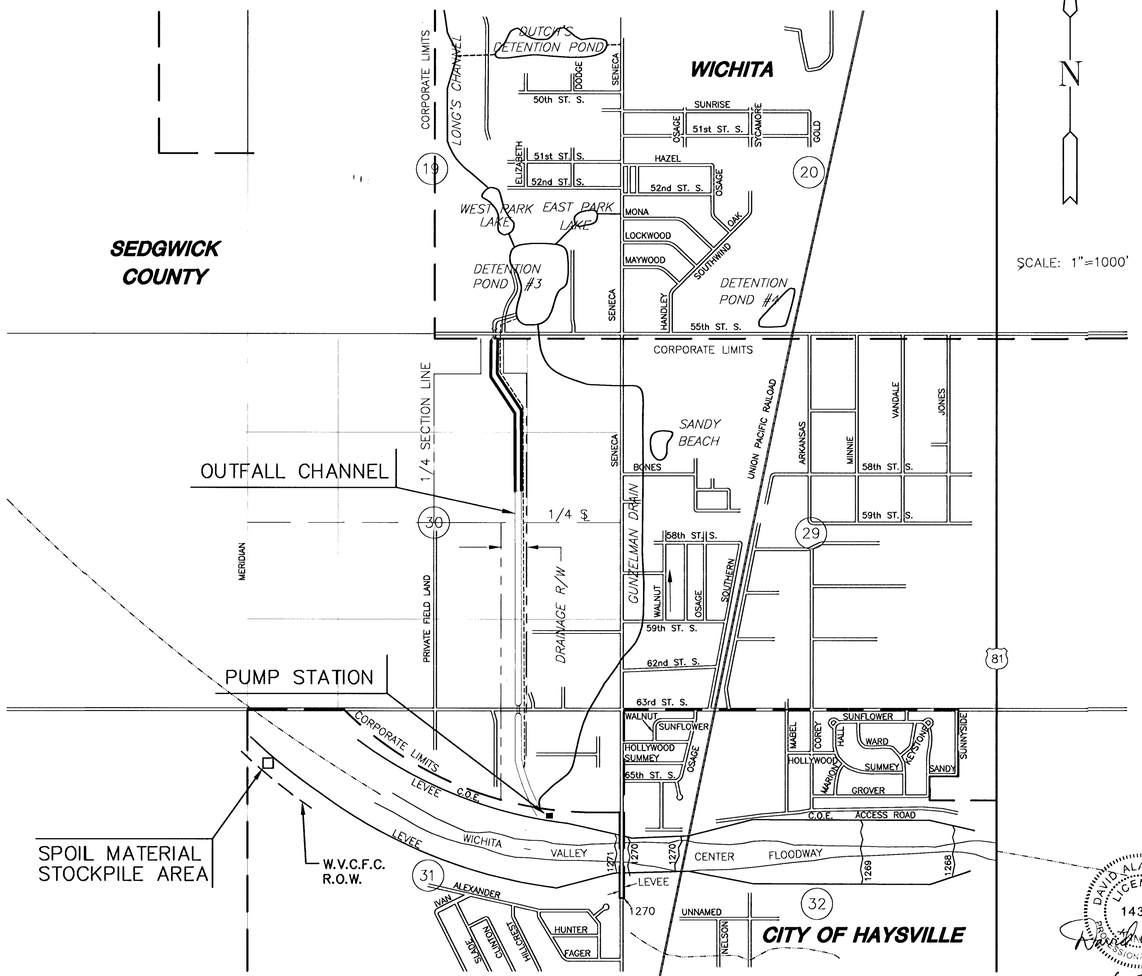
SOUTH SENECA
STORMWATER PUMP STATION

PROJECT NO. 468-82586

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, CITY ENGINEER
MAY, 1996

INDEX NO. ~~724252~~ 660761



NGVD = 1187.4 + WICHITA DATUM

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A-1	ITT FLYGT SUBMERSIBLE PROPELLER PUMPS

DAVID ALAN CHASE LICENSED 14372 PROFESSIONAL ENGINEER
6-22-98

RECORD DRAWINGS 6-12-98

MID-KANSAS ENGINEERING CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME

TITLE SHEET
SHEET TITLE

DAC	RRT	RCB
DESIGN BY:	DRAWN BY:	CHECKED BY:
MAY, 1996	93035	1 / 30
DATE	JOB NO.	SHEET/OF

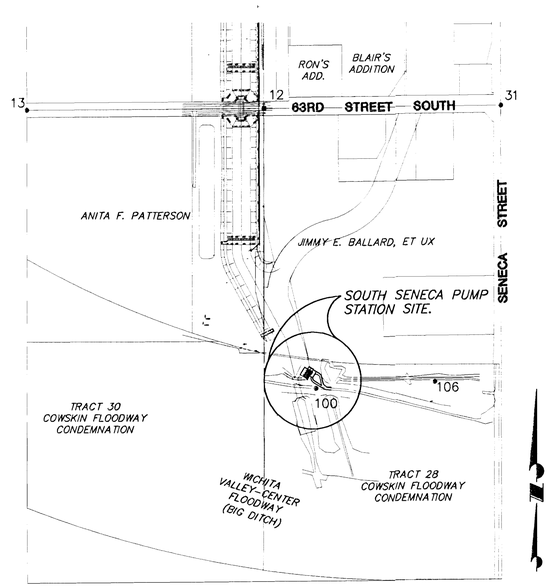
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GENERAL NOTES

1. THE CONTRACTOR SHALL CONTAIN HIS OPERATIONS TO PERMIT TRAFFIC THROUGH AND ALONG ALL COUNTY, CITY AND STATE ROADS. THE CONTRACTOR SHALL ERECT WARNING SIGNS, DETOUR SIGNS, FLASHING LIGHTS, AND BARRICADES TO ENSURE SAFETY AS DIRECTED IN THE GENERAL CONDITIONS OF THE SPECIFICATIONS. THE CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH TO REMAIN OPEN OVERNIGHT AND WEEKENDS TO LESS THAN 50 FEET.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR SHALL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR OR A LICENSED PROFESSIONAL ENGINEER IN ACCORDANCE WITH STATE LAWS.
3. THE UTILITES (WATER, GAS, TELEPHONE, ELECTRICAL, ETC.) AS LOCATED ON THE PLANS ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING TRENCHING OPERATIONS TO AVOID DAMAGING THESE LINES. THE CONTRACTOR SHALL COORDINATE ANY TRENCHING OPERATIONS THROUGH KANSAS ONE-CALL TO AVOID ANY DAMAGE TO THE LINES. IF ANY LINES ARE DAMAGED THEY SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

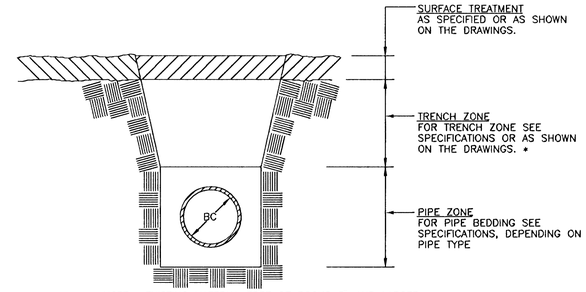
   NOTE: NOTIFY KANSAS ONE CALL FORTY EIGHT (48) HOURS PRIOR TO EXCAVATION, 1-800-344-7233 (WICHITA) 687-2470
4. THE CONTRACTOR SHALL RESTORE ALL DITCHES, CHANNELS, BANK STABILIZATION, SWALES, ROADS, SHOULDERS, PAVEMENT ENTRANCES, AND BANKS TO THEIR ORIGINAL SLOPE AND GRADES. WHERE EXISTING ENTRANCE PIPE, DRAINAGE PIPE, SPRINKLER SYSTEMS, ROADS, SIDEWALKS, DRIVES, SIGNS, MAILBOXES, FENCES, ETC., CONFLICT WITH THE PROPOSED WORK HEREIN THEY SHALL BE REMOVED AND REPLACED OR RESET IN LIKE KIND. ALL OF THE ABOVE INCLUDING TREES, SHRUBS, GRASS, SOD AND OTHER LANDSCAPING, SHALL BE CONSIDERED SUBSIDIARY TO THE PRICE BID FOR PIPE.
5. POSITIVE DRAINAGE SHALL BE PROVIDED FOR ALL AREAS ON OR NEAR SPOIL AREAS. NATURAL DRAINAGE WAYS SHALL BE MAINTAINED.
6. DEMOLITION MATERIALS SHALL BE REMOVED FROM THE SITE TO AN APPROVED DISPOSAL SITE.
7. ALL ELEVATIONS ARE CITY DATUM.
8. ANY EXCESS EXCAVATION SHALL BE REMOVED FROM THE SITE AT CONTRACTOR'S EXPENSE, UNLESS DIRECTED OTHERWISE ON THE SITE PLANS.
9. ALL BACKFILL AT THE SITE AND ALL TRENCHES IN STREETS AND UNDER PAVED PARKING SHALL BE COMPACTED TO MINIMUM OF 95% OF ASTM D-698.
10. ALL OTHER TRENCHES SHALL BE COMPACTED TO MINIMUM OF 90% OF ASTM D-698
11. ALL AREAS DISTURBED BY CONSTRUCTION ABOVE THE NORMAL WATER SURFACE SHALL BE SEEDED AND MULCHED PER THE SPECIFICATIONS.
12. ALL BACKFILL IN TRENCHES SHALL BE TYPE 1 UNLESS SPECIFIED OTHERWISE. EXISTING MATERIAL WITH ROCKS 3" IN DIAMETER AND SMALLER CAN BE USED FOR BACKFILL MATERIAL ABOVE PIPE ZONE IN THE PIPE TRENCH ZONE.
13. ALL BOLTS AND NUTS FOR BURIED PIPE SHALL BE CORTEN.
14. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ALL PIPE LENGTHS PRIOR TO ORDERING MATERIAL
15. A GETTY GAS GATHERING PIPELINE CROSSES THE PROJECT SITE NEAR THE PUMP STATION. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE GAS COMPANY. (JOE FOWLER, 316-775-6091)
16. SPOIL MATERIAL SHALL BE PLACED ON CITY OF WICHITA PROPERTY AS DIRECTED BY THE CITY (APPROXIMATE LOCATION SHOWN ON SHEET 1) AND AS APPROVED BY THE ENGINEER. FINAL GRADING WILL BE AT A SLOPE OF 6:1 OR LESS. NATURAL DRAINAGE PATH SHALL BE PRESERVED.
17. RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE AND SITE LOCATION. LOCATIONS THAT, IN THE OPINION OF THE ENGINEER, WILL LEAVE AN UNSIGHTLY APPEARANCE WILL NOT BE APPROVED. ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOOD PLAIN WILL REQUIRE A KANSAS STATE DEPARTMENT OF AGRICULTURE PERMIT. ANY MATERIAL DUMPED IN WATERS OF THE UNITED STATES OR WETLANDS IS SUBJECT TO U.S. CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS WILL REQUIRE ADDITIONAL ARCHEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.
18. CONTRACTOR SHALL NOTIFY THE KANSAS CORPORATION COMMISSION, DOUG LOUIS (316-337-6231), BEFORE CONSTRUCTION BEGINS, REGARDING PLUGGED OIL WELLS AND PIPELINES IN THE PROJECT AREA.
19. COASTAL DERBY HAS ABANDONED THEIR WELL FIELD LINES IN THIS AREA. THESE LINES SHALL BE CUT, AS NECESSARY, REMOVED, AND THE REMAINING LINES CAPPED. COASTAL DERBY MAY BE CONTACTED FOR QUESTIONS. (GLEN BERG, 316-291-2416)
20. CONSTRUCTION ACCESS TO THE SITE SHALL BE FROM 63RD STREET SOUTH ALONG THE OUTFALL CHANNEL ONLY. CONSTRUCTION ACCESS FROM SENECA WILL NOT BE ALLOWED.



KEY MAP

SCALE: 1"=400'

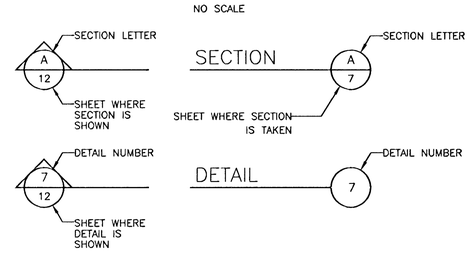
400 0 400 800



*NOTE: EXISTING MATERIAL FREE OF ROCKS 3" AND LARGER CAN BE USED FOR BACKFILL IN THE TRENCH ZONE PROVIDED THE MATERIAL CAN BE COMPACTED TO 95% OF ASTM D 698 UNDER STREETS.

TYPICAL SECTION OF BURIED PIPE

NO SCALE



TYPICAL SECTION OR DETAIL REFERENCE

PAINT SCHEDULE

ITEM	SURFACE PREPARATION	FACTORY PRIME FIELD TOUCH UP	FIELD PRIME	INTERMEDIATE COATING	FINAL COATING
PUMPS	B	B	-	-	E
PIPING & VALVES	D	B	-	D	E
STRUCTURAL STEEL (EXCEPT LOWER LEVEL)	B	C	-	B	B
STRUCTURAL STEEL (LOWER LEVEL, NON-GALVANIZED)	C	B	-	D	E
GRATING (LOWER LEVEL)	B	B	-	-	E
INLET CHUTE, SUMP BAYS, WET WELL AND OUTFALL CHUTE (INTERIOR WALLS)	E	-	J	-	A
EXTERIOR CONCRETE WALLS (EXPOSED)	A	-	G	-	C
INTERIOR CONCRETE WALLS	A	-	B	-	E
HANDRAILS (LOWER LEVEL)	B	C	-	D	G
CRANE, BRIDGE, HOIST & TROLLEY	B	C	-	B	B

NOTE: ARCHITECTURAL PAINTING IS CALLED OUT IN SPECIFICATION SECTION 09900 AND IS NOT SCHEDULED HERE.

PAINT LEGEND

SURFACE PREPARATION	INTERMEDIATE COATINGS
A. -GENERAL B. -COMMERCIAL SANDBLAST C. -NEAR-WHITE SANDBLAST D. -WIRE BRUSH E. -BRUSH-OFF SANDBLAST F. -HIGH PRESSURE WASH	A. -EPOXY NSF STD. 61 APPROVED B. -ALKYD ENAMEL C. -ACRYLIC LATEX D. -CATALYZED EPOXY E. -BLEACHING OIL
PRIMERS	**FINAL COATINGS**
A. -INORGANIC ZINC PRIMER B. -EPOXY PRIMER C. -ALKYD-PHENOLIC UNIVERSAL D. -ACRYLIC MASONRY FILLER PRIMER E. -ACRYLIC LATEX F. -VINYL WASH PRIMER G. -MODIFIED EPOXY H. -MODIFIED EPOXY BLOCK FILLER I. -WATERPROOFING J. -EPOXY PRIMER NSF STD. 61 APPROVED	A. -EPOXY NSF STD. 61 APPROVED B. -ALKYD ENAMEL C. -ACRYLIC LATEX D. -WATERPROOFING E. -CATALYZED EPOXY SERIES 66 F. -SILICONE ALKYD ENAMEL G. -ACRYLIC POLYURETHANE H. -MASONRY SEALER I. -SEALER - PRESERVATIVE J. -STONE SEALER K. -CATALYZED EPOXY SERIES 140
REFER TO SPECIFICATIONS FOR LIST OF APPROVED PAINT TYPES AND MANUFACTURERS.	

BENCHMARKS

BM #1 CHISELED "□" ON EAST END OF NORTH HEADWALL RCB UNDER NORTH DIKE OF FLOODWAY, 1136' WEST OF C/L SENECA AND 1510' SOUTH OF C/L 63RD ST. S.
ELEV. = 76.055

BM #2 STEPPED SPIKE IN NORTH FACE PP, 36' SOUTH OF SE COR , SW 1/4, SE 1/4 SEC 30-T28S-R1E
ELEV. = 79.63

HORIZONTAL CONTROLS:

PT. NO.	NORTH	EAST	DESC.
12	5690.374	9687.616	PK NAIL & WASHER SET OVER STONE @ NW COR. OF THE NE 1/4, NE 1/4, SEC. 31, T28S, R1E. 1. 1/2" REBAR & MKEC CAP 2.51'N & 0.84' E OF CORNER 2. "X" CUT ON STEEL GATE POST 39.55' SSE 3. "X" CUT ON STEEL GATE POST 57.55' SE 4. 3 NAILS IN FENCE POST 41.7' SW
13	5679.890	8364.240	FOUND 1/2" BAR @ NW COR. OF THE NE 1/4, SEC 30, T28S, R1E. 1. NW COR. OF HOUSE 128.3' SE 2. 3 NAILS IN H.L.P. 130.9' ESE 3. 3 NAILS IN COR. POST 30.5' SOUTH
31	5705.922	11012.840	FOUND 5/8" BAR @ NE COR. OF THE NE 1/4, SEC 30, T28S, R1E. 1. PK NAIL IN SOUTH SIDE OF P.P. 80.55' SW 2. PK NAIL IN SOUTH SIDE OF P.P. 80.62' SE 3. 3 NAILS IN P.P 94.90' NE
100	4123.437	9980.047	I.P.
106	4158.650	10644.297	I.P.

RICHARD CARSON JONES LICENSED 6803 KANSAS PROFESSIONAL ENGINEER

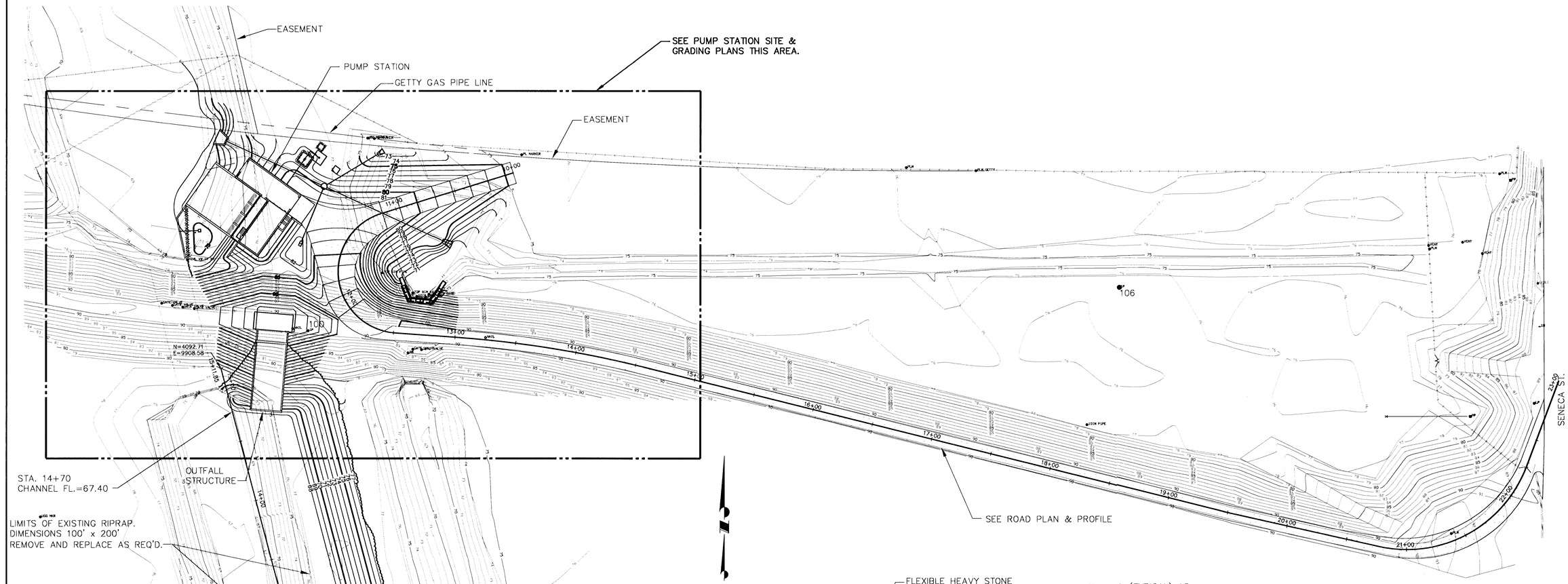
MID-KANSAS ENGINEERING CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

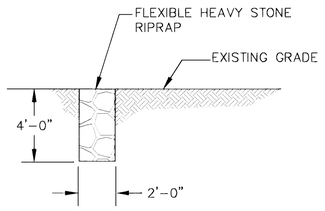
SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME

KEY MAP & GENERAL NOTES
SHEET TITLE

DAC	RRT	RCB
DESIGN BY:	DRAWN BY:	CHECKED BY:
MARCH, 1996	93035	2 / 30
DATE	JOB NO.	SHEET/OF

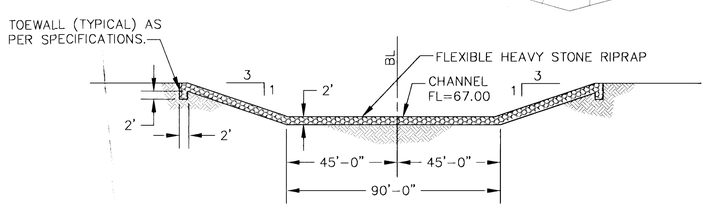
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RIPRAP TIEBACK DETAIL

N.T.S.



TYPICAL OUTFALL CHANNEL SECTION

N.T.S.

NOTE:
1. CONTOURS AS SHOWN IN RIPRAPPED AREAS ARE TO TOP OF RIPRAP.

DAVID ALAN CHASE LICENSED 14372 PROFESSIONAL ENGINEER 6-22-98

RECORD DRAWINGS 6-12-98

MID-KANSAS ENGINEERING CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME

OVERALL SITE & GRADING PLAN
SHEET TITLE

DAC	RRT	RCB
DESIGN BY:	DRAWN BY:	CHECKED BY:
MARCH, 1996	93035	3 / 30
DATE	JOB NO.	SHEET/OF

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T.O.P. EL=62.7

100 LF± 36" RCP @0.5%

COASTAL DERBY ABANDONED 4" GAS LINE.

CONSTRUCT WATER WELL & 9'x9' SLAB. SLAB TOP = 79.40 SEE SPECS. ~~N 4263.31~~ N 4264.57 ~~E 9977.03~~ E 9989.00

CONSTRUCT 2" PVC WATERLINE

PIPELINE ELEV. TRANSITION N 4234.25 E 9974.66

FL OUT=69.40

UTILITY CO. PAD MOUNT TRANSFORMER VERIFY ALL REQ'S. W/UTILITY CO. ~~N 4273.38~~ N 4254.67 ~~E 9990.48~~ E 10002.82

24" END SECTION FL IN = 72.50 N 4268.87 E 10039.56

12" HIGH PRESSURE PIPELINE T.O.P. EL=72.71 GETTY GAS GATHERING (316) 775-6091

HEADWALL & FLAPGATE 36" FL OUT=68.90 SEE DETAIL ON SHT. 23. N 4278.01 E 9913.13

REMOVE AND REPLACE RIPRAP AS REQ'D.

PUMP STATION

54 LF± 24" RCP @0.5%

FL IN=72.20

FL IN=69.50

N 4226.18 E 9879.48

50 LF± 15" RCP @4.0%

110 LF± 36" RCP @2.30%

REAL TIME RAINFALL DETECTOR TRANSMITTER

24"x24" DROP INLET INLET TOP=75.00 FL OUT=72.50 N 4205.32 E 9891.04

LEVEL TRANSDUCER

10 LF± 15" RCP

13.5'x19' APPROACH SLAB

FL IN=76.00

CONSTRUCT TYPE 'P' MANHOLE 6' DIA. MH TOP = 80.20 N 4241.27 E 9993.12

36" END SECTION FL IN=72.0 N 4195.73 E 10092.26

24"x48" DROP INLET INLET TOP=81.90 FL OUT=78.00 N 4194.62 E 9973.82

EXISTING GROUNDWATER PRESSURE RELIEF WELL. MODIFY PER DETAIL THIS SHEET.

CONSTRUCT GABION STRUCTURE SEE DETAIL ON THIS SHEET.

EXISTING TOE DRAIN AND TOE DRAIN RISER. RELOCATE TOE DRAIN RISER TO APPROX. 4' WEST OF NEW RETAINING WALL PER DETAIL THIS SHEET.

