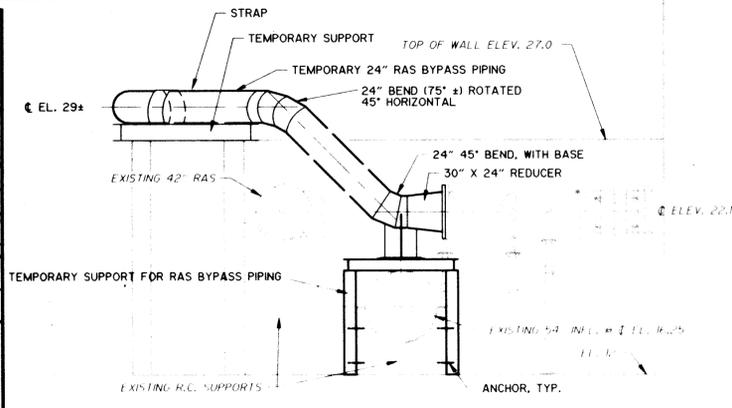
DRAWING
M-5
 SHEET NUMBER
 8 OF 30



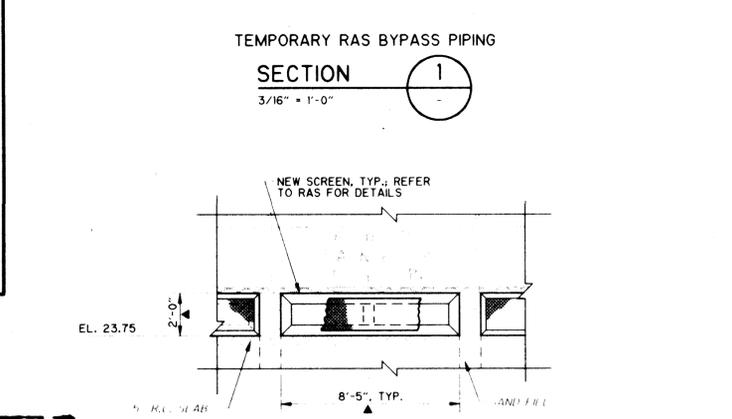
TEMPORARY RAS BYPASS CONNECTION CONSTRUCTION SEQUENCE
PARTIAL PLAN 1
3/16" = 1'-0"



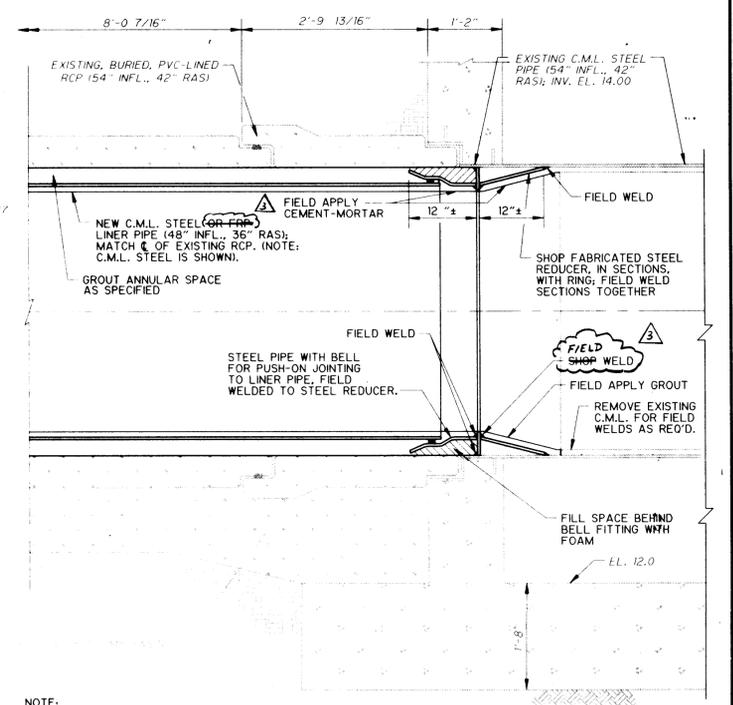
TEMPORARY RAS BYPASS CONNECTION CONSTRUCTION SEQUENCE
PARTIAL PLAN 2
3/16" = 1'-0"



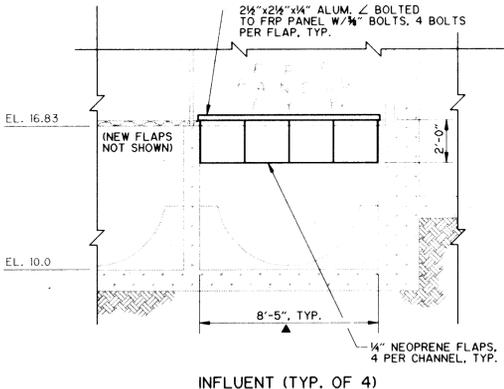
TEMPORARY RAS BYPASS PIPING
SECTION 1
3/16" = 1'-0"



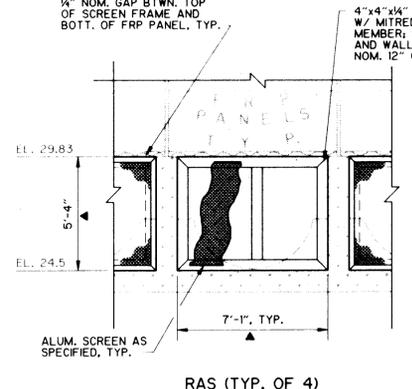
TEMPORARY RAS BYPASS PIPING
DETAIL (CONT'D.) A
1/4" = 1'-0"



LINER PIPE AND CONNECTION
SECTION 2
3/4" = 1'-0"



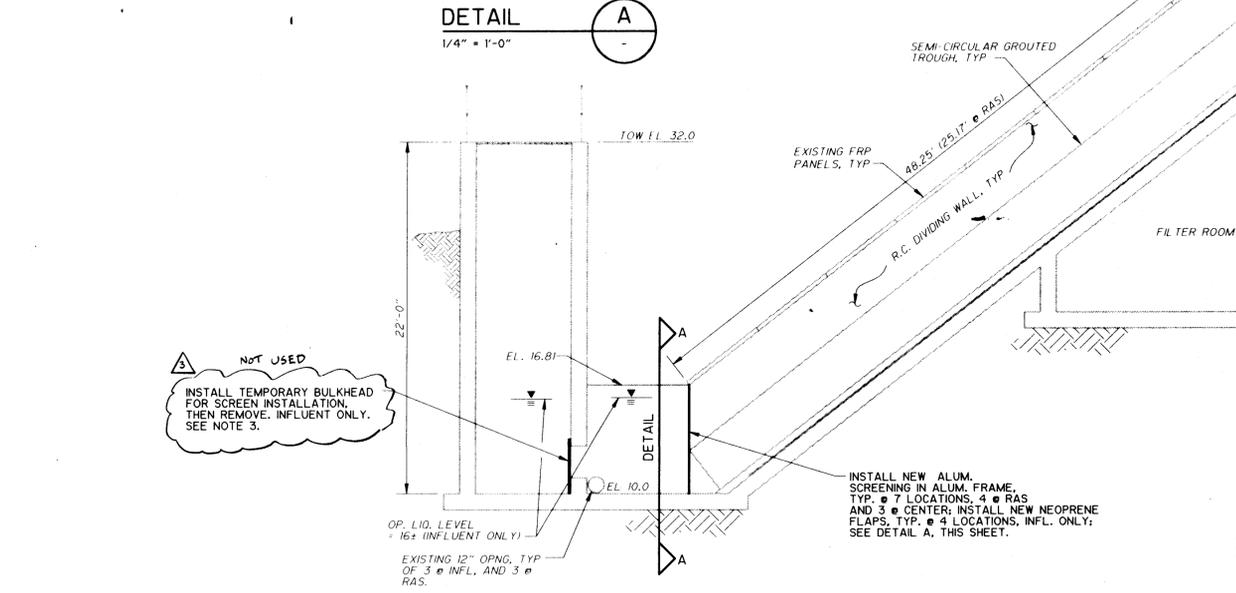
INFLUENT (TYP. OF 4)
DETAIL A
1/4" = 1'-0"



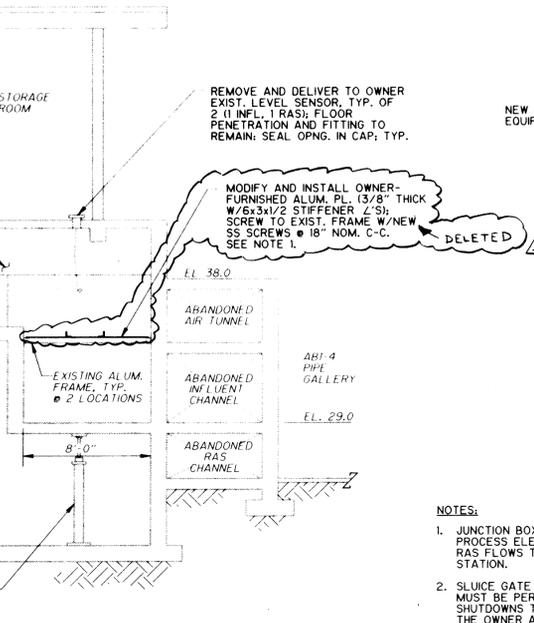
RAS (TYP. OF 4)
DETAIL B
1/4" = 1'-0"

RECORD DRAWING
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DATE: 5/26/95 By: J. Miller CAMP DRESSER & MCKEE

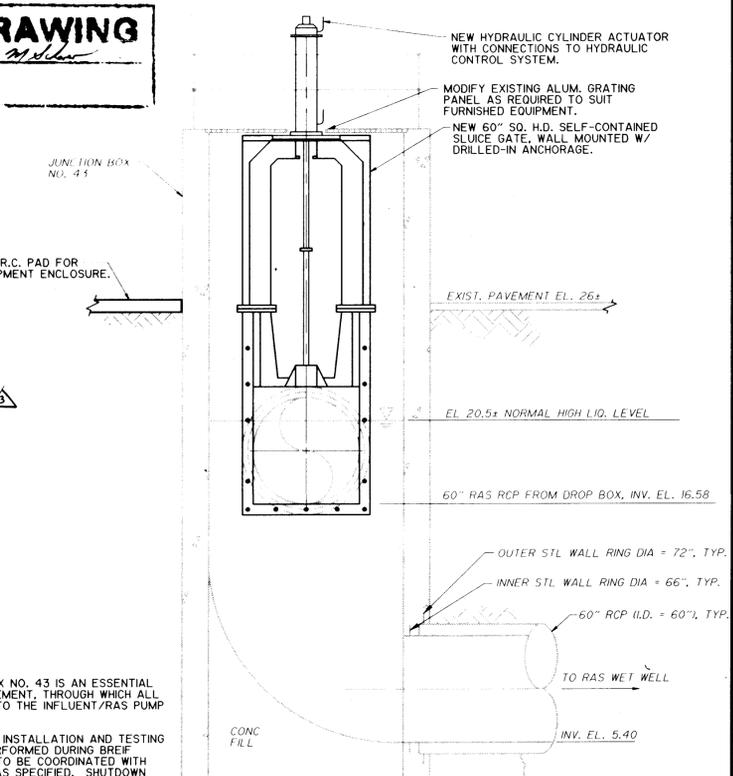
RECORD DRAWING
DATE: 5/26/95 By: J. Miller
CAMP DRESSER & MCKEE INC.



REMOVALS AND NEW CONSTRUCTION
SECTION 8 (SIMILAR FOR RAS AND CENTER TROUGHS)
3/16" = 1'-0"



DETAIL C
1/4" = 1'-0"



SECTION 9
1/4" = 1'-0"

- NOTES:**
- JUNCTION BOX NO. 43 IS AN ESSENTIAL PROCESS ELEMENT, THROUGH WHICH ALL RAS FLOWS TO THE INFLUENT/RAS PUMP STATION.
 - SLUICE GATE INSTALLATION AND TESTING MUST BE PERFORMED DURING BREIF SHUTDOWNS TO BE COORDINATED WITH THE OWNER AS SPECIFIED. SHUTDOWN PERIODS WILL LIKELY OCCUR SOLELY BETWEEN THE HOURS OF 0000 AND 0800.

- NOTES:**
- SIMILAR FOR RAS TROUGH; SEE DWGS. G-2, M-2, AND M-7.
 - ALL WORK SHOWN IS TO BE PERFORMED AFTER EXIST. INFLUENT AND RAS CHANNELS ARE PERMANENTLY REMOVED FROM SERVICE.
 - INSTALLATION AND REMOVAL MUST BE PERFORMED DURING EARLY MORNING SHUTDOWNS, TO BE COORDINATED WITH OWNER AS SPECIFIED.

NO.	DATE	APP.	REVISION	NO.	DATE	APP.	REVISION
NOV 94	MJS		CHANGE REQUEST NO. 7				
SEP 95	MJS		CHANGE REQUEST NO. 13				
OCT 95	MJS		AS-BUILT CONDITION				

SOUTHSIDE WATER RECLAMATION PLANT
ACTIVATED SLUDGE EXPANSION
PHASE III, CONTRACT 4
MODIFICATIONS TO ACTIVATED SLUDGE
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
ALBUQUERQUE
NEW MEXICO
PUBLIC WORKS
DEPARTMENT



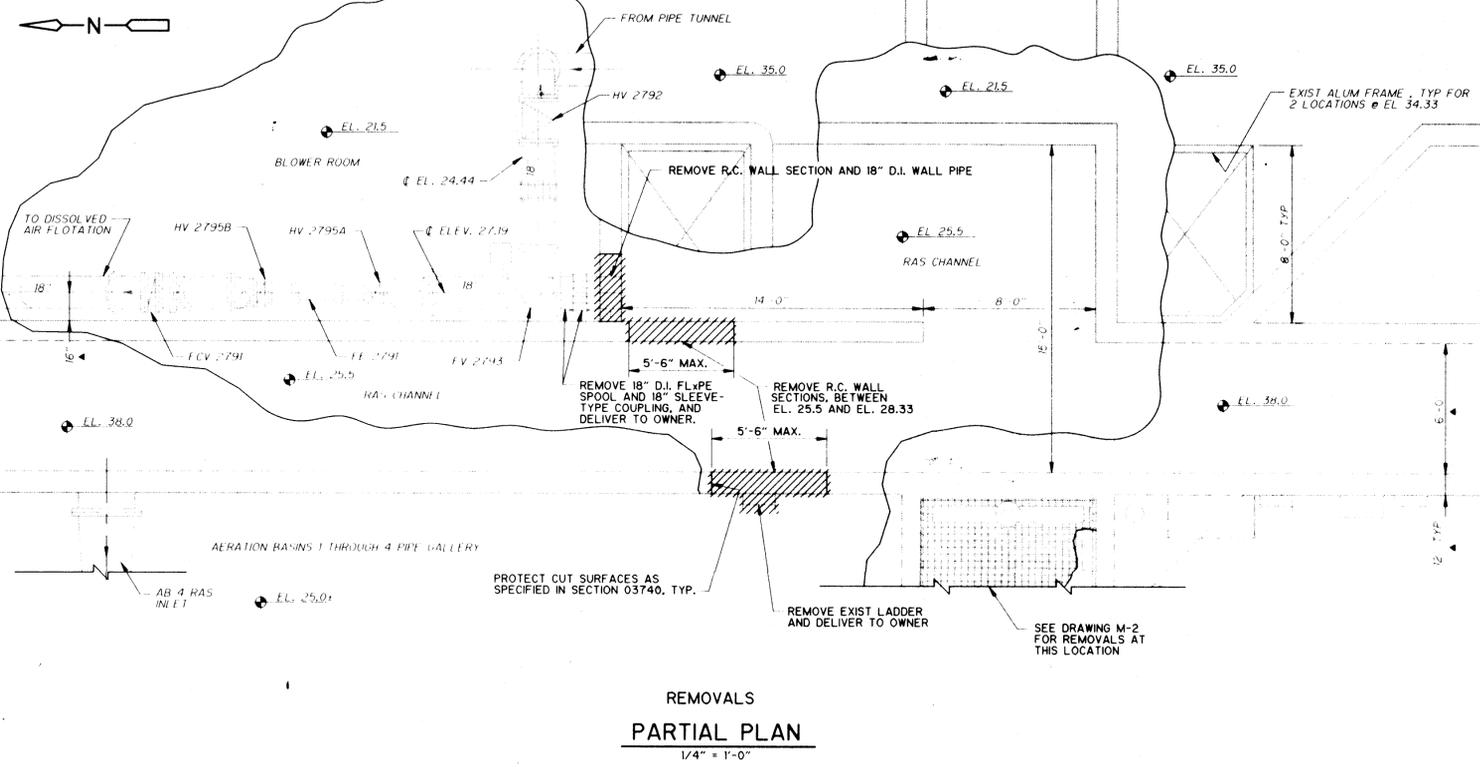
Designed By: MLD
Drawn By: STAFF
Checked By: MJS
Approved By: JPC

CDM CAMP DRESSER & MCKEE INC.
ALBUQUERQUE, NEW MEXICO
environmental engineers, scientists
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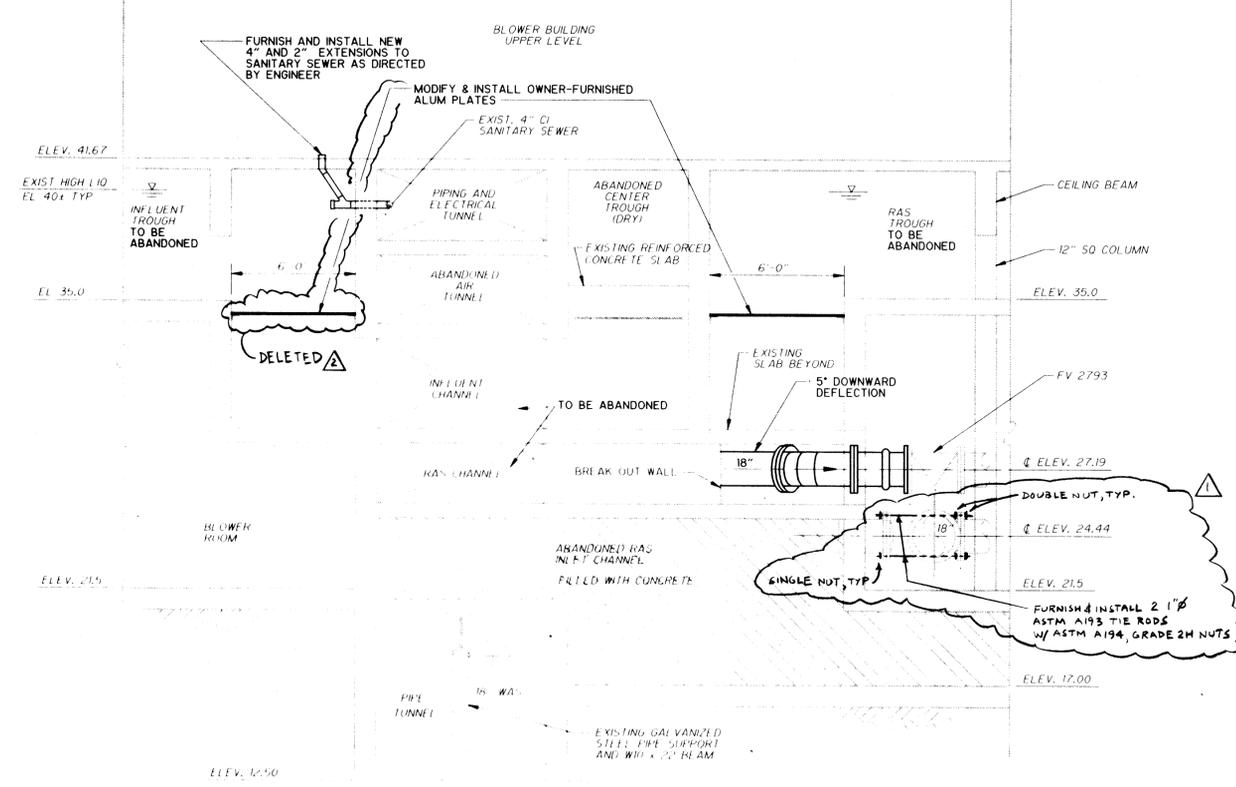
**MECHANICAL PLANS,
SECTIONS AND DETAILS**

DRAWING
M-6
SHEET NUMBER
9 OF 30

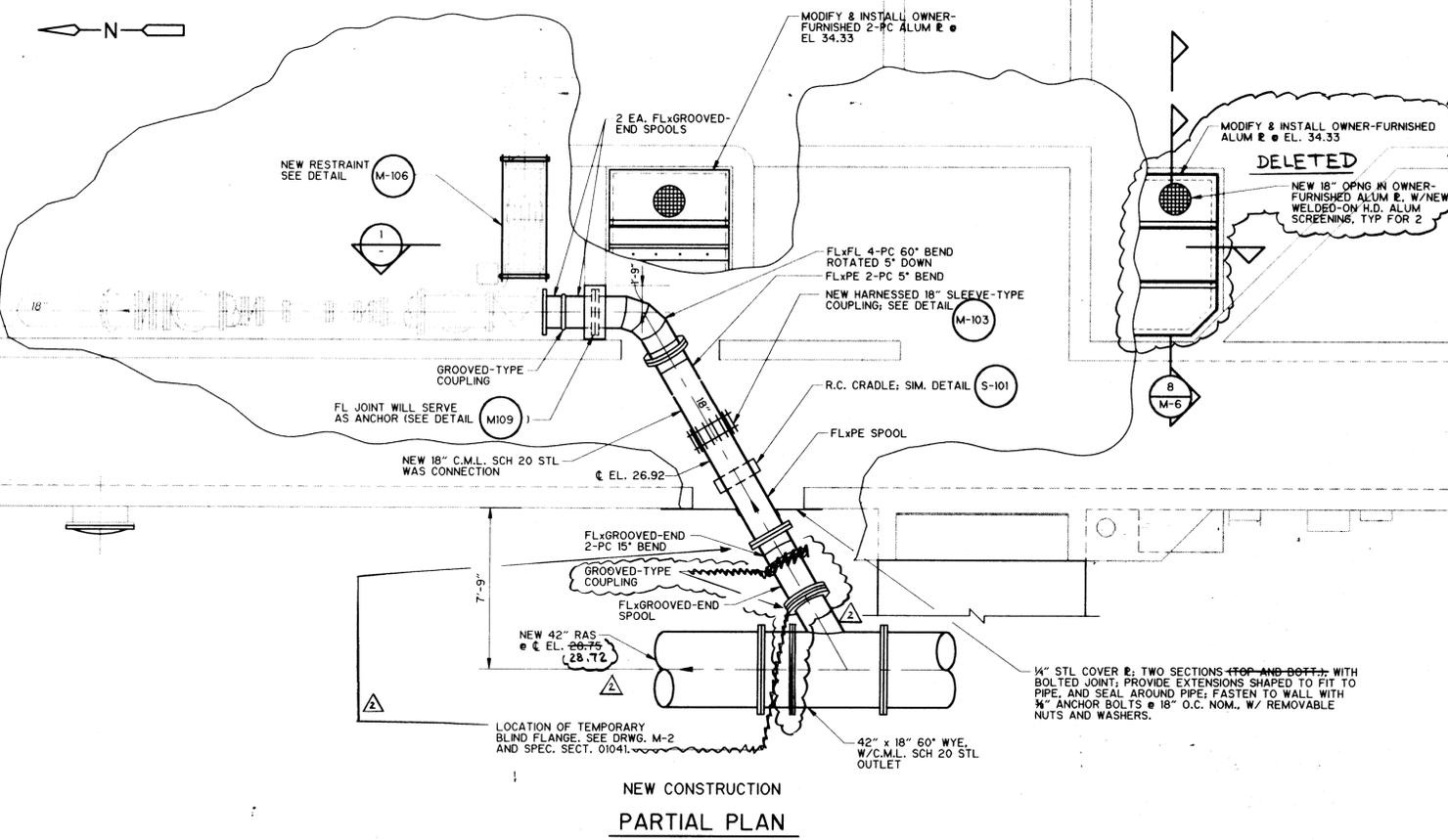




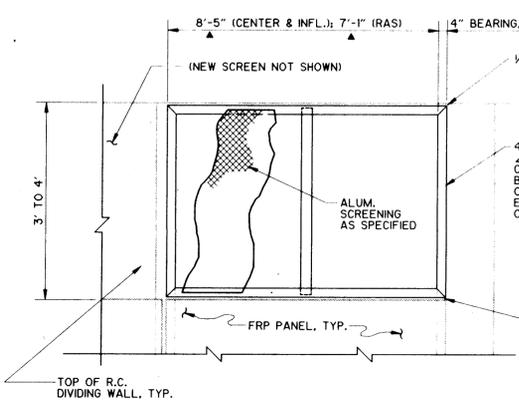
REMOVALS
PARTIAL PLAN
1/4" = 1'-0"



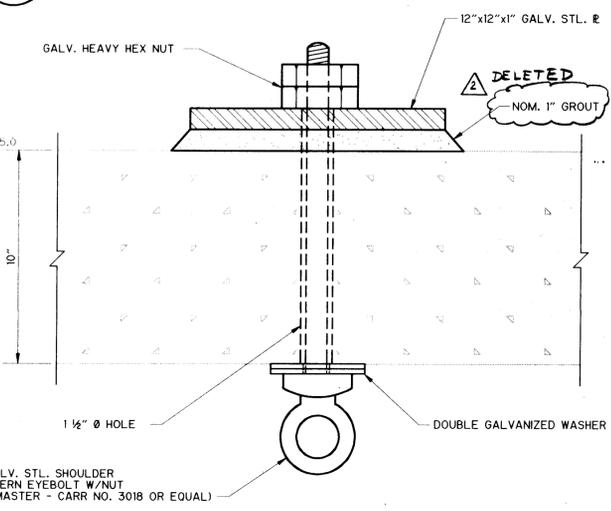
SECTION 1
1/4" = 1'-0"



NEW CONSTRUCTION
PARTIAL PLAN
1/4" = 1'-0"



DETAIL B
1/4" = 1'-0"



DETAIL C
3" = 1'-0"

RECORD DRAWING
Date: 6/26/96 By: [Signature]
CAMP DRESSER & MCKEE INC.

RECORD DRAWING
THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.
DATE: 6/26/96 By: [Signature] CAMP DRESSER & MCKEE



SEP 95	MJS	CHANGE REQUEST NO. 13			
OCT 95	MJS	AS-BUILT CONDITION			
NO.	DATE	APP	REVISION	NO.	DATE

SOUTHSIDE WATER RECLAMATION PLANT
ACTIVATED SLUDGE EXPANSION
PHASE III, CONTRACT 4
MODIFICATIONS TO ACTIVATED SLUDGE
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
ALBUQUERQUE
NEW MEXICO
PUBLIC WORKS
DEPARTMENT



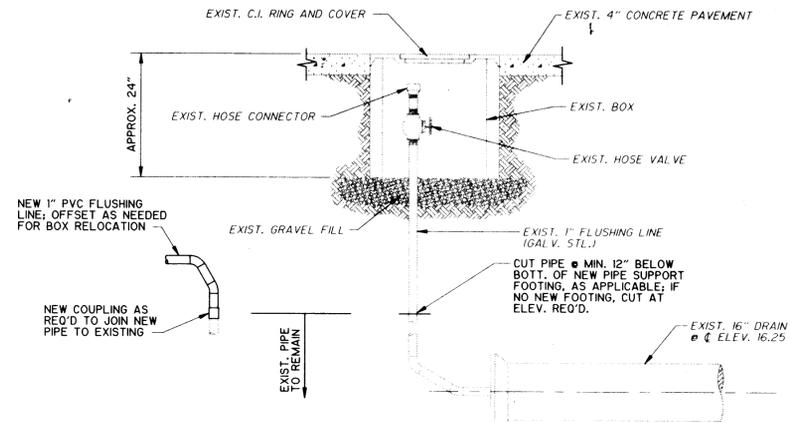
Designed By: MLD
Drawn By: STAFF
Checked By: MJS
Approved By: JPC

Date: DEC. 1993
Scale: AS NOTED

CDM CAMP DRESSER & MCKEE INC.
ALBUQUERQUE, NEW MEXICO
environmental engineers, scientists
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**MECHANICAL PLANS,
SECTION AND DETAILS**

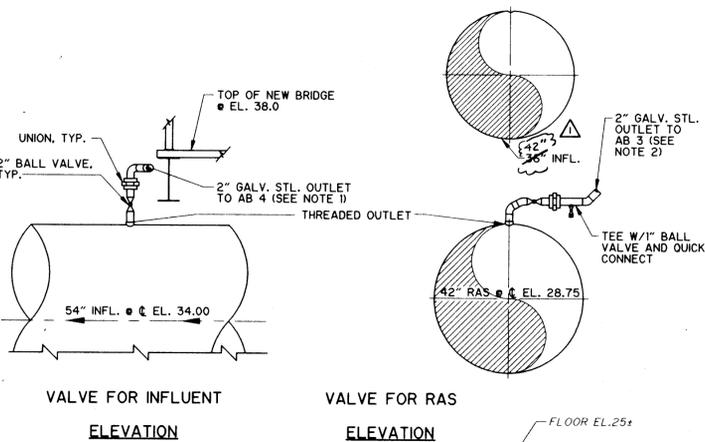
DRAWING
M-7
SHEET NUMBER
10 OF 30



- NOTES**
- REMOVE HOSE VALVE AND HOSE CONNECTOR, AND REINSTALL ON NEW FLUSHING LINE EXTENSION AT NEW BOX LOCATION.
 - PROVIDE 1" PIPE FITTINGS AS REQUIRED; ALL JOINTS TO BE RESTRAINED (SCREWED, CEMENTED, AS APPLICABLE AND AS SPECIFIED).
 - REMOVE EXISTING BOX; REMOVE EXISTING GRAVEL FILL AND REPLACE WITH STRUCTURAL FILL FOR NEW FOOTING SUPPORT, AS APPLICABLE.
 - FOR METER BOX AT NEW LOCATION, INSTALL 12 GA. CORRUGATED GALV. STEEL PIPE, DIAMETER TO SUIT EXIST. C.I. RING; REINSTALL EXIST. RING AND COVER AT NEW LOCATION.

FLUSHING VALVE BOX RELOCATION

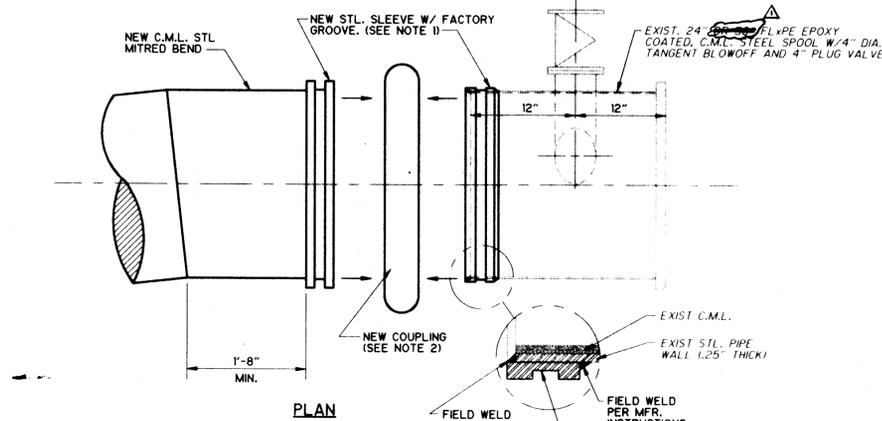
DETAIL M101
NTS



- NOTES:**
- SUPPORT FROM NEW BRIDGE AND UNUSED R.C. SUPPORT UNDER NEW ACCESS WALK. SLOPE TO OUTLET INTO AB 4 @ EL. 37.2. OUTLET VIA NEW OPNG. SIM. TO DETAIL M106.
 - SUPPORT AS REQ'D. AND DISCHARGE VIA TURNED DOWN 90° EL. @ EL. 38.5± INTO AB 3.

