

Tue, 05 Jun 2007 - 9:46am
FILE NAME: I:\Harriman UB - 7601 (WWTP, PS & lines)\7601-30 - Sewer System Rehab\CADD\5 Harriman PS Rehab\Record Dwg\3041-M4.dwg

EXHAUST FAN SCHEDULE

MARK	LOCATION	TYPE FAN	CFM	S.P. IN W.C.	RPM	DRIVE	HP	VOLTS/ PHASE	REMARKS
EF-1	HARDEES P.S.	FRP B.C. CENTRIFUGAL UTILITY FAN	1626	0.5	2506	BELT	.75	115/1	HARTZELL, OR EQUAL, SERIES 410 FRP UTILITY FAN, SIZE 12".
EF-2	WEBB P.S.	FRP B.C. CENTRIFUGAL UTILITY FAN	1,470	0.5	2303	BELT	.50	115/1	HARTZELL, OR EQUAL, SERIES 410 FRP UTILITY FAN, SIZE 12".
EF-3	WOODY P.S.	FRP B.C. CENTRIFUGAL UTILITY FAN	4,910	1.0	983	BELT	1.5	115/1	HARTZELL, OR EQUAL, SERIES 410 FRP UTILITY FAN, SIZE 24".

LOUVER SCHEDULE

MARK	LOCATION	SIZE--INCHES WxHxD	FREE AREA SQ. FT.	CFM	VELOCITY FPM	HEAD LOSS IN W.G.	REMARKS
L-1	HARDEES P.S.	24x24x6	1.89	933	494	0.037	RUSKIN, OR EQUAL, MODEL ELF6375DXH DRAINABLE STATIONARY LOUVER W/KYNAR COATING. MOUNT 6'-8" A.F.F.
L-2	HARDEES P.S.	24x24x6	1.89	933	494	0.029	RUSKIN, OR EQUAL, MODEL ELF6375DXH DRAINABLE STATIONARY LOUVER W/KYNAR COATING. MOUNT 6'-8" A.F.F.
L-3	HARDEES P.S.	24x27x6*	1.38	1626	1178	0.17	RUSKIN, OR EQUAL, MODEL ELC6375DAF, DRAINABLE COMBINATION LOUVER W/MOTOR OPERATOR & KYNAR COATING. INTERLOCK W/EF-1. MOUNT IN EXISTING OPENING.
L-4	WEBB P.S.	24x24x6	1.89	712	377	0.021	RUSKIN, OR EQUAL, MODEL ELF6375DXH DRAINABLE STATIONARY LOUVER W/KYNAR COATING. MOUNT 6'-8" A.F.F.
L-5	WEBB P.S.	24x24x6	1.89	712	377	0.016	RUSKIN, OR EQUAL, MODEL ELF6375DXH DRAINABLE STATIONARY LOUVER W/KYNAR COATING. MOUNT 6'-8" A.F.F.
L-6	WEBB P.S.	24x27x6*	1.38	1470	1065	0.14	RUSKIN, OR EQUAL, MODEL ELC6375DAF, DRAINABLE COMBINATION LOUVER W/MOTOR OPERATOR & KYNAR COATING. INTERLOCK W/EF-2. MOUNT IN EXISTING OPENING.
L-7	WOODY P.S.	24x24x6	1.89	744	394	0.023	RUSKIN, OR EQUAL, MODEL ELF6375DXH DRAINABLE STATIONARY LOUVER W/KYNAR COATING. MOUNT 6'-8" A.F.F.
L-8	WOODY P.S.	24x24x6	1.89	744	394	0.018	RUSKIN, OR EQUAL, MODEL ELF6375DXH DRAINABLE STATIONARY LOUVER W/KYNAR COATING. MOUNT 6'-8" A.F.F.
L-9	WOODY P.S.	38x34x6*	3.68	3570	970	0.12	RUSKIN, OR EQUAL, MODEL ELC6375DAF, DRAINABLE COMBINATION LOUVER W/MOTOR OPERATOR & KYNAR COATING. INTERLOCK W/EF-3. MOUNT IN EXISTING OPENING.
L-10	WOODY P.S.	24x27x6*	1.38	1340	970	0.12	RUSKIN, OR EQUAL, MODEL ELC6375DAF, DRAINABLE COMBINATION LOUVER W/MOTOR OPERATOR & KYNAR COATING. INTERLOCK W/EF-3. MOUNT IN EXISTING OPENING.

* APPROXIMATE DIMENSIONS. CONTRACTOR TO FIELD MEASURE EXACT WIDTH AND HEIGHT.

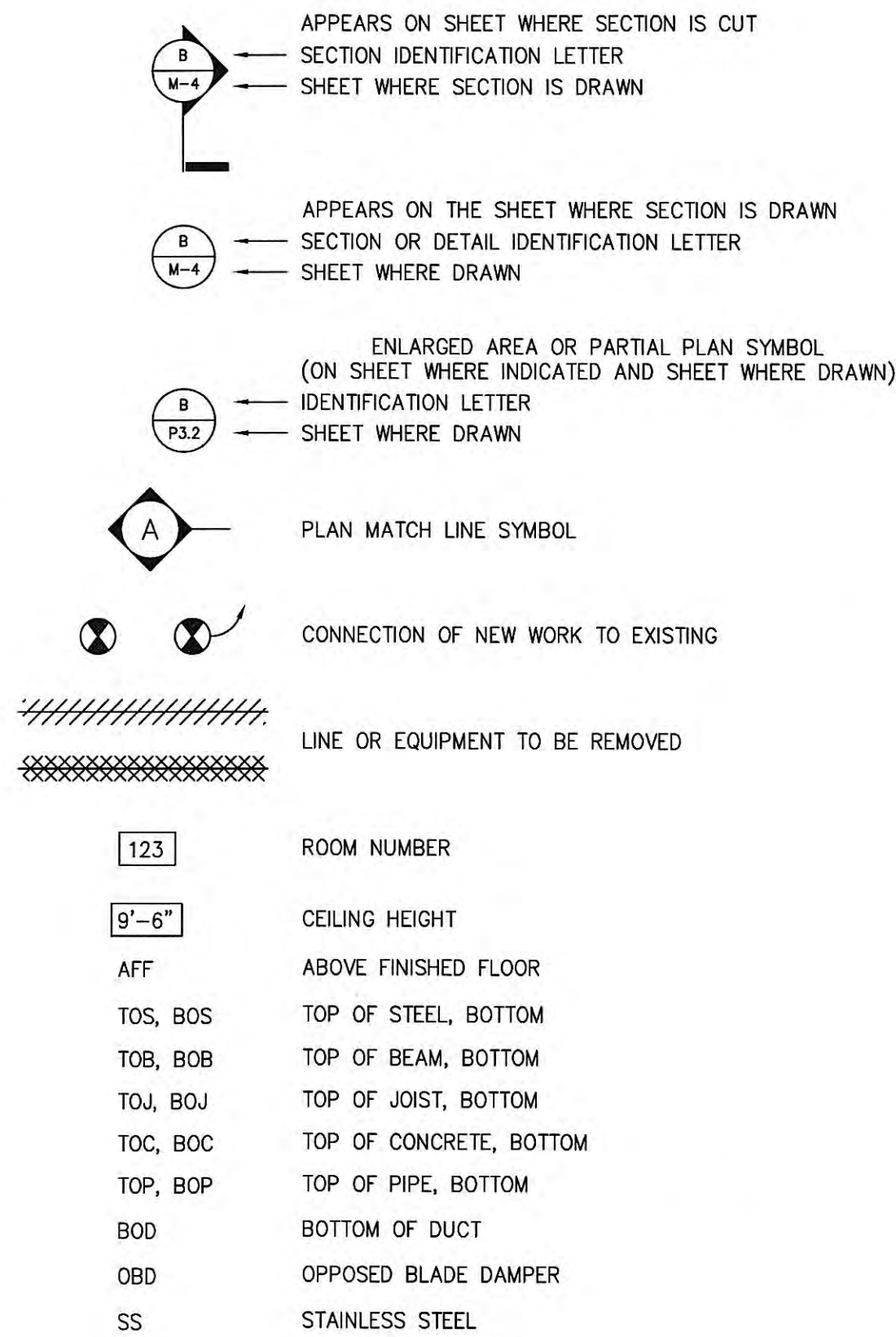
ELECTRIC HEATER SCHEDULE

MARK	LOCATION	UNIT TYPE	MIN. BTUH.	CFM	KW	THROW FT.	'F TEMP. RISE	VOLTS/ PHASE	REMARKS
EUH-1	HARDEES P.S.	HORIZ DISCHARGE UNIT HEATER	51,200	1,100	15	32	43	480/3	TRANE, OR EQUAL, MODEL UHEC-153DAC, W/ UNIT MOUNTED THERMOSTAT, DISCONNECT & SUMMER FAN SWITCH. MOUNT 7' A.F.F.
EUH-2	WEBB P.S.	HORIZ DISCHARGE UNIT HEATER	51,200	1,100	15	32	43	480/3	TRANE, OR EQUAL, MODEL UHEC-153DAC, W/ UNIT MOUNTED THERMOSTAT, DISCONNECT & SUMMER FAN SWITCH. MOUNT 7' A.F.F.
EUH-3	WOODY P.S.	HORIZ DISCHARGE UNIT HEATER	51,200	1,100	15	32	43	480/3	TRANE, OR EQUAL, MODEL UHEC-153DAC, W/ UNIT MOUNTED THERMOSTAT, DISCONNECT & SUMMER FAN SWITCH. MOUNT 7' A.F.F.

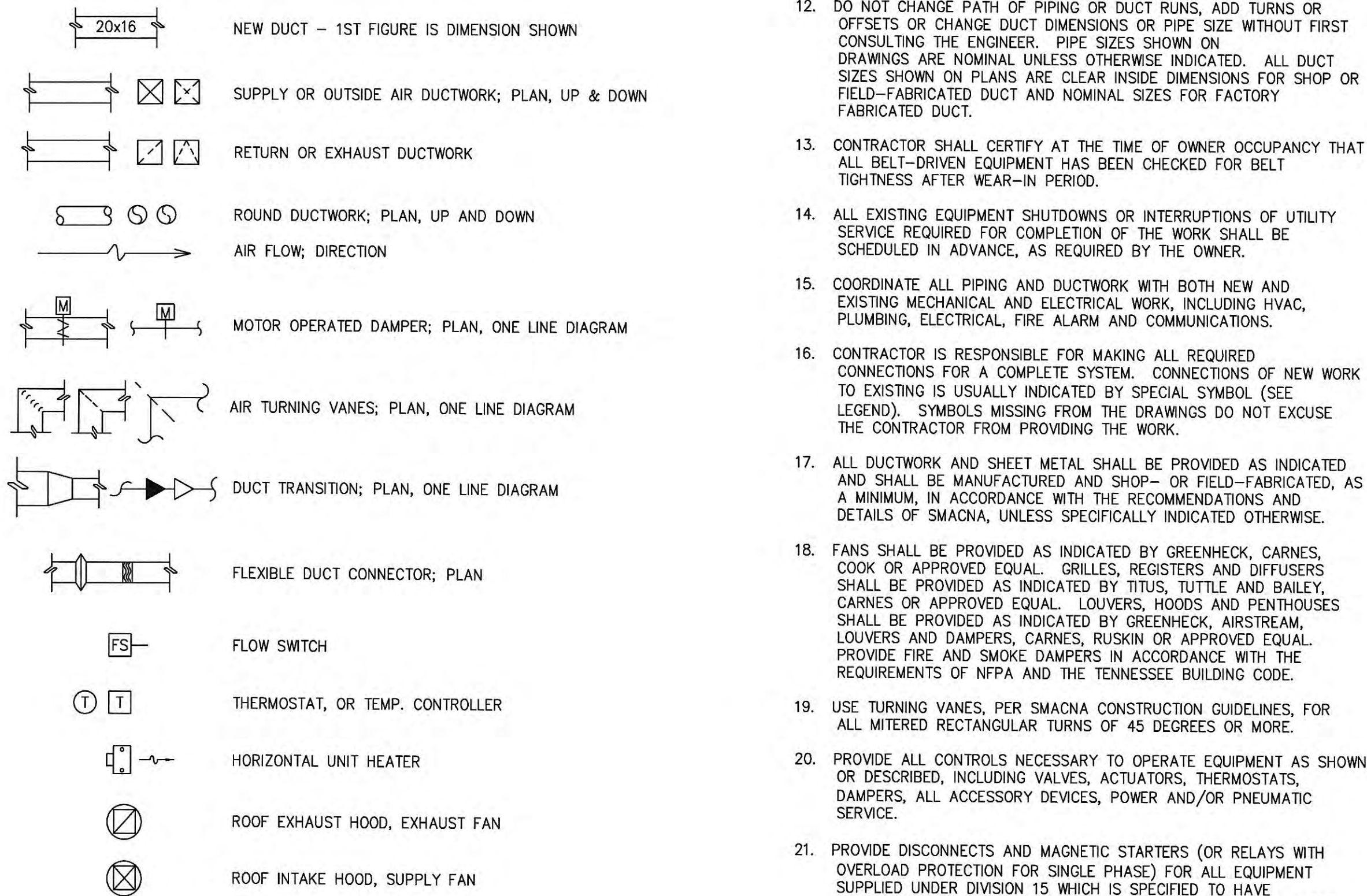
ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	LOCATION	E.S.P IN. WG.	CFM	DUCT SIZE	WHEEL % EFF.	NO. & TYPE BLOWERS	DRIVE	MOTOR H.P. EA.	VOLTS/ PHASE	MIN. CIRC. AMPS	REMARKS
ERV-1	HARDEES P.S.	.50	933	18"x18" IN 8-3/8"x11-1/2" OUT	80	2, F.C. CENTRIFUGAL	BELT	1/2	230/1	12	GREENHECK, OR EQUAL, MODEL ERV-361S-A W/ FRESH AIR FILTER.
ERV-2	WEBB P.S.	.375	712	18"x18" IN 8-3/8"x11-1/2" OUT	82	2, F.C. CENTRIFUGAL	BELT	1/3	230/1	9	GREENHECK, OR EQUAL, MODEL ERV-361S-A W/ FRESH AIR FILTER.
ERV-3	WOODY P.S.	.375	744	18"x18" IN 8-3/8"x11-1/2" OUT	82	2, F.C. CENTRIFUGAL	BELT	1/3	230/1	9	GREENHECK, OR EQUAL, MODEL ERV-361S-A W/ FRESH AIR FILTER.

GENERAL LEGEND



MECHANICAL LEGEND



GENERAL NOTES

- GENERAL NOTES, WHEREVER THEY ARE FOUND, APPLY TO ALL WORK IN THE PROJECT, UNLESS OTHERWISE INDICATED. SHEET NOTES, UTILIZING NOTE SYMBOLS, APPLY ONLY TO THE SHEET ON WHICH THEY ARE FOUND, UNLESS OTHERWISE STATED. THE MEANING OF NOTE SYMBOLS AND NUMBERS VARIES FROM SHEET TO SHEET.
- CONTRACTOR SHALL UTILIZE ALL INFORMATION IN THE CONTRACT FOR PROVIDING THE WORK. CONTRACTOR SHALL UTILIZE DETAILS AND FLOW DIAGRAMS FOR THE WORK WHERE APPROPRIATE, WHETHER OR NOT THEY ARE SPECIFICALLY REFERENCED ON THE PLANS OR SUPPORTING DRAWINGS.
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS. ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND CONTRACT DOCUMENTS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE ANY WORK RELATING TO THOSE CONDITIONS IS PERFORMED.
- LEGENDS OR LISTS OF SYMBOLS AND ABBREVIATIONS ARE GENERAL IN NATURE AND MAY CONTAIN ITEMS NOT USED IN THE CONTRACT DOCUMENTS. IF ANY SUCH ITEMS ARE FOUND WHICH ARE NOT DEFINED ON THE PLANS OR IN THE SPECIFICATIONS, THE ENGINEER SHALL BE CONTACTED FOR CLARIFICATION BEFORE THE BID.
- CONTRACTOR SHALL MAINTAIN A SET OF PROJECT RECORD DRAWINGS AT THE JOB SITE AND SHALL BE RESPONSIBLE FOR MAKING CLEAR, NEAT CHANGES TO THE DRAWINGS, REFLECTING CHANGES TO THE WORK AND VARIANCE IN EXISTING CONDITIONS.
- PROVIDE ALL MISCELLANEOUS STEEL, AS REQUIRED, TO SUPPORT ALL MECHANICAL DUCT AND PIPING SYSTEMS AND EQUIPMENT. HANG ALL EQUIPMENT FROM STRUCTURE WITH MINIMUM OF TWO TRAPEZE ASSEMBLIES OR FOUR INTEGRAL MOUNTING POINTS WITH VIBRATION ISOLATORS ON ALL FOUR SUPPORTS. DO NOT HANG ANYTHING FROM STEEL, COMPOSITION OR WOODEN DECKS. NON-ROOF CONCRETE DECKS MAY BE USED ONLY WITH PERMISSION OF THE ENGINEER. DO NOT HANG ANYTHING FROM MECHANICAL OR ELECTRICAL ITEMS.
- NO CONCRETE RIBS OR JOISTS SHALL BE CUT WITHOUT SPECIFIC PERMISSION FROM THE ENGINEER. ALL ROOF OR FLOOR DECK PENETRATIONS IN WAFFLE STRUCTURE SHALL BE IN THE THIN-SLAB DEPRESSIONS IN THE STRUCTURE UNLESS OTHERWISE SHOWN.
- NO STEEL STRUCTURAL MEMBERS SHALL BE CUT, BURNED, WELDED OR DRILLED WITHOUT SPECIFIC PERMISSION OF THE ENGINEER.
- NO WOODEN STRUCTURAL MEMBERS SHALL BE CUT OR DRILLED EXCEPT AS INDICATED IN THE CONTRACT DOCUMENTS OR AS APPROVED BY THE ENGINEER.
- CONSULT ROOF PLAN AND STRUCTURAL DRAWINGS FOR PLACEMENT OF ROOF MOUNTED EQUIPMENT. PROVIDE ALL NECESSARY ROOF CURBS, EQUIPMENT RAILS AND BASES AND ANY ADDITIONAL REQUIRED FRAMING IN COORDINATION WITH STRUCTURAL AND ROOFING WORK.
- ALL EQUIPMENT, DUCT, PIPING AND ACCESSORIES INSTALLED OUTSIDE OR OTHERWISE EXPOSED TO THE ELEMENTS SHALL BE ADEQUATELY WEATHERPROOFED, IN KEEPING WITH THE SPECIFICATIONS. ALL FERROUS METAL FRAMING COMPONENTS SHALL BE STAINLESS STEEL OR HOT-DIP GALVANIZED.
- DO NOT CHANGE PATH OF PIPING OR DUCT RUNS, ADD TURNS OR OFFSETS OR CHANGE DUCT DIMENSIONS OR PIPE SIZE WITHOUT FIRST CONSULTING THE ENGINEER. PIPE SIZES SHOWN ON DRAWINGS ARE NOMINAL UNLESS OTHERWISE INDICATED. ALL DUCT SIZES SHOWN ON PLANS ARE CLEAR INSIDE DIMENSIONS FOR SHOP OR FIELD-FABRICATED DUCT AND NOMINAL SIZES FOR FACTORY FABRICATED DUCT.
- CONTRACTOR SHALL CERTIFY AT THE TIME OF OWNER OCCUPANCY THAT ALL BELT-DRIVEN EQUIPMENT HAS BEEN CHECKED FOR BELT TIGHTNESS AFTER WEAR-IN PERIOD.
- ALL EXISTING EQUIPMENT SHUTDOWNS OR INTERRUPTIONS OF UTILITY SERVICE REQUIRED FOR COMPLETION OF THE WORK SHALL BE SCHEDULED IN ADVANCE, AS REQUIRED BY THE OWNER.
- COORDINATE ALL PIPING AND DUCTWORK WITH BOTH NEW AND EXISTING MECHANICAL AND ELECTRICAL WORK, INCLUDING HVAC, PLUMBING, ELECTRICAL, FIRE ALARM AND COMMUNICATIONS.
- CONTRACTOR IS RESPONSIBLE FOR MAKING ALL REQUIRED CONNECTIONS FOR A COMPLETE SYSTEM. CONNECTIONS OF NEW WORK TO EXISTING IS USUALLY INDICATED BY SPECIAL SYMBOL (SEE LEGEND). SYMBOLS MISSING FROM THE DRAWINGS DO NOT EXCUSE THE CONTRACTOR FROM PROVIDING THE WORK.
- ALL DUCTWORK AND SHEET METAL SHALL BE PROVIDED AS INDICATED AND SHALL BE MANUFACTURED AND SHOP- OR FIELD-FABRICATED, AS A MINIMUM, IN ACCORDANCE WITH THE RECOMMENDATIONS AND DETAILS OF SMACNA, UNLESS SPECIFICALLY INDICATED OTHERWISE.
- FANS SHALL BE PROVIDED AS INDICATED BY GREENHECK, CARNES, COOK OR APPROVED EQUAL. GRILLES, REGISTERS AND DIFFUSERS SHALL BE PROVIDED AS INDICATED BY TITUS, TUTTLE AND BAILEY, CARNES OR APPROVED EQUAL. LOUVERS, HOODS AND PENTHOUSES SHALL BE PROVIDED AS INDICATED BY GREENHECK, AIRSTREAM, LOUVERS AND DAMPERS, CARNES, RUSKIN OR APPROVED EQUAL. PROVIDE FIRE AND SMOKE DAMPERS IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA AND THE TENNESSEE BUILDING CODE.
- USE TURNING VANES, PER SMACNA CONSTRUCTION GUIDELINES, FOR ALL MITERED RECTANGULAR TURNS OF 45 DEGREES OR MORE.
- PROVIDE ALL CONTROLS NECESSARY TO OPERATE EQUIPMENT AS SHOWN OR DESCRIBED, INCLUDING VALVES, ACTUATORS, THERMOSTATS, DAMPERS, ALL ACCESSORY DEVICES, POWER AND/OR PNEUMATIC SERVICE.
- PROVIDE DISCONNECTS AND MAGNETIC STARTERS (OR RELAYS WITH OVERLOAD PROTECTION FOR SINGLE PHASE) FOR ALL EQUIPMENT SUPPLIED UNDER DIVISION 15 WHICH IS SPECIFIED TO HAVE FACTORY CONTROL PANEL. POWER WIRING AND CONDUIT TO THESE DEVICES AND BETWEEN THESE DEVICES AND MECHANICAL EQUIPMENT, IF REQUIRED, SHALL BE SUPPLIED UNDER DIVISION 16.
- ANY AND ALL DAMAGE DUE TO DEMOLITION OR CONSTRUCTION IS TO BE REPAIRED OR REPLACED AS APPROPRIATE, SUBJECT TO ENGINEERS APPROVAL, AND AT NO ADDITIONAL COST TO THE OWNER.

GRW PROJECT NO. 7601-30 CONTRACT NO. S02-03

MECHANICAL LEGEND GENERAL NOTES, AND SCHEDULES HARRIMAN UTILITY BOARD HARRIMAN, TENNESSEE



DESIGNED: RGE	DATE: JUNE, 2004
DRAWN: JMG	SCALE: AS NOTED
REVIEWED: RGE	SHEET NO. M-4
APPROVED: RGE	

RECORD DRAWINGS

THESE RECORD DRAWINGS REPRESENT THE "AS-BUILT" PROJECT TO THE BEST OF THE ENGINEER'S KNOWLEDGE. ALTHOUGH PREPARED FROM THE CONSTRUCTION RECORD, THEY CANNOT BE GUARANTEED TO BE EXACT IN EVERY DETAIL.

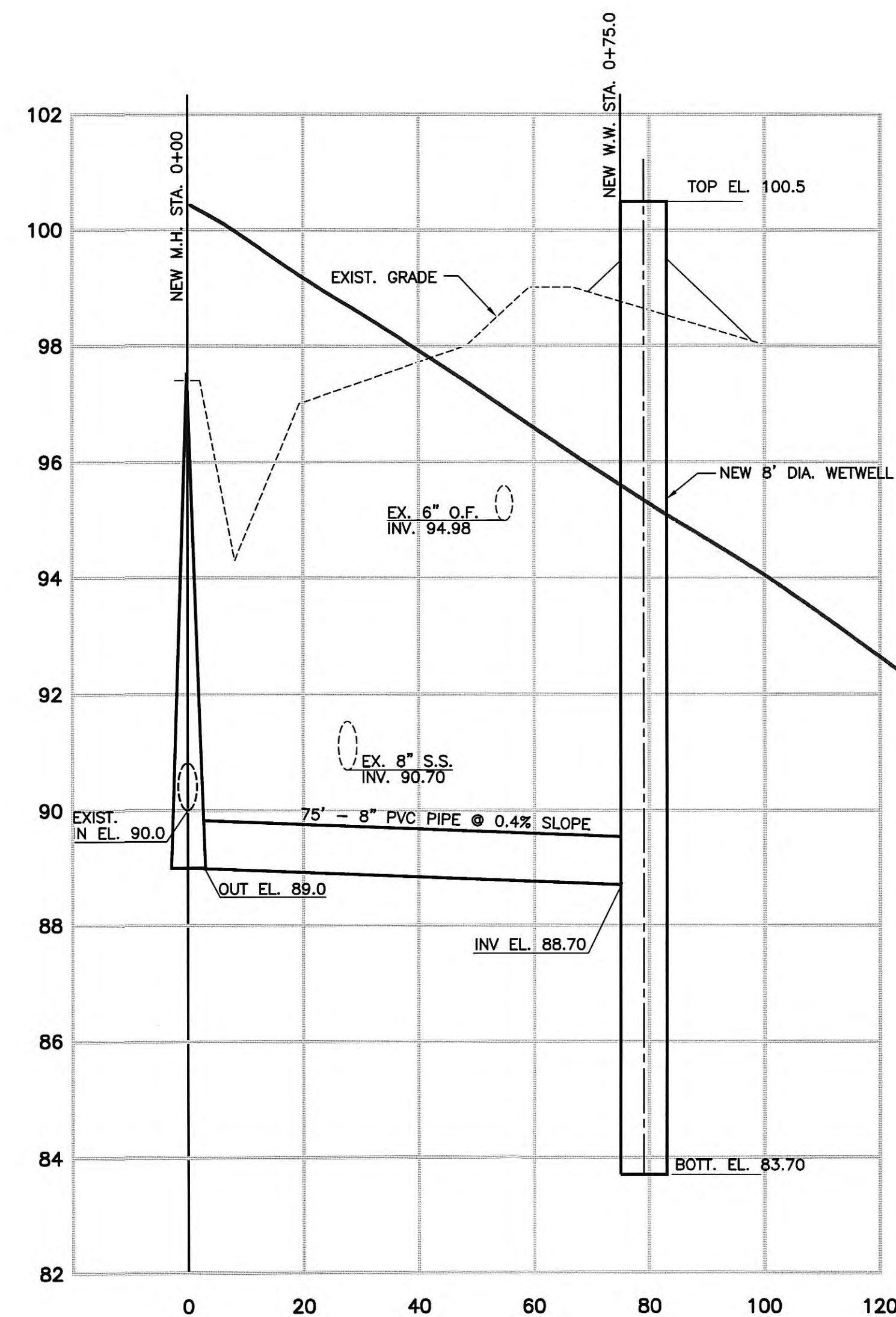
CHECKED BY:

ENGINEER'S REPRESENTATIVE

DATE

ALL RIGHTS RESERVED. THIS DOCUMENT IS THE PROPERTY OF GRW ELROD DUNSON, INC. AND SHALL NOT BE REPRODUCED IN WHOLE OR IN PART OR USED FOR CONSTRUCTION OF OTHER THAN THIS SPECIFIC PROJECT WITHOUT WRITTEN PERMISSION OF GRW ELROD DUNSON, INC.			
NO.	DESCRIPTION	DATE	BY
	REVISIONS		

This document, originally issued, sealed, and signed by Robert G. Ely, Kentucky Professional Engineer, No. 00102520, on June 4, 2004, shall not be used in lieu of a certified document.



PROFILE-GRAVITY SEWER

SCALE: 1" = 20' H
2' V

NEW SERVICE POLE (SEE DETAILS)
PROPOSED 6" PVC FORCE MAIN
CUT EXIST. FM AND CONNECT
NEW FM
PROPOSED SEWAGE PUMP STATION
SEE SHEET C-9 FOR DETAILS

NEW UNDERGROUND SERVICE
ENTRANCE CONDUIT TO STATION

NEW 2-1" CONDUITS STUBBED
OUT & CAPPED OFF FOR FUTURE
USE IN CONNECTING SCADA
SYSTEM TO PUMP STATION

SITE PLAN

SCALE: 1" = 20'

CONSTRUCTION NOTES:

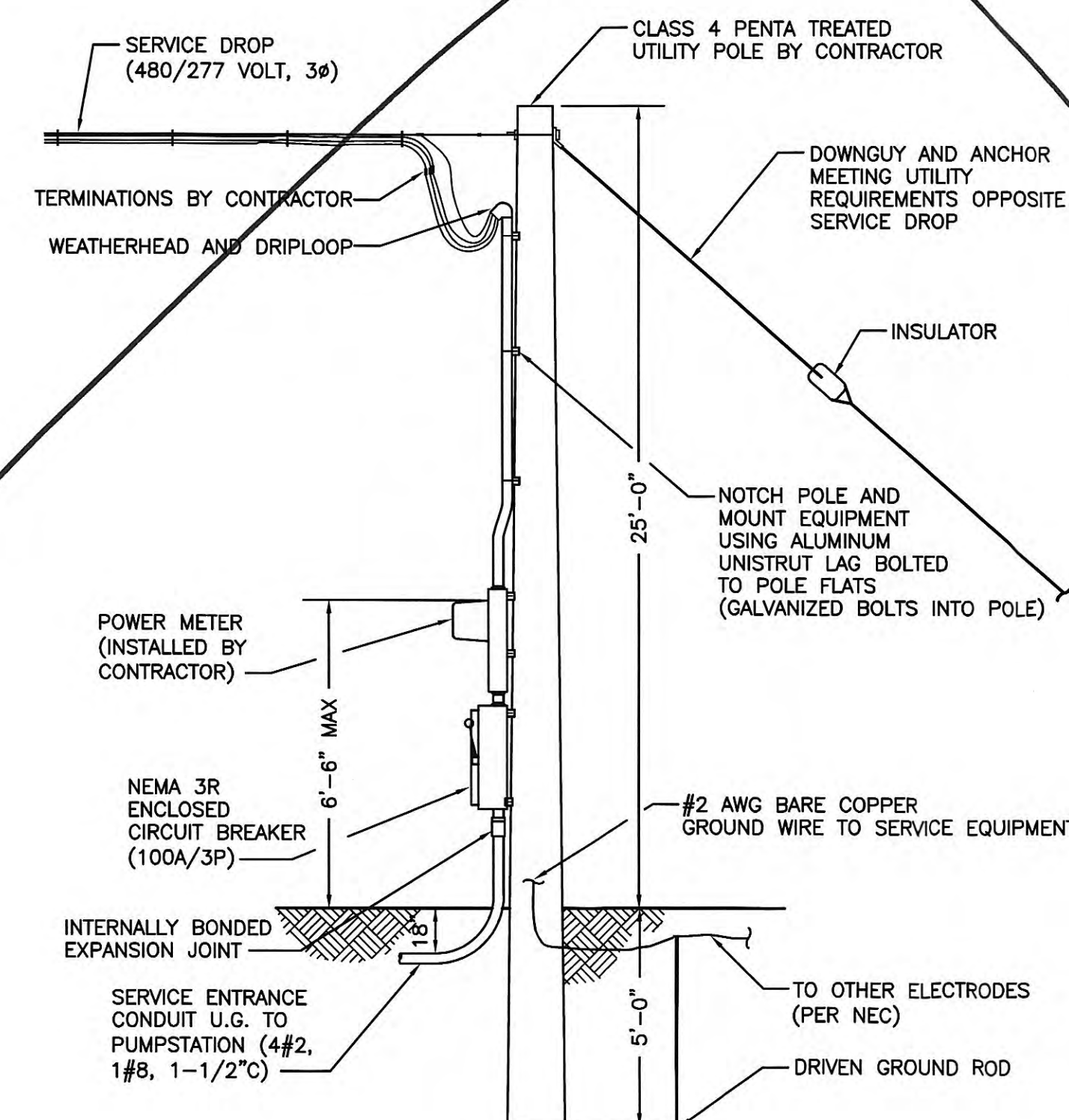
CONTRACTOR SHALL LEAVE EXISTING SEWER AND PUMP STATION IN SERVICE UNTIL NEW STATION IS INSTALLED.

AFTER NEW STATION IS IN SERVICE CONTRACTOR SHALL DEMOLISH THE TWO EXISTING MANHOLES AND BACKFILL.

EXISTING ABOVE GROUND PUMP STATION SHALL BE REMOVED WITH CARE AND PLACED AT LOCATION SELECTED BY THE HARRIMAN UTILITY BOARD. EXISTING P.S. WILL BE USED IN THE FUTURE AT A DIFFERENT LOCATION. CARE SHOULD BE TAKEN NOT TO DAMAGE EXISTING PUMP STATION WHEN DISMOUNTING OR TRANSPORTING.

THE EXISTING WETWELL AND OLD BELOW GROUND PUMP STATION SHALL BE FILLED WITH EXCAVATED MATERIAL FROM NEW WETWELL.

THE EXISTING OVERFLOW PIPE AND HEADWALL SHALL BE ABANDONED.



SERVICE POLE DETAIL

NOT TO SCALE

RECORD DRAWINGS

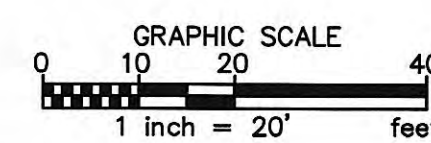
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CHECKED BY:

ENGINEER'S REPRESENTATIVE DATE 6/2007

BURIED TELEPHONE CABLES AND UTILITIES
CALL: TENNESSEE ONE CALL (1-800-351-1111)

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NO.	DESCRIPTION	DATE	BY



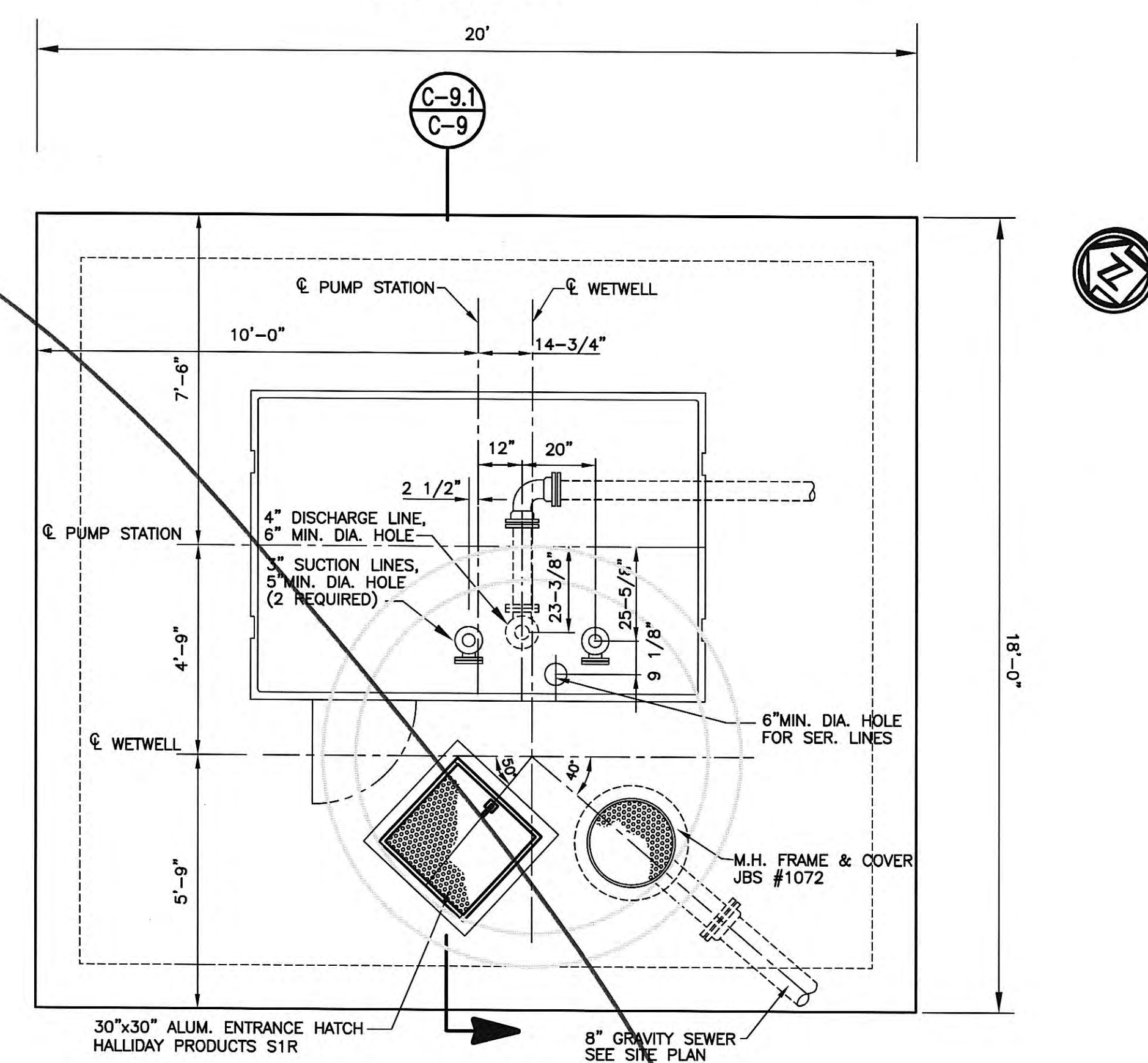
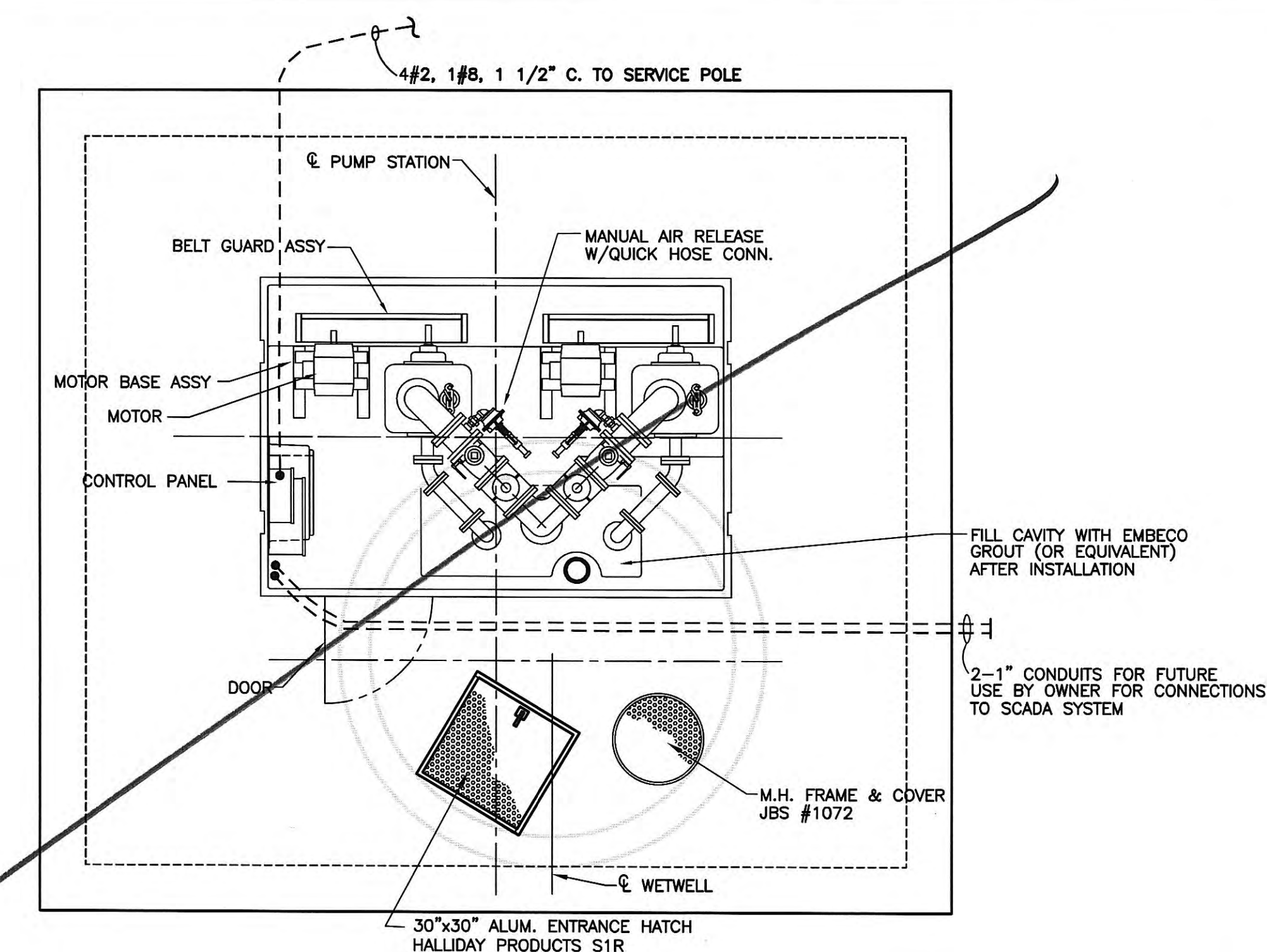
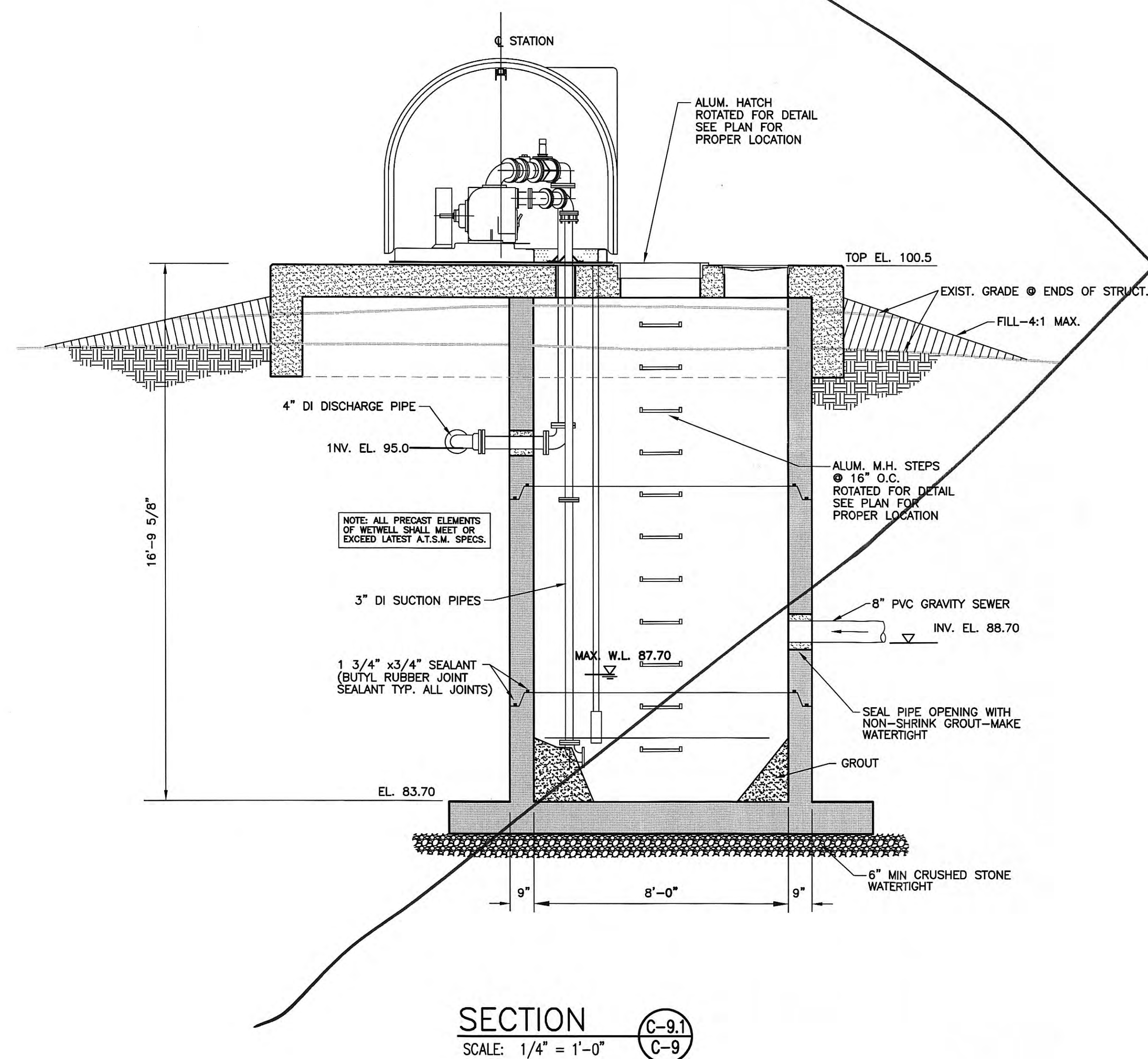
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GRW PROJECT NO. 7601-30 CONTRACT NO. S02-03

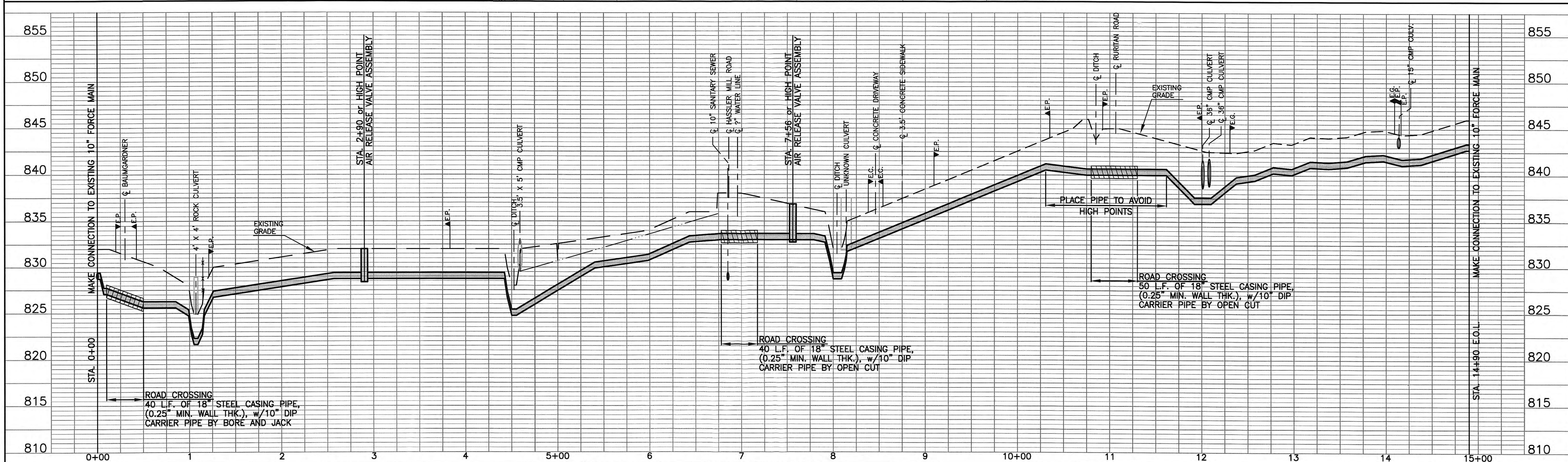
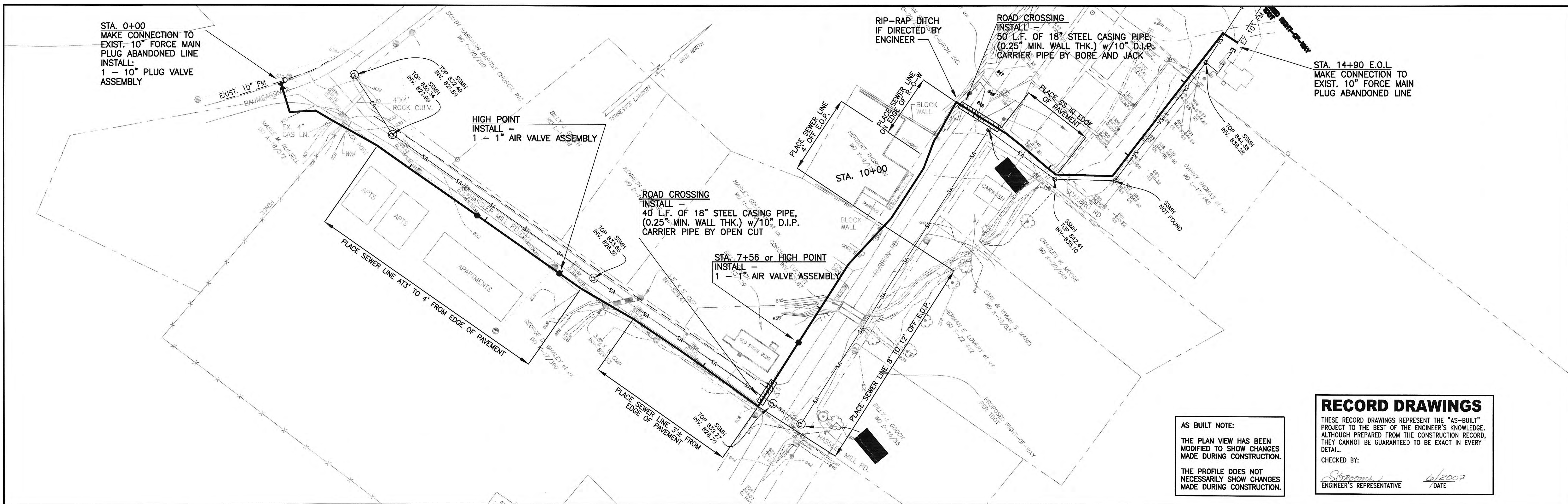
CARDIFF SEWAGE LIFT STATION
SITE GRADING AND PIPING PLAN
HARRIMAN UTILITY BOARD
HARRIMAN, TENNESSEE

GRW
Elrod Dunson, Inc.
Engineers, Architects, Planners
LEXINGTON LOUISVILLE NASHVILLE KNOXVILLE
INDIANAPOLIS PORT MITCHELL ARLINGTON

DESIGNED: RGT	DATE: FEBRUARY, 2004
DRAWN: DGR	SCALE: AS NOTED
REVIEWED: RGT	SHEET NO.
APPROVED: RGT	C-8



DESIGNED: RGT	DATE: FEBRUARY, 2004
DRAWN: DGR	SCALE: AS NOTED
REVIEWED: RGT	SHEET NO.
APPROVED: RGT	C-9



CALL BEFORE YOU DIG
IT IS THE CONTRACTOR'S RESPONSIBILITY TO
CONTACT UTILITY COMPANIES PRIOR TO ANY
CONSTRUCTION. THE LOCATION OF UTILITIES
SHOWN ON THESE PLANS ARE APPROXIMATE
AND POSSIBLY INCOMPLETE. THEREFORE
CERTIFICATION TO THE LOCATION OF ALL
UNDERGROUND UTILITIES IS WITHHELD.

THREE WORKING DAYS BEFORE YOU DIG

NOTES:
1. FORCE MAIN BASE DRAWING PROVIDED BY CITY OF HARRIMAN.
DRAWING BY WILLIAM B. STEELMAN, TN LIC. # 1831. DRAWING
NO. 835ASBLT.

PLAN VIEW GRAPHIC SCALE
0 25 50 100
1 inch = 50 feet Horiz.
Profile: 1 inch = 5 feet Vert.

1. REVISED FORCE MAIN ROUTE			
NO.	DESCRIPTION	DATE	BY
1	MOVED GRAVITY SEWER TO SHEET 11	9/04	DM

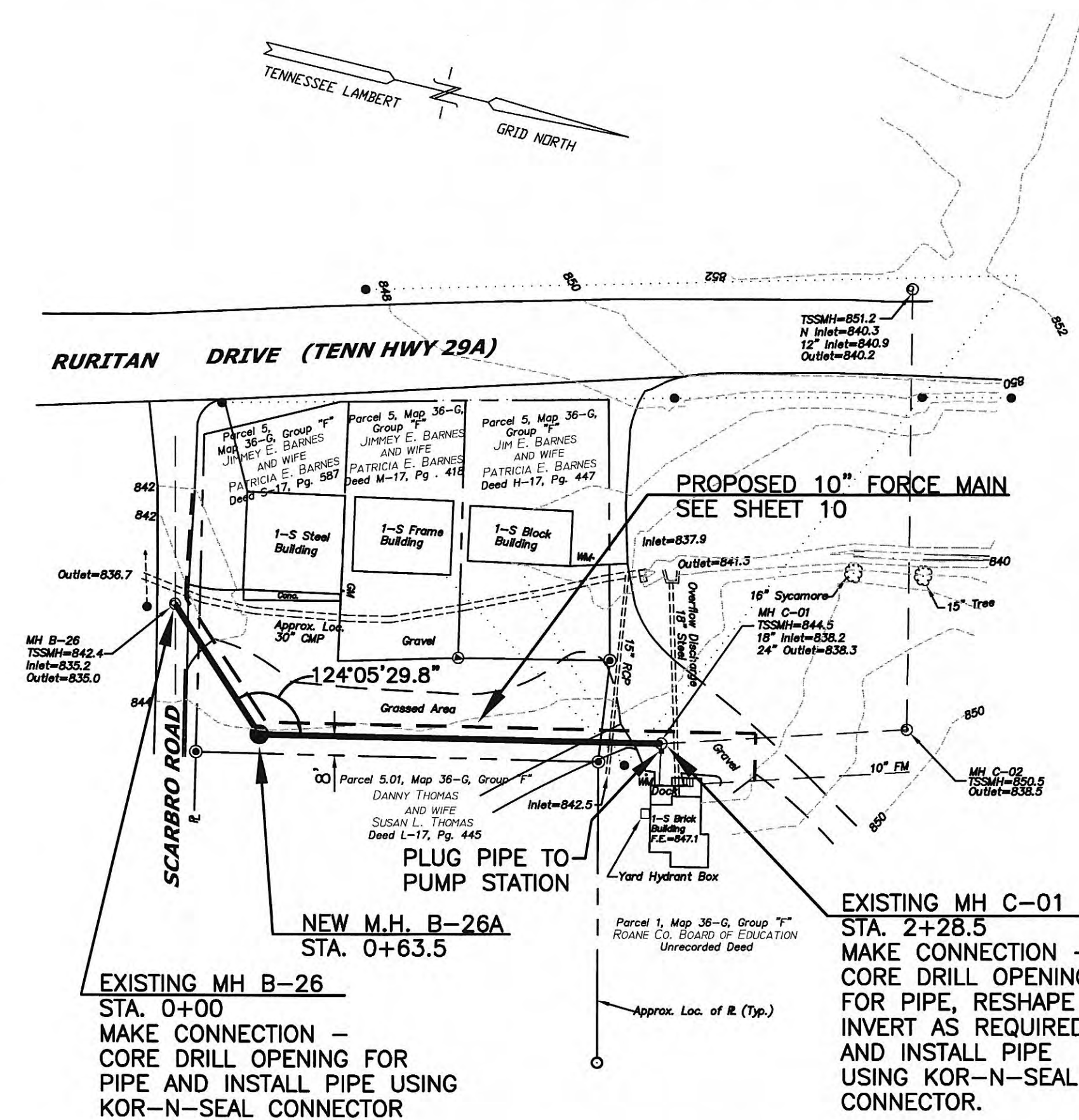
WOODY STREET FORCE MAIN
STA. 0+00 TO STA. 14+90 E.O.L.
HARRIMAN UTILITY BOARD
HARRIMAN, TENNESSEE

GRW PROJECT NO. 7601-30 CONTRACT S02-03

GRW Elrod Dunson, Inc.
Engineers, Architects, Planners
LEXINGTON LOUISVILLE NASHVILLE KNOXVILLE
INDIANAPOLIS FORT MITCHELL ARLINGTON

DESIGNED: RGT
DRAWN: DM
REVIEWED: RGT
APPROVED: RGT

DATE: AUGUST, 2004
SCALE: AS NOTED
SHEET NO. C-10



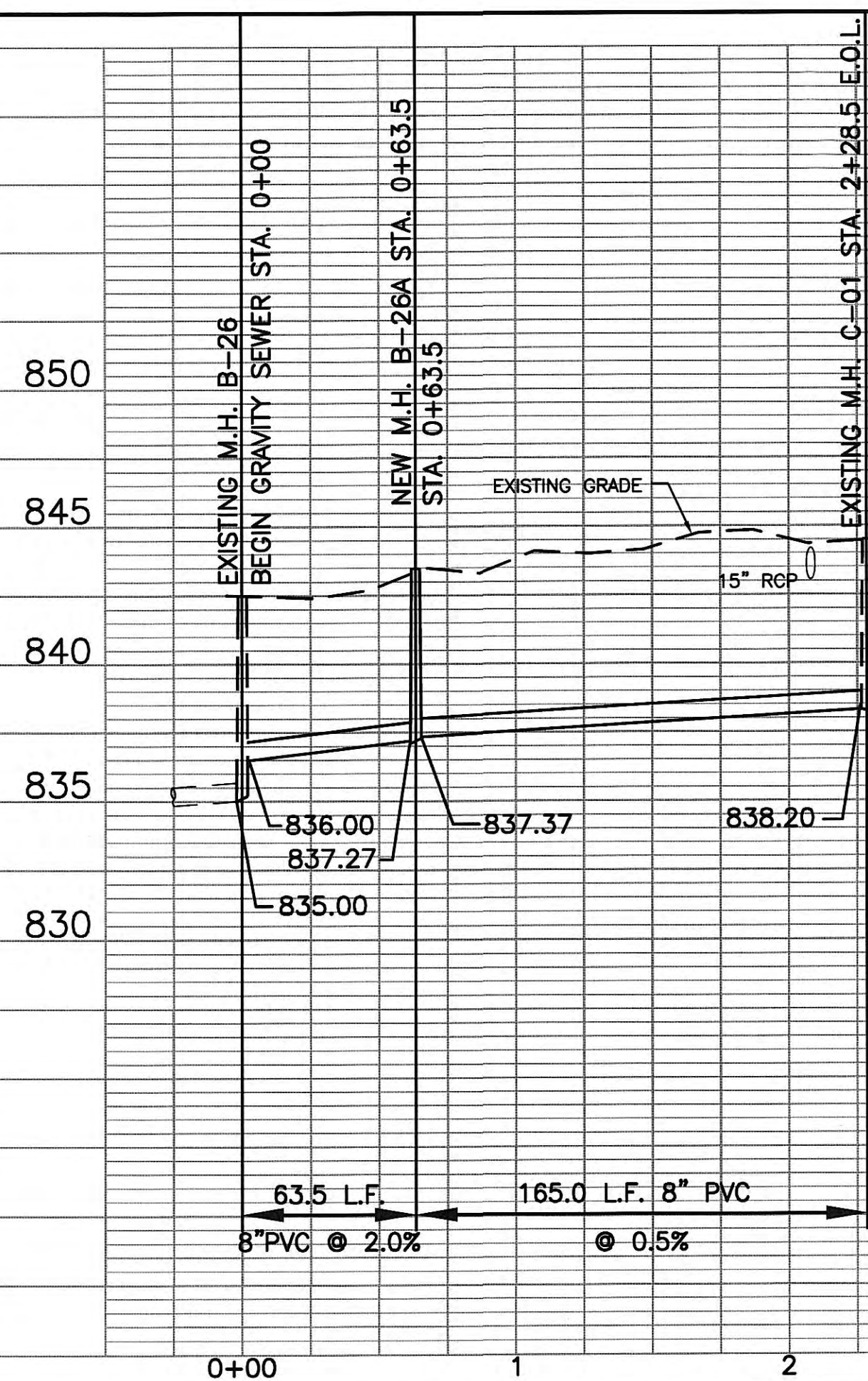
RECORD DRAWINGS

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CHECKED BY:

S. S. S. S.
ENGINEER'S REPRESENTATIVE

6/2007
DATE



CALL BEFORE YOU DIG
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NOTES:
1. GRAVITY SEWER BASE .DWG BY LACEY AND ASSOC. DRAWING NO. 01-724.

PLAN VIEW GRAPHIC SCALE
0 25 50 100
1 inch = 50 feet Horiz.
Profile: 1 inch = 5 feet Vert.