31.87'x14' SLAB 6" THICK, W/#4@12" E.W. (3" CLR. ON BOTTOM, 2" CLR. ON SIDES)

N=4092.71 E=9908.58

LEVEL TRANSDUCER

N 4058.76 E 9932.54

N 4113.46 E 9963.23

OUTFALL STRUCTURE

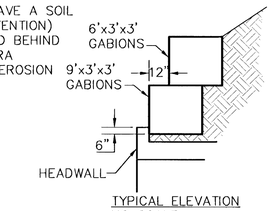
3:1

REMOVE AND REPLACE RIPRAP AS REQ'D.

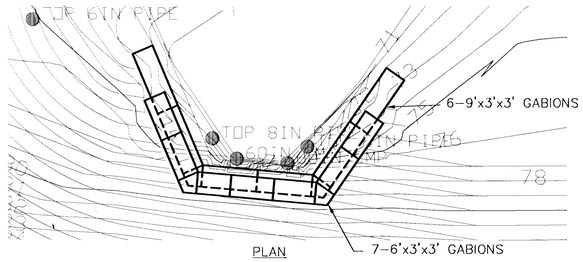
SCALE: 1"=20'

20 10 0 20

NOTE:
GABION STRUCTURE SHALL HAVE A SOIL FILTER FABRIC (FOR SOIL RETENTION) PLACED UNDER, AT ENDS AND BEHIND THE STRUCTURE. USE TREVIRA SPUNBOND 1125 GEOTEXTILE EROSION CONTROL FABRIC OR EQUAL.



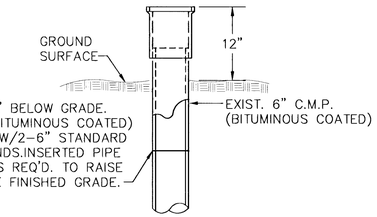
TYPICAL ELEVATION
NO SCALE



PLAN

GABION STRUCTURE DETAILS

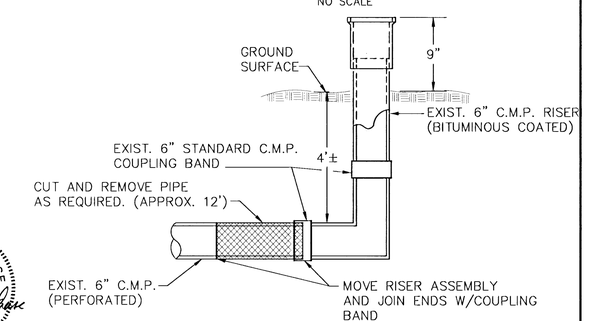
SCALE: 1"=10'



CUT EXISTING PIPE 2' BELOW GRADE. INSTALL 6" C.M.P. (BITUMINOUS COATED) BETWEEN CUT ENDS W/2-6" STANDARD C.M.P. COUPLING BANDS.INSERTED PIPE LENGTH SHALL BE AS REQ'D. TO RAISE WELL TOP 12" ABOVE FINISHED GRADE. (APPROX. 2'-3')

GROUNDWATER PRESSURE RELIEF WELL MODIFICATION DETAIL

NO SCALE



TOE DRAIN RISER RELOCATION DETAIL

NO SCALE

DAVID ALAN CHASE LICENSED 14372 PROFESSIONAL ENGINEER 6-22-98

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MID-KANSAS ENGINEERING CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME

PUMP STATION SITE PLAN
SHEET TITLE

DAC	RRT	RCB
DESIGN BY:	DRAWN BY:	CHECKED BY:
MARCH, 1996	93035	4 / 30
DATE	JOB NO.	SHEET/OF

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MACHINE ACCESS RAMP,
8' WIDE. NO RIPRAP IN RAMP.

N=4092.71
E=9908.58

NOTES:
1. CONTOURS AS SHOWN IN RIPRAPPED AREAS ARE TO TOP OF RIPRAP.

SCALE: 1"=20'

20 10 0 20

DAVID ALAN CHASE
LICENSED
14372
PROFESSIONAL ENGINEER
6-22-98

RECORD DRAWING 6-12-98

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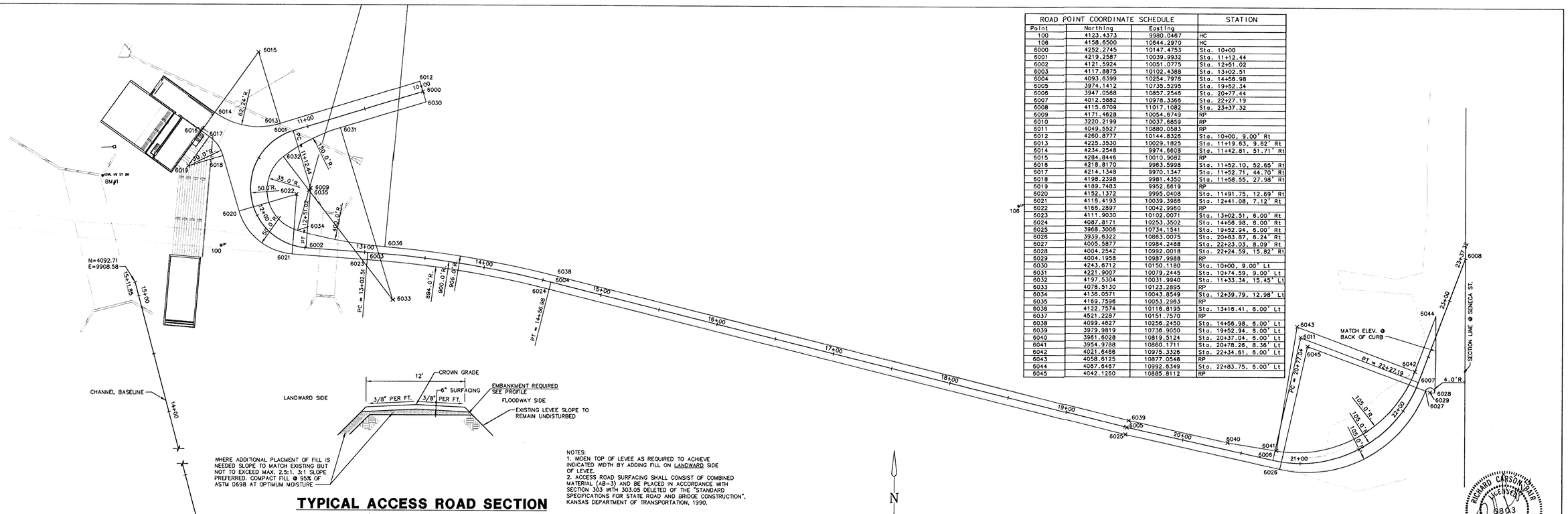
SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME

PUMP STATION GRADING PLAN
SHEET TITLE

DAC	RRT	RCB
DESIGN BY:	DRAWN BY:	CHECKED BY:
MARCH, 1996	93035	5 / 30
DATE	JOB NO.	SHEET/OF

I:\ENVR\93035\GRADS.DWG Tue Jun 23 10:36:59 1998

ROAD POINT COORDINATE SCHEDULE			STATION
Point	Northing	Easting	
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6000	4252.2745	10147.4753	Sta. 10+00
6001	4219.2587	10039.9932	Sta. 11+12.44
6002	4121.5924	10051.0775	Sta. 12+51.02
6003	4117.8875	10102.4388	Sta. 13+02.51
6004	4093.6399	10254.7976	Sta. 14+56.98
6005	3974.1412	10735.5295	Sta. 19+52.34
6006	3947.0588	10857.2546	Sta. 20+77.44
6007	4012.5882	10978.3366	Sta. 22+27.19
6008	4115.6709	11017.1082	Sta. 23+37.32
6009	4171.4628	10054.6749	RP
6010	3220.2199	10037.6859	RP
6011	4049.5527	10880.0583	RP
6012	4260.8777	10144.8326	Sta. 10+00, 9.00' Rt
6013	4225.3530	10029.1825	Sta. 11+19.83, 9.62' Rt
6014	4234.2548	9974.6608	Sta. 11+42.81, 51.71' Rt
6015	4284.8446	10010.9082	RP
6016	4218.8170	9963.5998	Sta. 11+52.10, 52.65' Rt
6017	4214.1348	9970.1347	Sta. 11+52.71, 44.70' Rt
6018	4198.2398	9981.4350	Sta. 11+58.55, 27.98' Rt
6019	4189.7483	9952.6619	RP
6020	4152.1372	9995.0408	Sta. 11+91.75, 12.69' Rt
6021	4116.4193	10039.3986	Sta. 12+41.08, 7.12' Rt
6022	4165.2897	10042.9960	RP
6023	4111.9030	10102.0071	Sta. 13+02.51, 6.00' Rt
6024	4087.8171	10253.3502	Sta. 14+56.98, 6.00' Rt
6025	3968.3006	10734.1541	Sta. 19+52.94, 6.00' Rt
6026	3939.6322	10863.0075	Sta. 20+83.87, 6.24' Rt
6027	4005.5877	10984.2488	Sta. 22+23.03, 8.09' Rt
6028	4004.2542	10992.0018	Sta. 22+24.59, 15.82' Rt
6029	4004.1958	10987.9988	RP
6030	4243.6712	10150.1180	Sta. 10+00, 9.00' Lt
6031	4221.9007	10079.2445	Sta. 10+74.59, 9.00' Lt
6032	4197.5304	10031.9940	Sta. 11+33.34, 15.45' Lt
6033	4078.5130	10123.2895	RP
6034	4136.0571	10043.8549	Sta. 12+39.79, 12.98' Lt
6035	4169.7596	10053.2963	RP
6036	4122.7574	10116.8195	Sta. 13+16.41, 6.00' Lt
6037	4521.2287	10151.7570	RP
6038	4099.4627	10256.2450	Sta. 14+56.98, 6.00' Lt
6039	3979.9819	10736.9050	Sta. 19+52.94, 6.00' Lt
6040	3961.6028	10819.5124	Sta. 20+37.04, 6.00' Lt
6041	3954.9788	10860.1711	Sta. 20+78.28, 8.36' Lt
6042	4021.6466	10975.3326	Sta. 22+34.61, 6.00' Lt
6043	4058.6125	10877.0548	RP
6044	4067.6467	10992.8349	Sta. 22+83.75, 6.00' Lt
6045	4042.1250	10885.8112	RP



TYPICAL ACCESS ROAD SECTION

(BETWEEN STA.13+16 THRU 20+37)

NO SCALE

NOTES:
1. WIDEN TOP OF LEVEE AS REQUIRED TO ACHIEVE INDICATED WIDTH BY ADDING FILL ON LANDWARD SIDE OF LEVEE.
2. ACCESS ROAD SURFACING SHALL CONSIST OF COMBINED MATERIAL (AB-3) AND BE PLACED IN ACCORDANCE WITH SECTION 303 WITH 303.05 DELETED OF THE "STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION", KANSAS DEPARTMENT OF TRANSPORTATION, 1990.

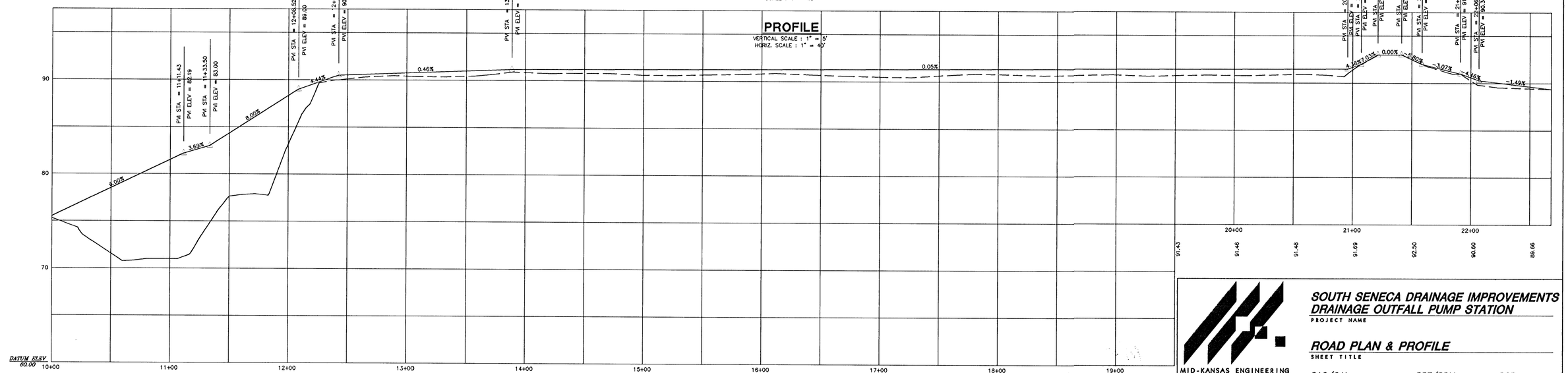
N

PLAN

SCALE : 1" = 40'

PROFILE

VERTICAL SCALE : 1" = 5'
HORIZ. SCALE : 1" = 40'



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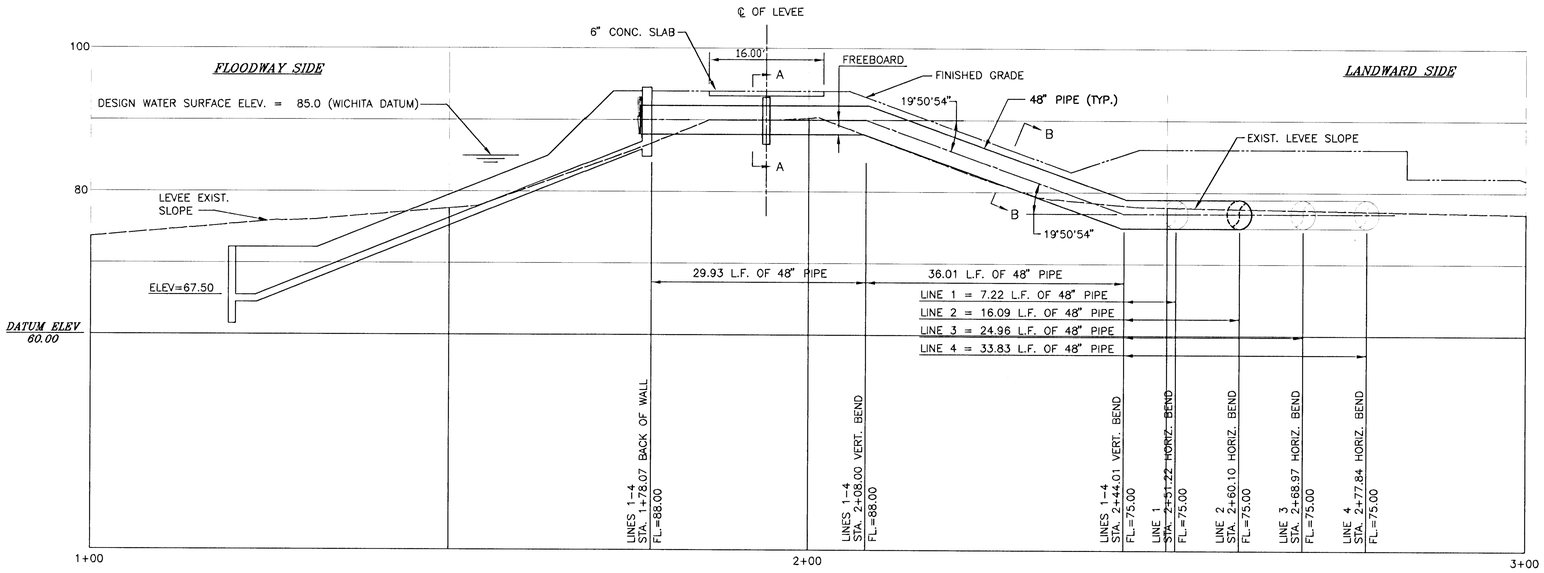
RICHARD CARSON BAIN
LICENSED
9803
KANSAS
PROFESSIONAL ENGINEER

SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME

ROAD PLAN & PROFILE
SHEET TITLE

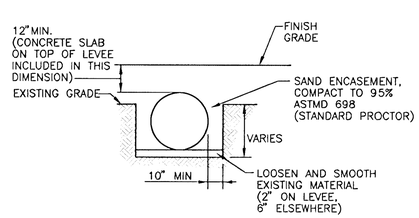
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DESIGN BY:	DRAWN BY:	CHECKED BY:
MARCH, 1996	93035E1	6 / 30
DATE	JOB NO.	SHEET/OF

I:\Civil\93\35\93035E1 Tue Apr 16 15:25:07 1996



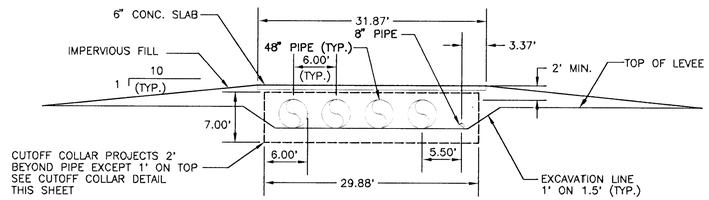
PROFILE OF PIPELINE

SCALE: 1"=10'



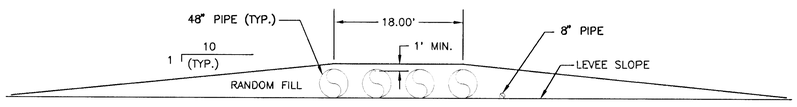
TYPICAL SECTION OF BURIED 48" PIPE

NO SCALE



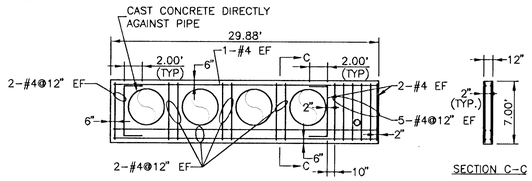
TOP OF LEVEE CROSS SECTION 'A'

SCALE: 1"=10'



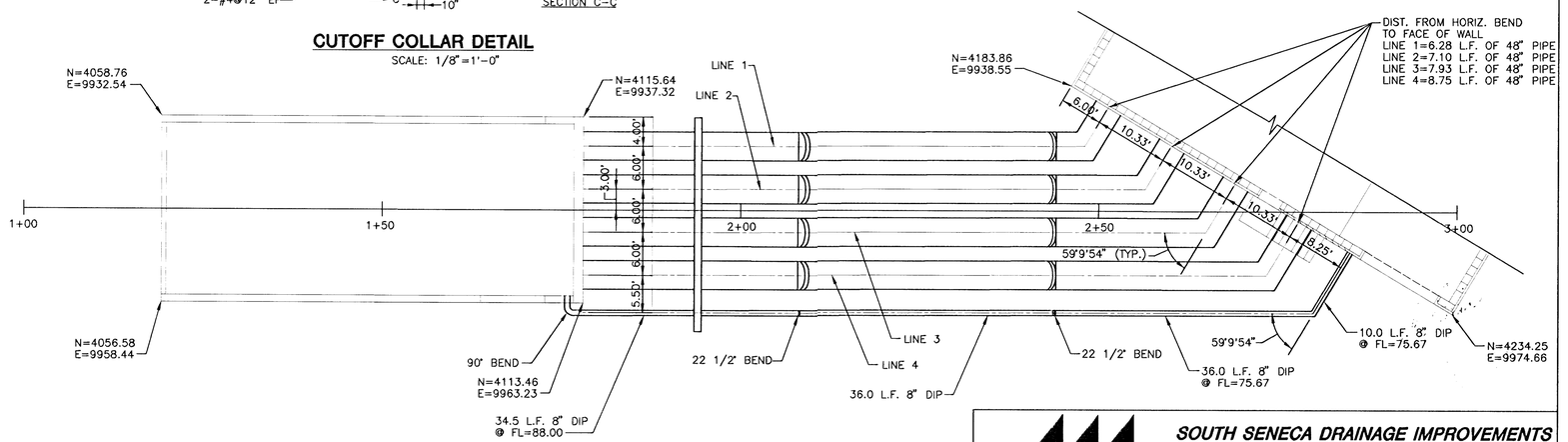
LANDWARD SIDE CROSS SECTION 'B'

SCALE: 1"=10'



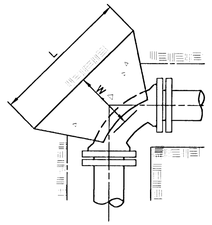
CUTOFF COLLAR DETAIL

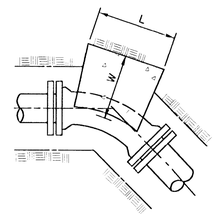
SCALE: 1/8"=1'-0"

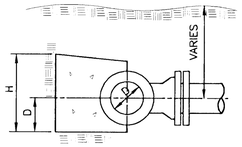


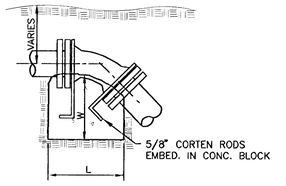
PIPING PLAN

SCALE: 1"=10'







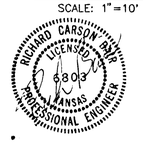


THRUST BLOCK DETAILS

THRUST BLOCK SCHEDULE				
LINE	FITTINGS & ANGLE	DIM "L"	DIM. "W"	DIM "H"
8"	90° BEND	2'-0"	1'-6"	2'-0"
8"	45° BEND	1'-6"	1'-6"	1'-6"
8"	22.5° BEND	1'-0"	1'-0"	1'-0"
8"	11.25° BEND	1'-0"	1'-0"	1'-0"

NOTES:

1. 48" PIPE IS SHOWN AS STEEL PIPE WITH LAP WELDED JOINTS. DI PIPE WITH RESTRAINED JOINTS CAN BE BID AS ALTERNATE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DESIGN MODIFICATIONS, SUBJECT TO THE ENGINEER'S APPROVAL, SHOULD DI PIPE BE USED.
2. CONSTRUCT THRUST BLOCKS AT ALL BENDS IN 8" PIPE PER DETAIL THIS SHEET.
3. PVC PIPE (AWWA C-900, CLASS 100) MAY BE USED IN LIEU OF DUCTILE IRON FOR THE 8" PIPE.