MANUAL AIR RELEASE VALVES

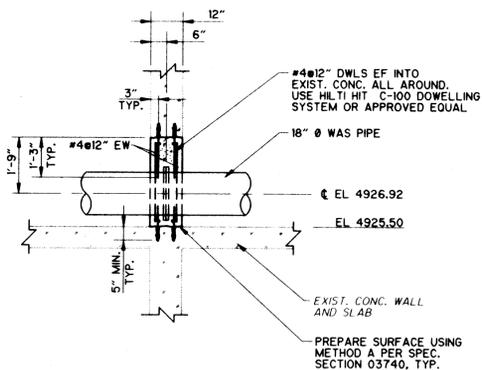
DETAIL M104
1/2" = 1'-0"



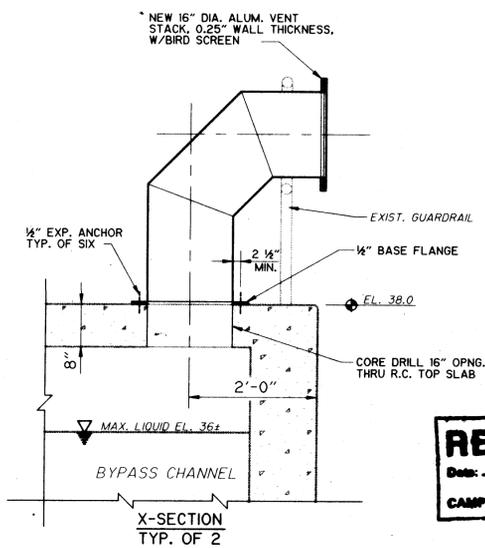
- NOTES**
- SLEEVE ATTACHMENT TO NEW BEND SHALL BE IN SHOP. SLEEVE ATTACHMENT TO EXIST. SPOOL SHALL BE IN FIELD. ALL WELDING CONTINUOUS ALL AROUND, PER MFR. INSTRUCTIONS. FOR EXIST. SPOOL, REMOVE EXIST. COATING AS REQ'D FOR WELDING. CLEAN AND DRESS SURFACES, AND APPLY NEW COATING (PRIME AND FINISH) AFTER WELDING IS COMPLETED, PER SPECS. REPAIR ANY DAMAGED CEMENT-MORTAR LINING, PER AWWA C205.
 - STYLE 44 FOR 24" PIPE; STYLE 44 FOR 24" PIPING (BASED ON PRODUCTS OF VICTAULIC COMPANY; SEE SPECIFICATIONS).

MODIFICATION FOR GROOVED TYPE COUPLING

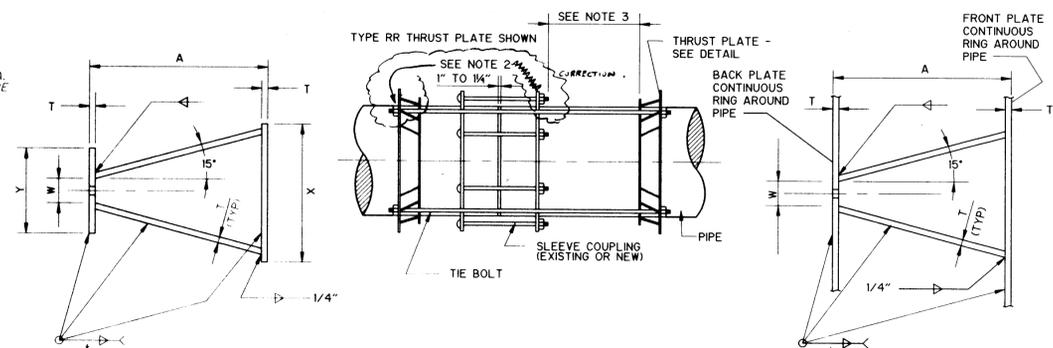
DETAIL M102
NTS



DETAIL M109
3/8" = 1'-0"



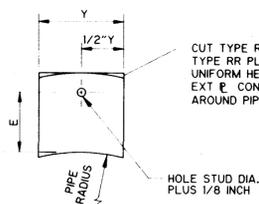
BYPASS CHANNEL VENT
DETAIL M105
3/4" = 1'-0"



PLAN - TYPE P
1" PIPE WALL THICKNESS AND SIZE OF FILLET ATTACHMENT WELD



FRONT PLATE



BACK PLATE

PLAN - TYPE RR
1" PIPE WALL THICKNESS AND SIZE OF FILLET ATTACHMENT WELD

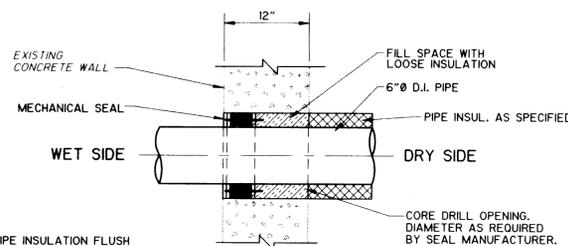


GUSSET PLATE

- NOTES:**
- DIMENSIONS OF JOINT HARNESS TIE BOLTS AND LUGS FOR RUBBER GASKETED JOINTS AS PER TABLE 13.7, 1989 THIRD EDITION OF AWWA M-11, MATERIALS PER SECT. 13.10 OF SAME REF. TIE BOLT SCHEDULE AND LUG TYPE PER TABLE 13.6 OF SAME REF., FOR 100 PSI DESIGN PRESSURE.
 - ONLY AT COUPLINGS DESIGNATED AS EXPANSION JOINTS (EJ), PROVIDE GAP BETWEEN HARNESS NUT AND LUG OF 1/4" @ 75° F. AMBIENT AIR TEMPERATURE, OR 1/4" @ 25° F. AMBIENT AIR TEMPERATURE. USE STRAIGHT LINE INTERPOLATION FOR OTHER AMBIENT AIR TEMPERATURES. HARNESSES SHALL BE INSTALLED WITH PIPES EMPTY.
 - PROVIDE SUFFICIENT CLEARANCE SO THAT COUPLING CAN BE SLIPPED IN AT LEAST ONE DIRECTION TO CLEAR JOINT FOR DISASSEMBLY.
 - ENSURE THAT HARNESSES AT OTHER THAN EXPANSION JOINTS ARE SNUG WHEN PIPES ARE FULL OF LIQUID AT NORMAL OPERATING TEMPERATURES.

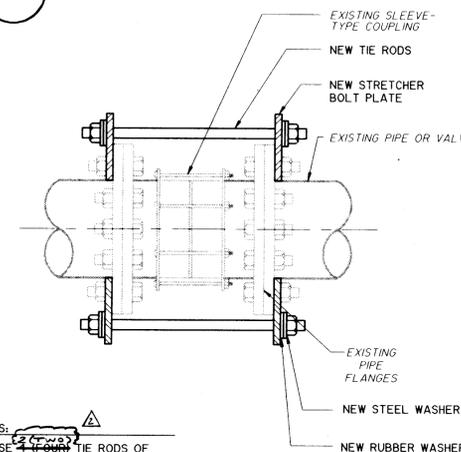
SLEEVE TYPE COUPLING W/THRUST HARNESS FOR STEEL PIPE

DETAIL M103
NTS



CORE DRILLED OPENING AND MECHANICAL SEAL PENETRATION THROUGH EXISTING CONCRETE

DETAIL M106
NTS



- NOTES:**
- USE 1/2" DIAMETER TIE RODS OF 1 INCH DIAMETER.
 - THE STRETCHER BOLT PLATE SHALL BE AT LEAST AS THICK AS THE PIPE FLANGE.

HARNESS FOR EXISTING DIP
DETAIL M107
NTS

RECORD DRAWING
Date: 1/24/94 By: [Signature]
CAMP DRESSER & MCKEE INC.

RECORD DRAWING
THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.
DATE: 1/24/94 By: [Signature] CAMP DRESSER & MCKEE

6/16/94	MJS	CHANGE REQUEST NO. 1			
OCT 95	MJS	AS-BUILT CONDITION			
NO.	DATE	APP.	REVISION	NO.	DATE

SOUTHSIDE WATER RECLAMATION PLANT
ACTIVATED SLUDGE EXPANSION
PHASE III, CONTRACT 4
MODIFICATIONS TO ACTIVATED SLUDGE
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
ALBUQUERQUE
NEW MEXICO



Designed By: MJS
Drawn By: STAFF
Checked By: JPC
Approved By: JPC

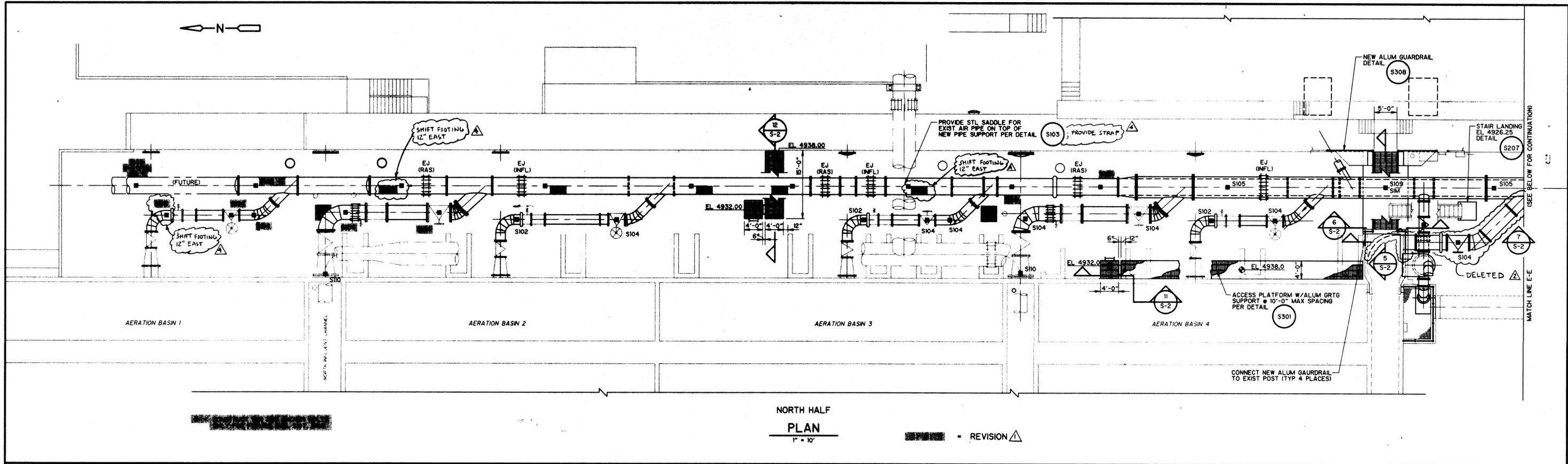
Date: DEC. 1993
Scale: AS NOTED

CDM
CAMP DRESSER & MCKEE INC.
ALBUQUERQUE, NEW MEXICO
environmental engineers, scientists
planners, & management consultants

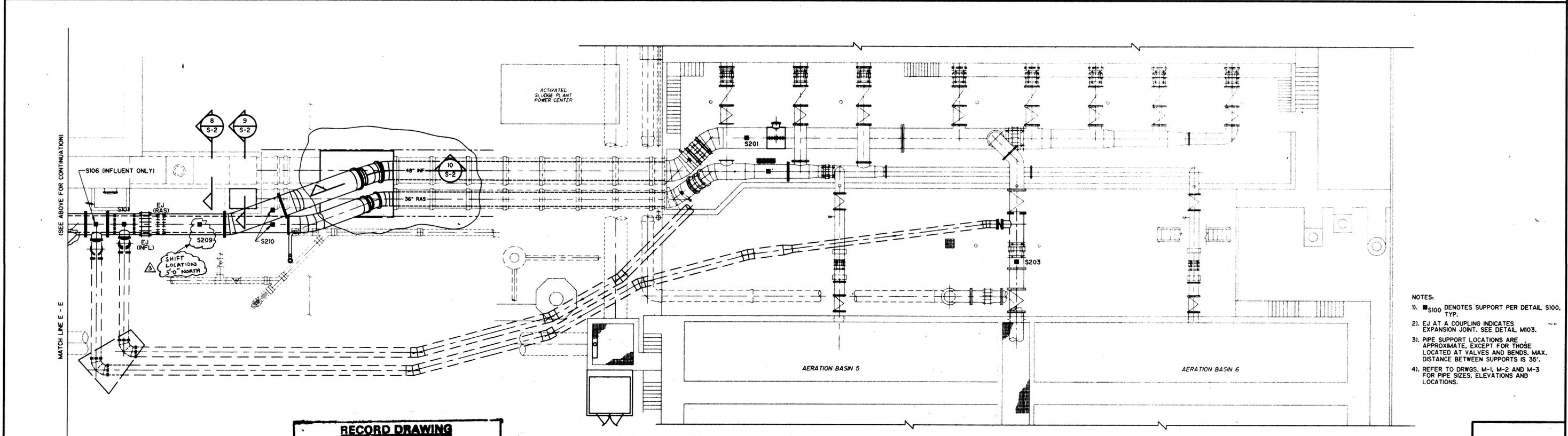
MECHANICAL DETAILS

DRAWING
M-8
SHEET NUMBER
11 OF 30





NORTH HALF
PLAN
1" = 10'



- NOTES:
1. S100 DENOTES SUPPORT PER DETAIL S100, TYP.
 2. EJ AT A COUPLING INDICATES EXPANSION JOINT. SEE DETAIL M103.
 3. PIPE SUPPORT LOCATIONS ARE APPROXIMATE, EXCEPT FOR THOSE LOCATED AT VALVES AND BENDS. MAX. DISTANCE BETWEEN SUPPORTS IS 35'.
 4. REFER TO DRWS. M-1, M-2 AND M-3 FOR PIPE SIZES, ELEVATIONS AND LOCATIONS.

RECORD DRAWING
 THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.
 DATE: 6/24/76 By: *[Signature]* CAMP DRESSER & MCKEE

RECORD DRAWING
 Date: 6/26/76 By: *[Signature]*
 CAMP DRESSER & MCKEE INC.

SOUTH HALF
PLAN
1" = 10'

NO.	DATE	APP.	REVISION	NO.	DATE	APP.	REVISION
△	6/16/94	JMH	CHANGE REQUEST NO.1				
△	SEP 94	MJS	CHANGE REQUEST NO. 2				
△	MAR 95	MJS	CHANGE REQUEST NO.11				
△	OCT 95	MJS	AS-BUILT CONDITION				

SOUTHSIDE WATER RECLAMATION PLANT
 ACTIVATED SLUDGE EXPANSION
 PHASE III, CONTRACT 4
 MODIFICATIONS TO ACTIVATED SLUDGE
 PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
ALBUQUERQUE
 NEW MEXICO
 PUBLIC WORKS
 DEPARTMENT



Designed By: JMH
 Drawn By: STAFF
 Checked By: MJS
 Approved By: *[Signature]*

Date: DEC. 1993
 Scale: 1" = 10'

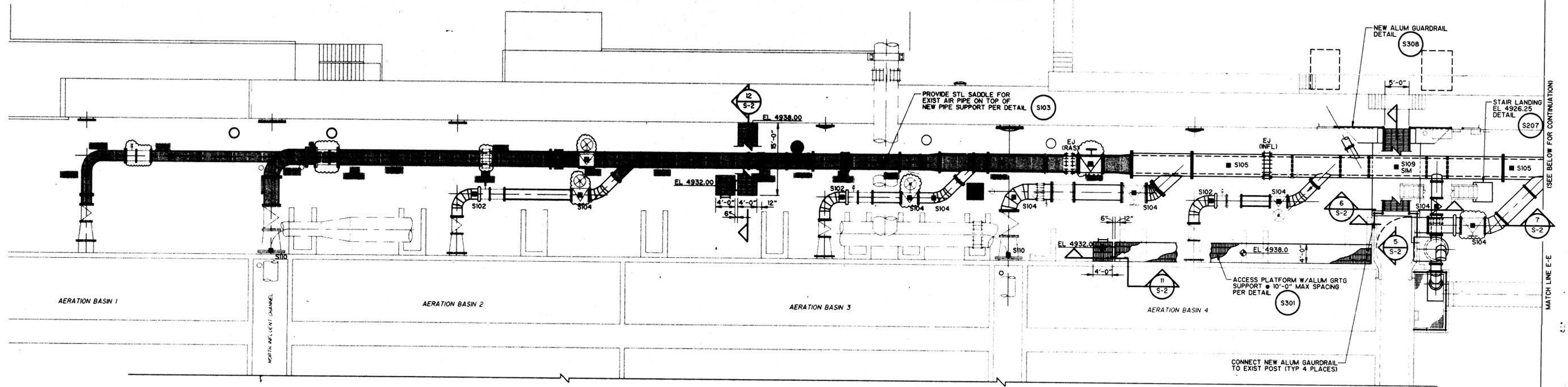
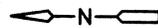
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STRUCTURAL PLAN
 REVISED



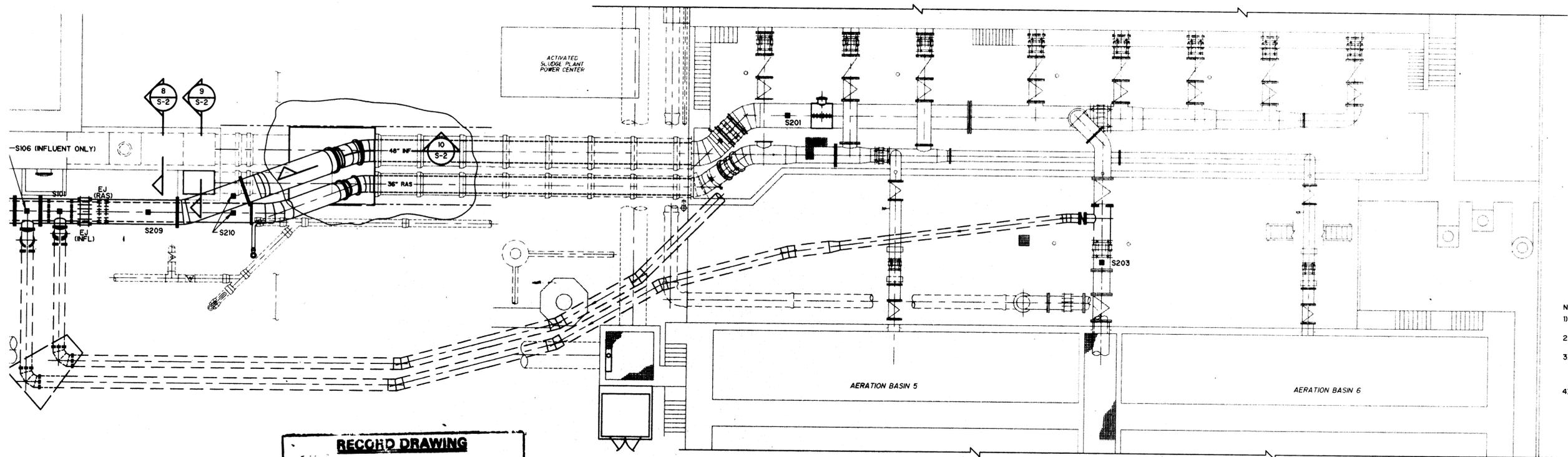
DRAWING
S-1-R
 SHEET NUMBER
 12 OF 30

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
 20 - 3 20 9 - 9 / 1 2 7



NORTH HALF
PLAN
1" = 10'

- DELETED
- RETAINED, BUT IN NEW LOCATION OR DIFFERENT ORIENTATION



- NOTES:
1. S100 DENOTES SUPPORT PER DETAIL S100, TYP.
 2. EJ AT A COUPLING INDICATES EXPANSION JOINT. SEE DETAIL M103.
 3. PIPE SUPPORT LOCATIONS ARE APPROXIMATE, EXCEPT FOR THOSE LOCATED AT VALVES AND BENDS. MAX. DISTANCE BETWEEN SUPPORTS IS 35'.
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RECORD DRAWING
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 DATE: 6/26/96 By: *[Signature]* CAMP DRESSER & MCKEE

RECORD DRAWING
 Date: 6/26/96 By: *[Signature]*
 CAMP DRESSER & MCKEE INC.

SOUTH HALF
PLAN
1" = 10'

DELETED

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
 2 6 - 3 2 0 9 . 9 1 S I D 9 7



REVISION	NO.	DATE	APP.	REVISION

SOUTHSIDE WATER RECLAMATION PLANT
 ACTIVATED SLUDGE EXPANSION
 PHASE III, CONTRACT 4
 MODIFICATIONS TO ACTIVATED SLUDGE
 PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
ALBUQUERQUE
 NEW MEXICO
 PUBLIC WORKS
 DEPARTMENT

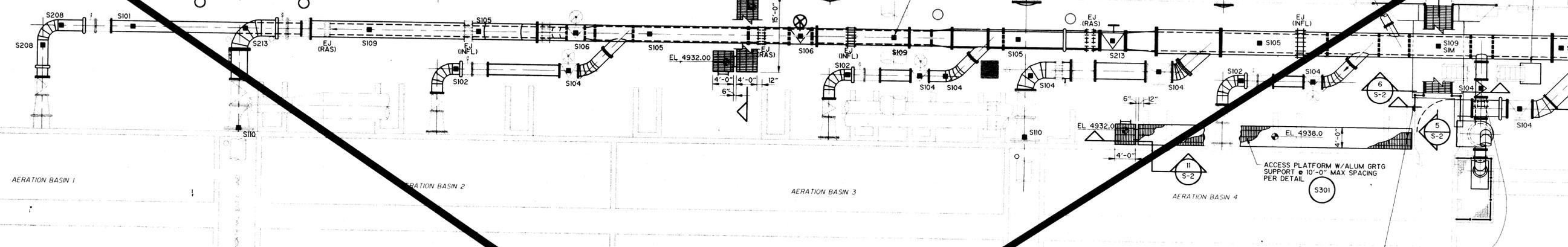
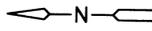
Designed By: JMH
 Drawn By: STAFF
 Checked By: MJS
 Approved By: *[Signature]*

Date: DEC, 1993
 Scale: 1" = 10'

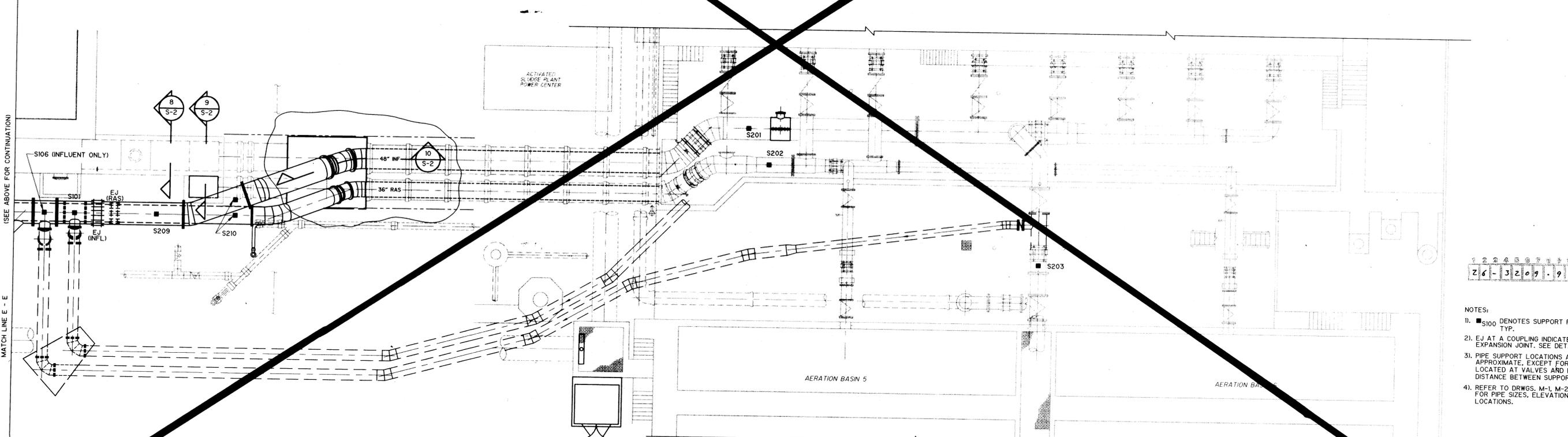
CDM CAMP DRESSER & MCKEE INC.
 ALBUQUERQUE, NEW MEXICO
 environmental engineers, scientists
 planners, & management consultants

STRUCTURAL PLAN
 CHANGE REQUEST NO. 1 DELETIONS

DRAWING
 S-1-D
 SHEET NUMBER
 12 OF 30



NORTH HALF
PLAN
1" = 10'



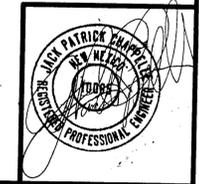
SOUTH HALF
PLAN
1" = 10'

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Z 6 - J 2 0 9 - 9 1 S 1 9 7

- NOTES:
1. S100 DENOTES SUPPORT PER DETAIL S100. TYP.
 2. EJ AT A COUPLING INDICATES EXPANSION JOINT. SEE DETAIL M103.
 3. PIPE SUPPORT LOCATIONS ARE APPROXIMATE, EXCEPT FOR THOSE LOCATED AT VALVES AND BENDS. MAX. DISTANCE BETWEEN SUPPORTS IS 35'.
 4. REFER TO DRWGS. M-1, M-2 AND M-3 FOR PIPE SIZES, ELEVATIONS AND LOCATIONS.

RECORD DRAWING
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DATE: 5/24/96 By: [Signature] CAMP DRESSER & MCKEE

RECORD DRAWING
Date: 5/24/96 By: [Signature]
CAMP DRESSER & MCKEE INC.



NO.	DATE	APP.	REVISION	NO.	DATE	APP.	REVISION
1	5/21/96	MJS	SHEET DELETED BY CHANGE REQUEST NO. 1				

SOUTHSIDE WATER RECLAMATION PLANT
ACTIVATED SLUDGE EXPANSION
PHASE III, CONTRACT 4
MODIFICATIONS TO ACTIVATED SLUDGE
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
ALBUQUERQUE
NEW MEXICO
PUBLIC WORKS
DEPARTMENT