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1	MOVED GRAVITY SEWER TO SHEET 11	9/04	DM
NO.	DESCRIPTION	DATE	BY
	REVISIONS		

SCARBRO ROAD GRAVITY SEWER -
STA. 0+0 TO STA. 2+28.5 E.O.L.
HARRIMAN UTILITY BOARD
HARRIMAN, TENNESSEE

GRW PROJECT NO. 7601-30

CONTRACT S02-03

GRW
GRW Elrod Dunson, Inc.
Engineers, Architects, Planners
LEXINGTON LOUISVILLE NASHVILLE KNOXVILLE
INDIANAPOLIS FORT MITCHELL ARLINGTON

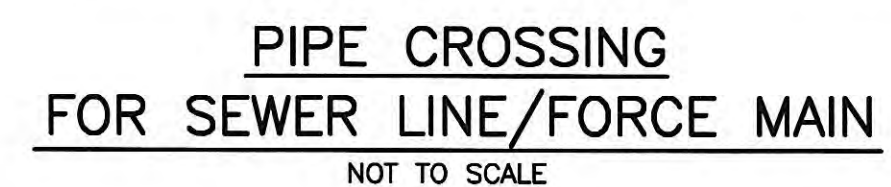
DESIGNED:
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DRAWN:
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REVIEWED:
RGT
APPROVED:
RGT

DATE:
AUGUST, 2004

SCALE:
AS NOTED

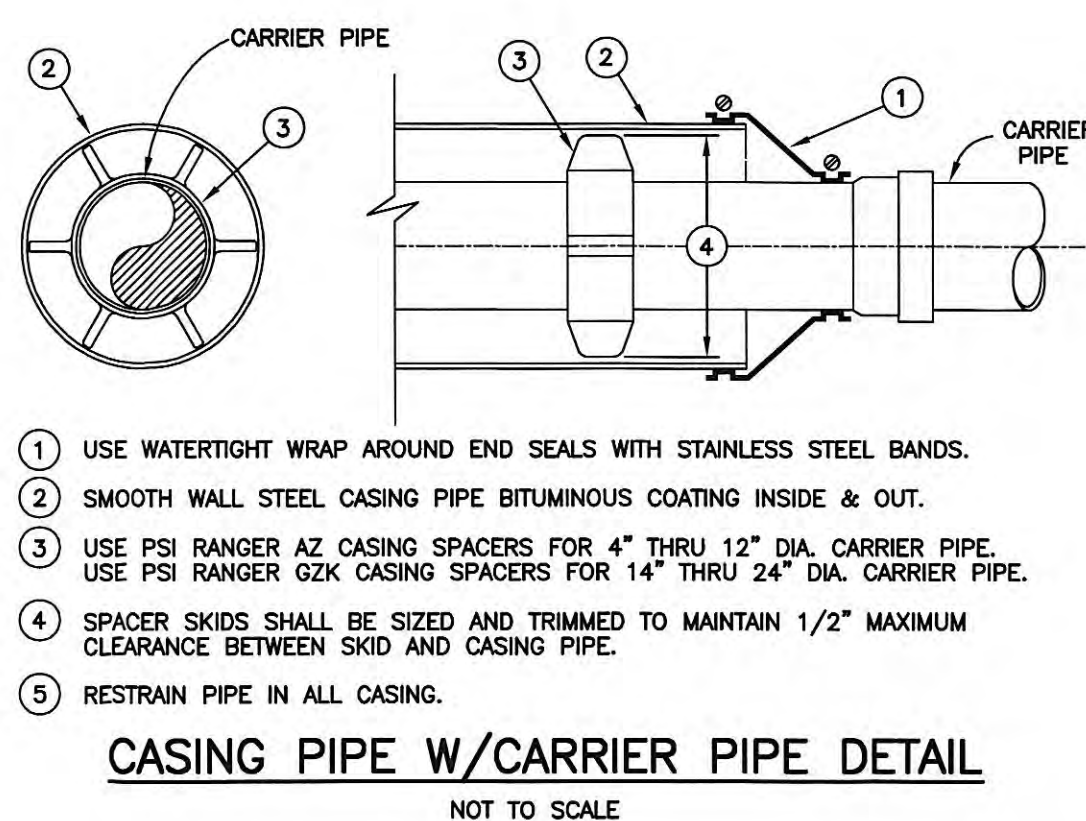
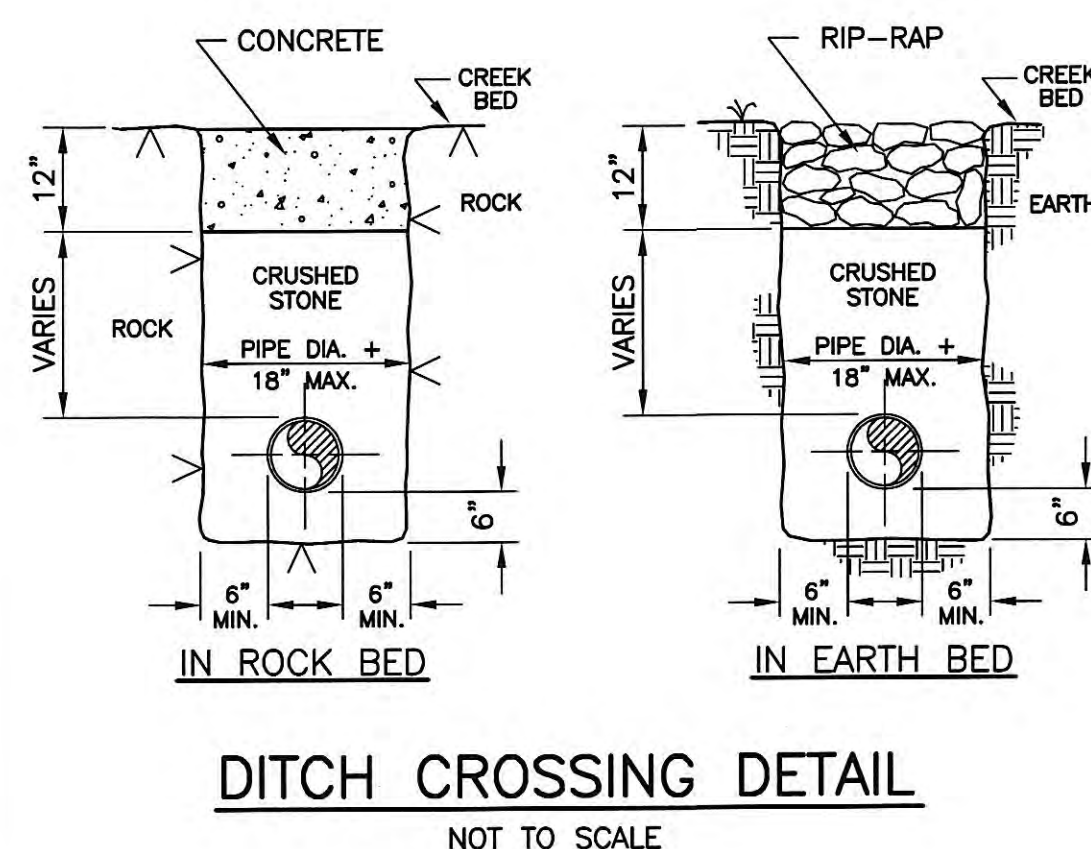
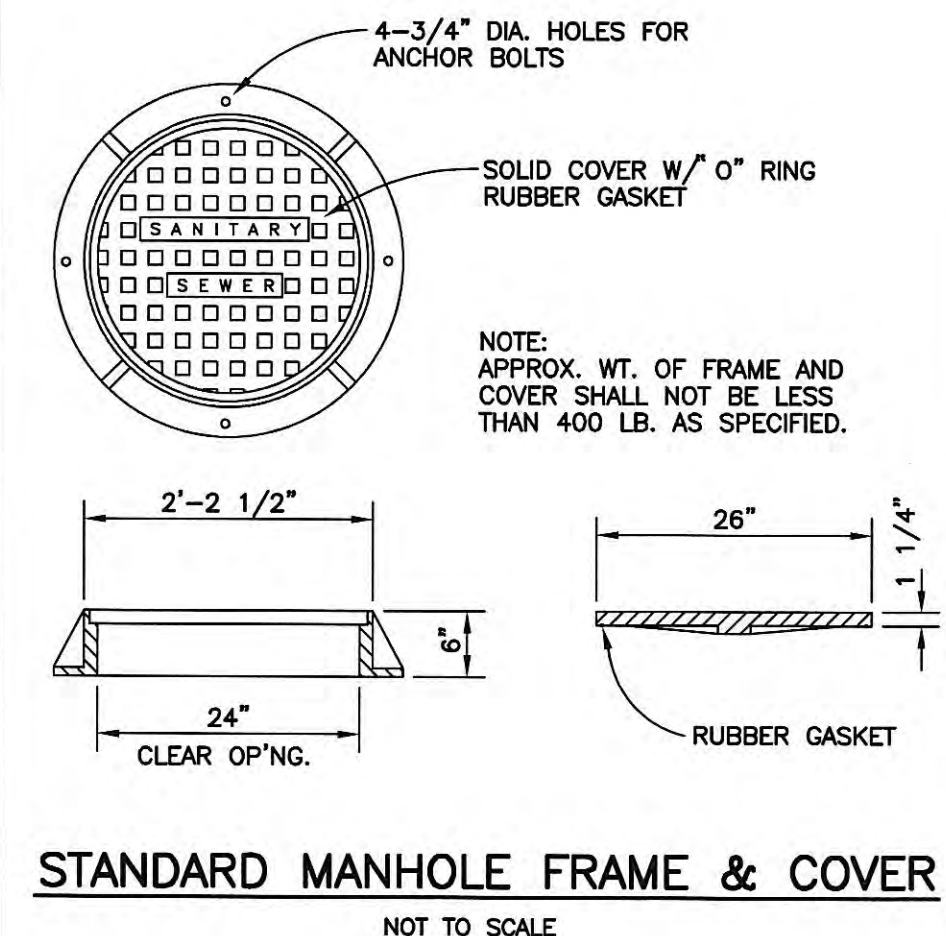
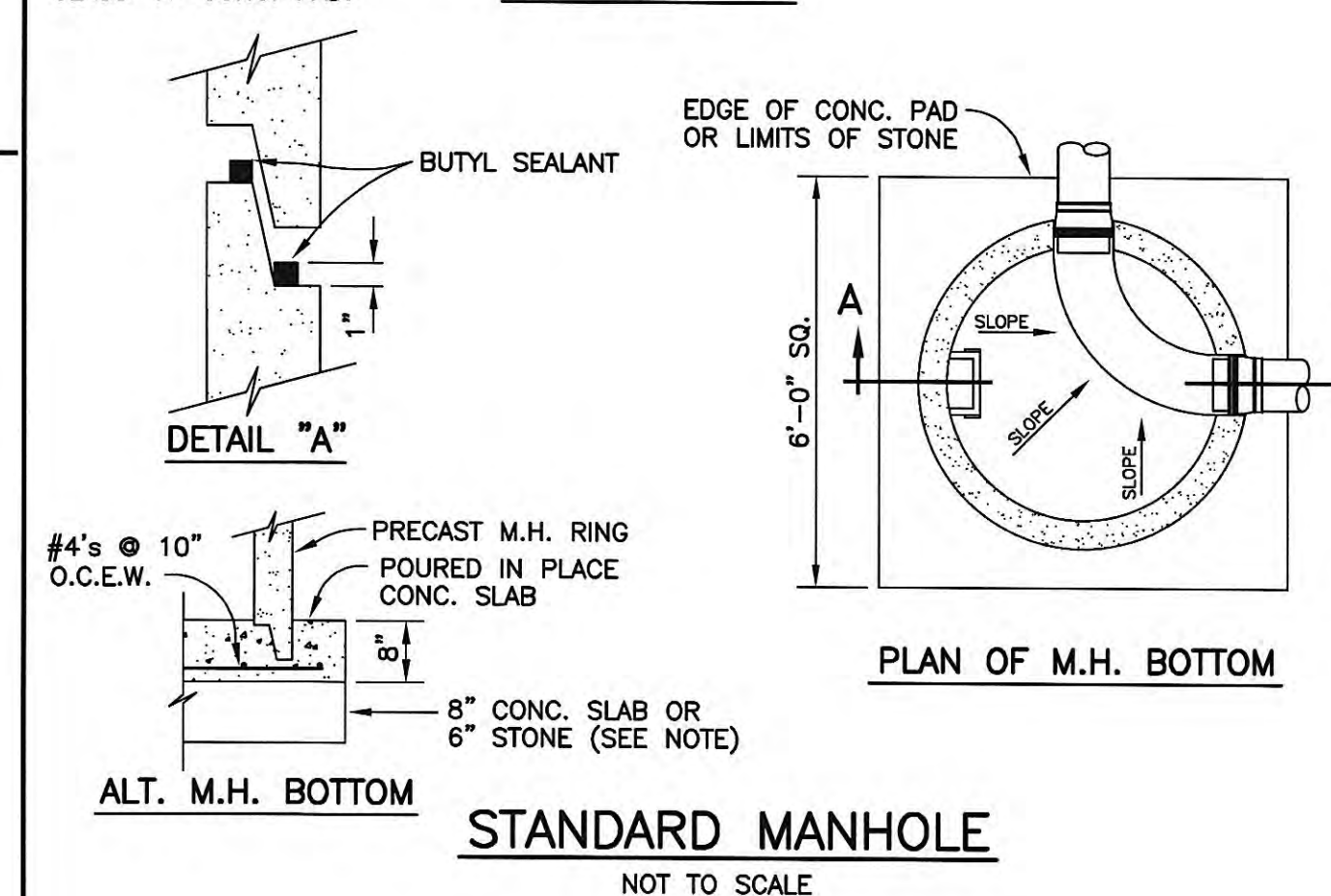
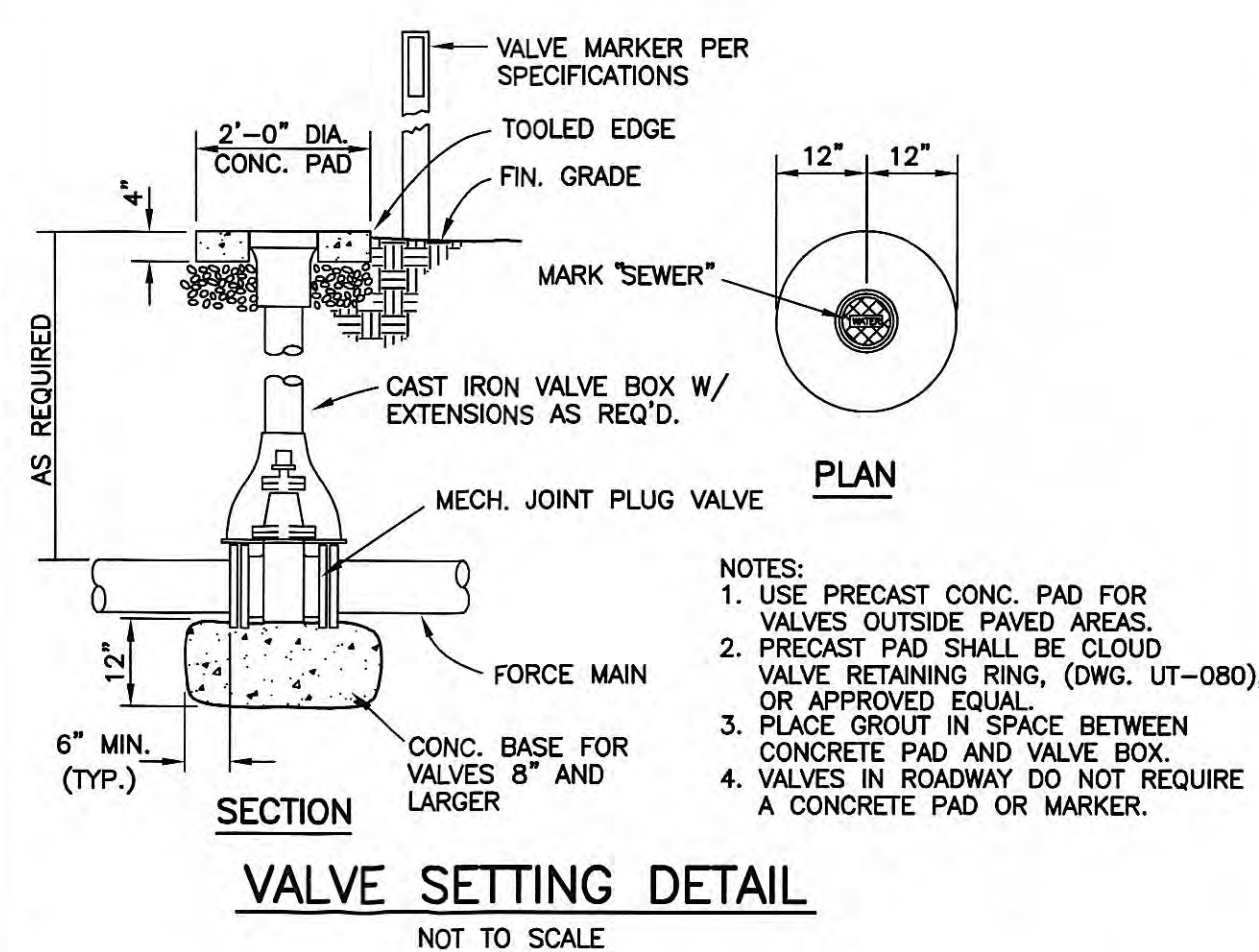
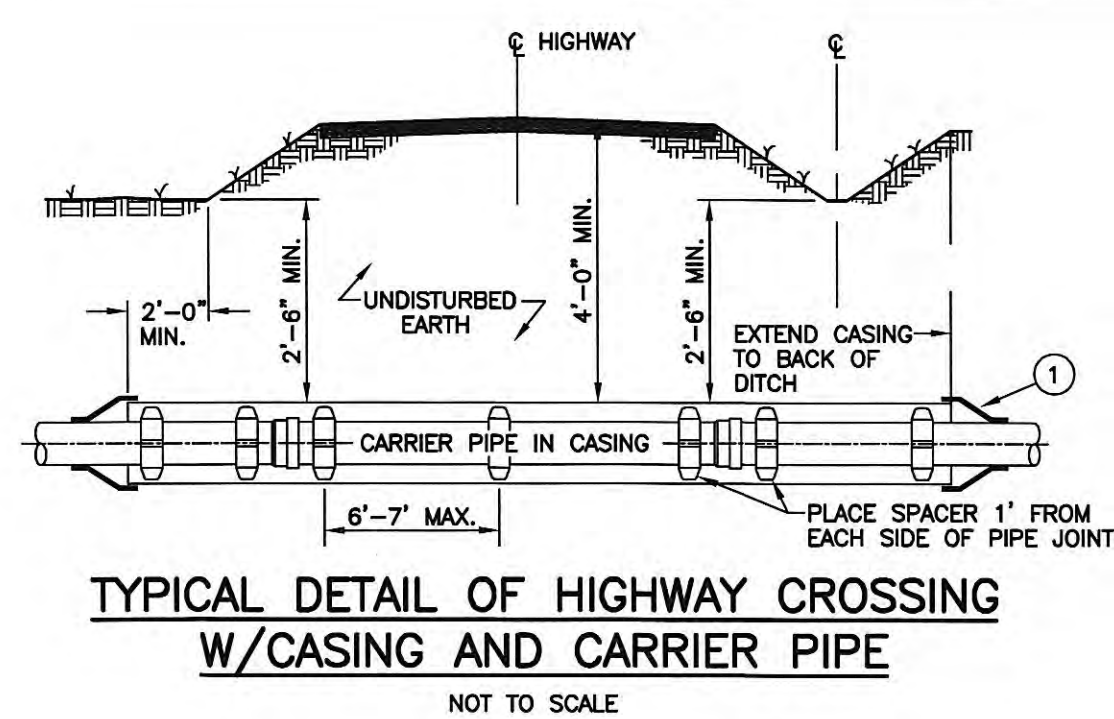
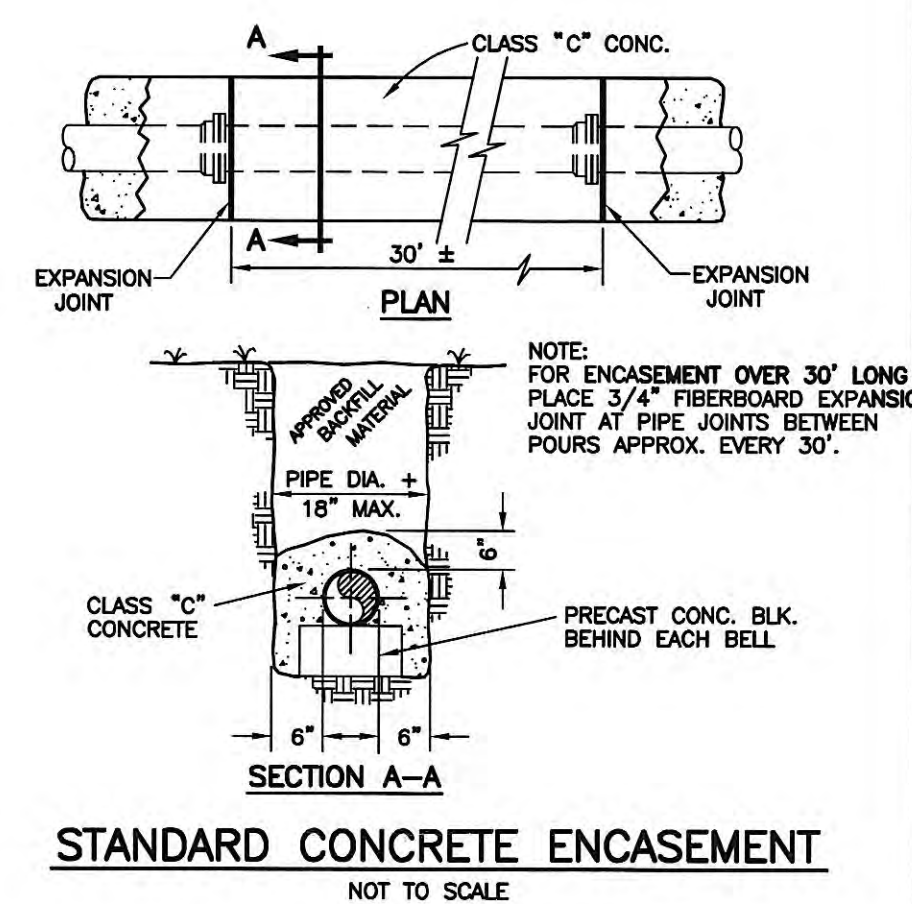
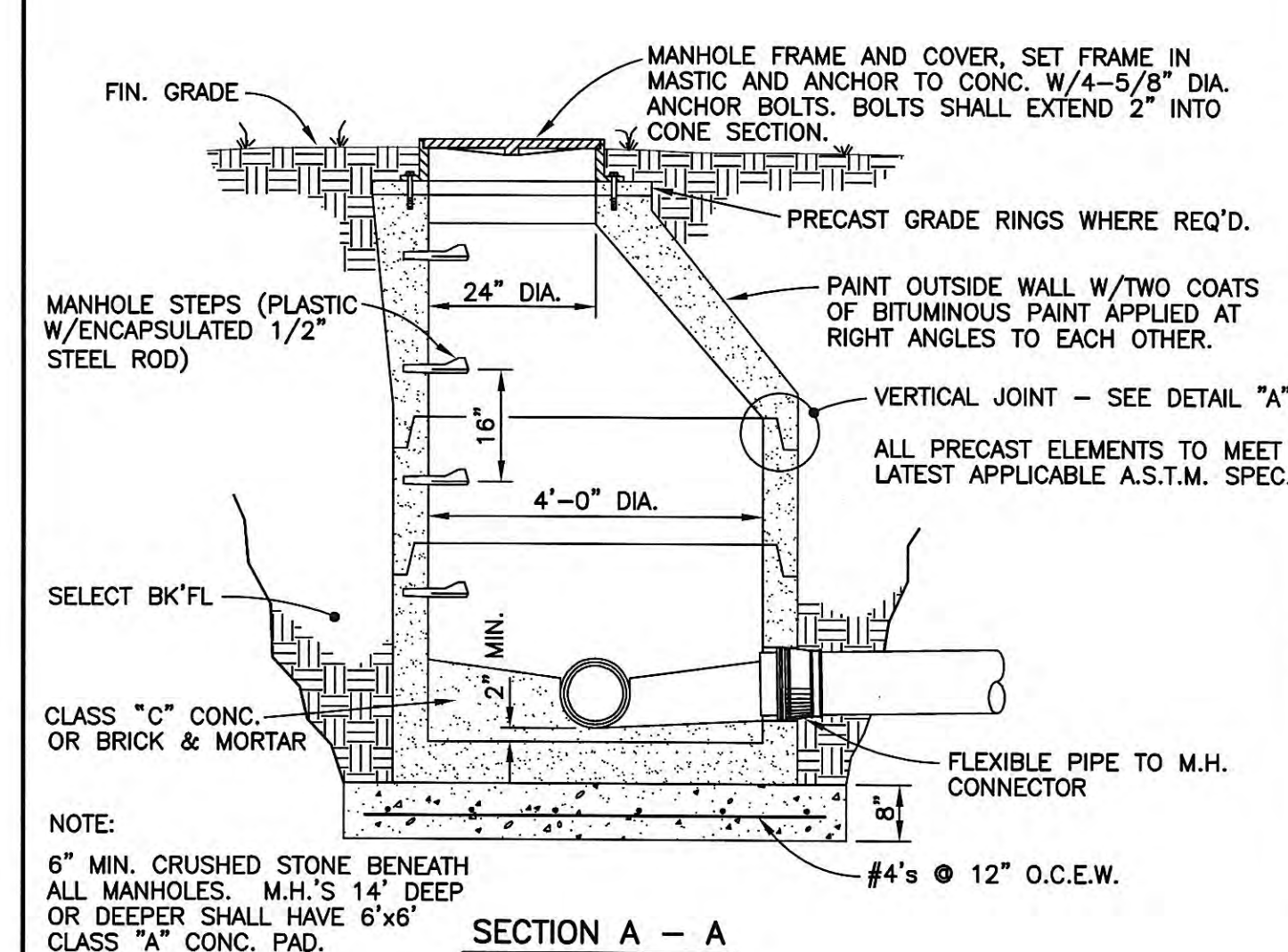
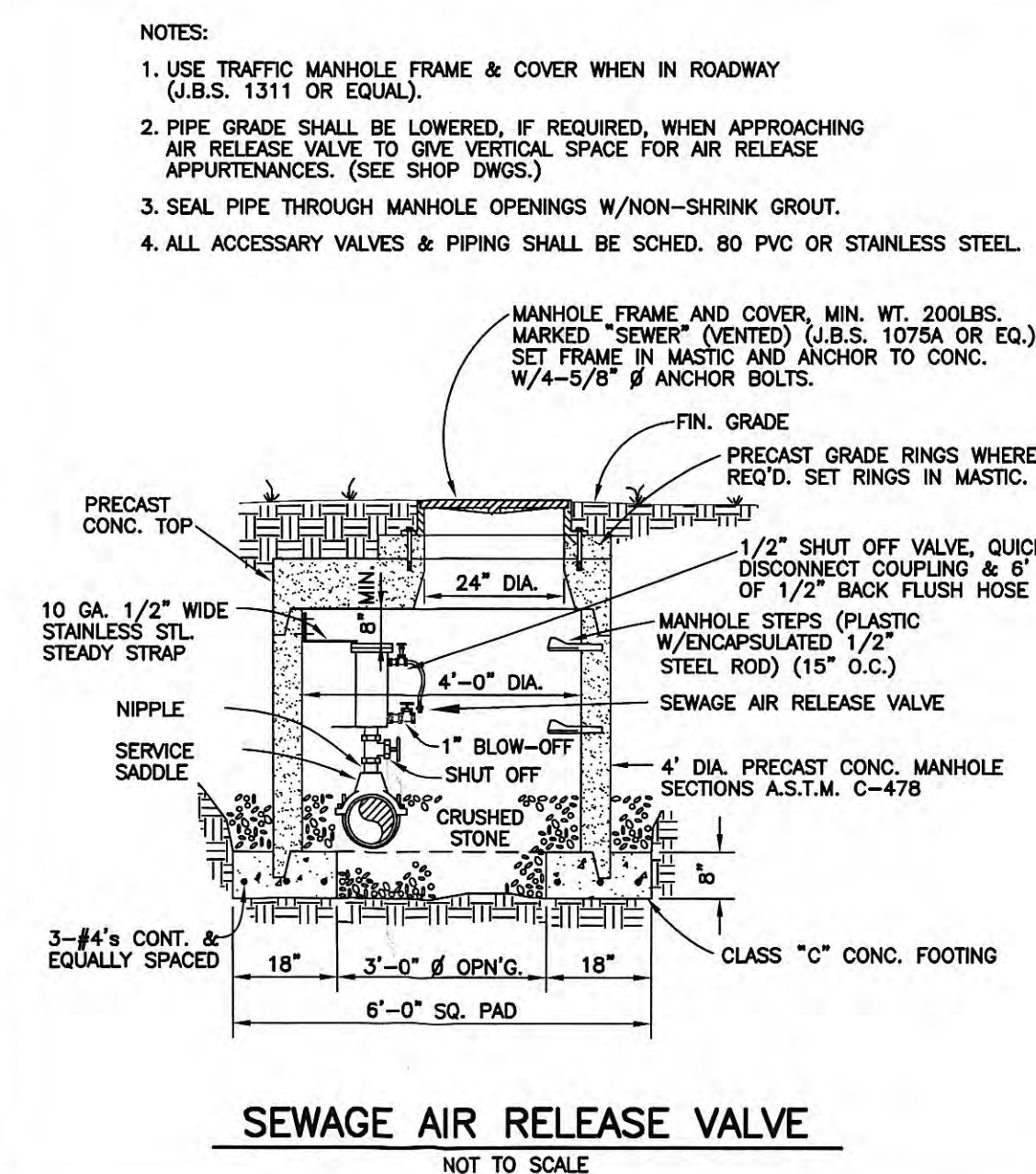
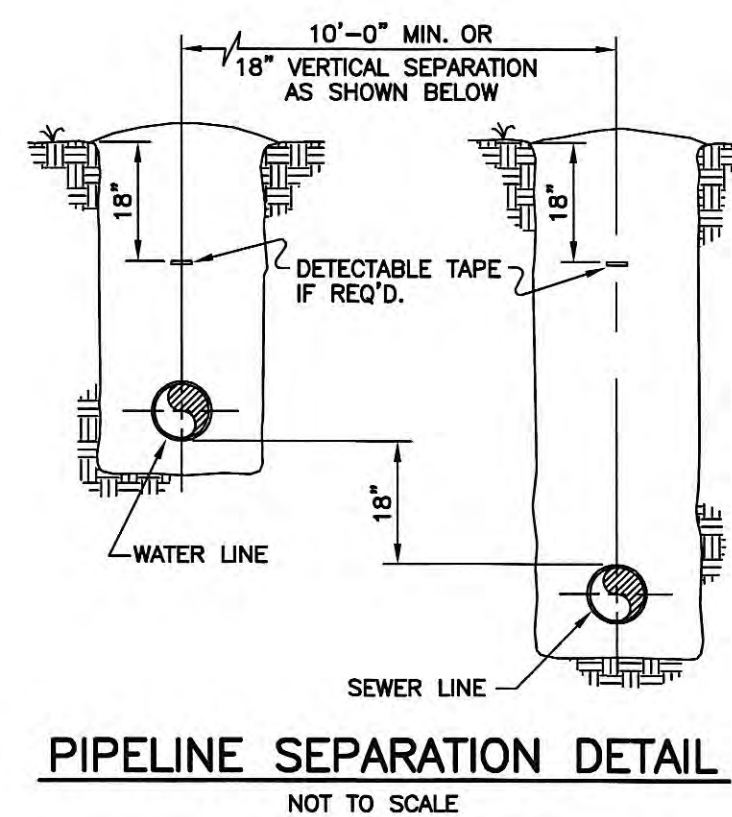
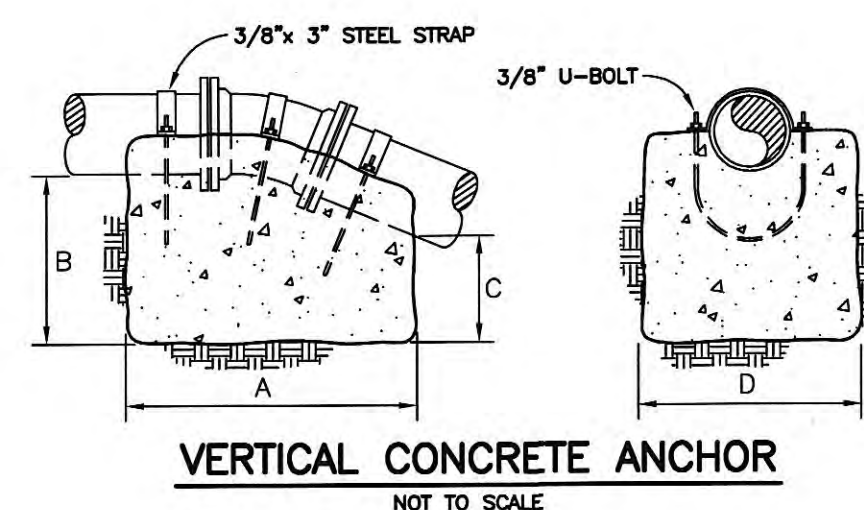
SHEET NO.

C-11



NOTES:

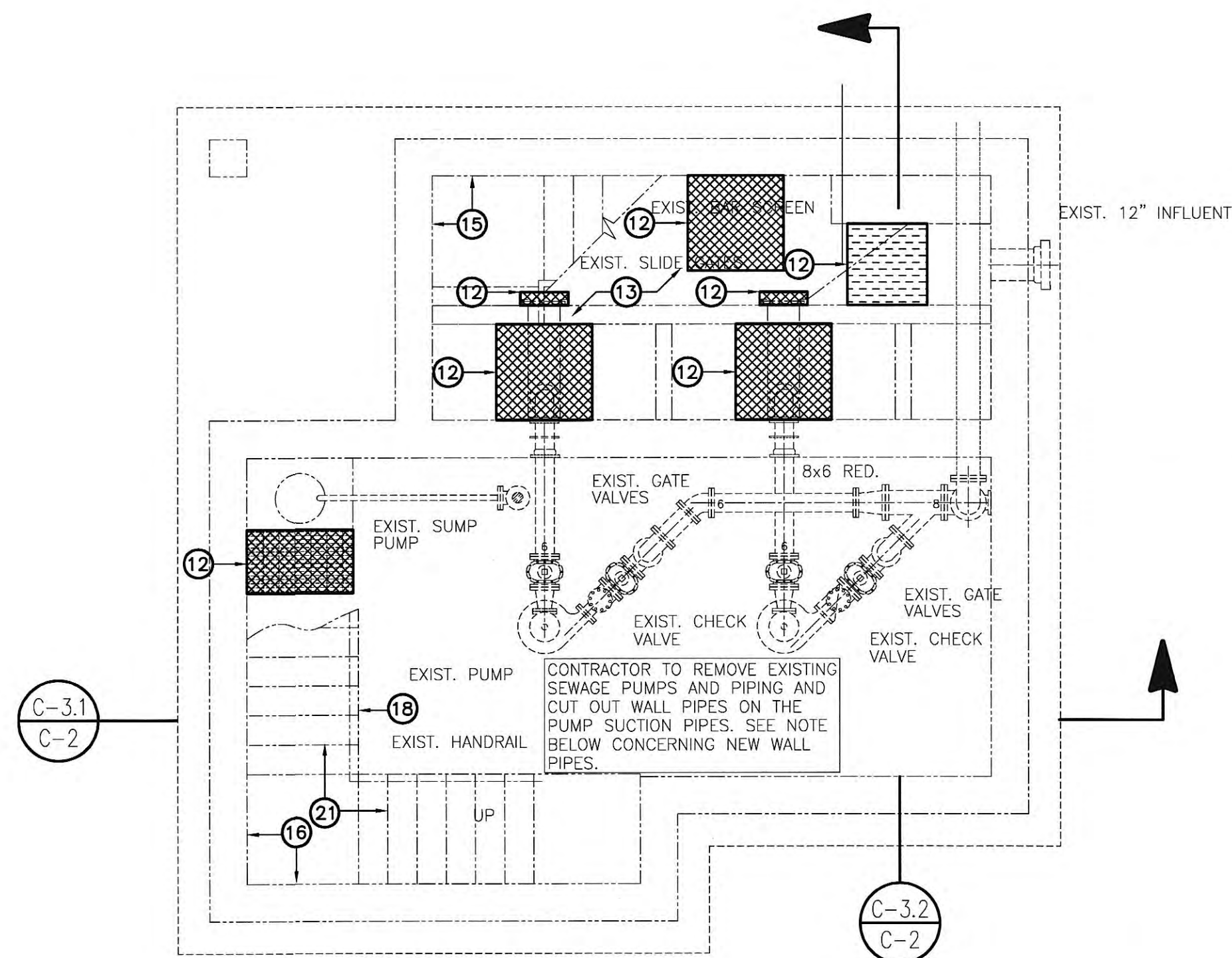
1. POUR CLASS C CONCRETE ANCHOR AGAINST UNDISTURBED EARTH OR ROCK
2. IF EXACT SIZE PIPE IS NOT SHOWN, USE NEXT LARGER SIZE.
3. VERTICAL CONCRETE ANCHOR DESIGNED FOR 100 PSI FOR GREATER PRESSURE. QUANTITIES WILL HAVE TO BE RECALCULATED.



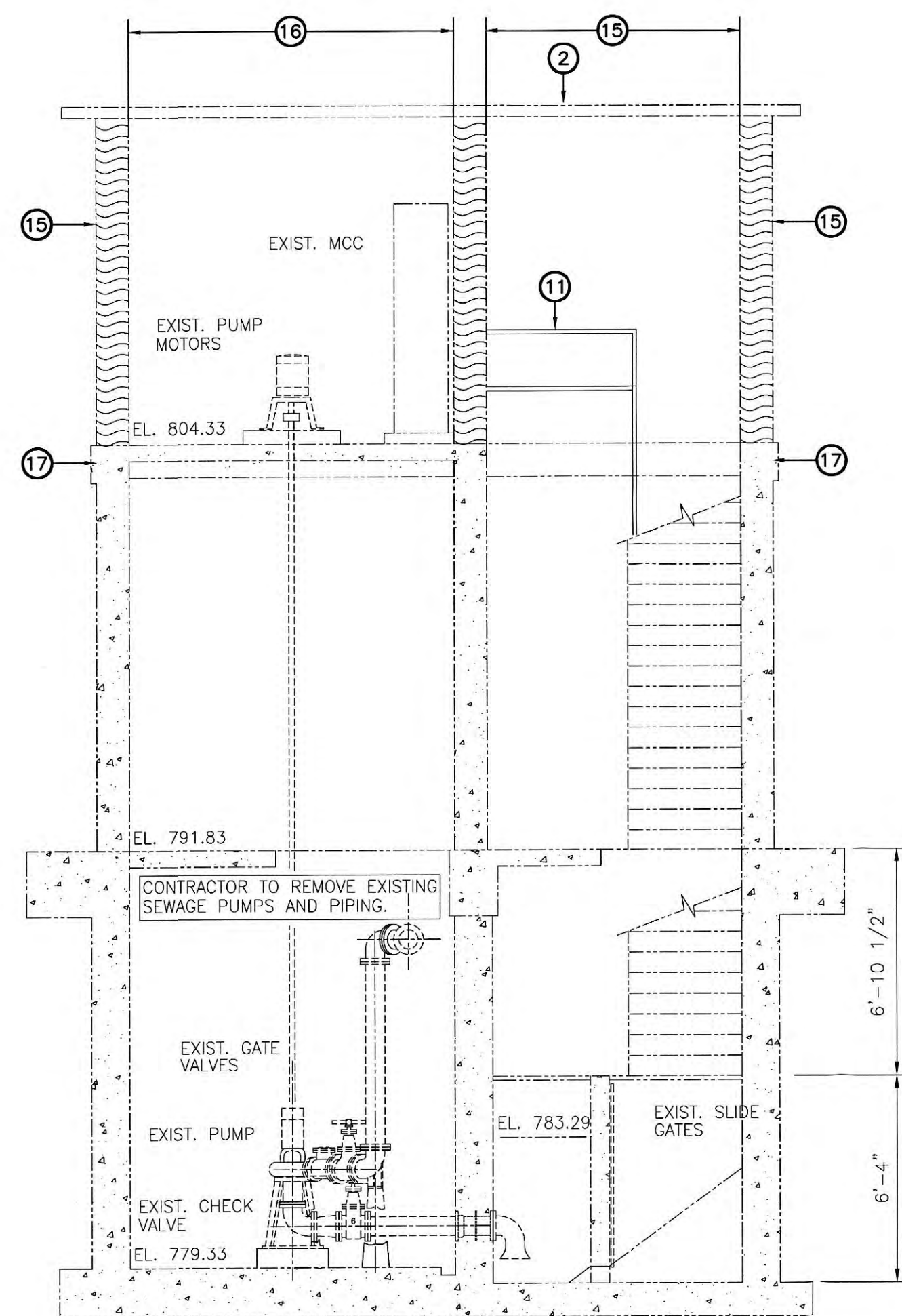
S. Brown 6/2007
ENGINEER'S REPRESENTATIVE / DATE

1	REVISED SHEET NUMBER	9/04	DI
NO.	DESCRIPTION	DATE	BY
REVISIONS			

 GRW Elrod Dunson, Inc. Engineers, Architects, Planners LEWISTON LOUISVILLE NASHVILLE ENEVILLE INDIANAPOLIS PORT MITCHELL ARLINGTON	DESIGNED:	DATE:
	RGT	NOVEMBER, 2002
	DRAWN:	SCALE:
	DGR	NONE
	REVIEWED:	SHEET NO.
	RGT	
	APPROVED:	C-12
	POT	



FLOOR PLAN - PUMP LEVEL
SCALE: 1/4" = 1'-0"



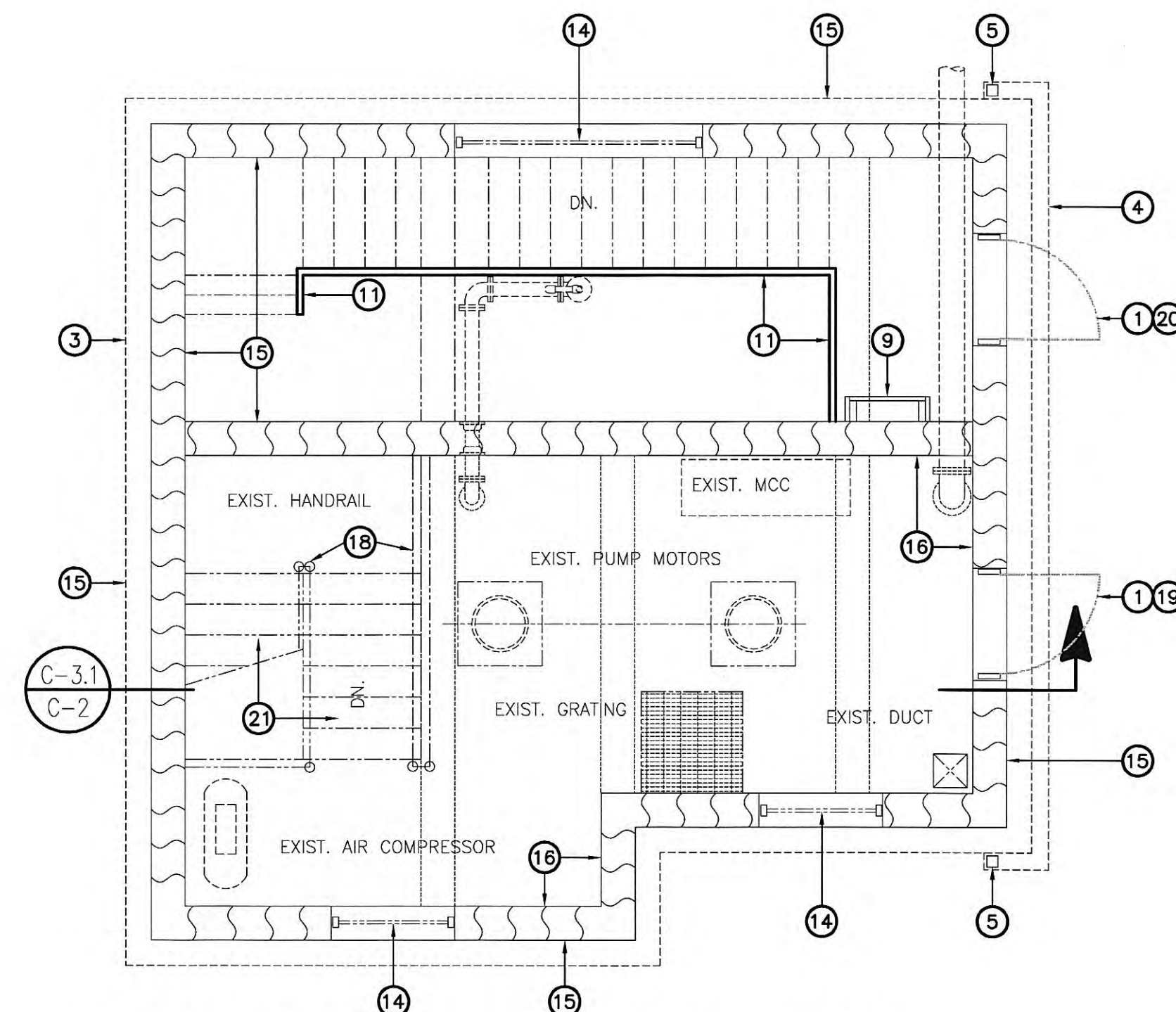
BUILDING-SECTION
SCALE: 1/4" = 1'-0"

CONTRACTOR NOTES:

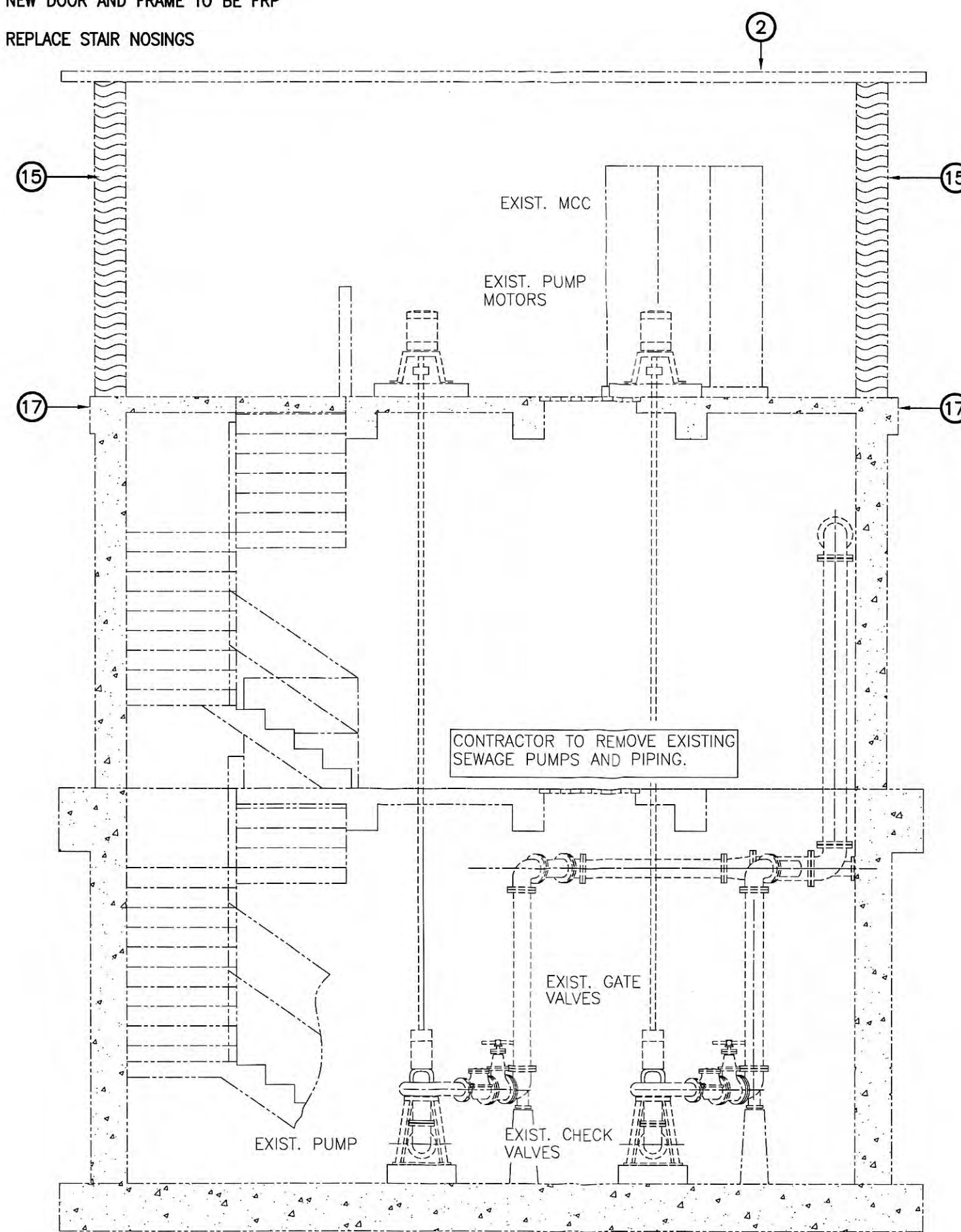
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3. CONTRACTOR TO CLEAN AND PAINT PIPING AND WALLS. WALLS INCLUDE ENTRANCE LEVEL, ELECTRICAL AREA AND PUMP LEVEL; PUMP AND PIPING AREA.

KEYNOTES:

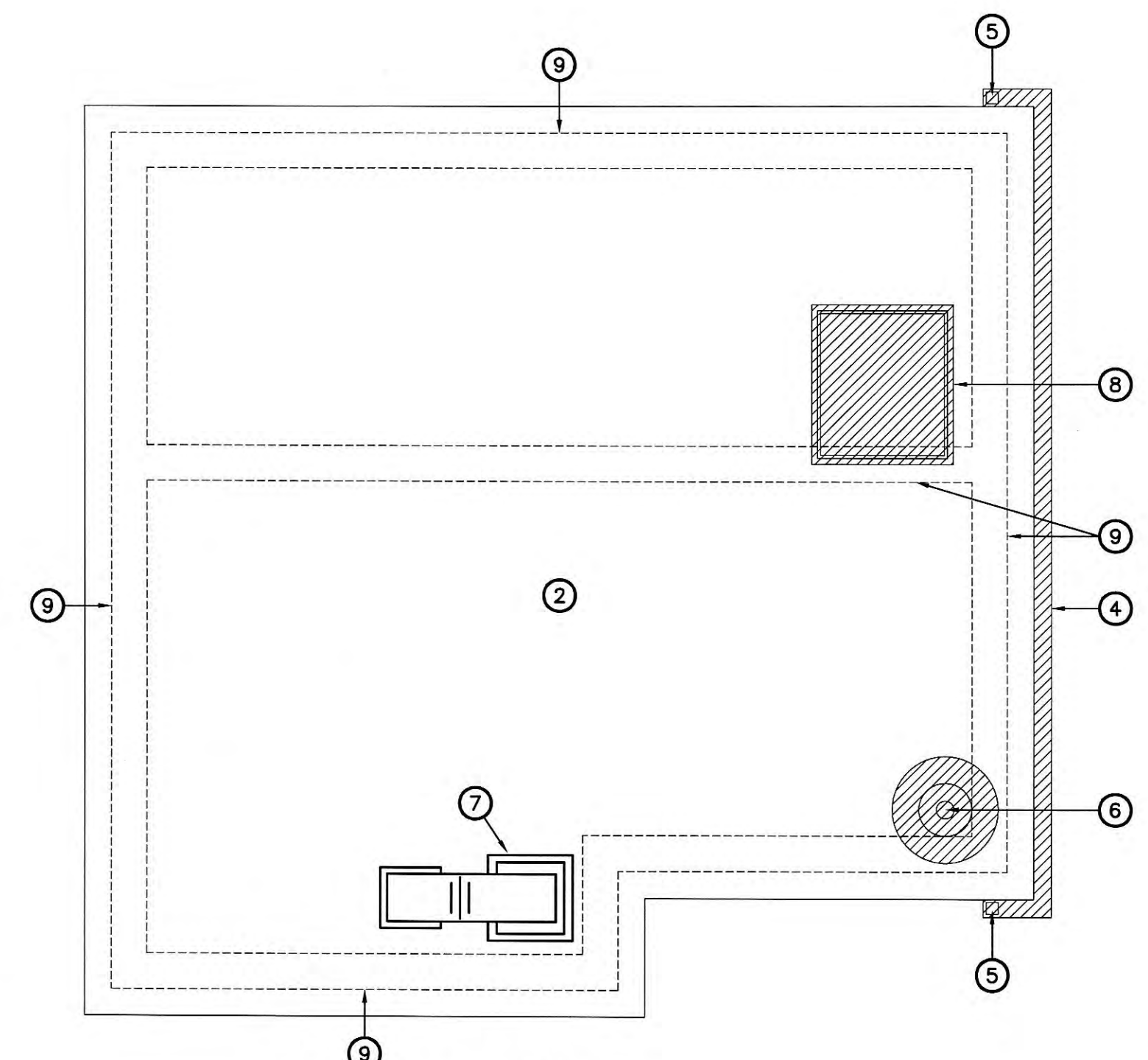
- 1 REMOVE EXISTING DOOR AND FRAME, PROVIDE NEW OUT SWINGING DOOR WITH NEW FRAME. VERIFY MASONRY OPENING.
- 2 REMOVE EXISTING ROOF MATERIAL DOWN TO CONC. DECK. PROVIDE NEW EPDM ROOFING, INSULATION, AND FLASHING.
- 3 ROOF LINE ABOVE.
- 4 EXISTING GUTTER TO BE REPLACED.
- 5 INSTALL NEW 4"x4" MTL. DOWNSPOUT.
- 6 EXISTING EQUIPMENT TO BE REMOVED- SEE MECHANICAL.
- 7 NEW MECHANICAL DUCT. FLASH AS REQ'D.
- 8 EXISTING ROOF HATCH TO BE REMOVED
- 9 WALL BELOW
- 10 EXISTING LADDER TO BE REMOVED.
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- 12 EXISTING GRATING TO BE REPLACED.
- 13 NEW TOPPING SLAB.
- 14 EXISTING WINDOW TO BE REPLACED.
- 15 EXIST. WALLS TO BE PRESSURE WASHED AND SEALER APPLIED
- 16 EXIST. WALLS TO BE PRESSURE WASHED AND PAINTED
- 17 PATCH EXPOSED EXT. CONC. AS REQUIRED
- 18 EXIST. HANDRAIL TO BE RE-ANCHORED AS REQUIRED WHERE LOOSE -PAINT
- 19 NEW DOOR AND FRAME TO BE HOLLOW METAL, PAINT TO MATCH FRP DOORS
- 20 NEW DOOR AND FRAME TO BE FRP
- 21 REPLACE STAIR NOSINGS



FLOOR PLAN - ENTRANCE LEVEL
SCALE: 1/4" = 1'-0"



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



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

RECORD DRAWINGS

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CHECKED BY:

ENGINEER'S REPRESENTATIVE

DATE

GRW PROJECT NO. 7601-30 CONTRACT NO. S02-03

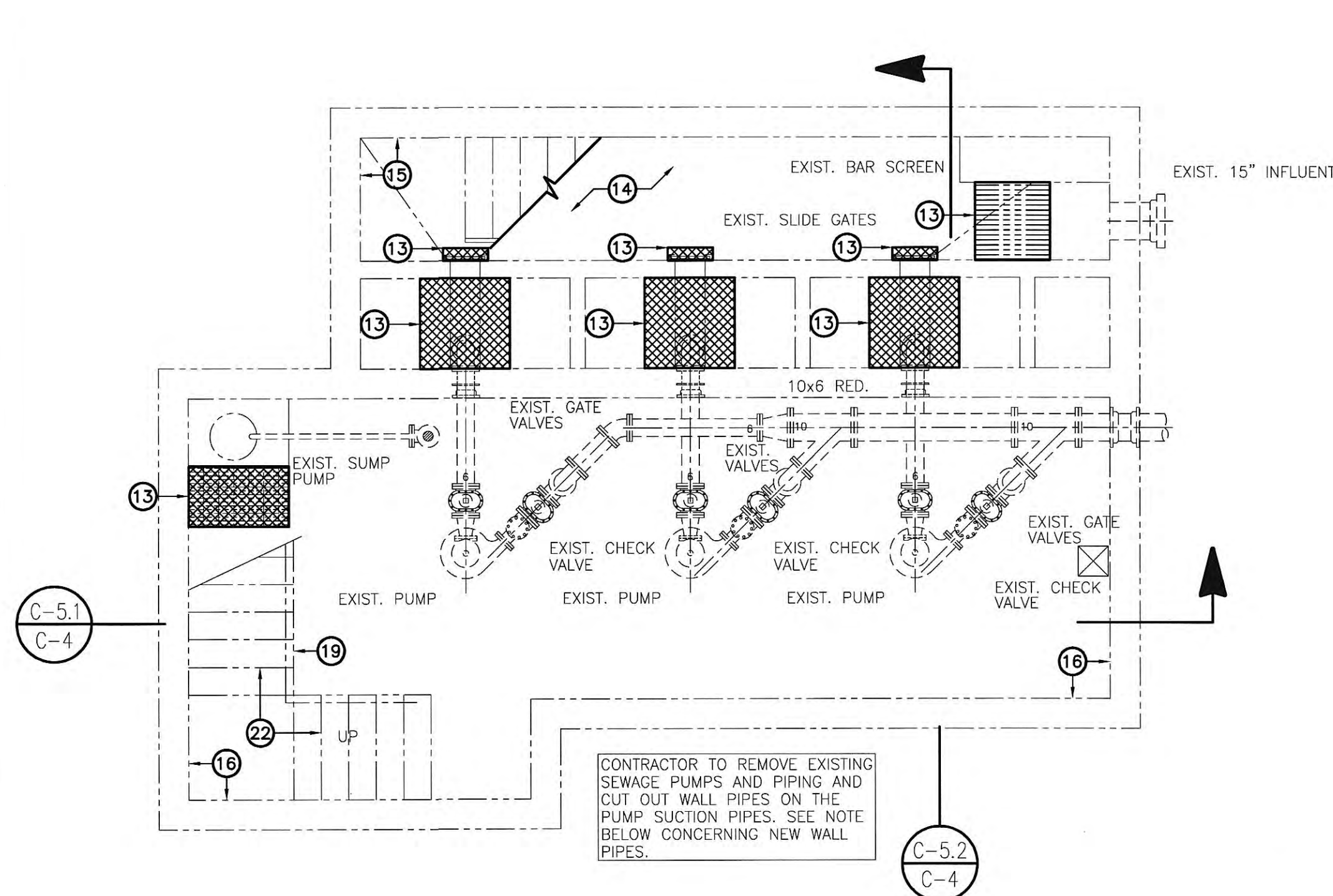
EXISTING HARDEES SEWAGE PUMP STATION
ARCHITECTURAL PLANS AND SECTIONS
HARRIMAN UTILITY BOARD
HARRIMAN, TENNESSEE

GRW Elrod Dunson, Inc.
Engineers, Architects, Planners
LEXINGTON LOUISVILLE INDIANAPOLIS
NASHVILLE EVANSVILLE

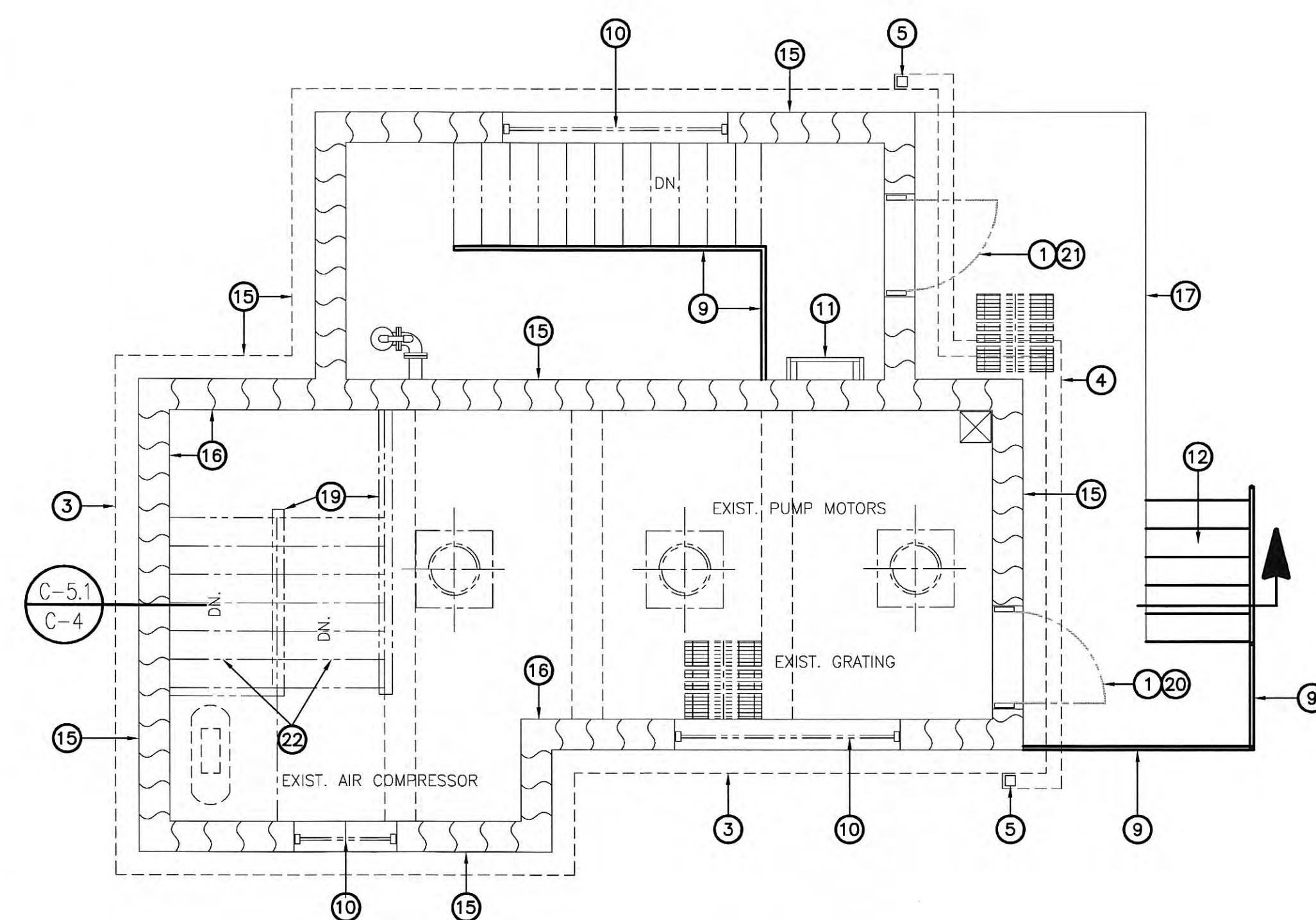
DESIGNED: JCP
DATE: JUNE, 2004
DRAWN: JCP
SCALE: AS NOTED
STAFF: JCP
REVIEWED: JCP
APPROVED: JCP
SHEET NO. A-1