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WICHITA, KS. 67206
316-684-9600

SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME

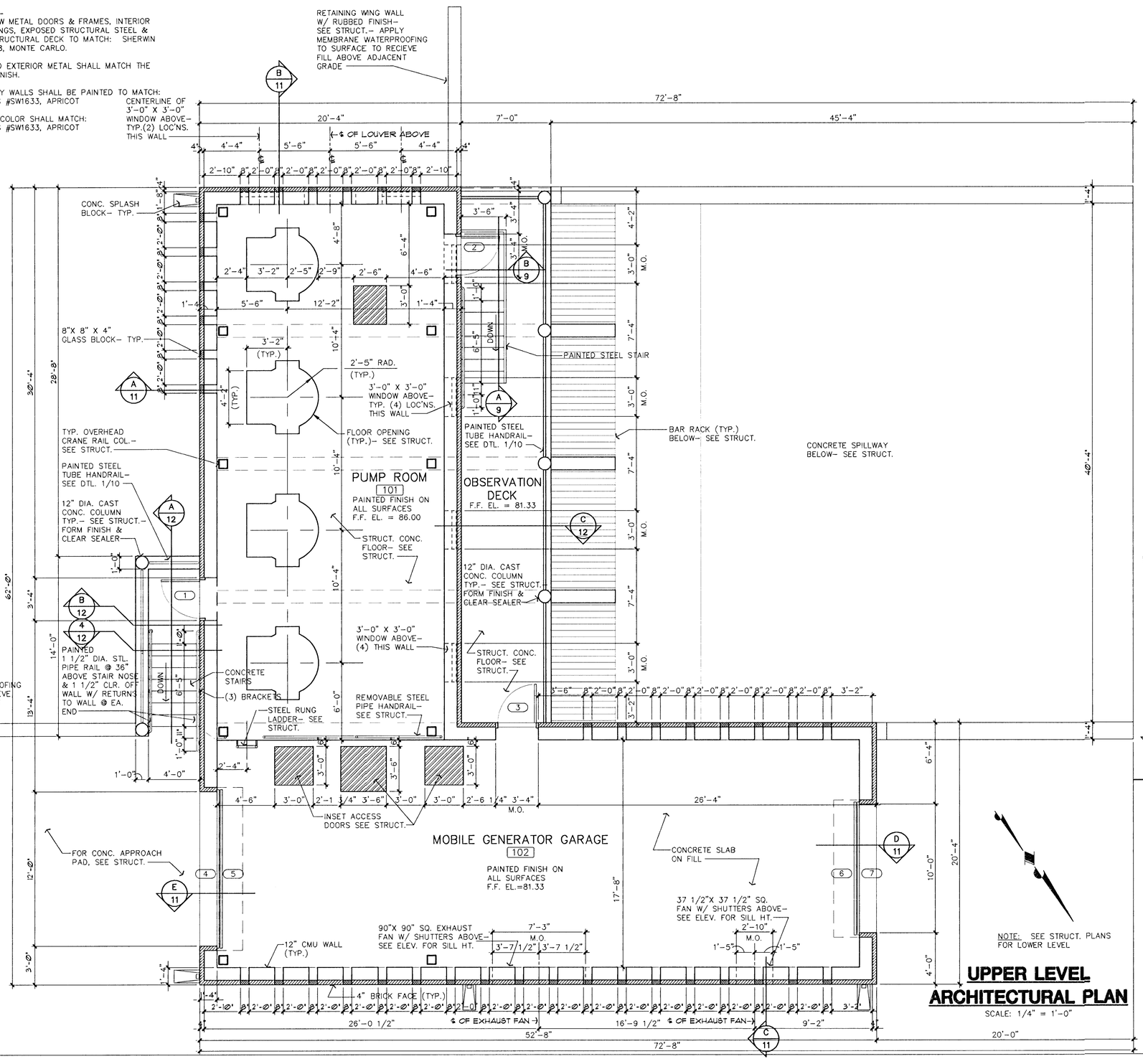
PIPING PLAN & PROFILE
SHEET TITLE

DAC	RRT	RCB
DESIGN BY:	DRAWN BY:	CHECKED BY:
MARCH, 1996	93035	7 / 30
DATE	JOB NO.	SHEET/OF

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Drawing File: I:\ENGR\93035\CAD\DWG\93035PP1.dwg

FINISH NOTES:

1. PAINT ALL HOLLOW METAL DOORS & FRAMES, INTERIOR & EXTERIOR RAILINGS, EXPOSED STRUCTURAL STEEL & UNDERSIDE OF STRUCTURAL DECK TO MATCH: SHERWIN WILLIAMS #SW2328, MONTE CARLO.
2. ALL PRE-FINISHED EXTERIOR METAL SHALL MATCH THE ROOF COLOR & FINISH.
3. INTERIOR MASONRY WALLS SHALL BE PAINTED TO MATCH: SHERWIN WILLIAMS #SW1633, APRICOT
4. EXTERIOR E.I.F.S. COLOR SHALL MATCH: SHERWIN WILLIAMS #SW1633, APRICOT



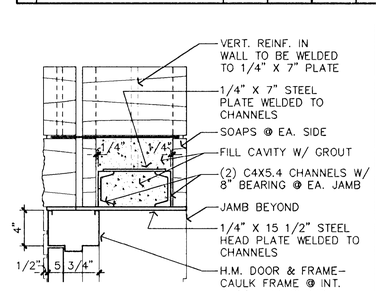
NOTE: SEE STRUCT. PLANS FOR LOWER LEVEL

UPPER LEVEL ARCHITECTURAL PLAN

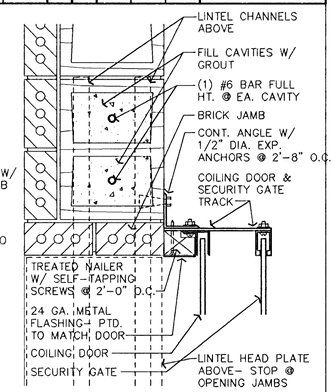
SCALE: 1/4" = 1'–0"

DOOR SCHEDULE

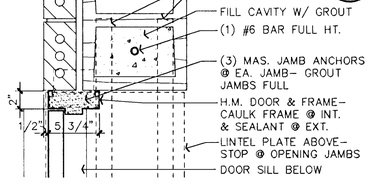
NO.	DOOR SIZE	DOOR MAT'L	DOOR FINISH	FRAME MAT'L	FRAME FINISH	LABEL	HARDWARE GROUP	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	REMARKS
1	3'–0" X 7'–0" X 1 3/4"	H.M.	PAINT	H.M.	PAINT			1/8	2/8	3/8	
2	3'–0" X 7'–0" X 1 3/4"	H.M.	PAINT	H.M.	PAINT			1/8	2/8	3/8 SIM	
3	3'–0" X 7'–0" X 1 3/4"	H.M.	PAINT	H.M.	PAINT			1/8	2/8	3/8	
4	12'–0" X 15'–4" COILING DOOR	STEEL	PAINT	STEEL	PAINT			3/11	4/8	–	
5	12'–0" X 15'–4" SEC. GATE	STEEL	PAINT	STEEL	PAINT			3/11	4/8	–	
6	10'–0" X 14'–0" SEC. GATE	STEEL	PAINT	STEEL	PAINT			3/11	4/8	–	
7	10'–0" X 14'–0" COILING DOOR	STEEL	PAINT	STEEL	PAINT			3/11	4/8	–	



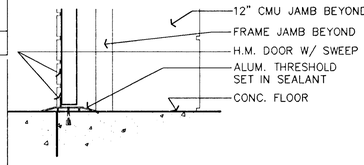
1 DOOR HEAD
1 1/2" = 1' – 0"



4 GARAGE DOOR JAMB
1 1/2" = 1' – 0"



2 DOOR JAMB
1 1/2" = 1' – 0"



3 DOOR SILL
1 1/2" = 1' – 0"

NOTE: 90"X 90" EXHAUST FAN MAS. JAMB SIMILAR TO DETAIL 4/8

WINDOW & LOUVERS UP TO & INCLUDING THE 4'–0" WIDE LOUVER SIMILAR TO DETAIL 2/8

REGISTERED ARCHITECT WESLEY PAUL HILL 1769 STATE OF KANSAS

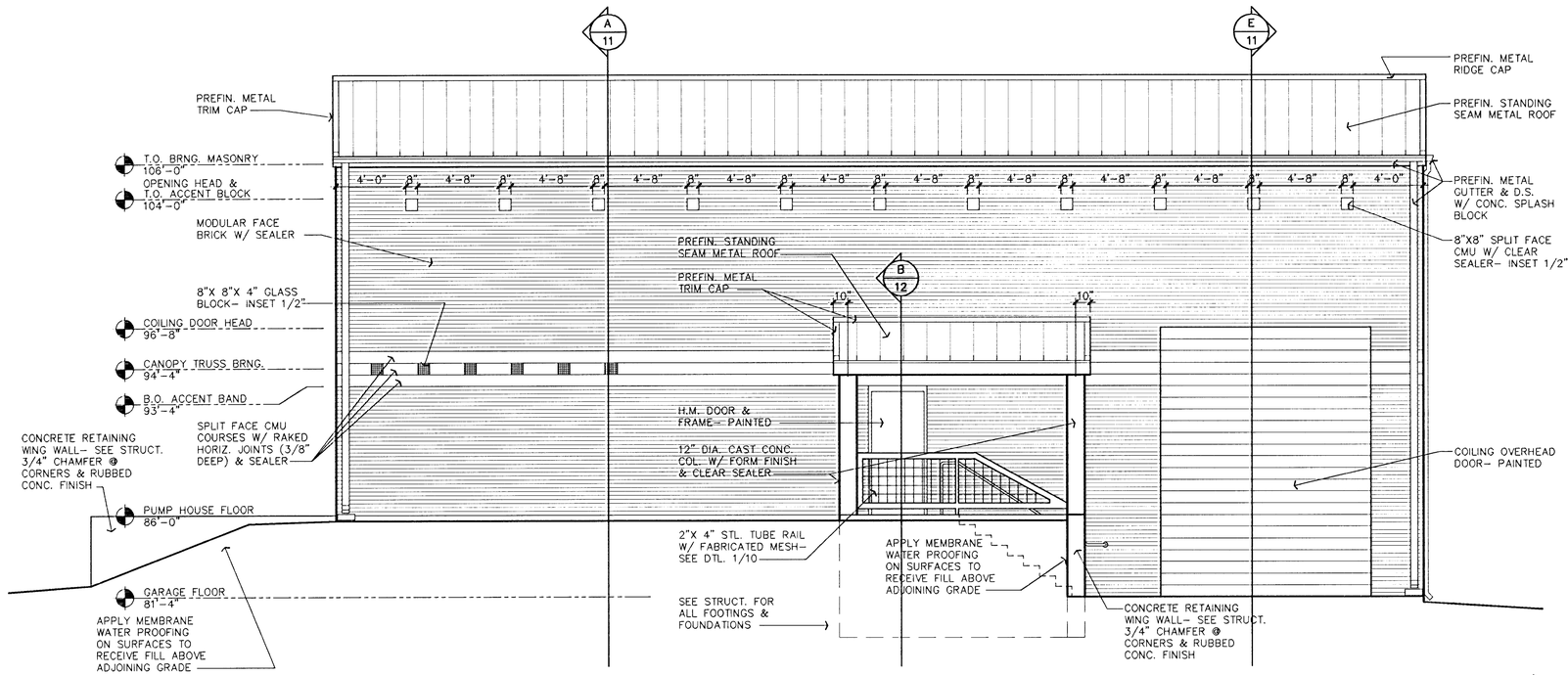
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316-684-9600

SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME

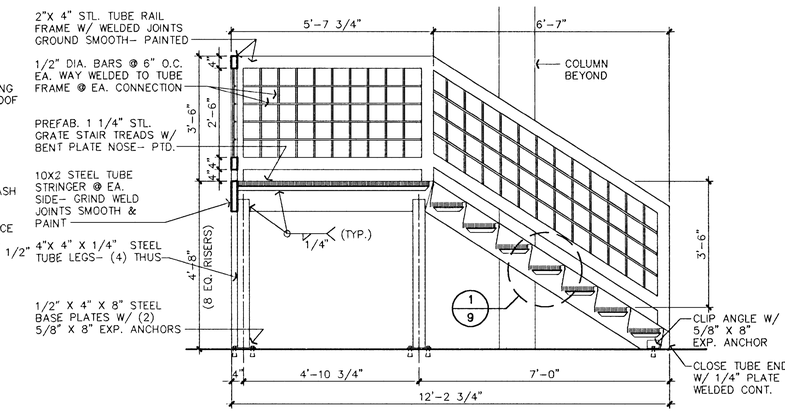
ARCHITECTURAL FLOOR PLAN
SHEET TITLE

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DESIGN BY:	DRAWN BY:	CHECKED BY:
MARCH, 1996	93035	8 / 30
DATE	JOB NO.	SHEET/OF

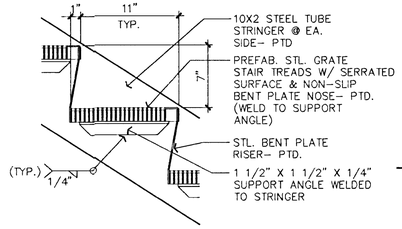
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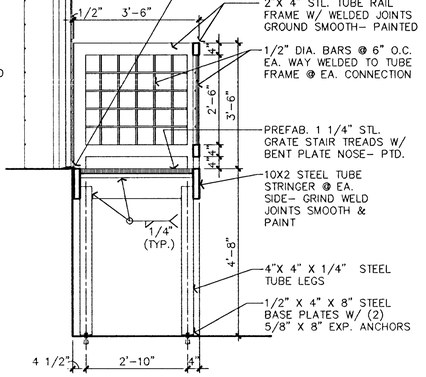
EAST ELEVATION
1/4" = 1' - 0"



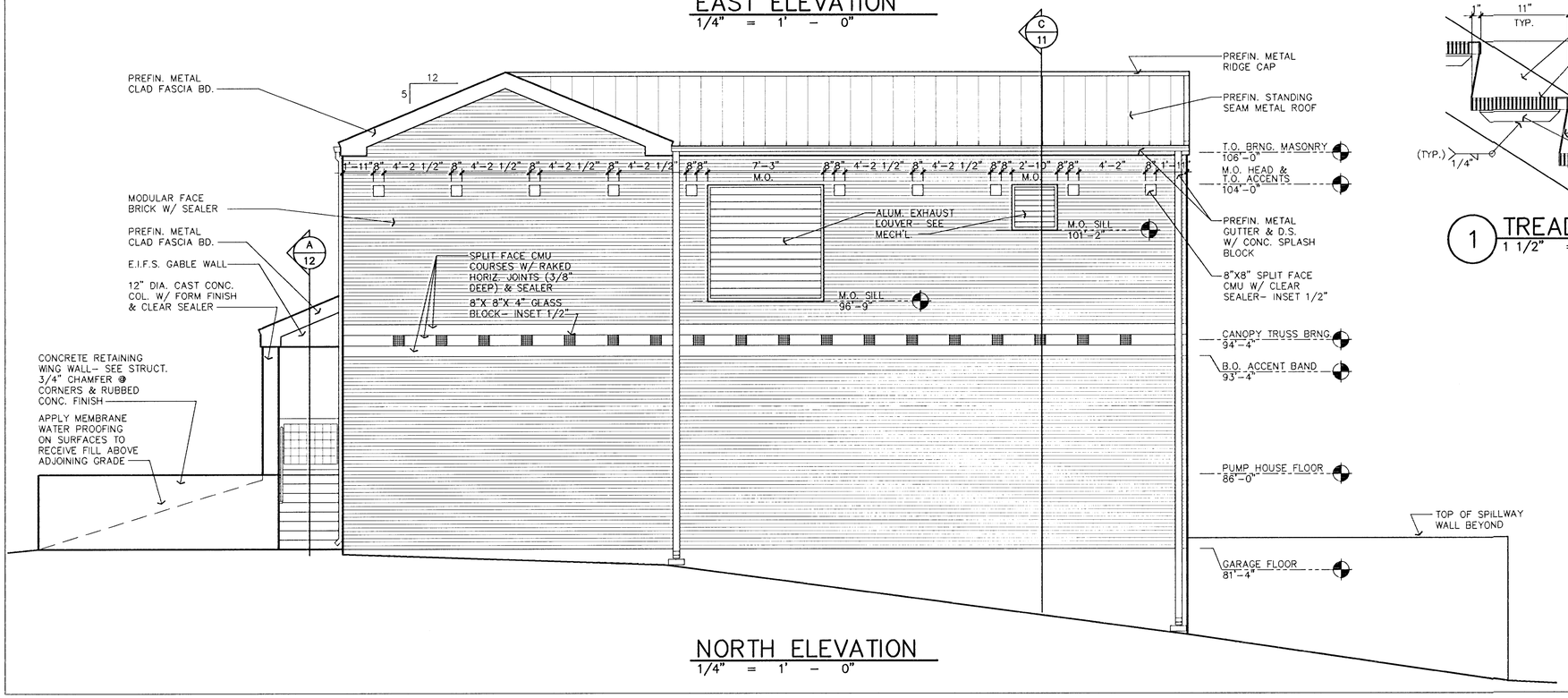
A STAIR SECTION
1 1/2" = 1' - 0"



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



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



NORTH ELEVATION
1/4" = 1' - 0"

REGISTERED ARCHITECT WESLEY A. DAVIDSON 1760 STATE OF KANSAS
3/15/96

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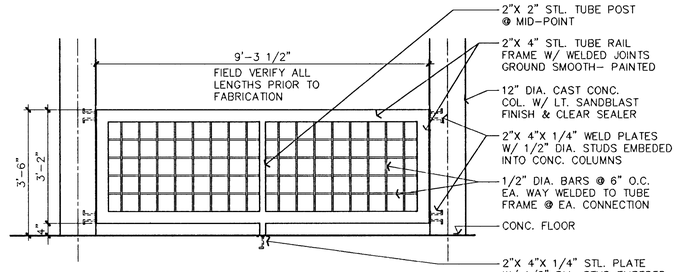
SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME

ARCHITECTURAL BUILDING ELEVATIONS
SHEET TITLE

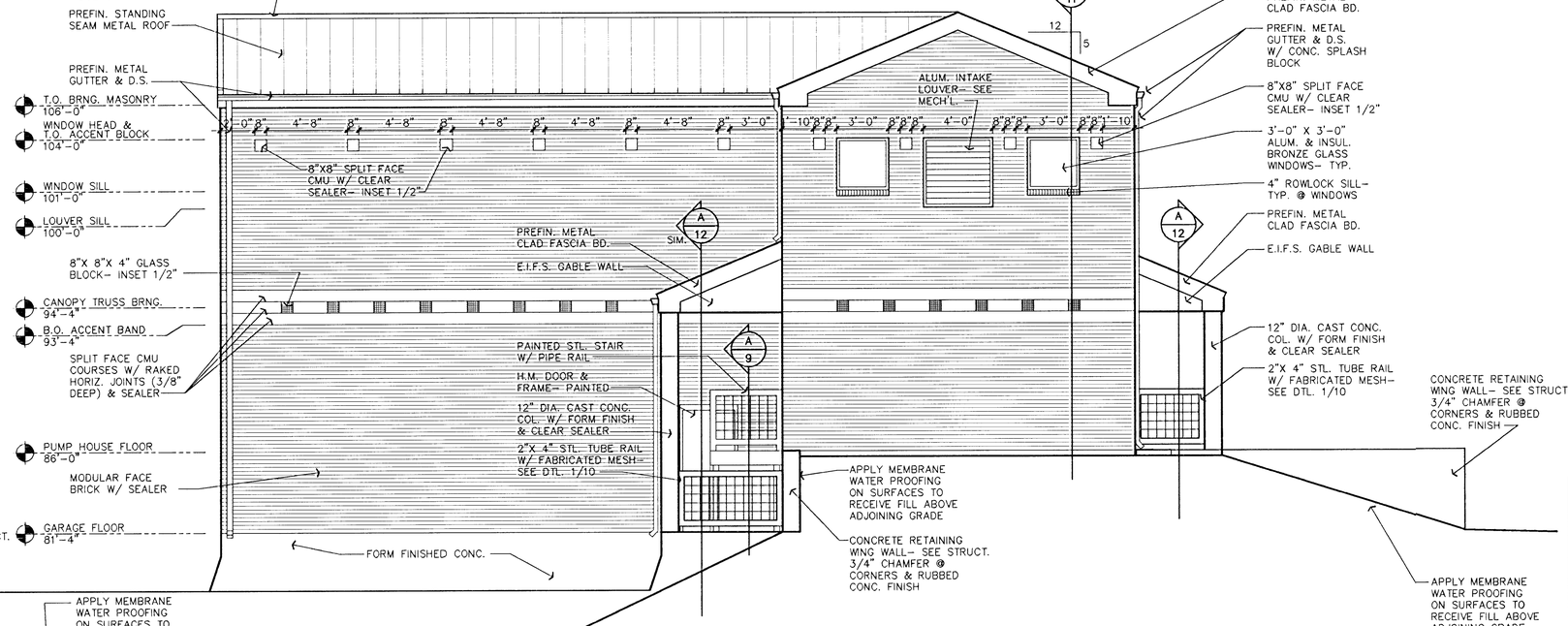
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MARCH, 1996	93035	9 / 30
DATE	JOB NO.	SHEET/OF



WEST ELEVATION
1/4" = 1' - 0"



1 TUBE RAILING DETAIL
1/2" = 1' - 0"



SOUTH ELEVATION
1/4" = 1' - 0"

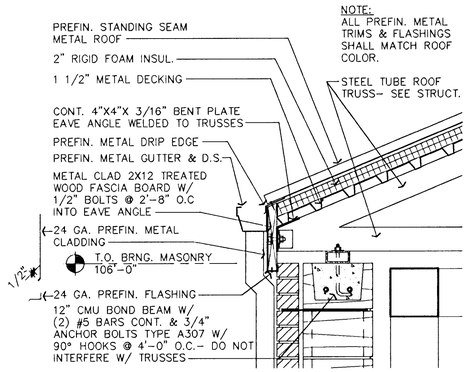
REGISTERED ARCHITECT WESLEY D. WINNALL 1760 STATE OF KANSAS
3/5/96

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316-684-9600

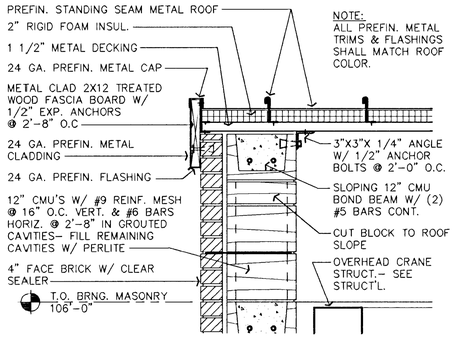
SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME

ARCHITECTURAL BUILDING ELEVATIONS
SHEET TITLE

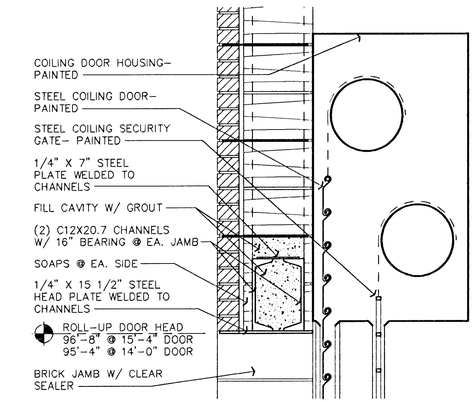
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MARCH, 1996	93035	10 / 30
DATE	JOB NO.	SHEET/OF



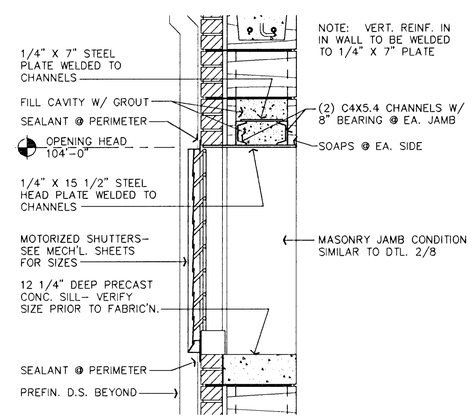
1 TYP. EAVE DETAIL
1" = 1' – 0"



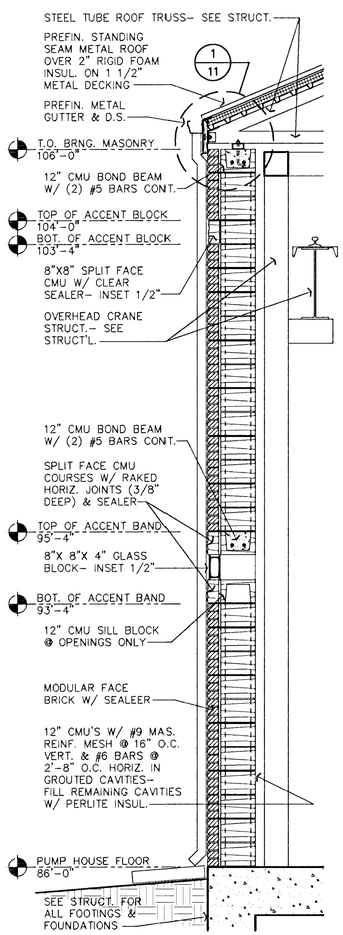
2 TYP. GABLE DETAIL
1" = 1' – 0"



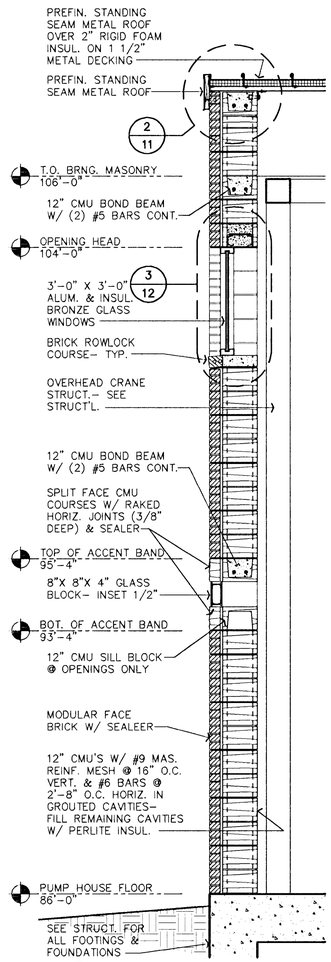
3 COILING DOOR HEAD
1" = 1' – 0"