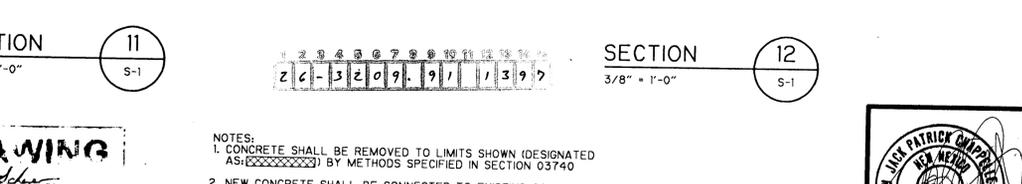
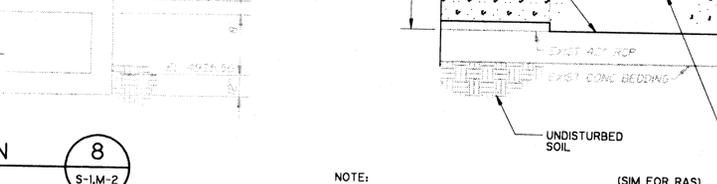
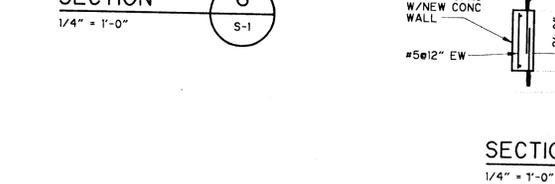
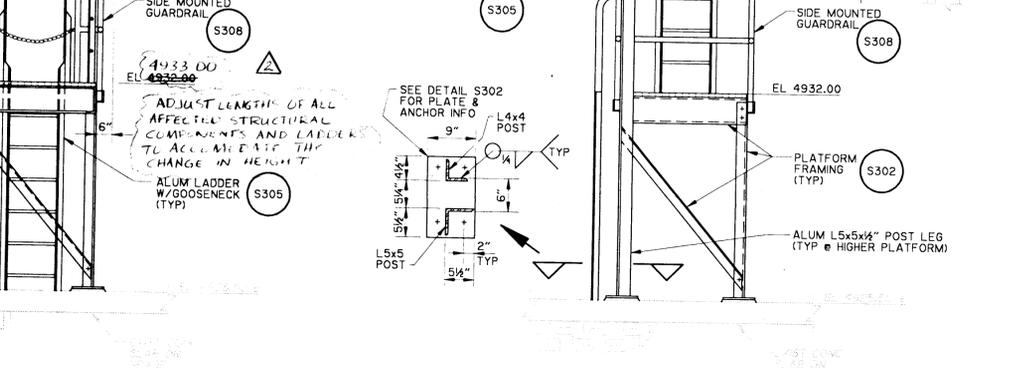
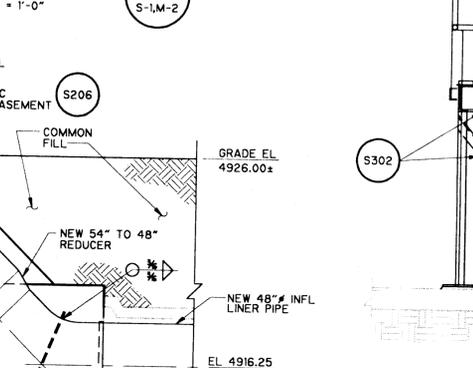
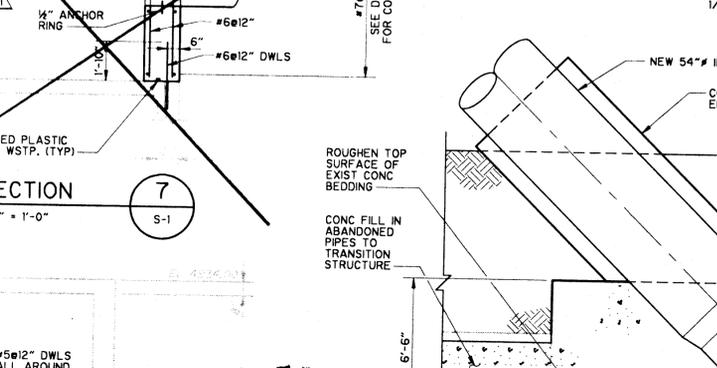
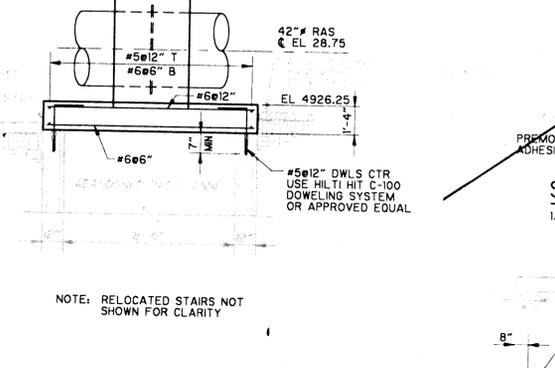
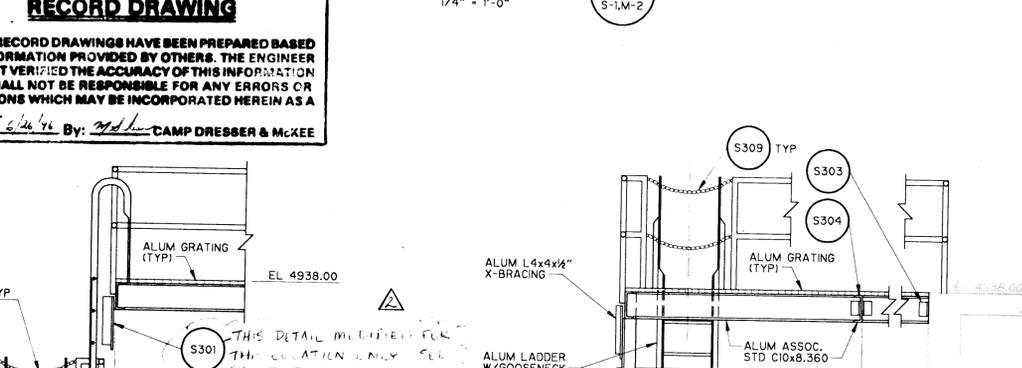
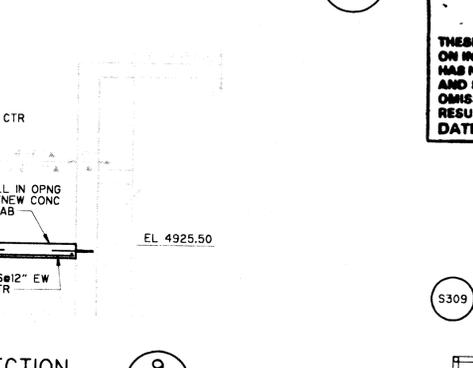
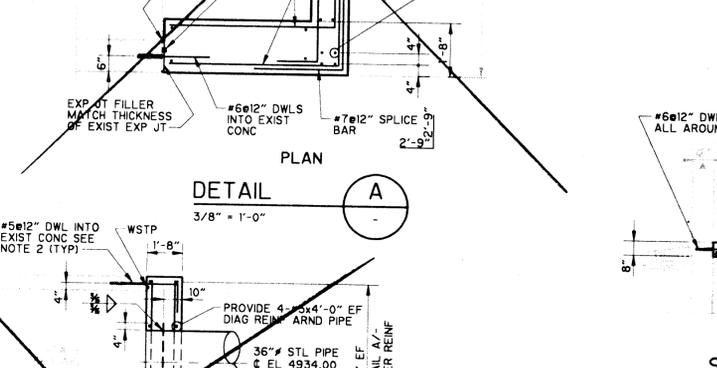
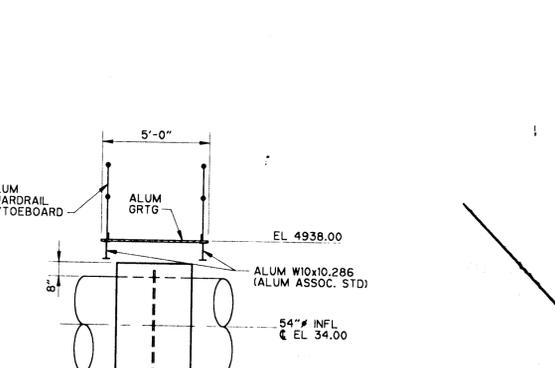
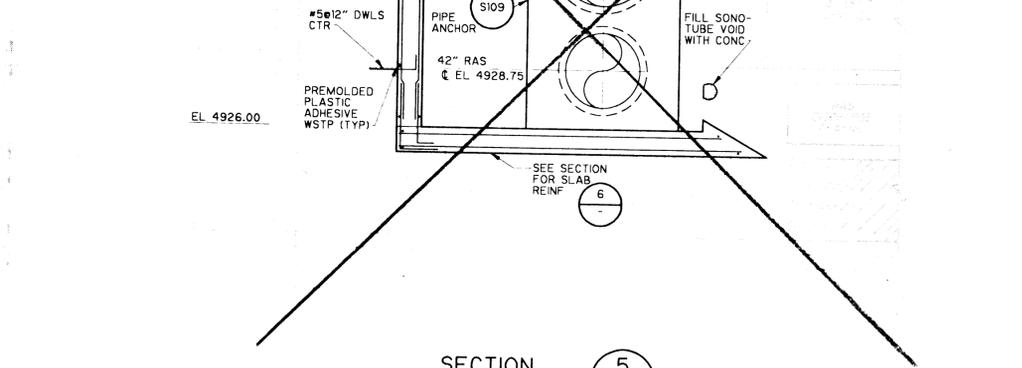
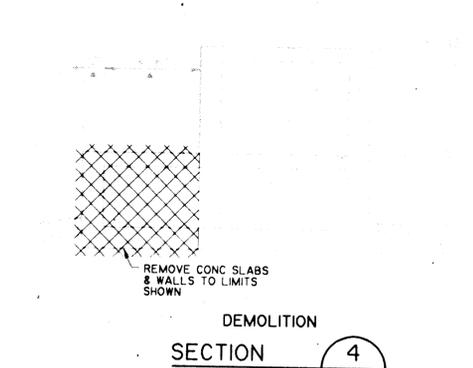
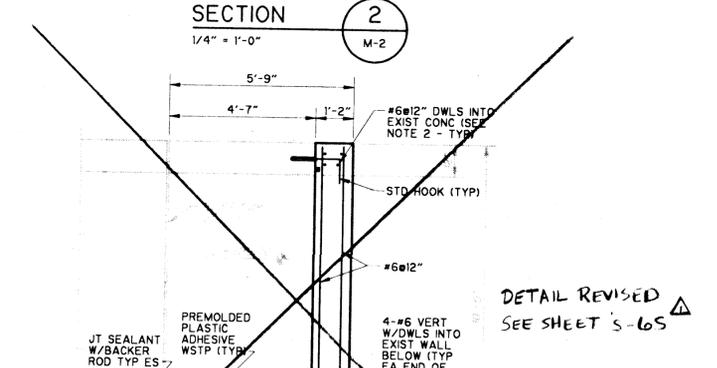
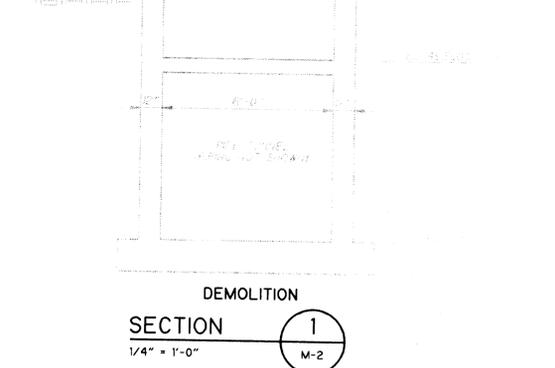
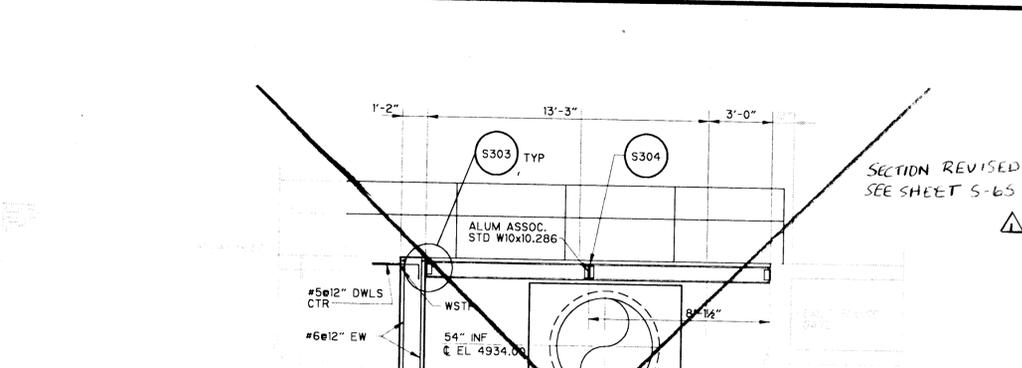
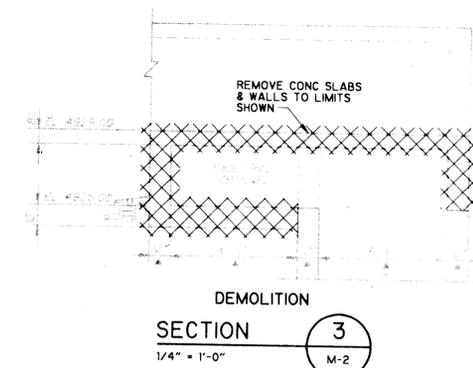
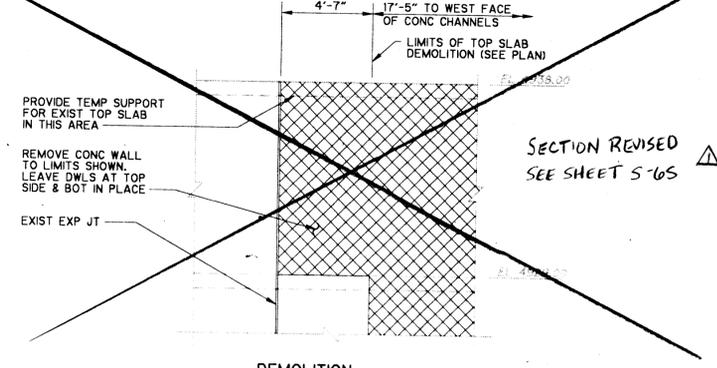
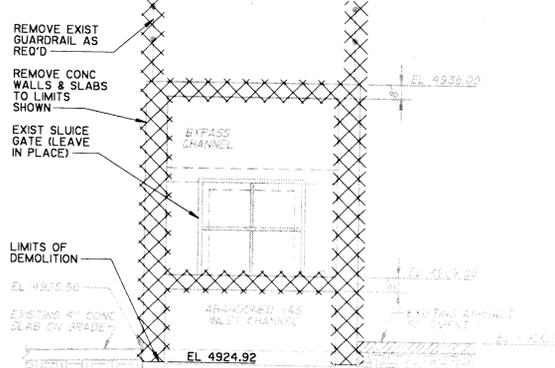
Designed By: JMH
Drawn By: STAFF
Checked By: MJS
Approved By: JPC

Date: DEC. 1993
Scale: 1" = 10'

CDM CAMP DRESSER & MCKEE INC.
ALBUQUERQUE, NEW MEXICO
environmental engineers, scientists
planners, & management consultants

STRUCTURAL PLAN

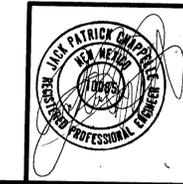
DRAWING
S-1
SHEET NUMBER
12 OF 30



RECORD DRAWING
 THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.
 DATE: 6/26/96 By: [Signature] CAMP DRESSER & MCKEE

RECORD DRAWING
 Date: 6/26/96 By: [Signature]
 CAMP DRESSER & MCKEE INC

- NOTES:
 1. CONCRETE SHALL BE REMOVED TO LIMITS SHOWN (DESIGNATED AS [Symbol]) BY METHODS SPECIFIED IN SECTION 03740
 2. NEW CONCRETE SHALL BE CONNECTED TO EXISTING CONCRETE BY METHOD D, AS SPECIFIED IN SECTION 03740, UNLESS NOTED OTHERWISE.
 3. PATCH DAMAGED CONCRETE AS SPECIFIED IN SECTION 03740.



9/94	JMH	CHANGE REQUEST NO 2			
1/95	MUS	CHANGE REQUEST NO 10			
NO.	DATE	APP.	REVISION	NO.	DATE

SOUTHSIDE WATER RECLAMATION PLANT
 ACTIVATED SLUDGE EXPANSION
 PHASE III, CONTRACT 1 ADDITION
 MODIFICATIONS TO ACTIVATED SLUDGE
 PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
ALBUQUERQUE
 NEW MEXICO
 PUBLIC WORKS
 DEPARTMENT

Designed By: JMH
 Drawn By: TDL
 Checked By: GLS
 Approved By: GLS

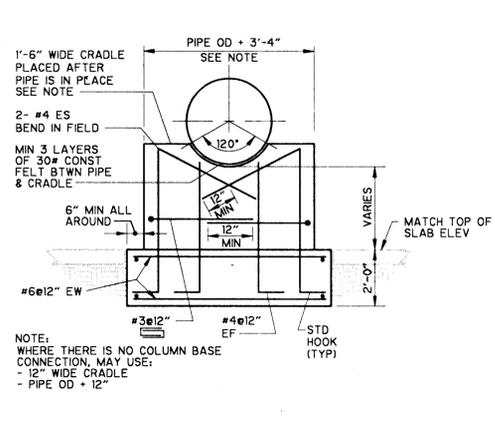
Date: DEC. 1993
 Scale: AS NOTED

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 environmental engineers, scientists
 planners, & management consultants

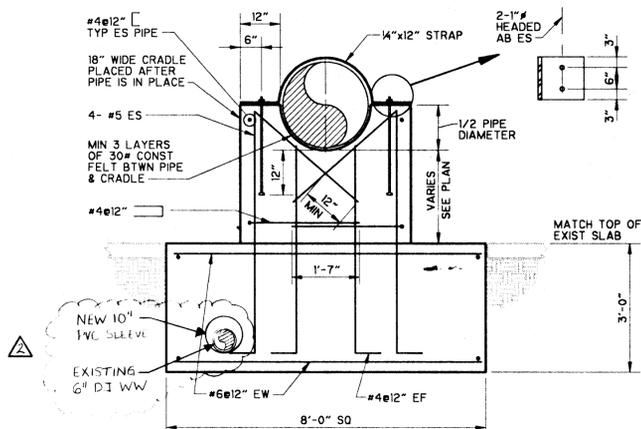
CAMP DRESSER & MCKEE INC.
 ALBUQUERQUE, NEW MEXICO

SECTIONS

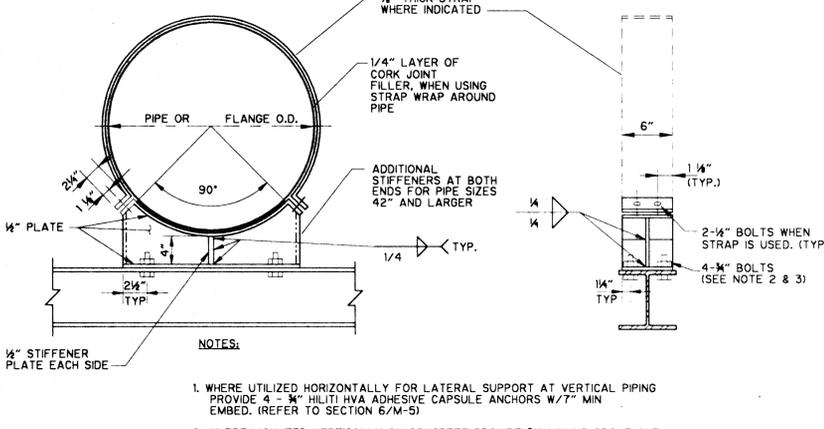
DRAWING
 S-2
 SHEET NUMBER
 13 OF 30



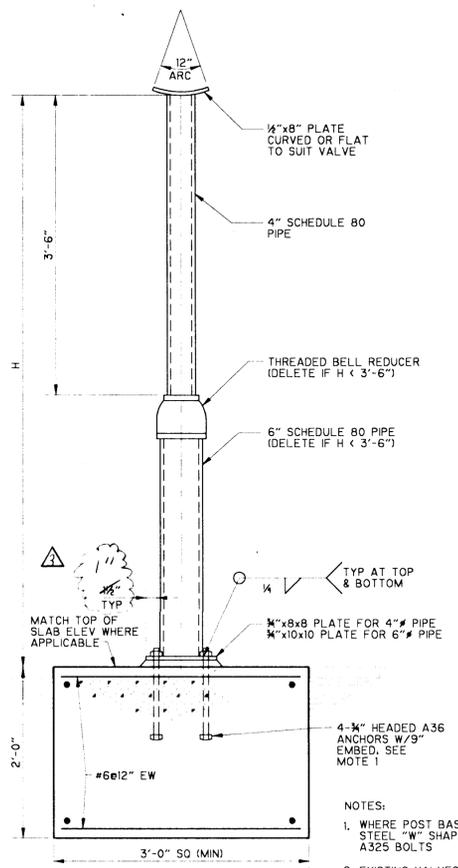
PIPE CRADLE
DETAIL S101
NTS



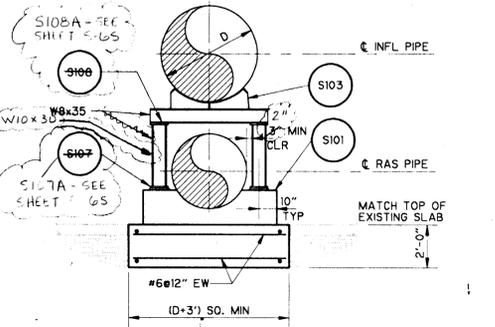
PIPE CRADLE
DETAIL S102
1/2" = 1'-0"



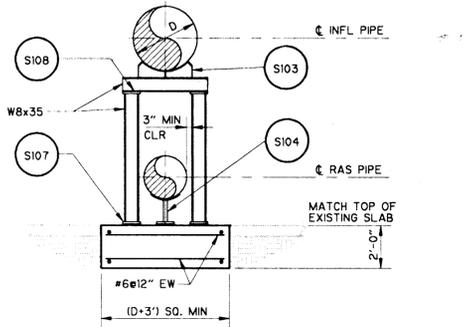
STEEL PIPE CRADLE
DETAIL S103
NTS



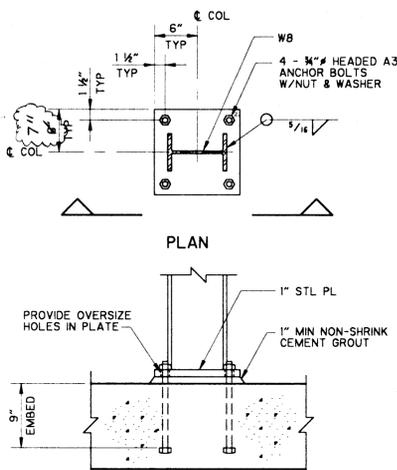
DETAIL S104
1" = 1'-0"



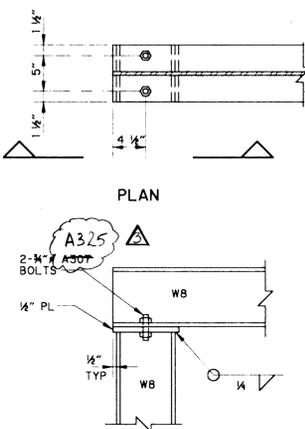
REVISOR
DETAIL S105
1/4" = 1'-0"



DETAIL S106
1/4" = 1'-0"



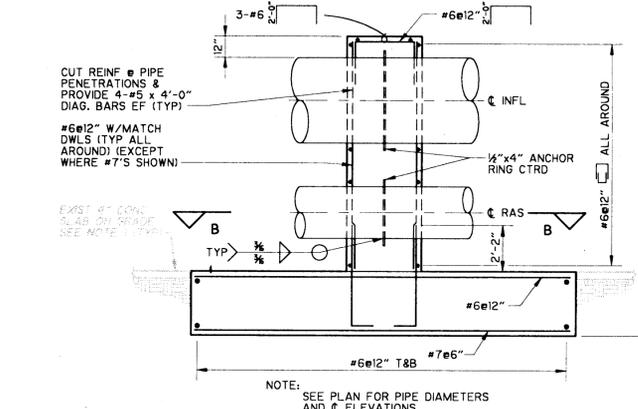
REVISOR
DETAIL S107
1" = 1'-0"



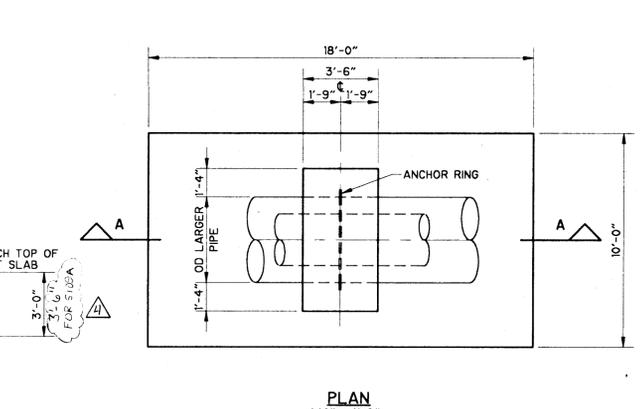
DETAIL S108
1" = 1'-0"

RECORD DRAWING
Date: 6.26.93 By: [Signature]
CAMP DRESSER & MCKEE INC.

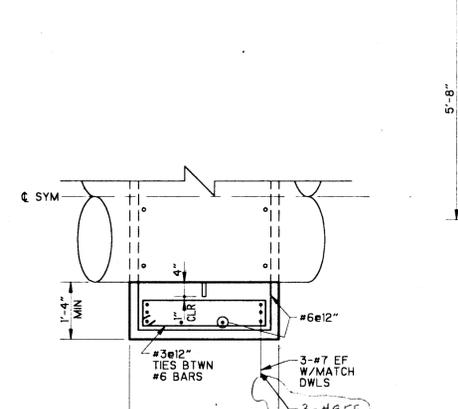
RECORD DRAWING
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DATE: 6.26.93 By: [Signature] CAMP DRESSER & MCKEE



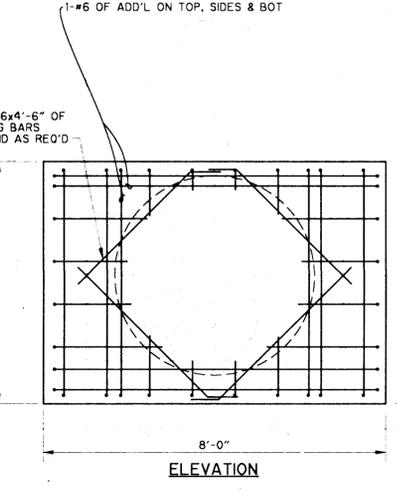
SECTION A-A
1/4" = 1'-0"



PLAN
1/4" = 1'-0"
LINE ANCHOR
DETAIL S109 S109A
AS NOTED

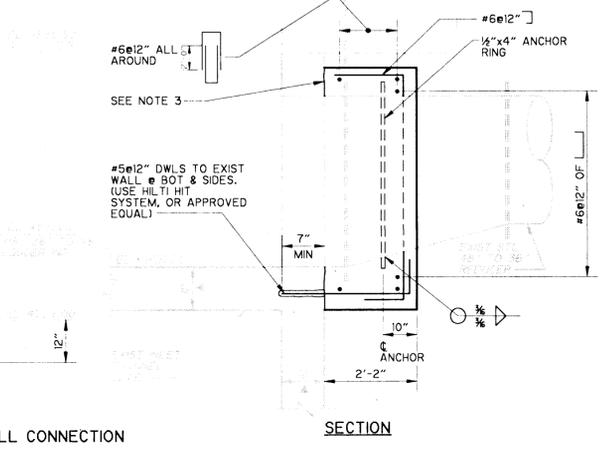


SECTION B-B
1/2" = 1'-0"



ELEVATION

WALL CONNECTION
DETAIL S110
1/2" = 1'-0"



SECTION

NOTES:
1. AT NEW PIPE SUPPORTS LOCATED WHERE THERE IS AN EXIST CONG. SLAB. REMOVE SLAB AS REQUIRED TO PLACE THE NEW FOOTING WITHOUT UNDERMINING THE SLAB. AFTER PIPE SUPPORT CONSTRUCTION IS COMPLETE, REPLACE CONG SLAB WITH SAME THICKNESS AND REINF AS EXIST SLAB. PROVIDE GROOVE WITH SEALANT AND BACKER ROD AT INTERFACE BTWN NEW FTG & CONG SLAB.
2. SEE SPC SECTION 03740 FOR CONCRETE REMOVAL METHODS.
NEW CONCRETE SHALL BE CONNECTED TO EXISTING CONCRETE BY METHOD D, AS SPECIFIED IN SECTION 03740, UNLESS NOTED OTHERWISE.

NO.	DATE	APP	REVISION	NO.	DATE	APP	REVISION
Δ	NOV 94	MUS	CHANGE REQUEST NO 9				
Δ	SEPT 95	MUS	CHANGE REQUEST NO 13				
Δ	OCT 95	MUS	AS BUILT CONDITION				
Δ	JULY 94	MUS	CHANGE REQUEST NO 1				

SOUTHSIDE WATER RECLAMATION PLANT
ACTIVATED SLUDGE EXPANSION
PHASE III, CONTRACT 1 ADDITION
MODIFICATIONS TO ACTIVATED SLUDGE
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
ALBUQUERQUE
NEW MEXICO
PUBLIC WORKS
DEPARTMENT



Designed By: JMH
Drawn By: TDL
Checked By: GLS
Approved By: GLS

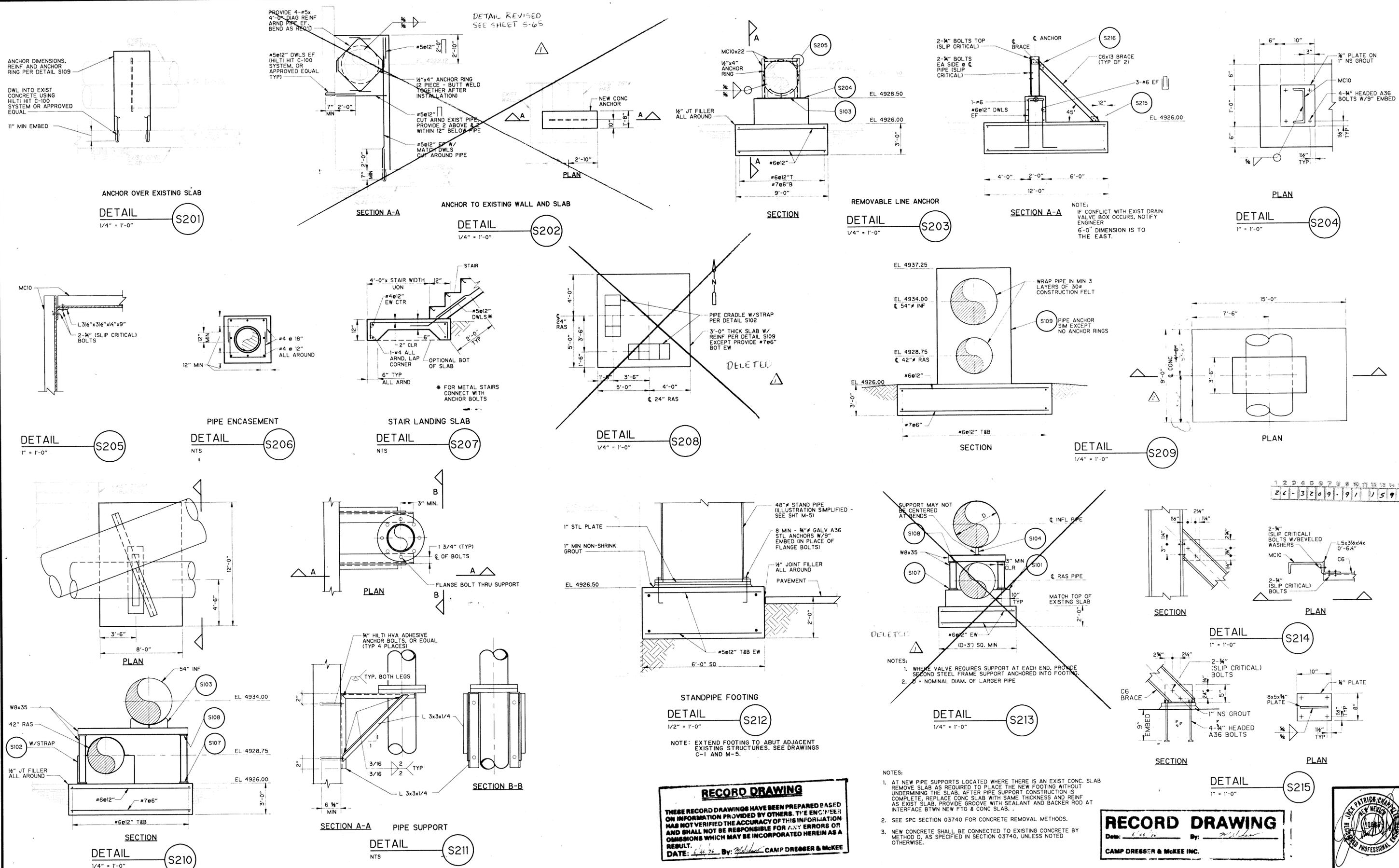
Date: DEC. 1993
Scale: AS NOTED

CDM CAMP DRESSER & MCKEE INC.
ALBUQUERQUE, NEW MEXICO
environmental engineers, scientists
planners, & management consultants

DETAILS I



DRAWING
S-3
SHEET NUMBER
14 OF 30



NO.	DATE	APP.	REVISION	NO.	DATE	APP.	REVISION
Δ	JUL 94	M.S.	CHANGE REQUEST NO. 1				
Δ	MAY 94	M.S.	CHANGE REQUEST NO. 11				

SOUTHSIDE WATER RECLAMATION PLANT
ACTIVATED SLUDGE EXPANSION
PHASE III, CONTRACT 1 ADDITION
MODIFICATIONS TO ACTIVATED SLUDGE
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
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NEW MEXICO
PUBLIC WORKS
DEPARTMENT

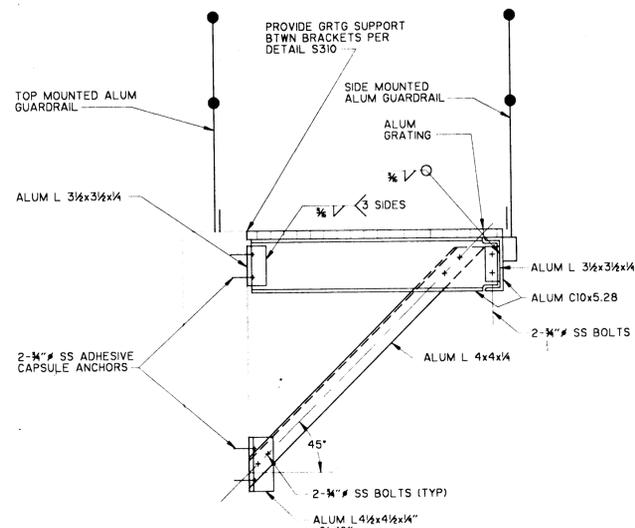
Designed By: JMH
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Checked By: GLS
Approved By: GLS

Date: DEC. 1993
Scale: AS NOTED

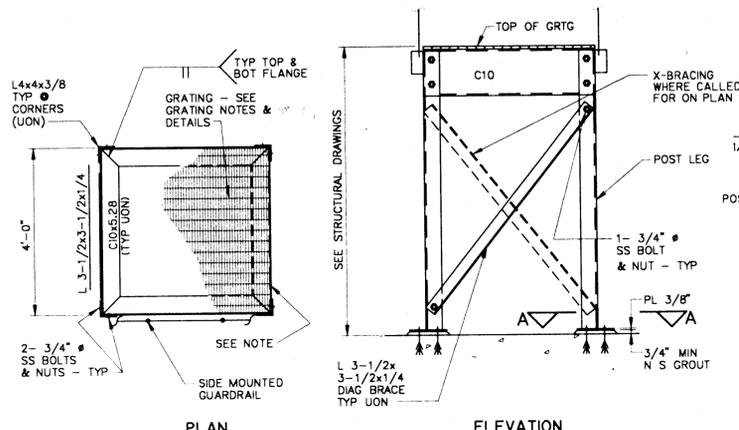
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DETAILS 2