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ALL RIGHTS RESERVED:			
This document, originally issued, sealed, and signed by John C. Potts, Kentucky Professional Architect, No. 101185, on June 4, 2004, shall not be used in lieu of a certified document.			
NO.	DESCRIPTION	DATE	BY
REVISIONS			

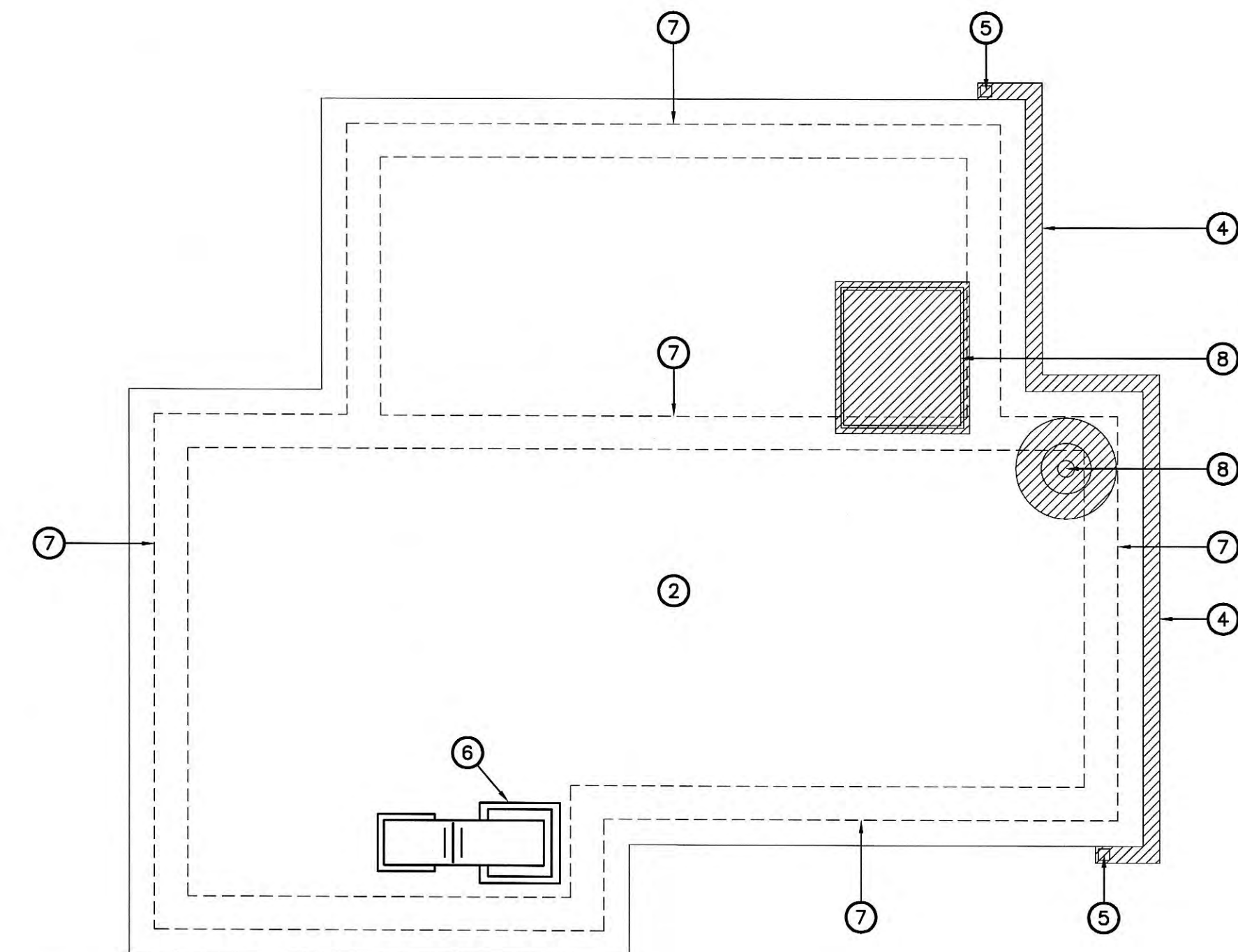
Tue, 05 Jun 2007 - 9:14am
FILE NAME: I:\Harriman UB - 7601 (WWTP, PS & lines)\7601-30 - Sewer System Rehab\CADD\5 Harriman PS Rehab\Record Dwg\3041-A2.dwg



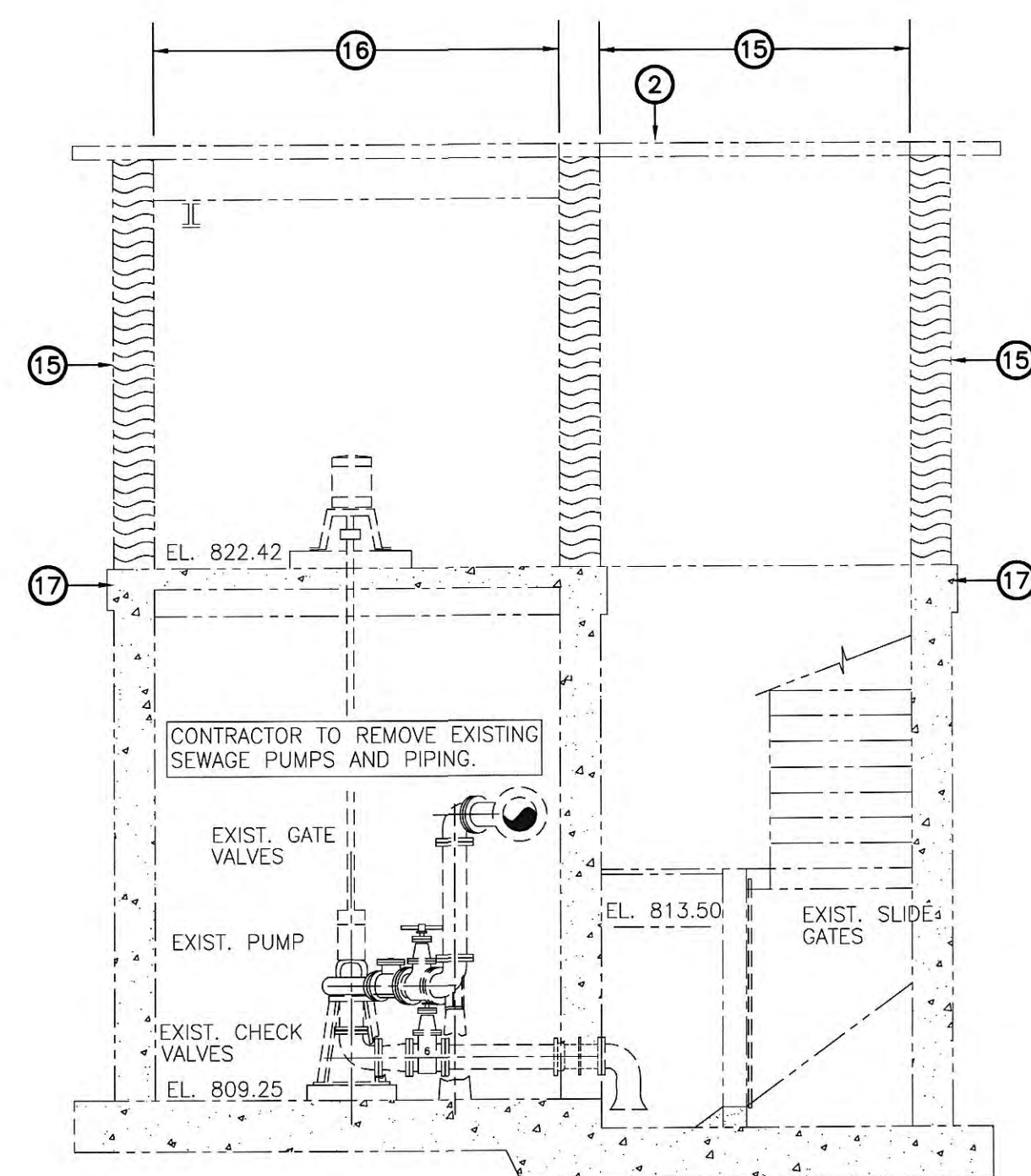
FLOOR PLAN - PUMP LEVEL
SCALE: 1/4" = 1'-0"



FLOOR PLAN - ENTRANCE LEVEL
SCALE: 1/4" = 1'-0"



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



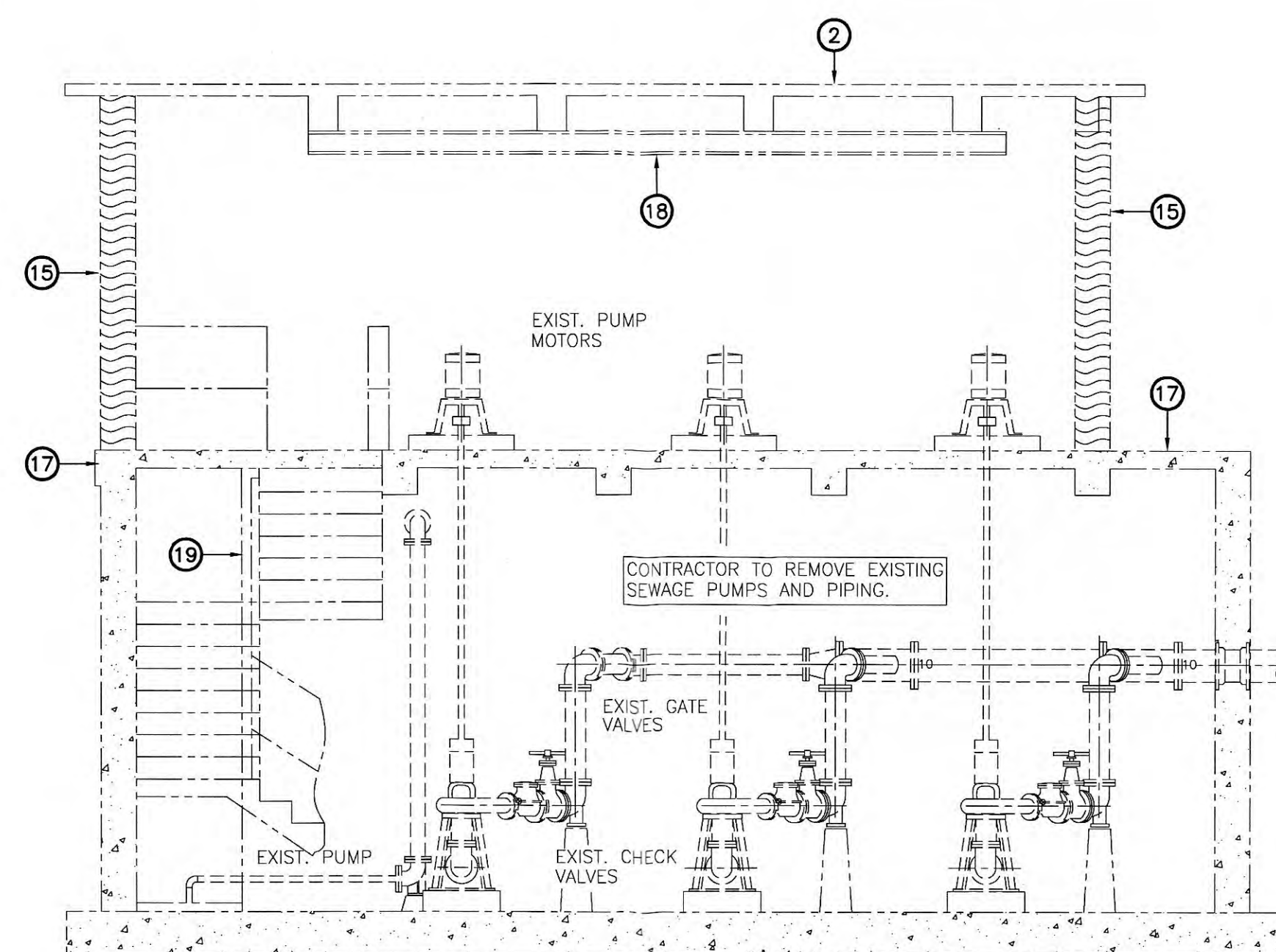
BUILDING - SECTION
SCALE: 1/4" = 1'-0"

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

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CHECKED BY:

ENGINEER'S REPRESENTATIVE

DATE

GRW PROJECT NO. 7601-30 CONTRACT NO. S02-03

EXISTING WOODY SEWAGE PUMP STATION
ARCHITECTURAL PLANS AND SECTIONS
HARRIMAN UTILITY BOARD
HARRIMAN, TENNESSEE

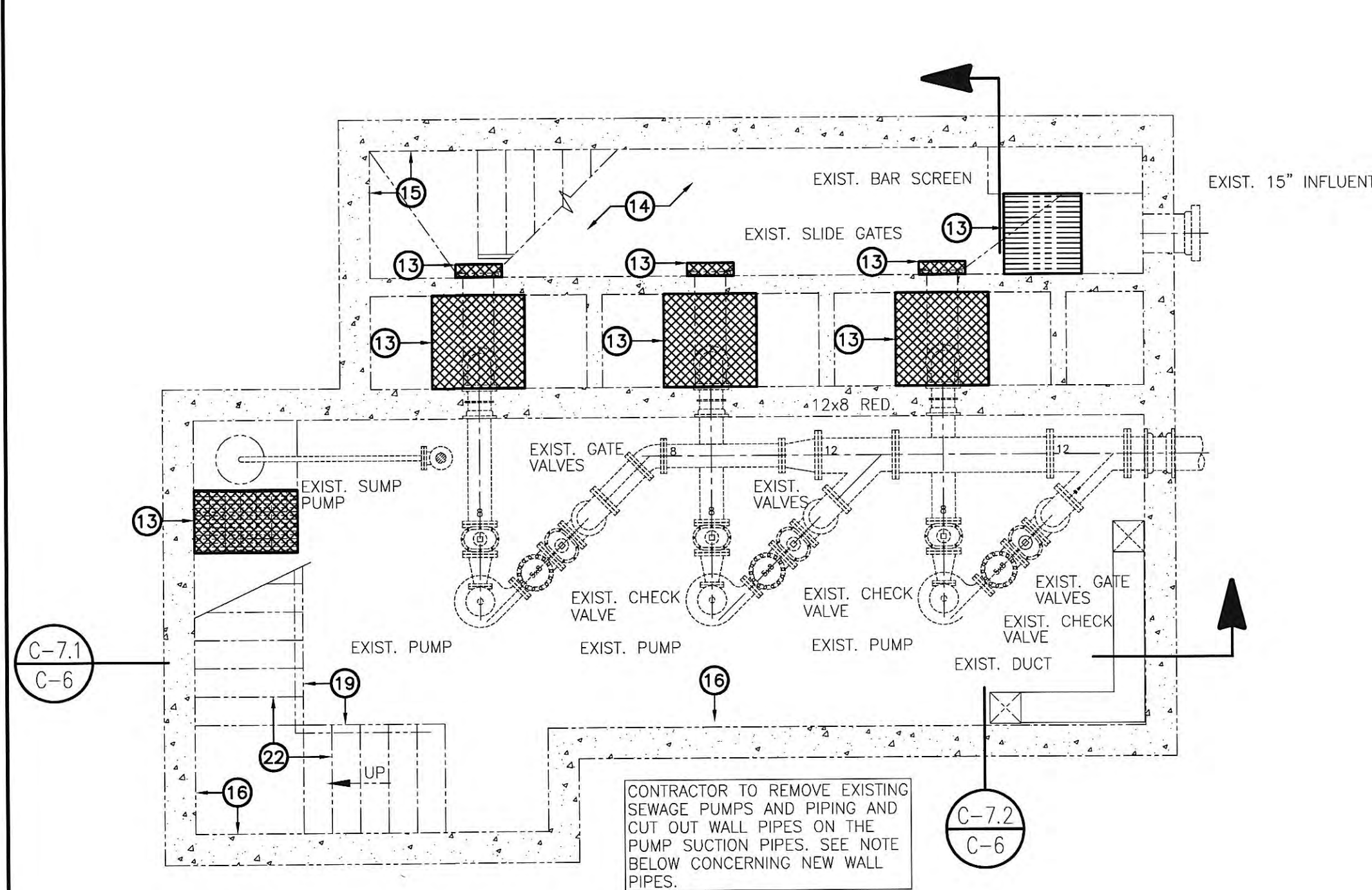
GRW Elrod Dunson, Inc.
Engineers, Architects, Planners
LEXINGTON LOUISVILLE INDIANAPOLIS
NASHVILLE KNOXVILLE

DESIGNED: JCP
DRAWN: JCP
STAFF: JCP
REVIEWED: JCP
APPROVED: JCP
DATE: JUNE, 2004
SCALE: AS NOTED
SHEET NO. A-2

REVISIONS			
NO.	DESCRIPTION	DATE	BY

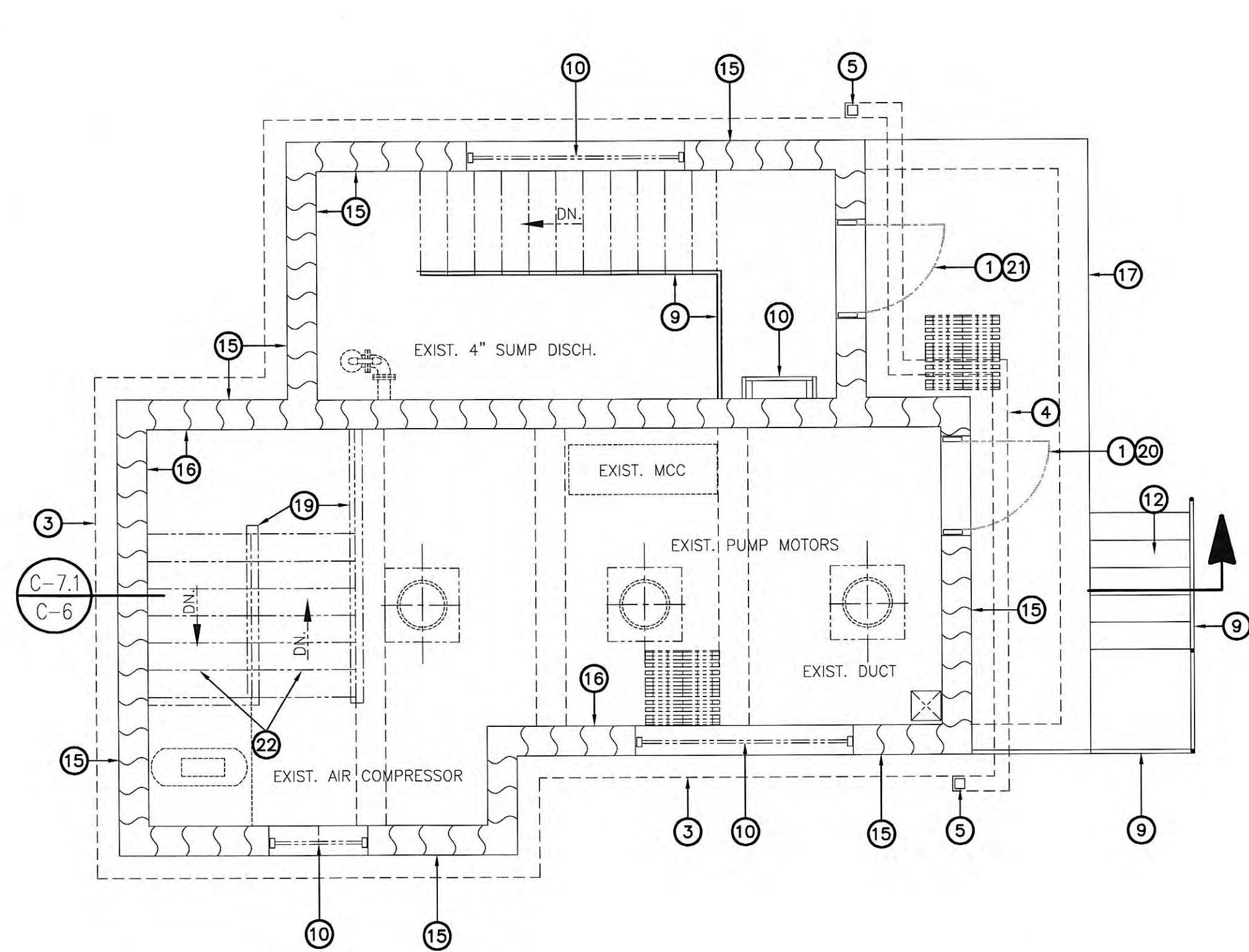
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Tue, 05 Jun 2007 - 9:17am
FILE NAME: I:\Harriman UB - 7601 (WWTP, PS & lines)\7601-30 - Sewer System Rehab\CADD\PS Rehab\Record Dwg\3041-A3.dwg



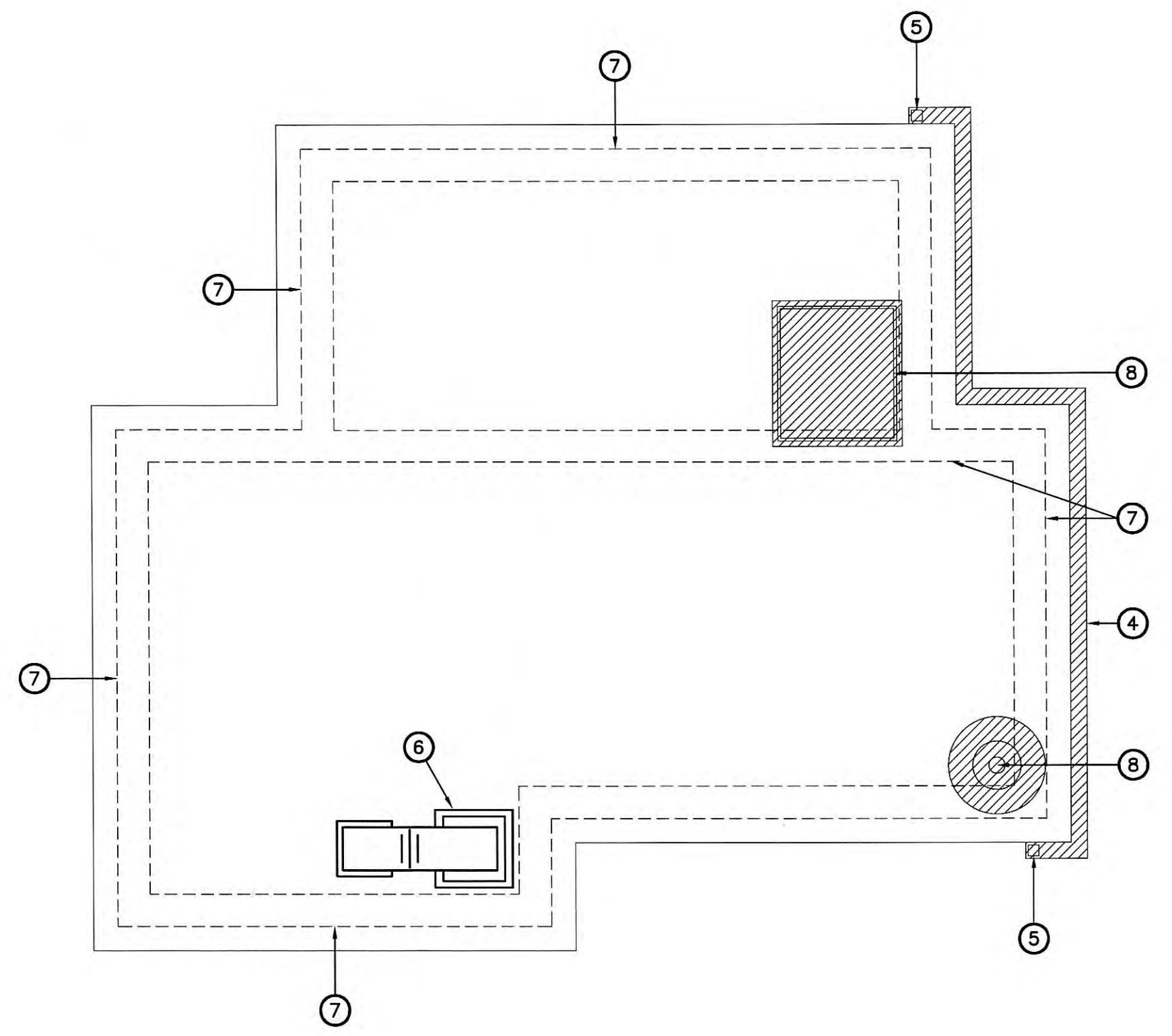
FLOOR PLAN - PUMP LEVEL

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



FLOOR PLAN - ENTRANCE LEVEL

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



ROOF PLAN

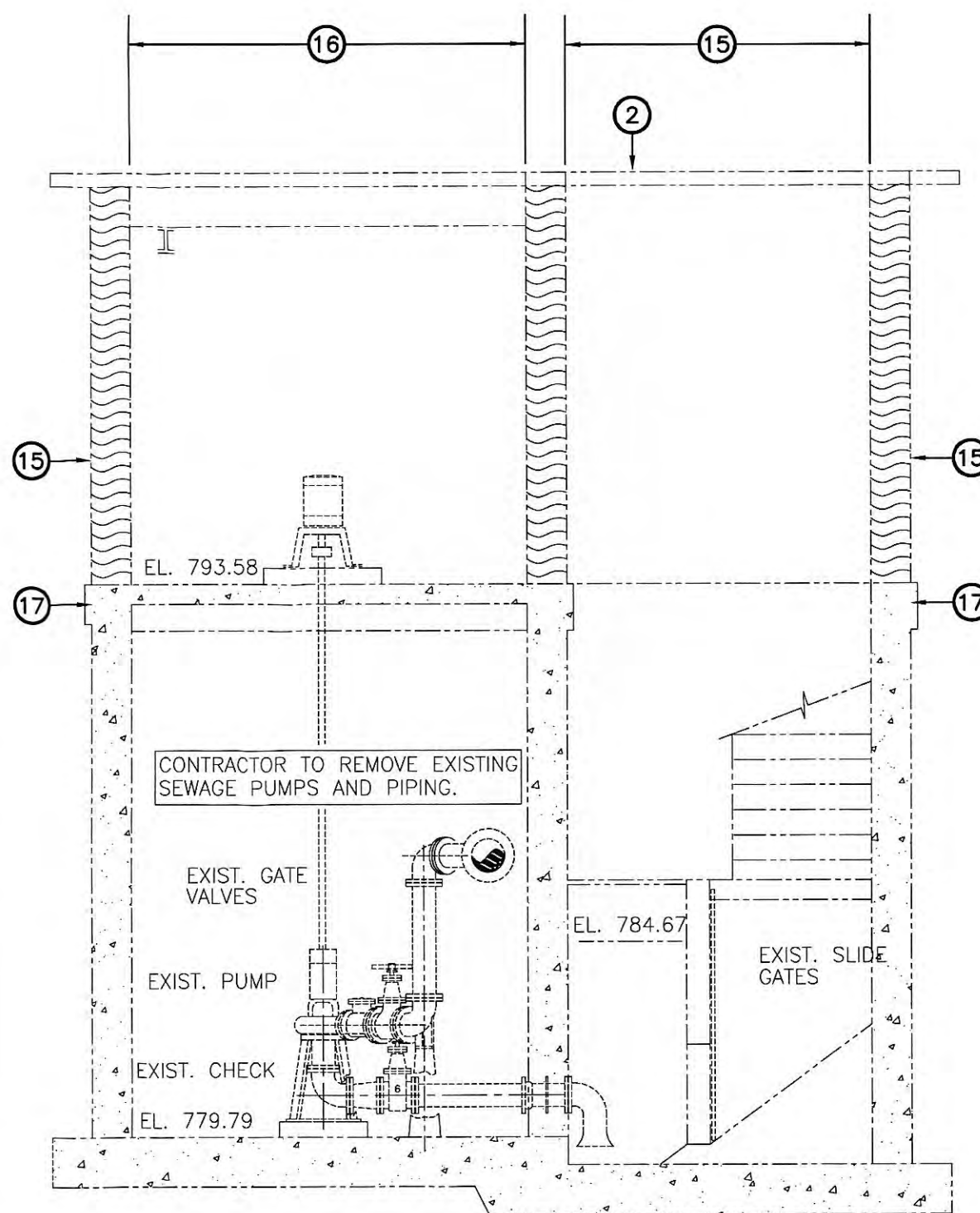
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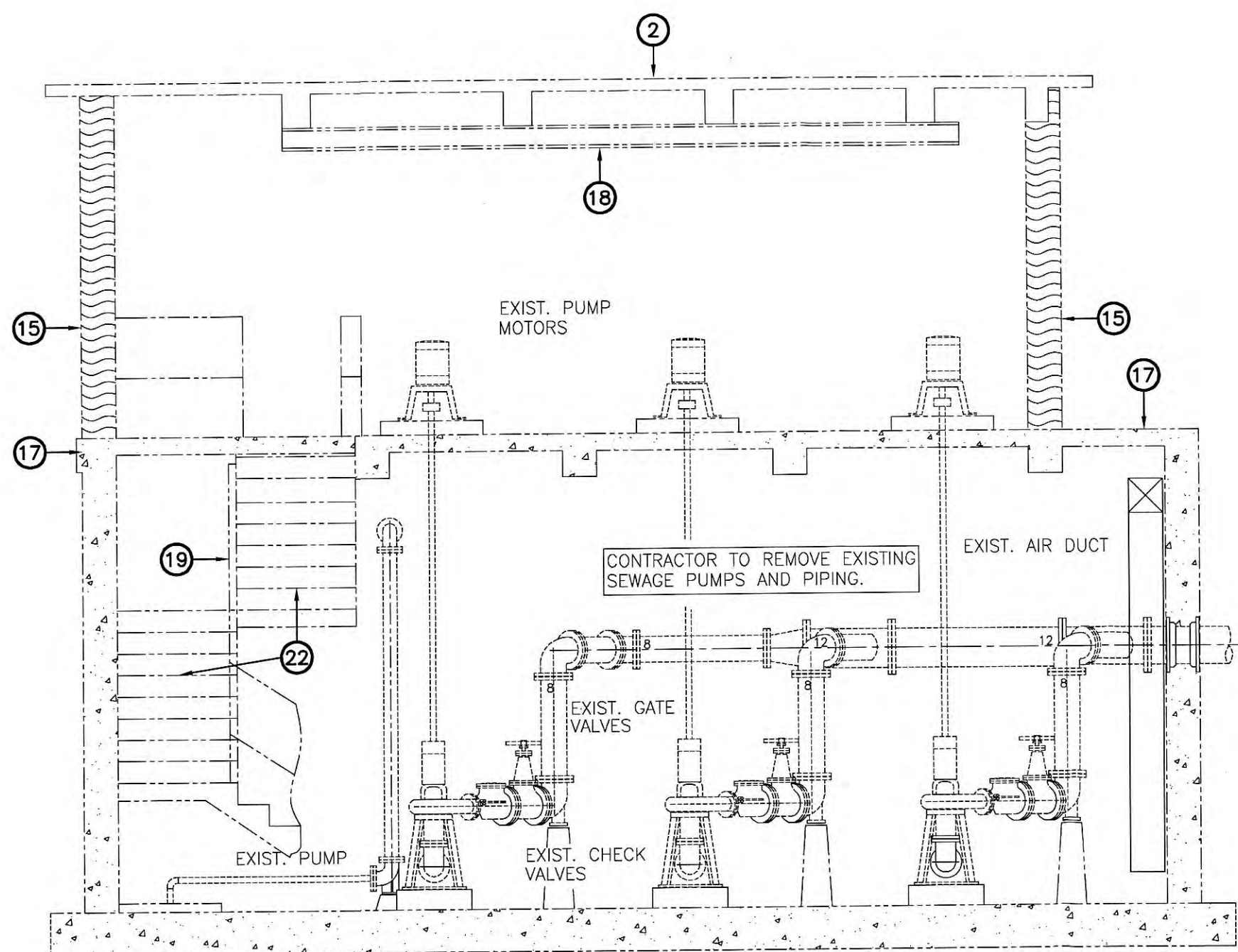
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BUILDING -SECTION

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



BUILDING -SECTION

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

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CHECKED BY:

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DATE

GRW PROJECT NO. 7601-30

CONTRACT NO. S02-03

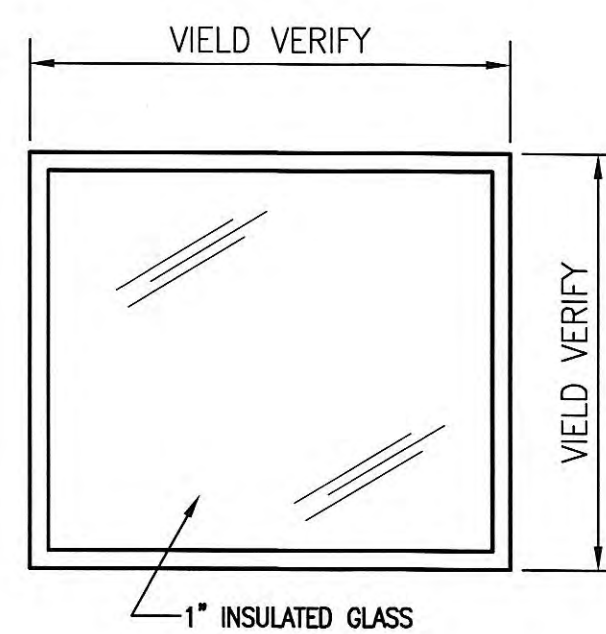
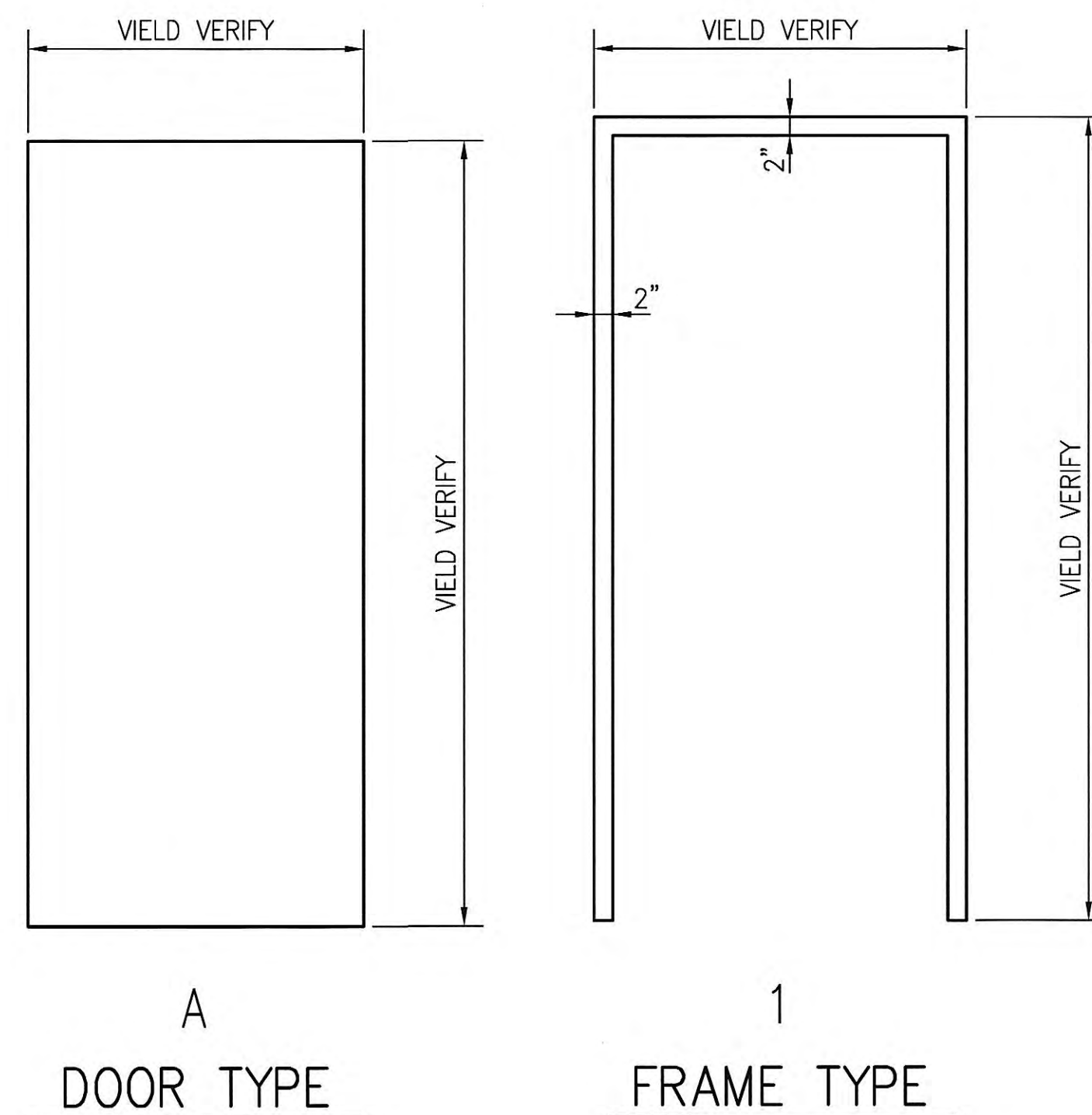
EXISTING WEBB SEWAGE PUMP STATION
ARCHITECTURAL PLANS AND SECTIONS
HARRIMAN UTILITY BOARD
HARRIMAN, TENNESSEE

GRW Elrod Dunson, Inc.
Engineers, Architects, Planners
LEXINGTON LOUISVILLE INDIANAPOLIS
NASHVILLE KNOXVILLE

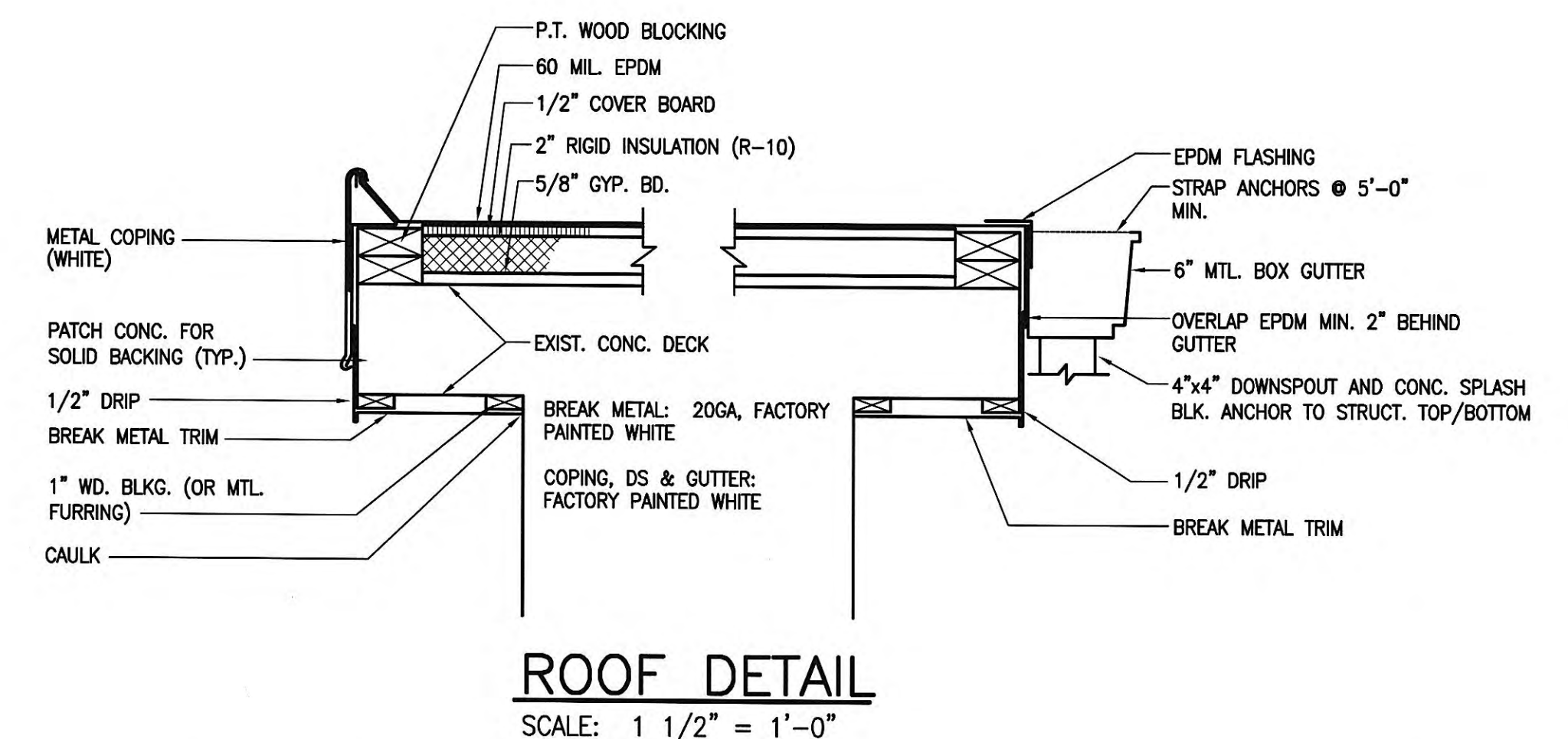
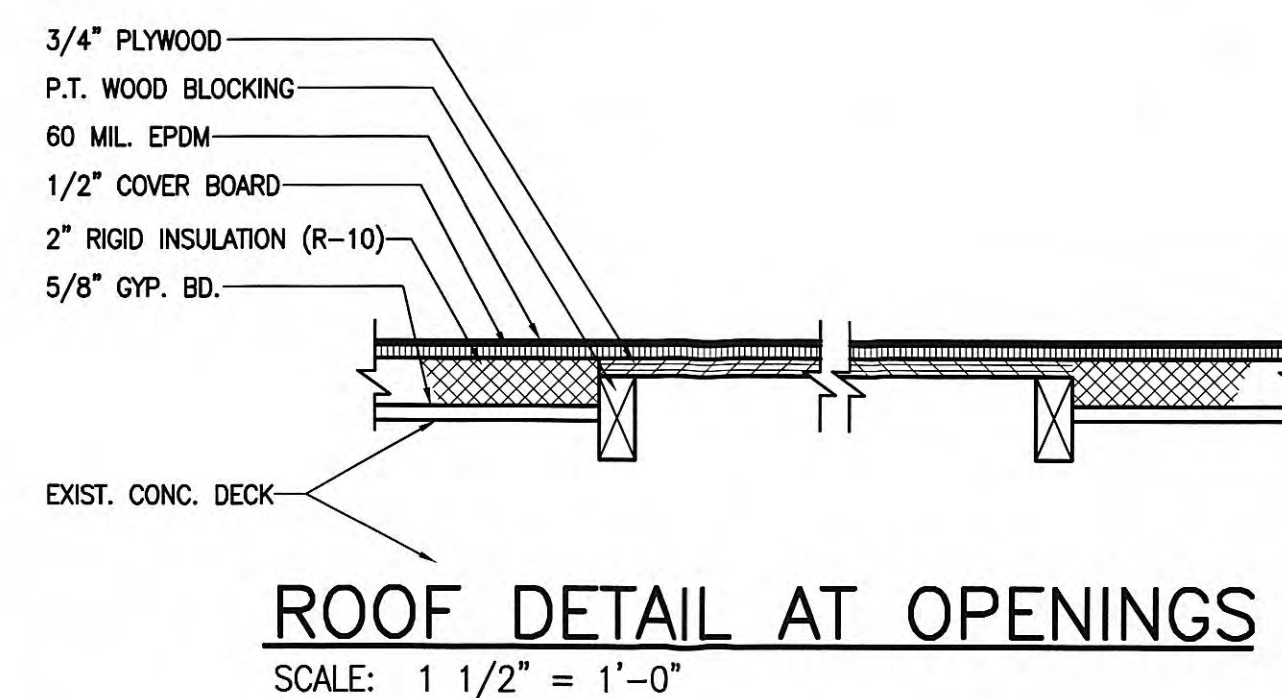
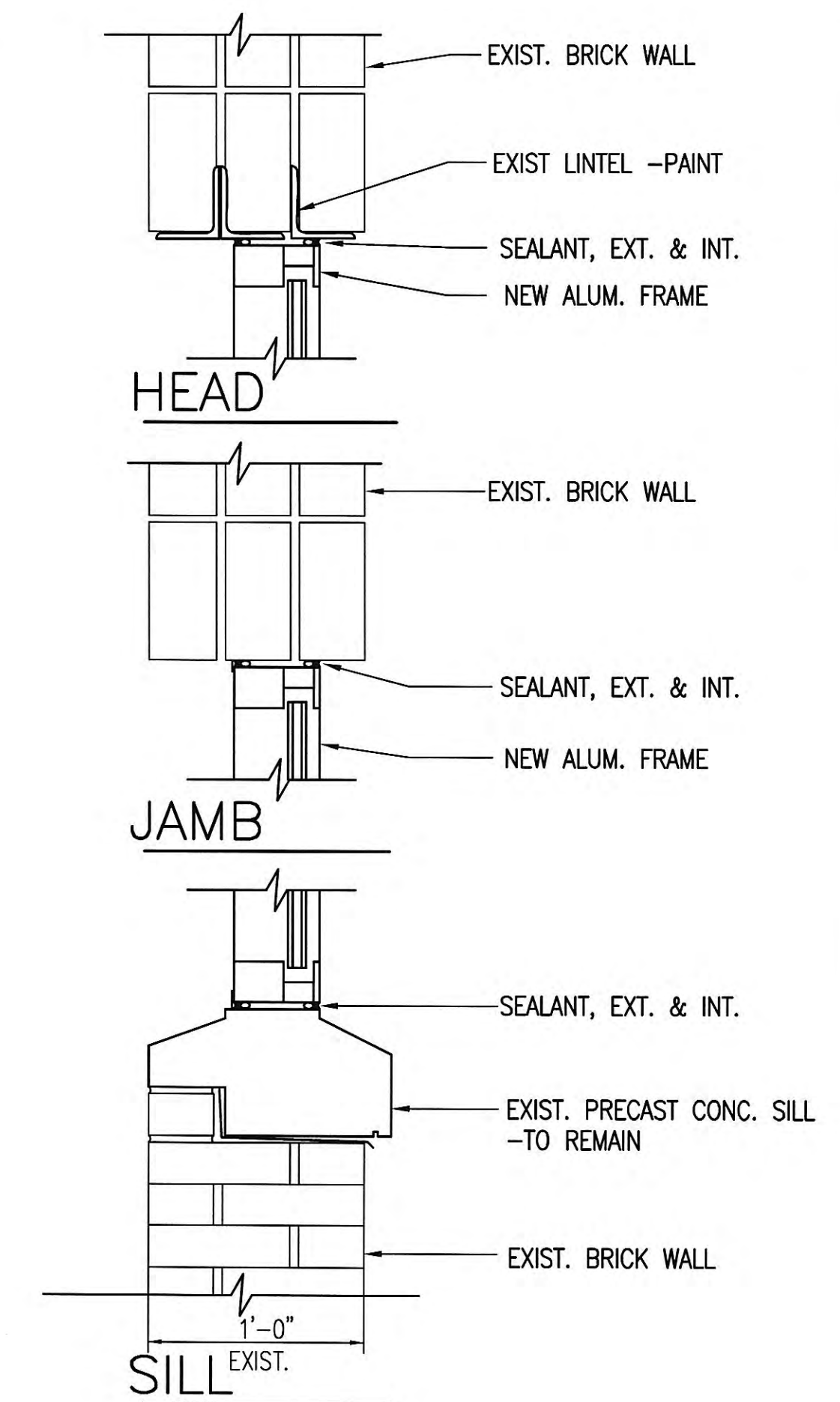
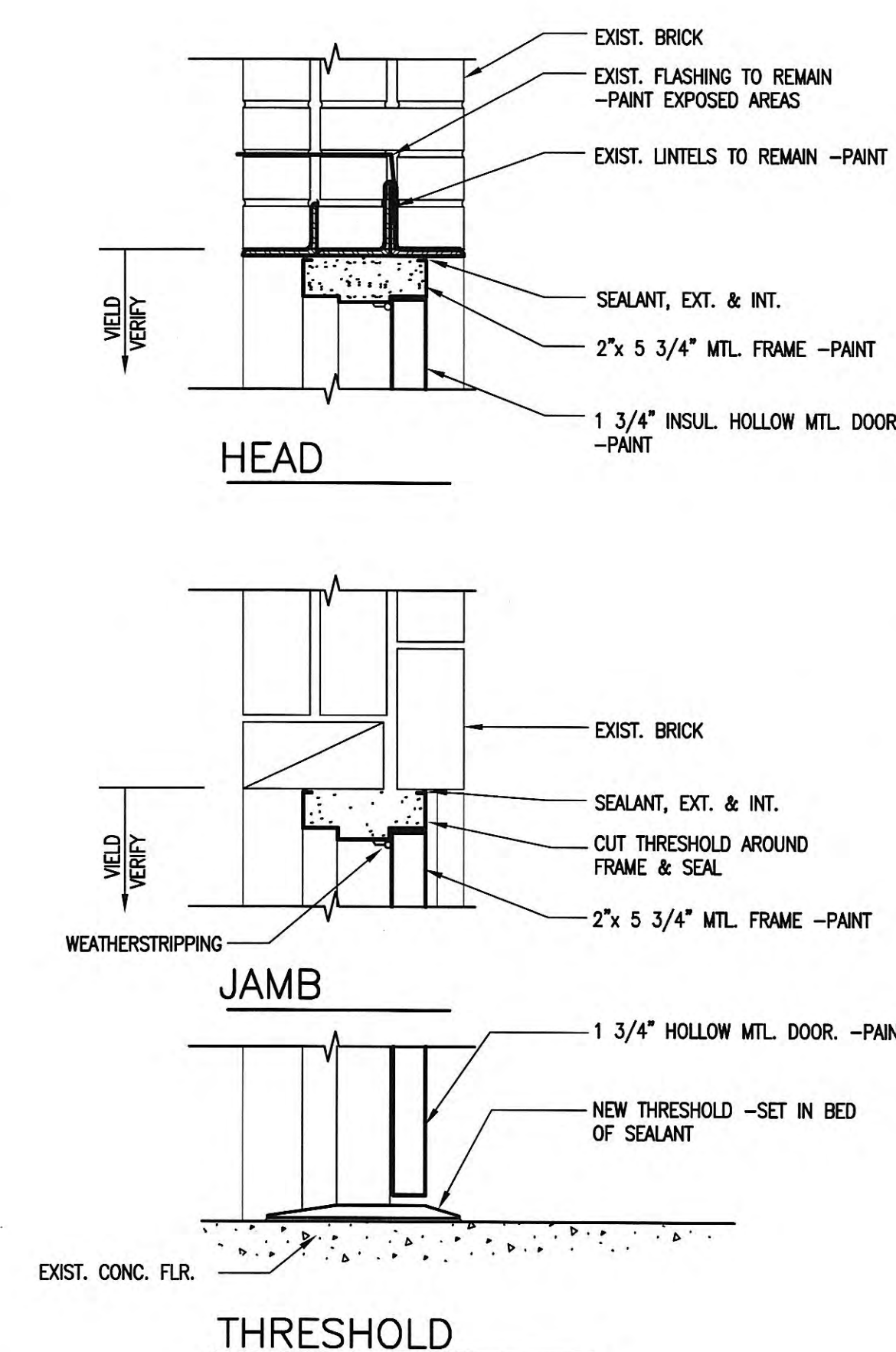
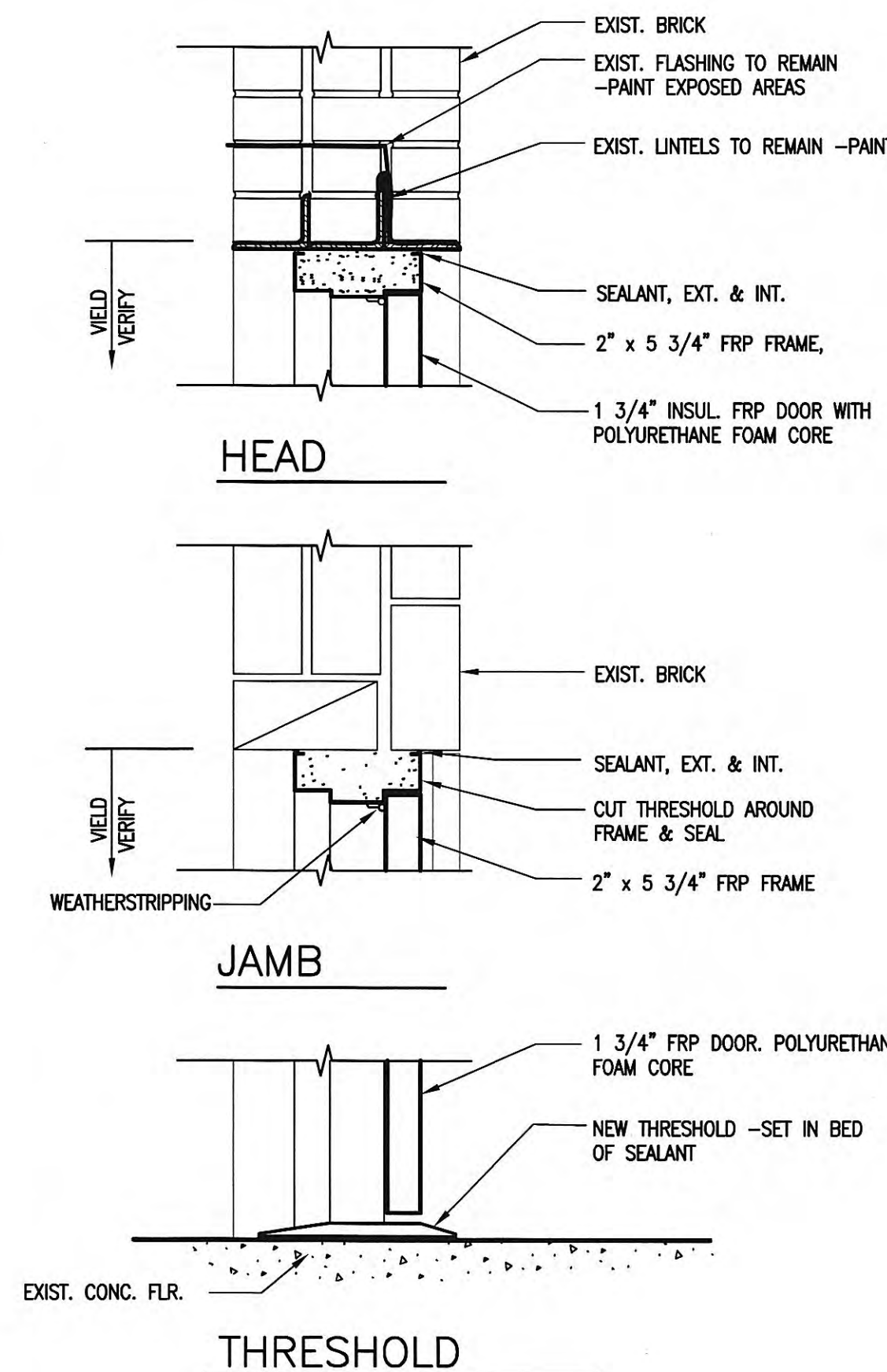
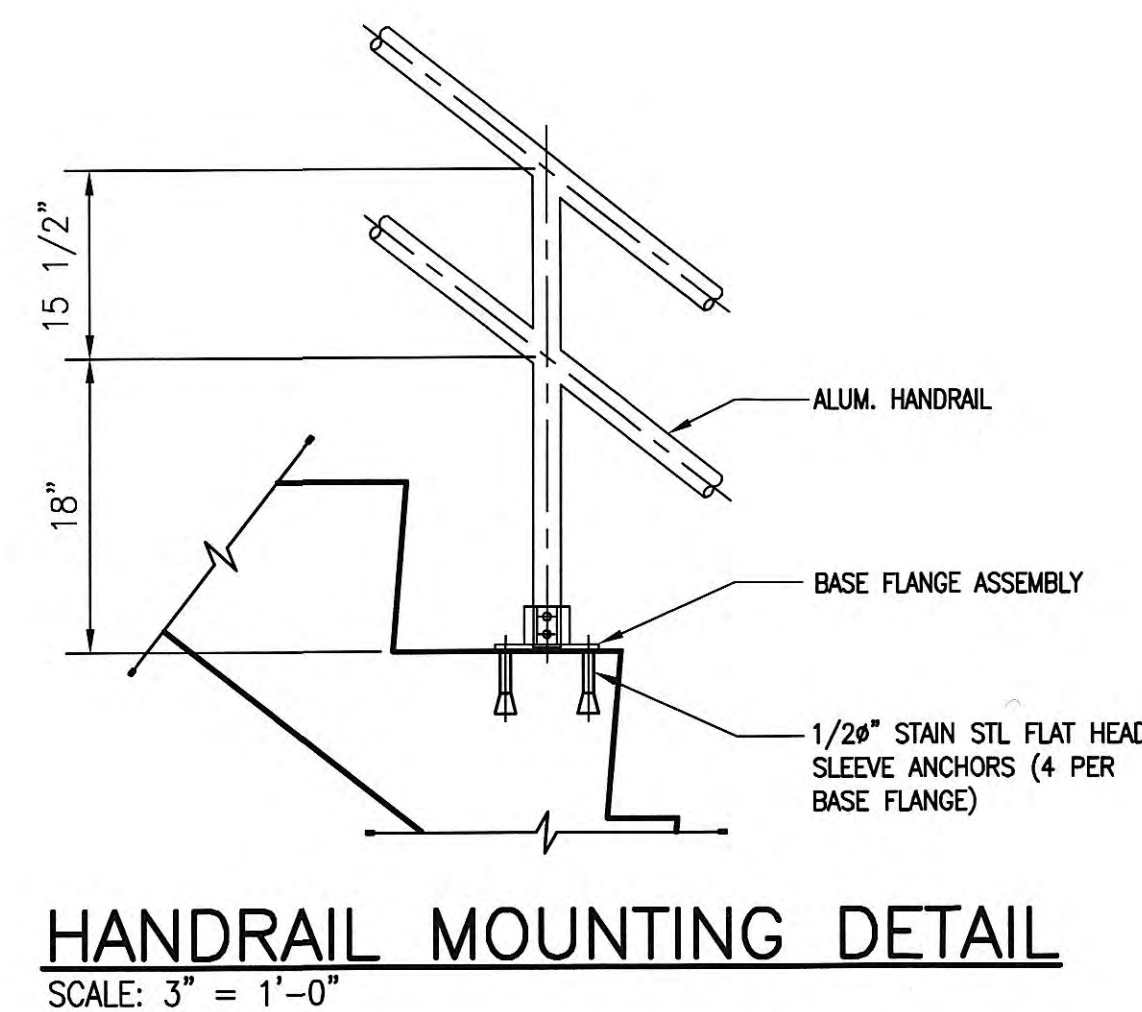
DESIGNED: JCP	DATE: JUNE, 2004
DRAWN: STAFF	SCALE: AS NOTED
REVIEWED: JCP	SHEET NO. A-3
APPROVED: JCP	

REVISIONS			
NO.	DESCRIPTION	DATE	BY

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WINDOW TYPE
 SINGLE WINDOW SHOWN
 DOUBLE WINDOW SIMILAR



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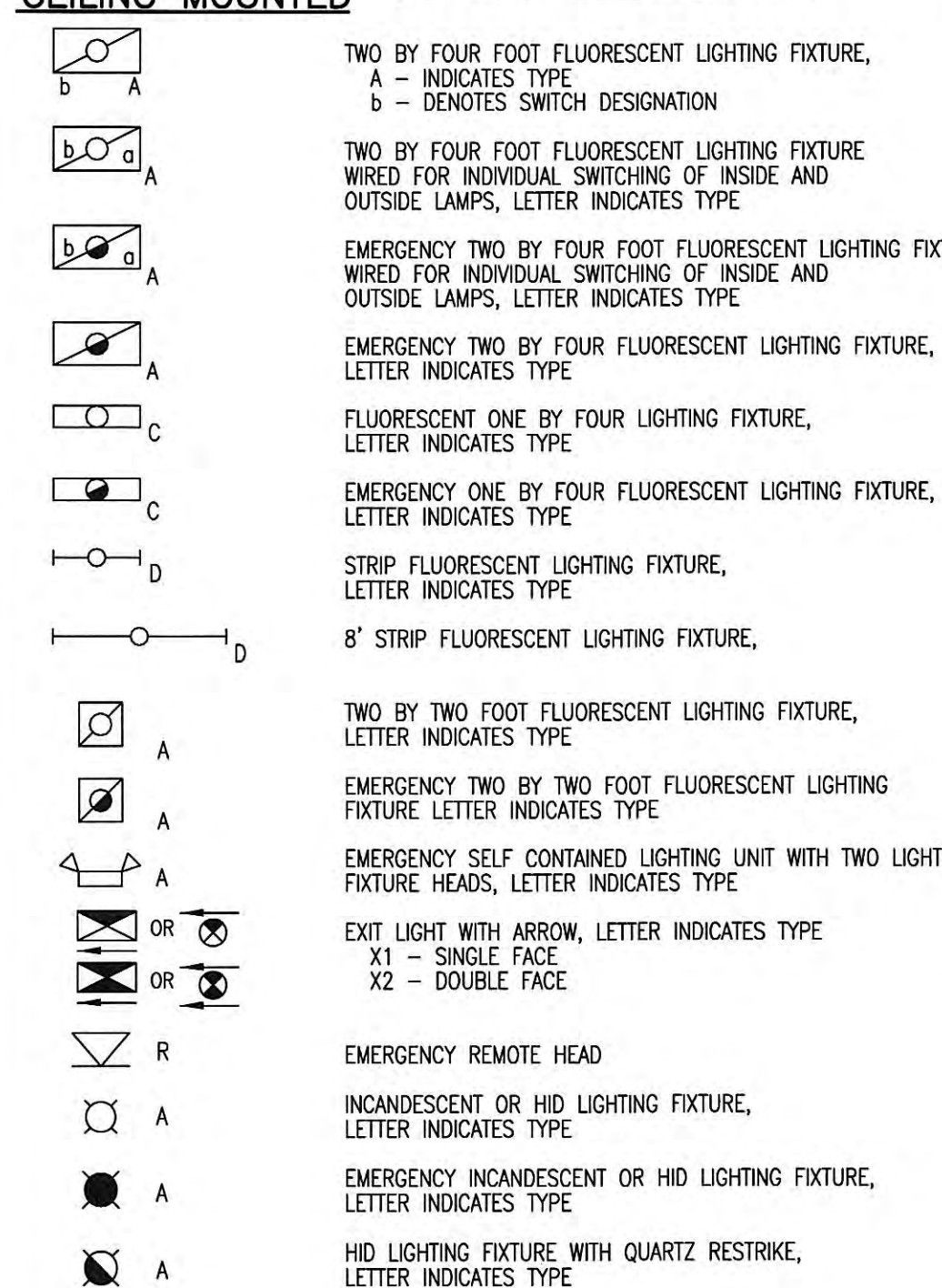
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GRW PROJECT NO. 7601-30 CONTRACT NO. S02-03
**EXISTING HARDEES SEWAGE PUMP STATION
 ARCHITECTURAL PLANS AND SECTIONS
 HARRIMAN UTILITY BOARD
 HARRIMAN, TENNESSEE**