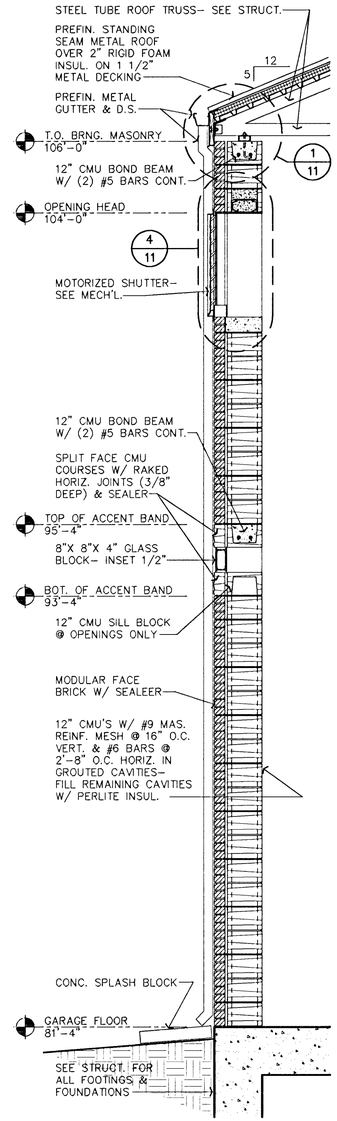
4 VENTILATION DETAIL
1" = 1' – 0"



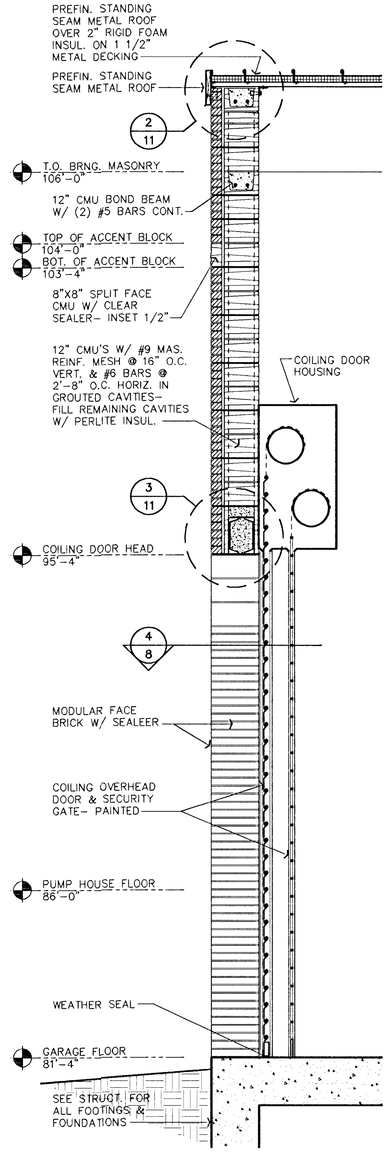
A WALL SECTION
1/2" = 1' – 0"



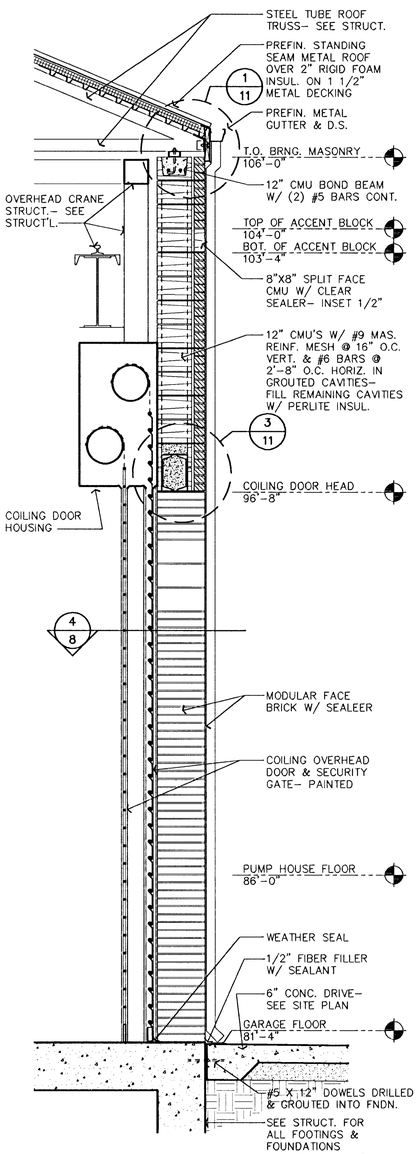
B WALL SECTION
1/2" = 1' – 0"



C WALL SECTION
1/2" = 1' – 0"



D COILING DOOR SECTION
1/2" = 1' – 0"



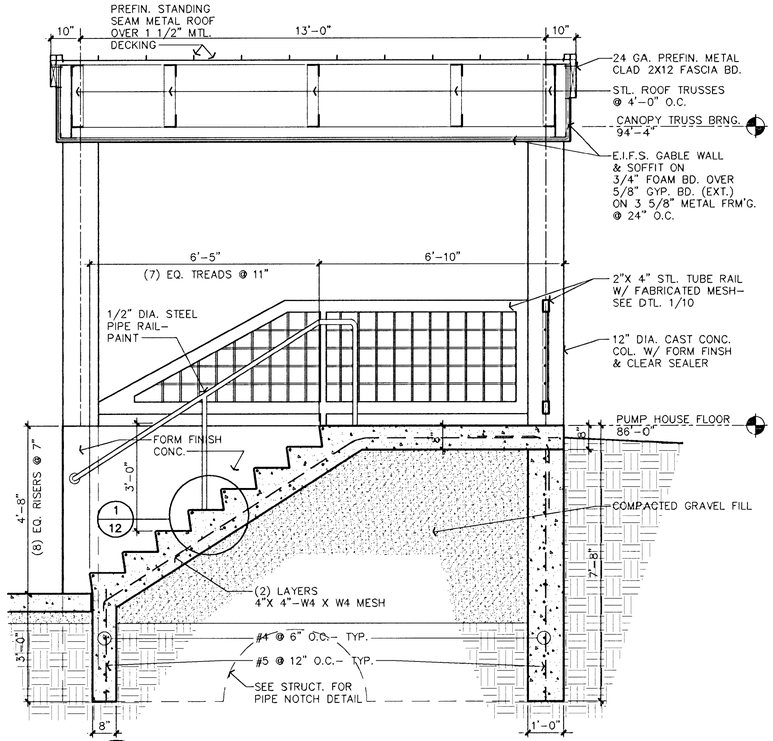
E COILING DOOR SECTION
1/2" = 1' – 0"

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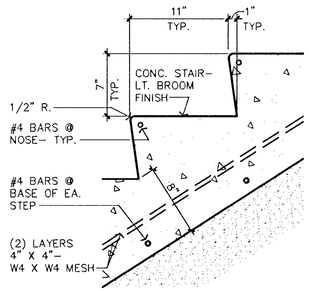
SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME

ARCHITECTURAL
WALL SECTIONS & DETAILS
SHEET TITLE

DEW	RLF	WAD
DESIGN BY:	DRAWN BY:	CHECKED BY:
MARCH, 1996	93035	11 / 30
DATE	JOB NO.	SHEET/OF

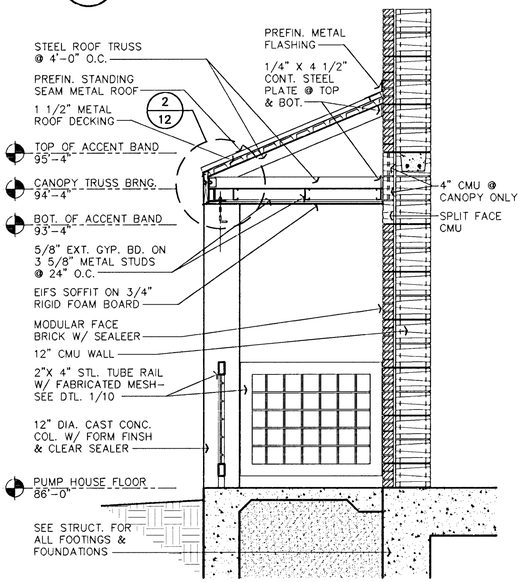


A ENTRY STAIR SECTION
1/2" = 1' - 0"

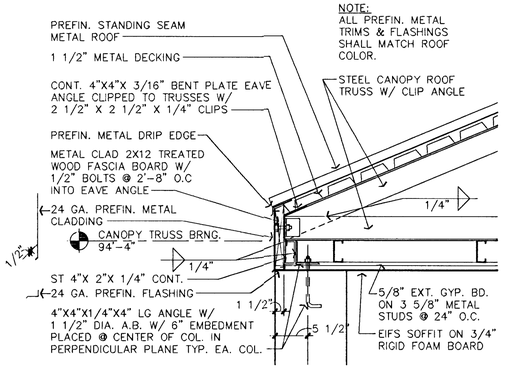


1 STAIR RISER DETAIL
1 1/2" = 1' - 0"

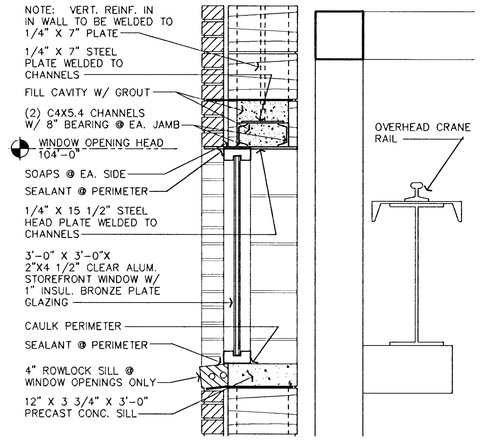
C OBSERVATION CANOPY SECTION
1/2" = 1' - 0"



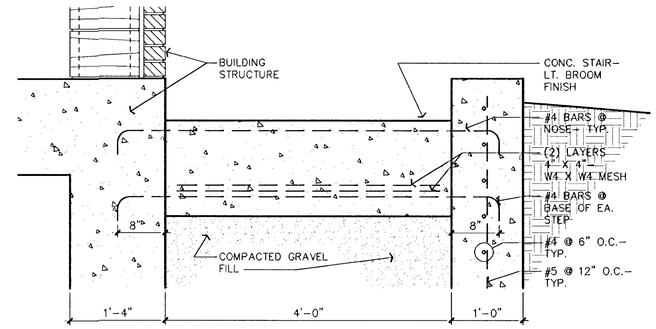
B ENTRY CANOPY SECTION
1/2" = 1' - 0"



2 CANOPY EAVE DETAIL
1" = 1' - 0"



3 WINDOW DETAIL
1" = 1' - 0"



4 STAIR CROSS SECTION
1" = 1' - 0"

REGISTERED ARCHITECT WESLEY A. TARNELL 1780 STATE OF KANSAS

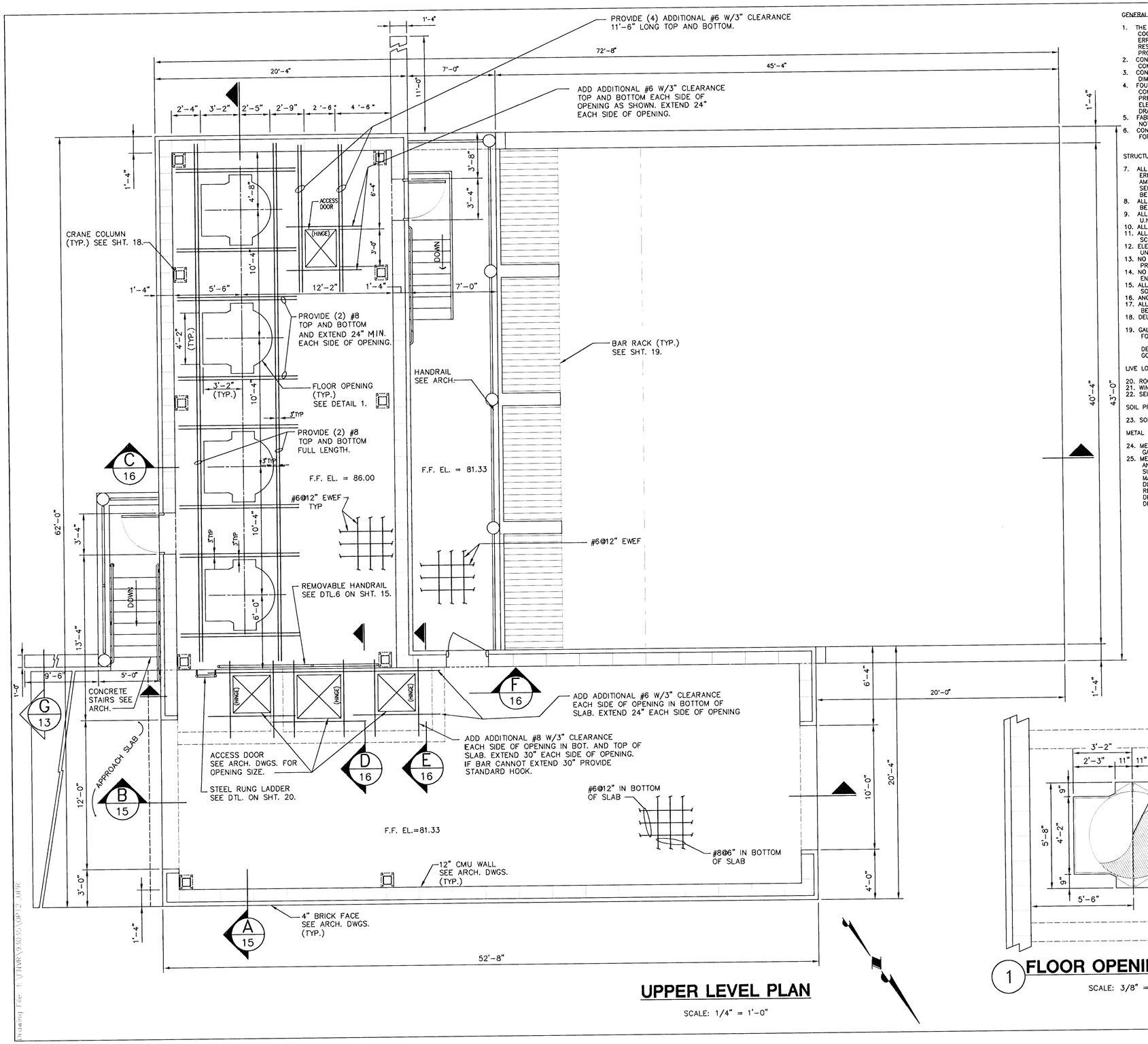
3/5/96

MID-KANSAS ENGINEERING CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME

ARCHITECTURAL
WALL SECTIONS & DETAILS
SHEET TITLE

DEW	RLF	WAD
DESIGN BY:	DRAWN BY:	CHECKED BY:
MARCH, 1996	93035	12 / 30
DATE	JOB NO.	SHEET/OF



UPPER LEVEL PLAN

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

1 FLOOR OPENING DETAIL

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

GENERAL NOTES (SOUTH SENECA PUMP HOUSE)

1. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND COORDINATING ALL DIMENSIONS AND ELEVATIONS SHOWN ON THE DRAWINGS. IF ERRORS OR DISCREPANCIES OCCUR, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO BRING THE DISCREPANCY TO THE ENGINEER BEFORE PROCEEDING WITH WORK.
2. CONTRACTOR TO FURNISH ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO COMPLETE THE WORK SHOWN BY THESE DRAWINGS.
3. CONTRACTOR TO FIELD VERIFY ALL MECHANICAL WEIGHTS, SUPPORT POINTS, DIMENSIONS AND ELEVATIONS.
4. FOUNDATIONS ARE DESIGNED TO BEAR ON UNDISTURBED SOIL OR COMPACTED FILL CAPABLE OF SUSTAINING 2,000 PSF MINIMUM NET BEARING PRESSURE. IF SUITABLE BEARING CAPACITY IS NOT ENCOUNTERED AT THE ELEVATIONS INDICATED ON THE DRAWINGS, THE ENGINEER MAY ALTER THE DRAWINGS TO PROVIDE ADEQUATE BEARING OF THE FOUNDATIONS.
5. FABRICATOR SHALL HIGHLIGHT CHANGES MADE IN SHOP DRAWINGS WHICH DO NOT COMPLY WITH THE DESIGN DRAWINGS.
6. CONTRACTOR SHALL SUBMIT THREE COPIES OF THE MIX DESIGN FOR REVIEW.

STRUCTURAL STEEL

7. ALL STRUCTURAL STEEL SHALL BE ASTM A-36 OR EQUIVALENT. FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), EXCEPT THE SECOND SENTENCE OF PARAGRAPH 4.2.1 OF THE CODE OF STANDARD PRACTICE SHALL BE DELETED.
8. ALL PIPES TO MEET ASTM A-53, GR B (Fy=35KSI). ALL STRUCTURAL TUBES SHALL BE ASTM A-500 GRADE B WITH Fy=46 KSI.
9. ALL BEAM SIZES NOTED SHALL HAVE STANDARD AISC FRAMING CONNECTIONS U.N.O.
10. ALL FIELD AND SHOP WELDS TO HAVE A MINIMUM OF 1/4" FILLET WELD U.N.O.
11. ALL COLUMNS TO HAVE 1" GROUT AND ANCHOR BOLTS AS CALLED OUT IN THE SCHEDULE WITH DOUBLE NUTS.
12. ELEVATIONS TOP OF STEEL NOTED ON DRAWINGS. BEAMS FRAME FLUSH AT TOP UNLESS NOTED.
13. NO OPENINGS TO BE PLACED IN BEAM WEBS OR FLANGES WITHOUT ENGINEERS PRIOR APPROVAL.
14. NO SUBSTITUTION OF MEMBERS OF EQUAL SECTION MODULUS WITHOUT ENGINEERS APPROVAL.
15. ALL WELDING TO CONFORM TO THE LATEST EDITION OF THE AMERICAN WELDING SOCIETY (AWS) SPECIFICATIONS D1.1. WELD ELECTRODES SHALL BE E70XX.
16. ANCHOR BOLTS SHALL BE ASTM A-36 OR EQUIVALENT.
17. ALL BOLTED CONNECTIONS SHALL USE A-325-N BOLTS (U.N.O.), NO BOLTS ARE TO BE REUSED.
18. DELETED
19. GALVANIZING TO CONFORM TO ASTM A-123. A MINIMUM OF 2 OZ. PER SQUARE FOOT WILL BE REQUIRED.

DESIGN LOADS & SOIL PRESSURES:
GOVERNING CODE: 1994 UNIFORM BUILDING CODE

LIVE LOADS

20. ROOF 17.5 PSF
21. WIND 80 MPH EXPOSURE B
22. SEISMIC ZONE 2A

SOIL PRESSURE

23. SOIL 2,000 PSF NET

METAL DECK

24. METAL DECK SHALL BE SIMILAR TO VULCRAFT, 1.5" DECK, TYPE B, 22 GAGE, GALVANIZED PER MANUFACTURES RECOMMENDATIONS.
25. METAL DECK ATTACHMENT:
ANCHOR DECK TO ALL SUPPORTING MEMBERS INCLUDING PERIMETER SUPPORT STEEL. ROOF DECK ATTACHMENT SHALL BE WELDED PATTERN PER MANUFACTURE'S SPECIFICATIONS, CAPABLE OF RESISTING 500 PLF WIND DIAPHRAGM SHEAR. SHOP DRAWINGS SHALL SHOW WELDING REQUIREMENTS.
DECK SHALL HAVE A MINIMUM BEARING OF 1 1/2".
DECK SHALL BE OVERLAPPED (NESTED) ONE RIB PER EACH SIDE LAP

MASONRY

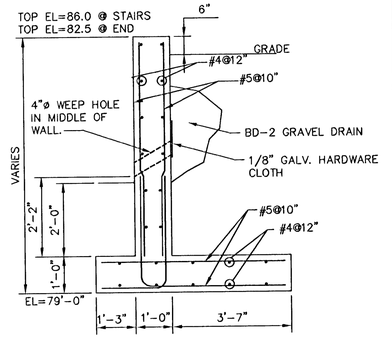
26. SPECIAL INSPECTION SHALL BE PROVIDED AS DEFINED BY THE UNIFORM BUILDING CODE. ALL WORK SHALL CONFORM TO THE UBC 1994 EDITION.
27. HOLLOW CONC. BLOCK (MASONRY) UNITS SHALL CONFORM TO A.S.T.M. C90, LIGHTWEIGHT, TYPE 1, GRADE N WITH A MINIMUM COMPRESSIVE STRENGTH OF 1900 PSI ON THE NET AREA FOR 3 UNITS AND 1500 PSI ON THE NET AREA OF AN INDIVIDUAL UNIT.
28. CONCRETE MASONRY UNITS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH F'M= 1500 PSI, BASED ON NET AREA AT 28 DAYS.
29. GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI @ 28 DAYS.
30. REINFORCING BARS SHALL MEET A.S.T.M. A615 GR. 60.
31. MORTAR SHALL CONFORM TO A.S.T.M. C270, TYPE M OR S.
32. ALL FACE SHELLS AND CROSS WEBS SHALL BE LAID SOLIDLY IN MORTAR.
33. EXCEPT AS NOTED ON PLANS AND DETAILS, REINFORCE ALL MASONRY WALLS AS FOLLOWS:
VERTICAL: #6 @ 32" O.C.
HORIZONTAL: 2-#5 IN BOND BEAMS AND 2-#9 LADUR TYPE JOINT REINFORCEMENT AT 16" ON CENTERS W/ 3/16" ø LADUR EYES @ 1.77 SQUARE FEET.
34. PROVIDE ONE #5 VERTICAL BAR AT CORNERS, INTERSECTIONS, EACH SIDE OF OPENINGS, AND CONTROL JOINTS.
35. PROVIDE ONE #5 HORIZONTAL BAR ABOVE AND BELOW ALL OPENINGS IN MASONRY WALLS AND EXTEND 2'-0" BEYOND EDGE OF OPENING.
36. VERTICAL AND HORIZONTAL REINFORCEMENT SHALL BE LAPPED A MINIMUM OF 48 BAR DIAMETERS U.N.O.
37. WHERE GLASS BLOCK INTERRUPS VERTICAL STEEL FROM ABOVE, CONTINUE VERTICAL STEEL AND GROUT FROM THE BOND BEAM TO THE FOUNDATION IN THE ADJACENT CELL. ALL OTHER VERTICAL STEEL SHALL BE CONTINOUS FROM THE FOUNDATION TO THE TOP OF THE WALL.
38. THERE SHALL BE A MINIMUM OF 1/2" OF GROUT BETWEEN MAIN REINFORCING AND CONCRETE MASONRY UNITS.
39. VERTICAL GROUT LIFTS SHALL NOT EXCEED 4'-0".

CONCRETE

40. ALL CONCRETE WORK SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE STANDARD BUILDING CODE REQUIREMENT FOR REINFORCED CONCRETE (ACI 318-92).
41. CONCRETE (NORMAL WEIGHT):
fc'=4000 PSI
CEMENT SHALL BE PER ASTM C-150 TYPE I OR II
AGGREGATE SHALL BE PER ASTM C33
GROUT FOR MASONRY WALLS AND BOND BEAM SHALL BE 3000 PSI
42. REINFORCING:
COLUMN TIES & BEAM STIRRUPS SHALL BE ASTM A615 GR 40
ALL OTHER REINFORCING SHALL BE ASTM A615 GR 60
ALL WELDED WIRE MESH REINFORCING SHALL BE ASTM 185 COLD DRAWN WIRE. LAP 1 MESH SPACING MINIMUM AT ALL SPLICES.
SHOP DRAWINGS OF ALL REINFORCING STEEL SHALL BE SUBMITTED FOR APPROVAL.
PROVIDE 500 LBS. EXTRA REINFORCING FOR FIELD USE AS DIRECTED BY THE ENGINEER.
43. CAST-IN-PLACE CONCRETE - EXECUTION
ALL CONCRETE IS REINFORCED CONCRETE UNLESS SPECIFICALLY CALLED OUT AS UNREINFORCED. REINFORCE ALL CONCRETE NOT OTHERWISE SHOWN WITH SAME STEEL AS IN SIMILAR SECTIONS OR AREAS.
BARS MARKED CONTINUOUS AND ALL VERTICAL STEEL SHALL BE LAPPED PER NOTE 45 AT SPLICES (UNLESS OTHERWISE NOTED ON THE DRAWINGS).
STANDARD CONCRETE COVER OF BARS UNLESS OTHERWISE NOTED SHALL BE:
1.WHERE FORMED AGAINST EARTH 3 INCHES
2.BOARD FORMED 2 INCHES
COORDINATE CONCRETE WORK WITH PROCESS PIPING AND MECHANICAL DRAWINGS AND SPECIFICATIONS FOR ANY ARCHITECTURAL FINISHED CONCRETE, RECESSED AREAS, EMBEDDED ITEMS, OR SPECIAL CONTROL JOINT PATTERNS.
FOOTINGS TO BE CAST AGAINST UNDISTURBED SOIL.
44. STANDARD HOOKS SHALL BE PER ACI 318.
45. TYPICAL LAP LENGTHS FOR fc'=4000 PSI SHALL BE :

BAR	LAP
#3	18"
#4	21"
#5	26"
#6	31"
#7	39"
#8	51"
#9	65"
#10	82"
#11	101"

NOTE:
NOT ALL BAR SIZES LISTED MAY BE REQUIRED.