DRAWING
S-4
SHEET NUMBER
15 OF 30

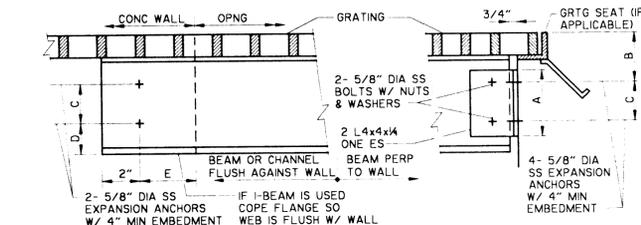


GRATING SUPPORT BRACKET
DETAIL S301
3/4" = 1'-0"



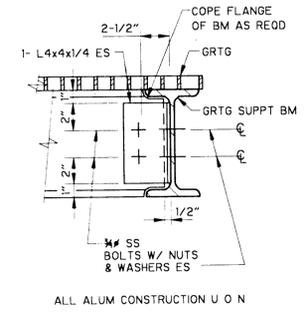
PLATFORM FRAMING
DETAIL S302
NTS

RECORD DRAWING
Date: 12/1/93 By: JMH



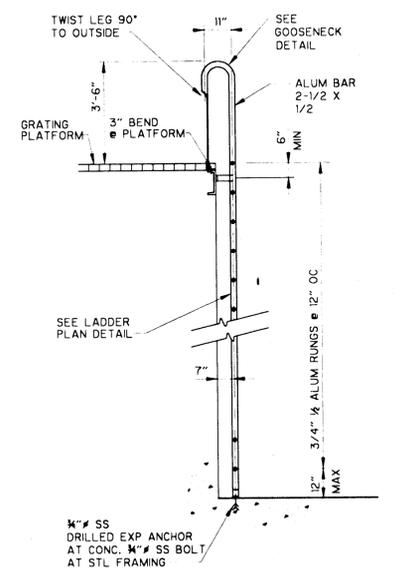
MARK	TYPE	BEAM	A	B	C	D	E
1	ALUM ASSOC STD	W10x8.747	7"	4"	4"	NA	NA
2	ALUM ASSOC STD	C10x8.360	7"	4"	4"	NA	NA
3	ALUM ASSOC STD	WB6.181	6"	4"	3"	NA	NA

BEAM TO CONCRETE CONNECTION
DETAIL S303
NTS

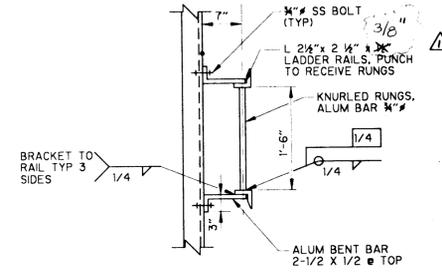


BEAM TO BEAM CONNECTION
DETAIL S304
NTS

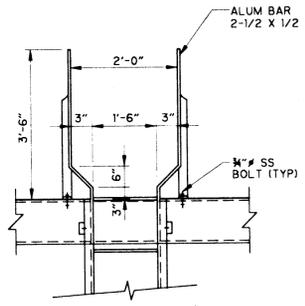
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DATE: 12/1/93 By: JMH CAMP DRESSER & MCKEE



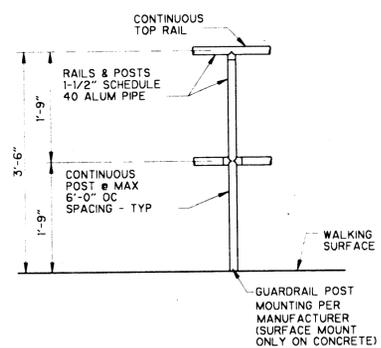
LADDER WITH GOOSENECK
DETAIL S305
NTS



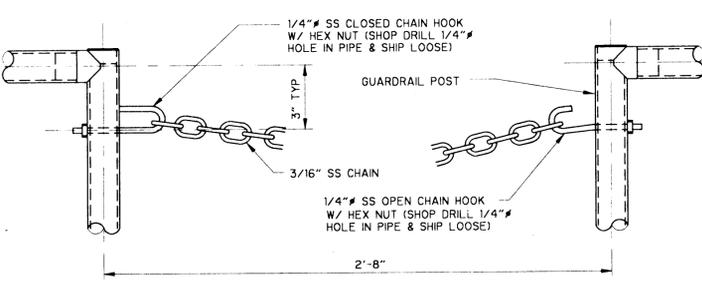
LADDER PLAN
DETAIL S306
NTS



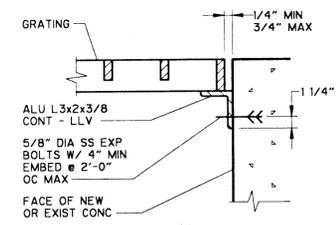
GOOSENECK
DETAIL S307
NTS



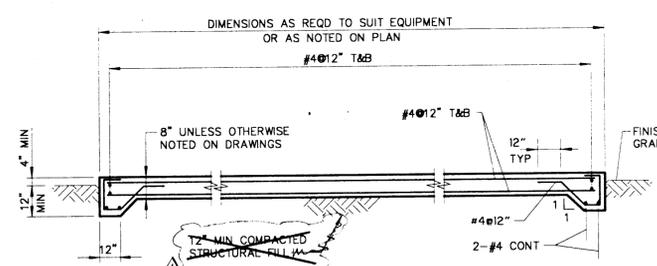
GUARDRAIL
DETAIL S308
NTS



CHAIN AT OPENING
DETAIL S309
NTS



GRATING WALL SUPPORT
DETAIL S310
NTS



EXTERIOR EQUIPMENT SLAB
DETAIL S311
NTS

GENERAL NOTES
ALL STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS.
SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR REGLETS, PIPE SLEEVES, CONDUITS OR OTHER ITEMS TO BE EMBEDDED OR PASSED THROUGH THE CONCRETE.
PIPES LESS THAN 12" IN DIAMETER ARE NOT SHOWN ON STRUCTURAL DRAWINGS - REFER TO MECHANICAL DRAWINGS FOR LOCATION.
WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED SIZES.
CONCRETE BASES FOR EQUIPMENT SHALL BE OF SIZES REQUIRED BY EQUIPMENT MANUFACTURER.
USE PERTINENT STANDARD DETAILS SHOWN, EVEN THOUGH THEY MAY NOT BE CALLED OUT AT ALL LOCATIONS WHERE THEY APPLY.

DESIGN CRITERIA
LIVE LOADS:
WIND: UBC BASIC WIND SPEED: 80 MPH, EXPOSURE C
SEISMIC: UBC ZONE 2B
GRATING: 100 PSF
ELEVATED WALKWAYS, STAIRS AND LANDINGS: 100 PSF
PIPE THRUST DESIGN PRESSURE:
PIPING IN VALVE PIT AND ABS-6 PIPE GALLERY: 30 PSI
WAS PIPING: 20 PSI
ALL OTHER PIPING: 40 PSI
THERMAL: TEMP. DIFFERENTIAL = 100°F
ALLOWABLE BEARING PRESSURE: 2,000 PSF

METAL GRATING AND COVER PLATE NOTES
GRATING AND SUPPORTS SHALL BE ALL ALUMINUM CONSTRUCTION UNLESS OTHERWISE NOTED. COVER PLATES SHALL BE ALUMINUM ALLOY 6061-T6. GRATING SHALL BE ALUMINUM ALLOY 6063-T6.
FASTENERS, ANCHORS, BOLTS, NUTS AND WASHERS FOR GRATING, COVER PLATES AND SUPPORTS SHALL BE TYPE 316 STAINLESS STEEL.
BAND ALL GRATING ALONG EDGES AND AROUND OPENINGS WITH CONTINUOUS BAR EQUAL TO BEARING BARS.
ALL ANGLE FRAMES FOR GRATING AND COVER PLATES ARE TO BE MITERED AND WELDED AT CORNERS.
ALL GRATING IS TO BE SECURELY FASTENED TO SUPPORTS WITH ALUMINUM GRATING CLIPS AND STAINLESS STEEL ANCHORS.
ALUMINUM GRATING SIZE SHALL MEET THE FOLLOWING CRITERIA:

SPAN	BEARING BAR SIZE
TO 4'-0"	USE 1-1/4" x 3/8" MIN
TO 5'-0"	USE 1-1/2" x 3/8" MIN
TO 6'-6"	USE 2-1/4" x 3/8" MIN

FIELD VERIFY GRATING SUPPORT LOCATIONS BEFORE FABRICATING GRATING. PLACE SUPPORTS WITH EXTREME CARE TO PROVIDE TOLERANCES SHOWN OR SPECIFIED.
SEE SPECIFICATION SECTION 05530.
MODIFICATION AND REPAIR TO CONCRETE NOTES
CONNECTION METHODS:
METHOD A - BONDING TO SATURATED SURFACE USING CEMENT PASTE
METHOD B - BONDING BY USING EPOXY BONDING AGENT
METHOD C - DRILLED DOWELS OR BOLTS USING EPOXY PASTE
METHOD D - COMBINATION OF METHODS B AND C
METHOD E - DRILLED DOWELS OR BOLTS USING CAPSULE ANCHORS
SEE CONCRETE SPECIFICATION 03740 FOR EXPLANATION OF CONCRETE REMOVAL METHODS, CONNECTION METHODS AND MATERIALS USED.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

NO.	DATE	APP	REVISION	NO.	DATE	APP	REVISION
	OCT 95	MIS	AS BUILT CONDITION				

SOUTHSIDE WATER RECLAMATION PLANT
ACTIVATED SLUDGE EXPANSION
PHASE III, CONTRACT 1 ADDITION
MODIFICATIONS TO ACTIVATED SLUDGE
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
ALBUQUERQUE
NEW MEXICO
PUBLIC WORKS
DEPARTMENT

Designed By: JMH
Drawn By: TDL
Checked By: GLS
Approved By: GLS

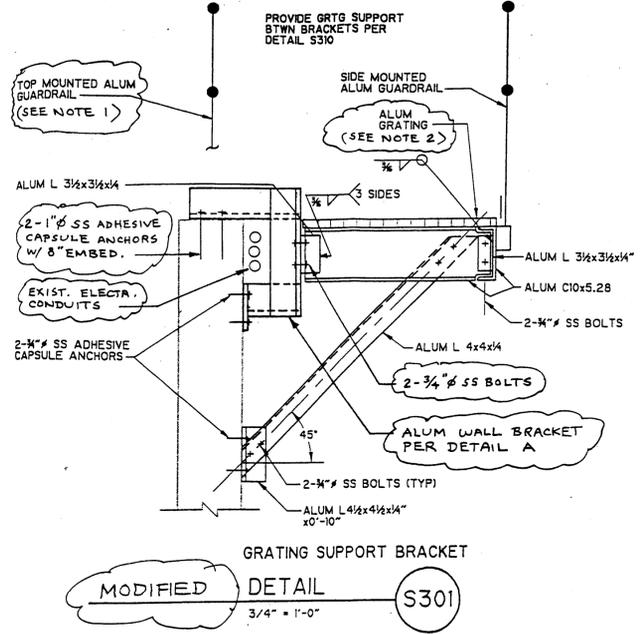
Date: DEC. 1993
Scale: AS NOTED

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environmental engineers, scientists
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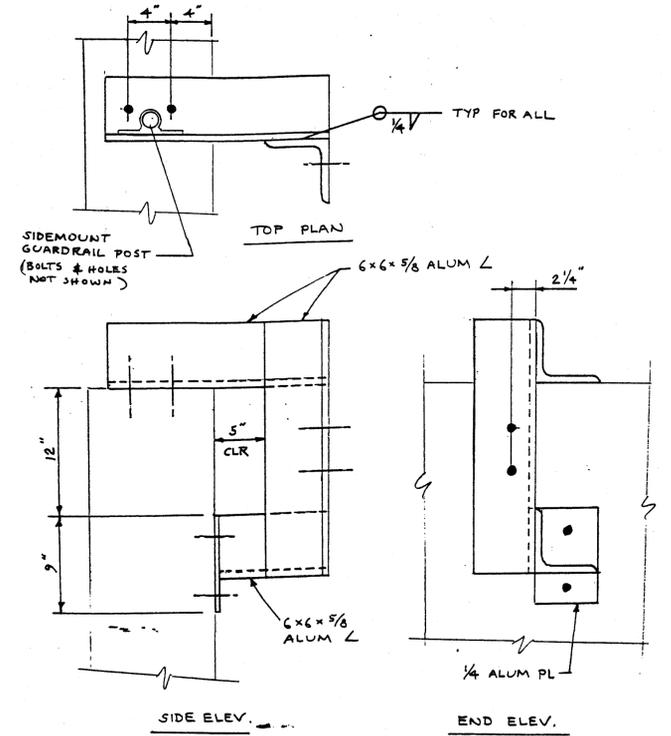
DRAWING
S-5
SHEET NUMBER
16 OF 30

DETAILS 3 AND NOTES

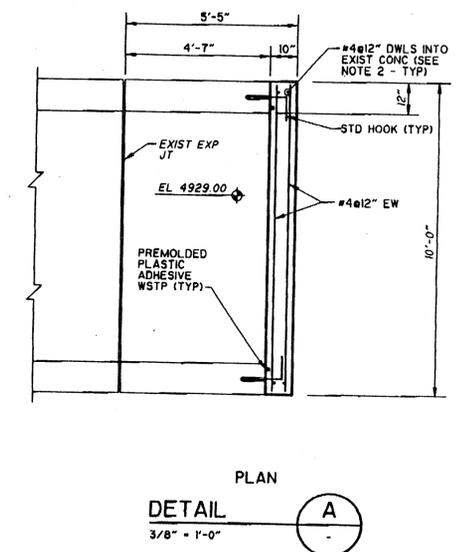




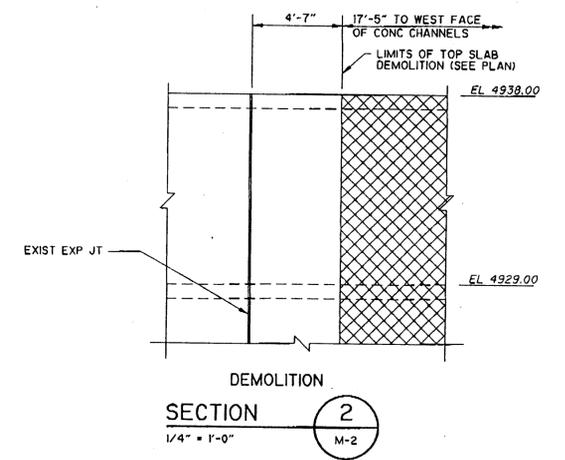
NOTES: 1. USE SIDEMOUNT, ATTACH TO WALL BRACKET.
2. NOTCH GRATING @ WALL BRACKET.



WALL BRACKET
DETAIL A
1 1/2\"/>



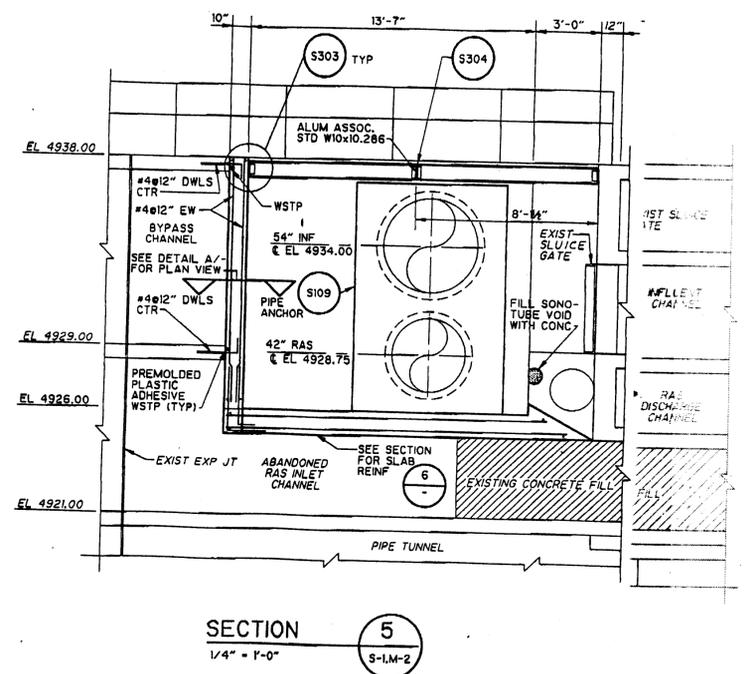
PLAN
DETAIL A
3/8\"/>



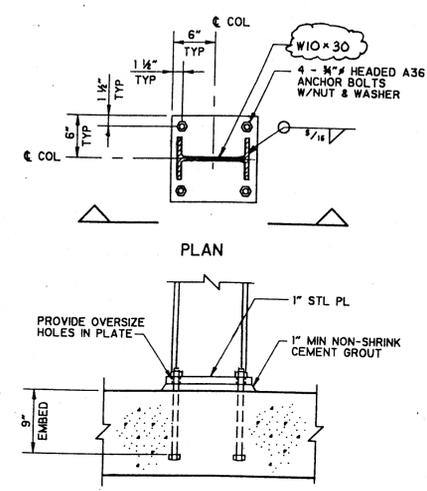
DEMOLITION
SECTION 2
1/4\"/>

RECORD DRAWING
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DATE: 6-28-96 By: *[Signature]* CAMP DRESSER & MCKEE

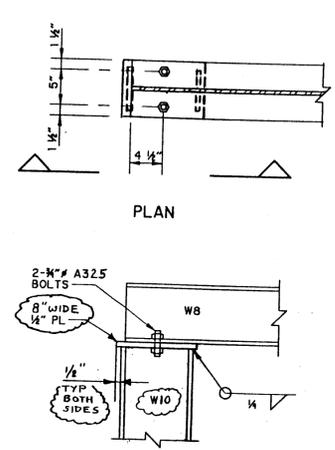
RECORD DRAWING
DATE: 6-28-96 By: *[Signature]* CAMP DRESSER & MCKEE INC.



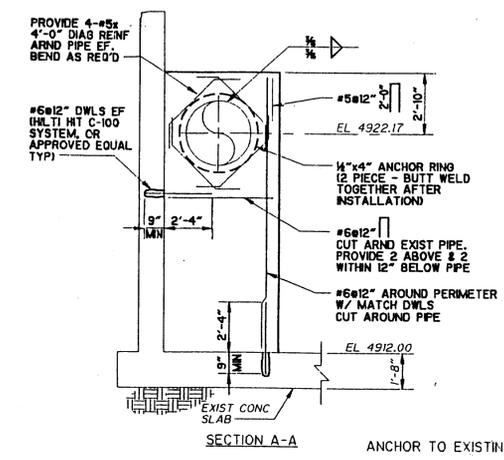
SECTION 5
1/4\"/>



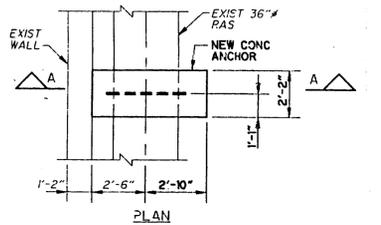
SECTION
DETAIL S107A
1\"/>



SECTION
DETAIL S108A
1\"/>



SECTION A-A
ANCHOR TO EXISTING WALL AND SLAB
DETAIL S202
1/4\"/>



NO.	DATE	APP.	REVISION	NO.	DATE	APP.	REVISION

SOUTHSIDE WATER RECLAMATION PLANT
ACTIVATED SLUDGE EXPANSION
PHASE III, CONTRACT 4
MODIFICATIONS TO ACTIVATED SLUDGE
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
ALBUQUERQUE
NEW MEXICO
PUBLIC WORKS
DEPARTMENT



Designed By: _____
Drawn By: _____
Checked By: _____
Approved By: _____
Date: MAY, 1996
Scale: AS NOTED

CDM CAMP DRESSER & MCKEE INC.
ALBUQUERQUE, NEW MEXICO
environmental engineers, scientists
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MISCELLANEOUS DETAILS
AND SECTIONS

DRAWING
S-6S
SHEET NUMBER
OF

2 1 2 3 4 5 6 7 8 9 10 11 12
Z C - 3 2 0 9 / 9 / S C S 9 9

PLANS	
	TOGGLE SWITCH
	3-WAY TOGGLE SWITCH
	OPERATOR STATION SEE SCHEMATIC FOR DETAILS
	JUNCTION BOX
	MOTOR
	THERMOSTAT
	SOLENOID
	DISCONNECT SWITCH, F INDICATES FUSED (SEE ONE-LINE DIAG. FOR FUSE INFO. DESIGNATION LEGEND)
	GROUNDING ROD
	CAPACITOR
	RESISTANCE HEATER
	UNIT HEATER
	REMOTE DEVICE—SEE DESIGNATION FOR TYPE
	CONDUIT, EXPOSED
	CONDUIT, CONCEALED, EMBEDDED, OR UNDERGROUND
	CONDUIT TURNING DOWN
	CONDUIT TURNING UP
	GROUND CABLE
	WELDING RECEPTACLE WITH NON-FUSED DISCONNECT
	CONDUIT SEAL
	CONDUCTORS FOR LIGHTING CIRCUIT
	GROUND TRAVELLER SWITCHED NEUTRAL HOT
	RECEPTACLE, 1 INDICATES CIRCUIT NO. RECEPTACLE, WP INDICATES WEATHER PROOF
	DUPLEX UNLESS OTHERWISE NOTED.
	HOME RUN TO PANEL
	THERMAL OVERLOAD SWITCH (MANUAL MOTOR STARTER)
	PROCESS INSTRUMENTATION XXXX = ID
	FIELD JUNCTION BOX FJB-XXX
	FIELD PANEL FP-XXX
	LIGHTING PANEL LP-XXX (120/208V)
	POWER PANEL PP-XX (277/480V)
	PHOTOCELL
	SECTION CALL OUT FOR SECTION NO.1 LOCATED ON SHEET E-10.
	SECTION CALL OUT FOR SECTION NO.1 CUT FROM SHEET E-5.
	DETAIL CALL OUT FOR DETAIL NO.1 LOCATED ON SHEET E-10

MOTOR AND CONTROL SCHEMATIC SYMBOLS	
	SOLENOID VALVE
	CABLE SHIELD
	INDICATING PILOT LIGHT LETTER INDICATES COLOR OF LENS
	SINGLE PHASE MOTOR
	CONTROL RELAY OPERATING COIL XXX = RELAY NUMBER
	TIME DELAY RELAY TIME RANGE 0-10 MIN XX=DE FOR DELAY ON ENERGIZATION XX=DD FOR DELAY ON DEENERGIZATION YYY = RELAY NUMBER
	SHUNT TRIP COIL
	DISCONNECT OR TOGGLE SWITCH
	FUSE XX INDICATES AMPERE RATING YY INDICATES FUSE TYPE
	TWO POSITION SELECTOR SWITCH CONTACTS CLOSED IN POSITION INDICATED BY "X". NUMBER OF ELECTRICAL CONTACTS ON SWITCH SHOWN ON CONTROL SCHEMATIC
	THREE POSITION SELECTOR SWITCH CONTACTS CLOSED IN POSITION INDICATED BY "X". NUMBER OF ELECTRICAL CONTACTS ON SWITCH SHOWN ON CONTROL SCHEMATIC
	NORMALLY OPEN MOMENTARY CIRCUIT CLOSING PUSHBUTTON SWITCH SPRING OPEN NUMBER OF ELECTRICAL CONTACTS ON SWITCH SHOWN ON CONTROL SCHEMATIC
	NORMALLY CLOSED MOMENTARY CIRCUIT OPENING PUSHBUTTON SWITCH SPRING CLOSE NUMBER OF ELECTRICAL CONTACTS ON SWITCH SHOWN ON CONTROL SCHEMATIC
	PUSHBUTTON MAINTAINED (PUSH-PULL) WITH MUSHROOM OPERATOR
	LIMIT SWITCH NORMALLY OPEN CONTACT CONTACT CLOSURES WHEN ACTUATED
	LIMIT SWITCH NORMALLY CLOSED CONTACT CONTACT OPENS WHEN ACTUATED
	NORMALLY OPEN PRESSURE OR VACUUM OPERATED SWITCH CLOSURES ON INCREASING PRESSURE
	NORMALLY CLOSED PRESSURE OR VACUUM OPERATED SWITCH OPENS ON INCREASING PRESSURE
	NORMALLY OPEN LEVEL ACTUATED SWITCH CLOSURES ON RISING LEVEL
	NORMALLY CLOSED LEVEL ACTUATED SWITCH OPENS ON RISING LEVEL
	NORMALLY OPEN TEMPERATURE ACTIVATED SWITCH CLOSURES ON RISING TEMPERATURE
	NORMALLY CLOSED TEMPERATURE ACTIVATED SWITCH OPENS ON RISING TEMPERATURE
	CONTROL TRANSFORMER (SECONDARY ONLY SHOWN)
	NORMALLY OPEN CONTACT CLOSURES ON TIME DELAY AFTER COIL ENERGIZED. REOPENS INSTANTANEOUSLY ON COIL DEENERGIZED
	NORMALLY CLOSED CONTACT OPENS ON TIME DELAY AFTER COIL ENERGIZED. RECLOSES INSTANTANEOUSLY ON COIL DEENERGIZED
	NORMALLY OPEN CONTACT CLOSURES INSTANTANEOUSLY ON COIL DEENERGIZED. REOPENS ON TIME DELAY AFTER COIL DEENERGIZED.
	NORMALLY CLOSED CONTACT OPENS INSTANTANEOUSLY ON COIL ENERGIZED. RECLOSES ON TIME DELAY AFTER COIL DEENERGIZED.
	NORMALLY OPEN (N.O.) CONTACT
	NORMALLY CLOSED (N.C.) CONTACT
	INDICATES TERMINAL IN COMPUTER I/O
	GROUND CONNECTION

MOTOR AND CONTROL SCHEMATIC SYMBOLS	
	TERMINAL IN MCCP OR SWITCHGEAR
	BAILEY TERMINAL
	TERMINAL IN FIELD PANEL OR JUNCTION BOX
	TERMINAL IN FACILITY MAIN CONTROL PANEL
	RESERVED FOR SPECIAL PANELS, MUST BE IDENTIFIED IN LEGEND (EX: J3 TERMINATION CABINET IN ACTIVATED SLUDGE PLANT)
	ISOLATION SWITCHGEAR TERMINAL
	MOTOR STARTER OPERATING COIL XXX = MOTOR NUMBER

ONE-LINE DIAGRAMS	
	NEW EQUIPMENT ENCLOSURE
	EXISTING EQUIPMENT ENCLOSURE
	NEW MEDIUM VOLTAGE CIRCUIT
	NEW LOW VOLTAGE CIRCUIT
	NEW LOGIC INTERLOCK
	EXISTING PRIMARY OR SECONDARY
	KEY INTERLOCK
	ELECTRICAL INTERLOCK
	CIRCUIT BREAKER (* INDICATES BREAKER NUMBER) 1800AF INDICATES FRAME SIZE AND 1200AT INDICATES TRIP SETTING
	ISOLATING SWITCH NON-FUSED (* INDICATES SWITCH NO.)
	ISOLATING SWITCH FUSED (* INDICATES SWITCH NO.) XX INDICATES AMPERE RATING YY INDICATES FUSE TYPE
	PARALLELING LIGHTS
	TRANSFORMER, 480V AND 120V INDICATE WINDING VOLTAGE, 10KVA REPRESENTS THE POWER RATING AND 1% INDICATES SINGLE PHASE (THREE PHASE IF NOT INDICATED) Z% REPRESENTS PERCENT IMPEDANCE
	POTENTIAL TRANSFORMER WITH FUSES (NUMBER INDICATES QUANTITY, NOT SHOWN IF ONE) 480/120V INDICATES MEDIUM/ LOW VOLTAGES. XX INDICATES AMPERE RATING YY INDICATES TYPE DESIGNATION.
	CURRENT TRANSFORMER (NUMBER INDICATES QUANTITY, NOT SHOWN IF ONE) 200/5 INDICATES MEDIUM/ LOW CURRENT RATIO
	GROUND FAULT SENSOR CURRENT TRANSFORMER
	SOLENOID VALVE
	SURGE ARRESTER
	MOTOR (10 INDICATES HP)
	CAPACITOR
	OPERATOR STATION, SEE SCHEMATIC FOR DETAILS
	BATTERIES

ONE-LINE DIAGRAMS (CONT.)	
	METER: ** A- AMMETER AS- AMMETER SWITCH F- FREQUENCY METER KVAR- KILO-VOLT-AMPERE REACTIVE METER KW- KILOWATT METER KWH- KILOWATT HOUR METER KWH-D- KILOWATT HOUR METER WITH DEMAND REGISTER PF- POWER FACTOR METER RT- RUNNING TIME METER S- SYNCHROSCOPE V- VOLT METER VS- VOLT METER SWITCH
	TRANSDUCER: ** A- CURRENT KW- KILOWATT PF- POWER FACTOR V- VOLTAGE SC- SIGNAL CONVERTER
	PROTECTIVE RELAY, REGULATING OR MONITORING DEVICE: ** 25- SYNC CHECK RELAY 25A- AUTOMATIC SYNCHRONIZER 27- UNDERVOLTAGE RELAY 30- ANNUNCIATOR 32- REVERSE POWER RELAY 46- PHASE CURRENT RELAY (LOSS OF PHASE CURRENT) 47- VOLTAGE PHASE REVERSAL 50/51- TIME OVERCURRENT RELAY WITH INSTANTANEOUS TRIP 50/51N- GROUND TIME OVERCURRENT RELAY WITH INSTANTANEOUS TRIP 59- OVERVOLTAGE RELAY 59/81- UNDER FREQUENCY/OVER VOLTAGE RELAY (UFOV) 60- VOLTAGE PHASE LOSS 65- GOVERNOR 74- ALARM OUTPUT 83- AUTOMATIC TRANSFER RELAY 90- VOLTAGE REGULATOR 94- TRIPPING RELAY 95- VAR/POWER FACTOR CONTROLLER 96- IMPORT/EXPORT CONTROLLER
	SWITCH: ** A- AMMETER SELECTOR CS- CIRCUIT BREAKER CONTROL FS- FUEL SELECTOR GS- GOVERNOR RAISE-LOWER HS- SELECTOR SWITCH - FOR TYPE SEE CONTROL SCHEMATIC SS- SYNCHRONIZING V- VOLT METER SELECTOR LS- LEVEL SWITCH
	DISCONNECT SWITCH: F 30A 20A TYPE YY SWITCH SIZE FUSE SIZE TYPE YY DESIGNATES THE TYPE OF FUSE BLANK IF NON-FUSED
	CONTACTOR
	TRANSFORMER CONNECTION WYE (UNGROUNDING)
	TRANSFORMER CONNECTION, WYE (SOLID GROUNDING NEUTRAL)
	TRANSFORMER CONNECTION DELTA
	CABLE FAULT INDICATOR
	CONTROL INTERFACE
	COMBINATION MOTOR STARTER FVNR OR COMBINATION CONTACTOR
	INTEGRAL OPERATORS STATION (SHOWN ONLY IF REQUIRED SEE SCHEMATICS OR SPECS FOR DETAILS)
	FACTORY ASSEMBLED MACHINE OR PIECE OF EQUIPMENT (10 INDICATES HP)
	PACKAGED STARTER WITH DISCONNECT. XX INDICATES AMPERE TRIP RATING TYPE YY DESIGNATE FUSE OR CIRCUIT BREAKER TYPE.
	SOLID STATE REDUCED VOLTAGE MOTOR CONTROLLER XXXX = TAG NO.
	ADJUSTABLE SPEED MOTOR CONTROLLER XXXX = TAG NO.
	STRESS CONE

CONDUIT AND WIRE NUMBERING SYSTEM	
1. ALL INDIVIDUAL TWISTED SHIELDED CABLES WILL BEAR THE SAME, NUMBER AS THE DEVICE OR LOOP IT IS A PART OF.	
2. ALL MULTICONDUCTOR CABLES WILL BE CONSECUTIVELY NUMBERED AS FOLLOWS: CXXX-SOURCE-DESTINATION	
3. INDIVIDUAL WIRES WILL BE NUMBERED AS FOLLOWS: SIGNAL (+) = TAG+ SIGNAL (-) = TAG- POWER (H) = LOOP NO.-1 POWER (N) = LOOP NO.-2	
4. POWER CONDUIT NUMBERS WILL BE THE SAME AS THE DEVICE NUMBER (PXXXX) IT IS ROUTED TO.	
5. CONTROL CONDUITS ASSOCIATED WITH A DEVICE WILL BEAR THE SAME NUMBER AS THE DEVICE (CXXXX) IT IS CONTROLLING.	
6. TWSH CABLE SHIELDS WILL BE TERMINATED ONLY AT THE N90 PCU. TERMINATIONS OF THE SHIELD AT THE FIELD DEVICE IS NOT ACCEPTABLE.	
7. ABBREVIATION EXAMPLES	
• #16 TSP = ONE INDIVIDUAL PAIR OF #16AWG CONDUCTORS TWISTED AND SHIELDED.	
• 8/PR, TW SH = ONE MULTIPAIR CONTROL CABLE WITH AT LEAST 8 PAIR OF #16AWG CONDUCTORS, EACH PAIR TWISTED & INDIVIDUALLY SHIELDED.	
• 24/C-#14 = ONE MULTICONDUCTOR CONTROL CABLE WITH AT LEAST 24-#14 CONDUCTORS.	
• T.S.P. AND TSP ARE ABBREVIATIONS FOR TWISTED SHIELDED PAIR.	