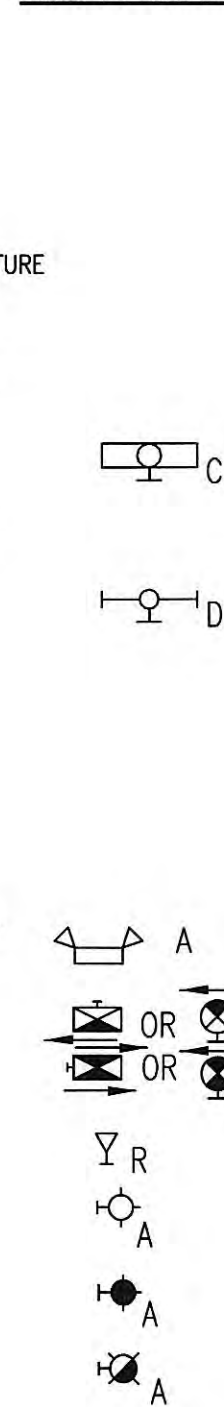
 GRW Elrod Dunson, Inc. Engineers, Architects, Planners LEXINGTON LOUISVILLE INDIANAPOLIS NASHVILLE KNOXVILLE	DESIGNED:	DATE:
	JCP	JUNE, 2004
	DRAWN:	SCALE:
	STAFF	AS NOTED
APPROVED:	REVIEWED:	SHEET NO.
	JCP	

A-4

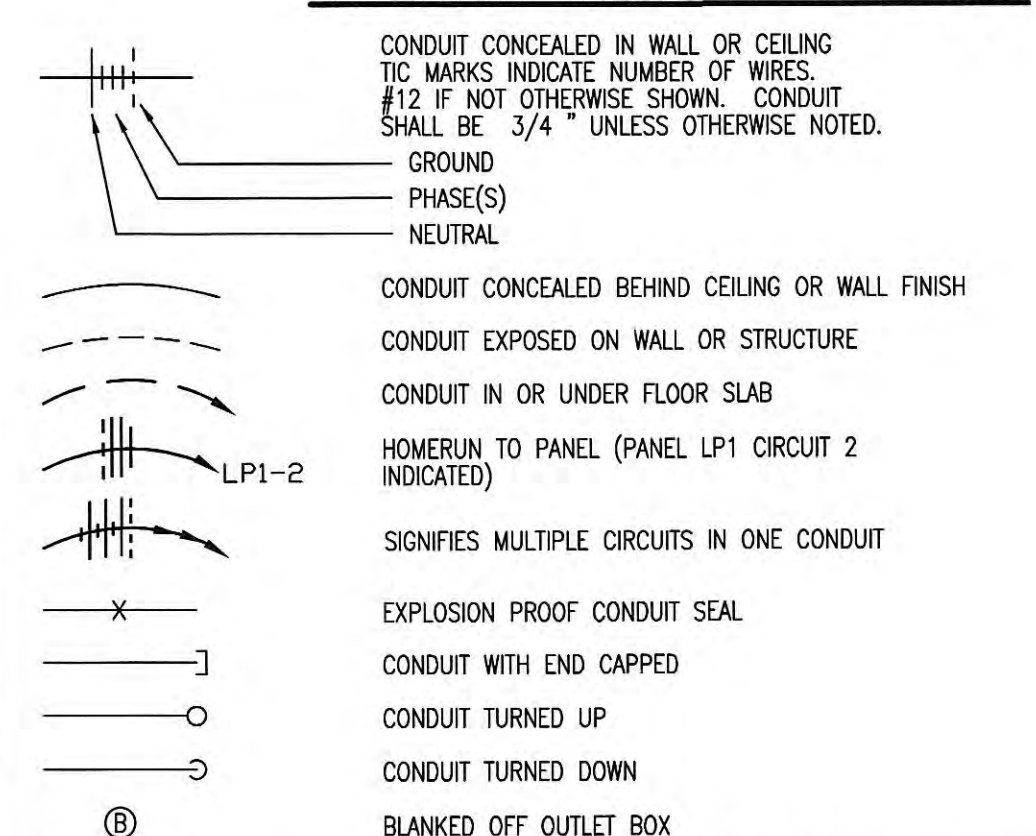
CEILING MOUNTED INTERIOR LIGHTING



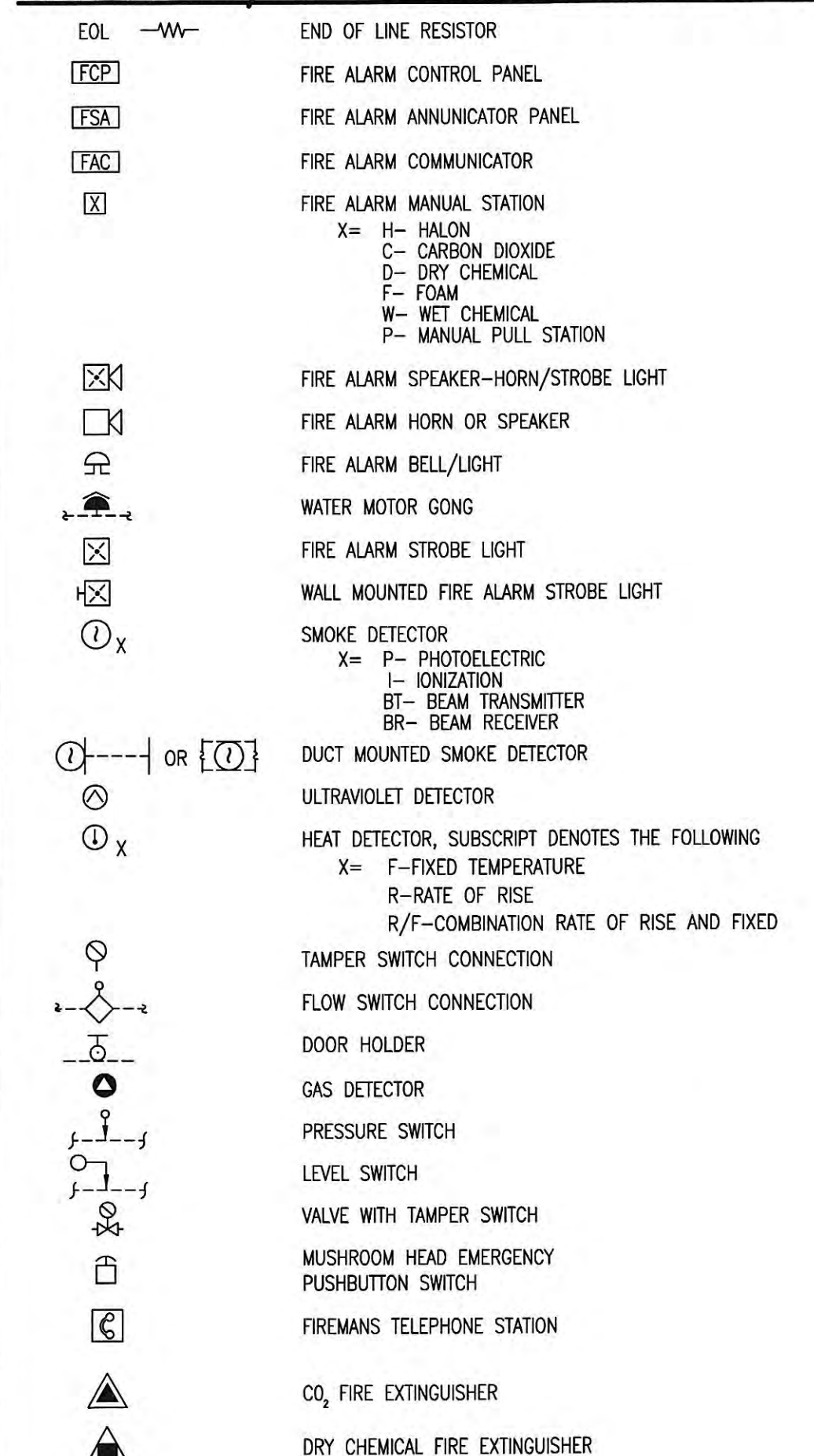
WALL MOUNTED



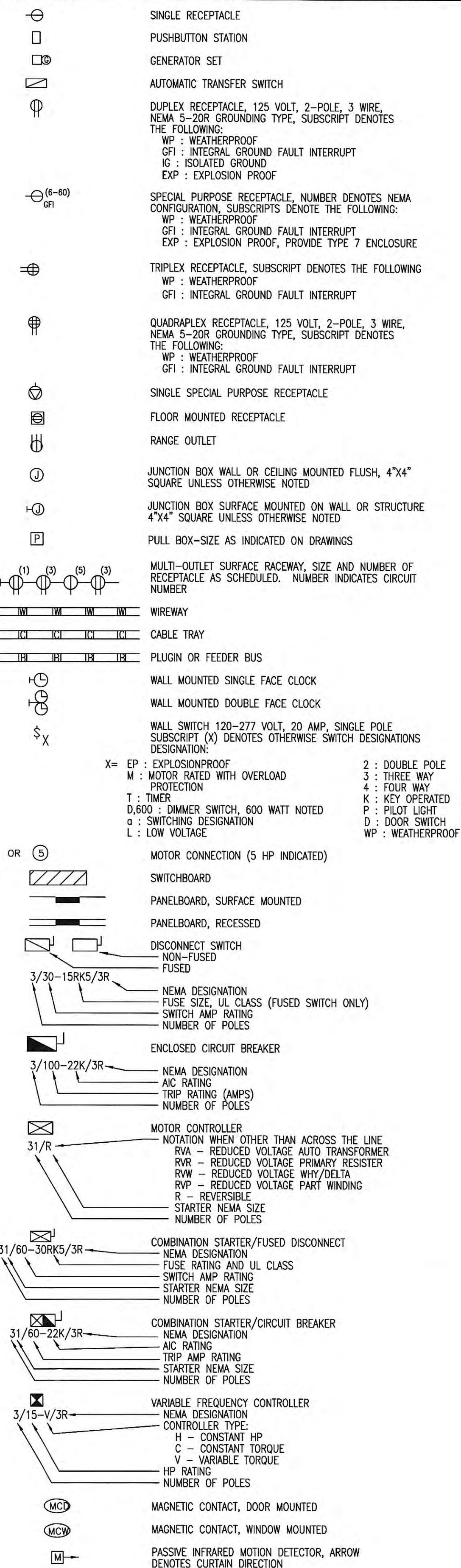
INTERIOR CONDUIT AND WIRE



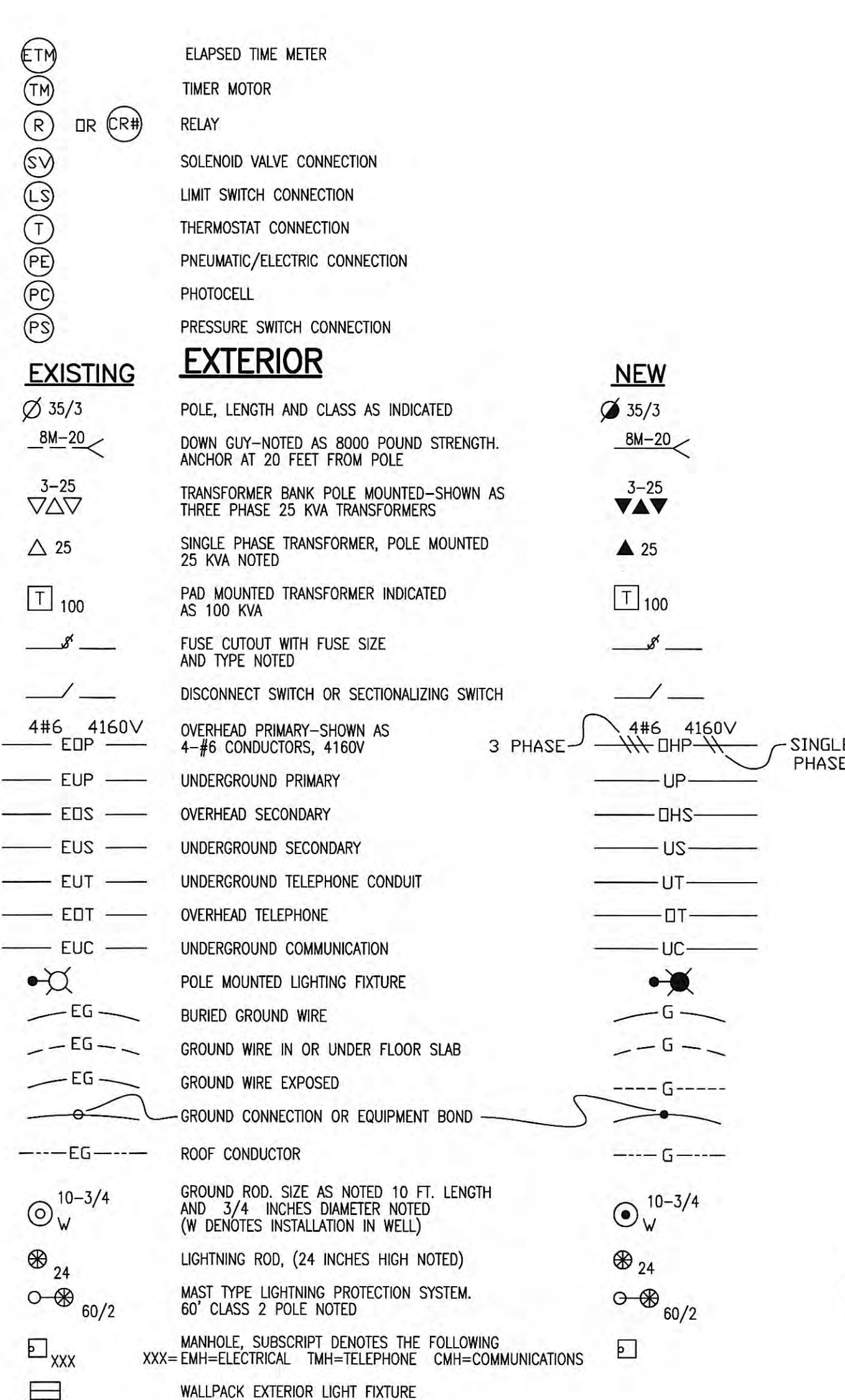
FIRE ALARM/SUPPRESSION SYSTEM DEVICES



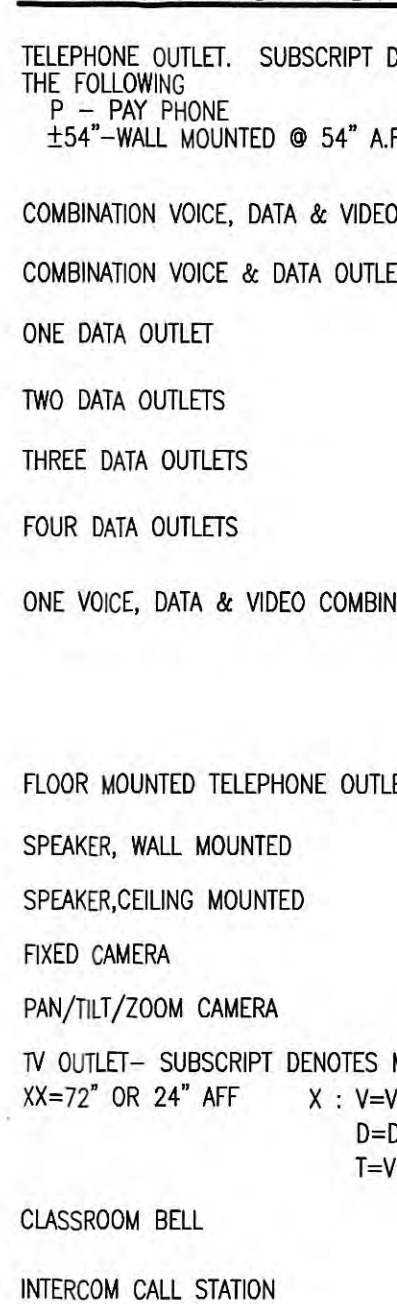
INTERIOR POWER EQUIPMENT AND DEVICES



EXTERIOR



COMMUNICATION



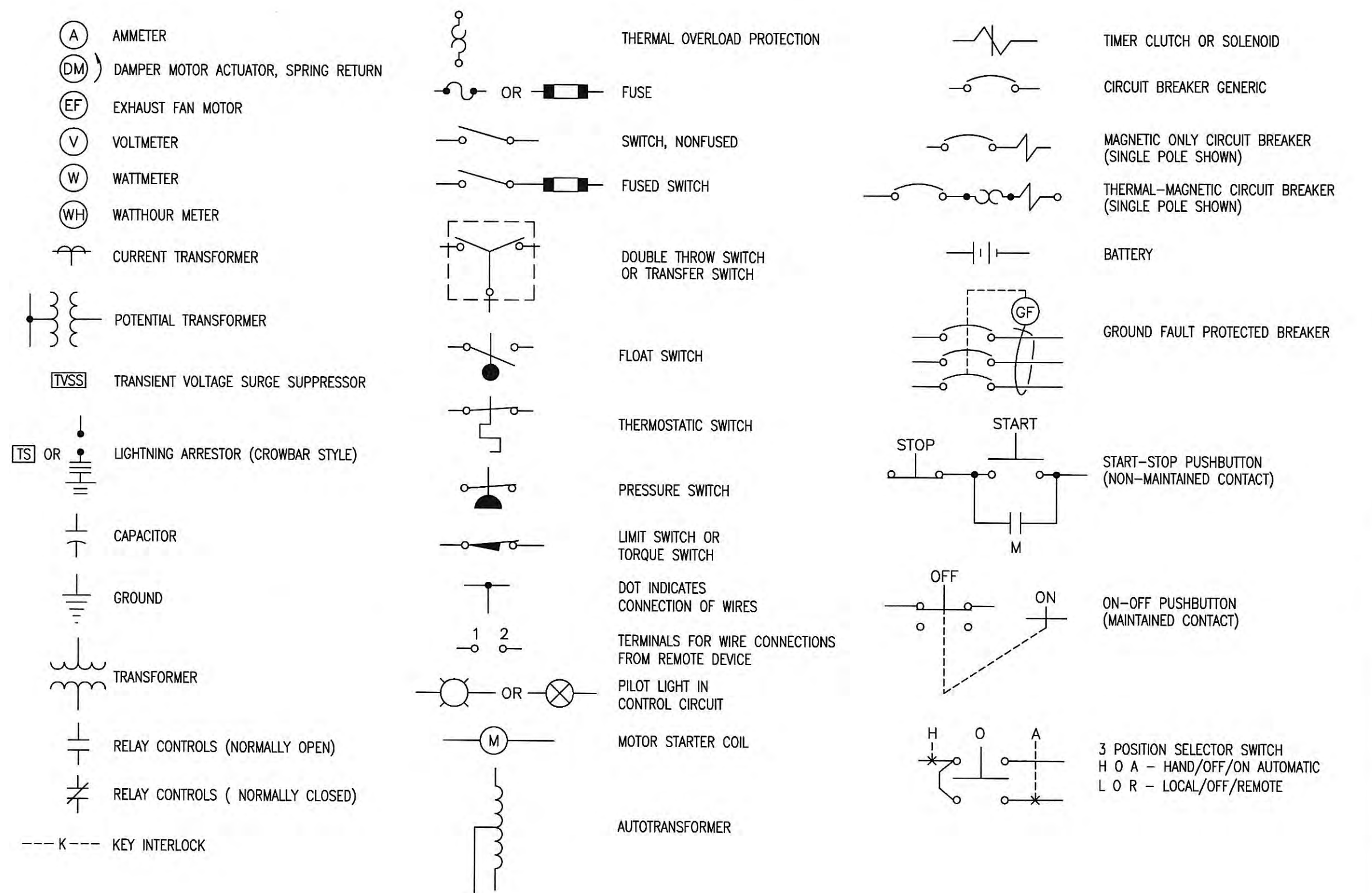
ABBREVIATIONS

A - AMP - AMPERES AF - AMPERE FRAME AFF - ABOVE FINISHED FLOOR AFG - ABOVE FINISHED GRADE AHU - AIR HANDLING UNIT AL - ALUMINUM AT - AMPERE TRIP ATRV - AUTOTRANSFORMER REDUCED VOLTAGE ATS - AUTOMATIC TRANSFER SWITCH AWG - AMERICAN WIRE GAUGE BLDG - BUILDING C - CONDUIT CB - CIRCUIT BREAKER CCTV - CLOSED CIRCUIT TELEVISION C/L - CENTERLINE CLG - CEILING COND - CONDUCTOR CONN - CONNECTION CTL - CONTROL CU - COPPER DACT - DIGITAL ALARM COMMUNICATING TRANSMITTER DB - DIRECT BURIAL DET - DETAIL DP - DISTRIBUTION PANEL DISC - DISCONNECT DN - DOWN DP - DISTRIBUTION PANEL DPST - DOUBLE POLE SINGLE THROW EA - EACH EC - EMPTY CONDUIT ELEC - ELECTRICAL	ELEV - ELEVATOR EM, EMERG - EMERGENCY EMT - ELECTRICAL METALLIC TUBING EOL - END OF LINE EUH - ELECTRIC UNIT HEATER EWC - ELECTRIC WATER COOLER EWH - ELECTRIC WATER HEATER EX - EXISTING F - FUSE FLA - FULL LOAD AMPS FLX - FLEXIBLE FLR - FLOOR FLUOR - FLUORESCENT FOR - FORWARD-OFF-REVERSE FTG - FITTING FVNR - FULL VOLTAGE NON-REVERSING GALV - GALVANIZED G, GND - GROUND GFI - GROUND FAULT INTERRUPTING HID - HIGH INTENSITY DISCHARGE HP - HORSEPOWER HT, H - HEIGHT IG - ISOLATED GROUND IN - INCH INC - INCANDESCENT J-B, JB - JUNCTION BOX KCMIL - 1000 CIRCULAR MILS KVA - KILOVOLT AMPS KVAF - KILOVOLT AMPS REACTIVE KW - KILOWATT KWH - KILOWATT HOUR	LA - LIGHTNING ARRESTER LTG - LIGHTING LV - LOW VOLTAGE LVDT - LINEAR VARIABLE DIFFERENTIAL TRANSFORMER MAU - MAKEUP AIR UNIT MAX - MAXIMUM MCB - MAIN CIRCUIT BREAKER MCC - MOTOR CONTROL CENTER MCP - MOTOR CIRCUIT PROTECTOR MDP - MAIN DISTRIBUTION PANEL MFR - MANUFACTURER MG - MOTOR GENERATOR MH - MANHOLE, METAL HALIDE, MOUNTING HEIGHT MIC - MICROPHONE MIN - MINIMUM MLO - MAIN LUGS ONLY MTD - MOUNTED MV - MEDIUM VOLTAGE N/A - NOT APPLICABLE NEC - NATIONAL ELECTRICAL CODE NEMA - NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION NESC - NATIONAL ELECTRICAL SAFETY CODE NFPA - NATIONAL FIRE PROTECTION ASSOCIATION NTS - NOT TO SCALE NO - NORMALLY OPEN, NUMBER OH - OVERHEAD OL - OVERLOAD P - POLE PB - PULL BOX, PUSH BUTTON PH - PHASE	PNL - PANEL POC - POINT OF CONNECTION PS - PULL SWITCH OR PRESSURE SWITCH QTY - QUANTITY REF - REFERENCE, REFER RCPT - RECEPTACLE RGS - RIGID GALVANIZED STEEL SCH - SCHEDULE SMR - SURFACE METAL RACEWAY S/M - SOLID METAL SQ FT - SQUARE FOOT SS - STAINLESS STEEL STD - STANDARD SW - SWITCH SYS - SYSTEM TEL - TELEPHONE TM - THERMAL MAGNETIC TV - TELEVISION TVSS - TRANSIENT VOLTAGE SURGE SUPPRESSOR TYP - TYPICAL UG - UNDERGROUND UH - UNIT HEATER V - VOLTAGE VFD - VARIABLE FREQUENCY DRIVE W - WIRE W/O - WITH OUT W/P - WEATHERPROOF WT - WEIGHT XFM, XFMR - TRANSFORMER
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• LIST OF ABBREVIATIONS, ACRONYMS, AND SYMBOLS IS A STANDARD LIST. NOT ALL SYMBOLS ARE USED ON THIS PROJECT.

• SYMBOLS USED BUT NOT LISTED HERE SHALL BE DEFINED ELSEWHERE IN THE BID DOCUMENTS. IF NOT, CONTACT THE ENGINEER FOR CLARIFICATION PRIOR TO BID OPENING.

CONTROLS



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CHECKED BY: *[Signature]*
ENGINEER'S REPRESENTATIVE

DATE: *6/2007*

GRW PROJECT NO. 7601-30

CONTRACT NO. S02-03

ELECTRICAL
SYMBOL SHEET
HARRIMAN UTILITY BOARD
HARRIMAN, TENNESSEE

Engineers, Architects, Planners
LEXINGTON LOUISVILLE INDIANAPOLIS
NASHVILLE KNOXVILLE

DESIGNED: WLM	DATE: JUNE, 2004
DRAWN: JMG	SCALE: AS NOTED
REVIEWED: WLM	SHEET NO. E-1
APPROVED: WLM	

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NO.	DESCRIPTION	DATE	BY
REVISIONS			

This document, originally issued, sealed, and signed by William Lamont Maynard, Kentucky Professional Engineer, No. 103277, on June 4, 2004, shall not be used in lieu of a certified document.

CONSTRUCTION PLANS
FOR
WASTEWATER SYSTEM IMPROVEMENTS

HARRIMAN UTILITY BOARD
HARRIMAN, TENNESSEE

SOUTH HARRIMAN
PUMP STATIONS REHABILITATION

CONTRACT S02-03
NOVEMBER, 2002

RECORD DRAWINGS
THESE RECORD DRAWINGS REPRESENT THE "AS-BUILT"
PROJECT TO THE BEST OF THE ENGINEER'S KNOWLEDGE.
ALTHOUGH PREPARED FROM THE CONSTRUCTION RECORD,
THEY CANNOT BE GUARANTEED TO BE EXACT IN EVERY
DETAIL.
CHECKED BY: _____
S. Brown 4/2007
ENGINEER'S REPRESENTATIVE / DATE



GRW Elrod Dunson, Inc.

Engineers, Architects, Planners

404 BNA Drive, Suite 201 NASHVILLE, TN 37217
PH. (615)366-1600 FAX (615)366-0406

LEXINGTON LOUISVILLE NASHVILLE KNOXVILLE INDIANAPOLIS

Accepted By: _____
Title: _____ MANAGER
For: _____ HARRIMAN UTILITY BOARD
Date: _____

PROJECT NO. 7601-30

SET NO.

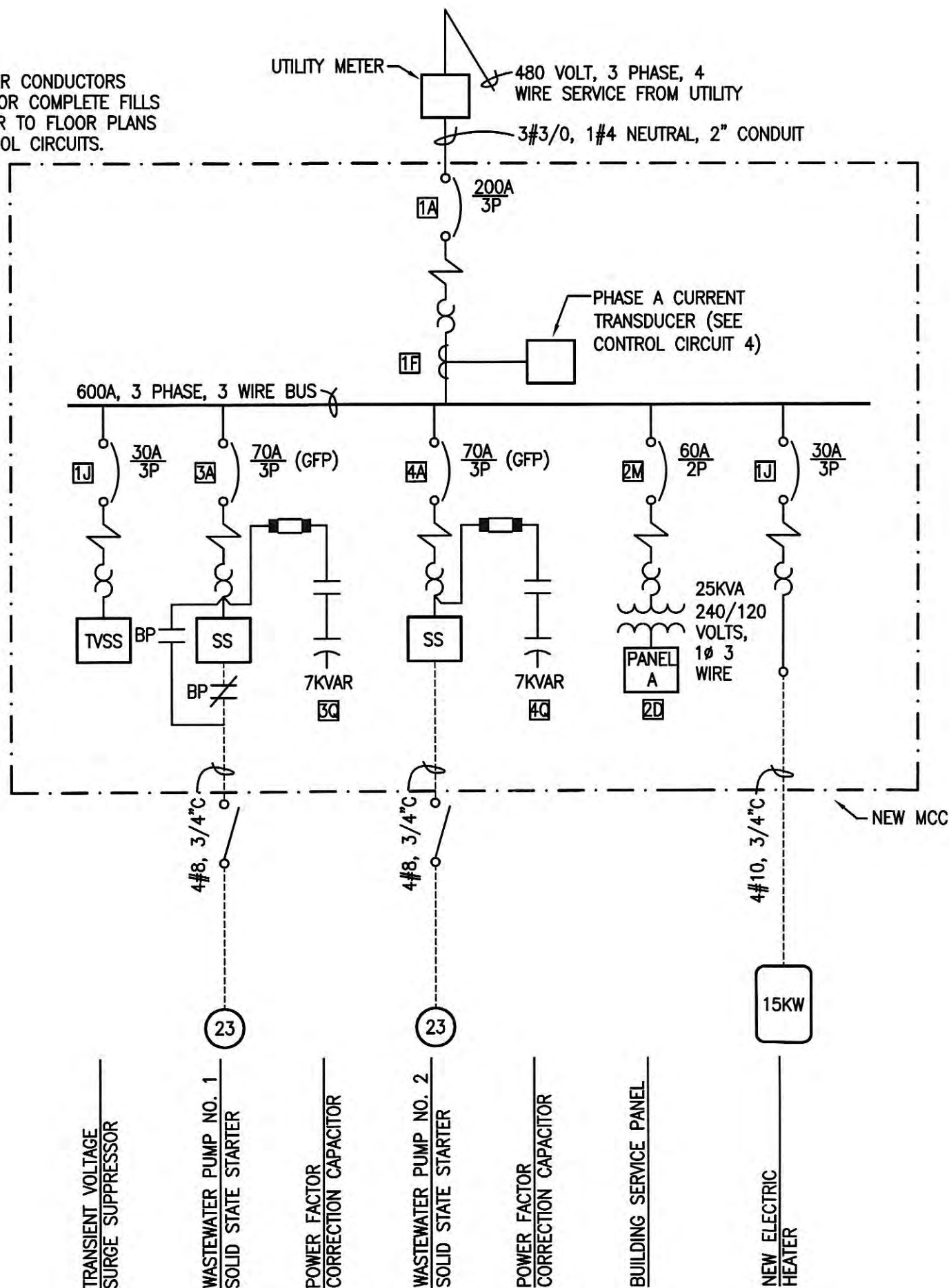


PANEL SCHEDULE	A
LOCATION	HARDEE'S
ENCLOSURE	NEMA 1
SURFACE, FLUSH, OR MCC	MCC
AIC RATING	22,000

VOLTAGE	240/120, 3W
MAINS AMPACITY	100
MAIN C.B. SIZE	100
TOTAL SPACES	20

DESCRIPTION	VA	#P	BKR	FEEDER	NO	-A- VA	-B- VA	NO.	FEEDER	BKR	#P	VA	DESCRIPTION
ENERGY RECOVERY VENT - 1	1380	2	20A	4 #12, 3/4"C	1	2967		2	3#12, 3/4"C	20A	1	1587	EXHAUST FAN EF-1
	1380				3		1630	4	3#12, 3/4"C	20A	1	250	PUMP CONTROL SYSTEM
WETWELL LIGHTING CIRCUIT	100	1	20A	3#12, 3/4"C	5	400		6	3#12, 3/4"C	20A	1	300	UPSTAIRS LIGHTS
RECEPTACLE CIRCUIT	360	1	20A	3#12, 3/4"C	7		1810	8	3#12, 3/4"C	20A	1	1450	DOWNSTAIRS LIGHTS
OUTSIDE LIGHT	300	1	20A	3#12, 3/4"C	9	1800		10	AS REQUIRED	20A	1	1500	RECONNECT EXISTING CIRCUIT
RECONNECT EXISTING CIRCUIT	800	1	20A	AS REQUIRED	11		850	12	2#12	20A	1	50	PHASE A AMPERAGE MONITOR
RECONNECT EXISTING CIRCUIT	800	1	20A	AS REQUIRED	13	1300		14		20A	1	500	SPARE
RECEPTACLE CIRCUIT	360	1	20A	3#12, 3/4"C	15		1280	16	4#12, 3/4"C	20A	2	920	SUMP PUMP
SPARE	500	1	20A		17	1420		18				920	
SPARE	500	1	20A		19		1000	20		20A	1	500	SPARE
TOTAL VOLT-AMPERES PER PHASE						7887	6570						
TOTAL AMPERES PER PHASE						65.7	54.8						

NOTE:
ONLY POWER CONDUCTORS
SHOWN. FOR COMPLETE FILLS
ALSO REFER TO FLOOR PLANS
AND CONTROL CIRCUITS.



NEW ONE LINE DIAGRAM
NO SCALE

NOTE:

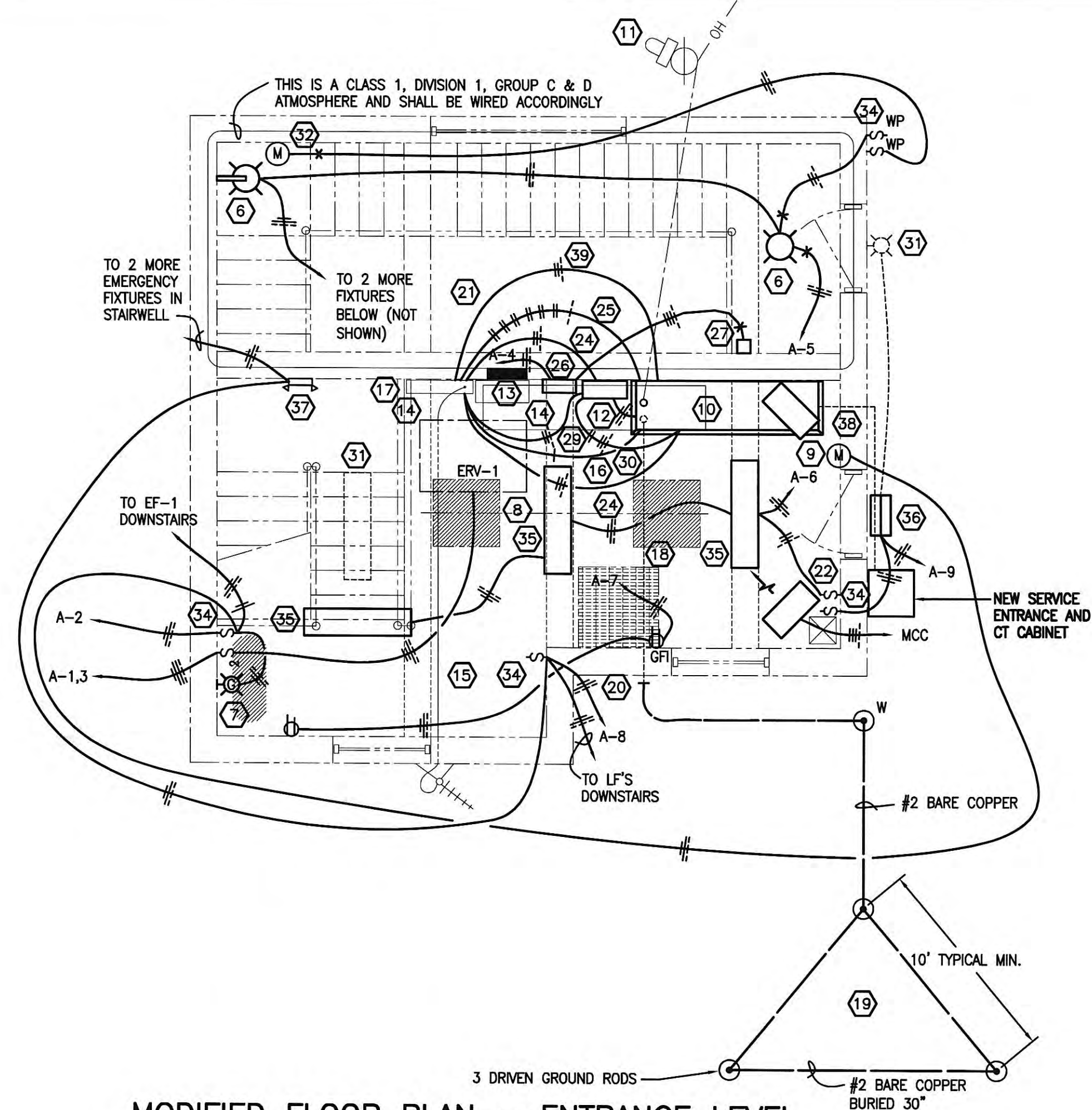
- ONE SOLID STATE STARTER SHALL BE PROVIDED WITH A FULL VOLTAGE BYPASS IN CASE OF SOLID STATE STARTER FAILURE.

GENERAL PROJECT ELECTRICAL NOTES (APPLIES TO ALL 3 PUMP STATIONS):

- CONTRACTOR SHALL ABANDON AND REMOVE EXISTING LIGHT FIXTURES ON THE WETWELL SIDE (NOT SHOWN) AND REPLACE WITH ALL NEW EXPLOSIONPROOF LIGHTING EQUIPMENT AS SHOWN ON THE DRAWING. EXISTING SURFACES SHALL BE GROUTED IN WHERE LIGHTS, BOXES AND CONDUITS ARE REMOVED.
- CONTRACTOR SHALL RECONNECT EXISTING MISCELLANEOUS BUILDING LOADS TO THE NEW PANEL A IN THE MCC AS REQUIRED. FIELD VERIFY EXISTING EQUIPMENT RATINGS AGAINST PROPOSED BREAKER SIZES AND POLES AND MODIFY AS REQUIRED TO MATCH EXISTING CONDITIONS. NEW CONDUCTORS AND CONDUIT SHALL BE SIZED TO MATCH THE BREAKER RATING.
- ITEM NUMBERS IN THE NEW ONE LINE DIAGRAM CORRESPOND TO SECTION AND UNIT NUMBER IN THE NEW MCC.
- CONTRACTOR SHALL TEMPORARY WIRE EXISTING MCC AND PUMP LEVEL CONTROLS, SO THAT THE NEW MCC MAY BE PLACED IN THE SAME LOCATION AS THE MCC TO BE REMOVED.
- EXISTING BUILDING PANELBOARD SHALL BE ABANDONED AND REMOVED.
- ALL WIRING, CONDUIT, CONTROLS AND MOUNTING HARDWARE SHALL BE REMOVED WHENEVER SOMETHING IS CALLED OUT TO BE DEMOLISHED. THE SURFACES AFFECTED BY THIS DEMOLITION SHALL BE RESTORED TO MATCH LIKE SURROUNDING SURFACES, AND PAINT TOUCHED UP.
- AT NEW WEATHERHEAD LEAVE 3 FEET OF SLACK CONDUCTOR FOR CONNECTION BY UTILITY.
- ROOF DECK SHALL BE PATCHED WHERE EXISTING SERVICE MAST LEAVES THROUGH THE ROOF. ALL THIS WORK NEEDS TO BE PERFORMED PRIOR TO APPLICATION OF A NEW ROOF TO THIS STRUCTURE UNDER THIS CONTRACT.
- NEW GROUNDING ELECTRODE SYSTEM SHALL BOND TO ANY EXISTING GROUNDING ELECTRODE SYSTEM AT THE OLD MCC LOCATION, AND BACK TO SERVICE TRANSFORMERS VIA NEUTRAL BONDING.
- ALL WORK DONE IN THE WETWELL SHALL MEET REQUIREMENTS FOR A CLASS 1, DIVISION 1, GROUP C & D ATMOSPHERE.
- PERFORM NEW CONSTRUCTION SUCH THAT DOWNTIME IS MINIMIZED, WITH AT LEAST ONE PUMP OPERATIONAL AT ALL TIMES (EITHER NEW OR EXISTING).
- SEE THE C SERIES OF DRAWINGS FOR ADDITIONAL ELECTRICAL WORK, PARTICULARLY DEMOLITION OF EXISTING PUMPS, MCC, AIR COMPRESSOR, ETC.
- EXISTING ELECTRICAL ITEMS WHICH ARE TO REMAIN AND NOT BE DISTURBED ARE NOT SHOWN. CONTRACTORS SHALL VISIT THE SITE BEFORE BIDDING TO ASCERTAIN QUANTITIES AND LOCATION OF EXISTING ITEMS TO REMAIN.
- CONTRACTOR SHALL ABANDON AND REMOVE ALL EXISTING LIGHT FIXTURES ON THE DRYWELL SIDE AND OUTSIDE AND REPLACE WITH NEW LUMINAIRES AS SHOWN ON THE DRAWINGS.
- CONTRACTOR SHALL ABANDON AND REMOVE EXISTING DUPLEX RECEPTACLES AND REPLACE WITH NEW GFI RECEPTACLES AS SHOWN ON THE DRAWINGS.
- ALL SNAP SWITCHES FOR LIGHTING SHALL BE REPLACED, AS WELL AS ALL DEVICE PLATES FOR RECEPTACLES AND SWITCHES.

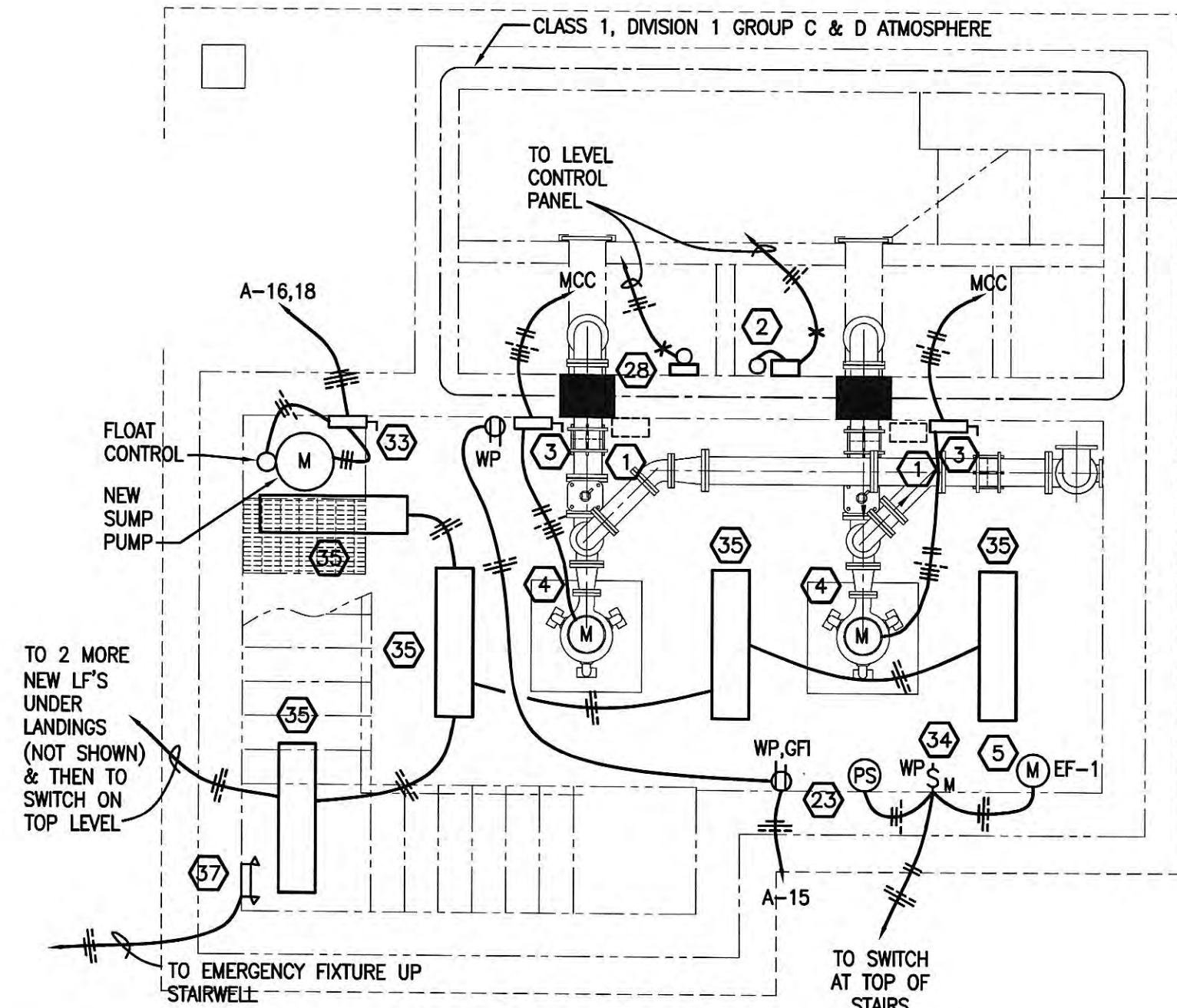
KEYNOTES:

- REMOVE EXISTING LATCHOUT STATION FOR ABANDONED PUMP.
- NEW LEVEL TRANSDUCER AND CABLE SUPPORT FOR CONTROL OF NEW PUMPS.
- NEW NEMA 4X ENCLOSED SAFETY SWITCH WITHIN SIGHT OF NEW PUMP.
- NEW DRY PIT SUBMERSIBLE PUMP.
- NEW EXHAUST FAN SHALL RUN CONTINUOUSLY TO PROVIDE 6 AIR CHANGES/HOUR.
- FURNISH AND INSTALL NEW HAZLUX HAZLITE M5 (OR EQUAL) EXPLOSION PROOF COMPACT FLUORESCENT LIGHT FIXTURES IN WETWELL SIDE OF STRUCTURE AS SHOWN. FIXTURE JUST INSIDE DOOR TO BE CEILING MOUNTED; ALL OTHERS WALL MOUNTED WITH BRACKET FURNISHED WITH FIXTURE. FIXTURE SHALL ALSO BE NEMA 4X RATED AND HAVE 26 WATTS OF PL LAMP EACH.
- FURNISH AND INSTALL GROUSE HINDS VYHBF25GP, OR EQUAL WITH 655 GREEN GLASS GLOBE AND 60 WATT LAMP. PROVIDE SIGN BELOW FIXTURE STATING "DO NOT GO DOWNSTAIRS UNLESS GREEN LAMP IS ILLUMINATED INDICATING LOWER LEVEL VENTILATION FAN IS RUNNING".
- NEW ENERGY RECOVERY VENTILATOR.
- EXISTING 6KW ELECTRIC HEATER TO BE ABANDONED & REMOVED THIS CONTRACT.
- NEW MOTOR CONTROL CENTER WITH SERVICE ENTRANCE CONDUIT THROUGH ROOF TO WEATHERHEAD. EXISTING MCC AND THROUGH ROOF SERVICE TO BE ABANDONED AND REMOVED.
- EXISTING CT METER BASE AND SERVICE POLE. MODIFY AS REQUIRED FOR NEW SERVICE.
- NEW LEVEL CONTROL PANEL.
- EXISTING SINGLE PHASE PANEL TO BE ABANDONED AND REMOVED THIS CONTRACT. INTERCEPT CONDUITS FROM LOADS AT A CONVENIENT POINT AND RECONNECT CIRCUITS TO NEW PANEL A IN NEW MCC.
- EXISTING SCADA RTU TO REMAIN. WIRE NEW SIGNALS FROM PUMP STARTERS & CONTROLS TO EXISTING RTU. COORDINATE EXACT REQUIREMENTS FOR MONITORING WITH THE OWNER.
- EXISTING COAXIAL CABLE AND ANTENNA FOR SCADA RTU. DO NOT DISTURB.
- NEW #6 AWG GROUNDED CONDUCTOR TO RTU FOR LIGHTNING ARRESTOR GROUND.
- FURNISH AND INSTALL A 1KW BULKHEAD LIGHTNING ARRESTOR ON COAXIAL CABLE BEFORE IT ATTACHES TO RADIO.
- NEW #2 BARE COPPER GROUNDING ELECTRODE CONDUCTOR SLEEVED IN A 3/4" CONDUIT TO OUTSIDE. BOND TO ANY EXISTING GROUNDING ELECTRODE SYSTEM AT OLD MCC LOCATION.
- NEW GROUNDING ELECTRODE ARRAY.
- SEAL CONDUIT AGAINST GROUNDWATER ENTRY.
- ALL CONDUITS FROM WETWELL TO PUMP STATION SHALL BE FITTED WITH SEALING FITTINGS.
- NEW ELECTRIC HEATER - SEE MECHANICAL PLAN FOR THERMOSTAT LOCATION (PROVIDE WIRING).
- PROVING SWITCH FOR EF-1.
- 2#18, SHIELDED AND TWISTED PAIR, 3/4"C
- 13#12, 1"C
- NEW COMBUSTIBLE GAS ALARM PANEL. SCOTT GAS PLUS OR EQUAL.
- NEW COMBUSTIBLE GAS DETECTOR SET UP FOR METHANE AND MOUNTED 6'-6" A.F.F.
- NEW BACKUP HIGH LEVEL ALARM FLOAT.
- 3#12, 3/4"C FOR HIGH LEVEL ALARM.
- 5#12, 3/4"C FROM LEVEL CONTROLS TO MCC FOR PUMP START/STOP CONTROL.
- ABANDON & REMOVE EXISTING LIGHT FIXTURE-BLANKOFF BOX.
- REMOVE AND REPLACE WETWELL VENTILATOR MOTOR ON ROOF WITH A NEW MOTOR RATED FOR CLASS 1, DIVISION 1 GROUP C & D LOCATION. EXISTING MOTOR 1/3HP, 115 VOLT, 725 RPM.
- NEW SUMP PUMP CONTROL AND DISCONNECT (NEMA 4X) BY CONTRACTOR.
- NEW SWITCH(ES).
- NEW HOLOPHANE 7200-4-12-J-F OR EQUAL 2 LAMP FLUORESCENT LUMINAIRE.
- NEW HOLOPHANE WL2K-150HP-12-BZ OR EQUAL WALLPACK.
- NEW HOLOPHANE DM5-C-36-T-NN-2-DL OR EQUAL EMERGENCY FIXTURE.
- NEW MOTORIZED AIR INTAKE DAMPER FOR EF-1.
- NEW RS-485 CABLE, 3/4"C TO EXISTING SCADA RTU LOCATION.



MODIFIED FLOOR PLAN - ENTRANCE LEVEL

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



MODIFIED FLOOR PLAN - PUMP LEVEL

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



GRW PROJECT NO. 7601-30 CONTRACT NO. S02-03

**EXISTING HARDEE'S SEWAGE PUMP STATION
ELECTRICAL
HARRIMAN UTILITY BOARD
HARRIMAN, TENNESSEE**

GRW Elrod Dunson, Inc.
Engineers, Architects, Planners
LEXINGTON LOUISVILLE INDIANAPOLIS
NASHVILLE KNOXVILLE

DESIGNED: WLM
DRAWN: JMG
REVIEWED: WLM
APPROVED: WLM
DATE: JUNE, 2004
SCALE: AS NOTED
SHEET NO. E-3

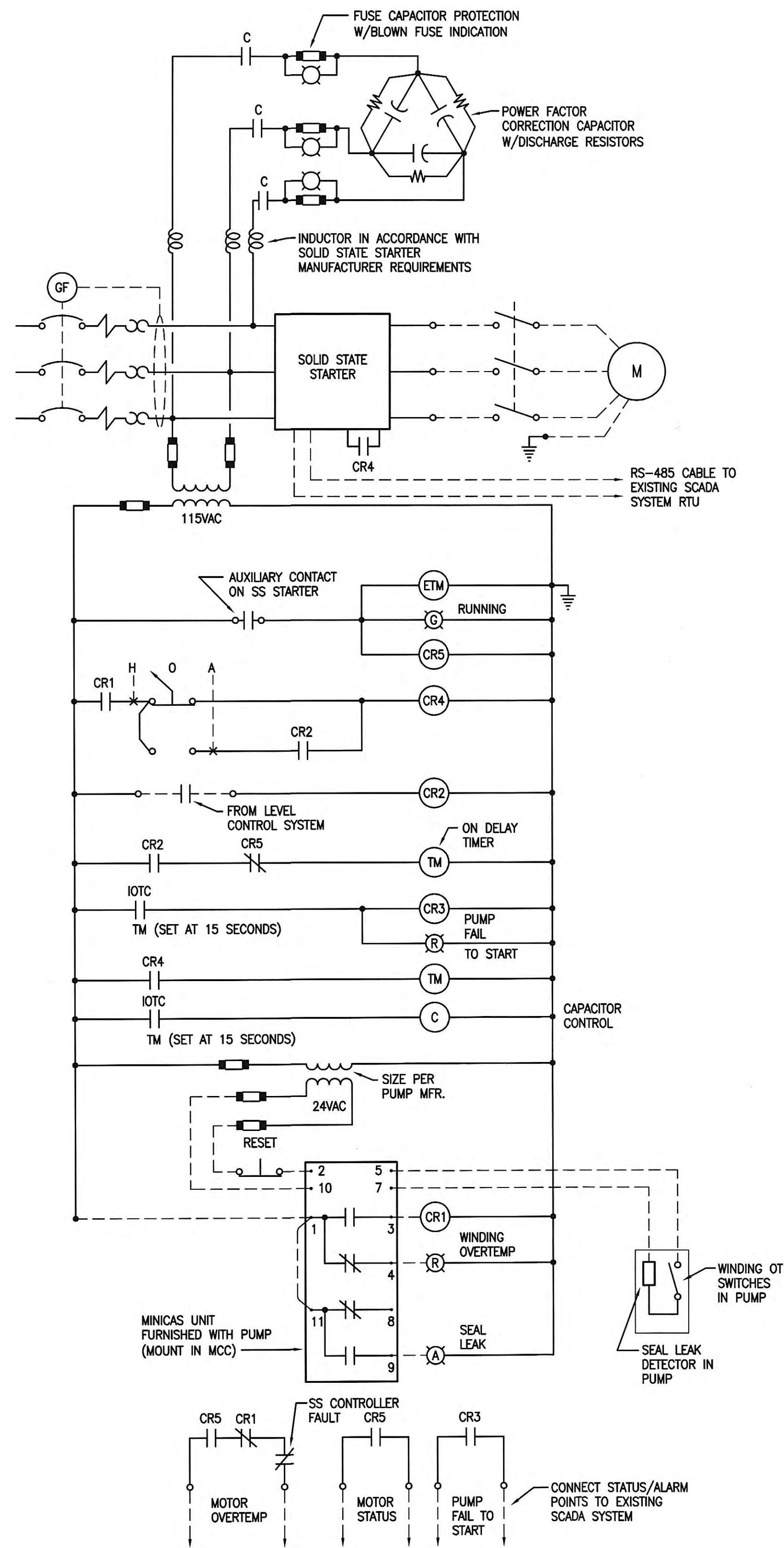
RECORD DRAWINGS

THESE RECORD DRAWINGS REPRESENT THE "AS-BUILT" PROJECT TO THE BEST OF THE ENGINEER'S KNOWLEDGE. ALTHOUGH PREPARED FROM THE CONSTRUCTION RECORD, THEY CANNOT BE GUARANTEED TO BE EXACT IN EVERY DETAIL.

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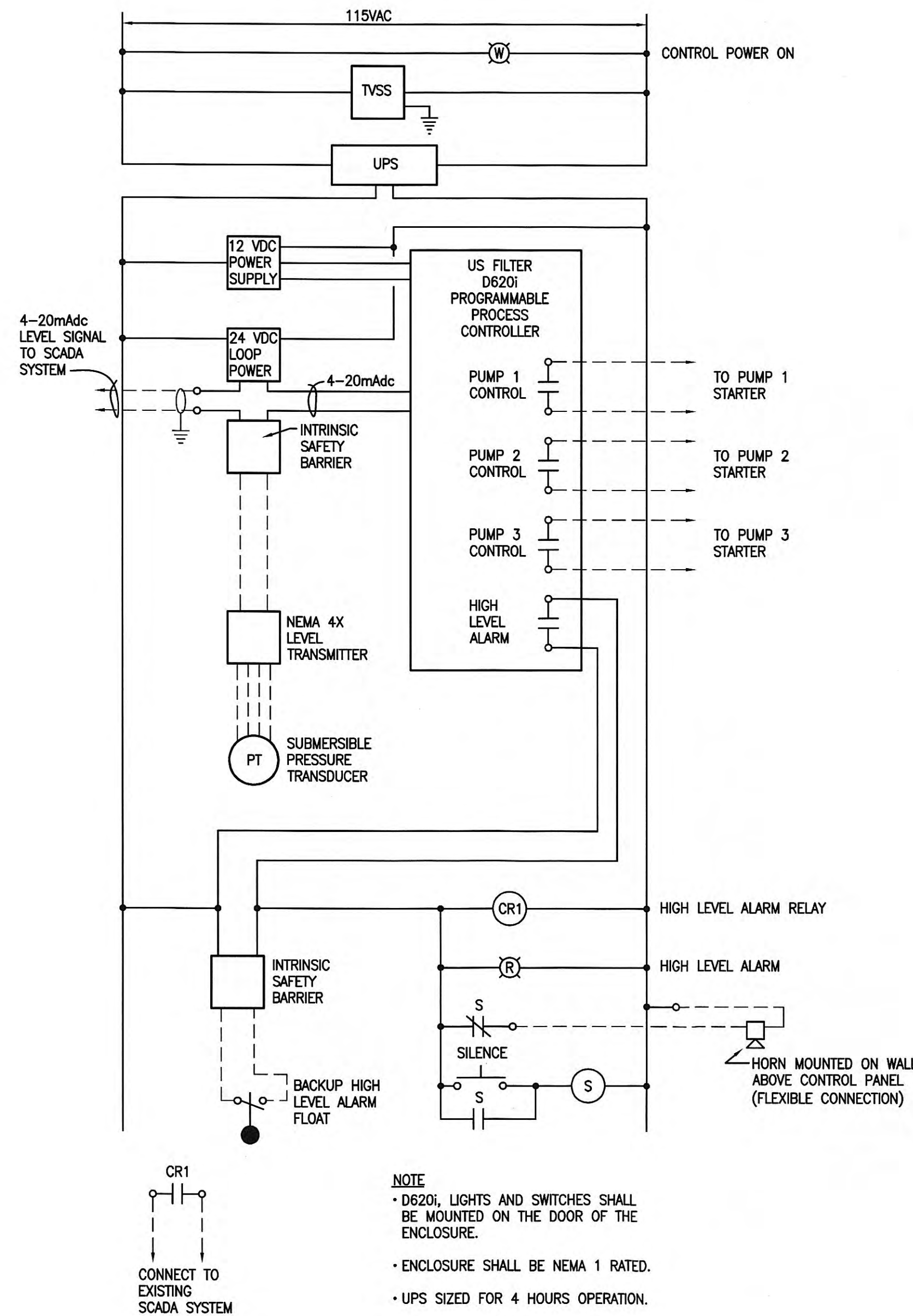
ENGINEER'S REPRESENTATIVE

NO.	DESCRIPTION	DATE	BY
	REVISIONS		



CONTROL CIRCUIT NO. 5
 • WEBB WASTEWATER PUMP (3 UNITS REQUIRED)

NOTE:
 PROVIDE ONE PUMP WITH A FULL VOLTAGE
 BYPASS FOR AUTOMATIC EMERGENCY OPERATION.



CONTROL CIRCUIT NO. 6
 • WEBB LEVEL CONTROL PANEL (1 REQUIRED)

NOTE:
 • D620i, LIGHTS AND SWITCHES SHALL
 BE MOUNTED ON THE DOOR OF THE
 ENCLOSURE.
 • ENCLOSURE SHALL BE NEMA 1 RATED.
 • UPS SIZED FOR 4 HOURS OPERATION.