G RETAINING WALL SECTION

SCALE: 1/2" = 1'-0"

JOHN A. HARDES 11429 4-17-96 KANSAS PROFESSIONAL ENGINEER

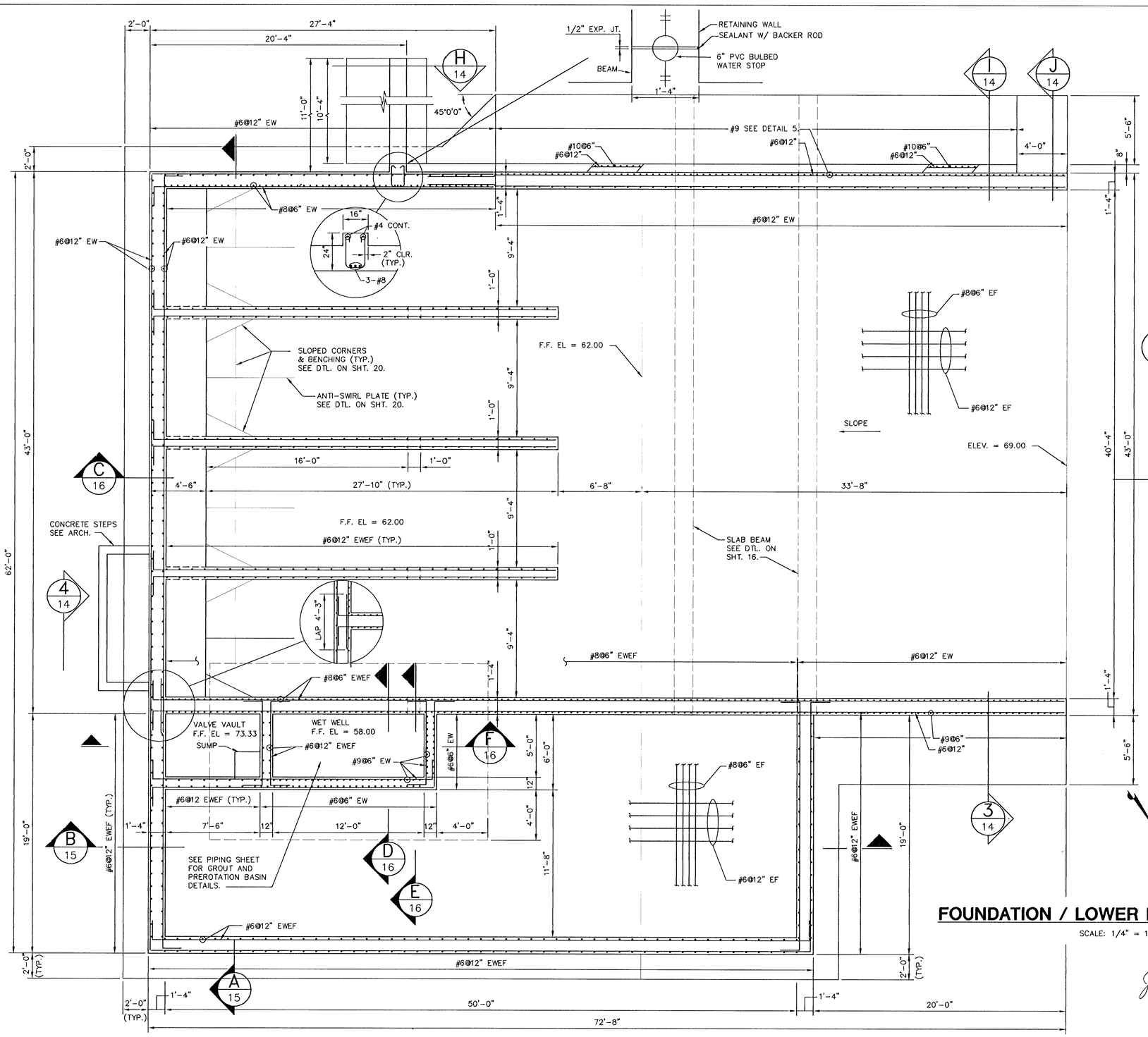
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WICHITA, KS. 67206
316-684-9600

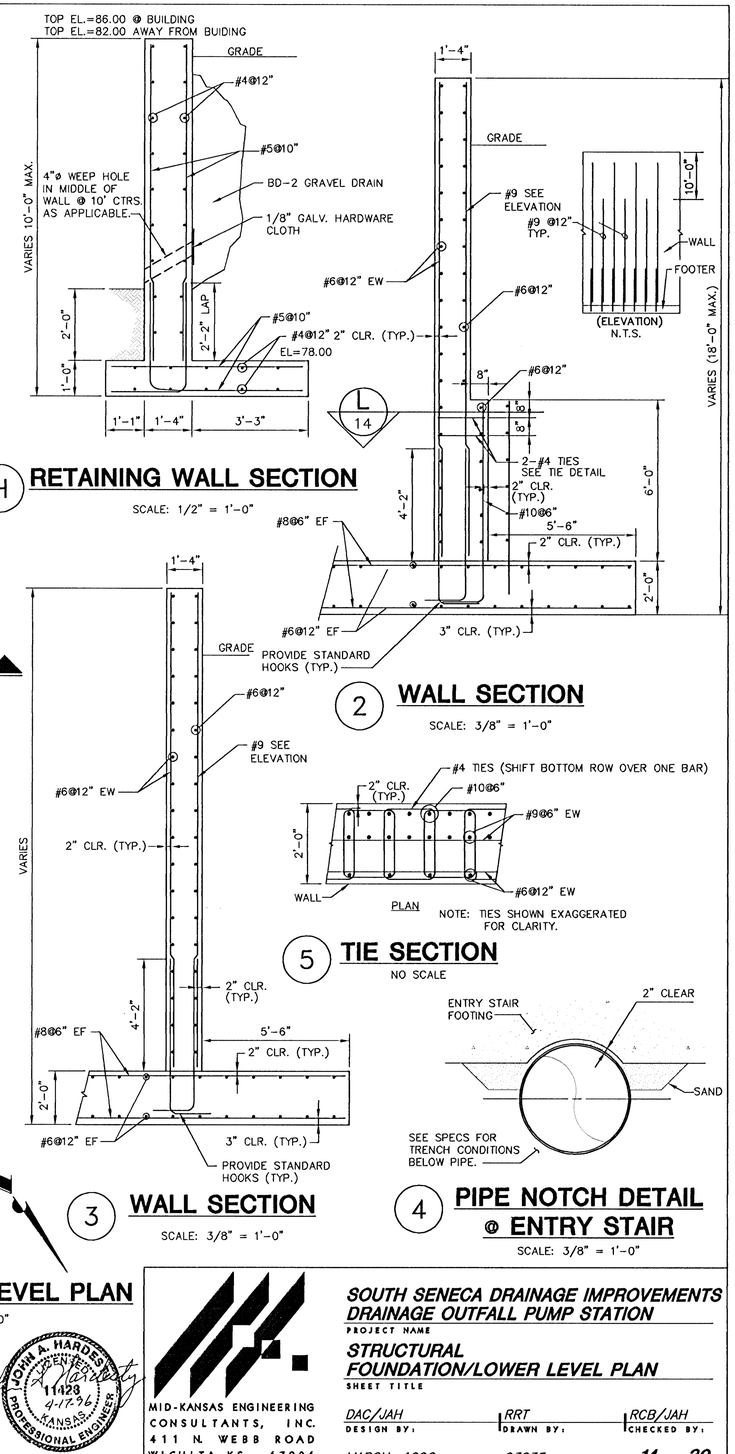
SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME

STRUCTURAL
UPPER LEVEL PLAN
SHEET TITLE

DAC/JAH	RRT	RCB/KJS
DESIGN BY:	DRAWN BY:	CHECKED BY:
MARCH, 1996	93035	13 / 30
DATE	JOB NO.	SHEET/OF

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FOUNDATION / LOWER LEVEL PLAN

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

JOHN A. HARDESTY 11123 KANSAS PROFESSIONAL ENGINEER 4-17-96

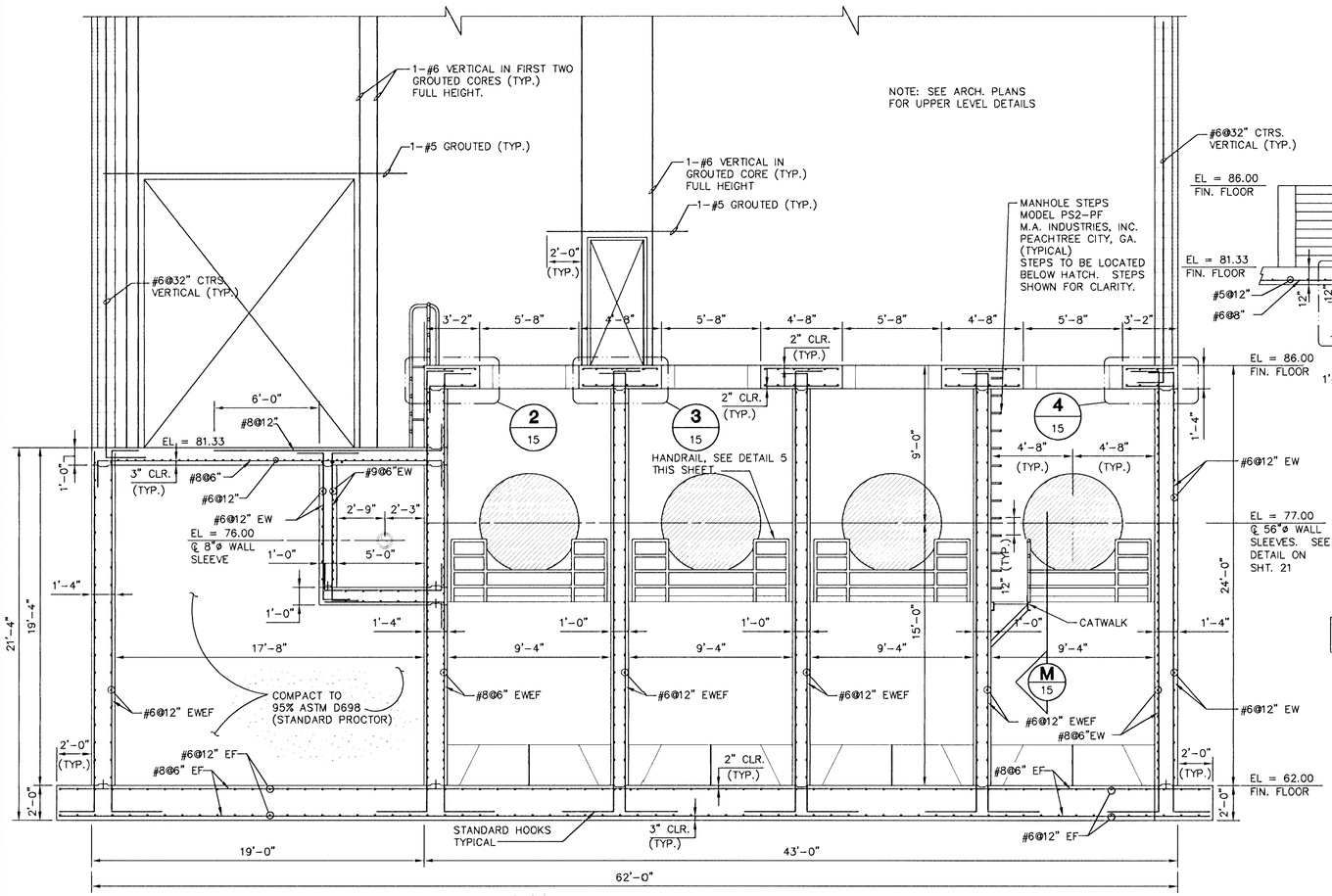
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316-684-9600

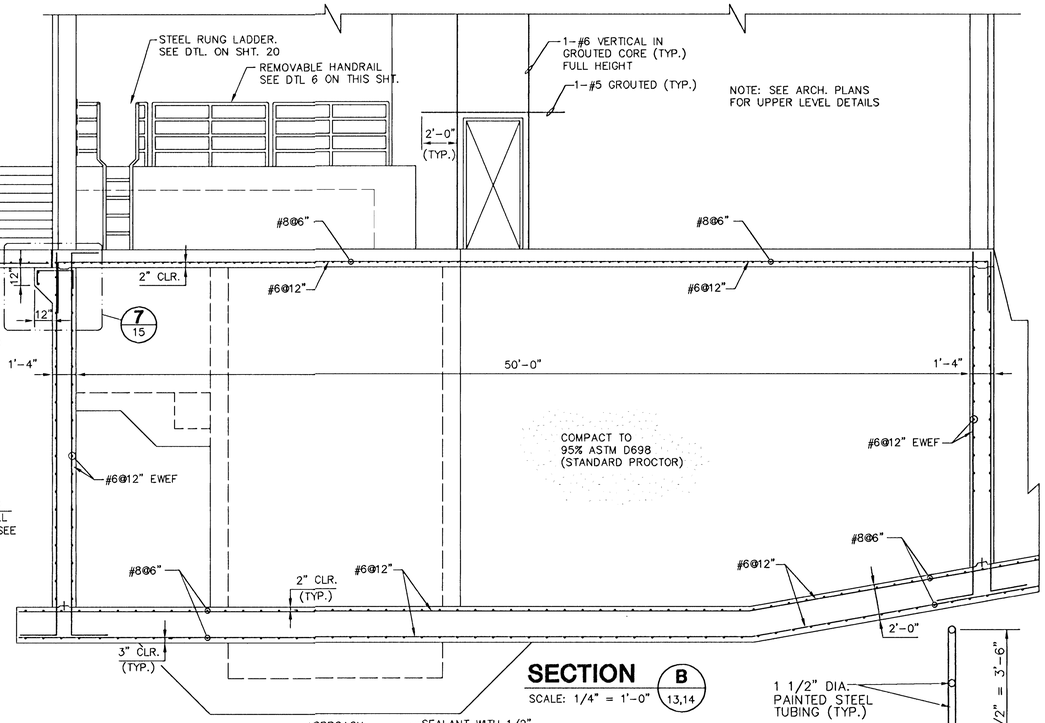
SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME

STRUCTURAL
FOUNDATION/LOWER LEVEL PLAN
SHEET TITLE

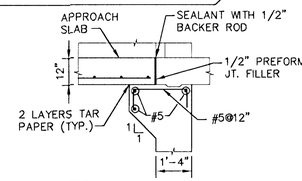
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MARCH, 1996	93035	14 / 30
DATE	JOB NO.	SHEET/OF

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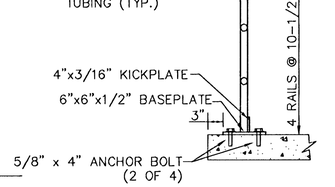




SECTION B
SCALE: 1/4" = 1'-0" (13,14)



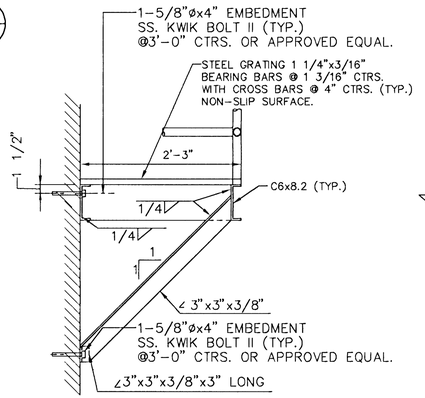
7 KEY DETAIL
NO SCALE



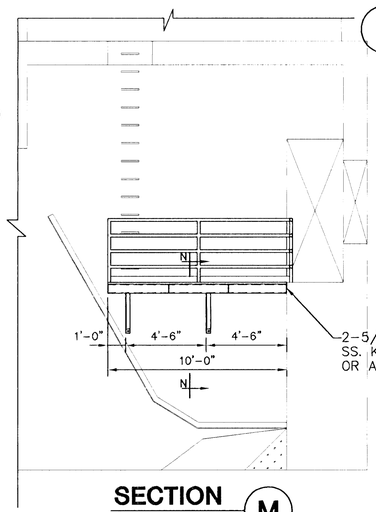
NOTE:
ADJUST HANDRAIL HEIGHT AS REQ'D. UNDER 48" PIPE..

5 HANDRAIL DETAIL
NO SCALE

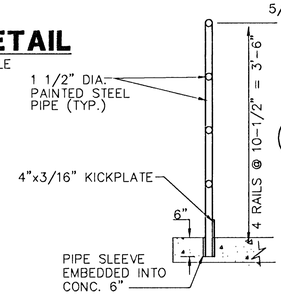
SECTION A
SCALE: 1/4" = 1'-0" (13,14)



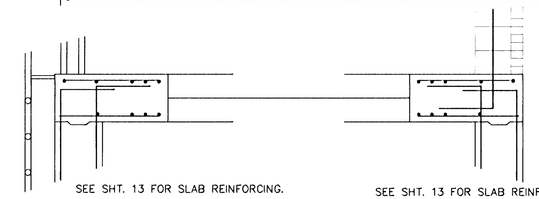
SECTION N-N
NO SCALE



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

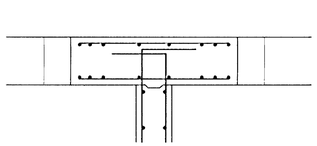


6 REMOVABLE HANDRAIL DETAIL
(NO SCALE)

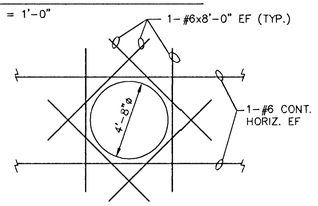


2 FLOOR SLAB DETAIL
SCALE: 1/2" = 1'-0"

4 FLOOR SLAB DETAIL
SCALE: 1/2" = 1'-0"



3 FLOOR SLAB DETAIL
SCALE: 1/2" = 1'-0"



TYPICAL ADD'L REINFORCING AT 4'-8" DIA. WALL OPENINGS

JOSEPH A. HARRIS — 11428 — 4-17-96 — KANSAS — PROFESSIONAL ENGINEER

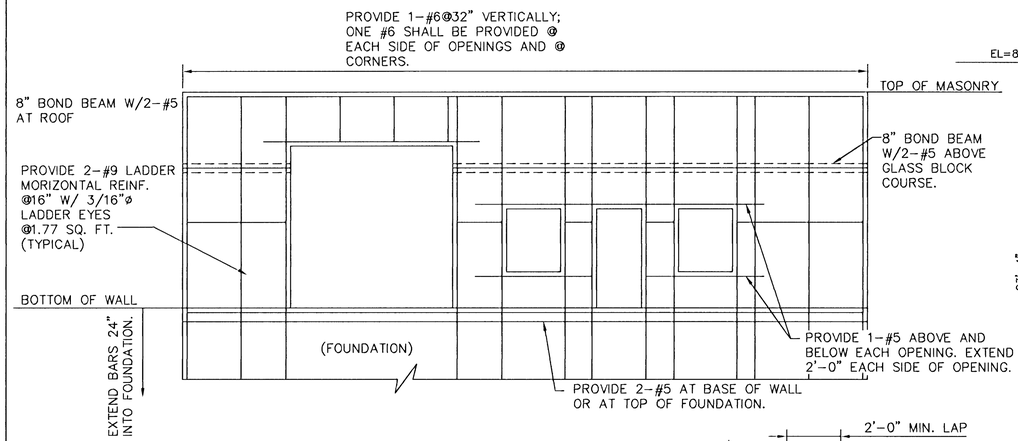
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411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME

STRUCTURAL SECTIONS
SHEET TITLE

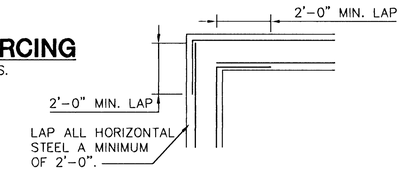
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DESIGN BY:	DRAWN BY:	CHECKED BY:
MARCH, 1996	93035	15 / 30
DATE	JOB NO.	SHEET/OF

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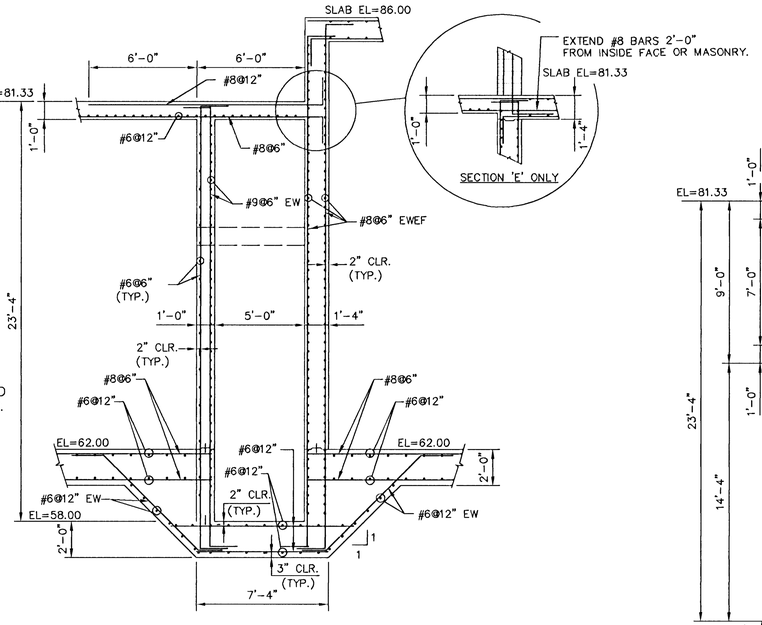
TYPICAL WALL REINFORCING

N.T.S.



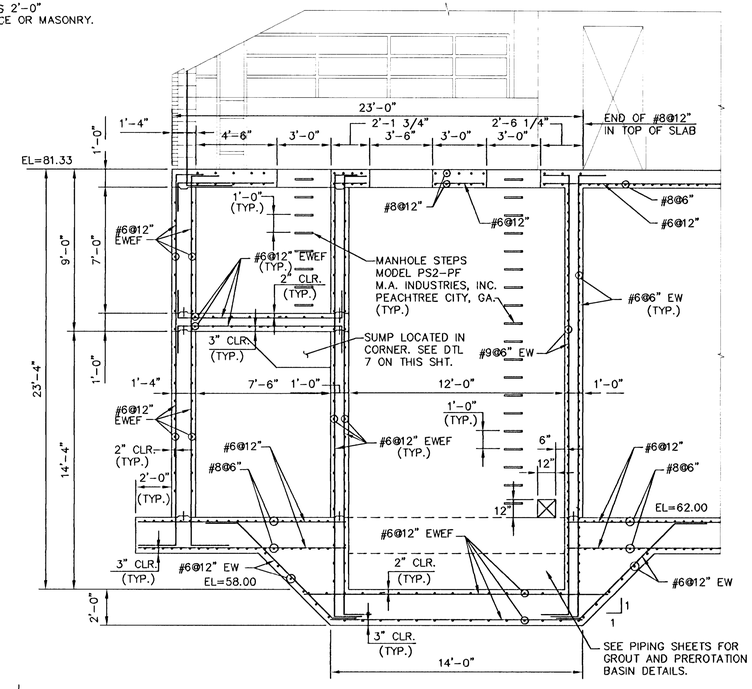
CORNER DETAIL FOR MASONRY

N.T.S.