ONE-LINE DIAGRAMS	
	ISOLATION TRANSFORMER WITH ELECTROSTATIC SHIELD, 480V INDICATES WINDING VOLTAGE, 10KVA REPRESENTS POWER RATING AND "X" INDICATES THE NUMBER OF PHASES.
	TRANSFORMER CONNECTION, WYE (RESISTANCE GROUNDING NEUTRAL)
	FLOAT SWITCH (X) DESIGNATE QUANTITY.

LUMINAIRES	
	FLUORESCENT STRIP DESCRIBED IN LUMINAIRE SCHEDULE.
	FLUORESCENT FIXTURE DESCRIBED IN LUMINAIRE SCHEDULE.
	FIXTURE AS DESCRIBED IN LUMINAIRE SCHEDULE.
	HPS LIGHTING FIXTURE AS DESCRIBED IN LUMINAIRE SCHEDULE.

RECORD DRAWING

Date: 6/26/96 By: [Signature]

CAMP DRESSER & MCKEE INC.

RECORD DRAWING

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DATE: 6/26/96 By: [Signature] CAMP DRESSER & MCKEE

JIM PATRICK REGISTERED PROFESSIONAL ENGINEER

NOV 1985

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REV	DATE	APP.	DESCRIPTION

MAI MISHRA AND ASSOCIATES, INC.
PROCESS AUTOMATION SPECIALISTS
(505) 889-0025

SOUTHSIDE WATER RECLAMATION PLANT
ACTIVATED SLUDGE EXPANSION
PHASE III, CONTRACT 4
MODIFICATIONS TO ACTIVATED SLUDGE
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
ALBUQUERQUE
NEW MEXICO
PUBLIC WORKS
DEPARTMENT

Designed By: DRC
Drawn By: HHN
Checked By: VKG
Approved By: JPC

Date: DEC. 1993
Scale: NONE
CDM CAMP DRESSER & MCKEE INC.
ALBUQUERQUE NEW MEXICO
environmental engineers, scientists
planners, & management consultants

DRAWING
E-1
SHEET NUMBER
17 OF 30

**ELECTRICAL LEGEND
AND SYMBOLS**

GENERAL NOTE:
 1. THIS IS A STANDARD SHEET. NOT ALL ABBREVIATIONS AND SYMBOLS MAY HAVE BEEN USED ON THIS PROJECT.
 *"C" DESIGNATES A CONTROL CONDUIT WHEN USED AS A CONDUIT NUMBER PREFIX.
 *"P" DESIGNATES A POWER CONDUIT WHEN USED AS A CONDUIT NUMBER PREFIX.

ABBREVIATIONS AND MISCELLANEOUS LETTER SYMBOLS

A	AMP OR AMMETER	GALV	GALVANIZED	O	OPEN OR OPENED	Δ	DELTA
AC	ALTERNATING CURRENT	GEN	GENERATOR	OC	OPEN-CLOSE	Σ	SUM
ACK	ACKNOWLEDGE	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	OCA	OPEN-CLOSE-AUTO	x	MULTIPLY
ACP-X	AREA/AUX CONTROL PANEL NO.X	GFMUH	GAS FIRED MAKE UP HEATER	OL	OVERLOAD RELAY	÷	DIVIDE
ADJ	ADJUSTABLE	GFR	GROUND FAULT RELAY	OO	ON-OFF	f(x)	CHARACTERIZE
AFF	ABOVE FINISHED FLOOR	GND	GROUND	00A	ON-OFF-AUTO	x^n	RAISE TO THE NTH POWER
AHU	AIR HANDLING UNIT	GRC	GALVANIZED RIGID STEEL CONDUIT	00R	ON-OFF-REMOTE	$\sqrt{\quad}$	SQUARE ROOT
AIC	AMP INTERRUPTING CAPACITY			OP	ORTHO PHOSPHORUS	AVG	AVERAGE
AM	AUTO-MANUAL			OR	OFF-REMOTE	1:1	REPEAT OR BOOST
AS	ADJUSTABLE SPEED	H	HOT-LEG	ORP	OXIDATION REDUCTION POTENTIAL	>	SELECT HIGHEST SIGNAL
ASPS	ACTIVATED SLUDGE PUMP STATION	HHV	HANDHOLE HIGH VOLTAGE	OSC	OPEN-STOP-CLOSE	<	SELECT LOWEST SIGNAL
ASU	AIR SUPPLY UNIT	HID	HIGH INTENSITY DISCHARGE			\neq	HIGH/LOW LIMIT
ATS	AUTOMATIC TRANSFER SWITCH	HLV	HANDHOLE LOW VOLTAGE	*P	PHASE OR POLE	1:0	INVERSE DERIVATIVE
AUX	AUXILIARY	HN	HORN OR KLAXSON	PB	PUSH-BUTTON STATION	1-0	ON-OFF
		HOA	HAND-OFF-AUTO	PC	PHOTOCELL	ϕ	PHASE
B	BELL	HOR	HAND-OFF-REMOTE	PCP-X	PUMP CONTROL PANEL NO.X	Ω	CURRENT
BAT	BATTERY	HPS	HIGH PRESSURE SODIUM	PFR	PHASE FAILURE RELAY	(+)	OHM
BKR	BREAKER	HS	HAND OPERATED SELECTOR SWITCH	PH	HYDROGEN ION CONCENTRATION	(-)	NEGATIVE
BLDG	BUILDING	HSC	HAND SWITCH CLOSE	PP-X	POWER PANEL NO.X	\oplus	EXISTING
B12	1 OR 2 OR BOTH	HSD	HAND SWITCH OPEN	PS	PRESSURE SWITCH	Δ	REFERENCE NOTE
		HSS	HAND SWITCH STOP	PT	POTENTIAL TRANSFORMER		
		HTR	HEATER	PVC	POLYVINYL CHLORIDE		
*C	CONDUIT OR CLOSED	HVAC	HEATING VENTILATING AND AIR CONDITIONING	PWR	POWER		
CAM	COMPUTER-AUTO-MANUAL	HZ	HERTZ (CYCLES PER SECOND)				
CB	CIRCUIT BREAKER	H2S	HYDROGEN SULFIDE (STANDARD CHEMICAL ELEMENT ABBREVIATION)	R-X	RESISTOR OR POTENTIOMETER NO.X		
CC	CONTROL CABLE			REV	REVERSE		
CCS	CENTRAL CONTROL SYSTEM			RM-X	REMOTE MODULE NO.X		
CCT	CONTROL CIRCUIT TRANSFORMER			ROA	REMOTE-ON-AUTO		
CKT	CIRCUIT			RPM	REVOLUTIONS PER MINUTE		
CL2	CHLORINE (TYPICAL USE, STANDARD CHEMICAL ELEMENT ABBREVIATION)	IJB	INSTRUMENT JUNCTION BOX	RTM	RUNNING TIME METER		
		IN OR (")	INCHES	RVNR	REDUCED VOLTAGE NON-REVERSING		
		INCAND	INCANDESCENT				
CM	COMPUTER-MANUAL	INST	INSTANTANEOUS	SC	SPEED CONTROLLER		
COD	CHEMICAL OXYGEN DEMAND			SEC	SECOND		
CONC	CONCENTRATION			SF	SLOWER-FASTER		
CR	CONTROL RELAY			SO2	SULFUR DIOXIDE		
CT	CURRENT TRANSFORMER			SS	START-STOP		
				SSC	SUPERVISORY SET POINT CONTROL		
DC	DIRECT CURRENT			SUSP	SUSPENDED SOLIDS CONCENTRATION		
DCS	DISTRIBUTED CONTROL SYSTEM			SV	SOLENOID VALVE		
DCU-X	DISTRIBUTED CONTROL UNIT NO.X			SW	SWITCH		
DD	DELAY UPON DEENERGIZING	K	KEY INTERLOCK				
DE	DELAY UPON ENERGIZING	KW	KILOWATT	T	THERMOSTAT OR TRANSFORMER		
DEEN	DEENERGIZED	KWH	KILOWATT HOUR	TB	TERMINAL BLOCK		
DEV	DEVIATION			TC	TIME CLOCK		
DIA	DIAMETER	L	LIGHTING CONTACTOR	TCL2	TOTAL CHLORINE RESIDUAL		
DIM	DIMENSION	LA	LIGHTNING ARRESTOR	TD	TEMPERATURE DETECTOR RELAY		
DO	DISSOLVED OXYGEN CONCENTRATION	LCP-X	LOCAL CONTROL PANEL NO.X	TDR	TIME DELAY RELAY		
DSW	DISCONNECT SWITCH	LDR	LOADING RELAY	TJB	TERMINAL JUNCTION BOX		
DS	DOOR SWITCH	LEL	LOWER EXPLOSIVE LIMIT	TM	TIMING RELAY		
		LL	LEAD-LAG	TOC	TOTAL ORGANIC CARBON		
E.C.	ELECTRICAL CONTRACTOR	LLCO	LOW LEVEL CUT-OFF	TOD	TOTAL OXYGEN DEMAND		
EF	EXHAUST FAN	LOS	LOCK-OUT STOP	TR	TIMER-REPEAT CYCLE		
E/G	EMERGENCY GENERATOR	LP-X	LIGHTING PANEL NO.X	TS	TEMPERATURE SWITCH		
EMER	EMERGENCY	LR	LATCHING RELAY OR LOCAL-REMOTE	TSP	TWISTED SHIELDED PAIR		
OR EM		LS	LIMIT SWITCH	TW=TWISTED, SH=SHIELD OR SHIELDED, PR=PAIR			
		LT	INDICATING LIGHT	TTS	TWISTED TRIAD SHIELDED		
EN	ENERGIZED	LY	LEVEL RELAY	TU	TURBIDITY		
ESD	EMERGENCY STOP DEPRESSED	L1,L2,L3	LIGHTING PANEL BRANCH CIRCUIT	UH	UNIT HEATER		
ESR	EMERGENCY STOP RESET			UVR	UNDER VOLTAGE RELAY		
EUH	ELECTRIC UNIT HEATER						
EX OR	EXISTING			V	VOLT OR VOLTMETER		
EXIST				VAR	VARMETER		
				VHC	VOLATILE HYDROCARBON CONC.		
				VISC	VISCOSITY		
				VP	VAPORPROOF		
FA	FIRE ALARM	M	MOTOR CONTROLLER	W	WATT		
FC	FAIL CLOSED	MC	MODULATE-CLOSE	WHD	WATTHOUR DEMAND METER		
FCL2	FREE CHLORINE RESIDUAL	MCC-X	MOTOR CONTROL CENTER NO.X	WP	WEATHERPROOF		
FDR	FEEDER	MCP	MOTOR CIRCUIT PROTECTOR	WP-SS	WEATHERPROOF-STAINLESS STEEL		
FJB	FIELD JUNCTION BOX	MERC	MERCURY VAPOR	W/	WITH		
FLA	FULL LOAD AMPERES	MH	MANHOLE				
FLM	FLASH MOTOR	MIN	MINUTE OR MINIMUM				
FLP	FAIL TO LAST POSITION	MLSS	MIXED LIQUOR SUSP. SOLIDS CONC.				
FLUOR	FLUORESCENT	MMP	MECHANICAL MOUNTING PANEL				
FO	FAIL OPEN	MS	MOTOR STARTER				
FOS	FAST-OFF-SLOW	MSP	MOTOR STARTER PANEL				
FOSA	FAST-OFF-SLOW-AUTO	MTR	MOTOR				
FOSR	FAST-OFF-SLOW-REMOTE	MSS	MOTOR SWITCH-STOP				
FOR	FORWARD	MSR	MOTOR SWITCH-RUN				
FP-X	FIELD PANEL NO.X	MTS	MANUAL TRANSFER SWITCH				
FS	FLOAT SWITCH						
FU	FUSE	N	NEUTRAL				
FUT	FUTURE	NA	NON-AUTOMATIC				
FVNR	FULL VOLTAGE NON-REVERSING	NC	NORMALLY CLOSED				
FVR	FULL VOLTAGE REVERSING	NCTO	NORMALLY CLOSED TIMED OPEN				
		NJ	NORMAL-JOG				
		NO	NORMALLY OPEN				
		NOTC	NORMALLY OPEN TIMED CLOSE				
		NOTO	NORMALLY OPEN TIMED OPEN				
		NCTC	NORMALLY CLOSED TIMED CLOSED				
		NP	NAMEPLATE				

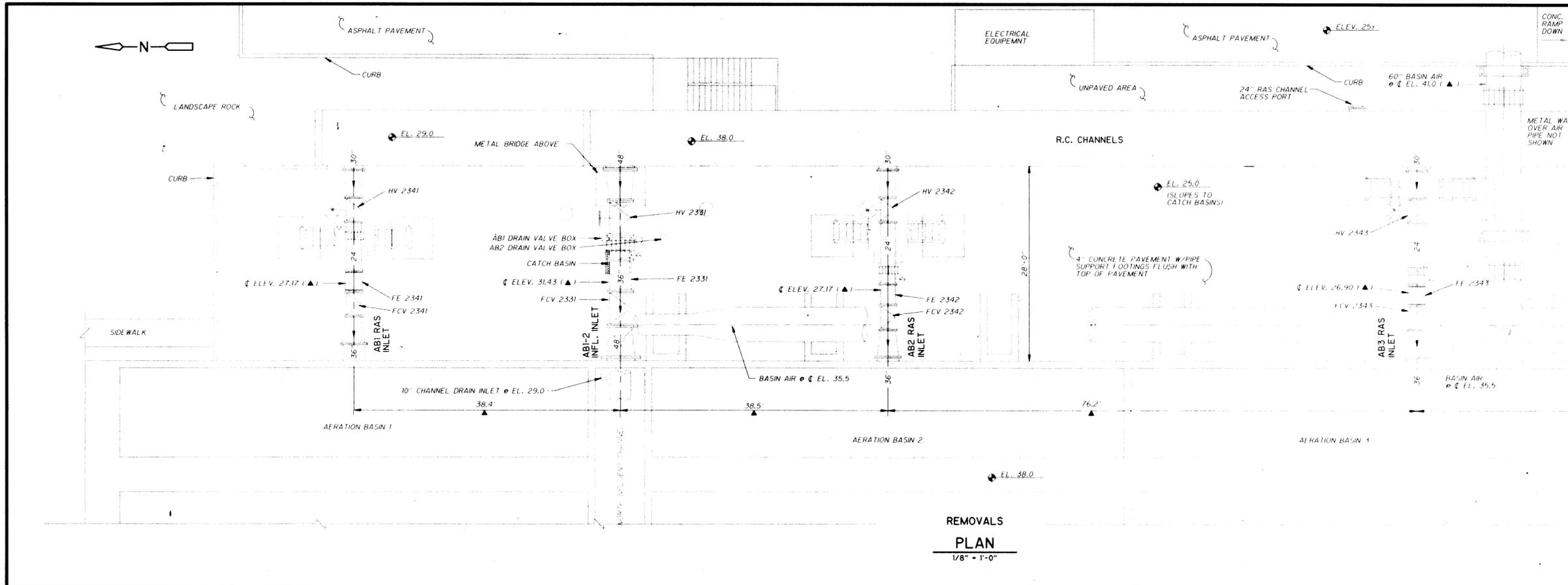
RECORD DRAWING
 Date: 6/26/96 By: [Signature]
 CAMP DRESSER & MCKEE INC.

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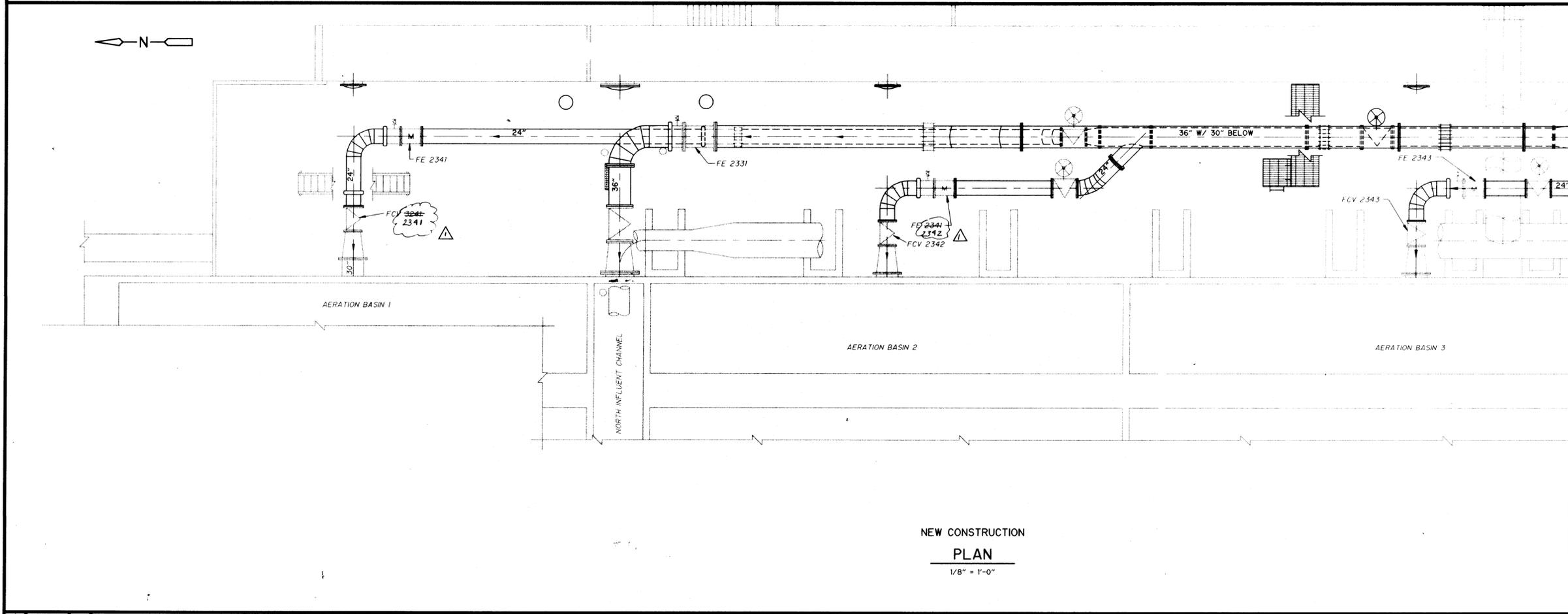


REV	DATE	APP.	DESCRIPTION	MISHRA AND ASSOCIATES, INC. PROCESS AUTOMATION SPECIALISTS (505) 889-0025	SOUTHSIDE WATER RECLAMATION PLANT ACTIVATED SLUDGE EXPANSION PHASE III, CONTRACT 4 MODIFICATIONS TO ACTIVATED SLUDGE PUMP DISCHARGE CONDUIT SYSTEM	CITY OF ALBUQUERQUE NEW MEXICO PUBLIC WORKS DEPARTMENT		Designed By: <u>DRC</u>	Date: <u>NOV. 1993</u>	CDM CAMP DRESSER & MCKEE INC. ALBUQUERQUE NEW MEXICO environmental engineers, scientists planners, & management consultants	DRAWING E-2 SHEET NUMBER 18 OF 30
								Drawn By: <u>HNN</u>	Scale: <u>AS SHOWN</u>		



- GENERAL NOTES:**
1. THESE ELECTRICAL DRAWINGS SHOW ONLY THOSE ELECTRICAL, INSTRUMENTATION AND CONTROL FEATURES WHICH REQUIRE WORK UNDER THIS CONTRACT.
 2. ALL ELECTRICAL, INSTRUMENTATION AND CONTROL REMOVALS, RELOCATIONS, INSTALLATIONS AND TESTING REQUIRE COORDINATION WITH THE WORK OF OTHER TRADES, TO ENSURE THAT CONFLICTS, INTERFERENCES OR DELAYS TO THE PROJECT PROGRESS DO NOT OCCUR.
 3. ALL ELECTRICAL, INSTRUMENTATION AND CONTROL REMOVALS, RELOCATIONS AND TESTING THAT AFFECT PLANT OPERATIONS MUST BE COORDINATED WITH THE OWNER, THROUGH THE ENGINEER, AS SPECIFIED.
 4. EXISTING TO REMAIN, AND NEW ELECTRICAL, INSTRUMENTATION AND CONTROLS ARE IN CLOSE PROXIMITY TO NEW CIVIL, STRUCTURAL AND MECHANICAL WORK. CONTRACTOR IS RESPONSIBLE FOR PROTECTING THESE ELECTRICAL FACILITIES FROM DAMAGE, WHETHER OR NOT THE FACILITIES ARE SHOWN ON THESE DRAWINGS.
 5. SEE MECHANICAL AND STRUCTURAL DRAWINGS FOR DESCRIPTION OF NON-ELECTRICAL FEATURES.
 6. SEE DRAWINGS M-1R AND S-1R FOR MECHANICAL AND STRUCTURAL REVISIONS. REVISE ROUTING OF NEW CONDUITS TO AVOID NEW INSTRUMENT AND CONTROL LOCATIONS, AND FOR TO AVOID CONFLICT WITH STRUCTURAL FEATURES.

MATCH LINE F-F (SEE SHEET E-4 FOR CONTINUATION)



- SPECIFIC NOTES:**
1. NO 480 V REMOVALS, RELOCATIONS OR INSTALLATIONS REQUIRED FOR THIS AREA.

RECORD DRAWING
 Date: 6/26/96 By: [Signature]
 CAMP DRESSER & MCKEE INC.

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 DATE: 6/26/96 By: [Signature] CAMP DRESSER & MCKEE INC.

MATCH LINE G-G (SEE SHEET E-4 FOR CONTINUATION)

NO.	DATE	APP	REVISION
1	MAR 94		APPENDIX NO. 1
2	JULY 94	MUS	CHANGE REQUEST NO. 1

SOUTHSIDE WATER RECLAMATION PLANT
 ACTIVATED SLUDGE EXPANSION
 PHASE III, CONTRACT 4
 MODIFICATIONS TO ACTIVATED SLUDGE
 PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
ALBUQUERQUE
 NEW MEXICO
 PUBLIC WORKS
 DEPARTMENT

Designed By: MJS
 Drawn By: TVN
 Checked By: VKG
 Approved By: JPC

Date: DEC. 1993
 Scale: AS NOTED

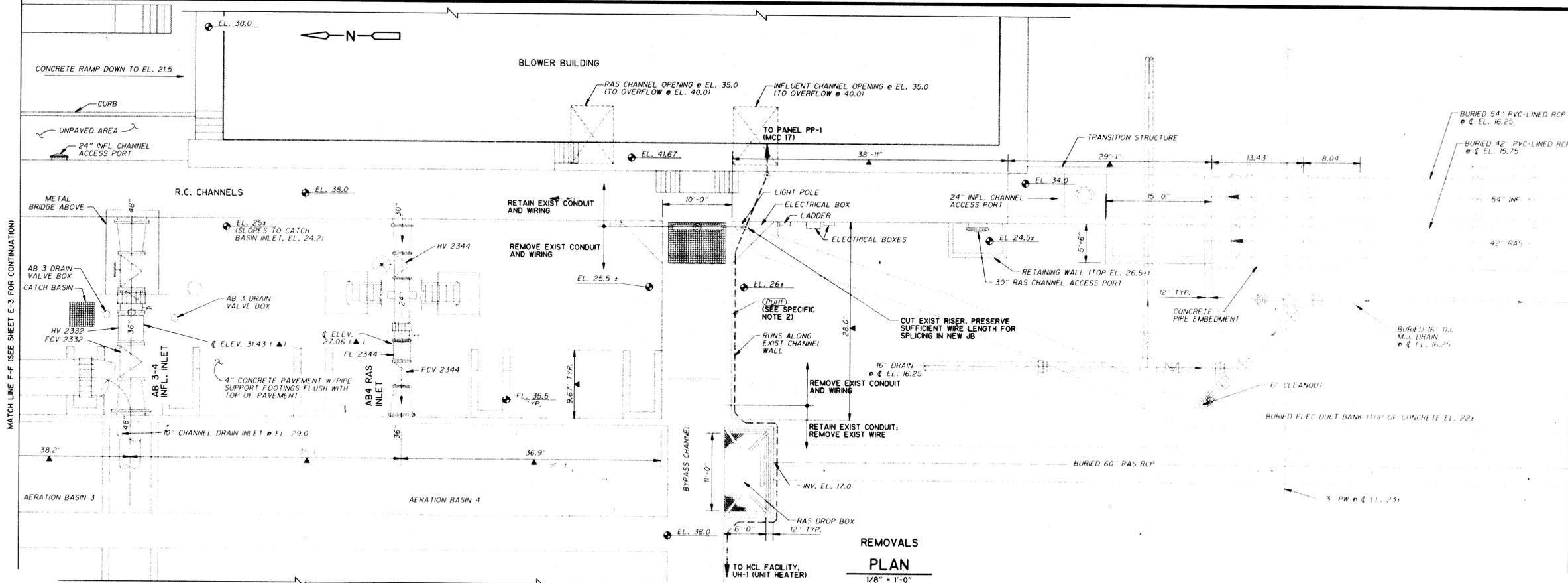
CDM CAMP DRESSER & MCKEE INC.
 ALBUQUERQUE, NEW MEXICO
 environmental engineers, scientists
 planners, & management consultants

**ELECTRICAL
 480 V POWER PLAN
 - NORTH**



DRAWING
 E-3
 SHEET NUMBER
 19 OF 30

12/08/93 14620 S:\PFE-3 C:\ACAD\665142\SURF\

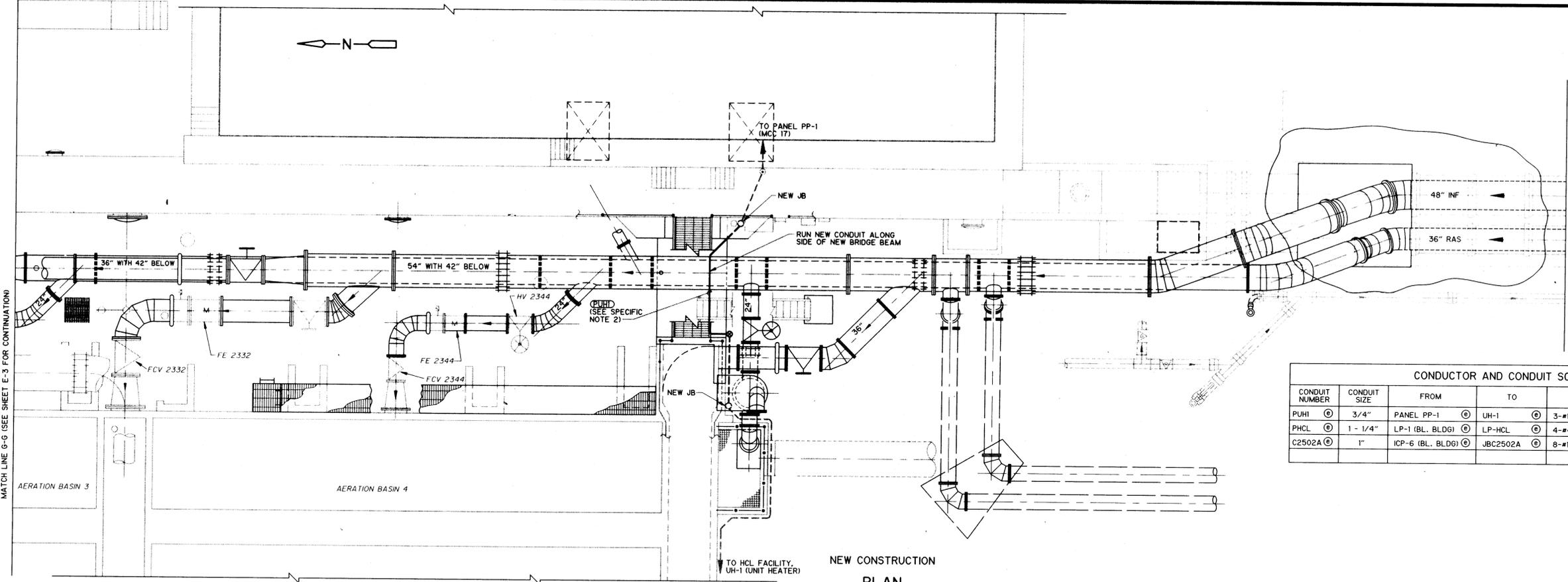


REMOVALS PLAN
1/8" = 1'-0"

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 5. SEE MECHANICAL AND STRUCTURAL DRAWINGS FOR DESCRIPTION OF NON-ELECTRICAL FEATURES.
 6. SEE DRAWING NOS. M-2R AND S-1R FOR MECHANICAL AND STRUCTURAL REVISIONS. REVISE ROUTING OF NEW CONDUITS TO SUIT NEW INSTRUMENT AND CONTROL LOCATIONS, AND/OR TO AVOID CONFLICT WITH NEW STRUCTURAL FEATURES.

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CAMP DRESSER & MCKEE INC.

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DATE: 6/26/96 By: [Signature] CAMP DRESSER & MCKEE



NEW CONSTRUCTION PLAN
1/8" = 1'-0"

- SPECIFIC NOTES:**
1. SEE CONDUCTOR AND CONDUIT SCHEDULE BELOW.
 2. SIMILAR FOR 120 VAC, FROM LP-1 TO LP-HCL, AND FOR CONTROLS, FROM ICP-6 TO JBC 2502A (HCL). SEE SCHEDULE BELOW FOR CONDUITS PHCL AND C2502A. 480 V AND 120 V POWER CAN SHARE COMMON JBS. SEPARATE TERMINAL STRIPS REQUIRED. PROVIDE SEPARATE JBS FOR CONTROL WIRING. CONDUITS PHCL AND C2502A PARALLEL AND ARE IMMEDIATELY ADJACENT TO CONDUIT PUH1 SHOWN ON THE PLANS. REMOVAL AND NEW CONSTRUCTION WORK FOR CONDUITS PHCL AND C2502A IS EXACTLY AS SHOWN FOR CONDUIT PUH1 AND AS INDICATED IN THIS NOTE.