**WEBB PUMP STATION
 D620i CONTROL SETTINGS**

ITEM	ELEVATION
PUMPS OFF	782.00
LEAD PUMP ON	783.75
LAG PUMP ON	784.50
SECOND LAG PUMP ON	N/A (ALTERNATE ONLY)
HIGH LEVEL ALARM	784.70

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CHECKED BY:
 ENGINEER'S REPRESENTATIVE
 DATE: 6/2007

GRW PROJECT NO. 7601-30 CONTRACT NO. S02-03

**WEBB PUMP STATION
 ELECTRICAL CONTROLS
 HARRIMAN UTILITY BOARD
 HARRIMAN, TENNESSEE**

 GRW Elrod Dunson, Inc. Engineers, Architects, Planners LEXINGTON LOUISVILLE INDIANAPOLIS NASHVILLE CHICAGO	DESIGNED: WLM	DATE: JUNE, 2004
	DRAWN: JMG	SCALE: AS NOTED
	REVIEWED: WLM	SHEET NO. E-4
	APPROVED: WLM	

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NO.	DESCRIPTION	DATE	BY
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PANEL SCHEDULE	A
LOCATION	WEBB
ENCLOSURE	NEMA 1
SURFACE, FLUSH, OR MCC	MCC
AIC RATING	22,000

VOLTAGE	240/120, 3W
MAINS AMPACITY	100
MAIN C.B. SIZE	100
TOTAL SPACES	20

DESCRIPTION	VA	#P	BKR	FEEDER	NO	VA	VA	NO.	FEEDER	BKR	#P	VA	DESCRIPTION
ENERGY RECOVERY VENT — 2	1380	2	20A	4 #12, 3/4" C	1	2967		2	3#12, 3/4" C	20A	1	1587	EXHAUST FAN EF—2
	1380				3		1630	4	3#12, 3/4" C	20A	1	250	PUMP CONTROL SYSTEM
WETWELL LIGHTING CIRCUIT	100	1	20A	3#12, 3/4" C	5	500		6	3#12, 3/4" C	20A	1	400	UPSTAIRS LIGHTS
RECEPTACLE CIRCUIT	360	1	20A	3#12, 3/4" C	7		1360	8	3#12, 3/4" C	20A	1	1000	DOWNSTAIRS LIGHTS
OUTSIDE LIGHT	300	1	20A	3#12, 3/4" C	9	1800		10	AS REQUIRED	20A	1	1500	RECONNECT EXISTING CIRCUIT
RECONNECT EXISTING CIRCUIT	800	1	20A	AS REQUIRED	11		850	12	2#12	20A	1	50	PHASE A AMPERAGE MONITOR
RECONNECT EXISTING CIRCUIT	800	1	20A	AS REQUIRED	13	1300		14		20A	1	500	SPARE
RECEPTACLE CIRCUIT	360	1	20A	3#12, 3/4" C	15		1280	16	4#12, 3/4" C	20A	2	920	SUMP PUMP
SPARE	500	1	20A		17	1420		18		—	—	920	
SPARE	500	1	20A		19		1000	20		20A	1	500	SPARE
TOTAL VOLT—AMPERES PER PHASE						7987	6120						
TOTAL AMPERES PER PHASE						66.6	51						

KEYNOTES:

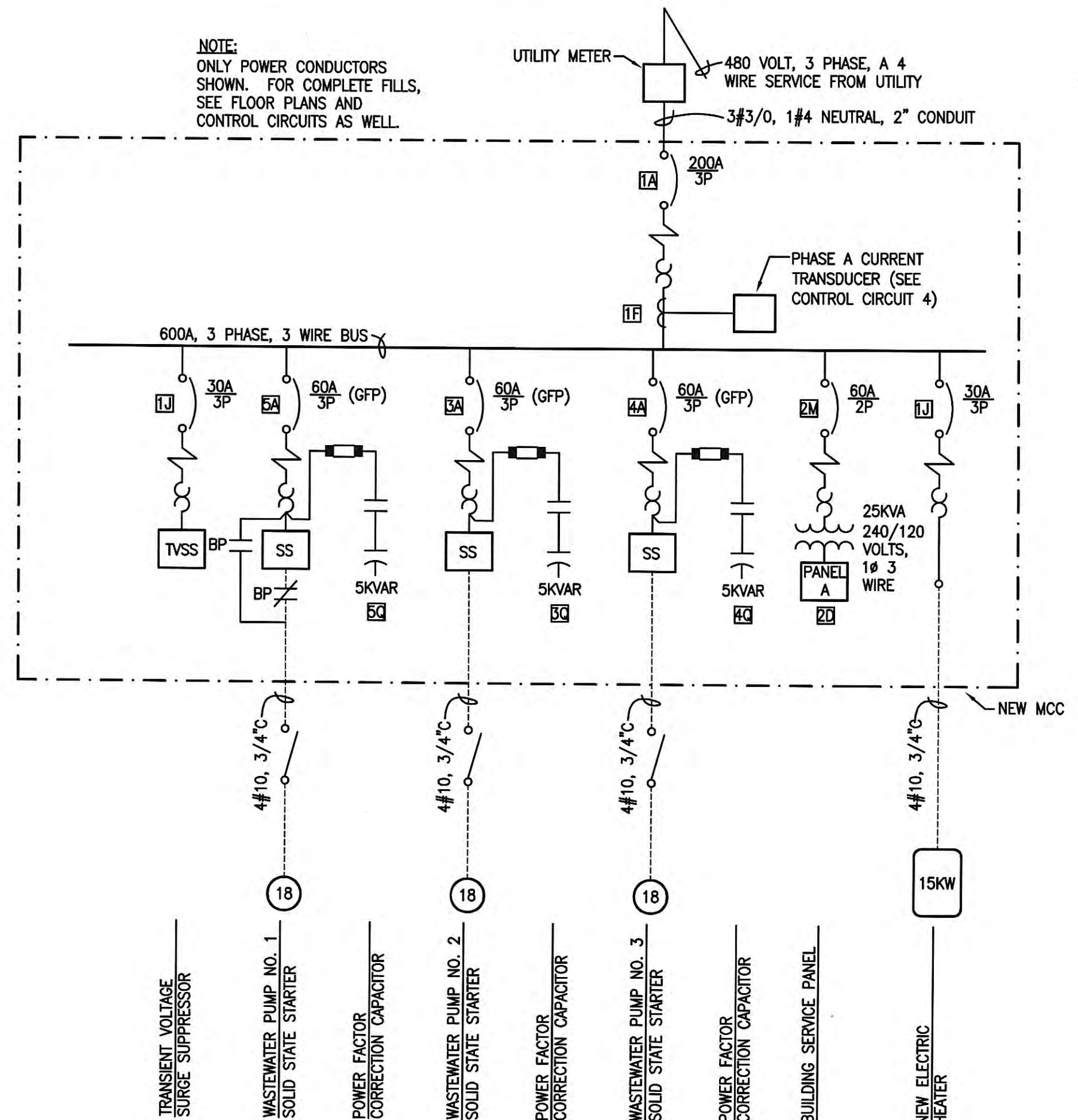
- 1 REMOVE EXISTING LATCHOUT STATION FOR ABANDONED PUMP.
- 2 NEW LEVEL TRANSDUCER AND CABLE SUPPORT FOR CONTROL OF NEW PUMPS.
- 3 NEW NEMA 4X ENCLOSED SAFETY SWITCH WITHIN SIGHT OF NEW PUMP.
- 4 NEW DRY PIT SUBMERSIBLE PUMP.
- 5 NEW EXHAUST FAN SHALL RUN CONTINUOUSLY TO PROVIDE 6 AIR CHANGES/HOUR.
- 6 FURNISH AND INSTALL NEW HAZLUX HAZLE M5 (OR EQUAL) EXPLOSION PROOF COMPACT FLUORESCENT LIGHT FIXTURES IN WELLWELL SIDE OF STRUCTURE AS SHOWN. FIXTURE JUST INSIDE DOOR TO BE CEILING MOUNTED; ALL OTHERS WALL MOUNTED WITH BRACKET FURNISHED WITH FIXTURE. FIXTURE SHALL ALSO BE NEMA 4X RATED AND HAVE 26 WATTS OF PL LAMP EACH.
- 7 FURNISH AND INSTALL CROUSE HINDS VXHB25GP, OR EQUAL WITH G55 GREEN GLASS GLOBE AND 60 WATT LAMP. PROVIDE SIGN ABOVE FIXTURE STATING "DO NOT GO DOWNSTAIRS UNLESS GREEN LAMP IS ILLUMINATED INDICATING LOWER LEVEL VENTILATION FAN IS RUNNING".
- 8 NEW ENERGY RECOVERY VENTILATOR.
- 9 EXISTING 6KW ELECTRIC HEATER TO BE ABANDONED & REMOVED THIS CONTRACT.
- 10 NEW MOTOR CONTROL CENTER WITH SERVICE ENTRANCE CONDUIT THROUGH ROOF TO WEATHERHEAD. EXISTING MCC AND THROUGH ROOF SERVICE TO BE ABANDONED AND REMOVED.
- 11 EXISTING METER BASE AND SERVICE POLE. MODIFY AS REQUIRED FOR NEW SERVICE.
- 12 NEW LEVEL CONTROL PANEL.
- 13 EXISTING SINGLE PHASE PANEL TO BE ABANDONED AND REMOVED THIS CONTRACT. INTERCEPT CONDUITS FROM LOADS AT A CONVENIENT POINT AND RECONNECT CIRCUITS TO NEW PANEL A IN NEW MCC.
- 14 EXISTING SCADA RTU TO REMAIN. WIRE NEW SIGNALS FROM PUMP STARTERS & CONTROLS TO EXISTING RTU. COORDINATE EXACT REQUIREMENTS FOR MONITORING WITH THE OWNER.
- 15 EXISTING COAXIAL CABLE AND ANTENNA FOR SCADA RTU. DO NOT DISTURB.

KEYNOTES (CONTINUED):

- 16 NEW #6 AWG GROUNDED CONDUCTOR TO RTU FOR LIGHTNING ARRESTOR GROUND.
- 17 FURNISH AND INSTALL A 1KW BULKHEAD LIGHTNING ARRESTOR ON COAXIAL CABLE BEFORE IT ATTACHES TO RADIO.
- 18 NEW #2 BARE COPPER GROUNDING ELECTRODE CONDUCTOR SLEEVED IN A 3/4" CONDUIT TO OUTSIDE BOND TO ANY EXISTING GROUNDING ELECTRODE SYSTEM AT OLD MCC LOCATION.
- 19 NEW GROUNDING ELECTRODE ARRAY.
- 20 SEAL CONDUIT AGAINST GROUNDWATER ENTRY.
- 21 ALL CONDUITS FROM WETWELL TO PUMP STATION SHALL BE FITTED WITH SEALING FITTINGS.
- 22 NEW ELECTRIC HEATER - SEE MECHANICAL PLAN FOR THERMOSTAT LOCATION (PROVIDE WIRING).
- 23 PROVING SWITCH FOR EF-1.
- 24 2#16, SHIELDED AND TWISTED PAIR, 3/4"C
- 25 19#12, 1"C
- 26 NEW COMBUSTIBLE GAS ALARM PANEL. SCOTT GAS PLUS OR EQUAL.
- 27 NEW COMBUSTIBLE GAS DETECTOR SET UP FOR METHANE AND MOUNTED 6"-6" A.F.F.
- 28 NEW BACKUP HIGH LEVEL ALARM FLOAT.
- 29 3#12, 3/4"C FOR HIGH LEVEL ALARM TO RTU.
- 30 7#12, 3/4"C FROM LEVEL CONTROLS TO MCC FOR PUMP START/STOP CONTROL.
- 31 ABANDON & REMOVE EXISTING LIGHT FIXTURE-BLANKOFF BOX.
- 32 REMOVE AND REPLACE WETWELL VENTILATOR MOTOR ON ROOF WITH A NEW MOTOR RATED FOR CLASS 1, DIVISION 1 GROUP C & D ATMOSPHERES. EXISTING MOTOR 1/3HP, 115 VOLT, 725 RPM.
- 33 NEW SUMP PUMP CONTROL AND DISCONNECT SWITCH (NEMA 4X) BY CONTRACTOR.

KEYNOTES (CONTINUED):

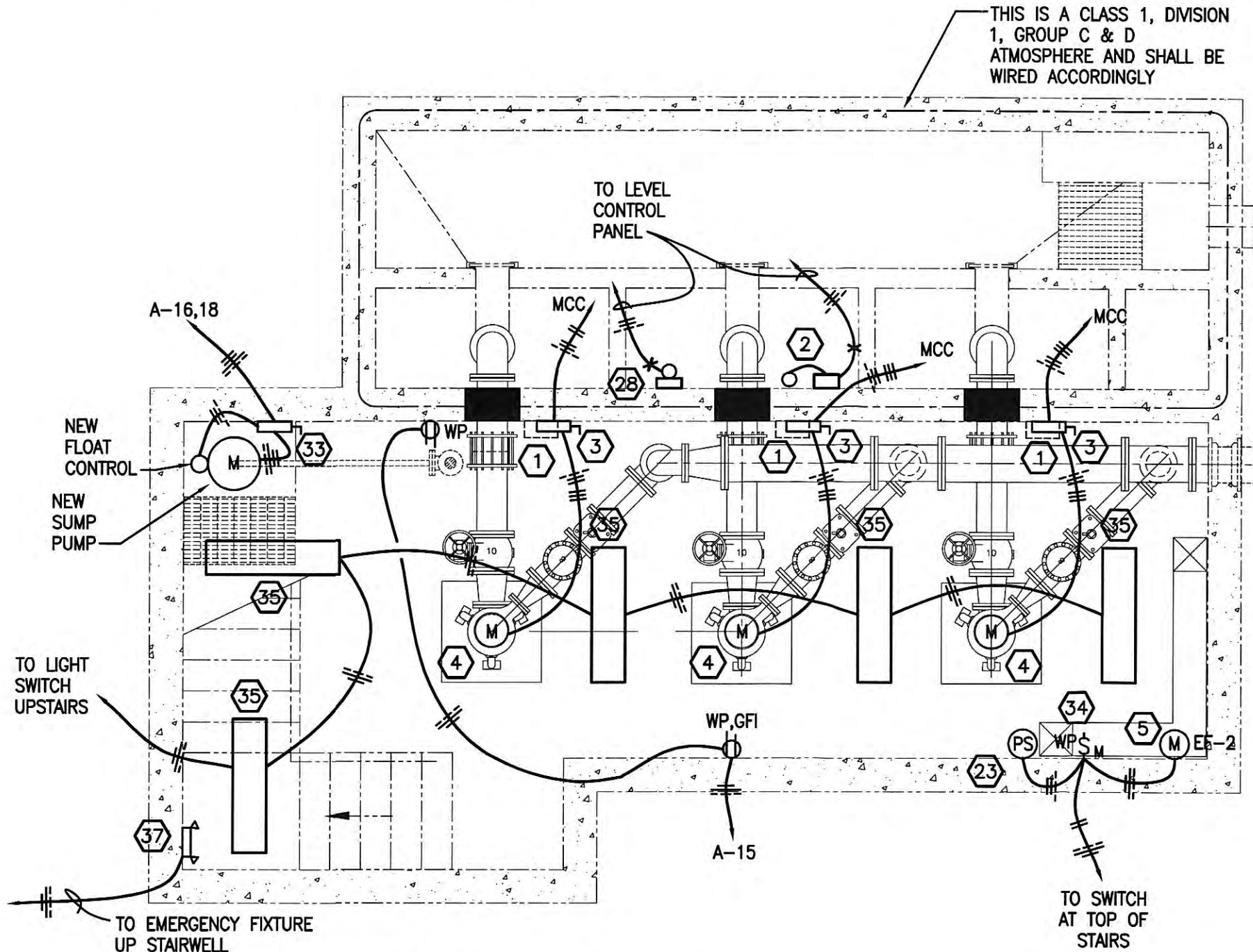
- 54 NEW SWITCH(ES).
- 55 NEW HOLOPHANE 7200-4-12-J-F OR EQUAL 2 LAMP FLUORESCENT LUMINAIRE.
- 56 NEW HOLOPHANE WL2K-150HP-12-BZ OR EQUAL WALLPACK.
- 57 NEW HOLOPHANE DM5-C-36-T-NN-2-DL OR EQUAL EMERGENCY FIXTURE.
- 58 NEW MOTORIZED AIR INTAKE DAMPER FOR EF-2.
- 59 NEW RS-485 CABLE, 3/4" CONDUIT TO EXISTING SCADA RTU.



NEW ONE LINE DIAGRAM

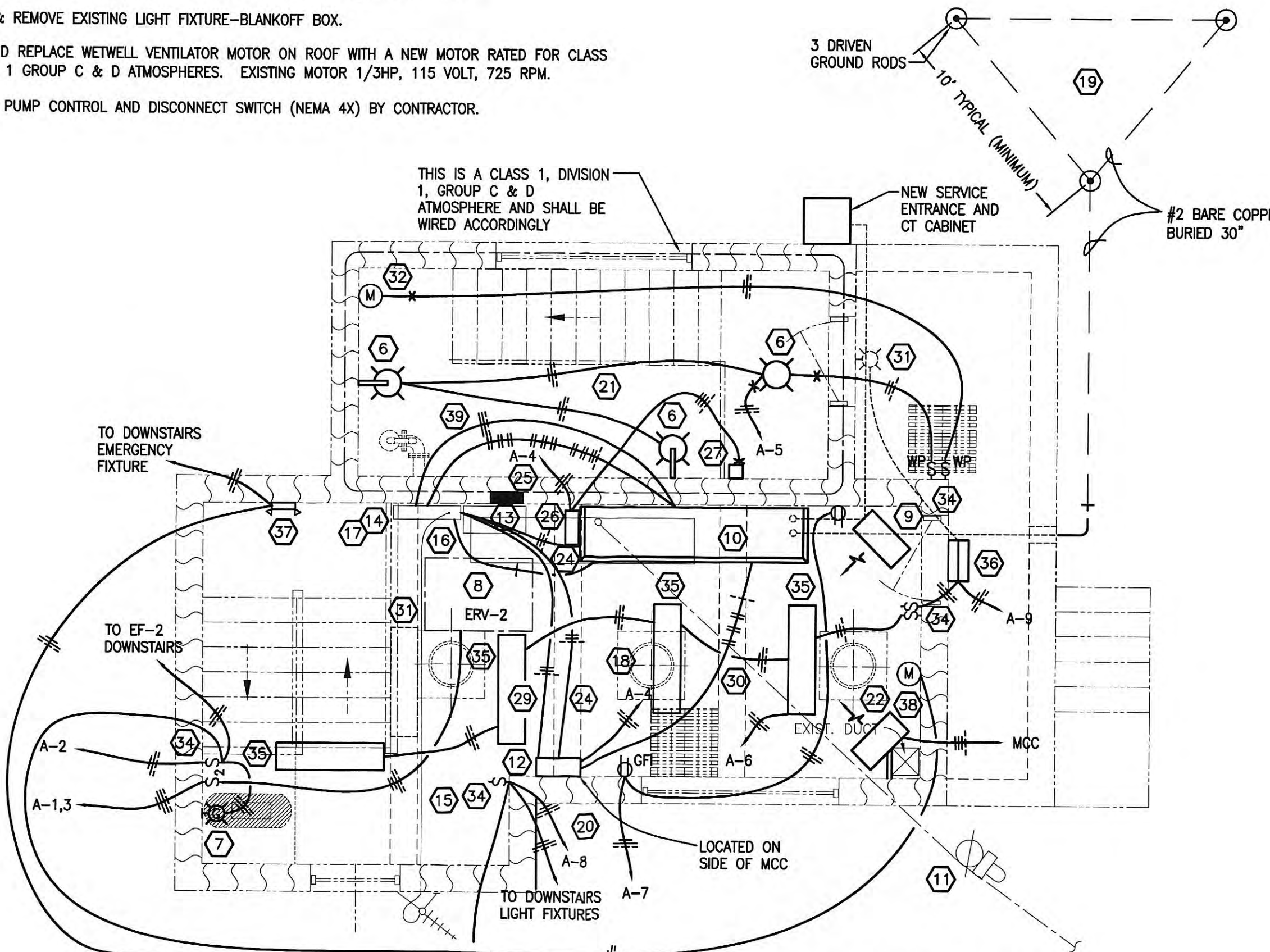
NOTE:

- ONE SOLID STATE STARTER SHALL BE PROVIDED WITH A FULL VOLTAGE BYPASS IN CASE OF SOLID STATE STARTER FAILURE.



MODIFIED FLOOR PLAN – PUMP LEVE

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



MODIFIED FLOOR PLAN - ENTRANCE LEVEL

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

NOTE:

- SEE GENERAL PROJECT NOTES ON DRAWING E-3
- SEE TYPICAL DETAILS ON DRAWING E-2.

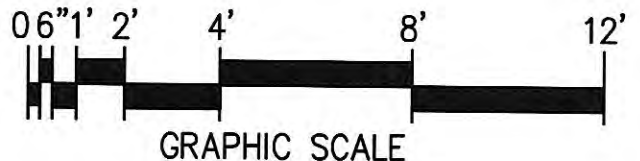
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CHECKED BY:

S. S. S. S.
ENGINEER'S REPRESENTATIVE

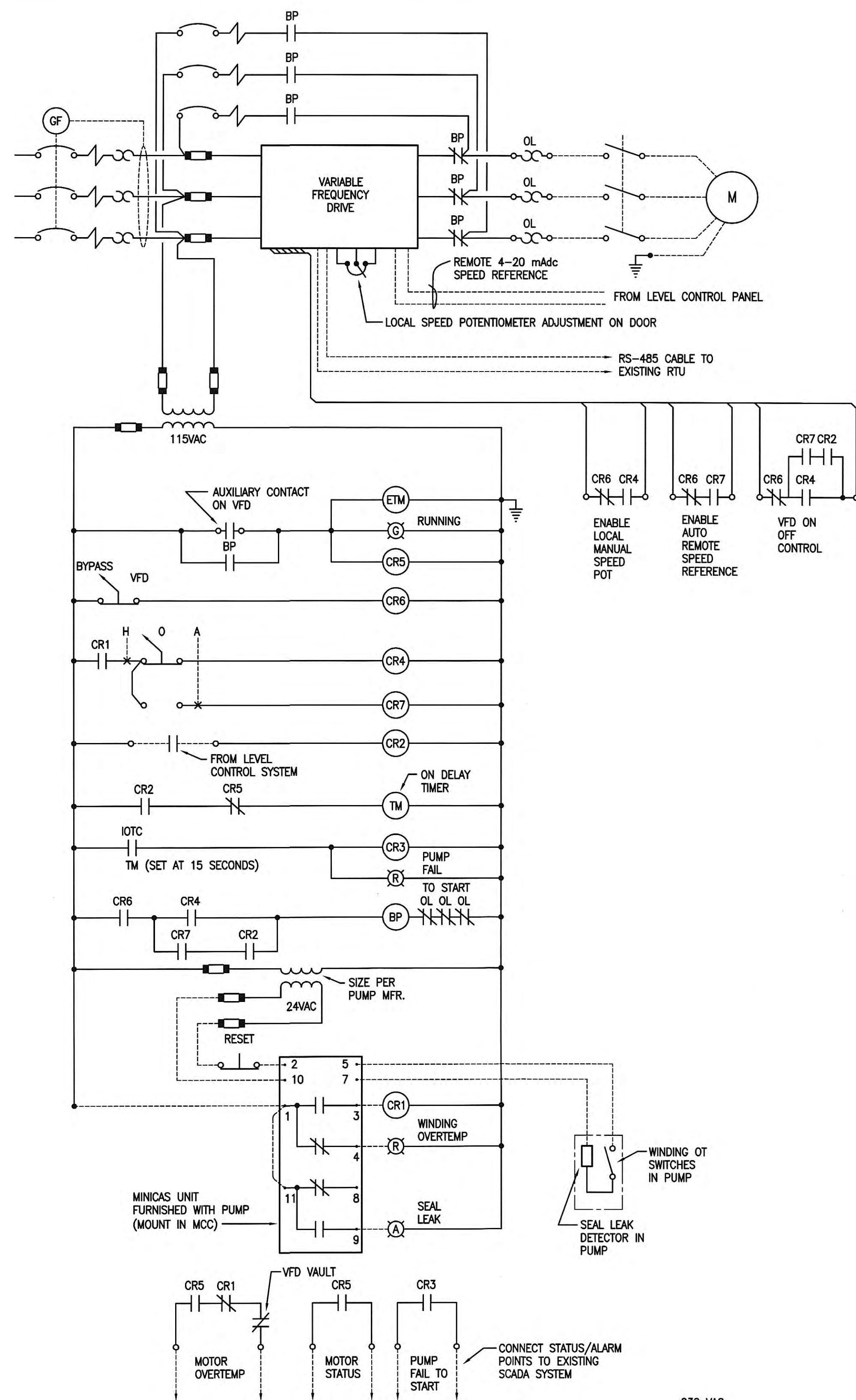


GRW PROJECT NO. 7601-30 CONTRACT NO. S02-03

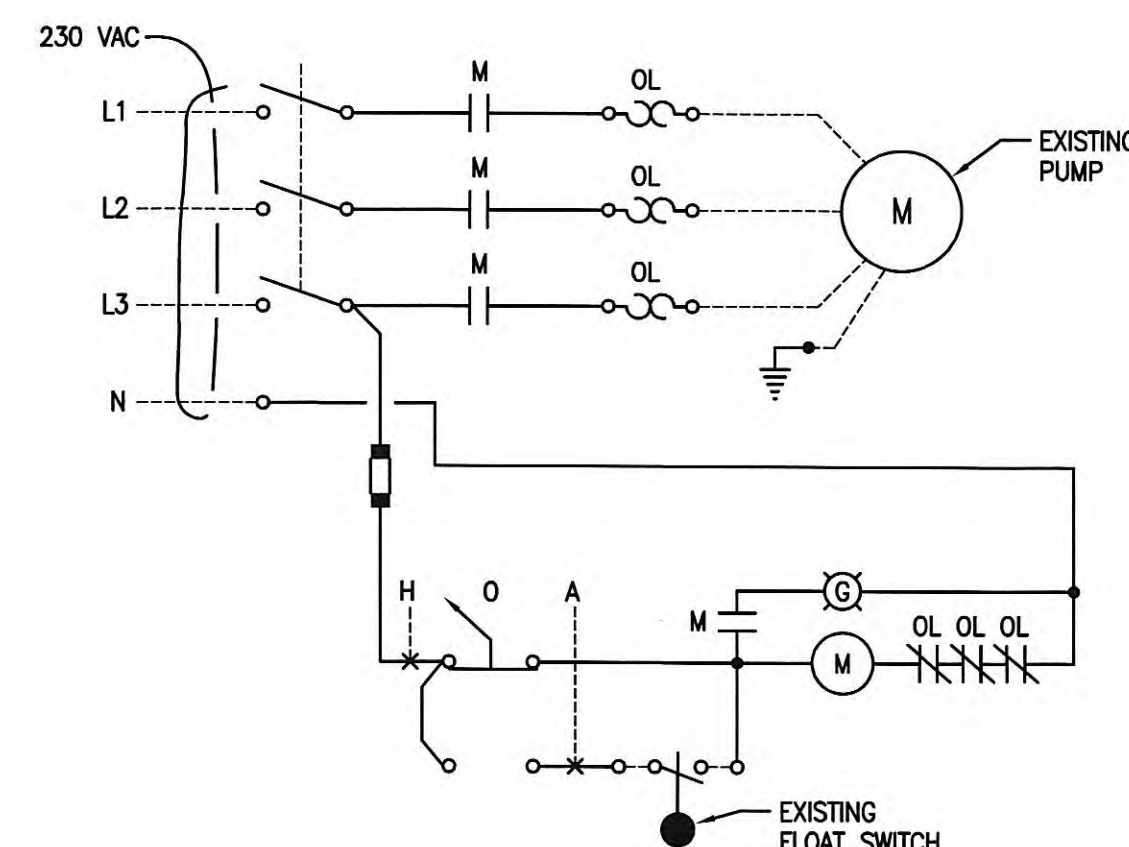
EXISTING WEBB SEWAGE PUMP STATION
ELECTRICAL
HARRIMAN UTILITY BOARD
HARRIMAN, TENNESSEE



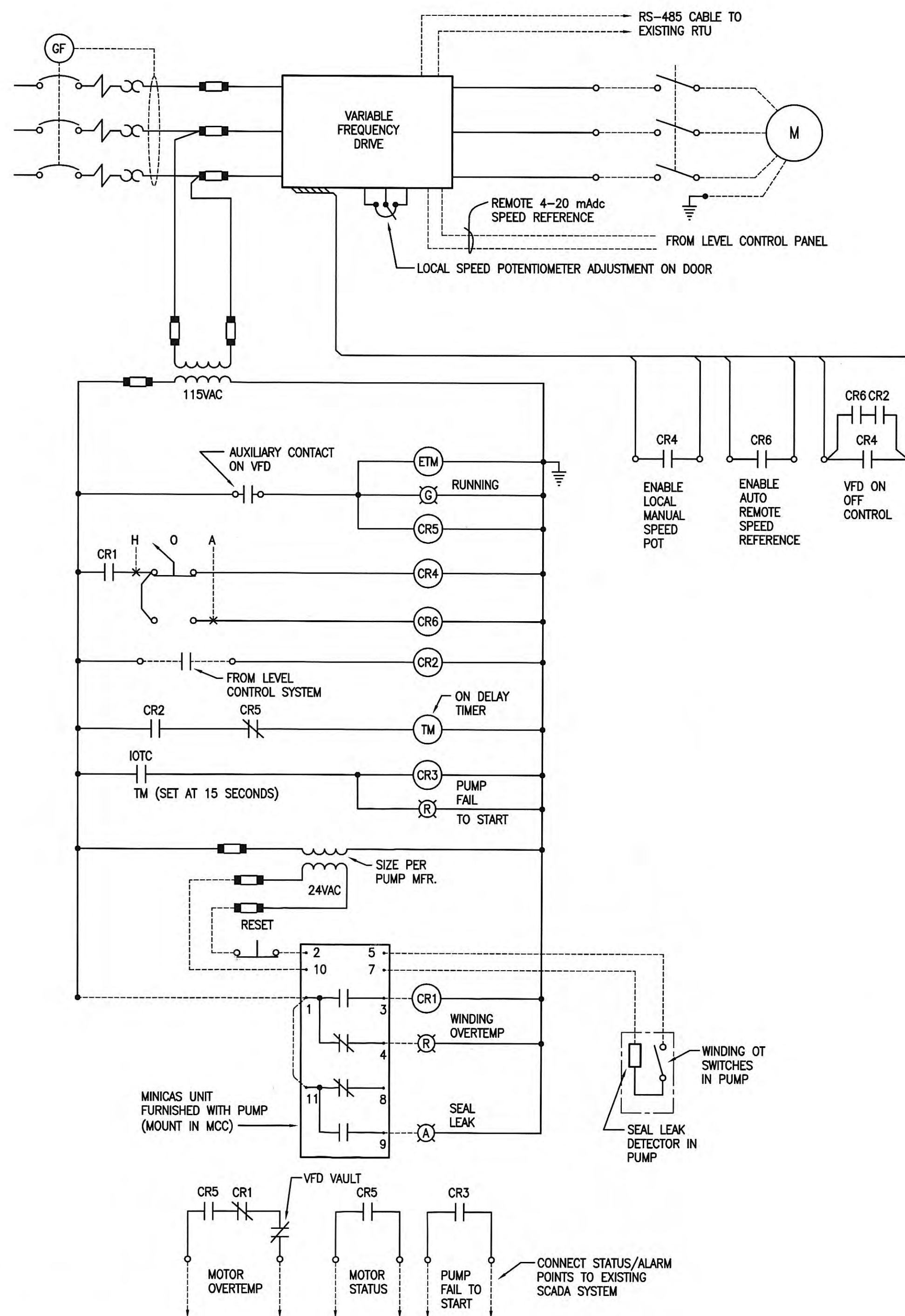
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DRAWN: JMG	SCALE: AS NOTED
REVIEWED: WLM	SHEET NO.
APPROVED: WLM	E-5



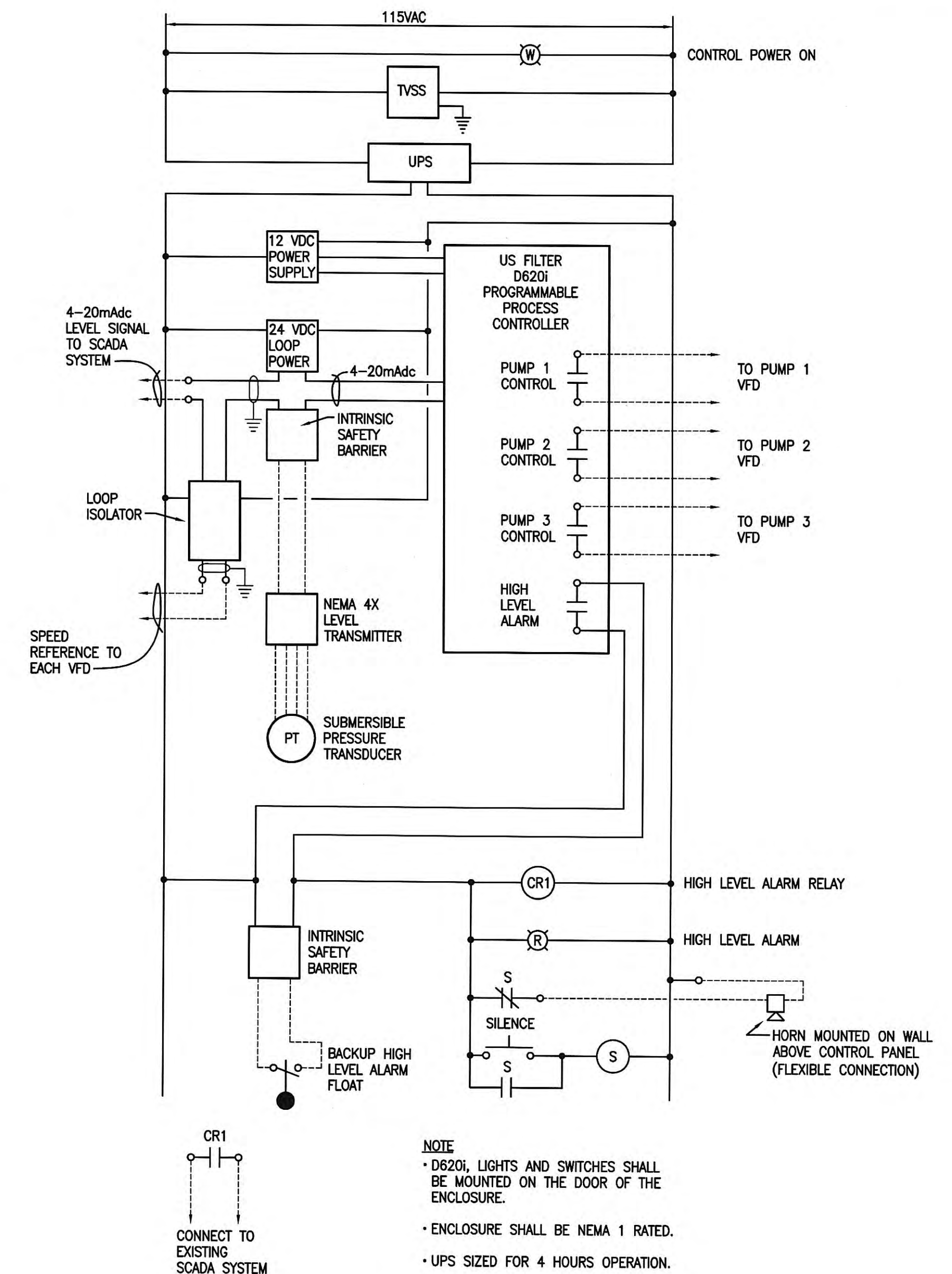
CONTROL CIRCUIT NO. 7
• WOODY WASTEWATER PUMP NO. 1 (1 UNIT REQUIRED)



CONTROL CIRCUIT NO. 10
• HARDEE'S SUMP PUMP (1 UNIT)
• WEBB SUMP PUMP (1 UNIT)
• WOODY SUMP PUMP (1 UNIT)



CONTROL CIRCUIT NO. 8
• WOODY WASTEWATER PUMP NO. 2 AND NO. 3 (2 UNITS REQUIRED)



CONTROL CIRCUIT NO. 9
• WOODY LEVEL CONTROL PANEL (1 REQUIRED)

**WOODY PUMP STATION
D620i CONTROL SETTINGS**

ITEM	ELEVATION
PUMPS OFF	782.00
LEAD PUMP ON	783.75
LAG PUMP ON	784.50
SECOND LAG PUMP ON	N/A (ALTERNATE ONLY)
HIGH LEVEL ALARM	784.70

RECORD DRAWINGS

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CHECKED BY: *[Signature]*
ENGINEER'S REPRESENTATIVE
DATE: 6/2007

REVISIONS			
NO.	DESCRIPTION	DATE	BY

GRW PROJECT NO. 7601-30 CONTRACT NO. S02-03

**EXISTING WOODY PUMP STATION
ELECTRICAL CONTROLS
HARRIMAN UTILITY BOARD
HARRIMAN, TENNESSEE**

DESIGNED: WLM DATE: JUNE, 2004
DRAWN: JMG SCALE: AS NOTED
REVIEWED: WLM
APPROVED: WLM

GRW Elrod Dunson, Inc.
Engineers, Architects, Planners
LEXINGTON LOUISVILLE INDIANAPOLIS
NASHVILLE KNOXVILLE

SHEET NO. **E-6**

PANEL SCHEDULE	A
LOCATION	WOODY
ENCLOSURE	NEMA 1
SURFACE, FLUSH, OR MCC	MCC
AIC RATING	22,000

VOLTAGE	240/120, 3W
MAINS AMPACITY	100
MAIN C.B. SIZE	100
TOTAL SPACES	20

DESCRIPTION	VA	#P	BKR	FEEDER	NO	-A- VA	-B- VA	NO.	FEEDER	BKR	#P	VA	DESCRIPTION
ENERGY RECOVERY VENT - 3	1380	2	20A	4 #12, 3/4"C	1	2967		2	3#12, 3/4"C	20A	1	1587	EXHAUST FAN EF-3
	1380				3		1630	4	3#12, 3/4"C	20A	1	250	PUMP CONTROL SYSTEM
WETWELL LIGHTING CIRCUIT	100	1	20A	3#12, 3/4"C	5	500		6	3#12, 3/4"C	20A	1	400	UPSTAIRS LIGHTS
RECEPTACLE CIRCUIT	360	1	20A	3#12, 3/4"C	7		1360	8	3#12, 3/4"C	20A	1	1000	DOWNSTAIRS LIGHTS
OUTSIDE LIGHT	300	1	20A	3#12, 3/4"C	9	1800		10	AS REQUIRED	20A	1	1500	RECONNECT EXISTING CIRCUIT
RECONNECT EXISTING CIRCUIT	800	1	20A	AS REQUIRED	11		850	12	AS REQUIRED	20A	1	50	PHASE A AMPERAGE MONITOR
RECONNECT EXISTING CIRCUIT	800	1	20A	AS REQUIRED	13	1300		14		20A	1	500	SPARE
RECEPTACLE CIRCUIT	360	1	20A	3#12, 3/4"C	15		1280	16	4#12, 3/4"C	20A	2	920	SUMP PUMP
SPARE	500	1	20A		17	1420		18				920	
SPARE	500	1	20A		19		1000	20		20A	1	500	SPARE
TOTAL VOLT-AMPERES PER PHASE						7987	6120						
TOTAL AMPERES PER PHASE						66.6	51						

KEYNOTES:

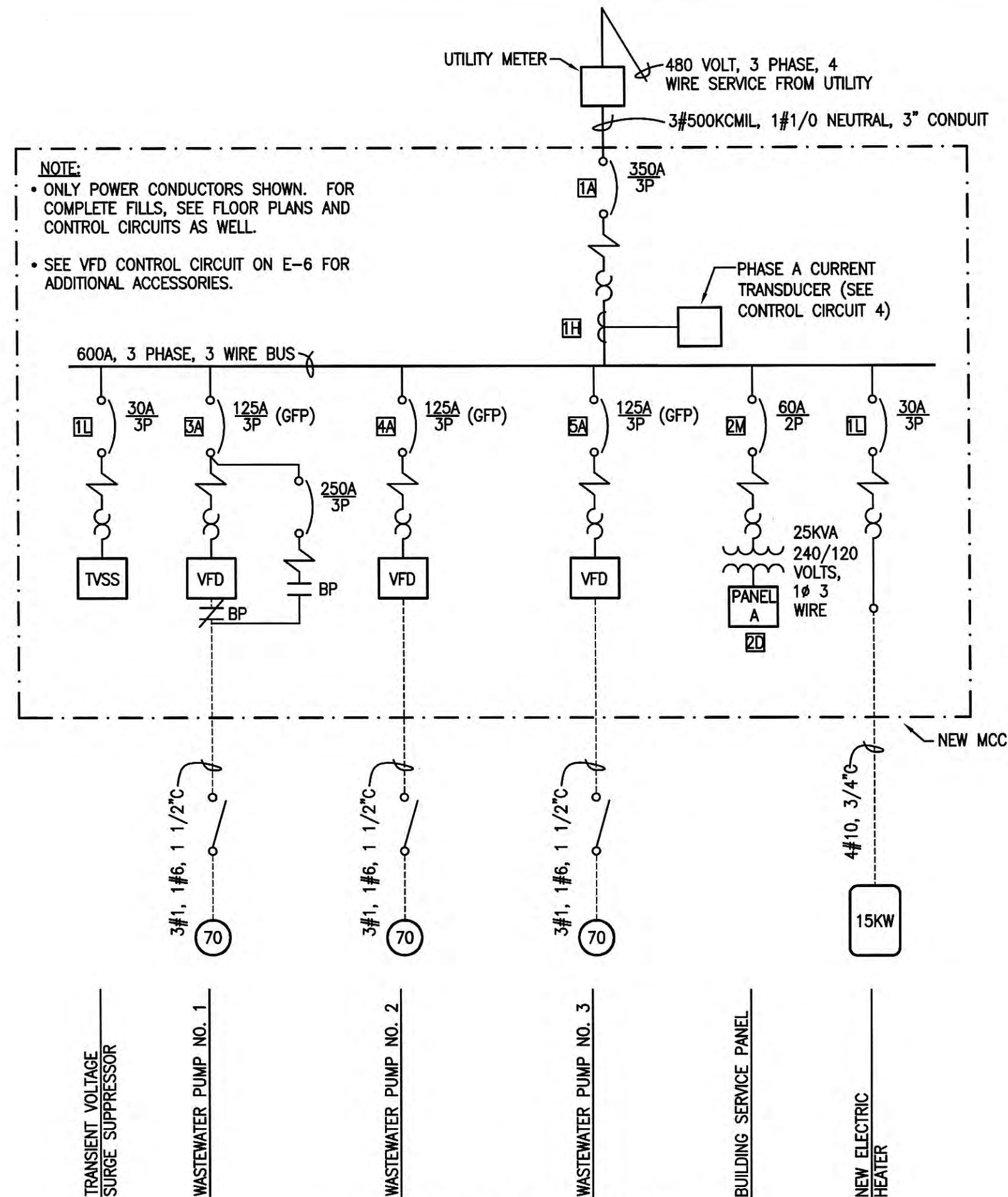
- 1 REMOVE EXISTING LATCHOUT STATION FOR ABANDONED PUMP.
- 2 NEW LEVEL TRANSDUCER AND CABLE SUPPORT FOR CONTROL OF NEW PUMPS.
- 3 NEW NEMA 4X ENCLOSED SAFETY SWITCH WITHIN SIGHT OF NEW PUMP.
- 4 NEW DRY PIT SUBMERSIBLE PUMP.
- 5 NEW EXHAUST FAN SHALL RUN CONTINUOUSLY TO PROVIDE 6 AIR CHANGES/HOUR.
- 6 FURNISH AND INSTALL NEW HAZLUX HAZUTE M5 (OR EQUAL) EXPLOSION PROOF COMPACT FLUORESCENT LIGHT FIXTURES IN WETWELL SIDE OF STRUCTURE AS SHOWN. FIXTURE JUST INSIDE DOOR TO BE CEILING MOUNTED; ALL OTHERS WALL MOUNTED WITH BRACKET FURNISHED WITH FIXTURE. FIXTURE SHALL ALSO BE NEMA 4X RATED AND HAVE 26 WATTS OF PL LAMP EACH.
- 7 FURNISH AND INSTALL CROUSE HINDS VXBHF25GP, OR EQUAL WITH G55 GREEN GLASS GLOBE AND 60 WATT LAMP. PROVIDE SIGN BELOW FIXTURE STATING "DO NOT GO DOWNSTAIRS UNLESS GREEN LAMP IS ILLUMINATED INDICATING LOWER LEVEL VENTILATION FAN IS RUNNING".
- 8 NEW ENERGY RECOVERY VENTILATOR.
- 9 EXISTING 6KW ELECTRIC HEATER TO BE ABANDONED & REMOVED THIS CONTRACT.
- 10 NEW MOTOR CONTROL CENTER WITH SERVICE ENTRANCE CONDUIT THROUGH ROOF TO WEATHERHEAD. EXISTING MCC AND THROUGH ROOF SERVICE TO BE ABANDONED AND REMOVED.
- 11 EXISTING OVERHEAD SERVICE THROUGH ROOF. MODIFY AS REQUIRED FOR NEW SERVICE.
- 12 NEW LEVEL CONTROL PANEL (IN M.C.C.)
- 13 EXISTING SINGLE PHASE PANEL TO BE ABANDONED AND REMOVED THIS CONTRACT. INTERCEPT CONDUITS FROM LOADS AT A CONVENIENT POINT AND RECONNECT CIRCUITS TO NEW PANEL A IN NEW MCC.
- 14 EXISTING SCADA RTU TO REMAIN. WIRE NEW SIGNALS FROM PUMP STARTERS & CONTROLS TO EXISTING RTU. COORDINATE EXACT REQUIREMENTS FOR MONITORING WITH THE OWNER.
- 15 EXISTING COAXIAL CABLE AND ANTENNA FOR SCADA RTU. DO NOT DISTURB.

KEYNOTES (CONTINUED):

- 16 NEW #6 AWG GROUNDING CONDUCTOR TO RTU FOR LIGHTNING ARRESTOR GROUND.
- 17 FURNISH AND INSTALL A 1KW BULKHEAD LIGHTNING ARRESTOR ON COAXIAL CABLE BEFORE IT ATTACHES TO RADIO.
- 18 NEW #1/0 BARE COPPER GROUNDING ELECTRODE CONDUCTOR SLEEVED IN A 3/4" CONDUIT TO OUTSIDE. BOND TO ANY EXISTING GROUNDING ELECTRODE SYSTEM AT OLD MCC LOCATION.
- 19 NEW GROUNDING ELECTRODE ARRAY.
- 20 SEAL CONDUIT AGAINST GROUNDWATER ENTRY.
- 21 ALL CONDUITS FROM WETWELL TO PUMP STATION SHALL BE FITTED WITH SEALING FITTINGS.
- 22 NEW ELECTRIC HEATER - SEE MECHANICAL PLAN FOR THERMOSTAT LOCATION (PROVIDE WIRING).
- 23 PROVING SWITCH FOR EF-1.
- 24 2#16, SHIELDED AND TWISTED PAIR, 3/4"C
- 25 19#12, 1"C
- 26 COMBUSTIBLE GAS ALARM PANEL. SCOTT GAS PLUS OR EQUAL.
- 27 NEW COMBUSTIBLE GAS DETECTOR SET UP FOR METHANE AND MOUNTED 6'-6" A.F.F.
- 28 NEW BACKUP HIGH LEVEL ALARM FLOAT.
- 29 3#12, 3/4"C FOR HIGH LEVEL ALARM TO RTU.
- 30 7#12, 3/4"C FROM LEVEL CONTROLS TO MCC FOR PUMP START/STOP CONTROL.
- 31 ABANDON & REMOVE EXISTING LIGHT FIXTURE BLACKOFF BOX.
- 32 REMOVE AND REPLACE WETWELL VENTILATOR MOTOR ON ROOF WITH A NEW MOTOR RATED FOR CLASS 1, DIVISION 1 GROUP C & D ATMOSPHERES. EXISTING MOTOR 1/3HP, 115 VOLT, 725 RPM.

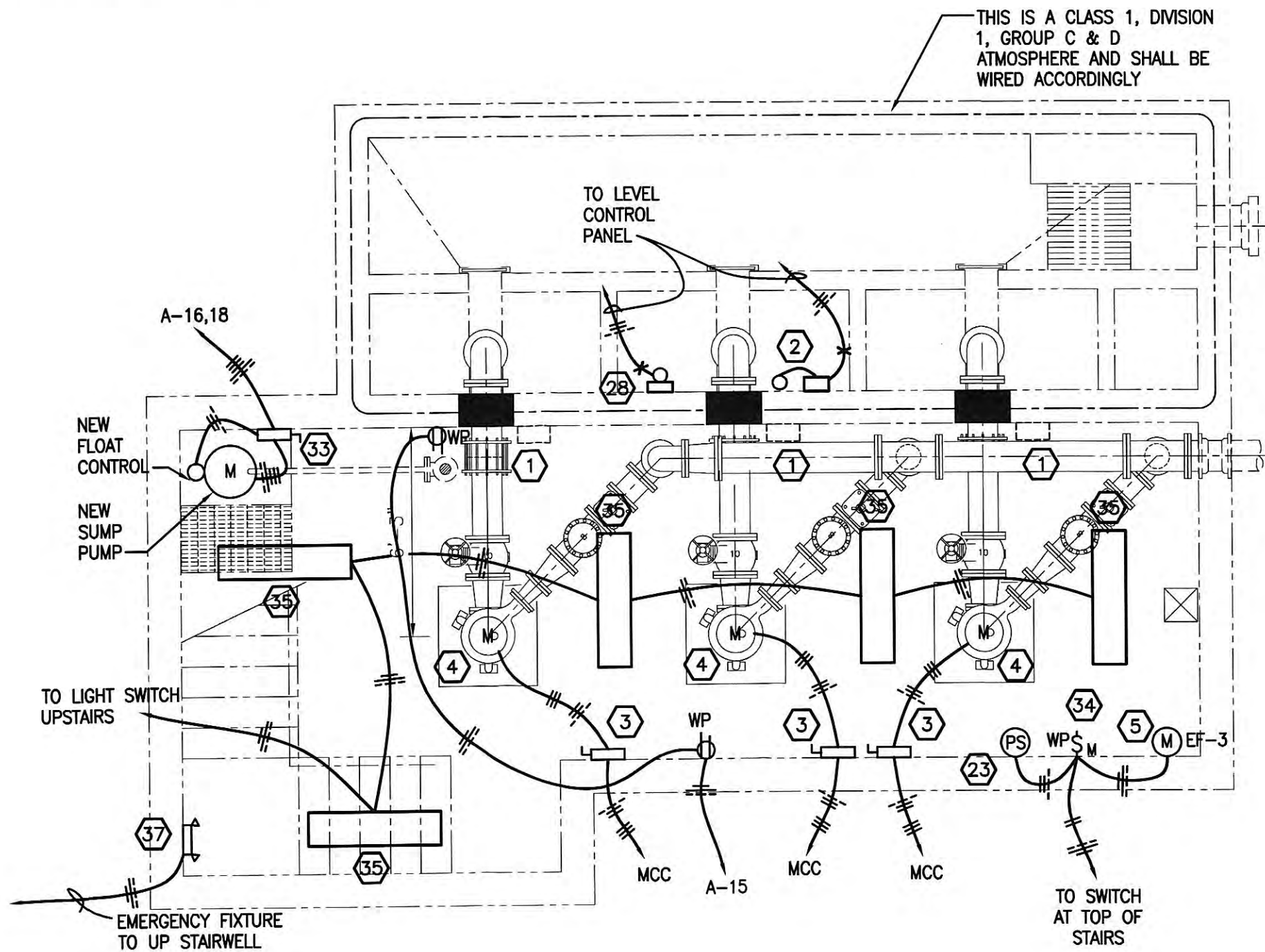
KEYNOTES (CONTINUED):

- 33 REWIRE EXISTING SUMP PUMP TO NEW MOTOR STARTER.
- 34 NEW SWITCH(ES).
- 35 NEW HOLOPHANE 7200-4-12-J-F OR EQUAL 2 LAMP FLUORESCENT LUMINAIRE.
- 36 NEW HOLOPHANE WL2K-150HP-12-BZ OR EQUAL WALLPACK.
- 37 NEW HOLOPHANE DMS-C-36-S-NN-2-DL OR EQUAL EMERGENCY FIXTURE.
- 38 NEW MOTORIZED AIR INTAKE DAMPER FOR EF-2.
- 39 RS-485 CABLE 3/4"C FROM MCC TO EXISTING SCADA FOR VFD MONITORING.



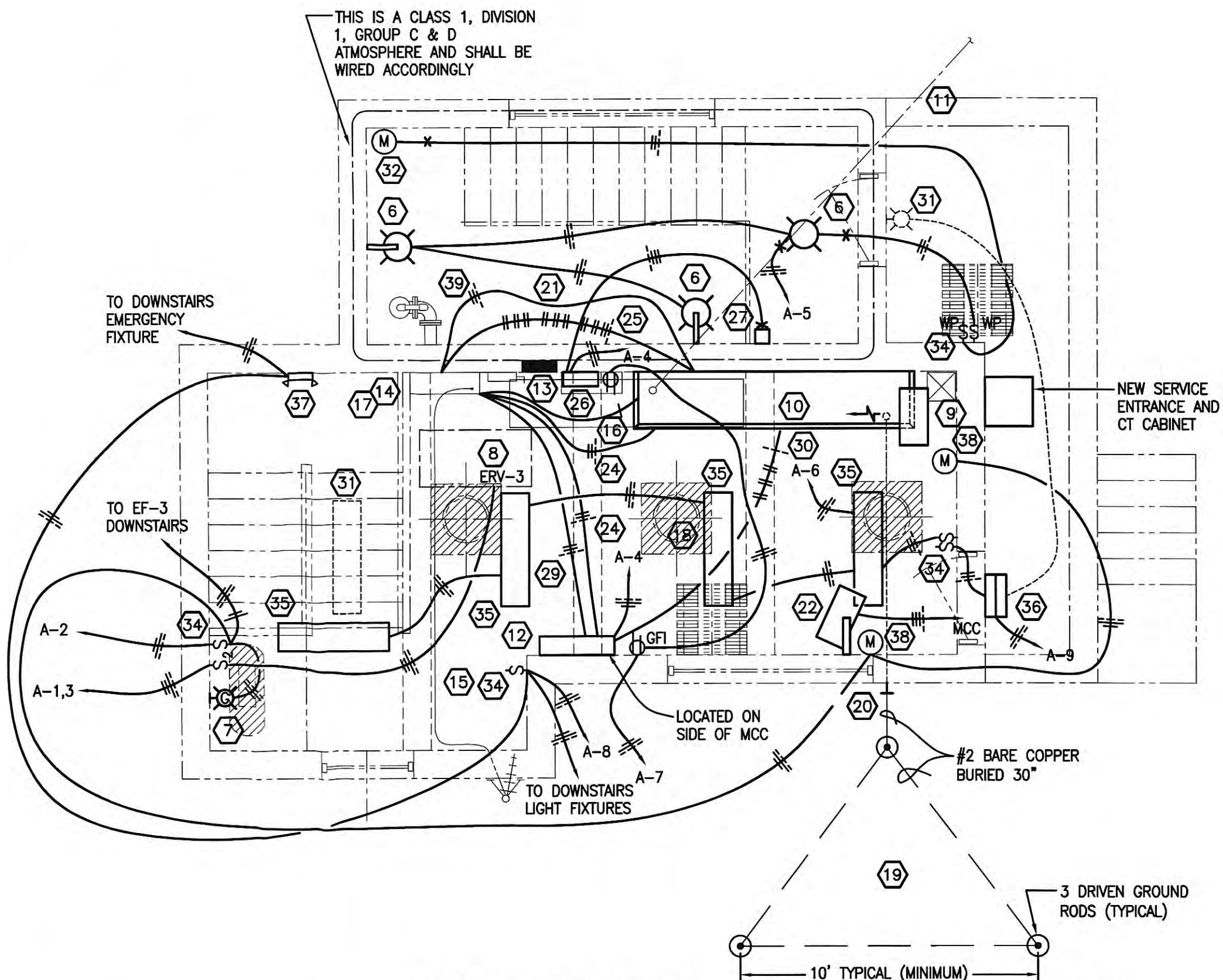
NEW ONE LINE DIAGRAM

NO SCALE



MODIFIED FLOOR PLAN - PUMP LEVEL

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



MODIFIED FLOOR PLAN - ENTRANCE LEVEL

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

NOTE:

- SEE GENERAL PROJECT NOTES ON DRAWING E-3.
- SEE TYPICAL DETAILS ON DRAWING E-2.