SECTION D

SCALE: 1/4" = 1'-0" (13,14)



SECTION F

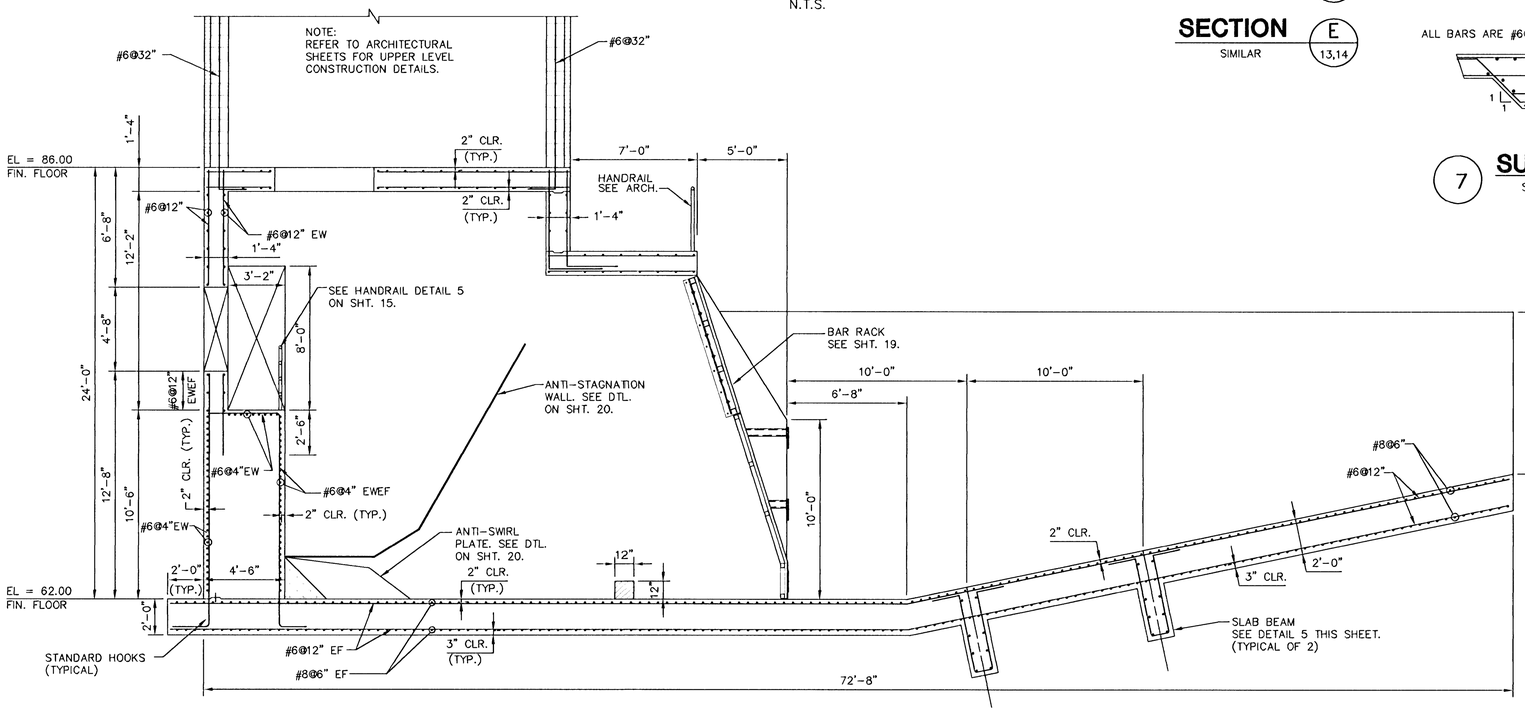
SCALE: 1/4" = 1'-0" (13,14)

SECTION E

SIMILAR (13,14)

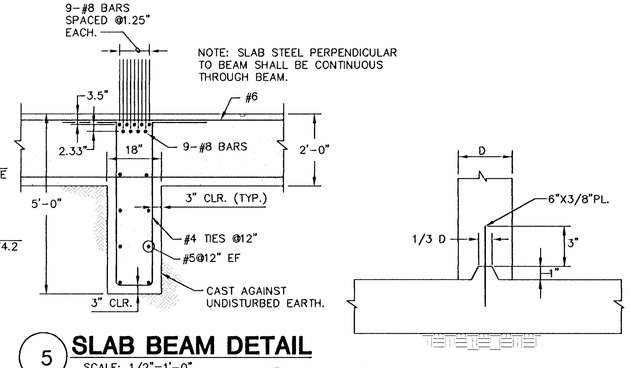
7 SUMP DETAIL

SCALE: 1/2"=1'-0"



SECTION C

SCALE: 1/4" = 1'-0" (13,14)



5 SLAB BEAM DETAIL

SCALE: 1/2"=1'-0"

6 TYPICAL WATER STOP DETAIL

NO SCALE



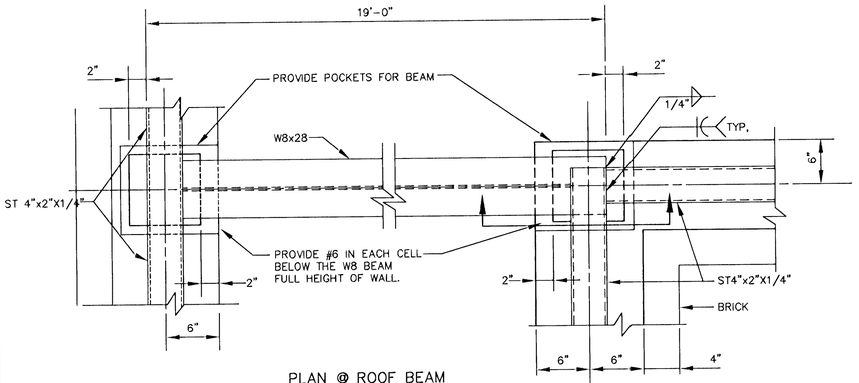
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SOUTH SENECA DRAINAGE IMPROVEMENTS
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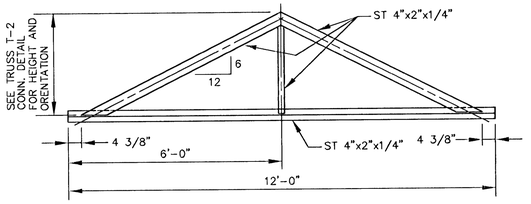
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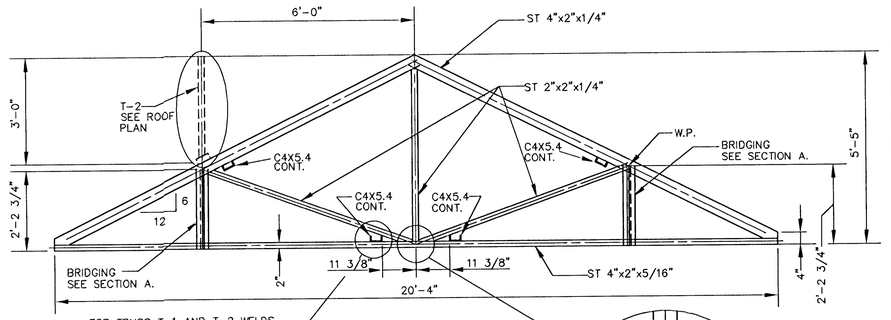
PLAN @ ROOF BEAM

SCALE: 1 1/2"=1'-0"

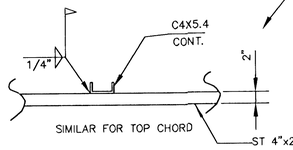


TRUSS T-2 ELEVATION

SCALE: 1/2"=1'-0"

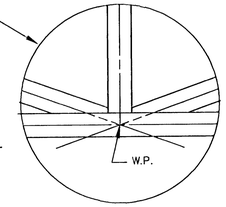


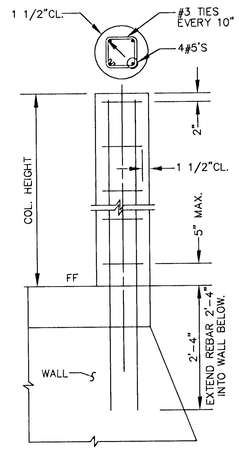
FOR TRUSS T-1 AND T-2 WELDS
SEE TYPICAL WELD DETAIL FOR
CRANE STRUCTURE SHEET 18.



TRUSS T-1 ELEVATION

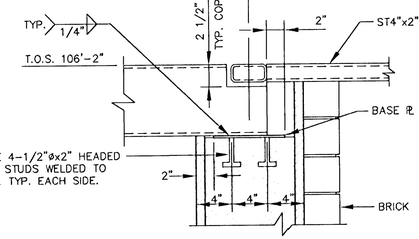
SCALE: 1/2"=1'-0"





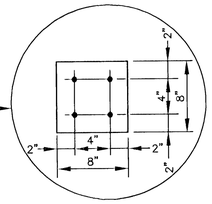
TYPICAL 12"ø COLUMN DETAIL

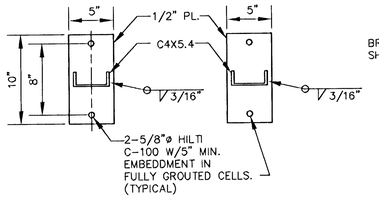
SCALE: 3/4"=1'-0"

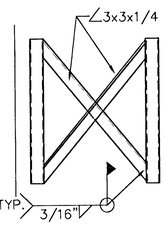


SECTION

SCALE: 1 1/2"=1'-0"







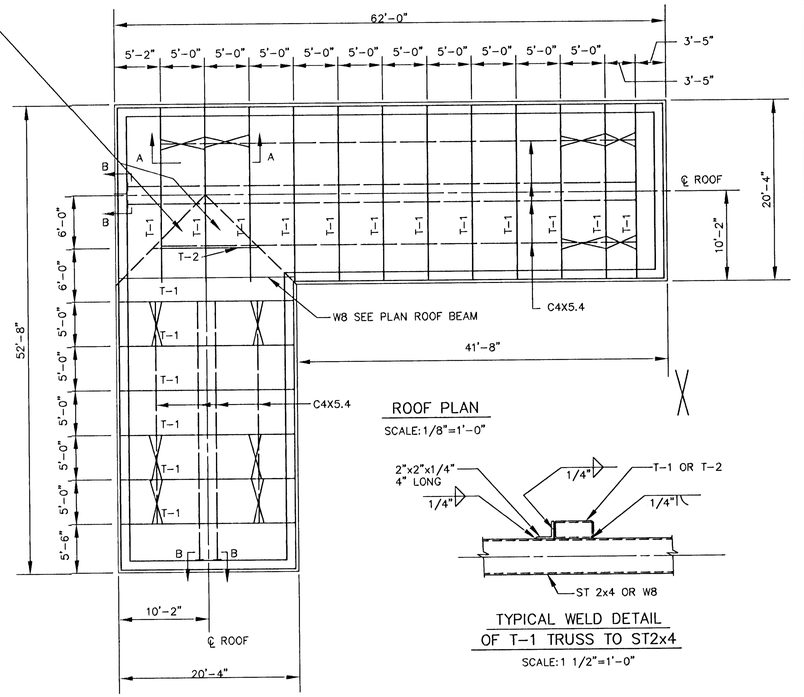
Ⓑ SECTION @ END PLATE

SCALE = NONE

Ⓐ SECTION @ BRIDGING (TYP.)

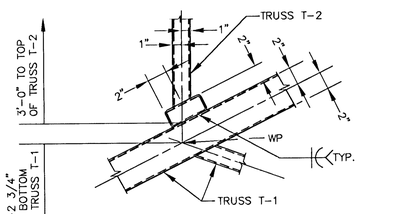
SCALE = NONE

BRIDGING NOT
SHOWN FOR CLARITY



ROOF PLAN

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

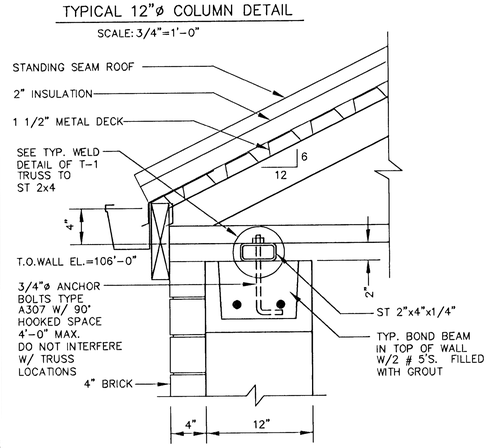


TRUSS T-2 CONNECTION DETAIL (3 PLACES)

SCALE: 1 1/2"=1'-0"

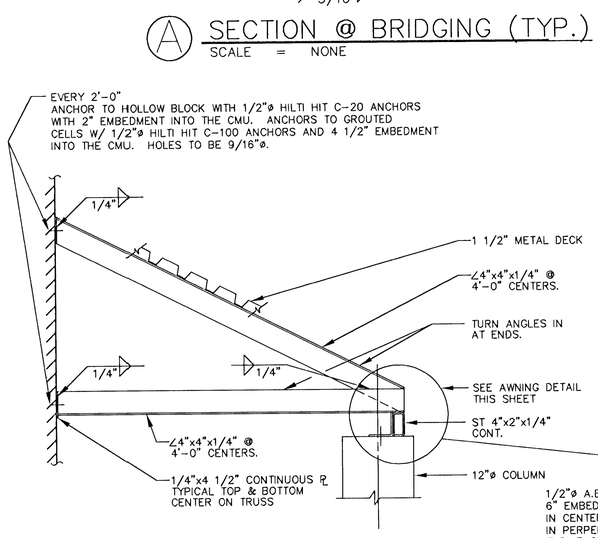
TYPICAL WELD DETAIL
OF T-1 TRUSS TO ST2x4

SCALE: 1 1/2"=1'-0"



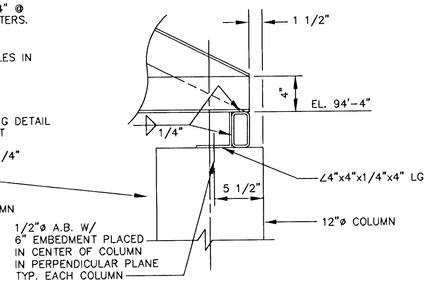
TRUSS CONNECTION DETAIL

SCALE: 1 1/2"=1'-0"



TYPICAL AWNING SECTION

SCALE: 1"=1'-0"



TYPICAL AWNING DETAIL

SCALE: 1 1/2"=1'-0"

JOHN A. HARDESTY
LICENSED
11439
4-17-96
KANSAS
PROFESSIONAL ENGINEER

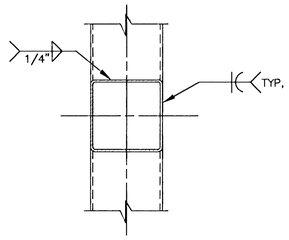
MID-KANSAS ENGINEERING
CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME

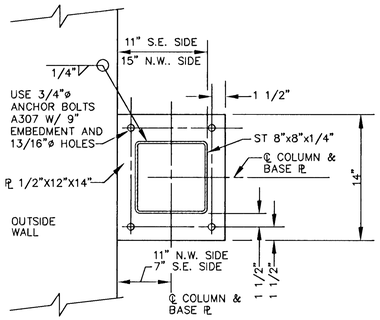
STRUCTURAL
ROOF & COLUMN DETAILS
SHEET TITLE

JAH	RRT	KJS
DESIGN BY:	DRAWN BY:	CHECKED BY:
MARCH, 1996	93035	17 / 30
DATE	JOB NO.	SHEET/OF

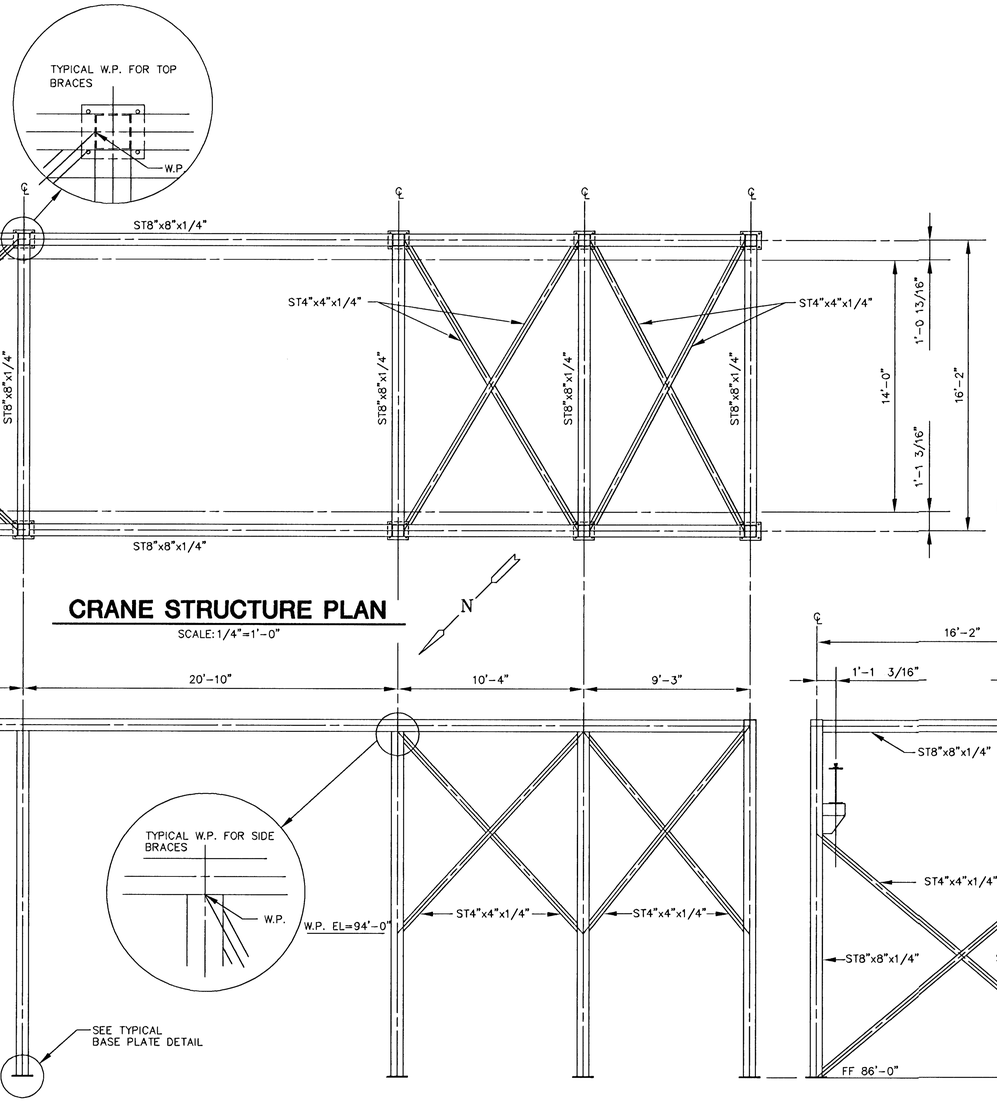
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TYPICAL WELD DETAIL
FOR CRANE STRUCTURE
SCALE: 1 1/2"=1'-0"

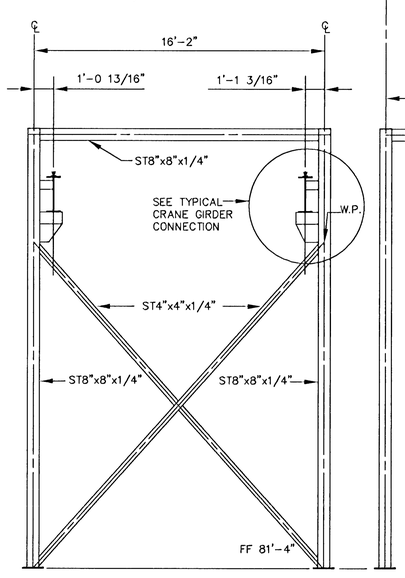


TYPICAL BASE PLATE DETAIL
SCALE: 1 1/2"=1'-0"



CRANE STRUCTURE PLAN
SCALE: 1/4"=1'-0"

TYPICAL ELEVATION



NORTH EAST ELEVATION

SOUTH WEST ELEVATION

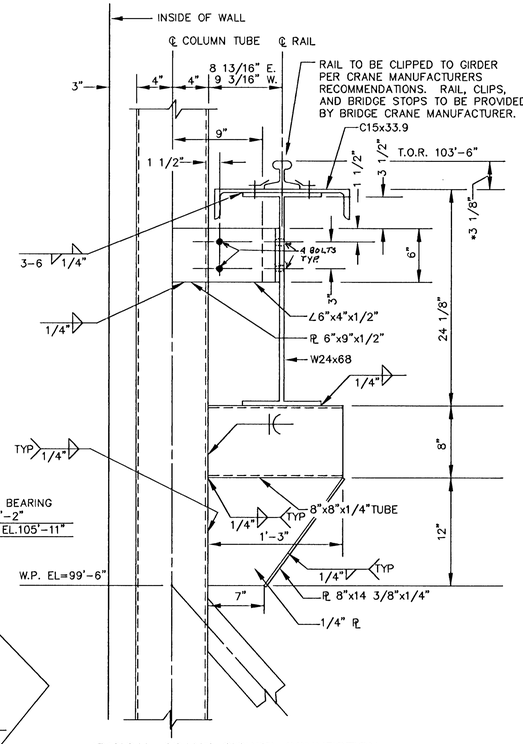
TYPICAL CRANE STRUCTURE ELEVATION
SCALE: 1/4"=1'-0"

NOTES:

* DIMENSION IS BASED ON 30# RAIL. IF THE RAIL SIZE CHANGES SO WILL THIS DIMENSION.

ALL BOLTS ARE 3/4" ø A325F W/ 13/16"ø HOLES.

CRANE GIRDER SPLICES SHALL HAVE FULL PENETRAION GROVE WELDS, GRIND FLUSH AT TOP FOR CRANE RAIL.