CONDUCTOR AND CONDUIT SCHEDULE					
CONDUIT NUMBER	CONDUIT SIZE	FROM	TO	WIRE	PURPOSE
PUH1	3/4"	PANEL PP-1	UH-1	3-#12, 1-#12GND	480VAC POWER, CKT PP1-20,22,24
PHCL	1 - 1/4"	LP-1 (BL. BLDG)	LP-HCL	4-#4, 1-#8GND	120 V POWER
C2502A	1"	ICP-6 (BL. BLDG)	JBC2502A	8-#14, 1-#14GND	CONTROL

NO.	DATE	APP.	REVISION	NO.	DATE	APP.	REVISION
1	JULY 94	MJS	CHANGE REQUEST NO 1				

SOUTHSIDE WATER RECLAMATION PLANT
ACTIVATED SLUDGE EXPANSION
PHASE III, CONTRACT 4
MODIFICATIONS TO ACTIVATED SLUDGE
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
ALBUQUERQUE
NEW MEXICO
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DEPARTMENT



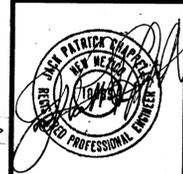
Designed By: MJS
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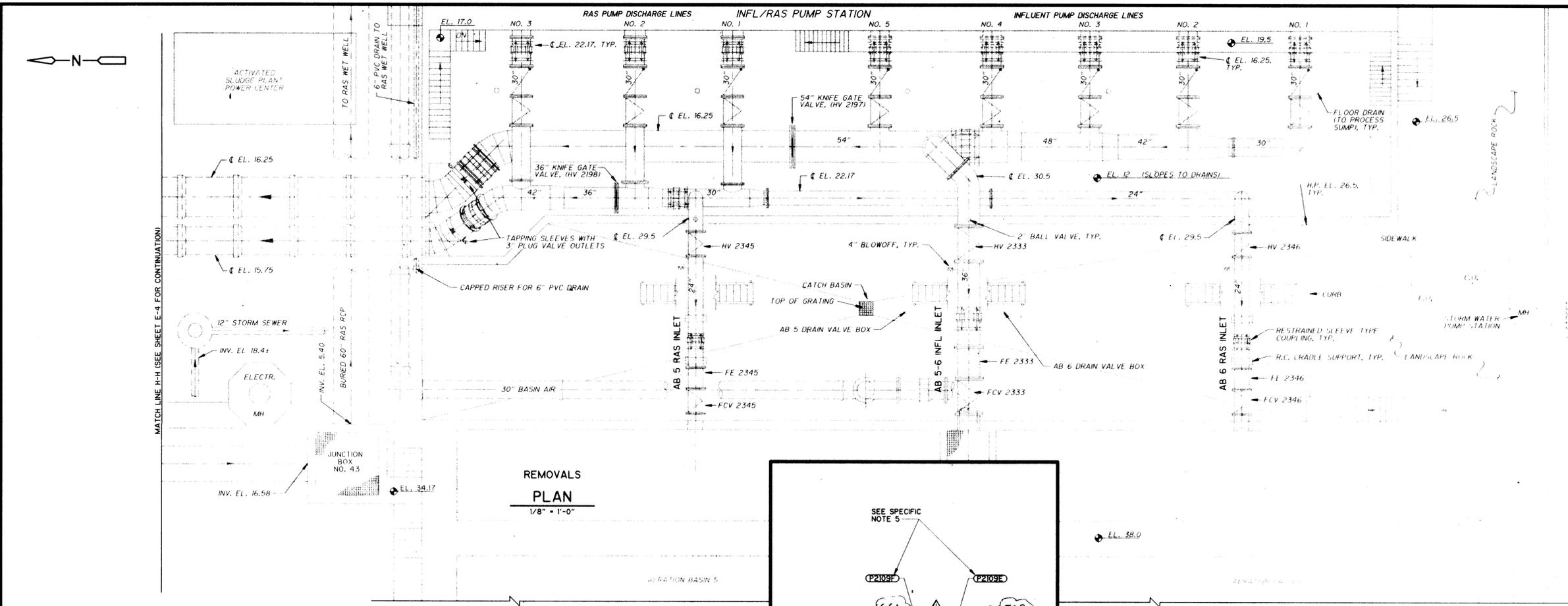
CDM CAMP DRESSER & MCKEE INC.
ALBUQUERQUE, NEW MEXICO
environmental engineers, scientists
planners, & management consultants

ELECTRICAL
480 V POWER PLAN
- CENTRAL

DRAWING
E-4
SHEET NUMBER
20 OF 30



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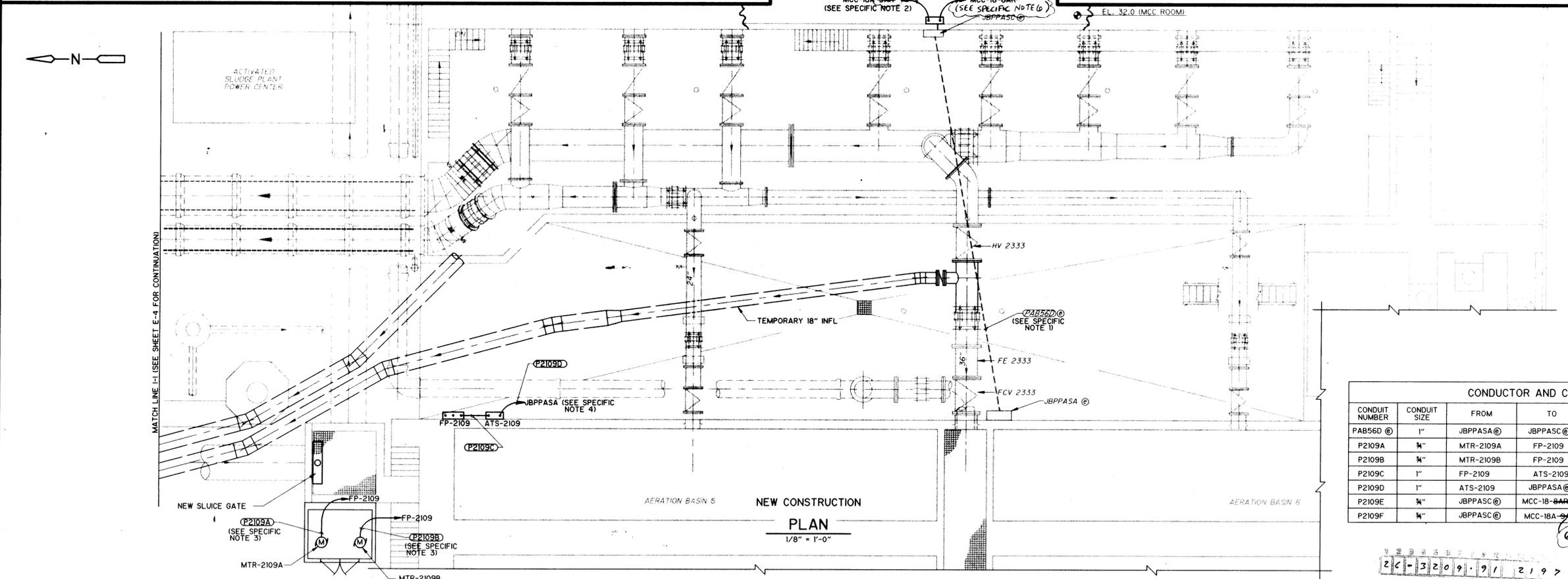


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 - SEE MECHANICAL AND STRUCTURAL DRAWINGS FOR DESCRIPTION OF NON-ELECTRICAL FEATURES.

- SPECIFIC NOTES:**
- NO ELECTRICAL REMOVALS THIS DRAWING. SEE NEW CONSTRUCTION PLAN FOR EXISTING AND NEW ELECTRICAL FEATURES.

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- SPECIFIC NOTES:**
- EXIST. CONDUIT PAB56D IS CONTAINED IN BURIED DUCTBANK, WITH RISERS TO EXIST. JBPPASA AND JBPPASC. JBPPASA IS AT APPROX. ELEV. 33.0; JBPPASC IS AT APPROX. ELEV. 42.0. CONDUIT PAB56D IS CAPPED AT INSIDE FACE OF PUMP STA. WALL. REMOVE CAP.
 - FURNISH AND INSTALL TWO EACH CIRCUIT BREAKERS IN POSITION 9 OF MCC-18A; FURNISH ONE 20 AMP AND ONE 30 AMP CIRCUIT BREAKER. USE 30 AMP BREAKER POSITION 9A FOR THIS CIRCUIT. BREAKERS SHALL INCLUDE PARTS, DOORS, OPERATORS, IDENTIFICATION NAMEPLATES AND ALL INCIDENTALS. REMOVE EXIST. DOORS AND PARTS AND DELIVER TO OWNER.
 - ROUTE CONDUIT BETWEEN JB43 AND AB5 BELOW STAIR LANDINGS.
 - ROUTE HOMERUN VIA EXISTING JBPPASA, PAB56D AND JBPPASC.
 - ROUTE OVERHEAD. SEE DRWG. G-2 FOR APPROX. PLAN LOCATIONS OF MCC-18 AND MCC-18A.
 - REMOVE EXISTING SPARE 100A CIRCUIT BREAKER FROM POSITION 6CL OF MCC-18A, AND DELIVER TO OWNER. FURNISH AND INSTALL NEW 30A CIRCUIT BREAKER AT THIS LOCATION FOR THIS CIRCUIT. NEW BREAKER TO INCLUDE IDENTIFICATION NAMEPLATE AND ALL INCIDENTALS.
 - REMOVE EXISTING SPARE 40A CIRCUIT BREAKER FROM POSITION SCR OF MCC-18, AND DELIVER TO OWNER. FURNISH AND INSTALL NEW 30A CIRCUIT BREAKER AT THIS LOCATION FOR THIS CIRCUIT. NEW BREAKER TO INCLUDE IDENTIFICATION NAMEPLATE AND ALL INCIDENTALS.

CONDUCTOR AND CONDUIT SCHEDULE

CONDUIT NUMBER	CONDUIT SIZE	FROM	TO	WIRE	PURPOSE
PAB56D @	1"	JBPPASA @	JBPPASC @	6#10, 1#10 GND.	POWER
P2109A	3/4"	MTR-2109A	FP-2109	3#12, 1#12 GND.	POWER
P2109B	3/4"	MTR-2109B	FP-2109	3#12, 1#12 GND.	POWER
P2109C	1"	FP-2109	ATS-2109	3#10, 1#10 GND.	POWER
P2109D	1"	ATS-2109	JBPPASA @	6#10, 1#10 GND.	POWER
P2109E	3/4"	JBPPASC @	MCC-18- BAR	3#10, 1#10 GND.	POWER
P2109F	3/4"	JBPPASA @	MCC-18A- BAR	3#10, 1#10 GND.	POWER

NO.	DATE	APP.	REVISION	NO.	DATE	APP.	REVISION
	JULY 94	MJS	FIELD DIRECTIVE NO. 1				

SOUTHSIDE WATER RECLAMATION PLANT
 ACTIVATED SLUDGE EXPANSION
 PHASE III, CONTRACT 4
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 PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
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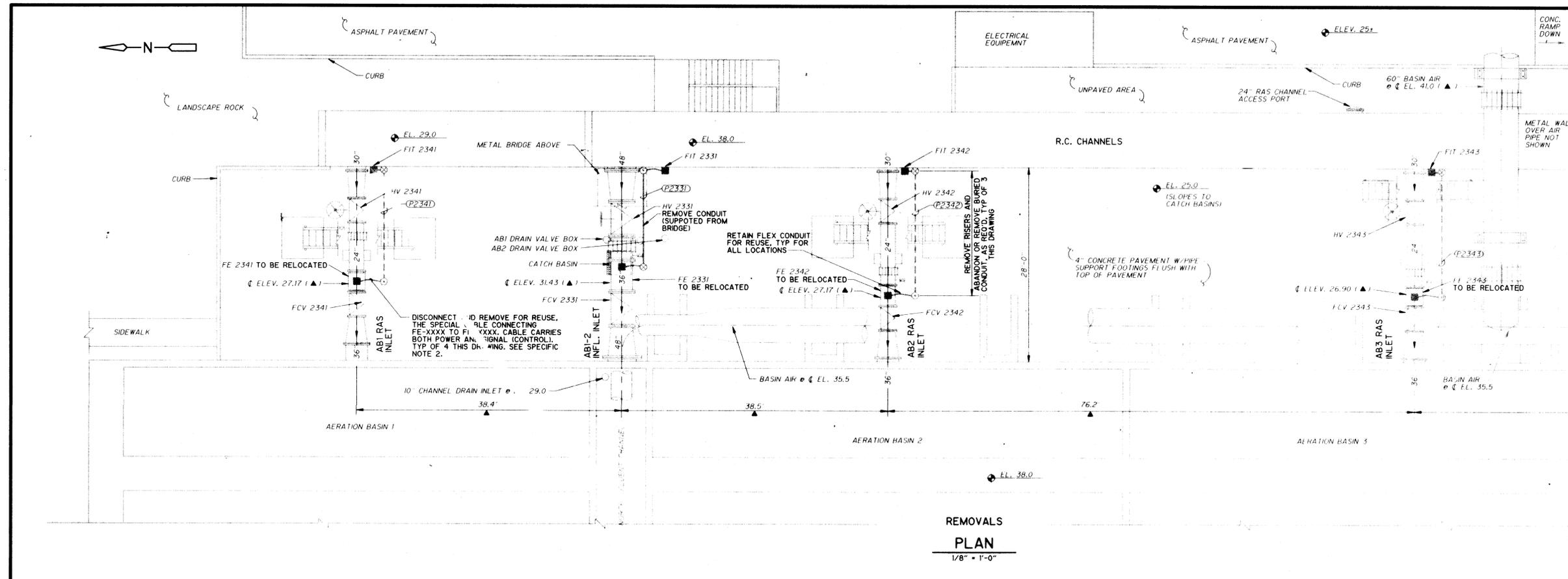
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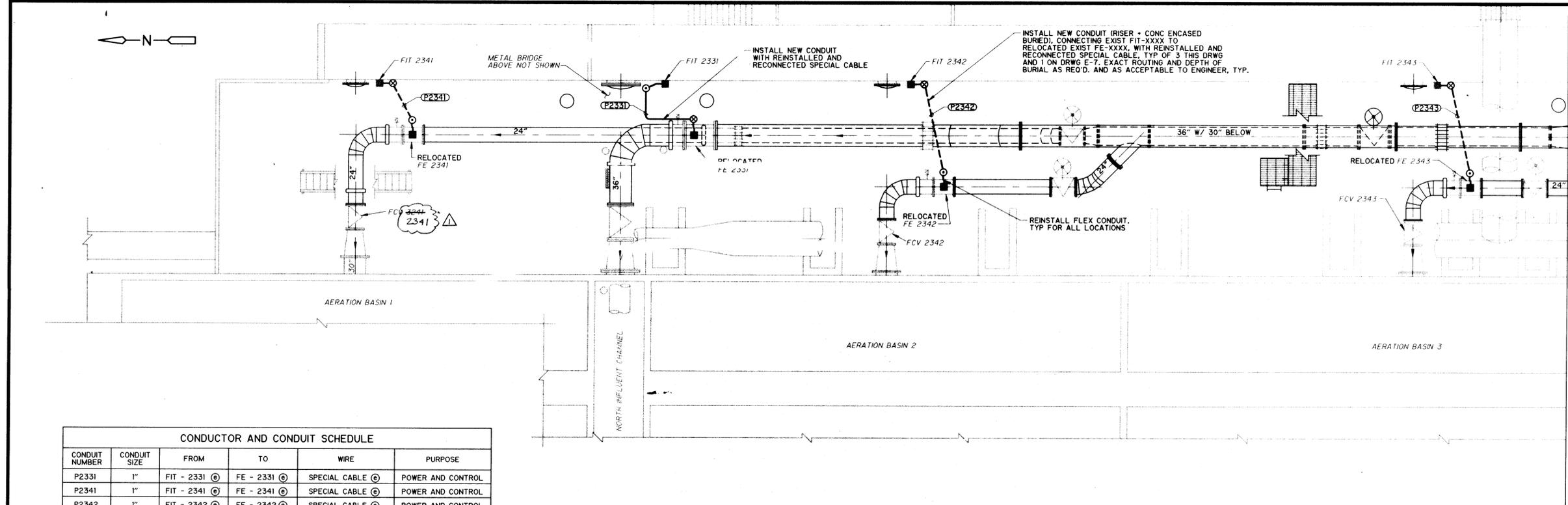
**ELECTRICAL
 480 V POWER PLAN
 - SOUTH**

DRAWING
E-5
 SHEET NUMBER
21 OF 30



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 - SEE MECHANICAL AND STRUCTURAL DRAWINGS FOR DESCRIPTION OF NON-ELECTRICAL FEATURES.
- SEE DRAWING NOS M-1-R AND S-1-R FOR MECHANICAL AND STRUCTURAL REVISIONS. REVISE ROUTING OF NEW CONDUITS TO SUIT NEW INSTRUMENT AND CONTROL LOCATIONS, AND/OR TO AVOID CONFLICT WITH NEW STRUCTURAL FEATURES.

- SPECIFIC NOTES:**
- SYSTEM SUPPLIER SHALL SUPERVISE DISCONNECTIONS AND RELOCATIONS. PRIOR TO DISCONNECTION, OWNER SHALL DEMONSTRATE TO SYSTEM SUPPLIER THAT EXISTING INSTALLATION IS OPERATING PROPERLY, AND THAT EXIST. INSTRUMENTS ARE PROPERLY CALIBRATED.
 - CONTRACTOR SHALL VERIFY REQUIRED CABLE LENGTH FOR NEW CONSTRUCTION, IF EXISTING CABLE LENGTH WILL NOT BE SUFFICIENT, ENGINEER MUST BE NOTIFIED AND CHANGE ORDER ISSUED FOR REPLACEMENT CABLE.



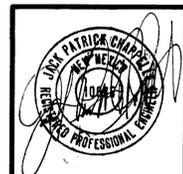
- SPECIFIC NOTES:**
- SYSTEM SUPPLIER SHALL CERTIFY REINSTALLATION AND RECONNECTION OF FE-XXXX, 4 EACH THIS DRAWING. SEE NOTE 5 BELOW.
 - SYSTEM SUPPLIER SHALL RE-CALIBRATE AND CERTIFY LOOPS FE/FIT-XXXX, 4 EACH THIS DRAWING. SEE NOTE 5 BELOW.
 - REMOVE THEN REINSTATE EXISTING 4" CONCRETE PAVEMENT AS REQUIRED FOR NEW BURIED CONDUIT INSTALLATIONS. ALL BURIED CONDUIT TO BE CONCRETE ENCASED AS SPECIFIED.
 - CONDUIT RUNS ARE SCHEMATIC; FEWER BENDS THAN SHOWN MAY ACTUALLY BE REQUIRED.
 - SYSTEM SUPPLIER SHALL DEMONSTRATE PROPER CALIBRATION AND FUNCTION TO OWNER.

CONDUCTOR AND CONDUIT SCHEDULE

CONDUIT NUMBER	CONDUIT SIZE	FROM	TO	WIRE	PURPOSE
P2331	1"	FIT - 2331	FE - 2331	SPECIAL CABLE	POWER AND CONTROL
P2341	1"	FIT - 2341	FE - 2341	SPECIAL CABLE	POWER AND CONTROL
P2342	1"	FIT - 2342	FE - 2342	SPECIAL CABLE	POWER AND CONTROL
P2343	1"	FIT - 2343	FE - 2343	SPECIAL CABLE	POWER AND CONTROL

RECORD DRAWING
 Date: 6/26/96 By: [Signature]
 CAMP DRESSER & MCKEE INC.

RECORD DRAWING
 THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.
 DATE: 6/26/96 By: [Signature] CAMP DRESSER & MCKEE



26-3207-191 2297

MAR 94	ADDENDUM NO 1						
JULY 94	CHANGE REQUEST NO 1						
NO.	DATE	APP	REVISION	NO.	DATE	APP	REVISION

SOUTHSIDE WATER RECLAMATION PLANT
 ACTIVATED SLUDGE EXPANSION
 PHASE III, CONTRACT 4
 MODIFICATIONS TO ACTIVATED SLUDGE
 PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
ALBUQUERQUE
 NEW MEXICO
 PUBLIC WORKS
 DEPARTMENT

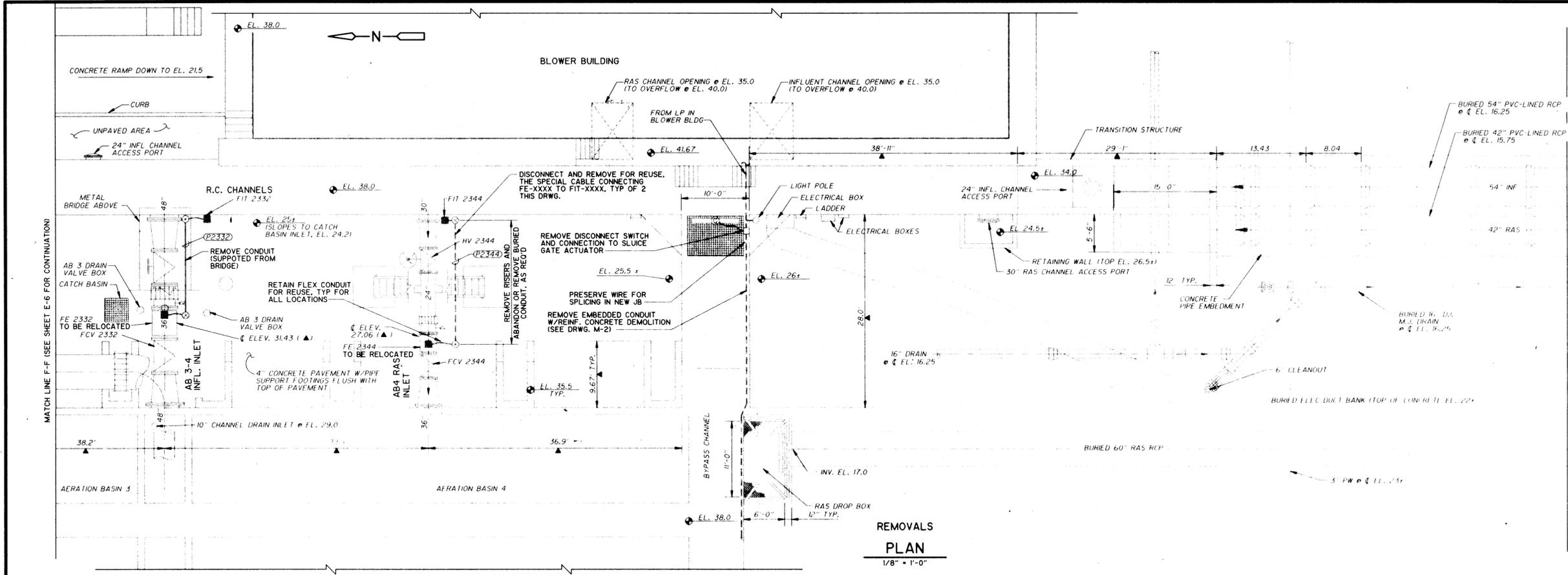
Designed By: MJS
 Drawn By: TVN
 Checked By: VKG
 Approved By: JPC

Date: DEC. 1993
 Scale: AS NOTED

CDM CAMP DRESSER & MCKEE INC.
 ALBUQUERQUE, NEW MEXICO
 environmental engineers, scientists
 planners, & management consultants

ELECTRICAL
 120 V POWER PLAN
 - NORTH

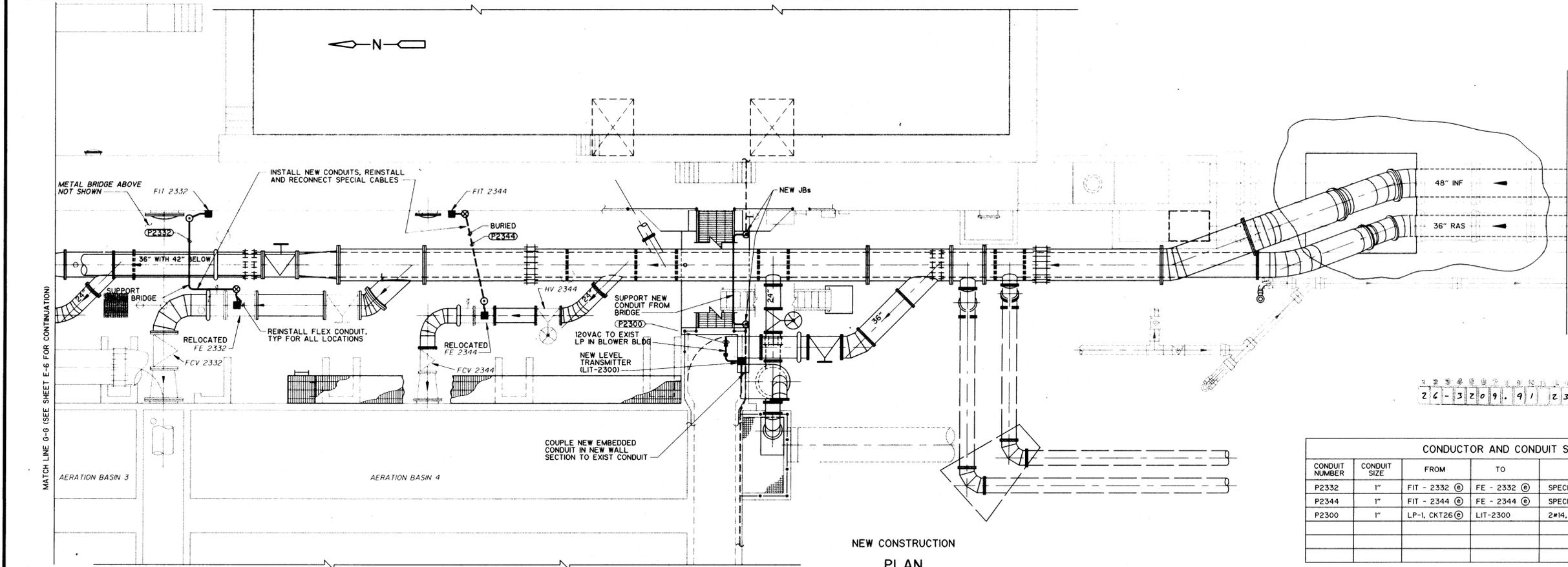
DRAWING
 E-6
 SHEET NUMBER
 22 OF 30



REMOVALS PLAN
1/8" = 1'-0"

- GENERAL NOTES:**
- THESE ELECTRICAL DRAWINGS SHOW ONLY THOSE ELECTRICAL, INSTRUMENTATION AND CONTROL FEATURES WHICH REQUIRE WORK UNDER THIS CONTRACT.
 - ALL ELECTRICAL, INSTRUMENTATION AND CONTROL REMOVALS, RELOCATIONS, INSTALLATIONS AND TESTING REQUIRE COORDINATION WITH THE WORK OF OTHER TRADES, TO ENSURE THAT CONFLICTS, INTERFERENCES OR DELAYS TO THE PROJECT PROGRESS DO NOT OCCUR.
 - ALL ELECTRICAL, INSTRUMENTATION AND CONTROL REMOVALS, RELOCATIONS AND TESTING THAT AFFECT PLANT OPERATIONS MUST BE COORDINATED WITH THE OWNER, THROUGH THE ENGINEER, AS SPECIFIED.
 - EXISTING TO REMAIN, AND NEW ELECTRICAL, INSTRUMENTATION AND CONTROLS ARE IN CLOSE PROXIMITY TO NEW CIVIL, STRUCTURAL AND MECHANICAL WORK. CONTRACTOR IS RESPONSIBLE FOR PROTECTING THESE ELECTRICAL FACILITIES FROM DAMAGE, WHETHER OR NOT THE FACILITIES ARE SHOWN ON THESE DRAWINGS.
 - SEE MECHANICAL AND STRUCTURAL DRAWINGS FOR DESCRIPTION OF NON-ELECTRICAL FEATURES.
- SEE DRAWING NOS. M-2 R AND S-1 R FOR MECHANICAL AND STRUCTURAL REVISIONS REVISE ROUTING OF NEW CONDUITS TO SUIT NEW INSTRUMENT AND CONTROL LOCATIONS, AND/OR TO AVOID CONFLICT WITH NEW STRUCTURAL FEATURES.

- SPECIFIC NOTES:**
- SEE DRAWING E-6.



NEW CONSTRUCTION PLAN
1/8" = 1'-0"

- SPECIFIC NOTES:**
- SYSTEM SUPPLIER SHALL CERTIFY REINSTALLATION AND RECONNECTION OF FE-XXXX, 2 EACH THIS DRAWING. SEE NOTE 6 BELOW.
 - SYSTEM SUPPLIER SHALL RE-CALIBRATE AND CERTIFY LOOPS FE/FIT-XXXX, 2 EACH THIS DRAWING. SEE NOTE 6 BELOW.
 - REMOVE THEN REINSTATE EXISTING 4" CONCRETE PAVEMENT AS REQUIRED FOR NEW BURIED CONDUIT INSTALLATIONS. ALL BURIED CONDUIT TO BE CONCRETE ENCASED AS SPECIFIED.
 - CONDUIT RUNS ARE SCHEMATIC; FEWER BENDS THAN SHOWN MAY ACTUALLY BE REQUIRED.
 - SEE DRAWING E-4 FOR WORK CONCERNING 120VAC SERVICE TO HCL FACILITY.
 - SYSTEM SUPPLIER SHALL DEMONSTRATE PROPER CALIBRATION AND FUNCTION TO OWNER.

RECORD DRAWING
Date: 6/26/96 By: [Signature]
CAMP DRESSER & MCKEE INC.