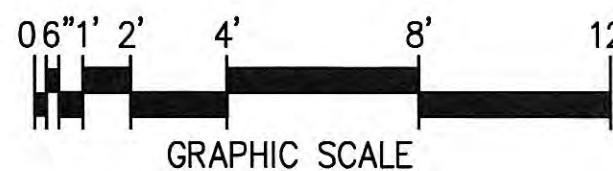
RECORD DRAWINGS

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CHECKED BY:

ENGINEER'S REPRESENTATIVE

4/2007
DATE



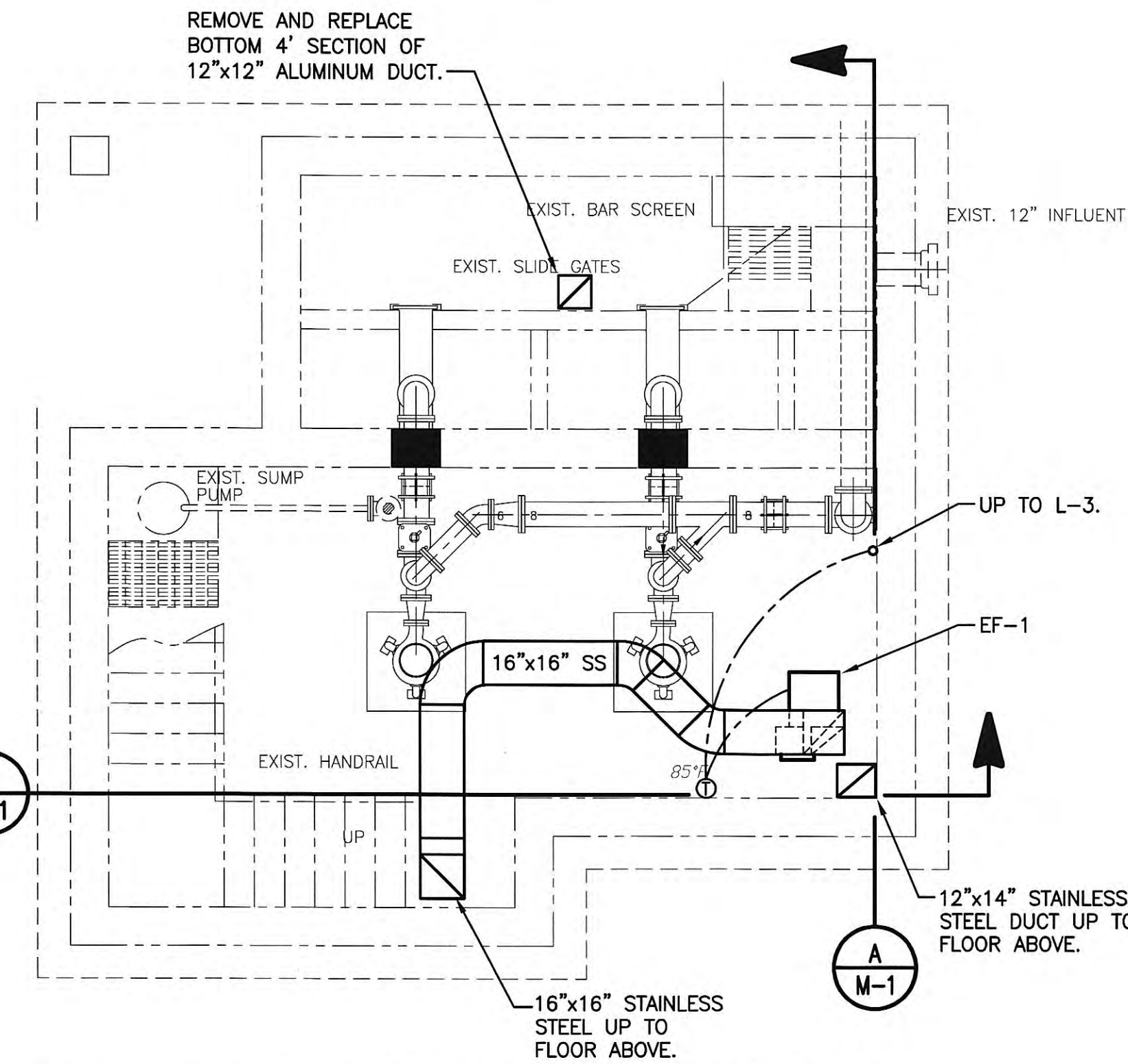
GRW PROJECT NO. 7601-30 CONTRACT NO. S02-03

EXISTING WOODY SEWAGE PUMP STATION
ELECTRICAL
HARRIMAN UTILITY BOARD
HARRIMAN, TENNESSEE

GRW Erod Dunson, Inc.
Engineers, Architects, Planners
LEXINGTON LOUISVILLE INDIANAPOLIS
NASHVILLE KNOXVILLE

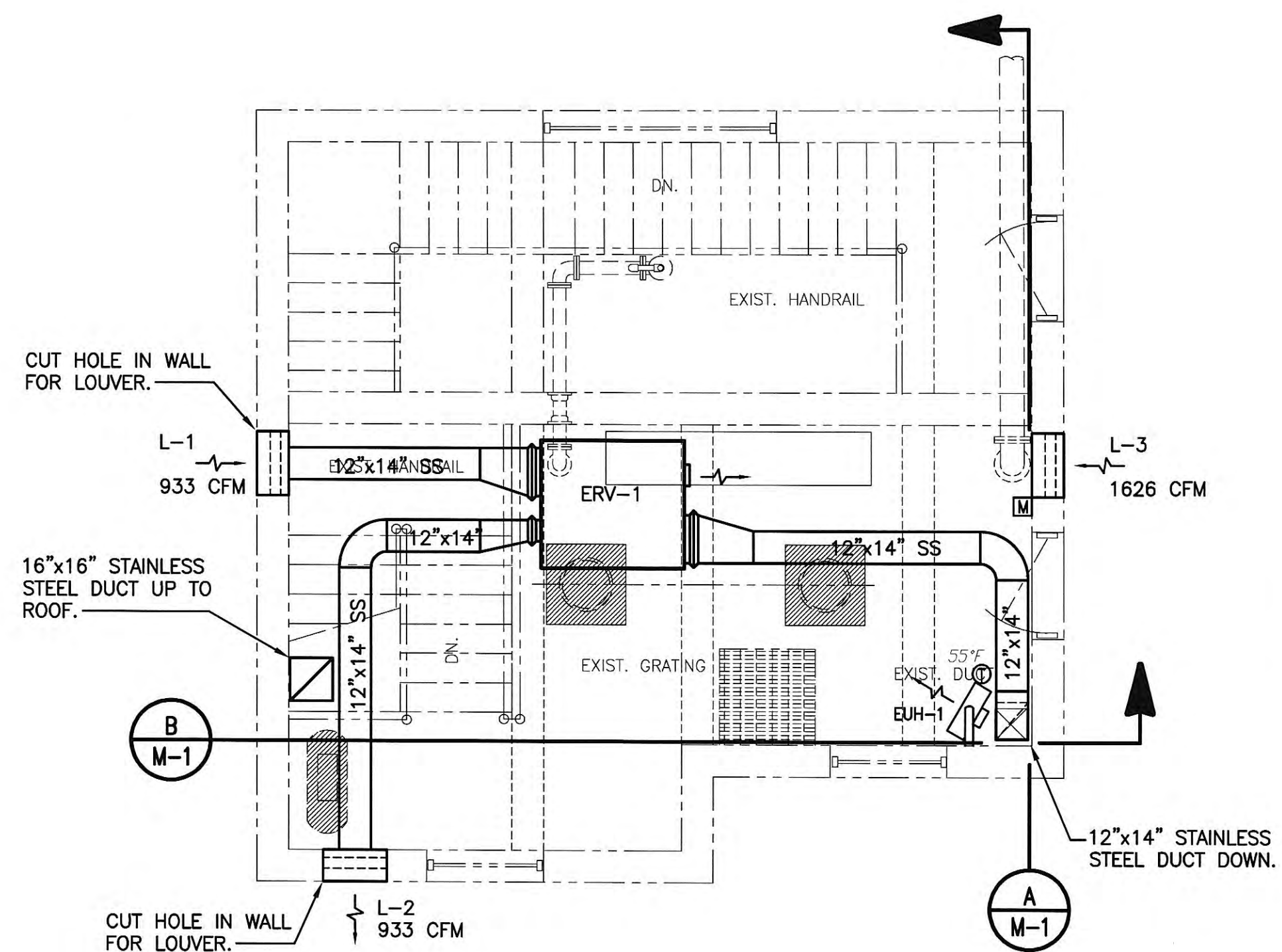
DESIGNED: WLM	DATE: JUNE, 2004
DRAWN: JMG	SCALE: AS NOTED
REVIEWED: WLM	SHEET NO. E-7
APPROVED: WLM	

REVISIONS			
NO.	DESCRIPTION	DATE	BY



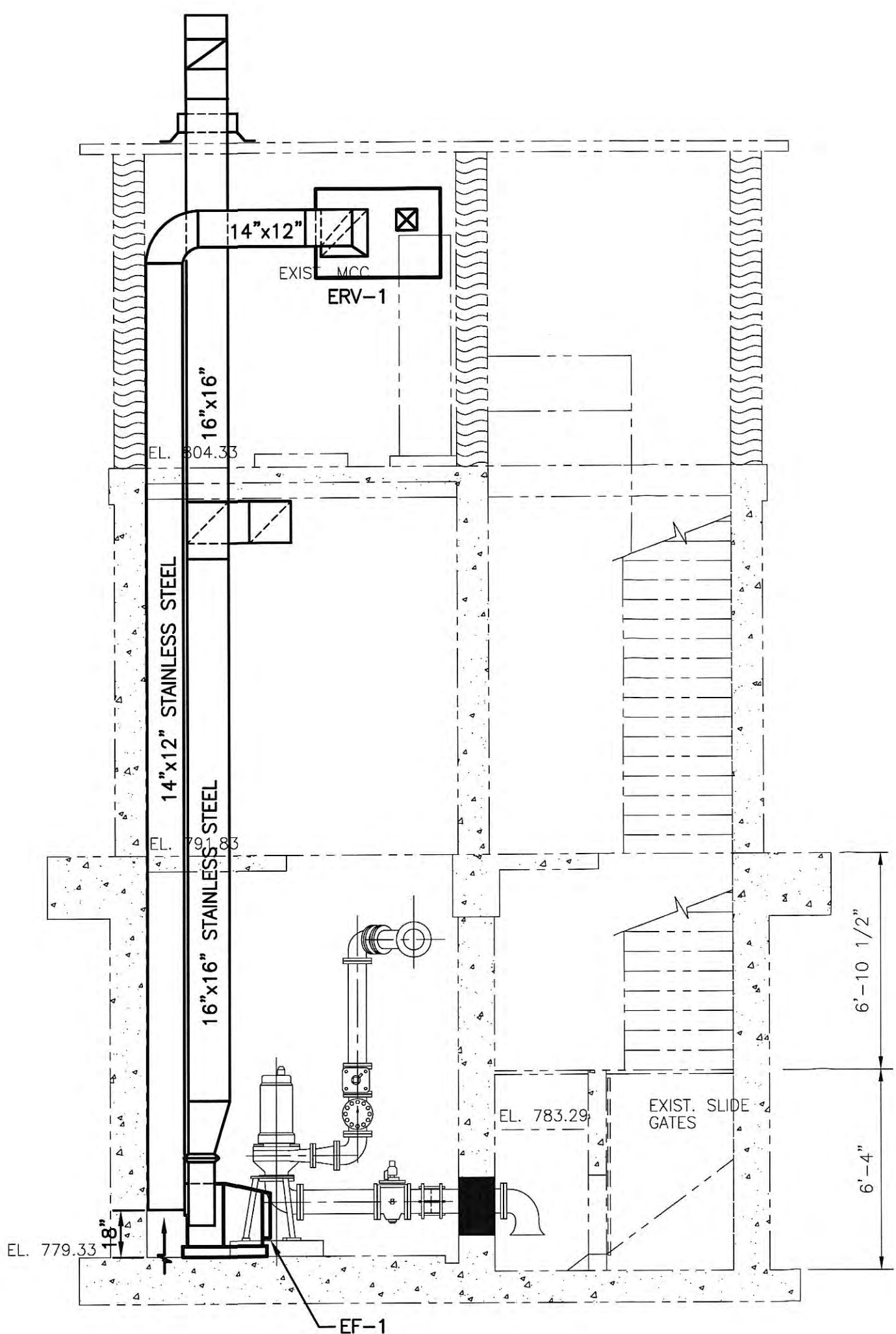
HVAC FLOOR PLAN — PUMP LEVEL

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



HVAC FLOOR PLAN — ENTRANCE LEVEL

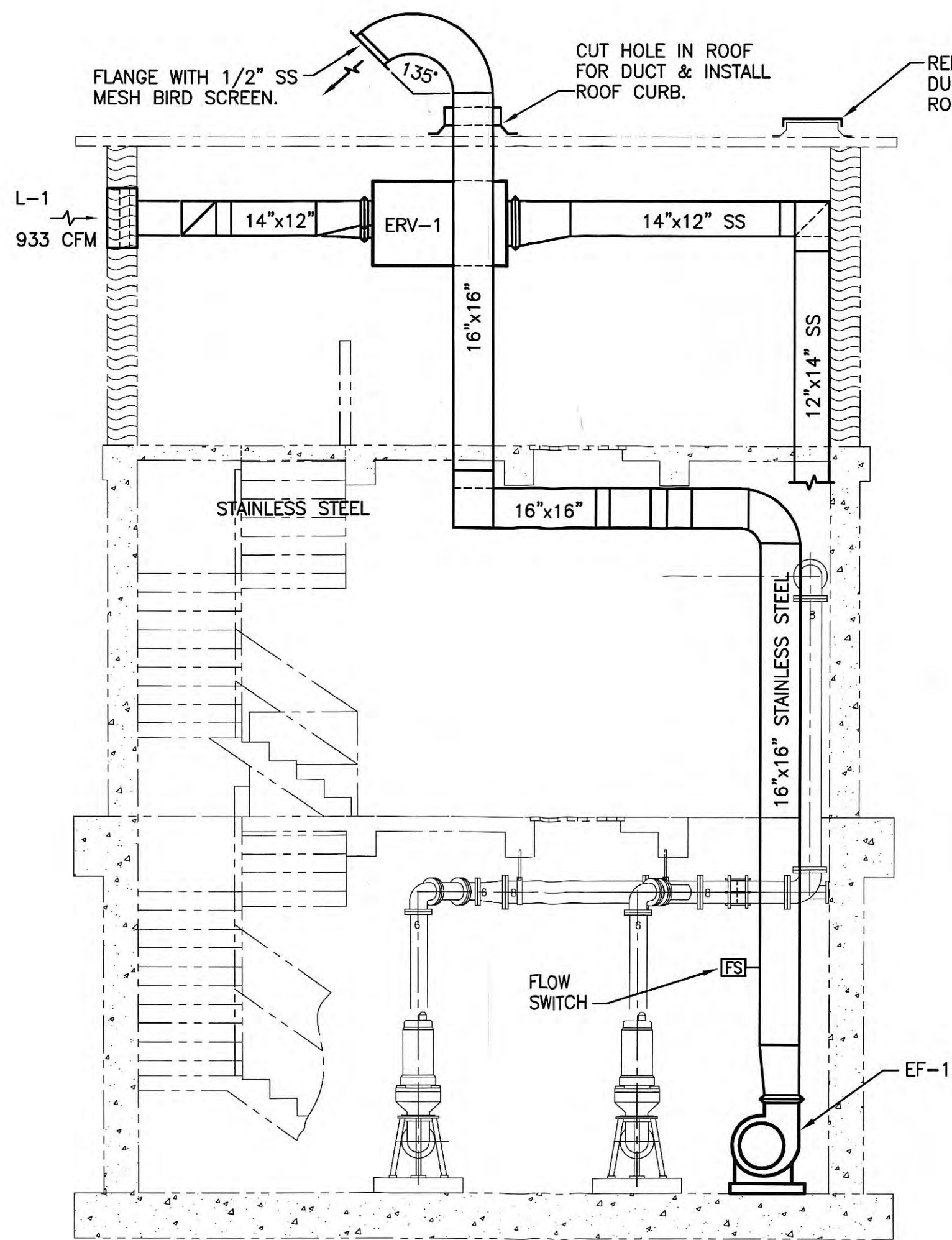
SCALE: 1/4" = 1'-0"



SECTION

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

A
M-1

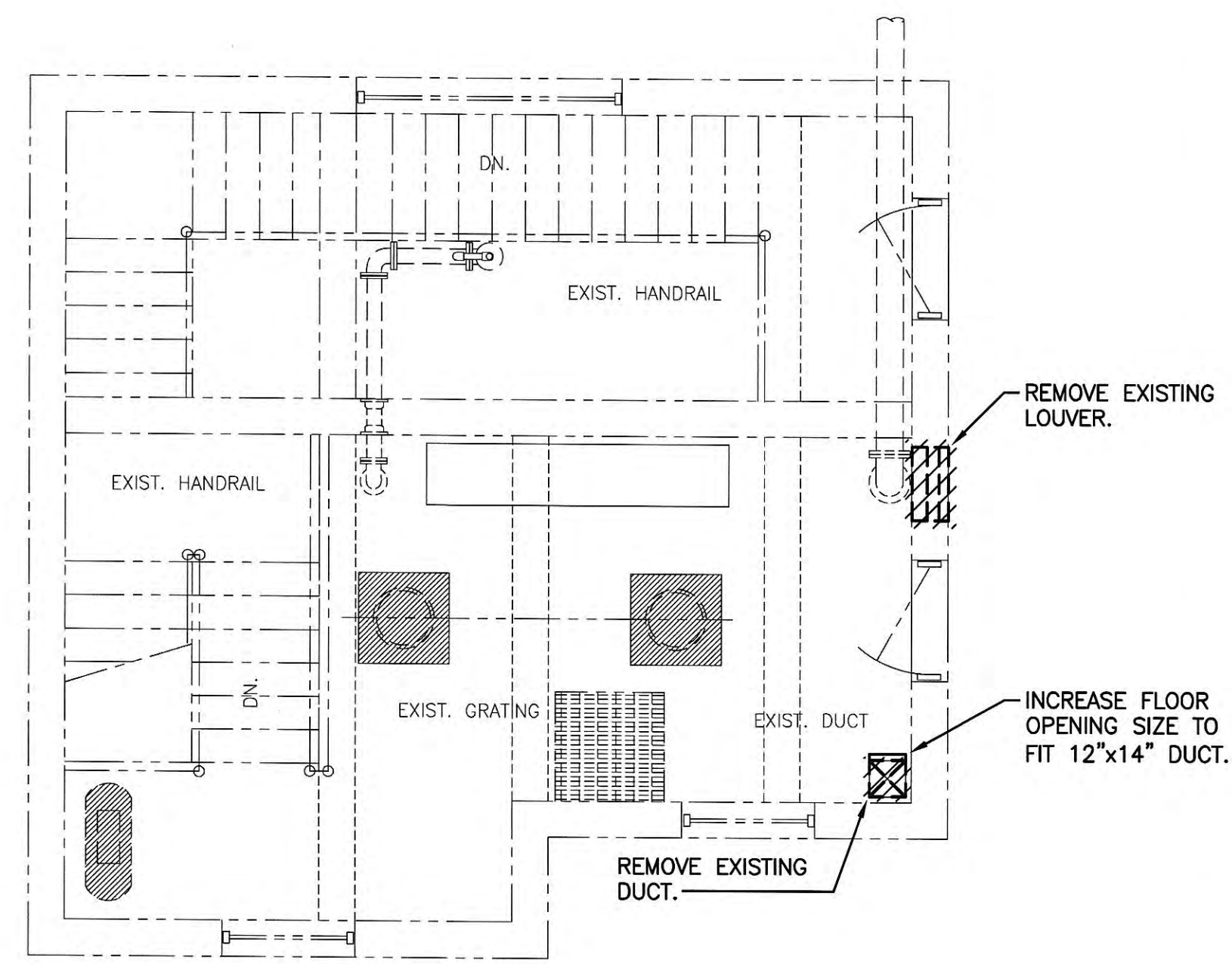


SECTION

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

B
M-1

RECORD DRAWINGS
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CHECKED BY: *Strom*
ENGINEER'S REPRESENTATIVE *6/2007* /DATE

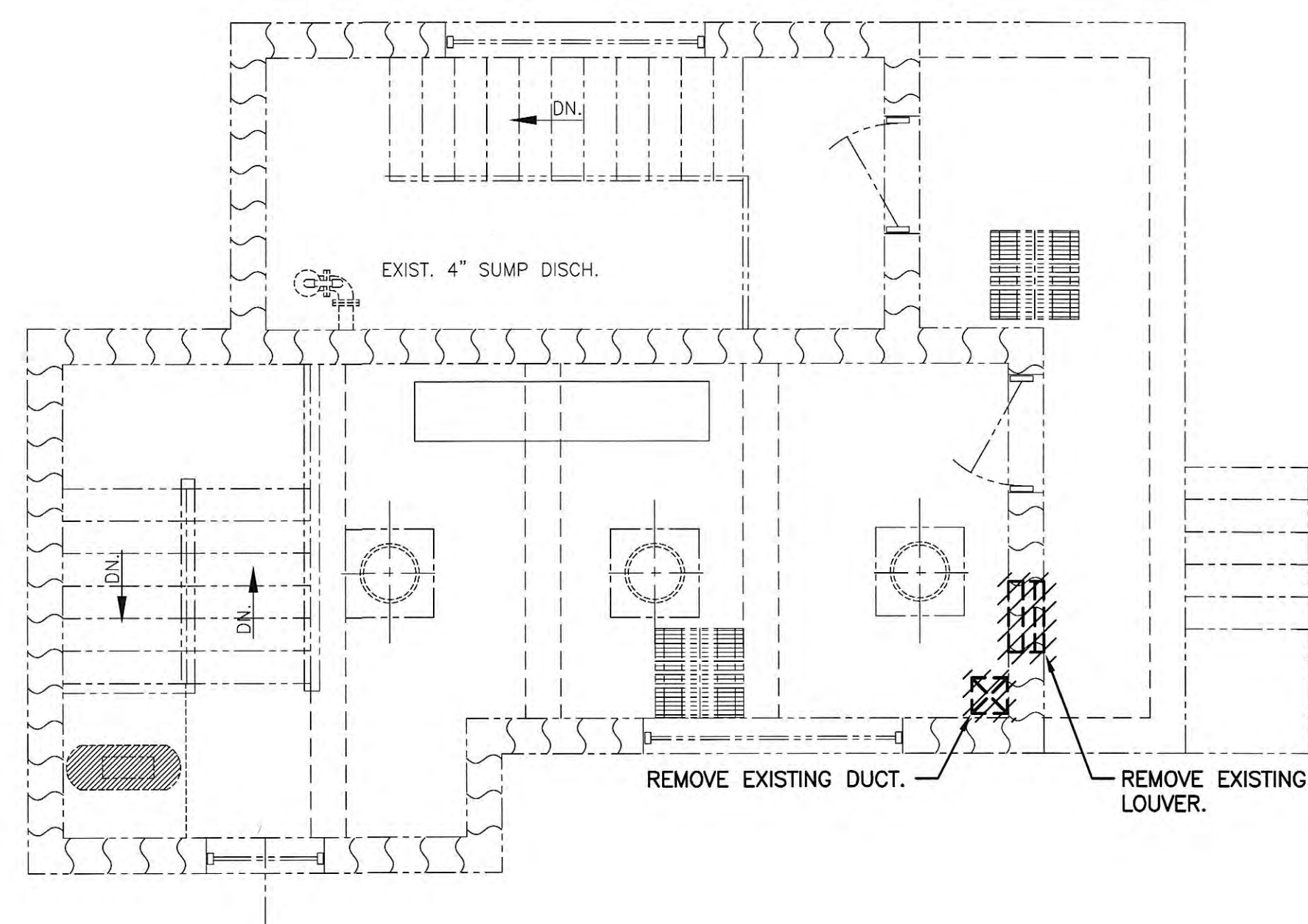


HVAC DEMOLITION PLAN — ENTRANCE LEVEL

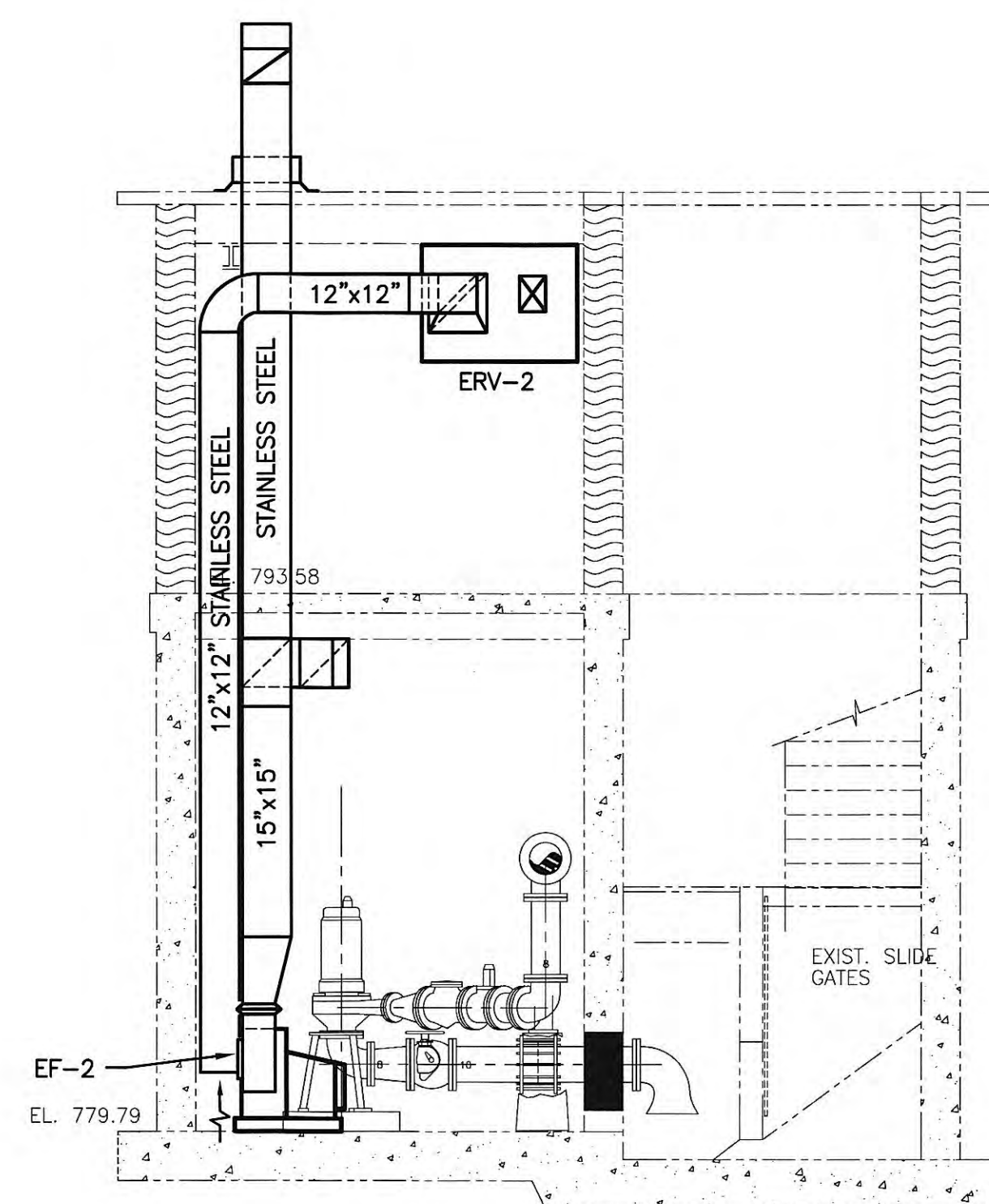
SCALE: 1/4" = 1'-0"

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ALL RIGHTS RESERVED.			
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NO.	DESCRIPTION	DATE	BY
REVISIONS			

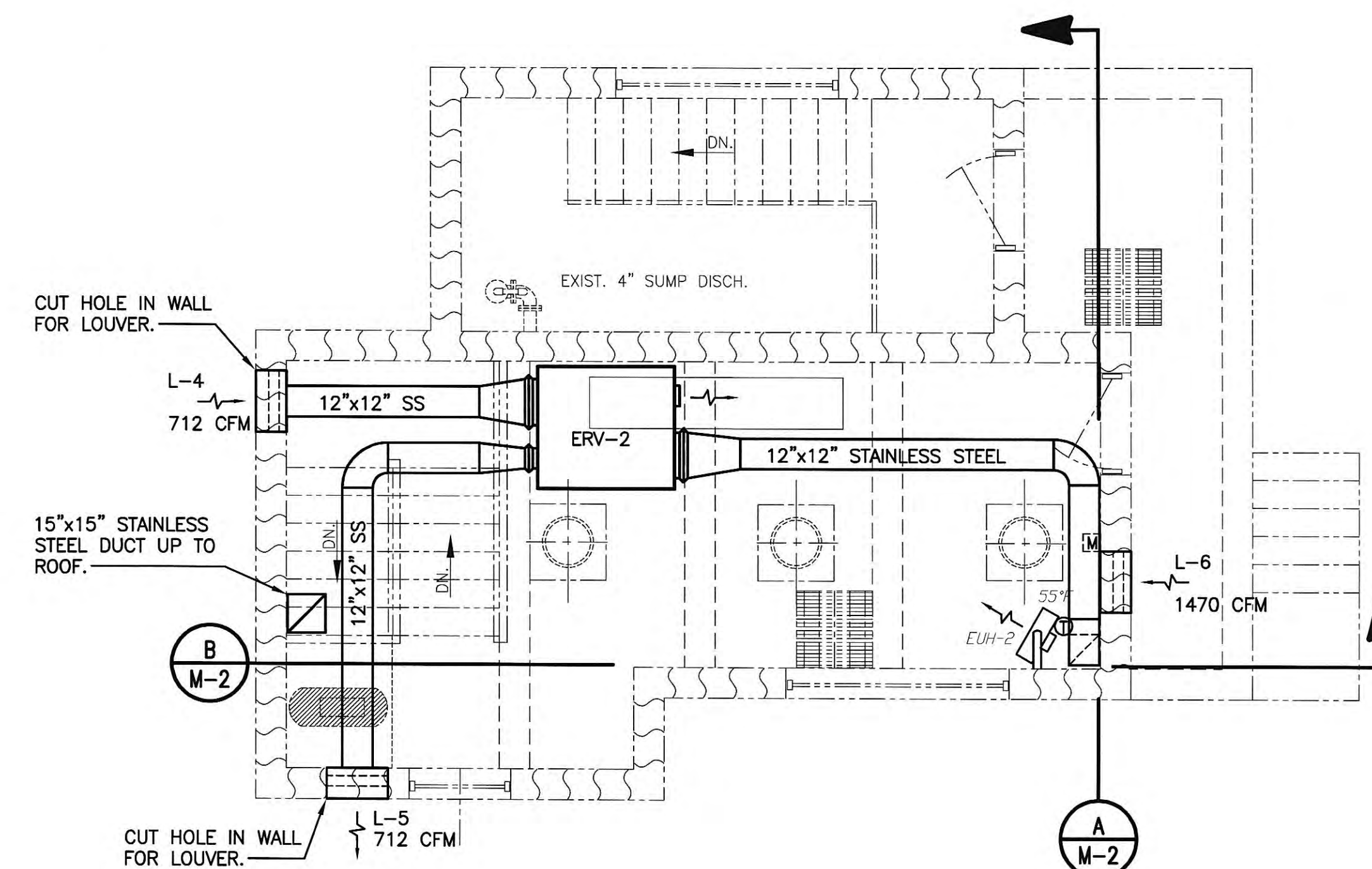
GRW PROJECT NO. 7601-30		CONTRACT NO. S02-03	
EXISTING HARDEES SEWAGE PUMP STATION HVAC PLAN AND SECTIONS HARRIMAN UTILITY BOARD HARRIMAN, TENNESSEE			
 GRW Elrod Dunson, Inc. Engineers, Architects, Planners LEONINGTON LOUISVILLE INDIANAPOLIS NASHVILLE KNOXVILLE		DESIGNED: JK	DATE: JUNE, 2004
		DRAWN: EGR	SCALE: AS NOTED
		REVIEWED: RGE	SHEET NO.
		APPROVED: RGE	M-1



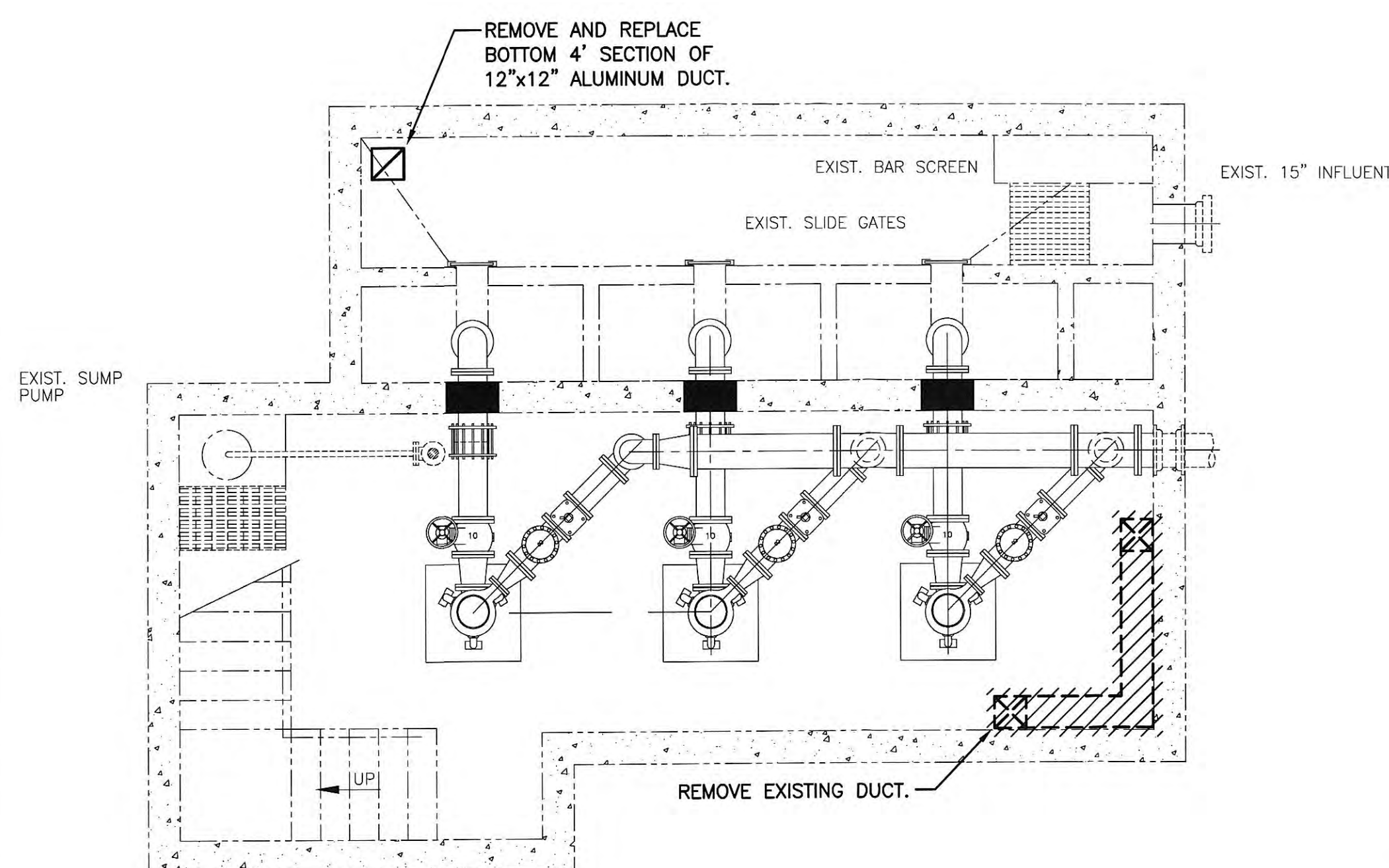
HVAC DEMOLITION PLAN — ENTRANCE LEVEL
SCALE: 1/4" = 1'-0"



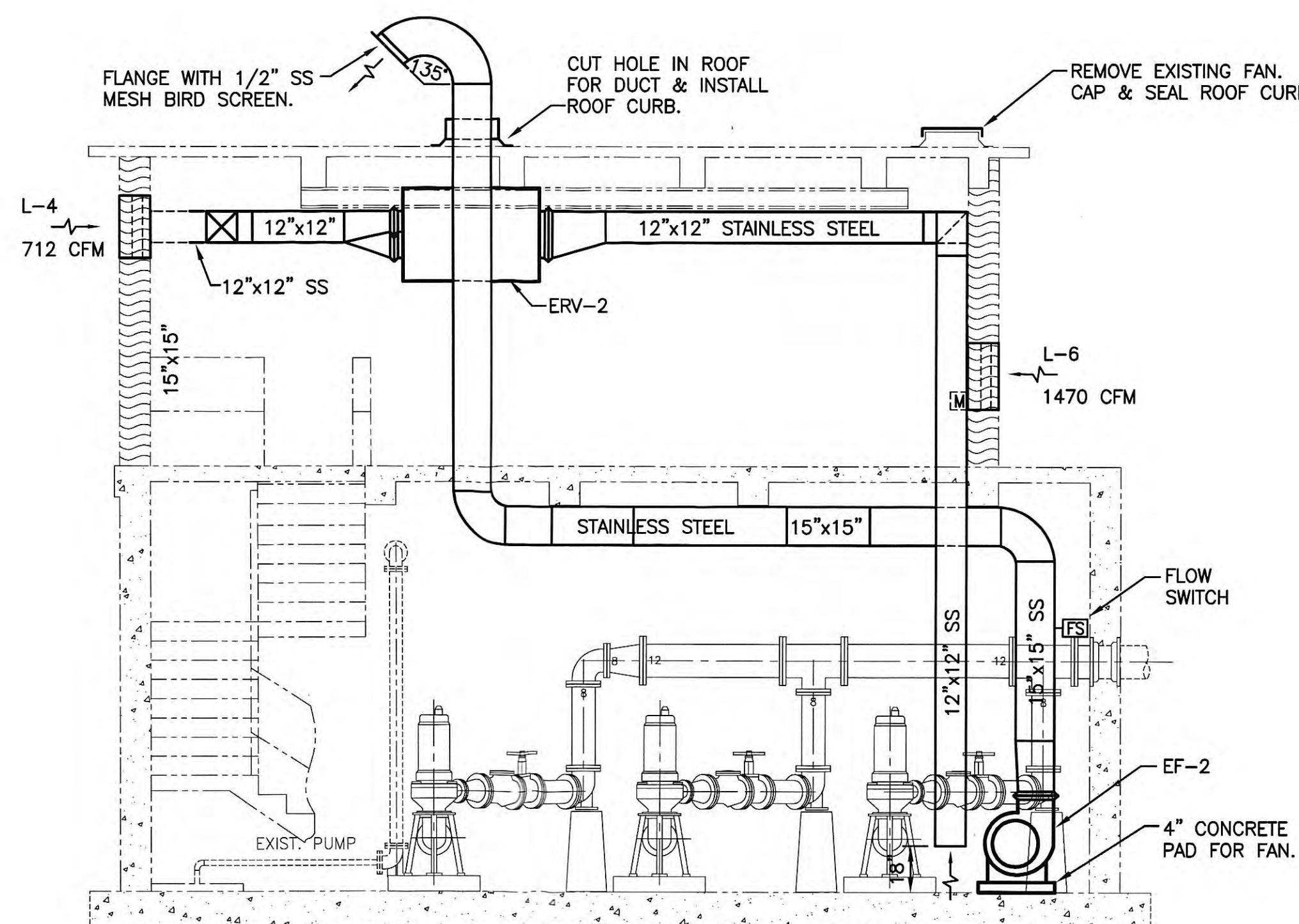
SECTION A-M-2
SCALE: 1/4" = 1'-0"



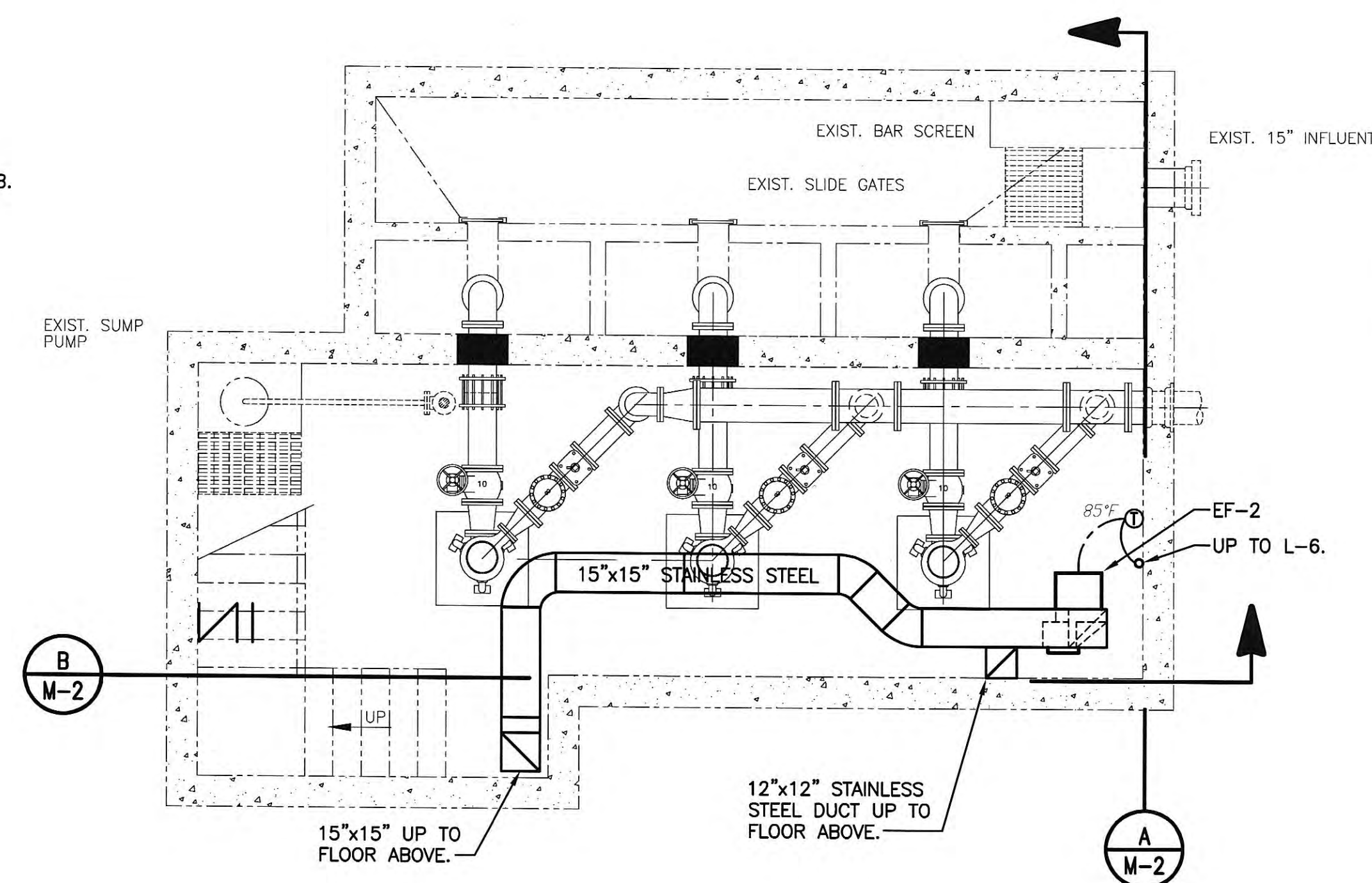
HVAC NEW WORK PLAN — ENTRANCE LEVEL
SCALE: 1/4" = 1'-0"



HVAC DEMOLITION PLAN — PUMP LEVEL
SCALE: 1/4" = 1'-0"



SECTION B-M-2
SCALE: 1/4" = 1'-0"



HVAC NEW WORK PLAN — PUMP LEVEL
SCALE: 1/4" = 1'-0"

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CHECKED BY:

ENGINEER'S REPRESENTATIVE

DATE

REVISIONS			
NO.	DESCRIPTION	DATE	BY

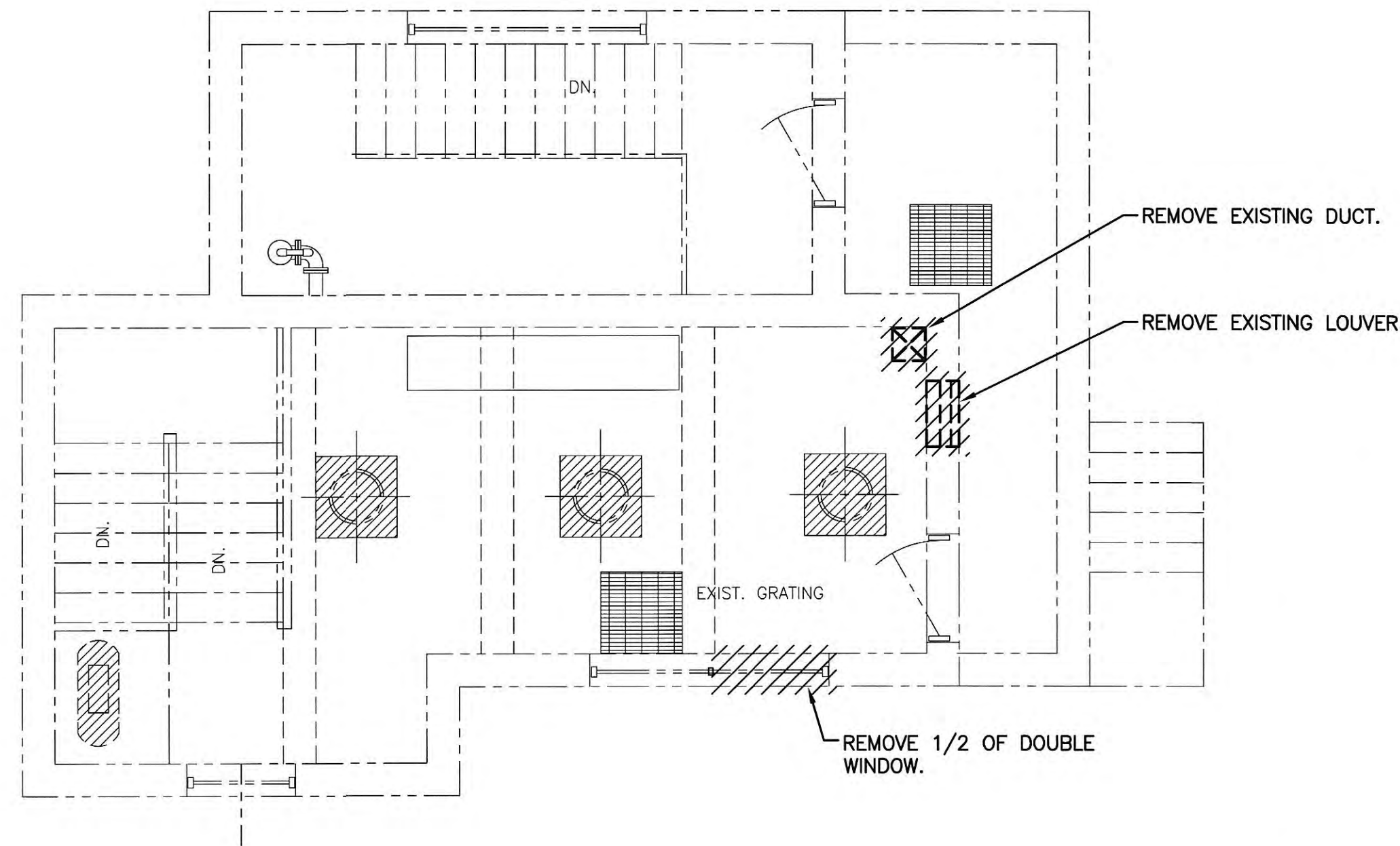
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GRW PROJECT NO. 7601-30 CONTRACT NO. S02-03

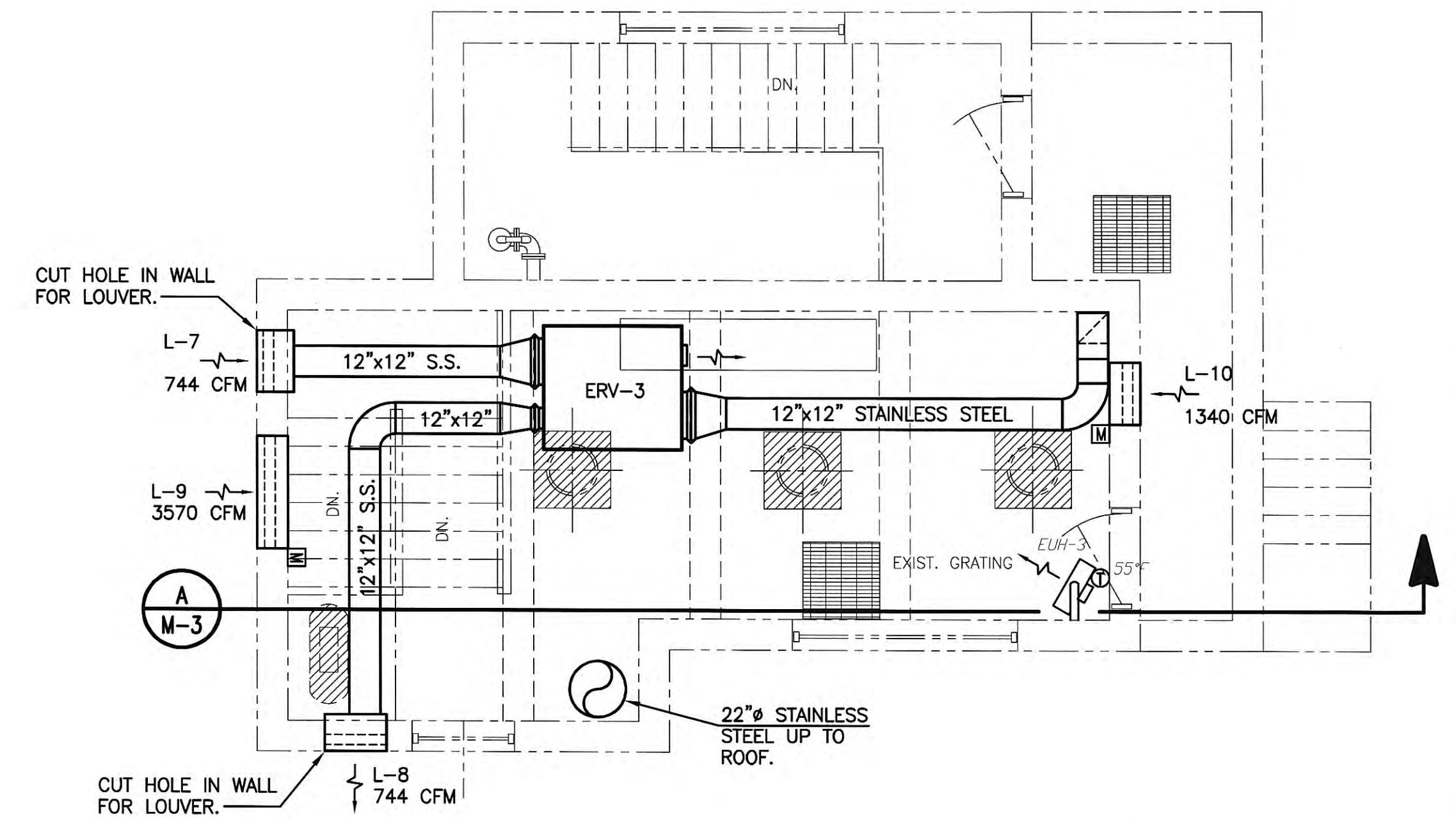
**EXISTING WEBB SEWAGE PUMP STATION
HVAC PLAN AND SECTIONS
HARRIMAN UTILITY BOARD
HARRIMAN, TENNESSEE**

GRW Elrod Dunson, Inc.
Engineers, Architects, Planners
LEXINGTON LOUISVILLE INDIANAPOLIS
NASHVILLE KNOXVILLE

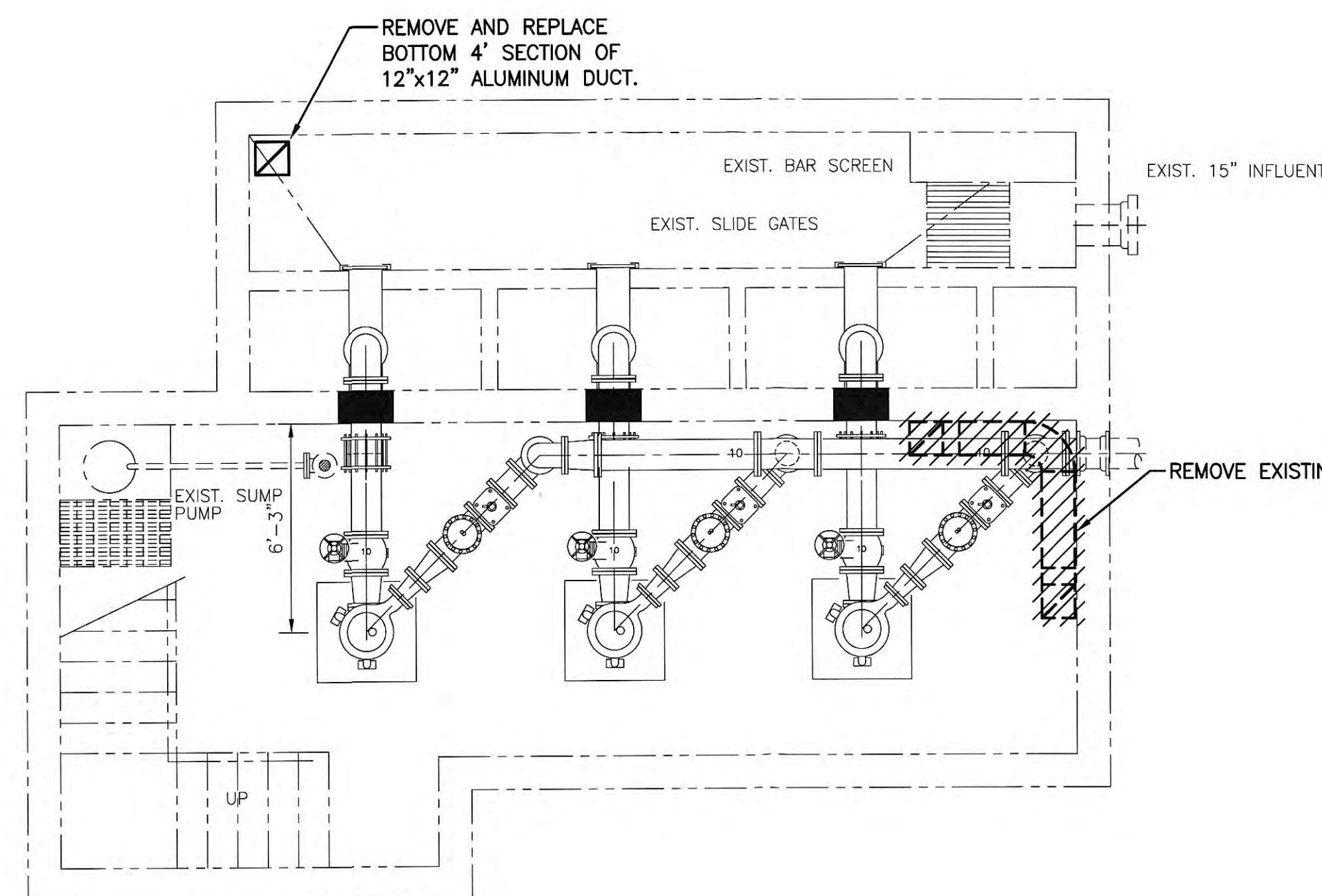
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REVIEWED: RGE	SHEET NO. M-2
APPROVED: RGE	



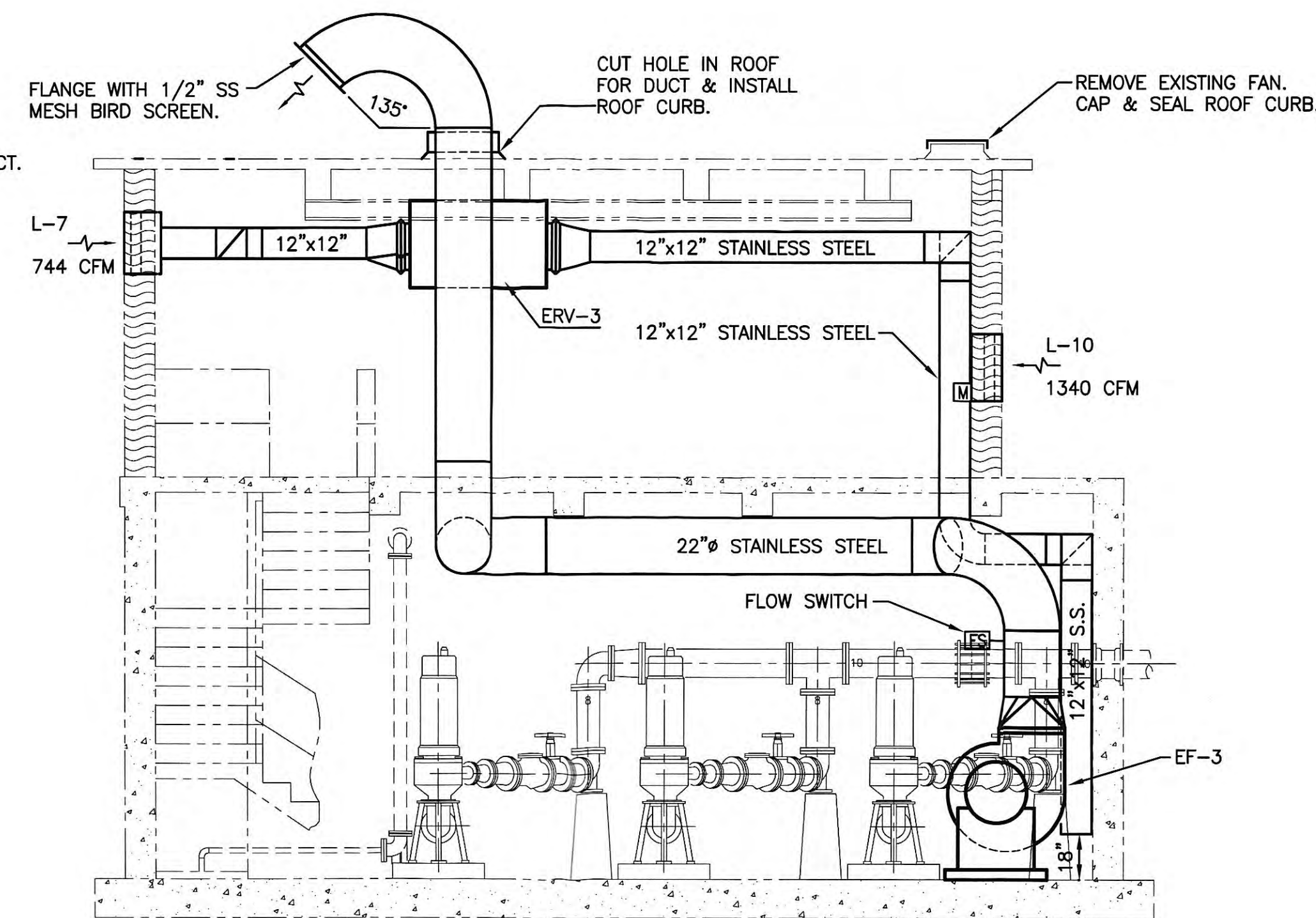
HVAC DEMOLITION PLAN — ENTRANCE LEVEL
SCALE: 1/4" = 1'-0"



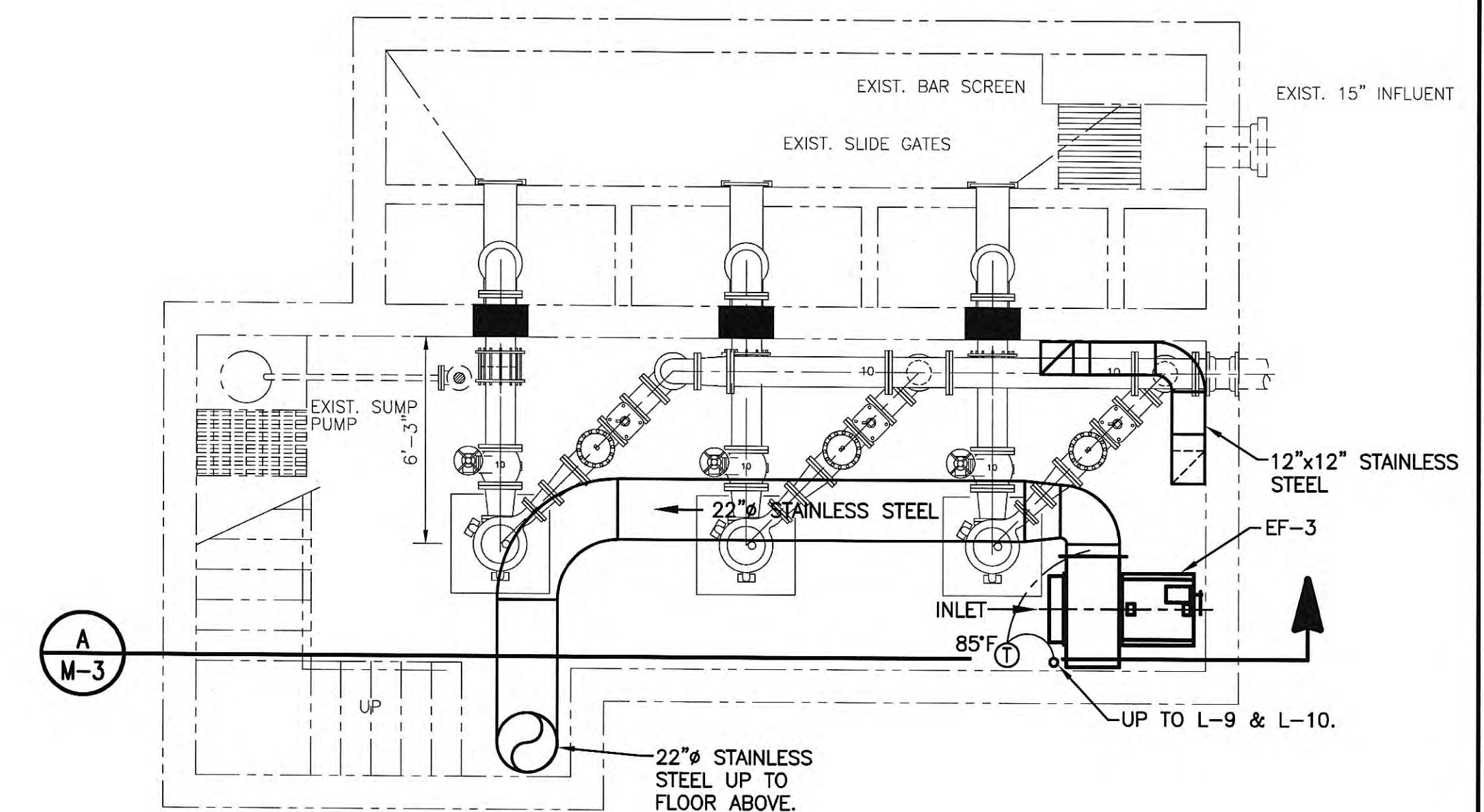
HVAC NEW WORK PLAN — ENTRANCE LEVEL
SCALE: 1/4" = 1'-0"



HVAC DEMOLITION PLAN — PUMP LEVEL
SCALE: 1/4" = 1'-0"



SECTION A-M-3
SCALE: 1/4" = 1'-0"



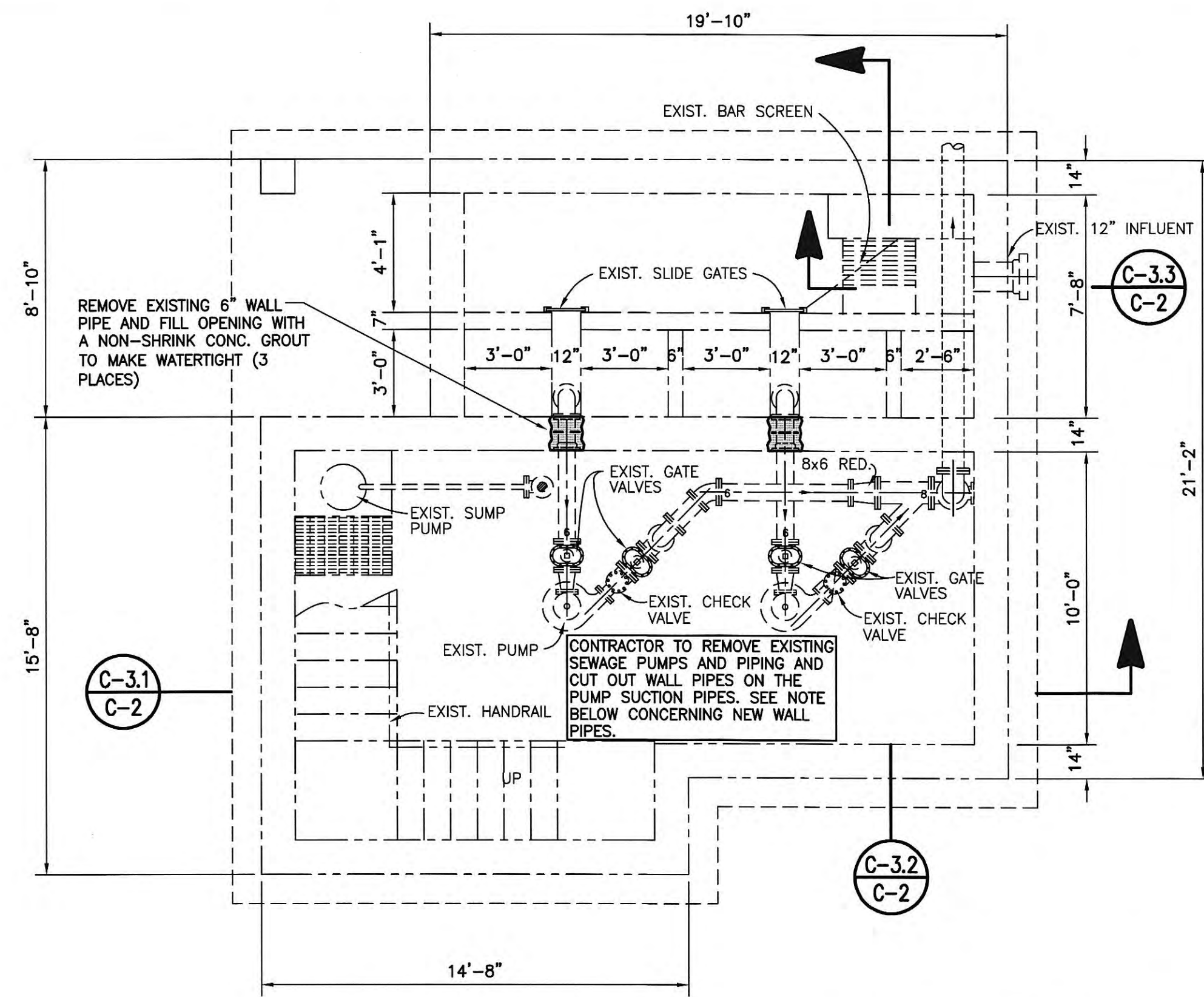
HVAC NEW WORK PLAN — PUMP LEVEL
SCALE: 1/4" = 1'-0"