TYPICAL CRANE GIRDER CONNECTION
SCALE: 1 1/2"=1'-0"

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316-684-9600

SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME

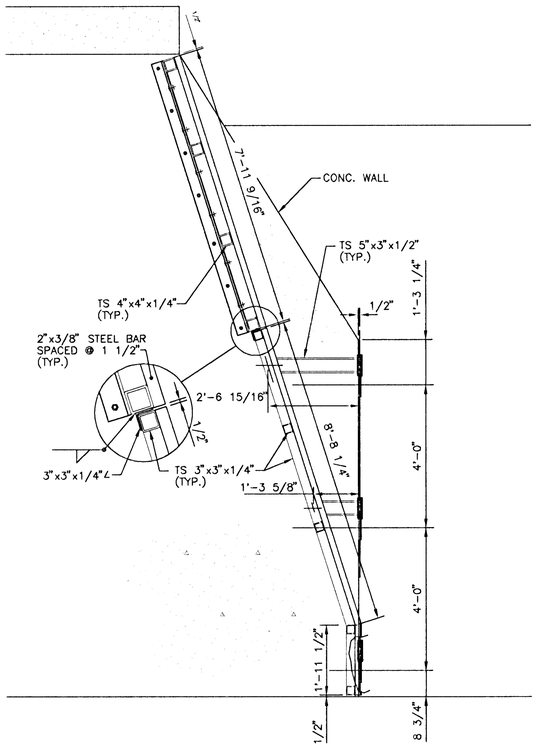
STRUCTURAL
CRANE DETAILS
SHEET TITLE

JAH	ALN	RCB/KJS
DESIGN BY:	DRAWN BY:	CHECKED BY:
MARCH, 1996	93035	18 / 30
DATE	JOB NO.	SHEET/OF

JOHN A. HARDESTY 11423 4-17-96 KANSAS PROFESSIONAL ENGINEER

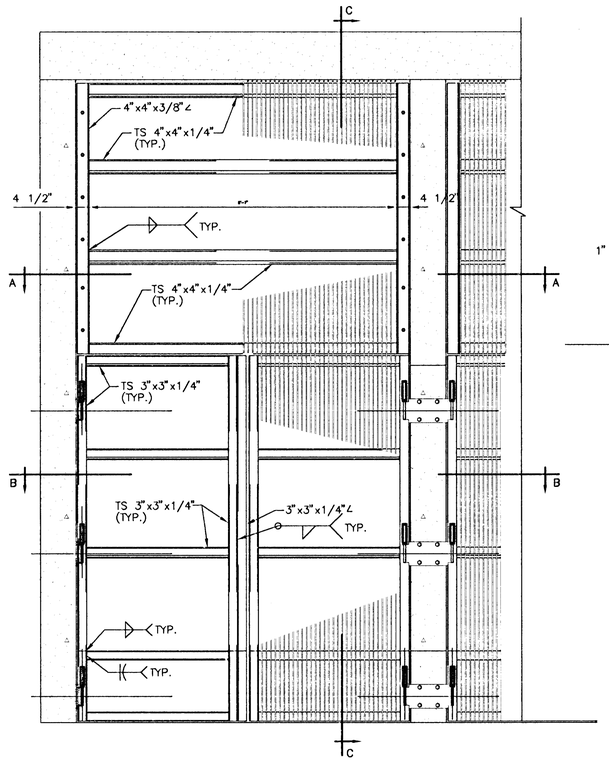
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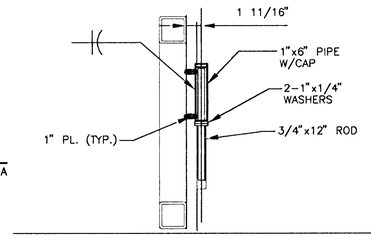
SECTION C-C

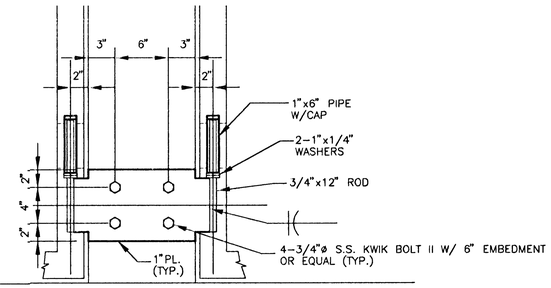
SCALE: 1/2"=1'-0"



ELEVATION

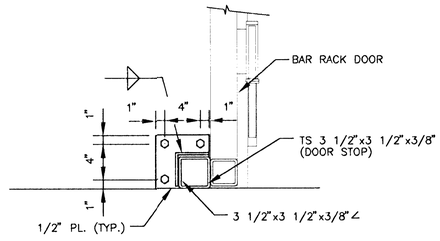
SCALE: 1/2"=1'-0"



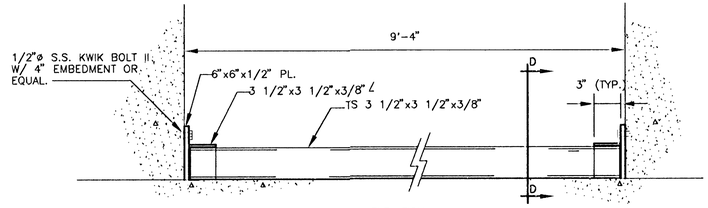


HINGE DETAIL

SCALE: 1 1/2"=1'-0"



SECTION D-D

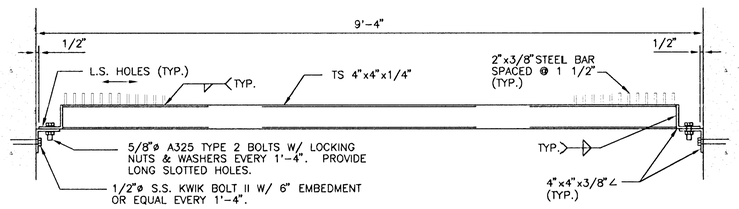


ELEVATION

BARRACK DOOR STOP

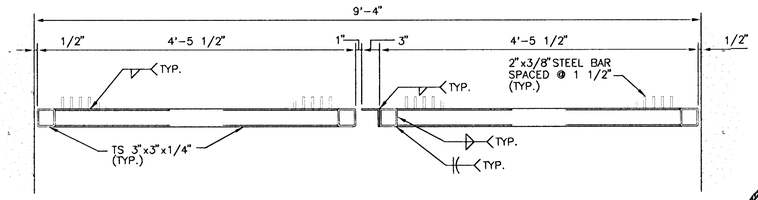
SCALE: 1 1/2"=1'-0"

NOTES:
1. ALL WELDS TO BE CONTINUOUS.
2. ALL PARTS OF THE BAR RACK ARE TO BE GALVANIZED EXCEPT THE STAINLESS STEEL ANCHOR BOLTS. NUTS TO BE COATED IN ACCORDANCE W/ ASTM A563.



SECTION A-A

SCALE: 1"=1'-0"



SECTION B-B

SCALE: 1"=1'-0"



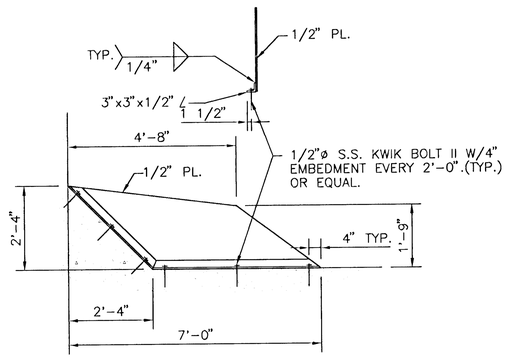
MID-KANSAS ENGINEERING CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME

BAR RACK DETAILS
SHEET TITLE

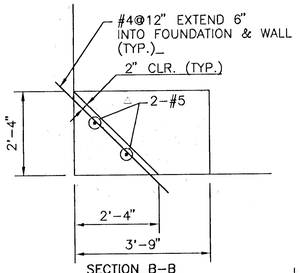
RCB/JAH	RRT	RCB/KJS
DESIGN BY:	DRAWN BY:	CHECKED BY:
MARCH, 1996	93035	19 / 30
DATE	JOB NO.	SHEET/OF

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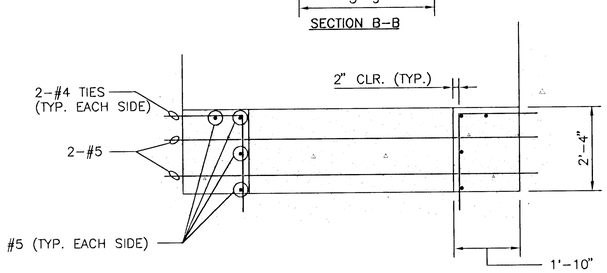


ANTI-SWIRL PLATE DETAIL

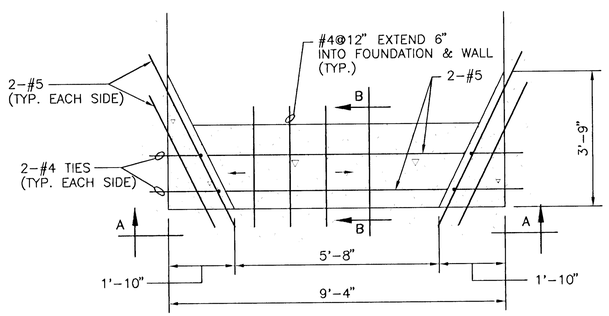
SCALE: 1/2" = 1'-0"



SECTION B-B



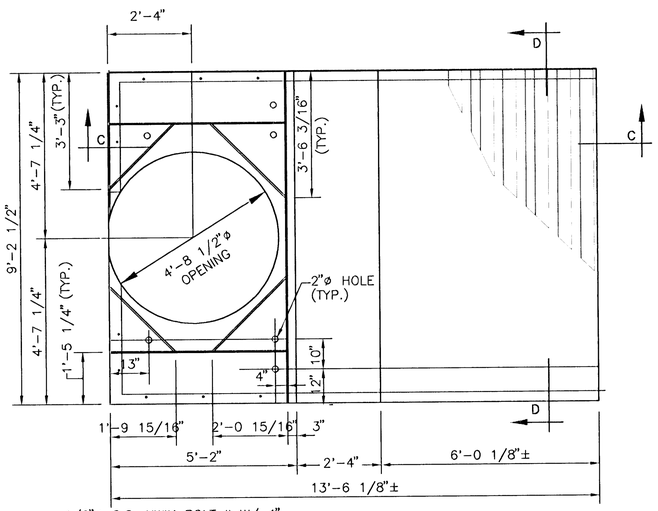
SECTION A-A



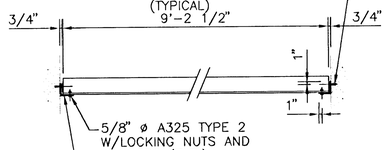
PLAN

SLOPED CORNERS & BENCHING DETAIL

SCALE: 1/2" = 1'-0"

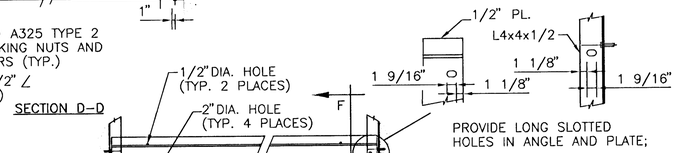


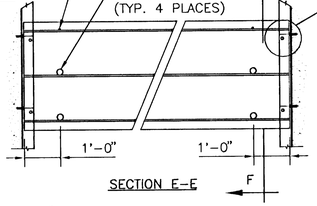
1/2"ø S.S. KWIK BOLT II W/ 4" EMBEDMENT OR EQUAL. SPACING @2'-0" ON CTRS. (TYPICAL)



PLAN

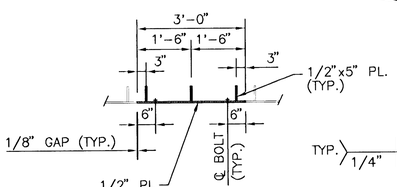
NOTE: ALL PARTS THAT ARE NOT STAINLESS STEEL SHALL BE GALVANIZED. NUTS TO BE COATED IN ACCORDANCE W/ ASTM A 536.





SECTION D-D

SECTION E-E

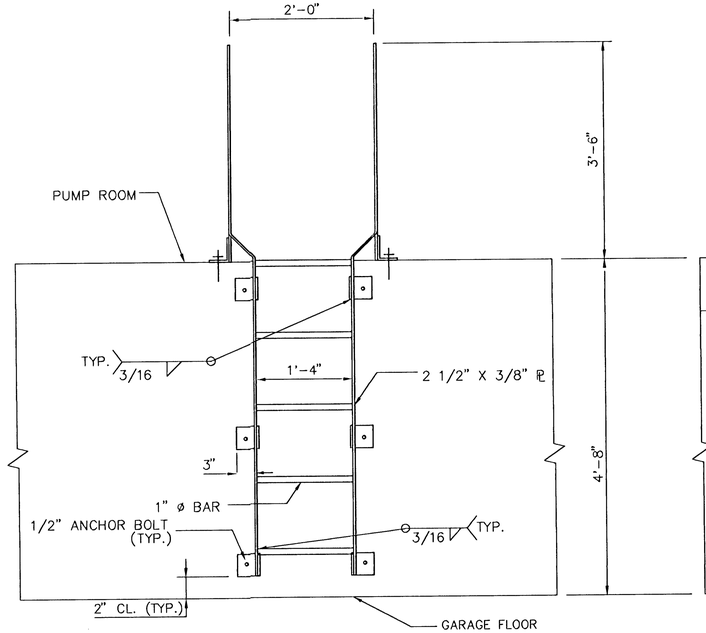


SECTION F-F (TYP. PANEL)

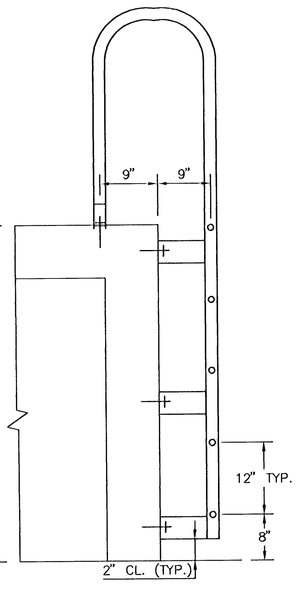
SECTION C-C

ANTI-STAGNATION WALL DETAIL

SCALE: 1/2" = 1'-0"



FRONT VIEW



SIDE VIEW

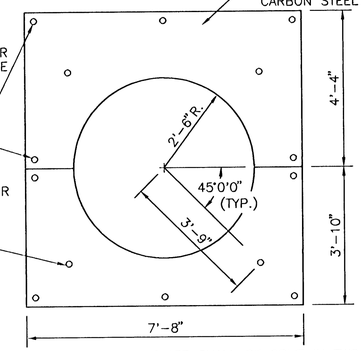
STEEL RUNG LADDER DETAIL

NO SCALE

PROVIDE (10)-1"ø EPOXY ADHESIVE ANCHOR BOLTS WITH MINIMUM EMBEDMENT OF 12". MATERIAL SHALL BE A36 OR BETTER. HOLES IN CONCRETE FOR ADHESIVE ANCHOR BOLTS SHALL BE DRILLED. ALSO PROVIDE 4"□ x1" CUT WASHERS W/ 1 1/16"ø HOLES. ANCHOR BOLTS SHALL HAVE A MINIMUM EDGE DISTANCE IN CONCRETE OF 6", AND 2" MIN. EDGE DISTANCE IN THE PLATE.

1 1/2"ø ANCHOR BOLT HOLE (TYP. OF 10)

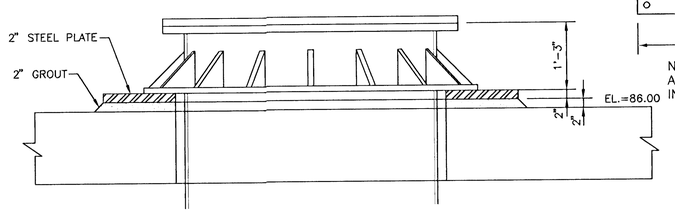
PROVIDE (4)-1"ø ANCHOR BOLTS TO THREAD 2" INTO TAPPED AND THREADED ANCHOR BOLT HOLES IN SOLE PLATE (FOR BOLTING PUMP TUBE SUPPORT PLATE TO SOLE PLATE). MATERIAL SHALL BE A36 OR BETTER. ALSO PROVIDE 4"□ x1" CUT WASHERS W/ 1 1/16"ø HOLES.



NOTE: SOLE PLATE SHALL BE SPLIT IN TWO PIECES AS SHOWN. PLATE SHALL BE ORIENTED AS SHOWN IN UPPER LEVEL PLAN ON SHEET 24.

SOLE PLATE

SCALE: 1/2" = 1'-0"



SOLE PLATE DETAIL

SCALE: 3/4"=1'-0"

JOHN A. HARRED LICENSED 11428 4-17-96 KANSAS PROFESSIONAL ENGINEER

MID-KANSAS ENGINEERING CONSULTANTS, INC.
411 N. WEBB ROAD
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316-684-9600

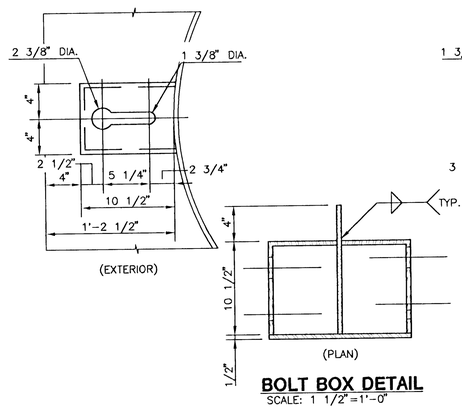
SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME

STRUCTURAL DETAILS
SHEET TITLE

DAC/JAH	RRT	RCB/JAH
DESIGN BY:	DRAWN BY:	CHECKED BY:
MARCH, 1996	93035	20 / 30
DATE	JOB NO.	SHEET/OF

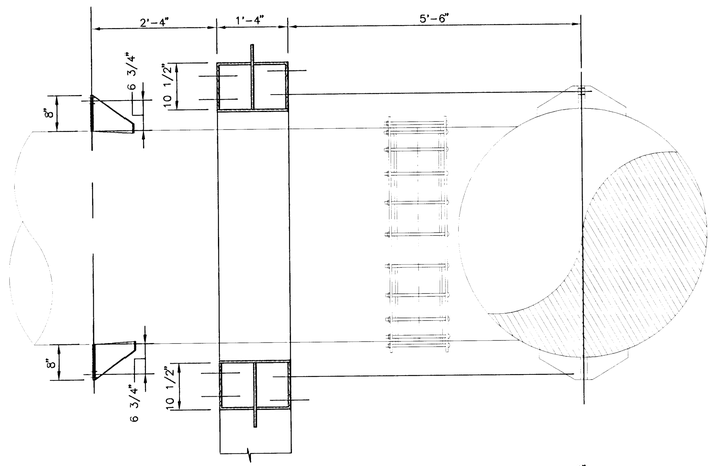
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I:\ENVR\93035\DETAILS Mon Apr 15 11:16:14 1996



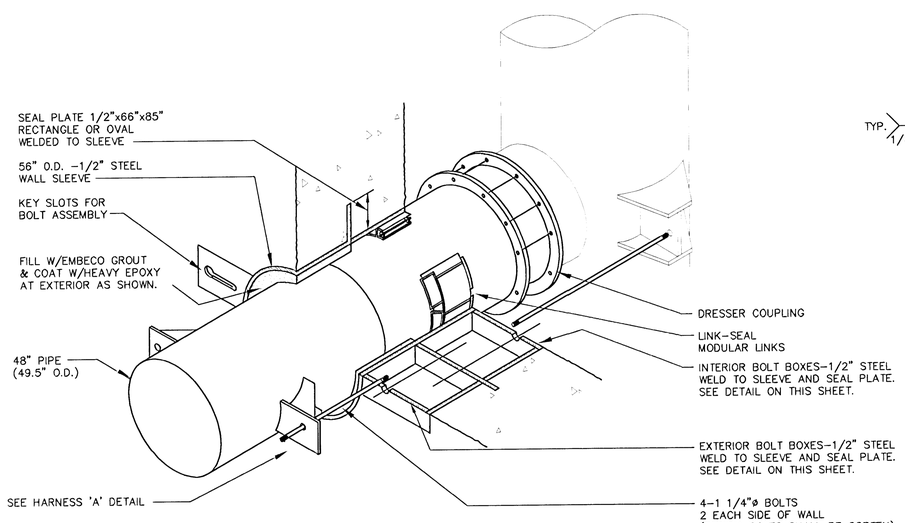
BOLT BOX DETAIL

SCALE: 1 1/2"=1'-0"



PUMP STATION WALL SLEEVE DETAIL

SCALE: 3/4"=1'-0"

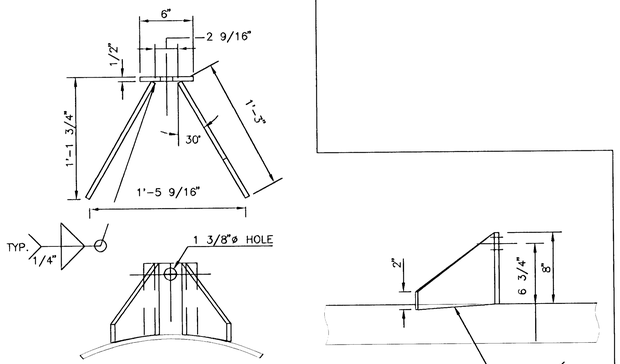


PUMP DISCHARGE PIPING INSTALLATION

NO SCALE

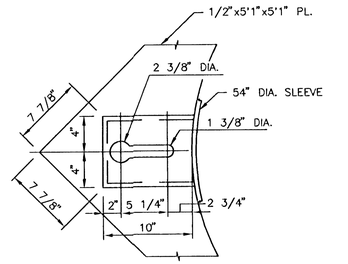
56" O.D. SLEEVE DETAILS PUMP DISCHARGE

54" O.D. SLEEVE DETAILS OUTFALL PIPING.



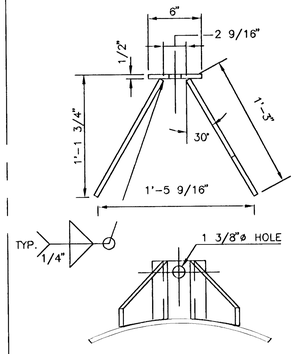
HARNESS 'A' DETAILS

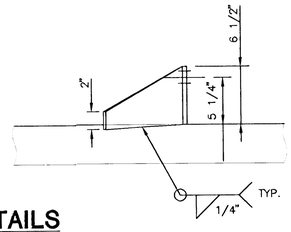
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BOLT BOX DETAIL

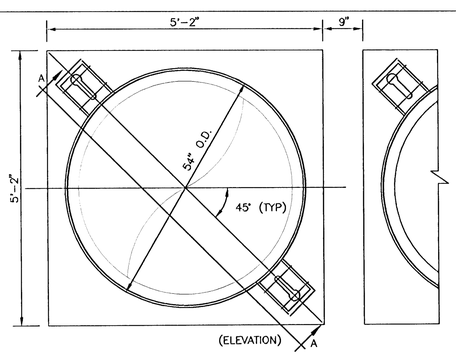
SCALE: 1 1/2"=1'-0"

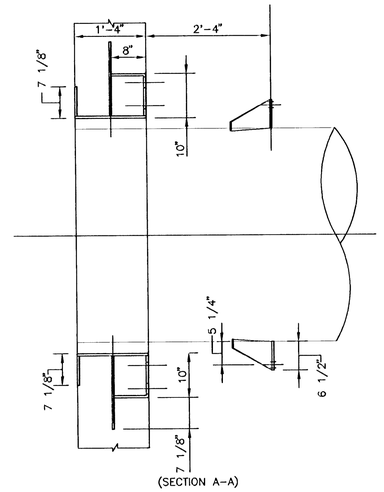




HARNESS 'B' DETAILS

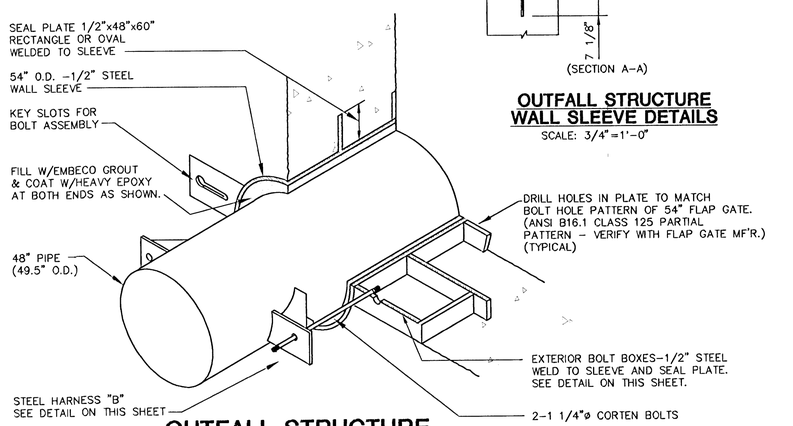
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OUTFALL STRUCTURE WALL SLEEVE DETAILS

SCALE: 3/4"=1'-0"



OUTFALL STRUCTURE PIPING INSTALLATION

NO SCALE

NOTES: (FOR PUMP DISCHRAGE AND OUTFALL STRUCTURE INSTALLATIONS)
1. INSERTS AND PIPE TO BE HOT DIP GALVANIZED AFTER CONSTRUCTING OF A-36 STEEL.
2. BURIED PIPE TO BE WRAPPED W/TAPE AS PER SPECIFICATIONS TO WITHIN 12" OF HARNESS. FROM THIS POINT TO WALL, COAT PIPE , BOLTS, HARNESS, AND FACE OF BOLT BOX AND SLEEVE WITH COAL TAR EPOXY:
   SURFACE PREP. SSPC-SP10.
   FIRST COAT TNEMEC SERIES 66 (3.0-5.0 MILS DFT)
   SECOND COAT TNEMEC 46H-413 (14.0-20.0 MILS DFT)