RECORD DRAWING
THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.
DATE: 6/26/96 By: [Signature] CAMP DRESSER & MCKEE

CONDUIT AND CONDUIT SCHEDULE

CONDUIT NUMBER	CONDUIT SIZE	FROM	TO	WIRE	PURPOSE
P2332	1"	FIT - 2332	FE - 2332	SPECIAL CABLE	POWER AND CONTROL
P2344	1"	FIT - 2344	FE - 2344	SPECIAL CABLE	POWER AND CONTROL
P2300	1"	LP-1, CKT26	LIT-2300	2#14, 1#14 GND	POWER

NO.	DATE	APP	REVISION	NO.	DATE	APP	REVISION
	JULY 94	MUS	CHANGE REQUEST NO. 1				

SOUTHSIDE WATER RECLAMATION PLANT
ACTIVATED SLUDGE EXPANSION
PHASE III, CONTRACT 4
MODIFICATIONS TO ACTIVATED SLUDGE
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
ALBUQUERQUE
NEW MEXICO
PUBLIC WORKS
DEPARTMENT



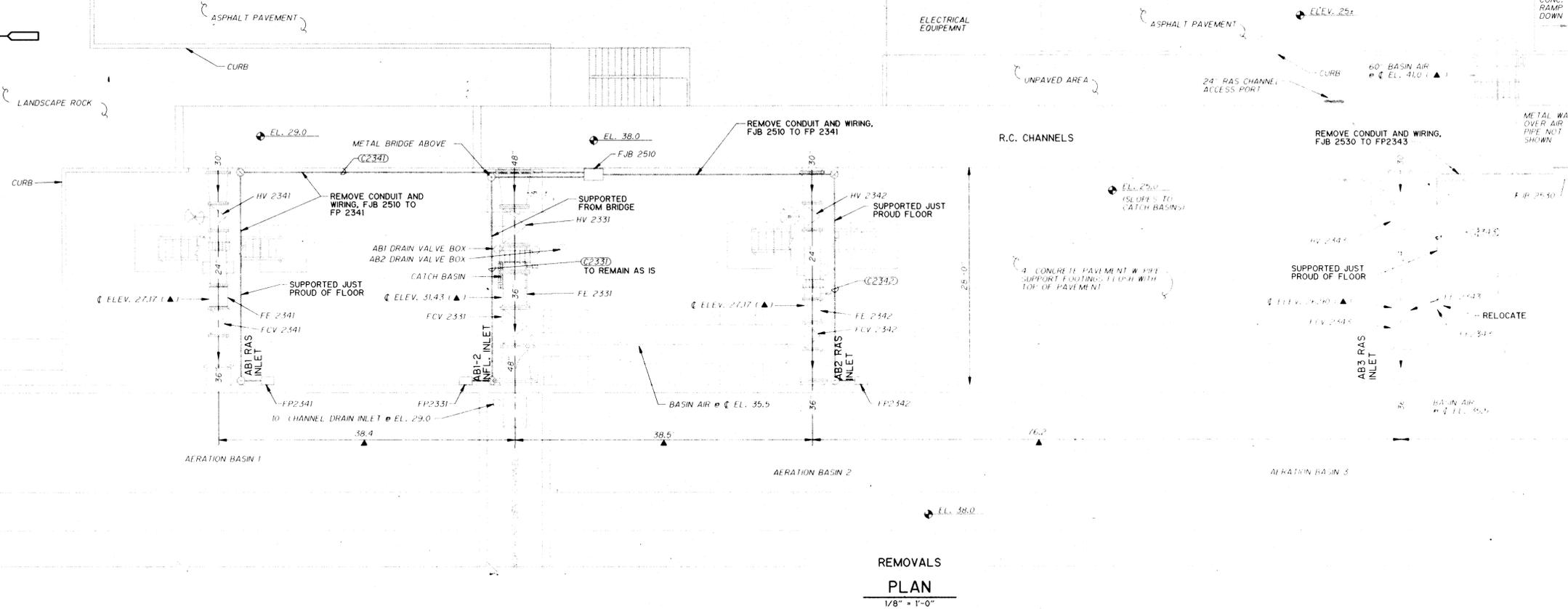
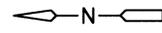
Designed By: MJS
Drawn By: TVN
Checked By: VKG
Approved By: JPC

Date: DEC. 1993
Scale: AS NOTED

CDM CAMP DRESSER & MCKEE INC.
ALBUQUERQUE, NEW MEXICO
environmental engineers, scientists
planners, & management consultants

ELECTRICAL
120 V POWER PLAN
- CENTRAL

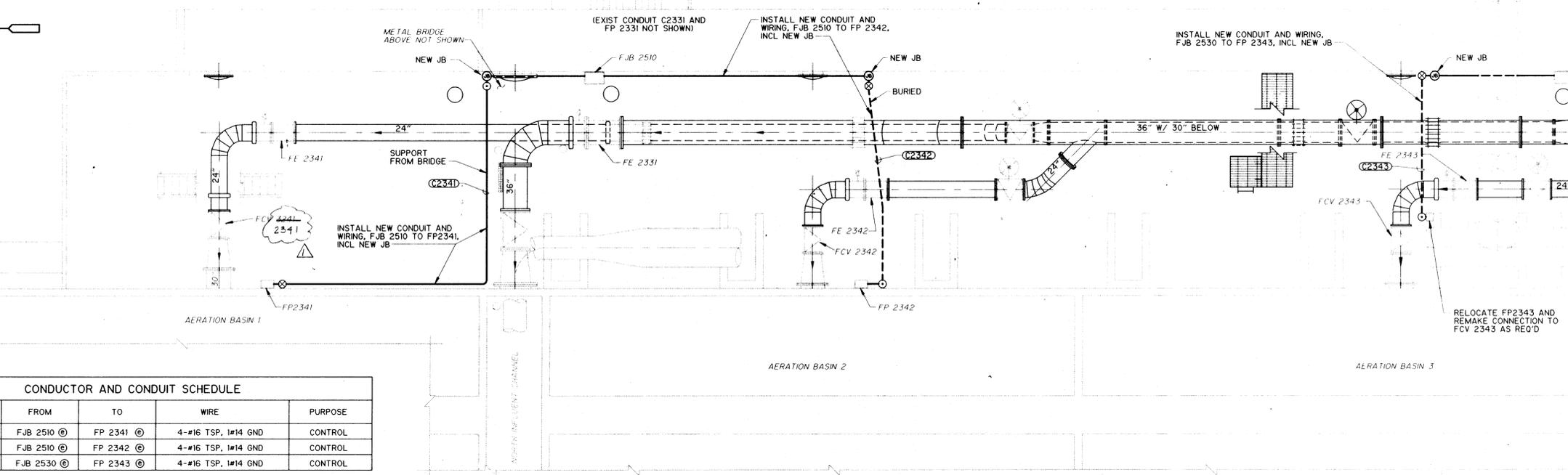
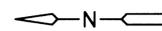
DRAWING
E-7
SHEET NUMBER
23 OF 30



REMOVALS
PLAN
1/8" = 1'-0"

- GENERAL NOTES:
1. THESE ELECTRICAL DRAWINGS SHOW ONLY THOSE ELECTRICAL, INSTRUMENTATION AND CONTROL FEATURES WHICH REQUIRE WORK UNDER THIS CONTRACT.
 2. ALL ELECTRICAL, INSTRUMENTATION AND CONTROL REMOVALS, RELOCATIONS, INSTALLATIONS AND TESTING REQUIRE COORDINATION WITH THE WORK OF OTHER TRADES, TO ENSURE THAT CONFLICTS, INTERFERENCES OR DELAYS TO THE PROJECT PROGRESS DO NOT OCCUR.
 3. ALL ELECTRICAL, INSTRUMENTATION AND CONTROL REMOVALS, RELOCATIONS AND TESTING THAT AFFECT PLANT OPERATIONS MUST BE COORDINATED WITH THE OWNER, THROUGH THE ENGINEER, AS SPECIFIED.
 4. EXISTING TO REMAIN, AND NEW ELECTRICAL, INSTRUMENTATION AND CONTROLS ARE IN CLOSE PROXIMITY TO NEW CIVIL, STRUCTURAL AND MECHANICAL WORK. CONTRACTOR IS RESPONSIBLE FOR PROTECTING THESE FACILITIES FROM DAMAGE, WHETHER OR NOT THE FACILITIES ARE SHOWN ON THESE DRAWINGS.
 5. SEE MECHANICAL AND STRUCTURAL DRAWINGS FOR DESCRIPTION OF NON-ELECTRICAL FEATURES.
- SEE DRAWING N-11 R AND S 1 R FOR MECHANICAL AND STRUCTURAL REVISIONS. REMOVE ROUTING OF NEW CONDUITS TO SORT NEW INSTRUMENT AND CONTROL LOCATIONS, AND/OR TO AVOID CONFLICT WITH NEW STRUCTURAL FEATURES.

- SPECIFIC NOTES:
1. CONTROL WIRING FOR FE/FIT-XXXX IS INCLUDED WITH 120V POWER. NOT SHOWN ON THIS DRAWING. SEE DRAWING E-6.



NEW CONSTRUCTION
PLAN
1/8" = 1'-0"

- SPECIFIC NOTES:
1. CONTROL WIRING FOR FE/FIT-XXXX IS INCLUDED WITH 120V POWER. NOT SHOWN ON THIS DRAWING. SEE DRAWING E-6.
 2. SYSTEM SUPPLIER SHALL RE-CALIBRATE AND CERTIFY LOOPS FCV-XXXX, 3 EACH THIS DRAWING. SEE NOTE 5 BELOW.
 3. CONCRETE PAVEMENT REMOVAL AND REINSTATEMENT AS REQUIRED FOR NEW BURIED CONDUIT INSTALLATIONS. ALL BURIED CONDUIT TO BE CONCRETE ENCASED AS SPECIFIED.
 4. CONDUIT RUNS ARE SCHEMATIC; FEWER BENDS THAN SHOWN MAY ACTUALLY BE REQUIRED.
 5. PRIOR TO RELOCATION, OWNER SHALL DEMONSTRATE PROPER CALIBRATION AND FUNCTION TO SYSTEM SUPPLIER. SYSTEM SUPPLIER SHALL DEMONSTRATE SAME TO OWNER AFTER RELOCATION.

CONDUCTOR AND CONDUIT SCHEDULE					
CONDUIT NUMBER	CONDUIT SIZE	FROM	TO	WIRE	PURPOSE
C2341	1"	FJB 2510 @	FP 2341 @	4-#16 TSP, 1#14 GND	CONTROL
C2342	1"	FJB 2510 @	FP 2342 @	4-#16 TSP, 1#14 GND	CONTROL
C2343	1"	FJB 2530 @	FP 2343 @	4-#16 TSP, 1#14 GND	CONTROL

RECORD DRAWING
Date: 6/26/93 By: MJS
CAMP DRESSER & MCKEE INC.

RECORD DRAWING
THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.
DATE: 6/26/93 By: MJS CAMP DRESSER & MCKEE

20209912597



△	MAR '94		APPENDUM NO 1				
△	JULY '94	MIS	CHANGE REQUEST NO 1				
NO.	DATE	APP	REVISION	NO.	DATE	APP	REVISION

SOUTHSIDE WATER RECLAMATION PLANT
ACTIVATED SLUDGE EXPANSION
PHASE III, CONTRACT 4
MODIFICATIONS TO ACTIVATED SLUDGE
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
ALBUQUERQUE
NEW MEXICO
PUBLIC WORKS
DEPARTMENT

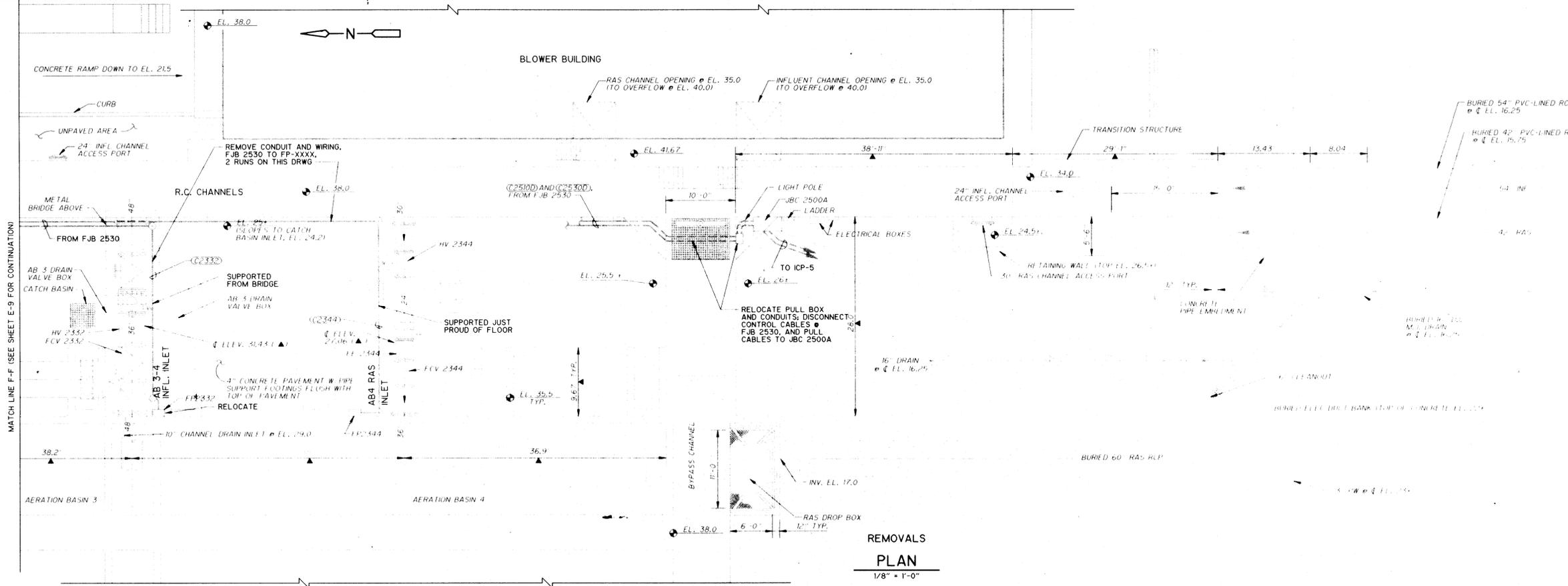
Designed By: MJS
Drawn By: TVN
Checked By: VKG
Approved By: JPC

Date: DEC. 1993
Scale: AS NOTED

CDM CAMP DRESSER & MCKEE INC.
ALBUQUERQUE, NEW MEXICO
environmental engineers, scientists
planners, & management consultants

ELECTRICAL
CONTROL WIRING PLAN
- NORTH

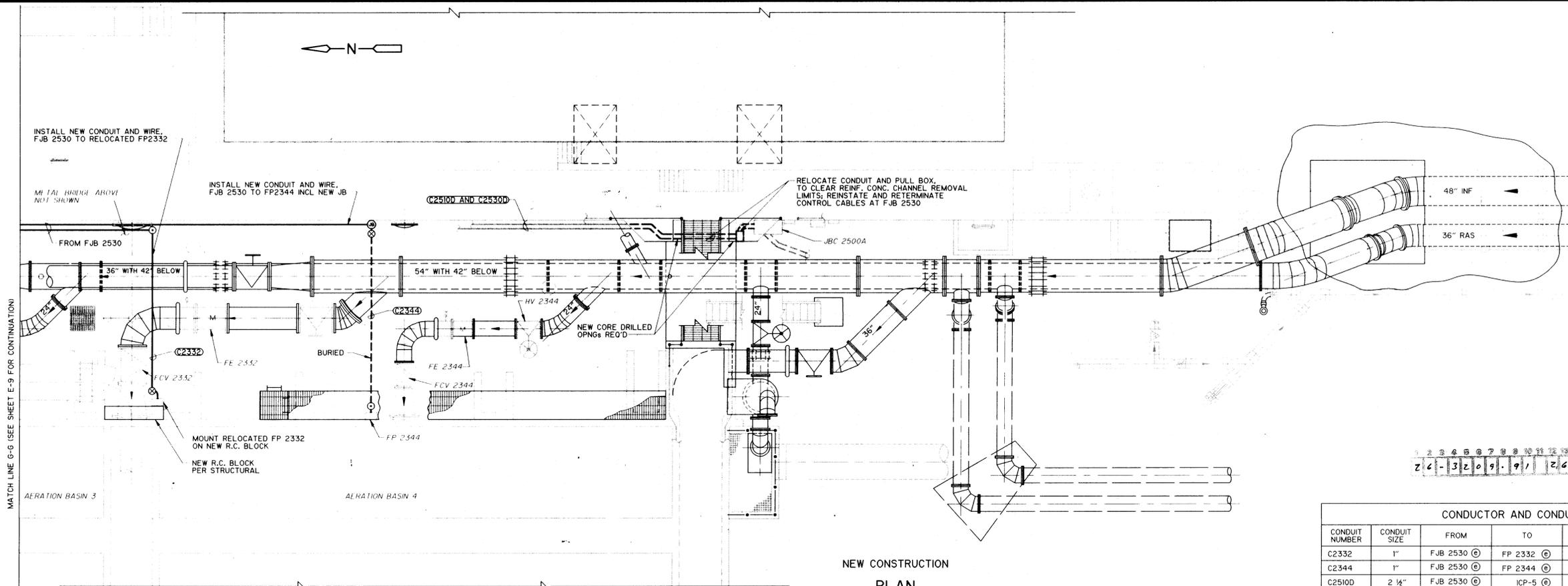
DRAWING
E-9
SHEET NUMBER
25 OF 30



**REMOVALS
PLAN**
1/8" = 1'-0"

- GENERAL NOTES:**
- THESE ELECTRICAL DRAWINGS SHOW ONLY THOSE ELECTRICAL, INSTRUMENTATION AND CONTROL FEATURES WHICH REQUIRE WORK UNDER THIS CONTRACT.
 - ALL ELECTRICAL, INSTRUMENTATION AND CONTROL REMOVALS, RELOCATIONS, INSTALLATIONS AND TESTING REQUIRE COORDINATION WITH THE WORK OF OTHER TRADES, TO ENSURE THAT CONFLICTS, INTERFERENCES OR DELAYS TO THE PROJECT PROGRESS DO NOT OCCUR.
 - ALL ELECTRICAL, INSTRUMENTATION AND CONTROL REMOVALS, RELOCATIONS AND TESTING THAT AFFECT PLANT OPERATIONS MUST BE COORDINATED WITH THE OWNER, THROUGH THE ENGINEER, AS SPECIFIED.
 - EXISTING TO REMAIN, AND NEW ELECTRICAL, INSTRUMENTATION AND CONTROLS ARE IN CLOSE PROXIMITY TO NEW CIVIL, STRUCTURAL AND MECHANICAL WORK. CONTRACTOR IS RESPONSIBLE FOR PROTECTING THESE ELECTRICAL FACILITIES FROM DAMAGE, WHETHER OR NOT THE FACILITIES ARE SHOWN ON THESE DRAWINGS.
 - SEE MECHANICAL AND STRUCTURAL DRAWINGS FOR DESCRIPTION OF NON-ELECTRICAL FEATURES.
 - SEE DRAWING NOS. M-2-R AND M-4-R FOR MECHANICAL AND STRUCTURAL REVISIONS. REVISE ROUTING OF NEW CONDUITS TO SUIT INSTRUMENT AND CONTROL LOCATIONS, AND/OR TO AVOID CONFLICT WITH NEW STRUCTURAL FEATURES.

- SPECIFIC NOTES:**
- CONTROL WIRING FOR FE/FIT-XXXX IS INCLUDED WITH 120V POWER. NOT SHOWN ON THIS DRAWING. SEE DRAWING E-6.



**NEW CONSTRUCTION
PLAN**
1/8" = 1'-0"

- SPECIFIC NOTES:**
- CONTROL WIRING FOR FE/FIT-XXXX IS INCLUDED WITH 120V POWER NOT SHOWN ON THIS DRAWING. SEE DRAWING E-6.
 - SYSTEM SUPPLIER SHALL RE-CALIBRATE AND CERTIFY LOOPS FCV-XXXX, 2 EACH THIS DRAWING. SEE NOTE 6 BELOW.
 - CONCRETE PAVEMENT REMOVAL AND RESTATEMENT AS REQUIRED FOR NEW BURIED CONDUIT INSTALLATIONS. ALL BURIED CONDUIT TO BE CONCRETE ENCASED AS SPECIFIED.
 - CONDUIT RUNS ARE SCHEMATIC; FEWER BENDS THAN SHOWN MAY ACTUALLY BE REQUIRED.
 - SEE DRAWING E-4 FOR WORK CONCERNING CONTROL SERVICE TO HCL FACILITY.
 - PRIOR TO RELOCATION, OWNER SHALL DEMONSTRATE PROPER CALIBRATION AND FUNCTION TO SYSTEM SUPPLIER. SYSTEM SUPPLIER SHALL DEMONSTRATE SAME TO OWNER, AFTER RELOCATION.

RECORD DRAWING
Date: 6/26/96 By: [Signature]
CAMP DRESSER & MCKEE INC.

RECORD DRAWING
THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.
DATE: 6/26/96 By: [Signature] CAMP DRESSER & MCKEE

CONDUCTOR AND CONDUIT SCHEDULE					
CONDUIT NUMBER	CONDUIT SIZE	FROM	TO	WIRE	PURPOSE
C2332	1"	FJB 2530	FP 2332	4-#16 TSP, 1-#14 GND	CONTROL
C2344	1"	FJB 2530	FP 2344	4-#16 TSP, 1-#14 GND	CONTROL
C2510D	2 1/2"	FJB 2530	ICP-5	1-24/PR TW SH, 1-#12 GND	CONTROL
C2530D	2 1/2"	FJB 2530	ICP-5	1-24/PR TW SH, 1-#12 GND	CONTROL



NO.	DATE	APP.	REVISION	NO.	DATE	APP.	REVISION

SOUTHSIDE WATER RECLAMATION PLANT
ACTIVATED SLUDGE EXPANSION
PHASE III, CONTRACT 4
MODIFICATIONS TO ACTIVATED SLUDGE
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF
ALBUQUERQUE
NEW MEXICO
PUBLIC WORKS
DEPARTMENT



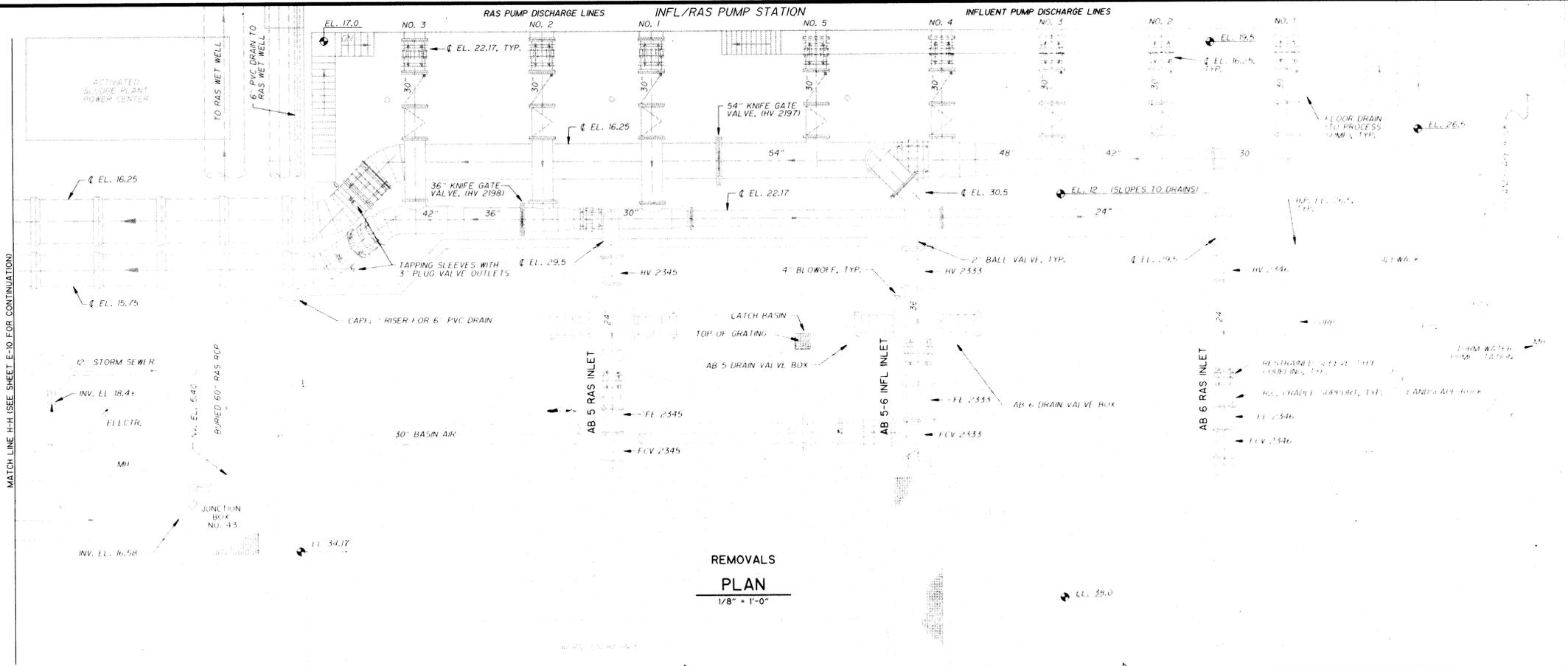
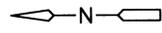
Designed By: MJS
Drawn By: TVN
Checked By: VKG
Approved By: JPC

Date: DEC. 1993
Scale: AS NOTED

CDM CAMP DRESSER & MCKEE INC.
ALBUQUERQUE, NEW MEXICO
environmental engineers, scientists
planners, & management consultants

**ELECTRICAL
CONTROL WIRING PLAN
- CENTRAL**

DRAWING
E-10
SHEET NUMBER
26 OF 30

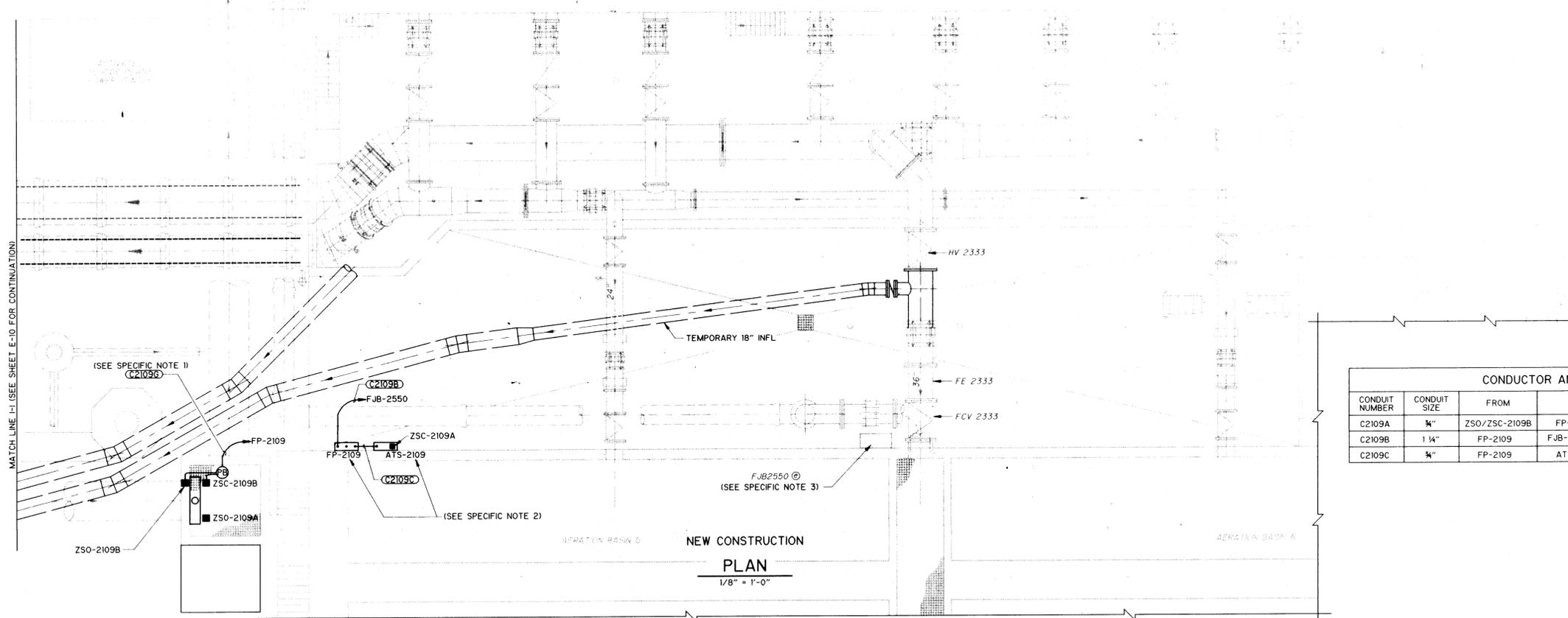
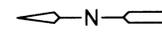


- GENERAL NOTES:**
1. THESE ELECTRICAL DRAWINGS SHOW ONLY THOSE ELECTRICAL, INSTRUMENTATION AND CONTROL FEATURES WHICH REQUIRE WORK UNDER THIS CONTRACT.
 2. ALL ELECTRICAL, INSTRUMENTATION AND CONTROL REMOVALS, RELOCATIONS, INSTALLATIONS AND TESTING REQUIRE COORDINATION WITH THE WORK OF OTHER TRADES, TO ENSURE THAT CONFLICTS, INTERFERENCES OR DELAYS TO THE PROJECT PROGRESS DO NOT OCCUR.
 3. ALL ELECTRICAL, INSTRUMENTATION AND CONTROL REMOVALS, RELOCATIONS AND TESTING THAT AFFECT PLANT OPERATIONS MUST BE COORDINATED WITH THE OWNER, THROUGH THE ENGINEER, AS SPECIFIED.
 4. EXISTING TO REMAIN, AND NEW ELECTRICAL, INSTRUMENTATION AND CONTROLS ARE IN CLOSE PROXIMITY TO NEW CIVIL, STRUCTURAL AND MECHANICAL WORK. CONTRACTOR IS RESPONSIBLE FOR PROTECTING THESE FACILITIES FROM DAMAGE, WHETHER OR NOT THE FACILITIES ARE SHOWN ON THESE DRAWINGS.
 5. SEE MECHANICAL AND STRUCTURAL DRAWINGS FOR DESCRIPTION OF NON-ELECTRICAL FEATURES.

- SPECIFIC NOTES:**
1. NO ELECTRICAL REMOVALS THIS DRAWING. SEE NEW CONSTRUCTION PLAN FOR EXISTING AND NEW ELECTRICAL FEATURES.

MATCH LINE H-H (SEE SHEET E-10 FOR CONTINUATION)

**REMOVALS
PLAN**
1/8" = 1'-0"



- SPECIFIC NOTES:**
1. ROUTE CONDUIT BETWEEN JB43 AND AB5 BELOW STAIR LANDING.
 2. MOUNT FP-2109 AND ATS-2109 ON STAND-OFFS. PANEL FP-2109 SHALL BE HOUSED IN NEMA 4X ENCLOSURE. ATS-2109 SHALL BE HOUSED IN NEMA 4 ENCLOSURE.
 3. TERMINATE DI SIGNALS UA-2109, ZSO-2109B, AND ZSC-2109B ON TB-5. TERMINATE ZSC-2109A AND HS-2109 ON TB-5. ROUTE CIRCUITS TO ICP-5 AND PCU-5 USING SPARE PAIRS IN EXISTING MULTIPAIR #16 TWSH CABLE, AS DIRECTED BY OWNER.

RECORD DRAWING
Date: 6/26/92 By: [Signature]
CAMP DRESSER & MCKEE INC.