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CHECKED BY: *S. S. S. S.*
ENGINEER'S REPRESENTATIVE
DATE: 6/2002

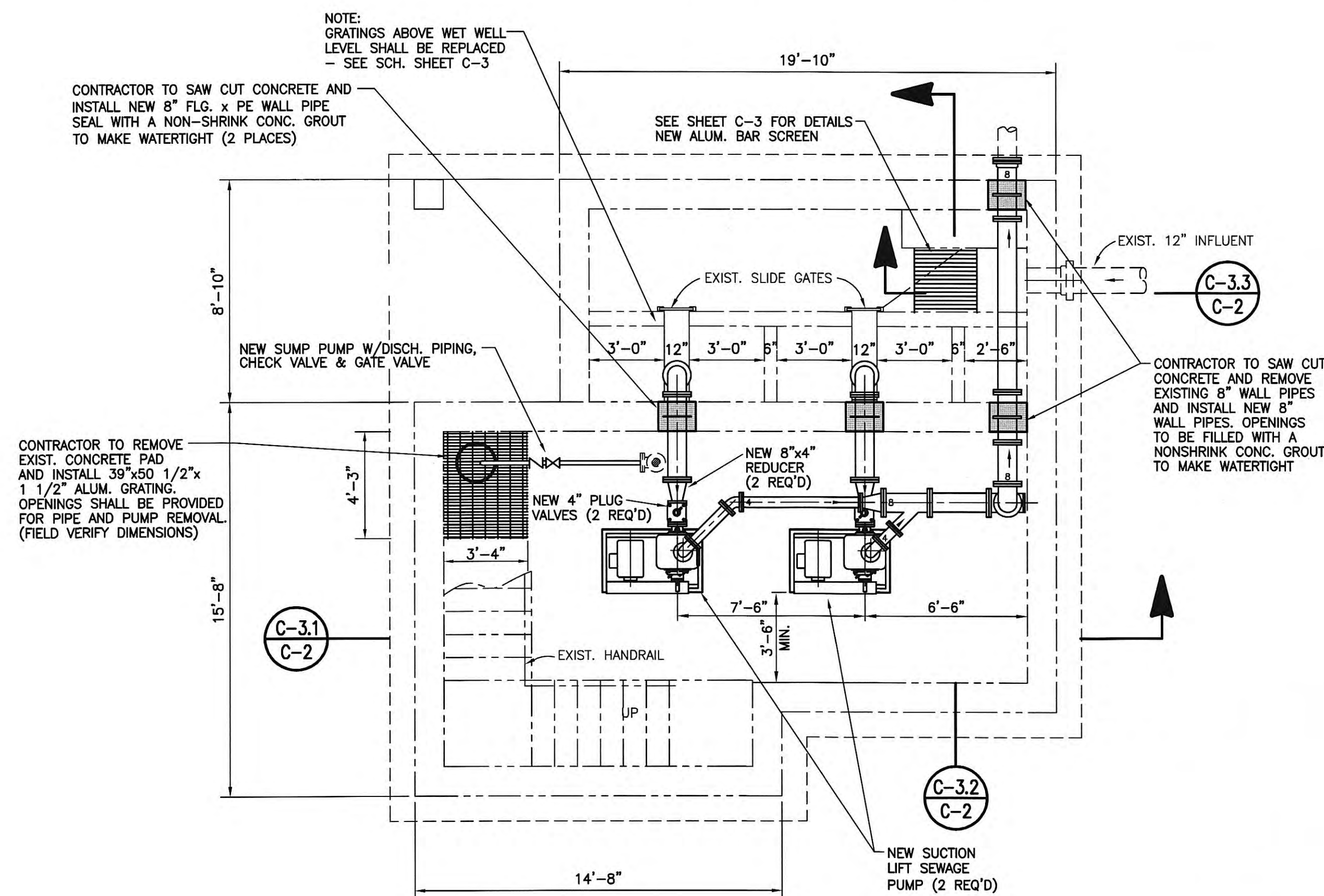
REVISIONS			
NO.	DESCRIPTION	DATE	BY

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GRW PROJECT NO. 7601-30		CONTRACT NO. S02-03	
EXISTING WOODY ST. SEWAGE PUMP STATION HVAC PLAN AND SECTIONS HARRIMAN UTILITY BOARD HARRIMAN, TENNESSEE			
 GRW Elrod Dunson, Inc. Engineers, Architects, Planners LEXINGTON LOUISVILLE INDIANAPOLIS NASHVILLE KNOXVILLE	DESIGNED:	RGE	DATE: JUNE, 2004
	DRAWN:	EGR	SCALE: AS NOTED
	REVIEWED:	RGE	SHEET NO.
	APPROVED:	RGE	M-3



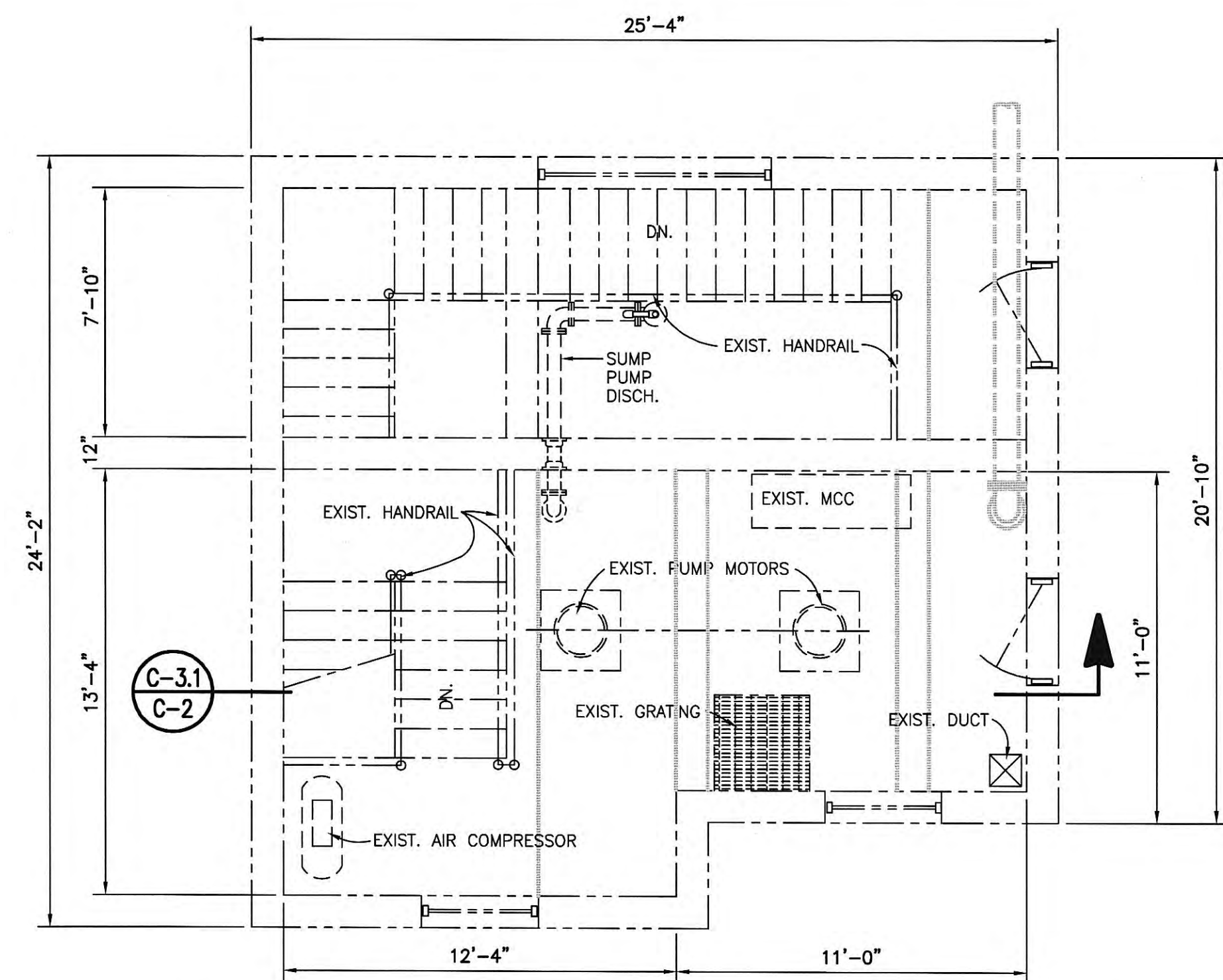
EXISTING FLOOR PLAN - PUMP LEVEL
SCALE: 1/4" = 1'-0"



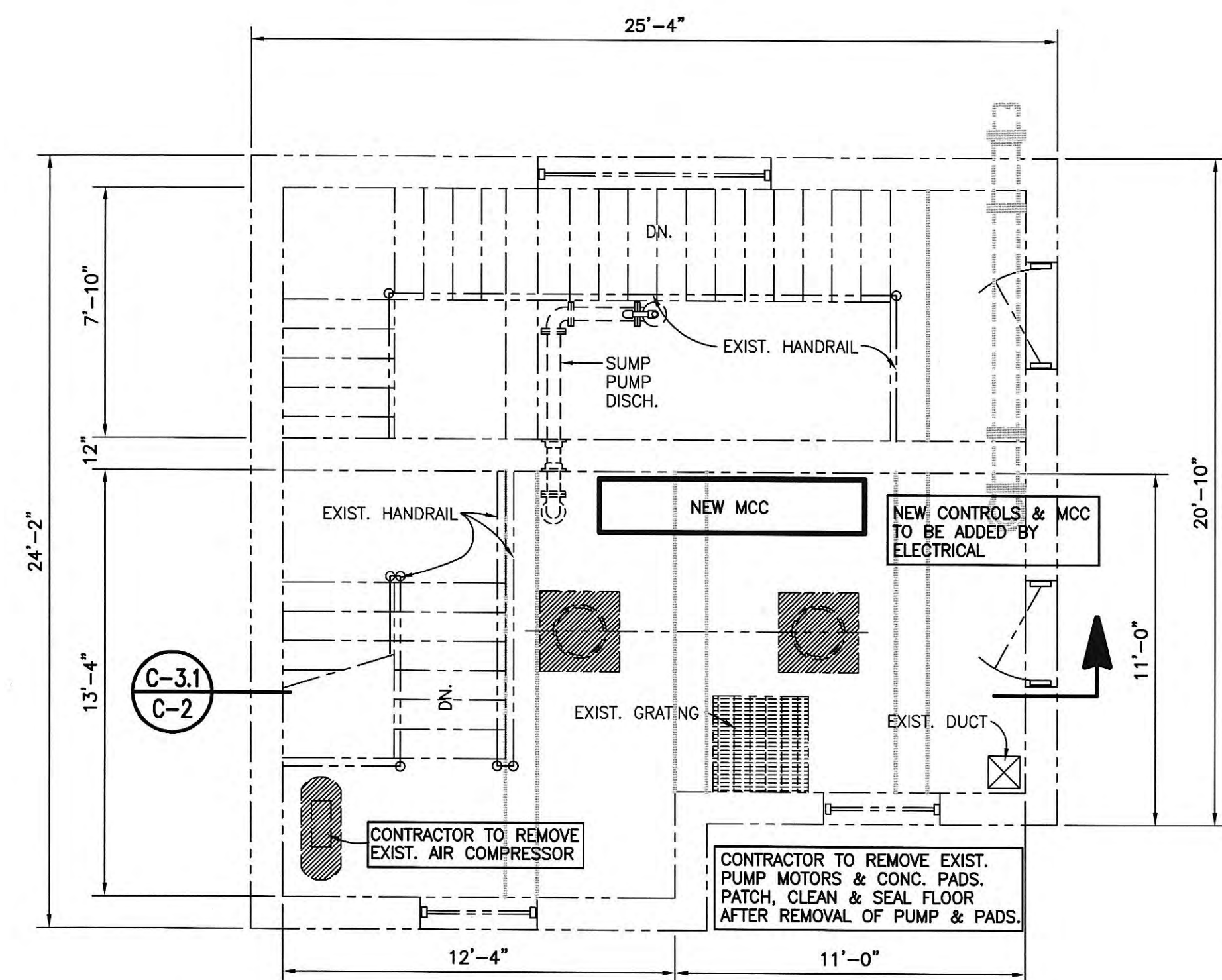
MODIFIED FLOOR PLAN - PUMP LEVEL
SCALE: 1/4" = 1'-0"

CONTRACTOR NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR BYPASS PUMPING WHILE REHABILITATING PUMP STATION. THIS INCLUDES ANY REQUIRED CONNECTIONS TO INFLUENT AND DISCHARGE LINES. HUB WILL PROVIDE THE REQUIRED ELECTRICAL SERVICE FOR BYPASS PUMPING.
2. THE OWNER SHALL HAVE FIRST SALVAGE RIGHTS TO ALL EXISTING VALVES, PIPING AND EQUIPMENT. IF THE OWNER REJECTS SALVAGED MATERIALS, THE CONTRACTOR SHALL PROVIDE FINAL DISPOSAL OF ALL ITEMS.
3. CONTRACTOR TO CLEAN AND PAINT PIPING AND WALLS. WALLS INCLUDE ENTRANCE LEVEL ELECTRICAL AREA AND PUMP LEVEL. PUMP AND PIPING AREA.
4. CONTRACTOR TO PRESSURE WASH AND CLEAN WETWELL AND SUMP OF EACH PUMP.



EXISTING FLOOR PLAN - ENTRANCE LEVEL
SCALE: 1/4" = 1'-0"



MODIFIED FLOOR PLAN - ENTRANCE LEVEL
SCALE: 1/4" = 1'-0"

RECORD DRAWINGS

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CHECKED BY:

ENGINEER'S REPRESENTATIVE DATE: 6/2002

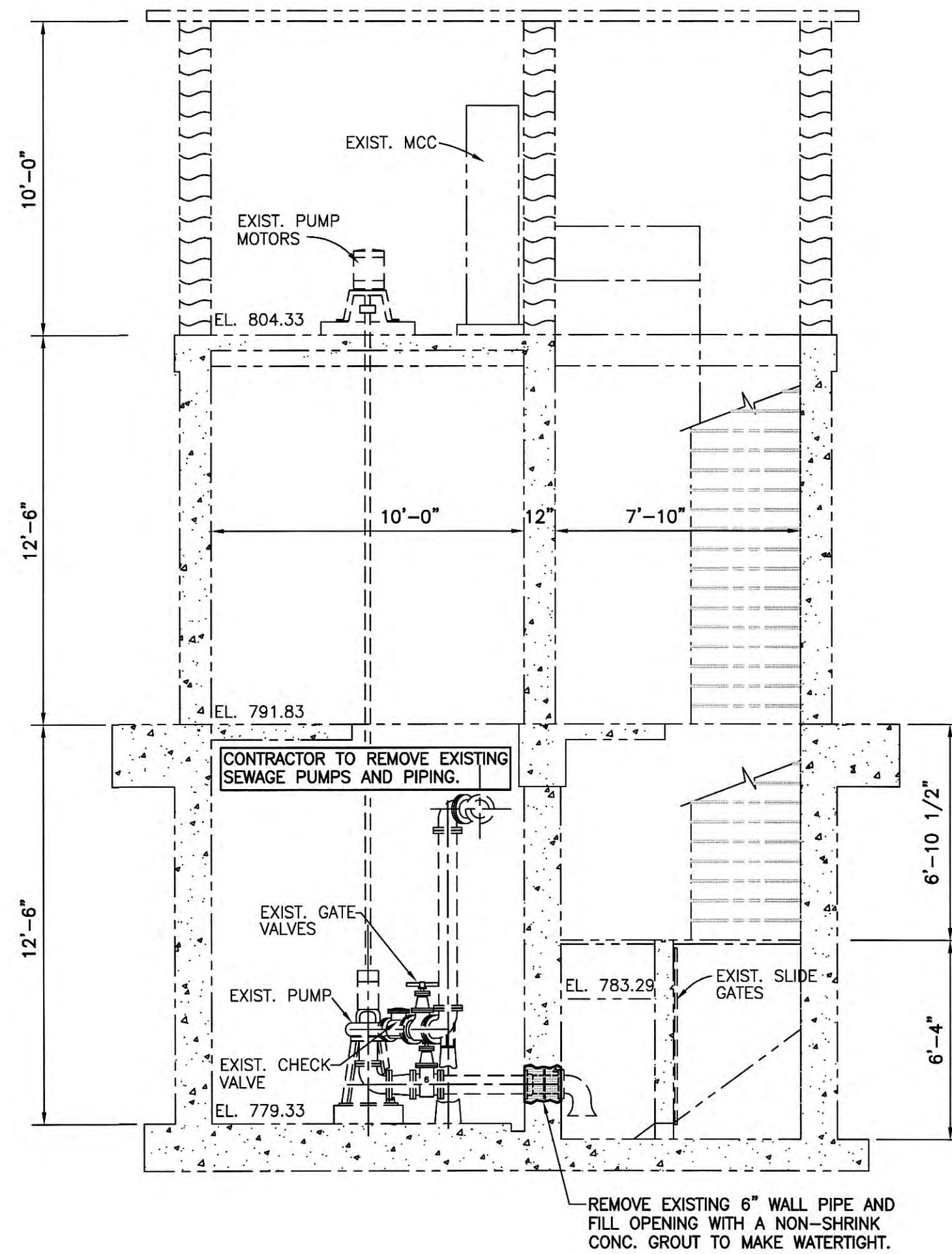
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NO.	DESCRIPTION	DATE	BY
1	ADDENDUM NO. 1	8/15/05	RGT
REVISIONS			

GRW PROJECT NO. 7601-30 CONTRACT NO. S02-03

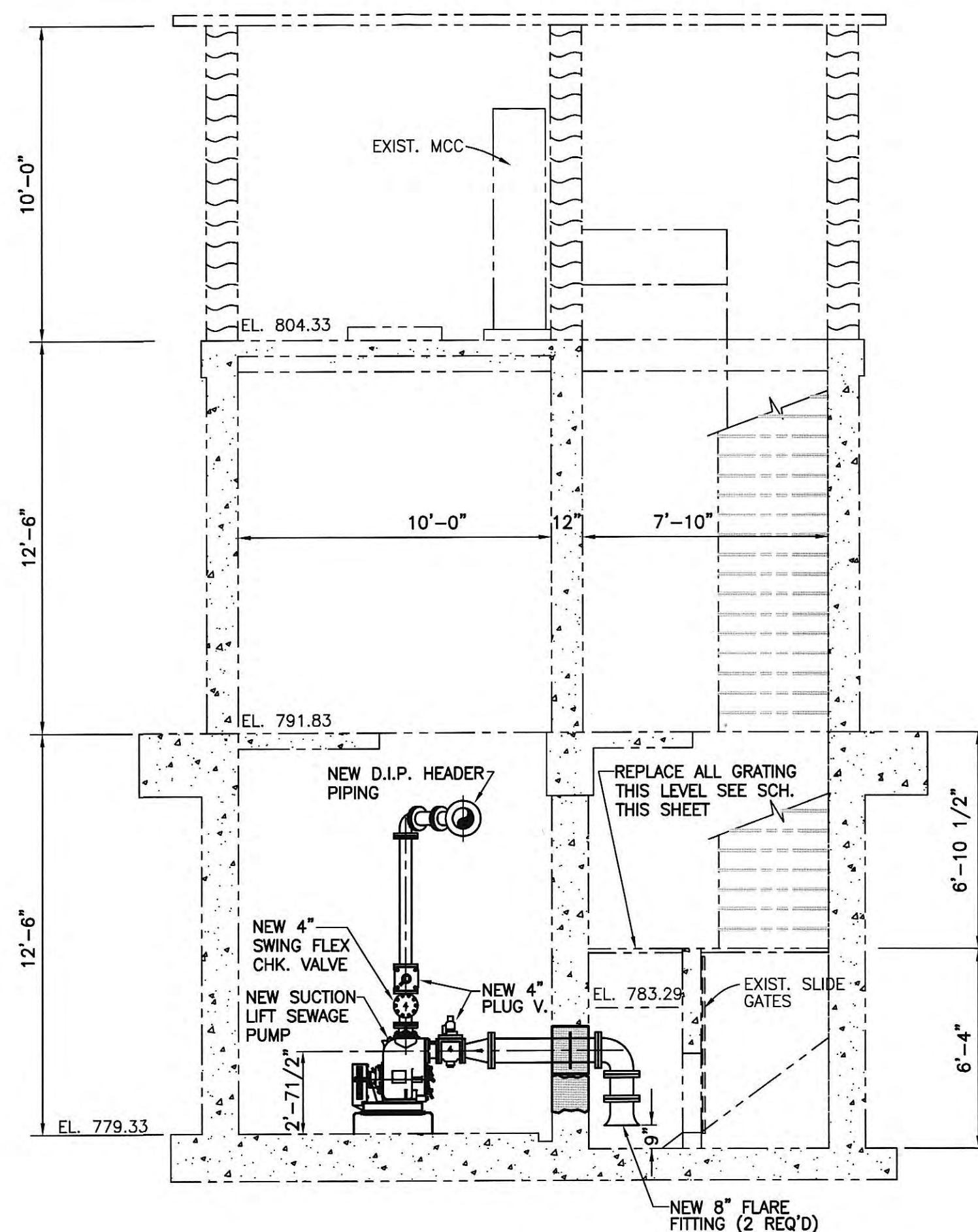
EXISTING HARDEES SEWAGE PUMP STATION
PLAN VIEWS
HARRIMAN UTILITY BOARD
HARRIMAN, TENNESSEE

GRW Elrod Dunson, Inc.
Engineers, Architects, Planners
LEXINGTON LOUISVILLE INDIANAPOLIS
NASHVILLE KNOXVILLE

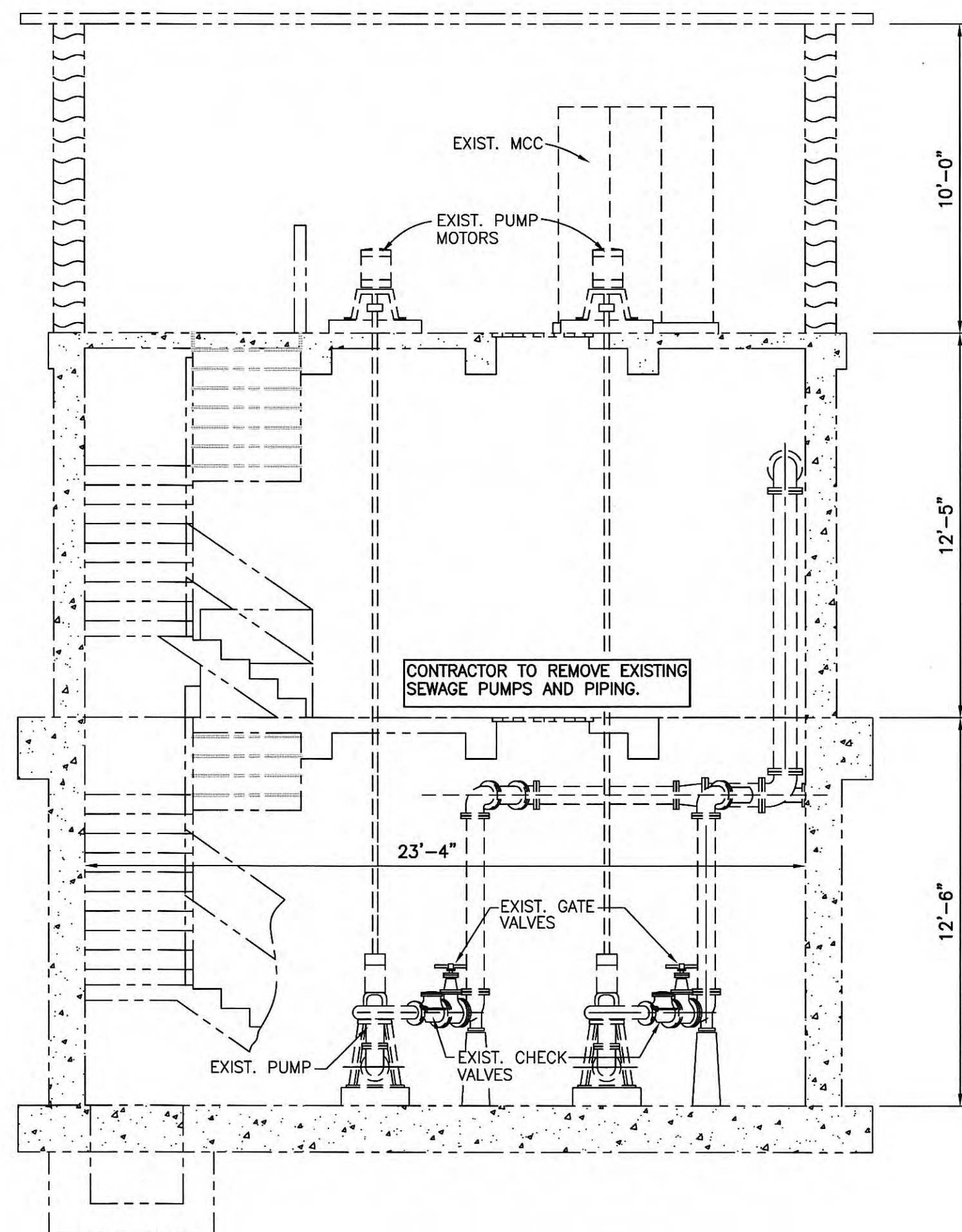
DESIGNED: RGT/NDW
DRAWN: DGR
REVIEWED: NDW
APPROVED: RGT
DATE: NOVEMBER, 2002
SCALE: AS NOTED
SHEET NO. C-2



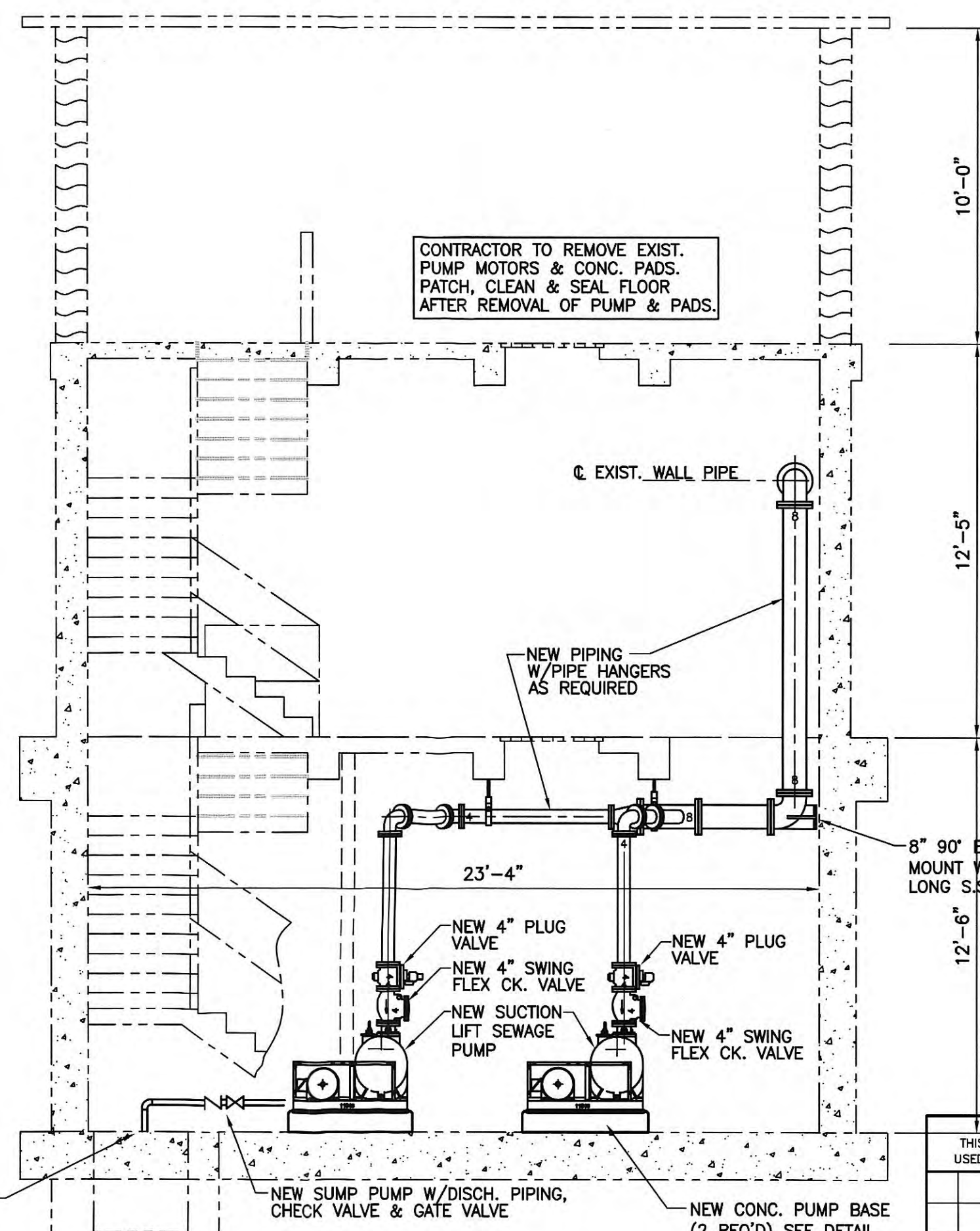
EXISTING CONDITIONS-SECTION C-3.2
SCALE: 1/4" = 1'-0"



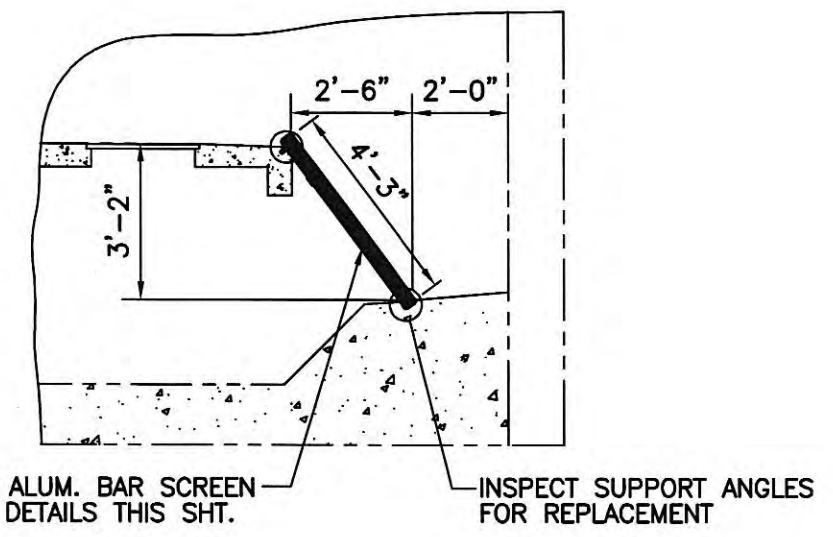
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SCALE: 1/4" = 1'-0"



EXISTING CONDITIONS-SECTION C-3.1
SCALE: 1/4" = 1'-0"

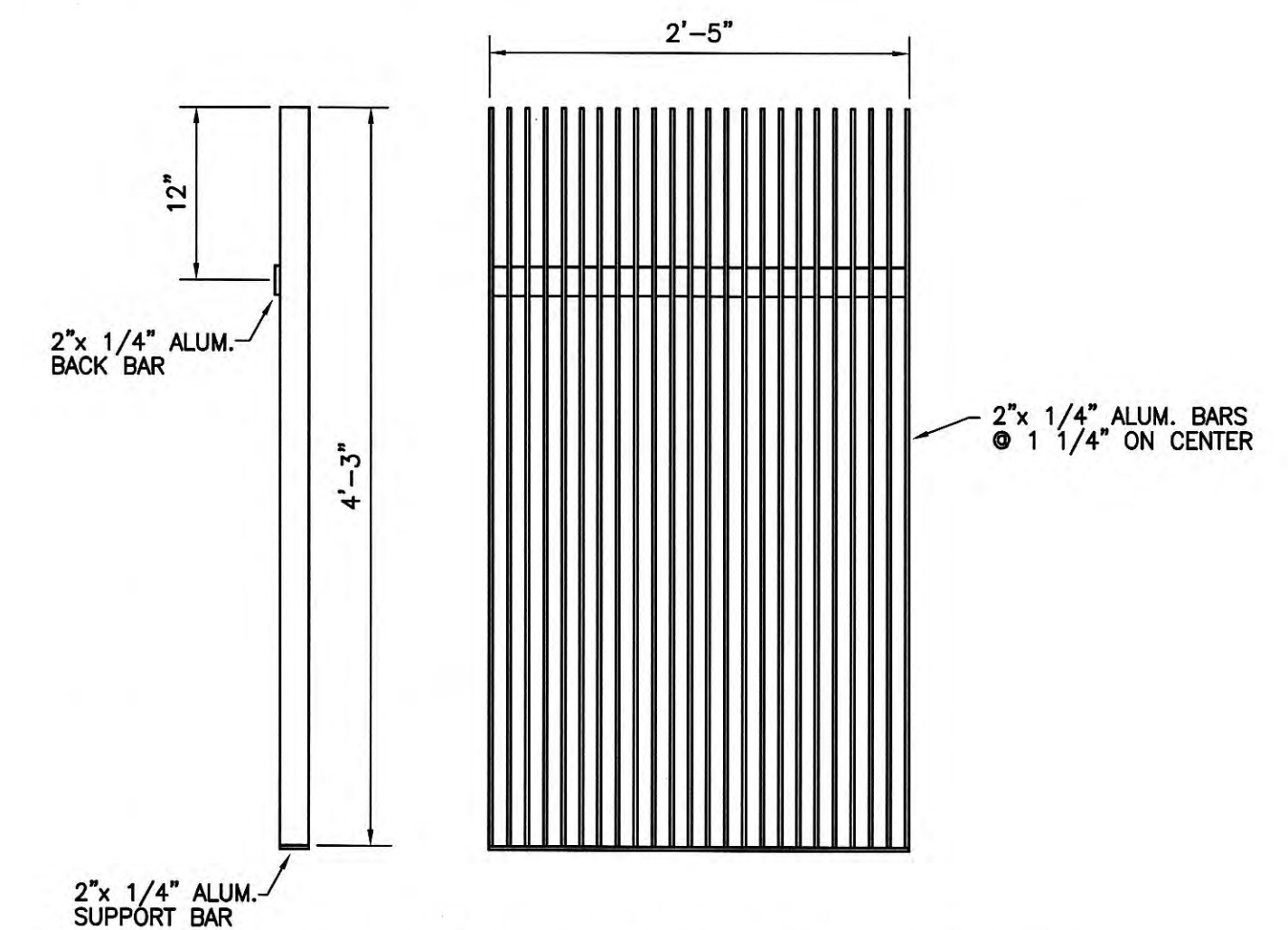


MODIFIED CONDITIONS-SECTION C-3.1
SCALE: 1/4" = 1'-0"



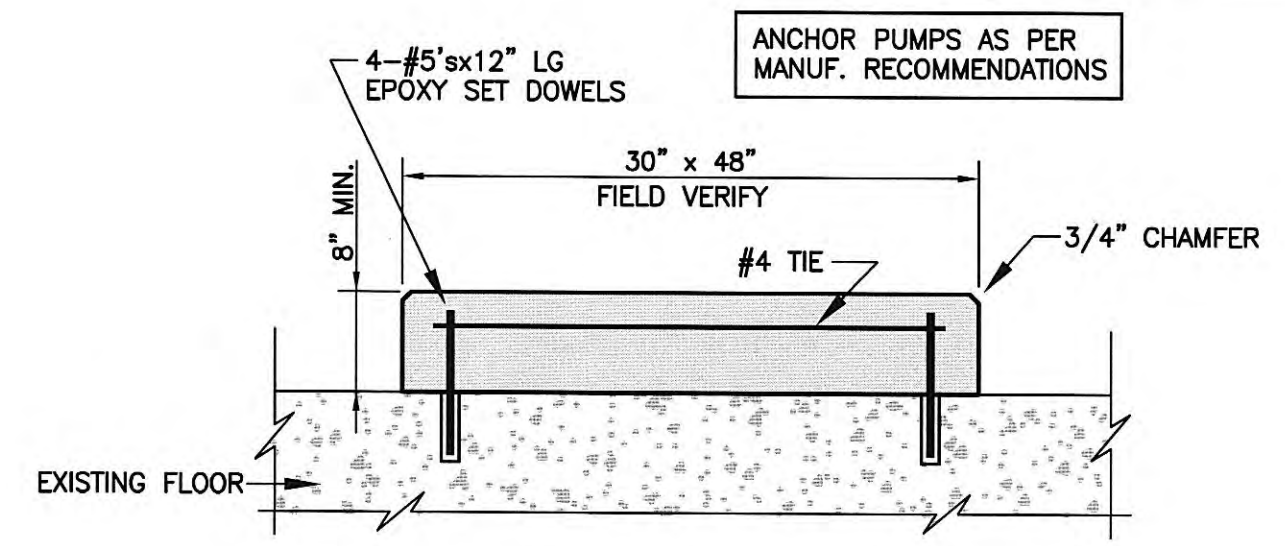
MODIFIED CONDITIONS-SECTION C-3.3
SCALE: 1/4" = 1'-0"

- NOTES:
1. CONTRACTOR TO FIELD VERIFY BAR SCREEN DIMENSIONS BEFORE FABRICATION. SUPPORT ANGLES SHALL BE REPLACED IF DETERIORATED.
 2. CONTRACTOR TO FURNISH ALUM. BAR SCREEN RAKE W/TINES SPACED TO MATCH BAR SPACING ON SCREEN.



MANUAL BAR SCREEN DETAIL
SCALE: NONE

RECORD DRAWINGS
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CHECKED BY: *[Signature]* 6/2007 /DATE
ENGINEER'S REPRESENTATIVE



PUMP BASE DETAIL
SCALE: 3/4" = 1'-0"

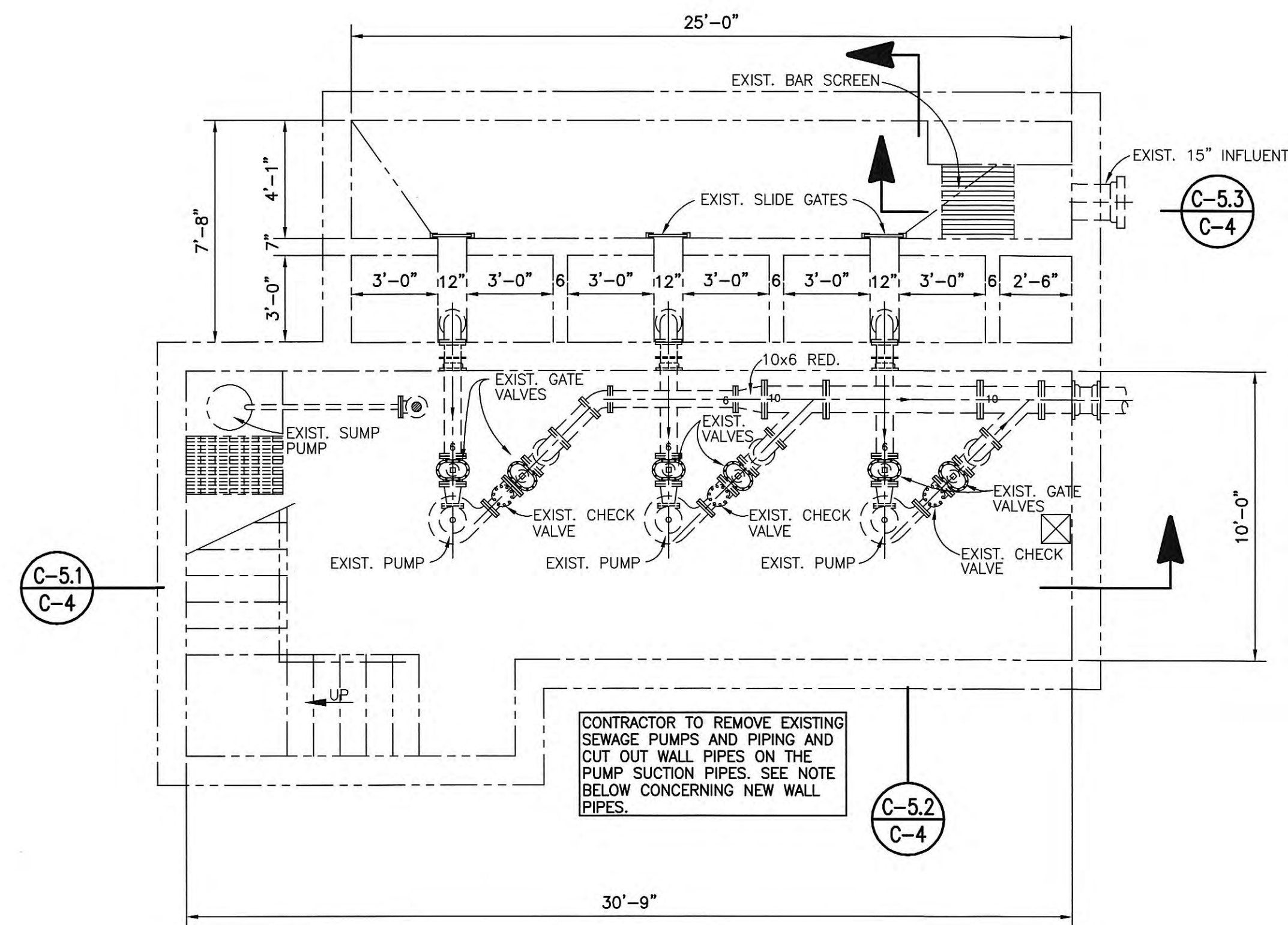
SCHEDULE FOR ALUMINUM GRATING REPLACEMENT			
3 EACH-	35 1/2" x 38 1/2" x 1 1/2"		
2 EACH-	20 1/2" x 5" x 1 1/2"		

CONTRACTOR TO FIELD VERIFY ALL GRATING OPENINGS FOR PROPER FIT.

REVISIONS			
NO.	DESCRIPTION	DATE	BY
1	ADDENDUM NO. 1	8/15/05	RGT

GRW PROJECT NO. 7601-30 CONTRACT NO. S02-03
EXISTING HARDEES SEWAGE PUMP STATION SECTIONS
HARRIMAN UTILITY BOARD
HARRIMAN, TENNESSEE

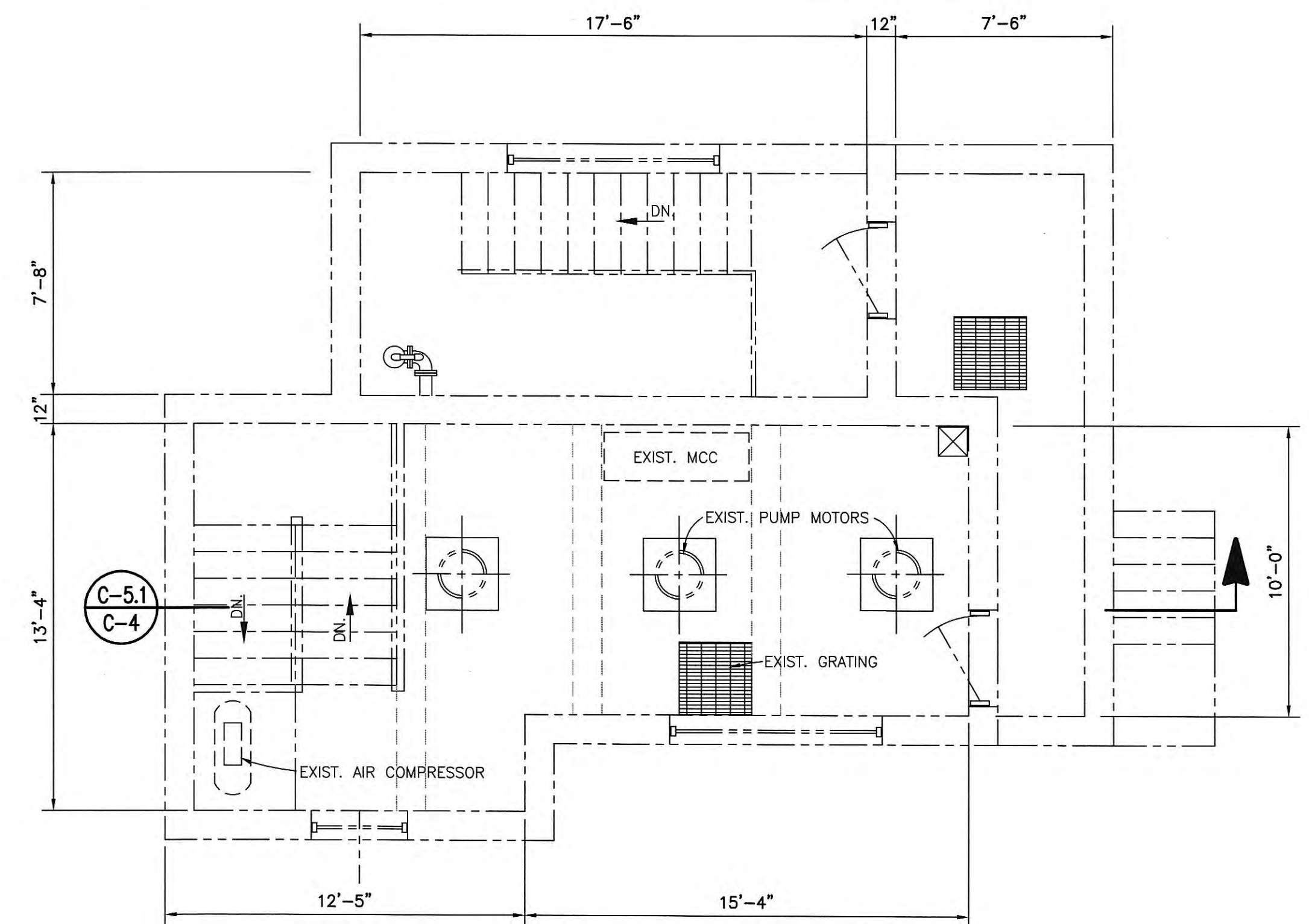
 GRW Erod Dunson, Inc. Engineers, Architects, Planners LEKINGTON LOUISVILLE INDIANAPOLIS NASHVILLE KNOXVILLE	DESIGNED:	DATE:
	RGT/NDW	NOVEMBER, 2002
	DRAWN:	SCALE:
	DGR	AS NOTED
	REVIEWED:	SHEET NO.
	NDW	C-3
	APPROVED:	
	RGT	



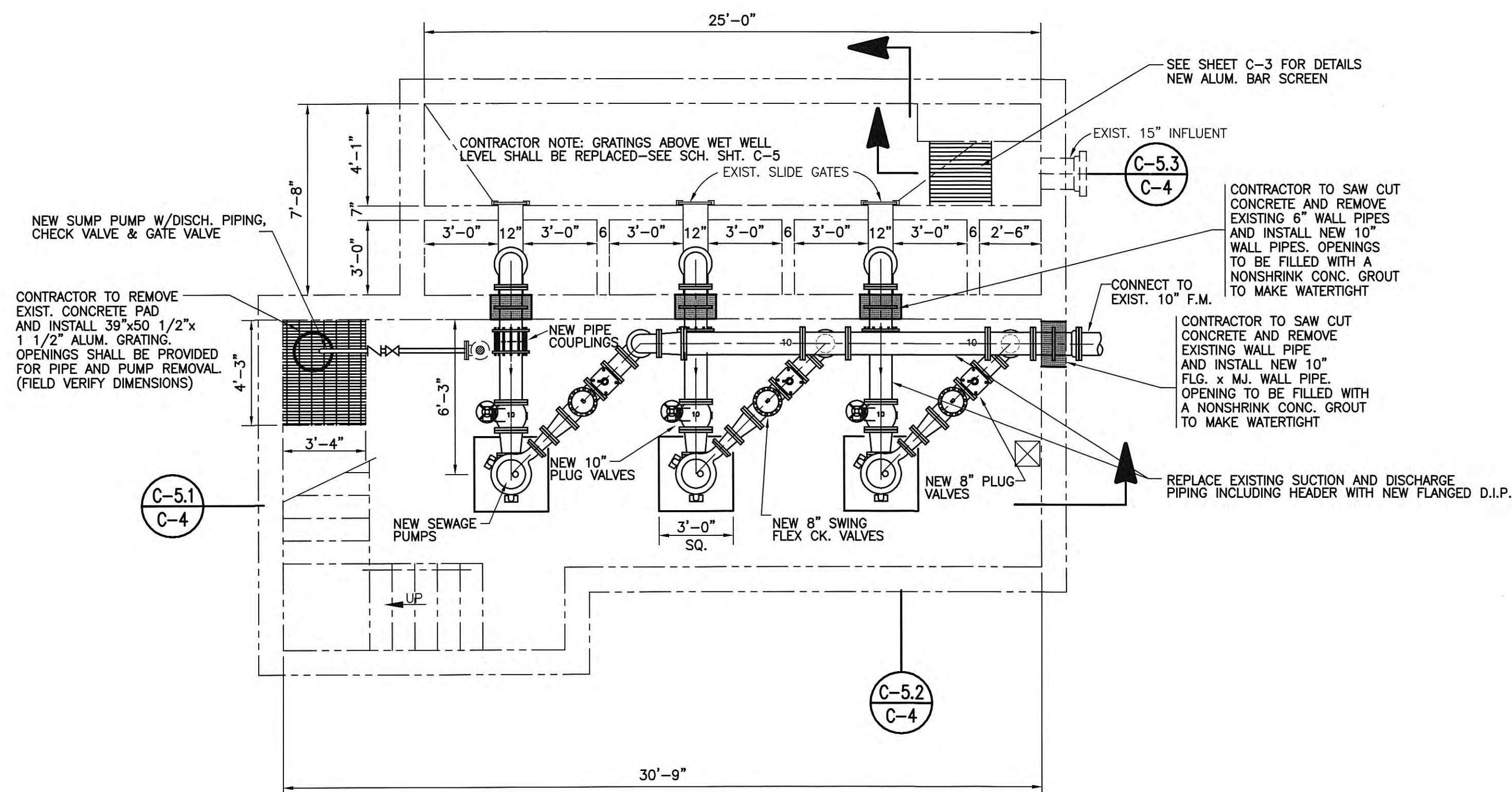
EXISTING FLOOR PLAN - PUMP LEVEL
SCALE: 1/4" = 1'-0"

CONTRACTOR NOTES:

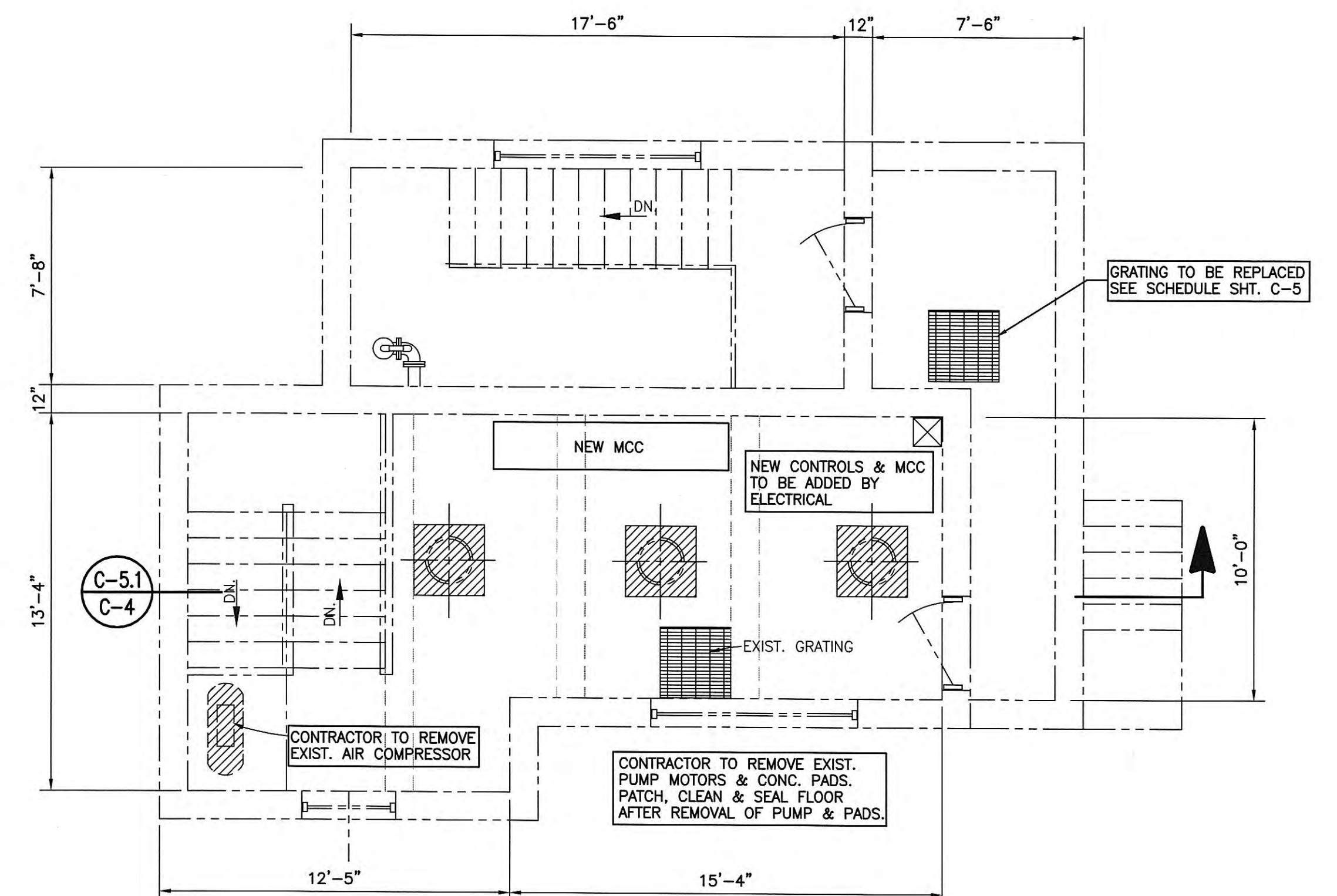
1. CONTRACTOR SHALL BE RESPONSIBLE FOR BYPASS PUMPING WHILE REHABILITATING PUMP STATION. THIS INCLUDES ANY REQUIRED CONNECTIONS TO INFLUENT AND DISCHARGE LINES. HUB WILL PROVIDE THE REQUIRED ELECTRICAL SERVICE FOR BYPASS PUMPING.
2. THE OWNER SHALL HAVE FIRST SALVAGE RIGHTS TO ALL EXISTING VALVES, PIPING AND EQUIPMENT. IF THE OWNER REJECTS SALVAGED MATERIALS, THE CONTRACTOR SHALL PROVIDE FINAL DISPOSAL OF ALL ITEMS.
3. CONTRACTOR TO CLEAN AND PAINT PIPING AND WALLS. WALLS INCLUDE ENTRANCE LEVEL: ELECTRICAL AREA AND PUMP LEVEL: PUMP AND PIPING AREA.



EXISTING FLOOR PLAN - ENTRANCE LEVEL
SCALE: 1/4" = 1'-0"



MODIFIED FLOOR PLAN - PUMP LEVEL
SCALE: 1/4" = 1'-0"



MODIFIED FLOOR PLAN - ENTRANCE LEVEL
SCALE: 1/4" = 1'-0"

RECORD DRAWINGS

THESE RECORD DRAWINGS REPRESENT THE "AS-BUILT" PROJECT TO THE BEST OF THE ENGINEER'S KNOWLEDGE. ALTHOUGH PREPARED FROM THE CONSTRUCTION RECORD, THEY CANNOT BE GUARANTEED TO BE EXACT IN EVERY DETAIL.