RECORD DRAWING
THESE RECORD DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.
DATE: 6/26/92 By: [Signature] CAMP DRESSER & MCKEE

CONDUCTOR AND CONDUIT SCHEDULE					
CONDUIT NUMBER	CONDUIT SIZE	FROM	TO	WIRE	PURPOSE
C2109A	3/4"	ZSO/ZSC-2109B	FP-2109	2#16 TSP, 1#14 GND	CONTROL
C2109B	1 1/4"	FP-2109	FJB-2550 @	5#16 TSP, 1#14 GND	CONTROL
C2109C	3/4"	FP-2109	ATS-2109	1#16 TSP, 1#14 GND	CONTROL

MATCH LINE H-H (SEE SHEET E-10 FOR CONTINUATION)

**NEW CONSTRUCTION
PLAN**
1/8" = 1'-0"

SOUTHSIDE WATER RECLAMATION PLANT
ACTIVATED SLUDGE EXPANSION
PHASE III, CONTRACT 4
MODIFICATIONS TO ACTIVATED SLUDGE
PUMP DISCHARGE CONDUIT SYSTEM



Designed By: ORC
Drawn By: TVN
Checked By: VKG
Approved By: JPC

Date: DEC. 1993
Scale: AS NOTED

CDM CAMP DRESSER & MCKEE INC.
ALBUQUERQUE, NEW MEXICO
environmental engineers, scientists
planners, & management consultants

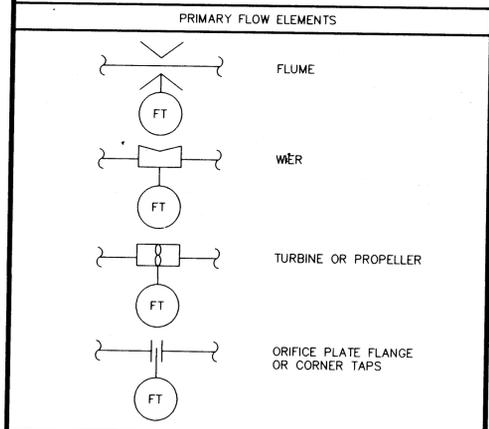
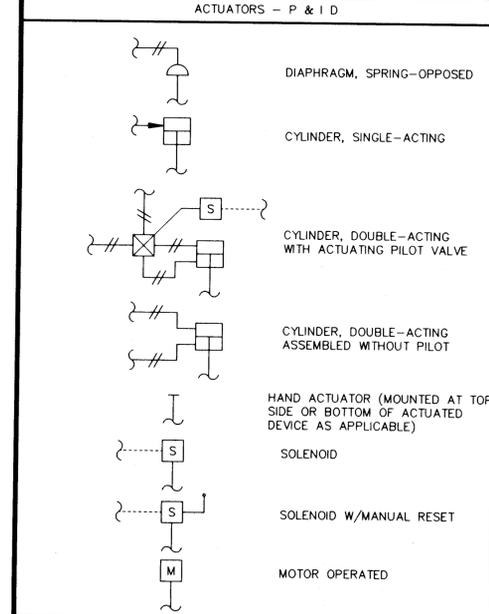
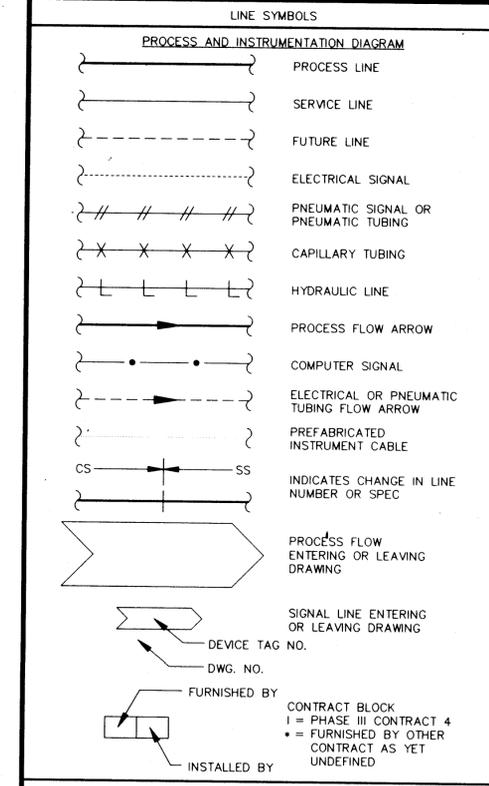
**ELECTRICAL
CONTROL WIRING PLAN
- SOUTH**



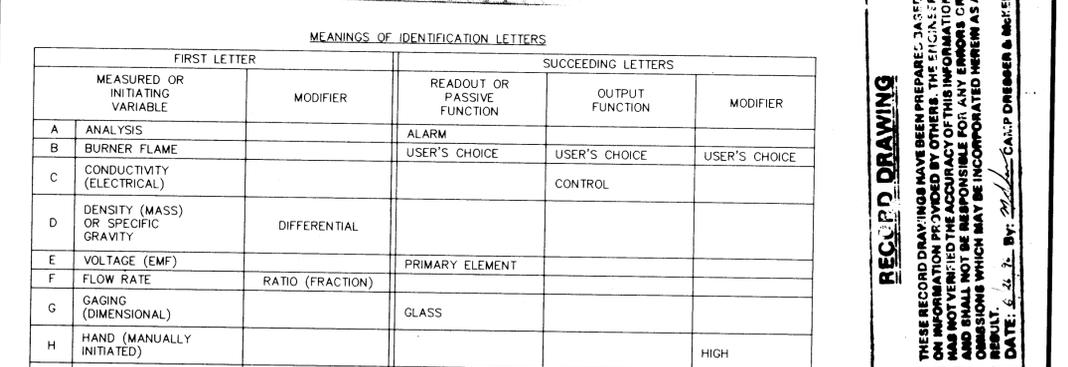
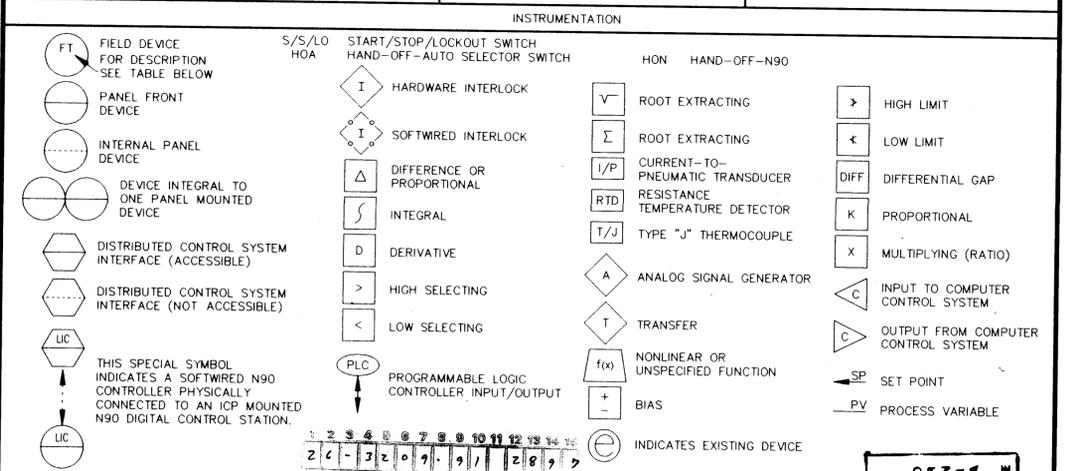
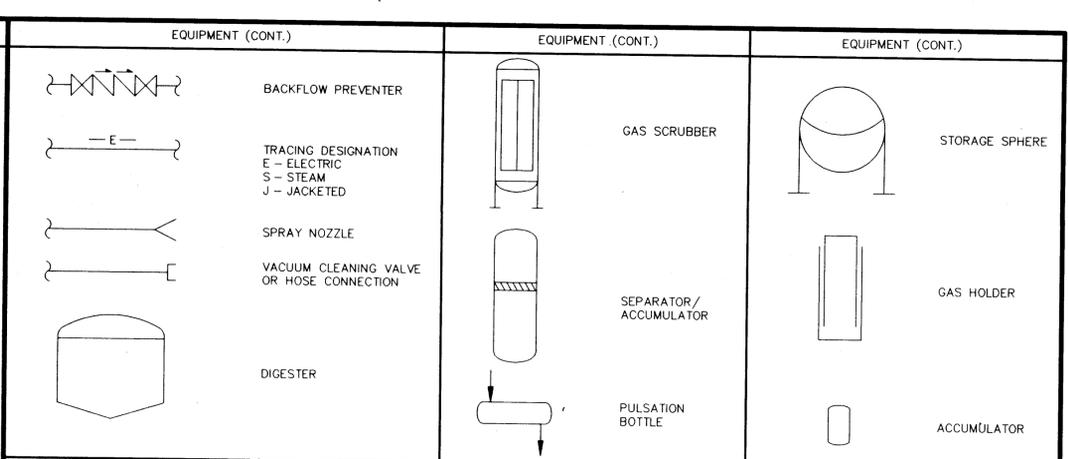
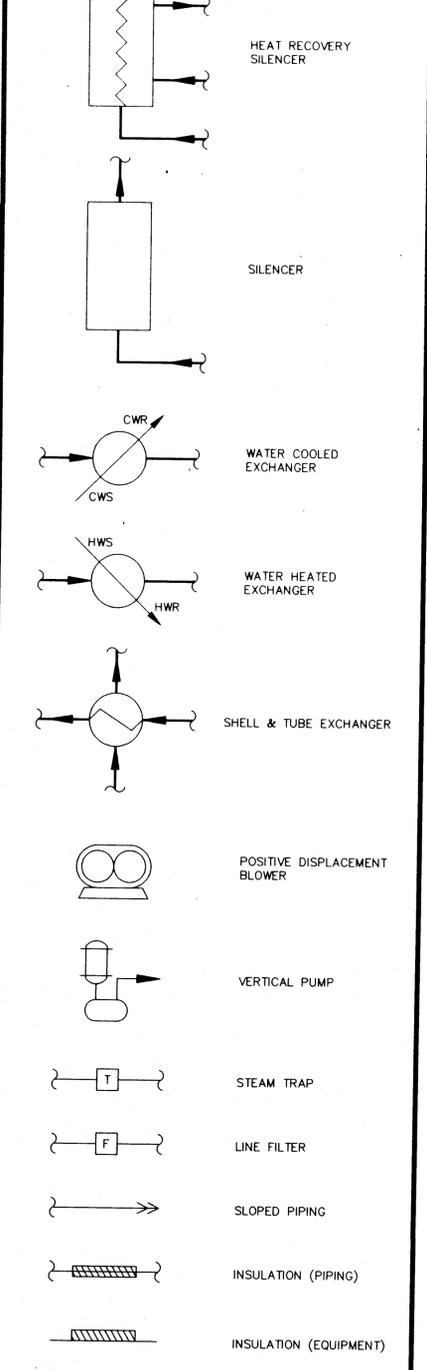
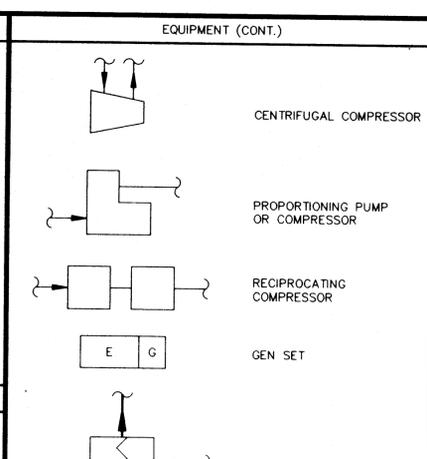
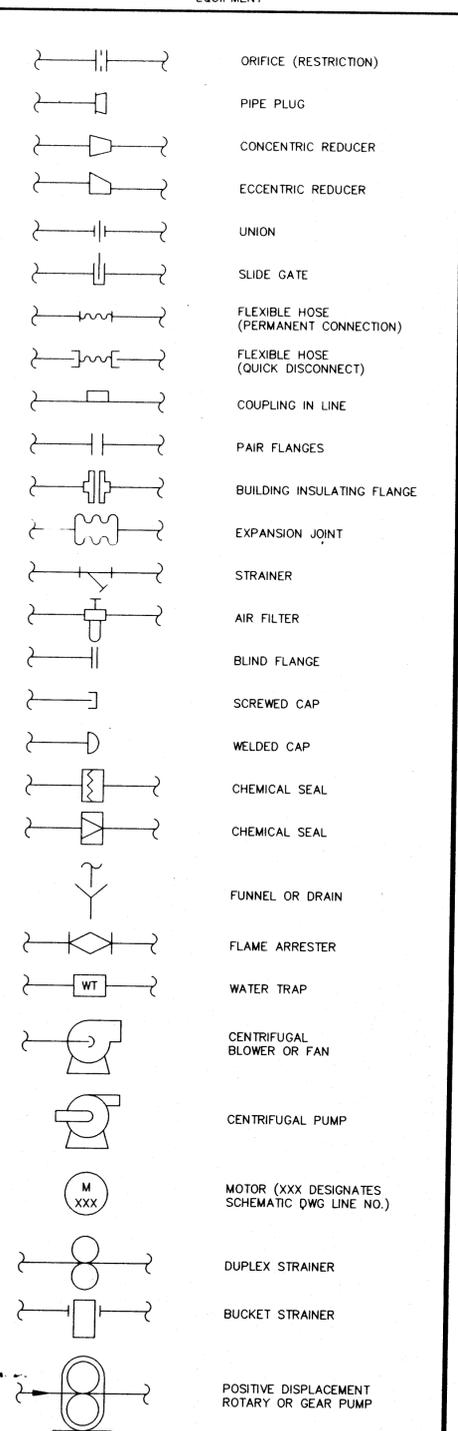
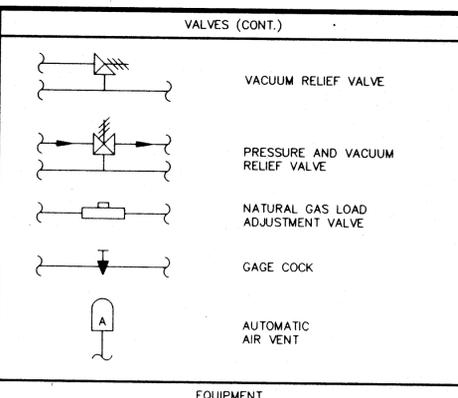
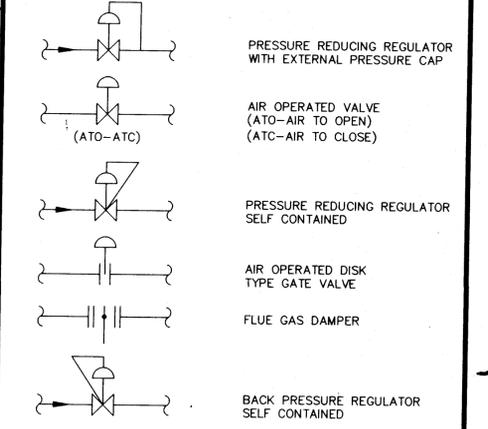
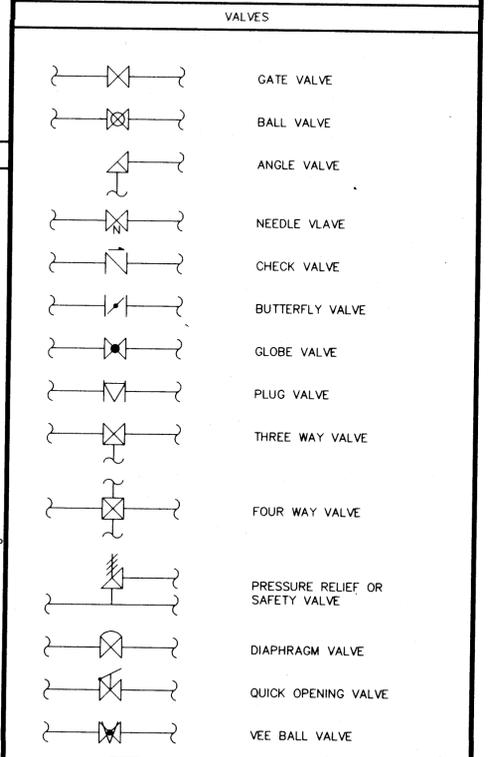
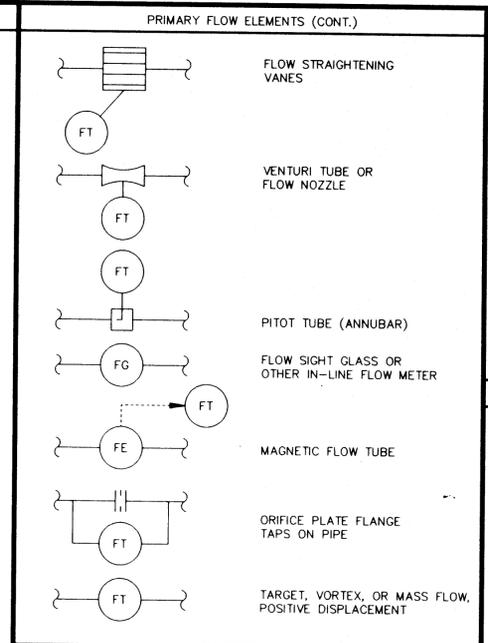
DRAWING
E-11
SHEET NUMBER
27 OF 30

NO.	DATE	APP.	REVISION	NO.	DATE	APP.	REVISION

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MAI MISHRA AND ASSOCIATES, INC.
PROCESS AUTOMATION SPECIALISTS
(505) 889-0025

SOUTHSIDE WATER RECLAMATION PLANT
ACTIVATED SLUDGE EXPANSION
PHASE III, CONTRACT 4
MODIFICATIONS TO ACTIVATED SLUDGE
PUMP DISCHARGE CONDUIT SYSTEM

CITY OF ALBUQUERQUE
NEW MEXICO
PUBLIC WORKS DEPARTMENT

Designed By: DRC
Drawn By: HHN
Checked By: VKG
Approved By: JPC

CDM CAMP DRESSER & MCKEE INC.
ALBUQUERQUE NEW MEXICO
environmental engineers, scientists
planners, & management consultants

INSTRUMENTATION AND CONTROL LEGEND AND SYMBOLS

DRAWING I-1
SHEET NUMBER 28 OF 30

ABBREVIATIONS AND MISCELLANEOUS LETTER SYMBOLS

PROCESS STREAM IDENTIFICATION

A AMP OR AMMETER
 AC ALTERNATING CURRENT
 ACK ACKNOWLEDGE
 ACP-X AREA/AUX CONTROL PANEL NO.X
 ADJ ADJUSTABLE
 AFF ABOVE FINISHED FLOOR
 AHU AIR HANDLING UNIT
 AIC AMP INTERRUPTING CAPACITY
 AM AUTO-MANUAL
 AS ADJUSTABLE SPEED
 ASPS ACTIVATED SLUDGE PUMP STATION
 ASU AIR SUPPLY UNIT
 ATS AUTOMATIC TRANSFER SWITCH
 AUX AUXILIARY

B BELL
 BAT BATTERY
 BKR BREAKER
 BLDG BUILDING
 B12 1 OR 2 OR BOTH

C CONDUIT OR CLOSED
 CAM COMPUTER-AUTO-MANUAL
 CB CIRCUIT BREAKER
 CC CONTROL CABLE
 CCS CENTRAL CONTROL SYSTEM
 CCT CONTROL CIRCUIT TRANSFORMER
 CKT CIRCUIT
 CL2 CHLORINE (TYPICAL USE, STANDARD CHEMICAL ELEMENT ABBREVIATION)

CM COMPUTER-MANUAL
 COD CHEMICAL OXYGEN DEMAND
 CONC CONCENTRATION
 CR CONTROL RELAY
 CT CURRENT TRANSFORMER

DC DIRECT CURRENT
 DCS DISTRIBUTED CONTROL SYSTEM
 DCU-X DISTRIBUTED CONTROL UNIT NO.X
 DD DELAY UPON DEENERGIZING
 DE DELAY UPON ENERGIZING
 DEEN DEENERGIZED
 DEV DEVIATION
 DIA DIAMETER
 DIM DIMENSION
 DO DISSOLVED OXYGEN CONCENTRATION
 DSW DISCONNECT SWITCH
 DS DOOR SWITCH

E.C. ELECTRICAL CONTRACTOR
 EF EXHAUST FAN
 E/G EMERGENCY GENERATOR
 EMER EMERGENCY
 OR EM

EN ENERGIZED
 ESD EMERGENCY STOP DEPRESSED
 ESR EMERGENCY STOP RESET
 EUH ELECTRIC UNIT HEATER
 EX OR EXISTING

FA FIRE ALARM
 FC FAIL CLOSED
 FCL2 FREE CHLORINE RESIDUAL
 FDR FEEDER
 FLA FULL LOAD AMPERES
 FLM FLASH MOTOR
 FLP FAIL TO LAST POSITION
 FLUOR FLUORESCENT
 FO FAIL OPEN
 FOS FAST-OFF-SLOW
 FOSA FAST-OFF-SLOW-AUTO
 FOSR FAST-OFF-SLOW-REMOTE
 FOR FORWARD
 FP-X FIELD PANEL NO.X
 FS FLOAT SWITCH
 FU FUSE
 FUT FUTURE
 FVNR FULL VOLTAGE NON-REVERSING
 FVR FULL VOLTAGE REVERSING

GALV GALVANIZED
 GEN GENERATOR
 GFCI GROUND FAULT CIRCUIT INTERRUPTER
 GFMUH GAS FIRED MAKE UP HEATER
 GFR GROUND FAULT RELAY
 GND GROUND
 GRC GALVANIZED RIGID STEEL CONDUIT

H HOT-LEG
 HHV HANDHOLE HIGH VOLTAGE
 HID HIGH INTENSITY DISCHARGE
 HLV HANDHOLE LOW VOLTAGE
 HW HORN OR KLAXSON
 HOA HAND-OFF-AUTO
 HON HAND-OFF-N90
 HOR HAND-OFF-REMOTE
 HPS HIGH PRESSURE SODIUM
 HS HAND OPERATED SELECTOR SWITCH
 HTR HEATER
 HVAC HEATING VENTILATING AND AIR CONDITIONING
 HZ HERTZ (CYCLES PER SECOND)
 H2S HYDROGEN SULFIDE (STANDARD CHEMICAL ELEMENT ABBREVIATION)

ICP INSTRUMENT CONTROL PANEL
 IJB INSTRUMENT JUNCTION BOX
 IN OR (") INCHES
 INCAND INCANDESCENT
 INST INSTANTANEOUS
 JB OR J-BOX JUNCTION BOX

K KEY INTERLOCK
 KW KILOWATT
 KWH KILOWATT HOUR

L LIGHTING CONTACTOR
 LA LIGHTNING ARRESTOR
 LCP-X LOCAL CONTROL PANEL NO.X
 LDR LOADING RELAY
 LEL LOWER EXPLOSIVE LIMIT
 LL LEAD-LAG
 LLCO LOW LEVEL CUT-OFF
 LOS LOCK-OUT STOP
 LP-X LIGHTING PANEL NO.X
 LR LATCHING RELAY OR LOCAL-REMOTE
 LS LIMIT SWITCH
 LT INDICATING LIGHT
 LY LEVEL RELAY
 L1,L2,L3 LIGHTING PANEL BRANCH CIRCUIT

M MOTOR CONTROLLER
 MC MODULATE-CLOSE
 MCC-X MOTOR CONTROL CENTER NO.X
 MCP MOTOR CIRCUIT PROTECTOR
 MERC MERCURY VAPOR
 MH MANHOLE
 MIN MINUTE OR MINIMUM
 MLSS MIXED LIQUOR SUSP. SOLIDS CONC.
 MNP MECHANICAL MOUNTING PANEL
 MS MOTOR STARTER
 MSP MOTOR STARTER PANEL
 MTR MOTOR

N NEUTRAL
 NA NON-AUTOMATIC
 NB NORMAL-BYPASS
 NC NORMALLY CLOSED
 NCTO NORMALLY CLOSED TIMED OPEN
 NJ NORMAL-JOG
 NO NORMALLY OPEN
 NOTC NORMALLY OPEN TIMED CLOSE
 NP NAMEPLATE
 N90 BAILEY NETWORK 90 DCS

O OPEN OR OPENED
 OC OPEN-CLOSE
 OCA OPEN-CLOSE-AUTO
 OIM OPERATOR INTERFACE UNIT
 OL OVERLOAD RELAY
 OO ON-OFF
 OOA ON-OFF-AUTO
 OOR ON-OFF-REMOTE
 OP ORTHO PHOSPHORUS
 OR OFF-REMOTE
 ORP OXIDATION REDUCTION POTENTIAL
 OSC OPEN-STOP-CLOSE

P PHASE OR POLE
 PB PUSH-BUTTON STATION
 PC PHOTOCCELL
 PCP-X PUMP CONTROL PANEL NO.X
 PCM PROCESS CONTROL UNIT
 PFR PHASE FAILURE RELAY
 PH HYDROGEN ION CONCENTRATION
 POS INDICATES SWITCH POSITION
 PP-X POWER PANEL NO X
 PS PRESSURE SWITCH
 PT POTENTIAL TRANSFORMER
 PVC POLYVINYL CHLORIDE
 PWR POWER

R-X RESISTOR OR POTENTIOMETER NO.X
 REV REVERSE
 RM-X REMOTE MODULE NO.X
 ROA REMOTE-ON-AUTO
 RPM REVOLUTIONS PER MINUTE
 RTM RUNNING TIME METER
 RVNR REDUCED VOLTAGE NON-REVERSING
 RVR REDUCED VOLTAGE REVERSING

SCU SPEED CONTROL UNIT
 SEC SECOND
 SF SLOWER-FASTER
 SO2 SULFUR DIOXIDE
 SS START-STOP
 SSC SUPERVISORY SET POINT CONTROL
 SUSP SUSPENDED SOLIDS CONCENTRATION
 SV SOLENOID VALVE
 SW SWITCH

T THERMOSTAT OR TRANSFORMER
 TB TERMINAL BLOCK
 TC TIME CLOCK
 TCL2 TOTAL CHLORINE RESIDUAL
 TD TEMPERATURE DETECTOR RELAY
 TDR TIME DELAY RELAY
 TJB TERMINAL JUNCTION BOX
 TM TIMING RELAY
 TOC TOTAL ORGANIC CARBON
 TOD TOTAL OXYGEN DEMAND
 TR TIMER-REPEAT CYCLE
 TS TEMPERATURE SWITCH
 TSP TWISTED SHIELDED PAIR
 TSW TOGGLE SWITCH
 TTS TWISTED TRIAD SHIELDED
 TU TURBIDITY

UH UNIT HEATER
 UVR UNDER VOLTAGE RELAY

V VOLT OR VOLTMETER
 VAR VARMETER
 VHC VOLATILE HYDROCARBON CONC.
 VISC VISCOSITY
 VP VAPORPROOF

W WATT
 WHD WATTHOUR DEMAND METER
 WP WEATHERPROOF
 W/ WITH

XFMR TRANSFORMER
 XP EXPLOSION PROOF

ZS POSITION SWITCH

Δ DIFFERENCE
 Σ SUM
 x MULTIPLY
 ÷ DIVIDE
 f(x) CHARACTERIZE
 nth RAISE TO THE NTH POWER
 √ SQUARE ROOT
 AVG AVERAGE
 1:1 REPEAT OR BOOST
 > SELECT HIGHEST SIGNAL
 < SELECT LOWEST SIGNAL
 x HIGH/LOW LIMIT
 1.0 INVERSE DERIVATIVE
 1-0 ON-OFF
 ∅ PHASE
 ∙ CURRENT
 ⊕ OHM
 (+) POSITIVE
 (-) NEGATIVE
 ⊗ EXISTING
 ⊕ REFERENCE NOTE

BA BASIN AIR
 BP BYPASS
 BPE BYPASSED PRIMARY EFFLUENT
 CA CHANNEL AIR
 CD CHANNEL DRAIN
 CLG CHLORINE GAS
 CLL CHLORINE LIQUID
 CLS CHLORINE SOLUTION
 CLV CHLORINE VACUUM
 CR CENTRATE RETURN
 CW COLD WATER
 D DRAIN
 DS DIGESTED SLUDGE
 FE FINAL EFFLUENT
 FP FIRE PROTECTION
 G GAS
 HCL HYDROGEN CHLORIDE GAS
 HW HOT WATER
 HWR HOT WATER RETURN
 HWS HOT WATER SUPPLY
 INF ACTIVATED SLUDGE PLANT INFLUENT
 NG NATURAL GAS
 ML MIXED LIQUOR
 PE PRIMARY EFFLUENT
 PW PLANT WATER
 RAS RETURN ACTIVATED SLUDGE
 RTE RECIRCULATED TRICKLING FILTER EFFLUENT
 S SEPTAGE OR SLUDGE
 SC SCUM
 SN SUPERNATANT, SUBNATANT
 SE SECONDARY EFFLUENT
 SS STORM SEWER, SECONDARY SLUDGE
 TD TANK DRAIN
 TFE TRICKLING FILTER EFFLUENT
 WAS WASTE ACTIVATED SLUDGE

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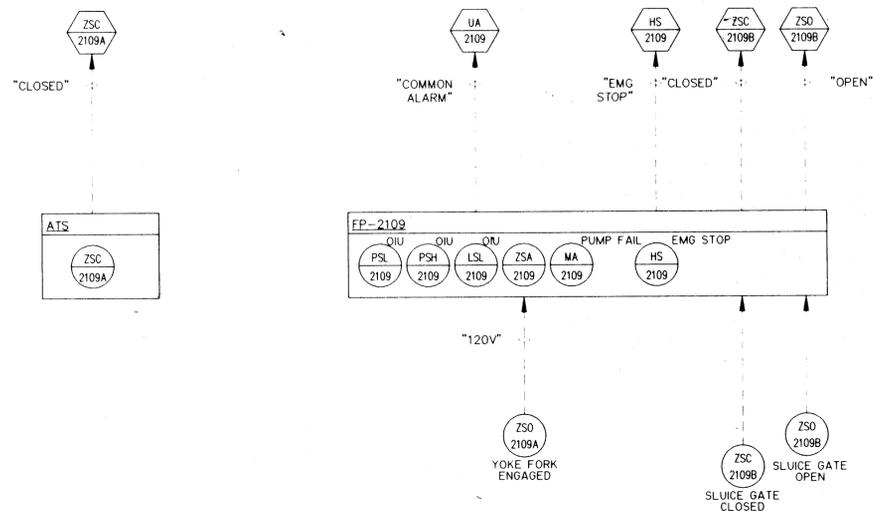
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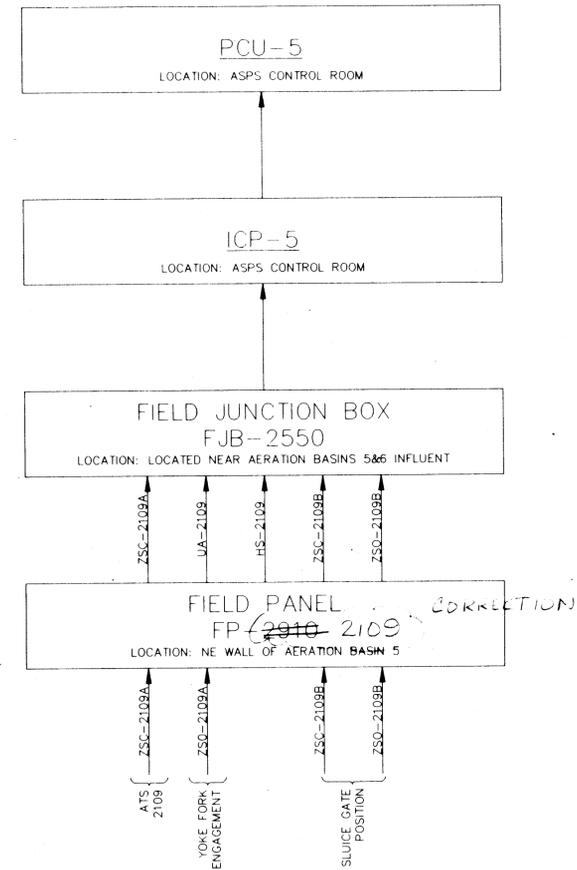


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SLUICE GATE DCS I/O ONLINE & RISER DIAGRAM
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environmental engineers, scientists
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PROCESS AND
INSTRUMENTATION DIAGRAM
AND RISER DIAGRAM

DRAWING
1-3
SHEET NUMBER
30 of 30