CHECKED BY:

ENGINEER'S REPRESENTATIVE

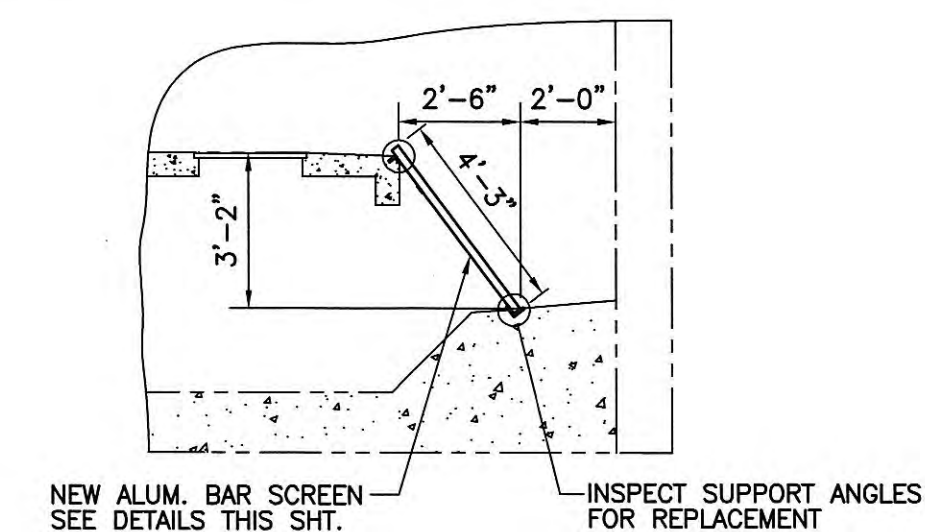
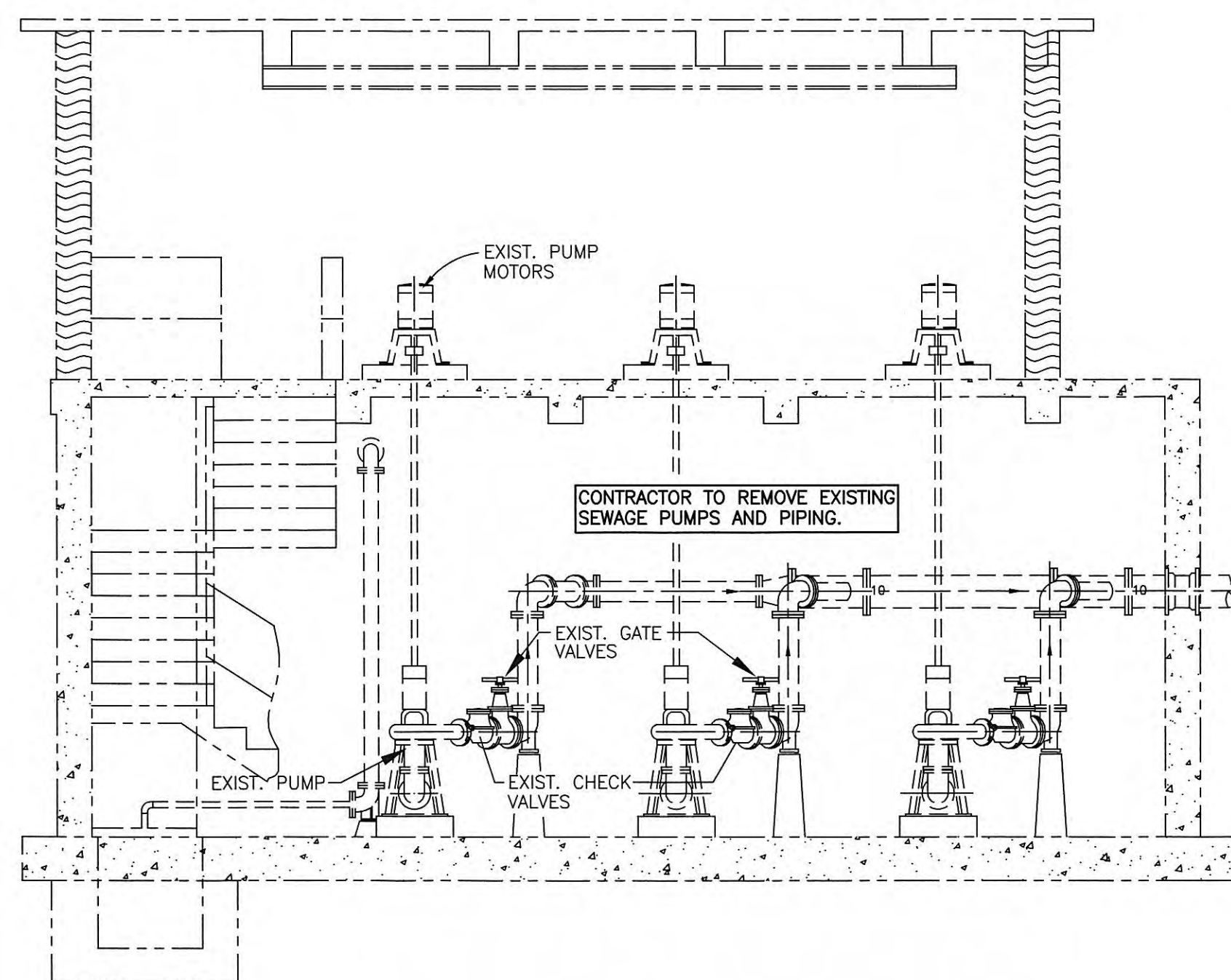
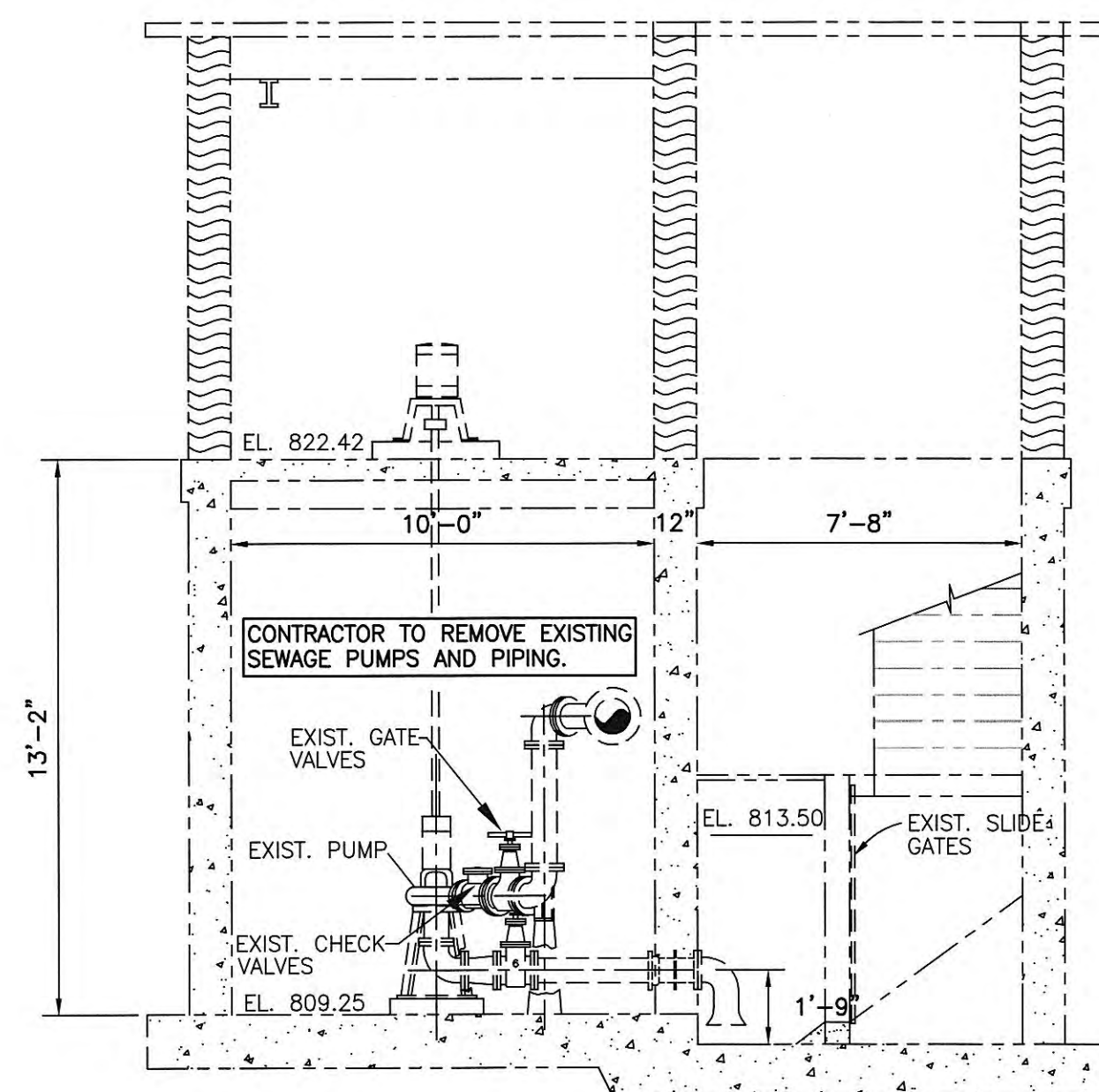
DATE

REVISIONS			
NO.	DESCRIPTION	DATE	BY

GRW PROJECT NO. 7601-30 CONTRACT NO. S02-03
EXISTING WOODY ST. SEWAGE PUMP STATION
PLAN VIEWS
HARRIMAN UTILITY BOARD
HARRIMAN, TENNESSEE

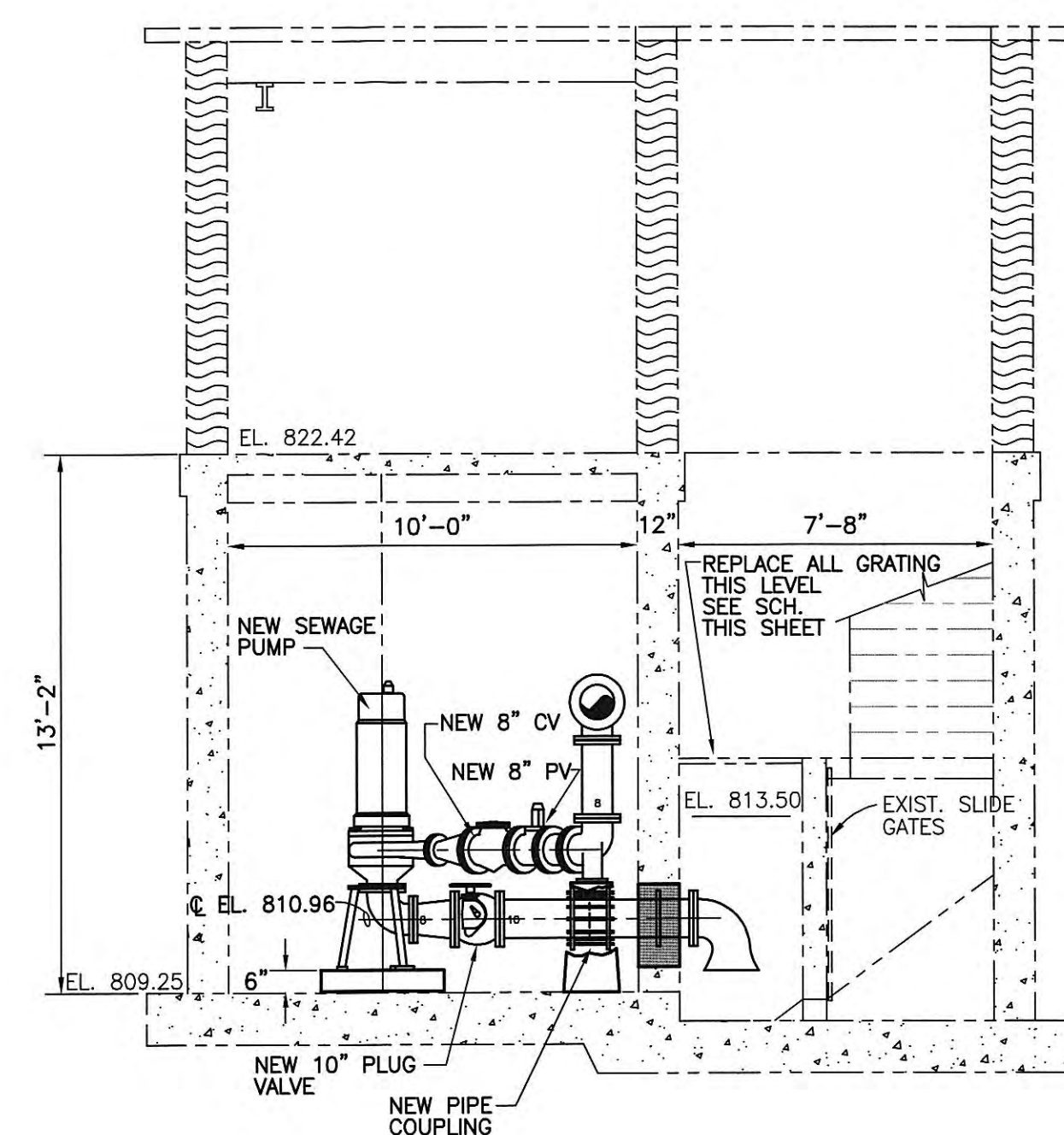
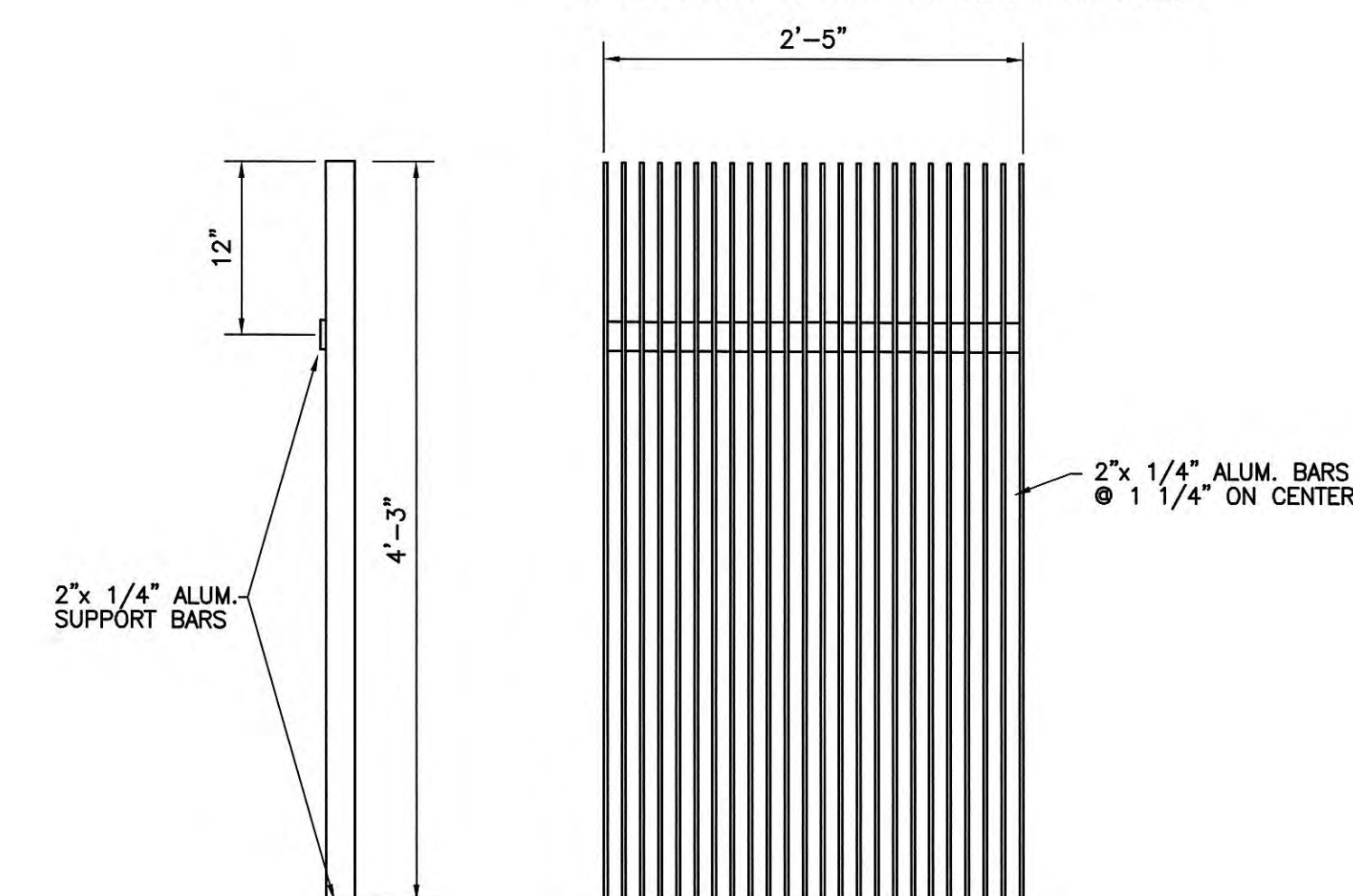
DESIGNED: RGT/NDW
DRAWN: DGR
REVIEWED: NDW
APPROVED: RGT
GRW Elrod Dunson, Inc.
Engineers, Architects, Planners
LEXINGTON LOUISVILLE INDIANAPOLIS
NASHVILLE KNOXVILLE

DATE: NOVEMBER, 2002
SCALE: AS NOTED
SHEET NO. C-4



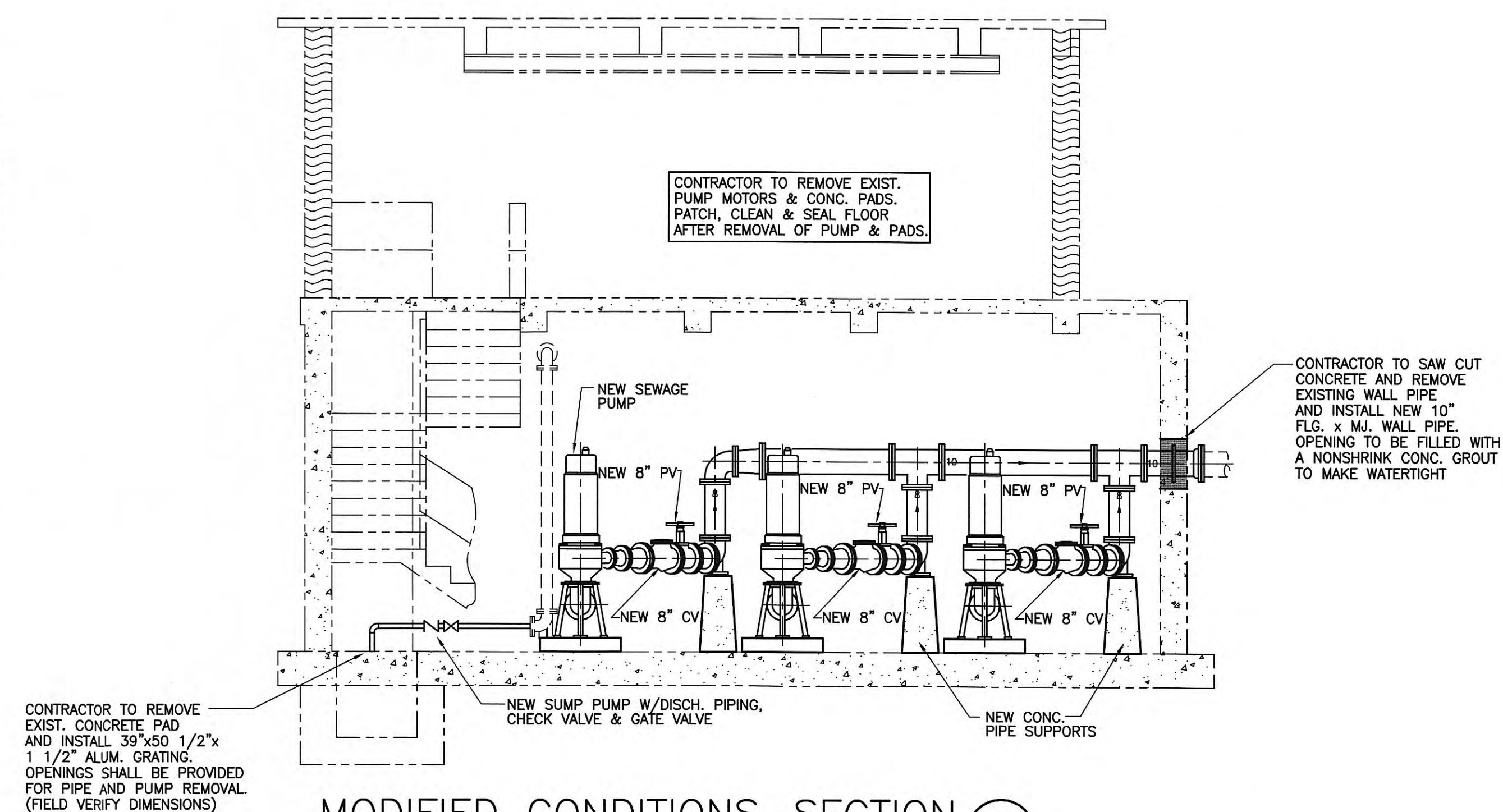
NOTES:

1. CONTRACTOR TO FIELD VERIFY BAR SCREEN DIMENSIONS BEFORE FABRICATION. SUPPORT ANGLES SHALL BE REPLACED IF DETERIOATED.
2. CONTRACTOR TO FURNISH ALUM. BAR SCREEN RAKE W/TINES SPACED TO MATCH BAR SPACING ON SCREEN.



SCHEDULE FOR ALUMINUM GRATING REPLACEMENT	
1 EACH-	38 1/4" x 34 1/2" x 1 1/2" LOCATED OUTSIDE @ ENTRANCE
4 EACH-	35 1/2" x 38 1/2" x 1 1/2"
3 EACH-	20 1/2" x 5" x 1 1/2"

CONTRACTOR TO FIELD VERIFY ALL GRATING
OPENINGS FOR PROPER FIT.



RECORD DRAWINGS

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CHECKED BY:

S. S. S. S.
ENGINEER'S REPRESENTATIVE

6/2007
DATE

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USED FOR CONSTRUCTION OF OTHER THAN THIS SPECIFIC PROJECT WITHOUT WRITTEN PERMISSION OF GRW ELROD DUNSON, INC.

NO.	DESCRIPTION	DATE	BY
REVISIONS			

GRW PROJECT NO. 7601-30	CONTRACT NO. S02-03
EXISTING WOODY ST. SEWAGE PUMP STATION SECTIONS HARRIMAN UTILITY BOARD HARRIMAN, TENNESSEE	



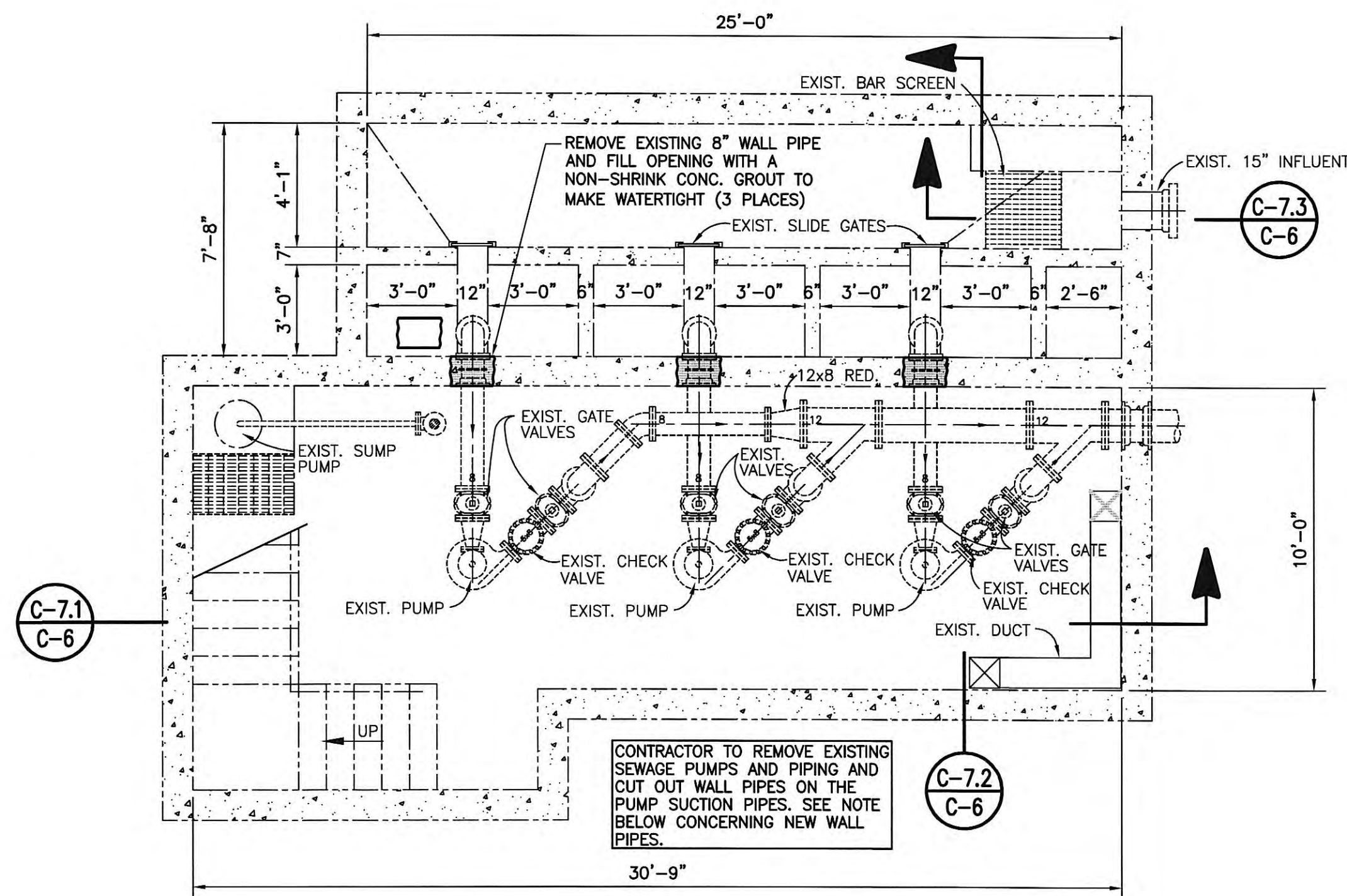
C.	DESIGNED:	RGT/NDW
	DRAWN:	DGR
	REVIEWED:	NDW
	APPROVED:	RGT

DATE:	NOVEMBER, 2002
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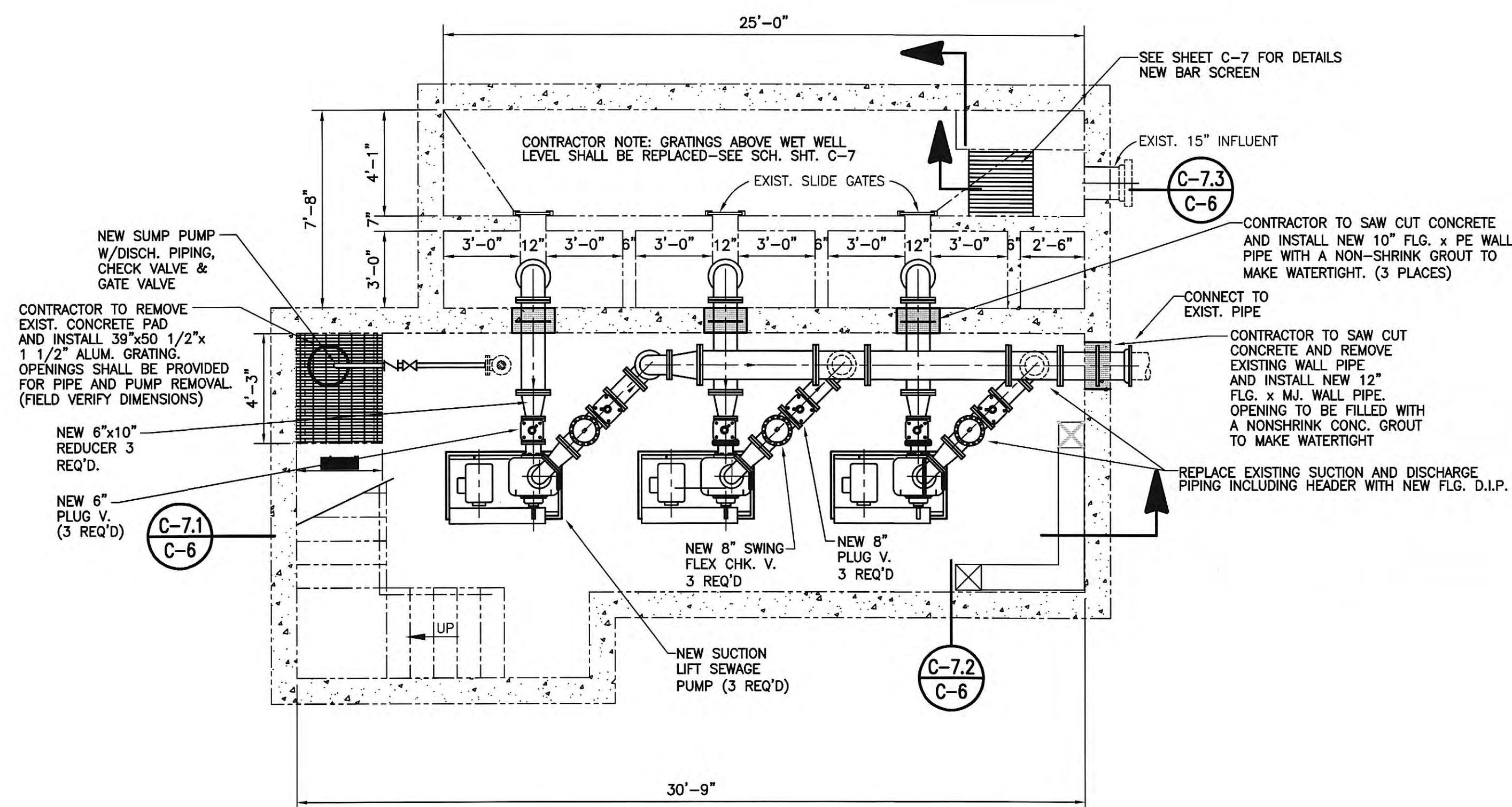
SCALE:	AS NOTED
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SHEET NO.

C-5

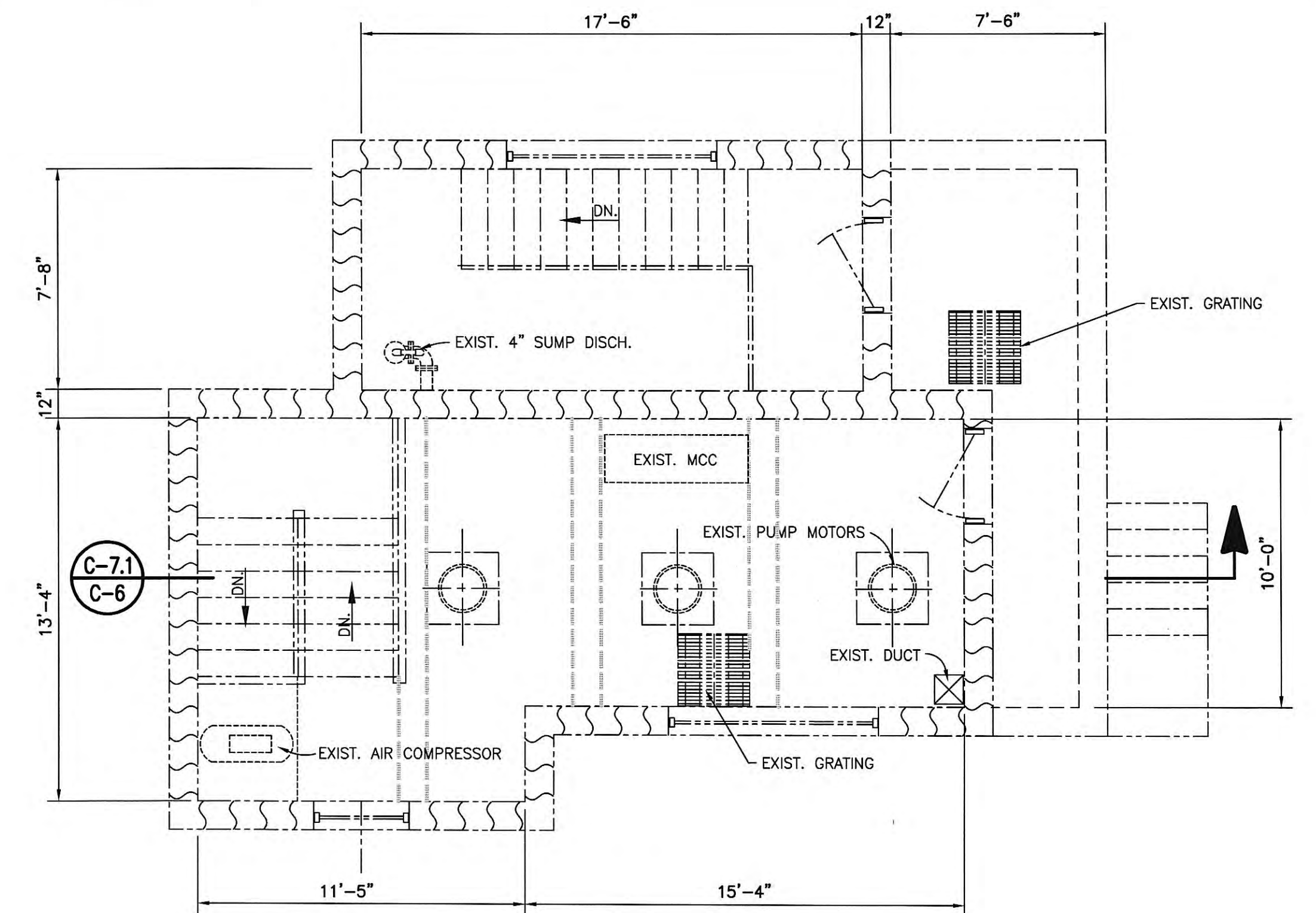


EXISTING FLOOR PLAN - PUMP LEVEL
SCALE: 1/4" = 1'-0"

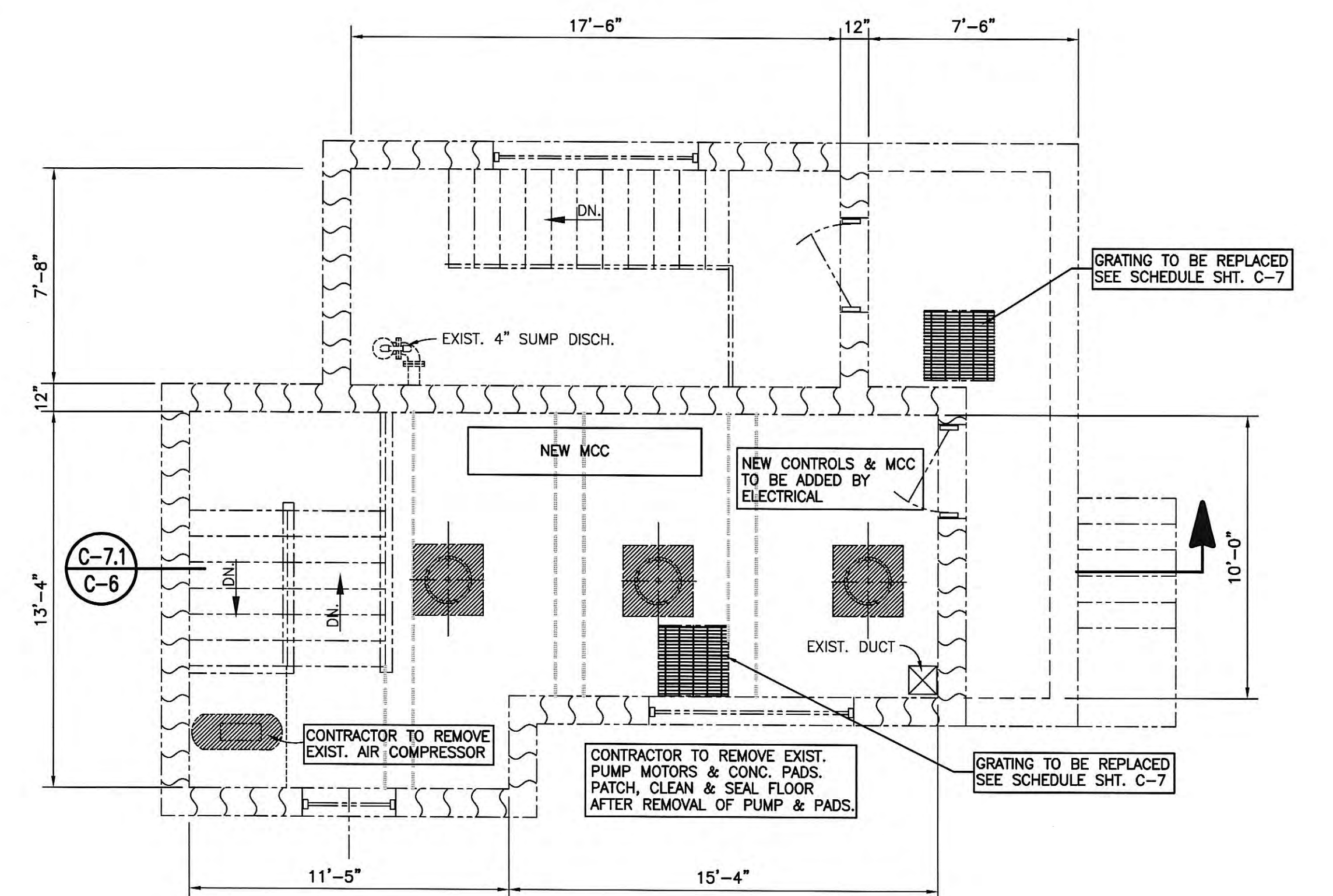


MODIFIED FLOOR PLAN - PUMP LEVEL
SCALE: 1/4" = 1'-0"

- CONTRACTOR NOTES:
1. CONTRACTOR SHALL BE RESPONSIBLE FOR BYPASS PUMPING WHILE REHABILITATING PUMP STATION. THIS INCLUDES ANY REQUIRED CONNECTIONS TO INFLUENT AND DISCHARGE LINES. HUB WILL PROVIDE THE REQUIRED ELECTRICAL SERVICE FOR BYPASS PUMPING.
 2. THE OWNER SHALL HAVE FIRST SALVAGE RIGHTS TO ALL EXISTING VALVES, PIPING AND EQUIPMENT. IF THE OWNER REJECTS SALVAGED MATERIALS, THE CONTRACTOR SHALL PROVIDE FINAL DISPOSAL OF ALL ITEMS.
 3. CONTRACTOR TO CLEAN AND PAINT PIPING AND WALLS. WALLS INCLUDE ENTRANCE LEVEL: ELECTRICAL AREA AND PUMP LEVEL: PUMP AND PIPING AREA.
 4. CONTRACTOR TO PRESSURE WASH AND CLEAN WETWELL AND SUMP OF EACH PUMP.



EXISTING FLOOR PLAN - ENTRANCE LEVEL
SCALE: 1/4" = 1'-0"



MODIFIED FLOOR PLAN - ENTRANCE LEVEL
SCALE: 1/4" = 1'-0"

RECORD DRAWINGS

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CHECKED BY:

ENGINEER'S REPRESENTATIVE DATE

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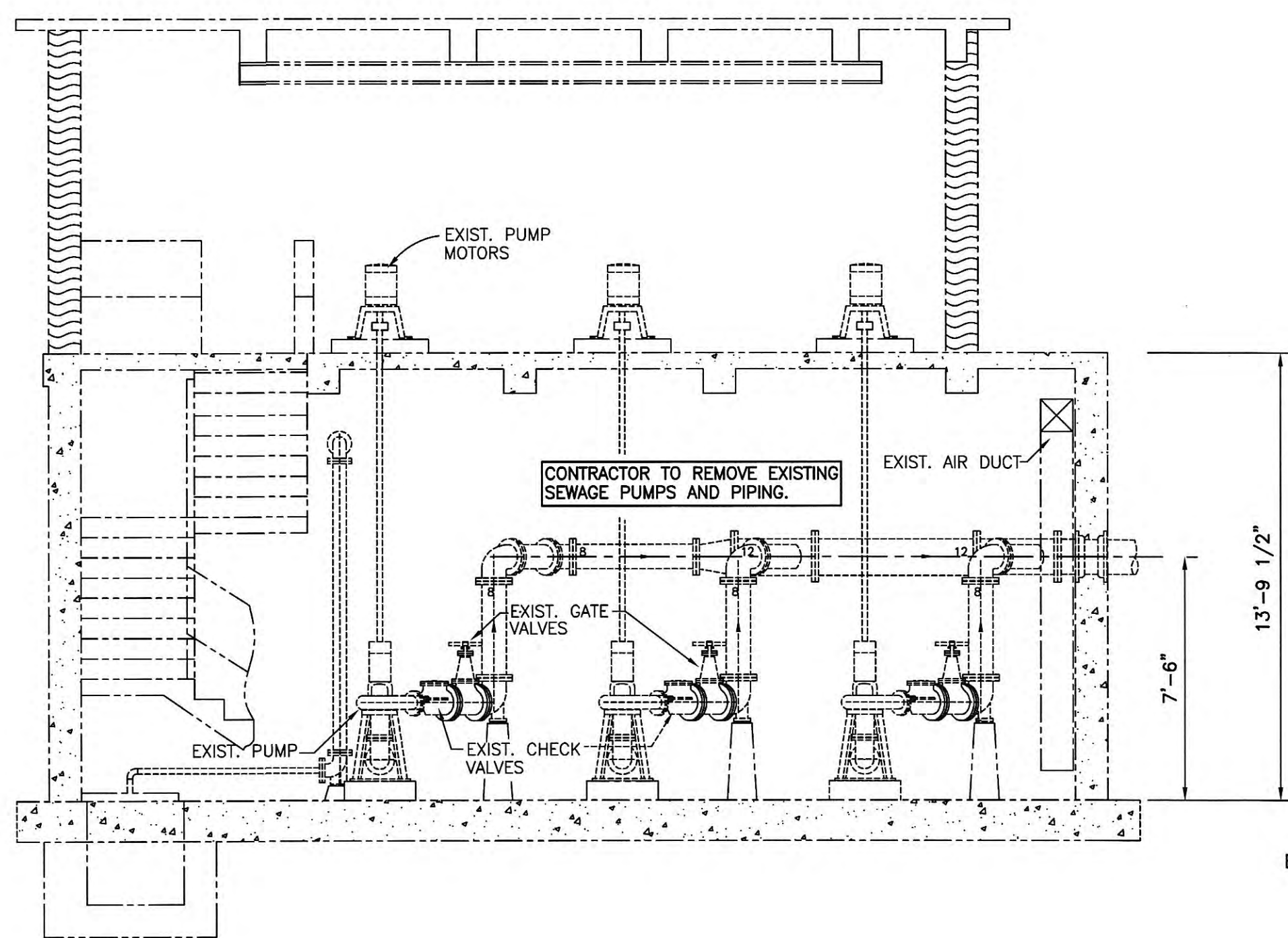
NO.	DESCRIPTION	DATE	BY
1	ADDENDUM NO. 1	8/11/08	RGT
REVISIONS			

GRW PROJECT NO. 7601-30 CONTRACT NO. S02-03

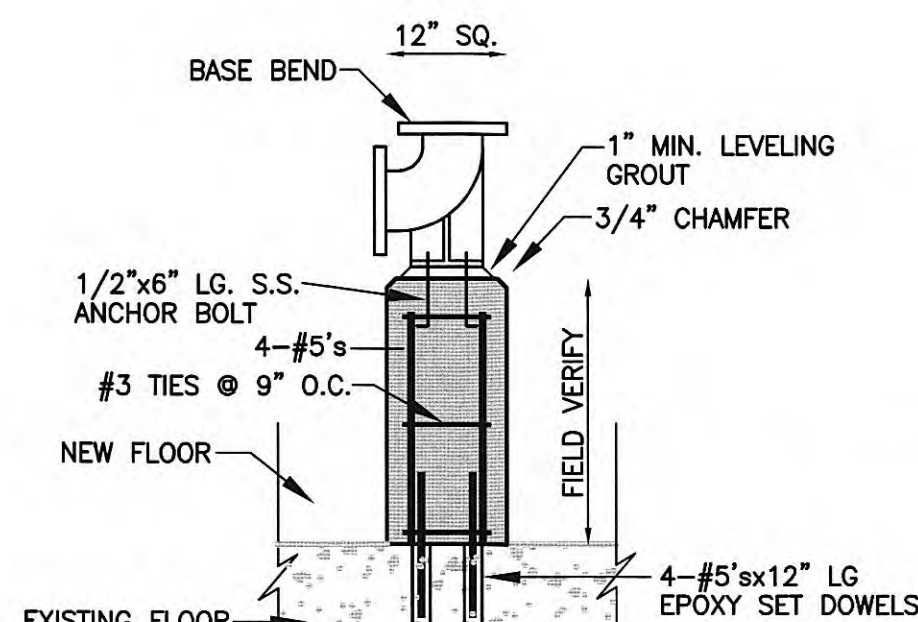
EXISTING WEBB SEWAGE PUMP STATION
PLAN VIEWS
HARRIMAN UTILITY BOARD
HARRIMAN, TENNESSEE

GRW Elrod Dunson, Inc.
Engineers, Architects, Planners
LEXINGTON LOUISVILLE INDIANAPOLIS
NASHVILLE KNOXVILLE

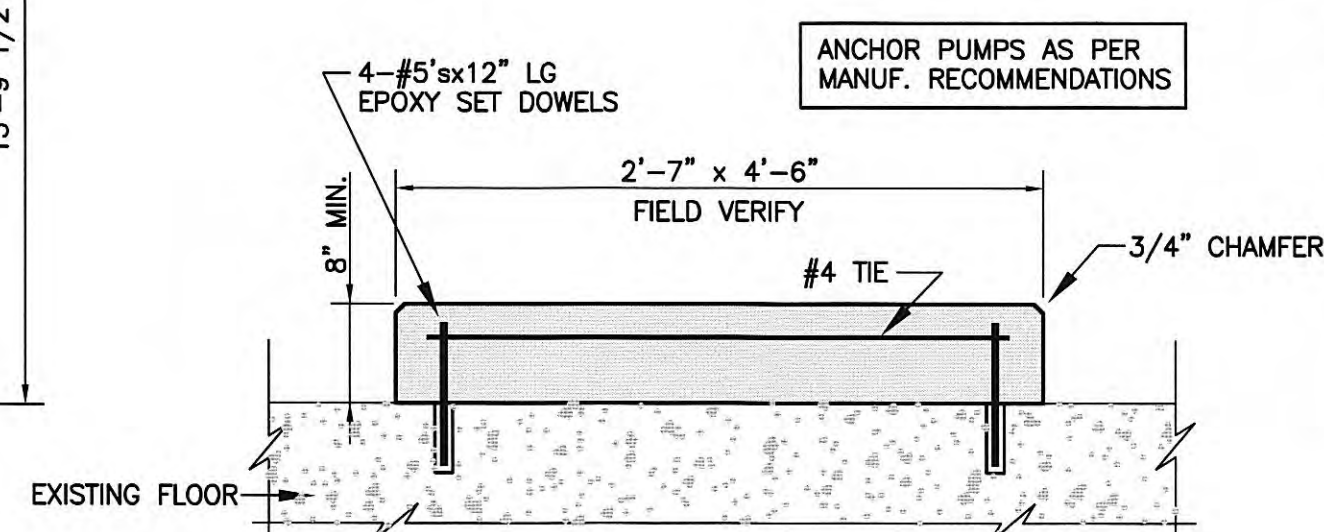
DESIGNED: RGT/NDW
DRAWN: DGR
REVIEWED: NDW
APPROVED: RGT
DATE: NOVEMBER, 2002
SCALE: AS NOTED
SHEET NO. C-6



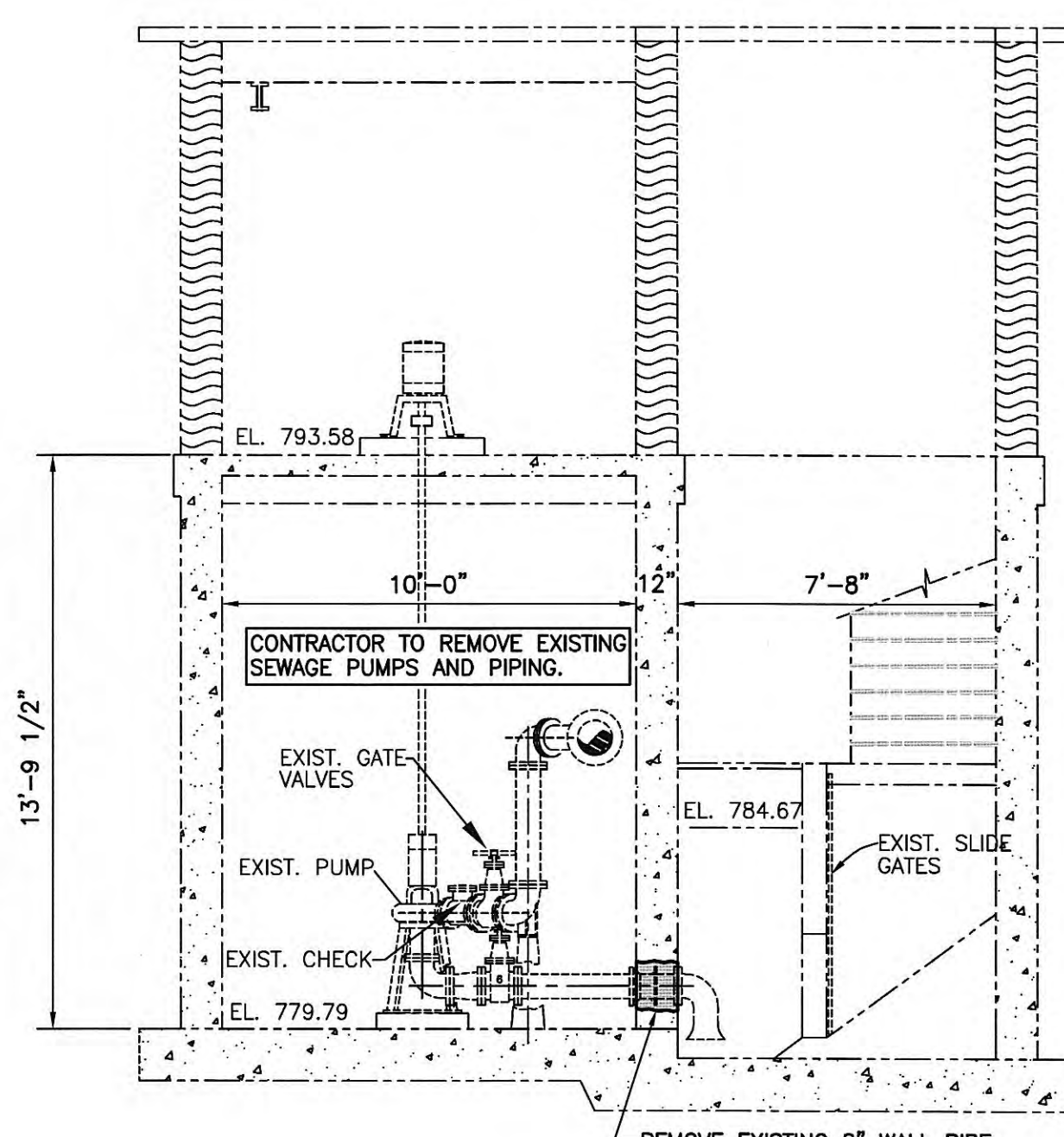
EXISTING CONDITIONS-SECTION C-7.2
SCALE: 1/4" = 1'-0"



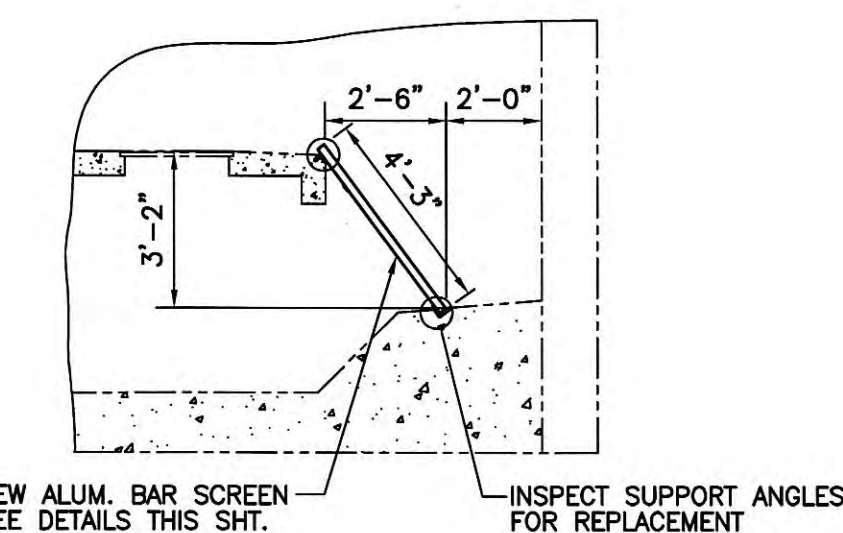
PIPE SUPPORT DETAIL
SCALE: 3/4" = 1'-0"



PUMP BASE DETAIL
SCALE: 3/4" = 1'-0"

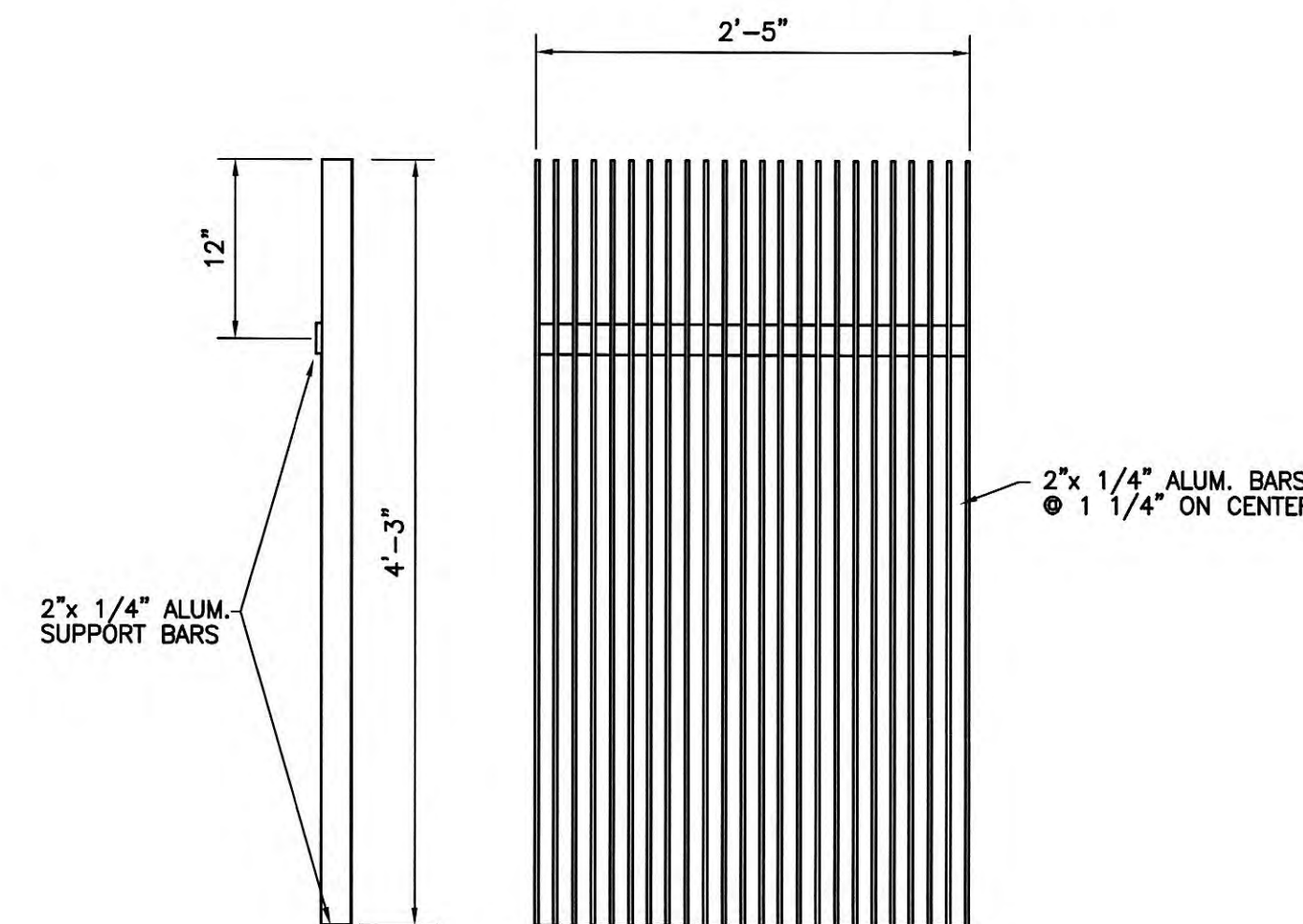


EXISTING CONDITIONS-SECTION C-7.1
SCALE: 1/4" = 1'-0"

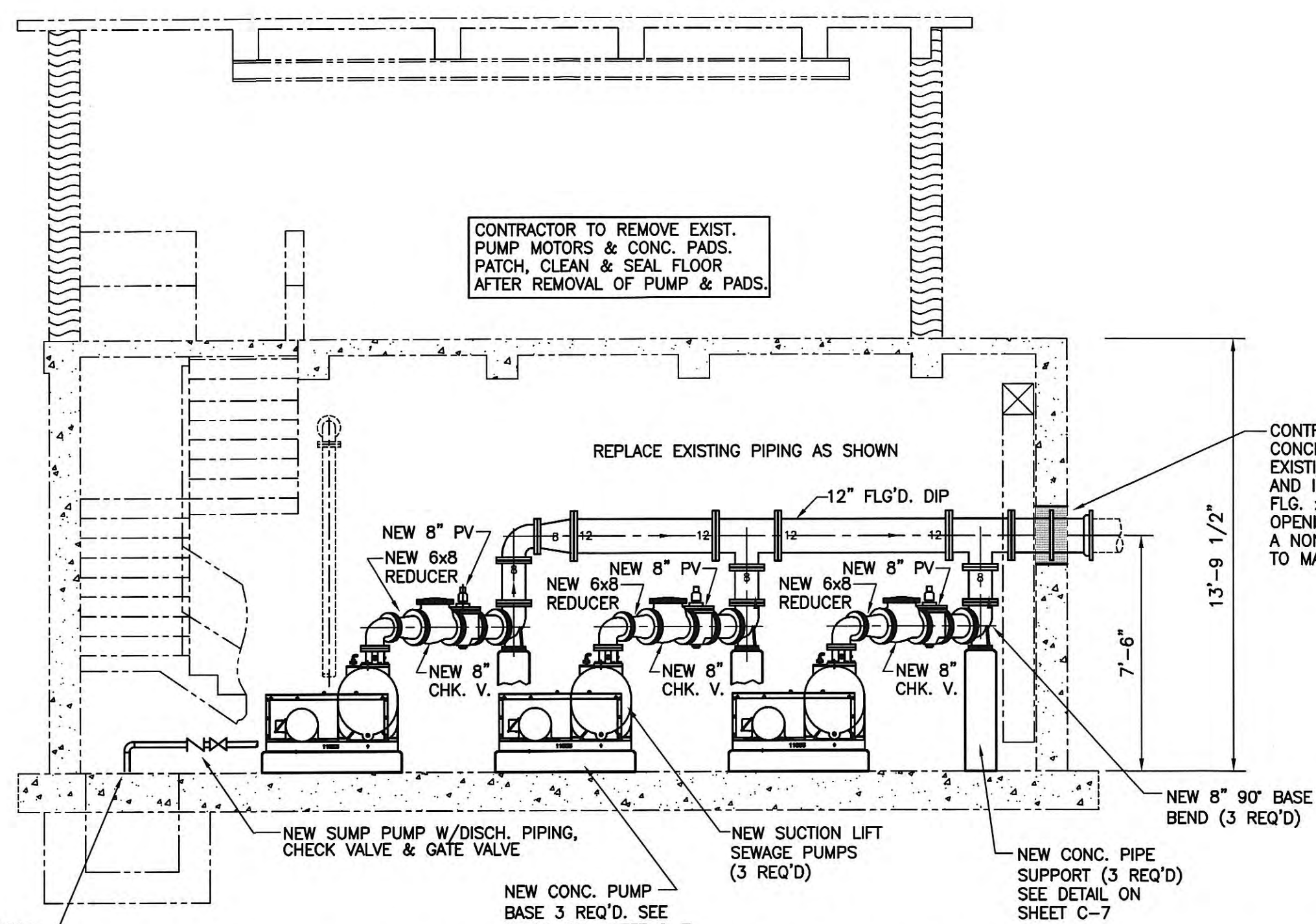


MODIFIED CONDITIONS-SECTION C-7.3
SCALE: 1/4" = 1'-0"

- NOTES:
1. CONTRACTOR TO FIELD VERIFY BAR SCREEN DIMENSIONS. BEFORE FABRICATION, SUPPORT ANGLES SHALL BE REPLACED IF DETERIORATED.
 2. CONTRACTOR TO FURNISH ALUM. BAR SCREEN RAKE W/TINES SPACED TO MATCH BAR SPACING ON SCREEN.

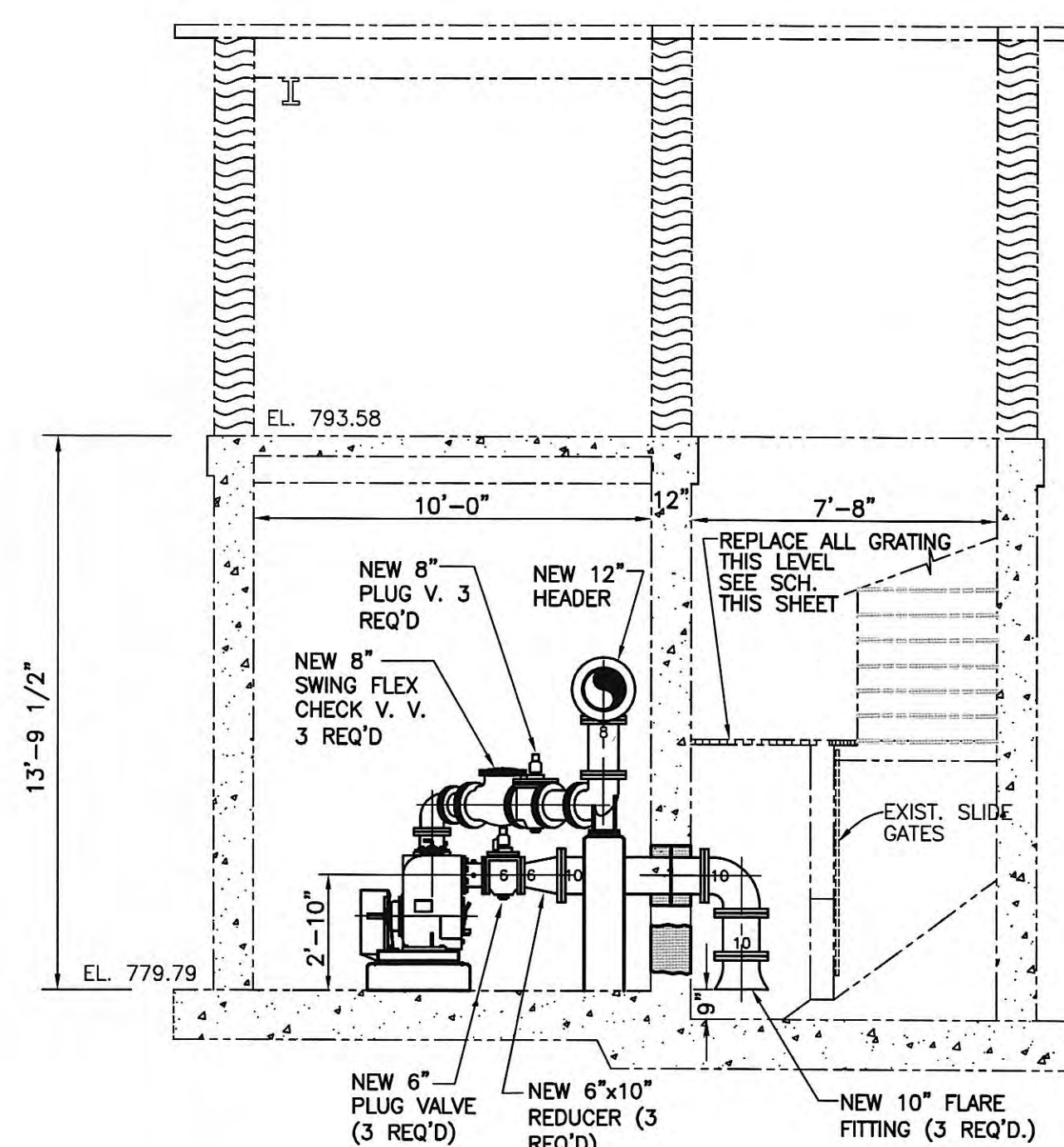


MANUAL BAR SCREEN DETAIL
SCALE: NONE



MODIFIED CONDITIONS-SECTION C-7.2
SCALE: 1/4" = 1'-0"

CONTRACTOR TO REMOVE EXIST. CONCRETE PAD AND INSTALL 39"x50 1/2"x 1 1/2" ALUM. GRATING. OPENINGS SHALL BE PROVIDED FOR PIPE AND PUMP REMOVAL. (FIELD VERIFY DIMENSIONS)



MODIFIED CONDITIONS-SECTION C-7.1
SCALE: 1/4" = 1'-0"

SCHEDULE FOR ALUMINUM GRATING REPLACEMENT	
1 EACH-	38 1/4" x 34 1/2" x 1 1/2" LOCATED OUTSIDE @ ENTRANCE
1 EACH-	38 1/2" x 34 1/2" x 1 1/2" LOCATED @ PUMP MOTOR LEVEL
4 EACH-	35 1/2" x 38 1/2" x 1 1/2"
3 EACH-	20 1/2" x 5" x 1 1/2"

CONTRACTOR TO FIELD VERIFY ALL GRATING OPENINGS FOR PROPER FIT.

RECORD DRAWINGS

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ENGINEER'S REPRESENTATIVE

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NO.	DESCRIPTION	DATE	BY
1	ADDENDUM NO. 1	8/11/05	RGT
REVISIONS			

GRW PROJECT NO. 7601-30 CONTRACT NO. S02-03
EXISTING WEBB SEWAGE PUMP STATION SECTIONS
HARRIMAN UTILITY BOARD
HARRIMAN, TENNESSEE

GRW Erod Dunson, Inc.
Engineers, Architects, Planners
LEXINGTON LOUISVILLE INDIANAPOLIS
NASHVILLE KNOXVILLE

DESIGNED: RGT/NDW
DRAWN: DGR
REVIEWED: NDW
APPROVED: RGT
DATE: NOVEMBER, 2002
SCALE: AS NOTED
SHEET NO. C-7