JOHN A. HARDISTY LICENSED 11423 4-17-96 KANSAS PROFESSIONAL ENGINEER

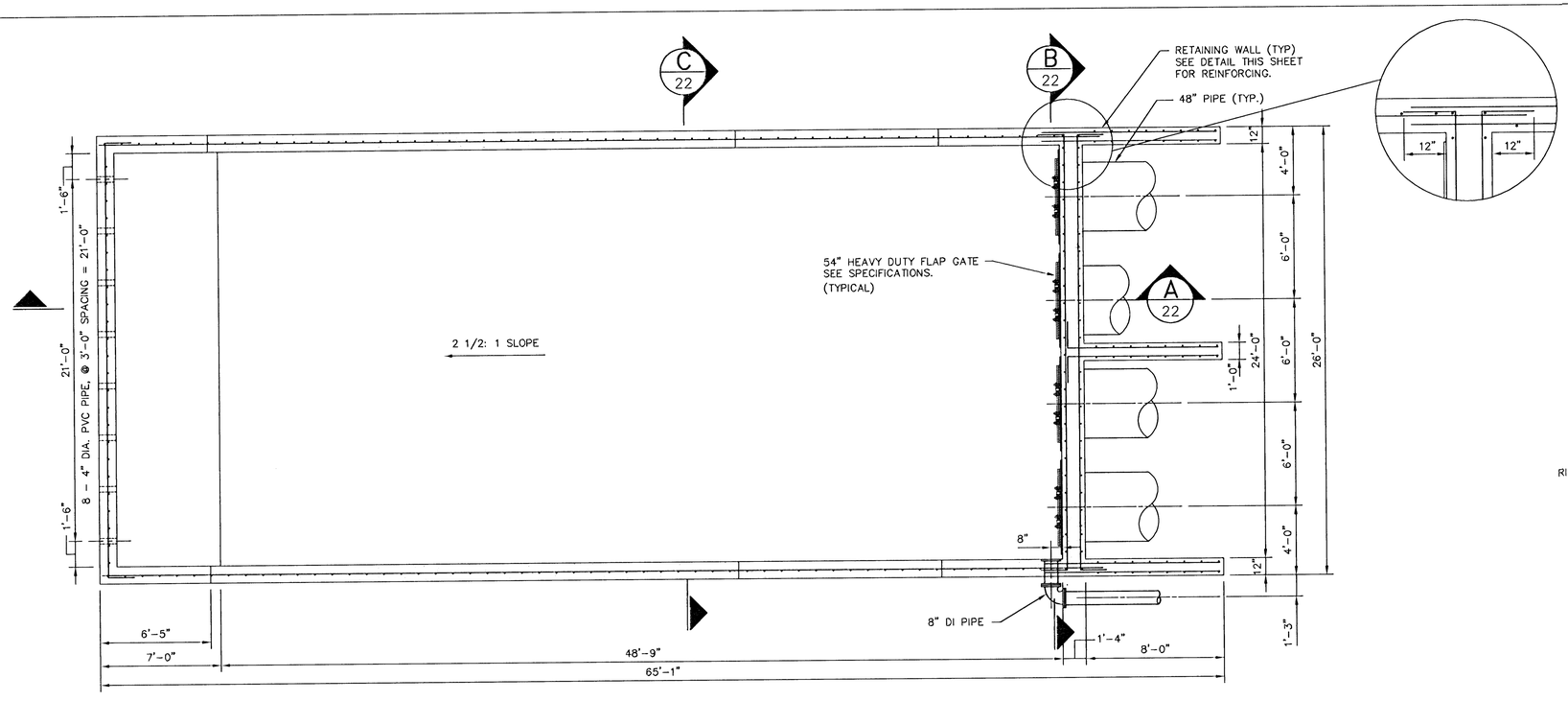
MID-KANSAS ENGINEERING CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME

STRUCTURAL PIPE RESTRAINT DETAILS
SHEET TITLE

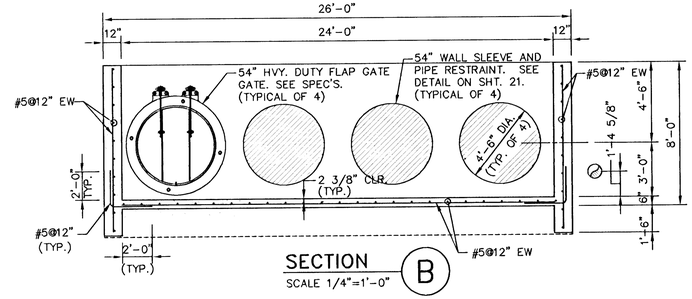
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DATE	JOB NO.	SHEET/OF

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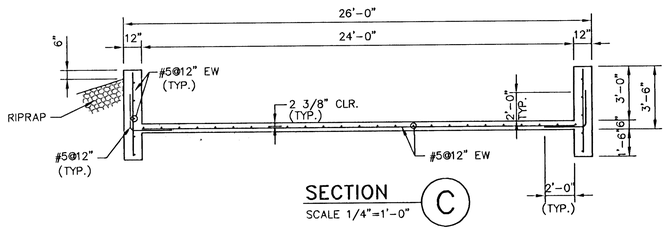
PLAN

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



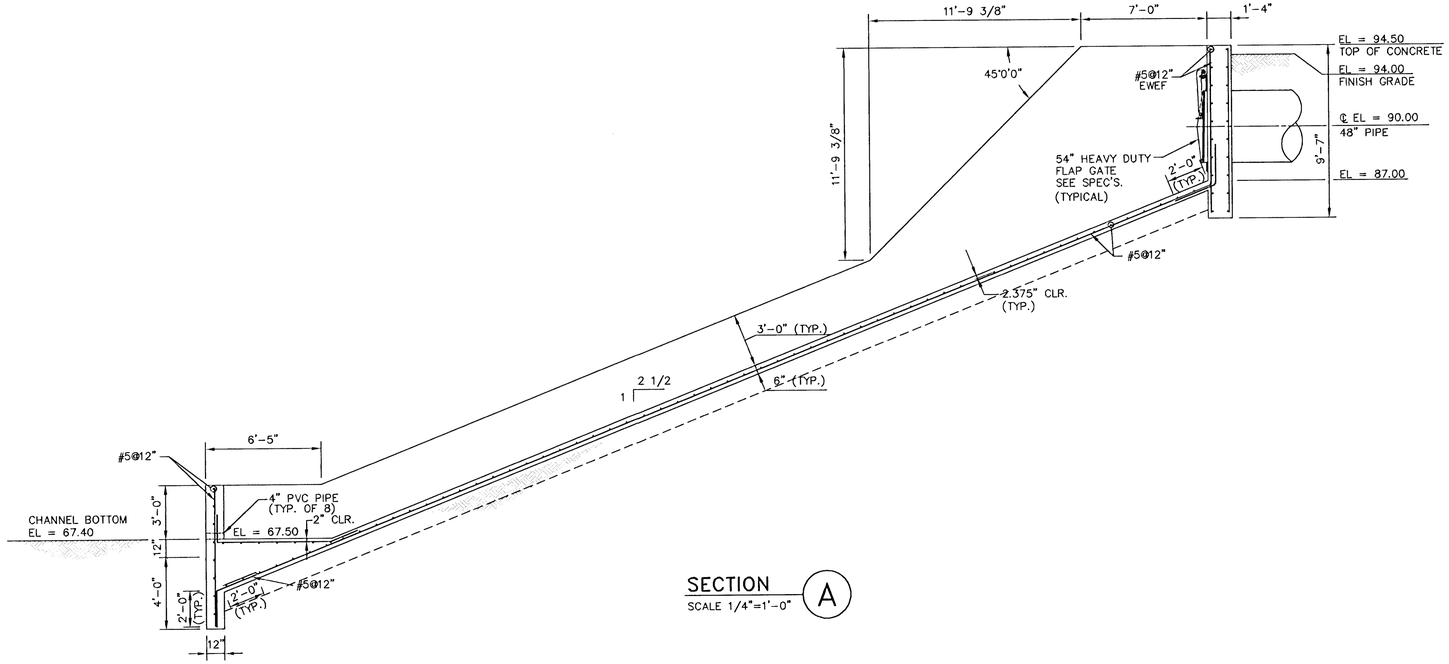
SECTION B

SCALE 1/4"=1'-0"



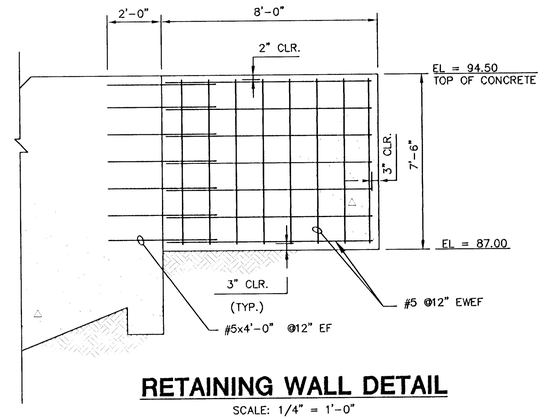
SECTION C

SCALE 1/4"=1'-0"



SECTION A

SCALE 1/4"=1'-0"



RETAINING WALL DETAIL

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

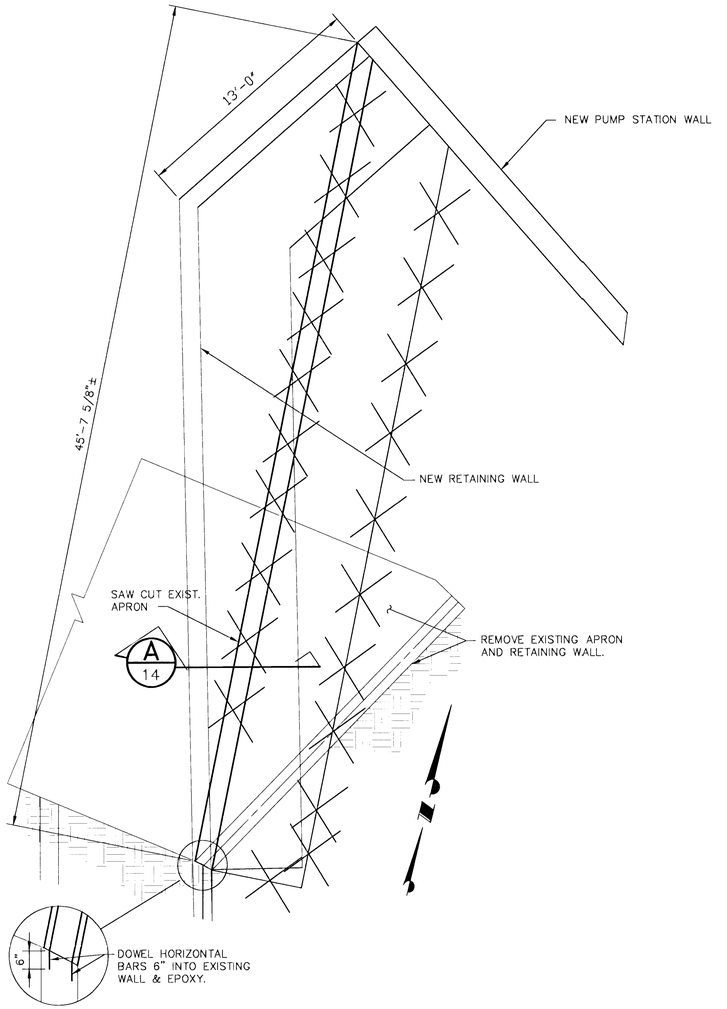
JOHN A. HARDESTY
LICENSED
11428
4-17-96
KANSAS
PROFESSIONAL ENGINEER

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411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME
STRUCTURAL
OUTFALL STRUCTURE
SHEET TITLE

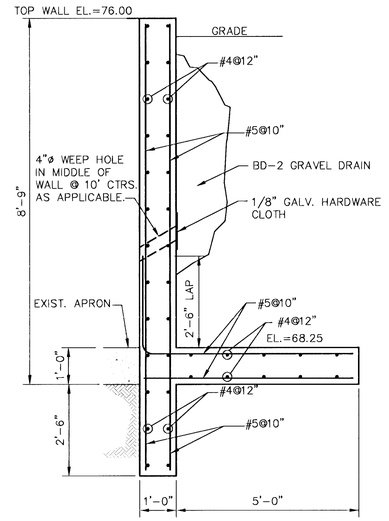
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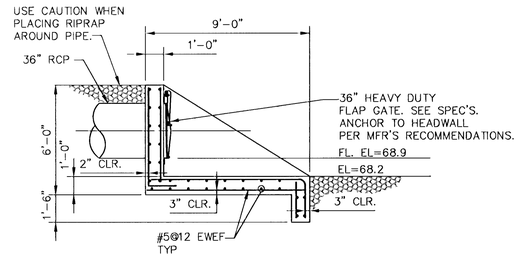
RETAINING WALL

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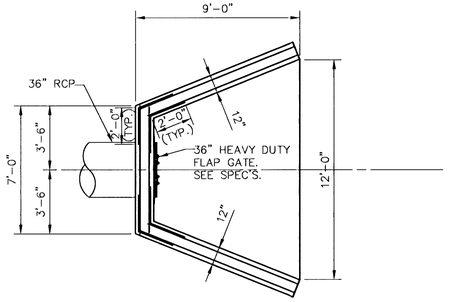


A RETAINING WALL SECTION

SCALE: 1/2" = 1'-0"



(ELEVATION)



(PLAN)

HEADWALL & FLAP GATE DETAIL

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

RECORD DRAWING 6-12-98

DAVID ALAN CHASE LICENSED 14372 PROFESSIONAL ENGINEER
6-22-98

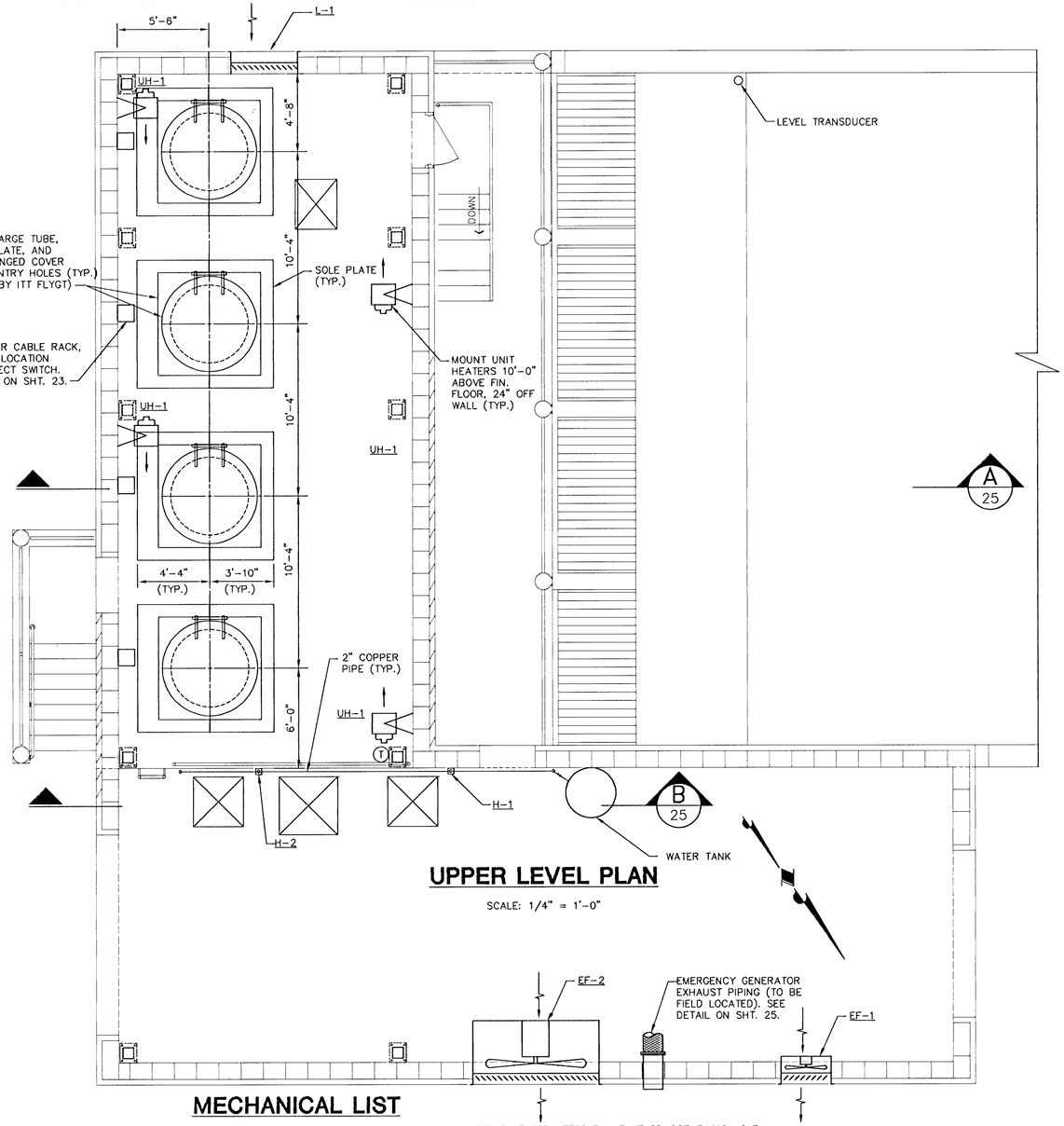
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WICHITA, KS. 67206
316-684-9600

SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME

STRUCTURAL
MISCELLANEOUS DETAILS
SHEET TITLE

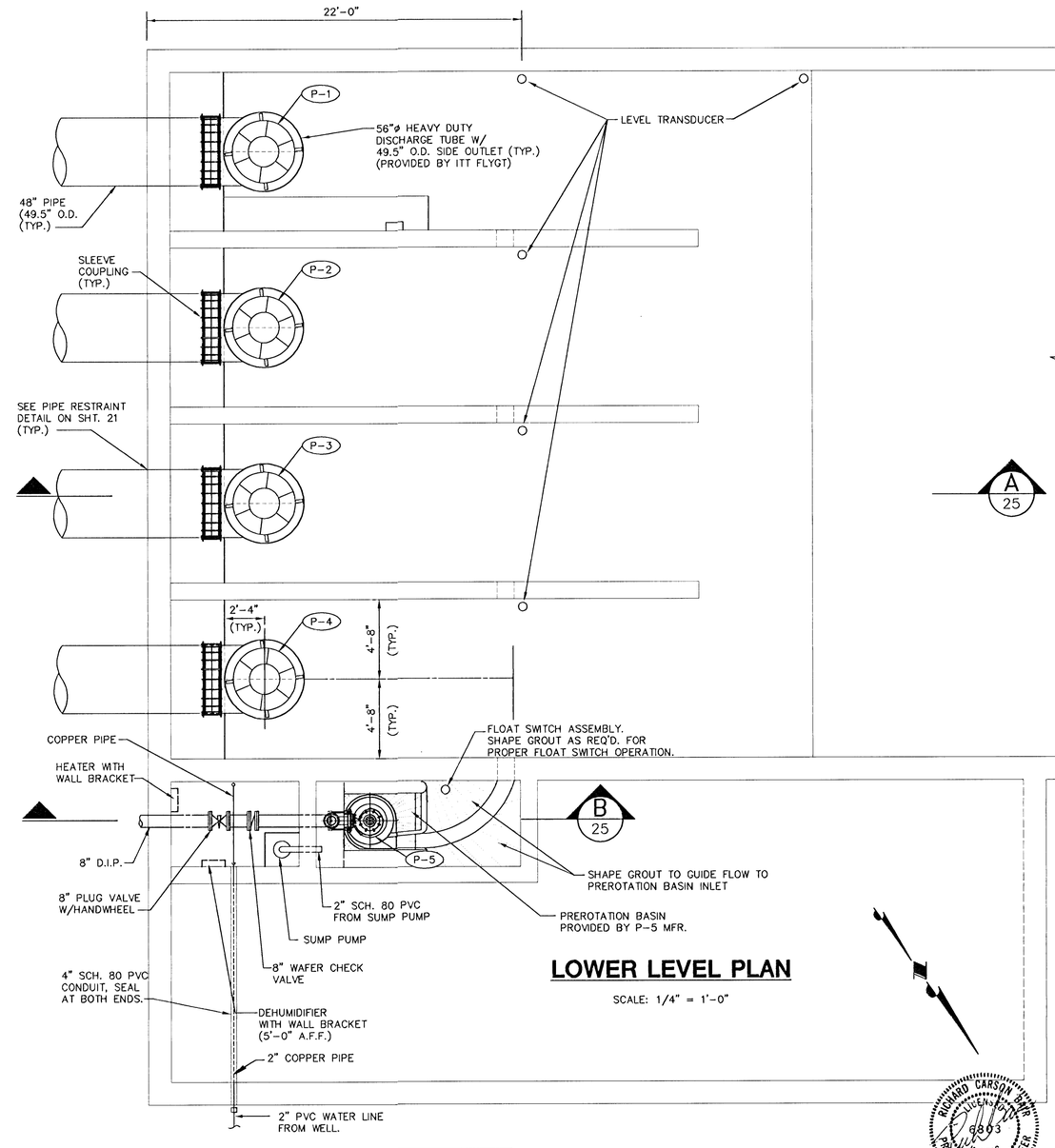
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UPPER LEVEL PLAN

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



LOWER LEVEL PLAN

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

MECHANICAL LIST

1. L-1 LOUVERS AND DAMPERS MODEL IL-6-304, EXTRUDED ALUMINUM, 48"x48" WITH MOTORIZED LOW-LEAKAGE CONTROL DAMPER. LOCATION AND FINISH AS PER ARCHITECTURAL SPECIFICATIONS.
2. EF-1 ACME PROPELLER WALLFAN MODEL K-30G, 1/2 HP MOTOR, 7000 CFM @.2" SP. W/MOTORIZED WEATHER PROOF SHUTTER & INTERIOR SCREENED SAFTY GUARD.
3. EF-2 ACME PROPELLER WALLFAN MODEL K-72R, 10 HP MOTOR, 65,000 CFM @.2" SP. W/MOTORIZED WEATHER PROOF SHUTTER & INTERIOR SCREENED SAFTY GUARD.
4. UH-1 MODINE ELECTRIC UNIT HEATER MODEL HE 125, 12.5 KW, 480/60/3, MOTOR 1/15 HP, 208-230/60/1, 1050 RPM W/WALL MOUNTING BRACKET. MOUNT 10' A.F.F. PROVIDE THERMOSTAT W/0-3 HR. ADJUSTABLE TIMER SWITCH.
5. SUMP PUMP - WEIL 2" SERIES 2400 SUBMERSIBLE 30 GPM @ 25 FT., 1/2 H.P. , 120/60/1 MICRO PRESSURE SWITH CONTROL.
6. DEHUMIDIFIER - WHITE WESTINGHOUSE ED358D DEHUMIDIFIER 35 PINTS PER DAY CAPACITY - 260 CFM - 7.5 AMPS 120/60/1 PROVIDE 3/4" HOSE TO DRAIN TO SUMP PUMP
7. HEATER - TITAN PORTABLE HEATER #T760 BI WITH THERMOSTAT, 110 VOLT, WITH TIP OVER SWITCH.
8. WATER TANK - TEEL VERTICAL PRECHARGED WATER TANK (GRANGER STOCK #4P886), 370 GALLON CAPACITY, 28 PSI PRECHARGE PRESSURE.
9. WELL PUMP - (NOT SHOWN ON THIS SHEET) - TEEL SUBMERSIBLE PUMP (GRAINGER STOCK #2PC09), 2" DISCHARGE, 35 GPM, FRANKLIN 4" MODEL 23432594 SUBMERSIBLE MOTOR, 2HP, 3 WIRE, 460/60/3 WITH MAGNETIC CONTACTOR, OVERLOAD RELAY, AND MOTOR CONTROL BOX.
10. H-1 - 1 1/2" HYDRANT, AKRON 2125 VALVE, 417 NOZZLE, NPSM CONNECTIONS. FURNISHED WITH 150' OF 1 1/2" PVC WATER DISCHARGE HOSE. PROVIDE FLOOR DRAIN BELOW PER DETAIL ON SHT. 25.
11. H-2 - 3/4" HYDRANT, AKRON 2125 VALVE, 417 NOZZLE, NPT CONNECTIONS. FURNISHED W/ 50' OF 3/4" HOSE. PROVIDE FLOOR DRAIN BELOW PER DETAIL ON SHT. 25.
12. AIR RELEASE VALVE - 1/2" INLET, APCO NO. 50. SUPPORT AS REQUIRED.

PUMP SCHEDULE

MARK	NAME	TYPE	MINIMUM CAPACITY GPM	MINIMUM CAPACITY TDH (FT)	MIN. CONN. SIZES SUCTION	MIN. CONN. SIZES DISCHARGE	MOTOR HP	MOTOR RPM	MOTOR SPEED	MOTOR ELECT.	STARTER (SIZE/POLE)	ELECTRICAL REFERENCE
*P-1	PUMP #1	SUBMERSIBLE PROPELLER	45000	22.8	56"	48"	385	510	1	3/60/460	6/3	MCCA-1
*P-2	PUMP #2	SUBMERSIBLE PROPELLER	45000	22.8	56"	48"	385	510	1	3/60/460	6/3	MCCA-2
*P-3	PUMP #3	SUBMERSIBLE PROPELLER	45000	22.8	56"	48"	385	510	1	3/60/460	6/3	MCCB-1
*P-4	PUMP #4	SUBMERSIBLE PROPELLER	45000	22.8	56"	48"	385	510	1	3/60/460	6/3	MCCB-2
P-5	DEWATERING PUMP	SCREW CENTRIFUGAL	1000	29	8"	6"	10	1160	1	3/60/460	1/3	MCCA-3

* NOTE: PUMPS P-1, P-2, P-3, & P-4 PROVIDED BY ITT FLYGT.

RICHARD CARSON TAYLOR LICENSED 6803 KANSAS PROFESSIONAL ENGINEER

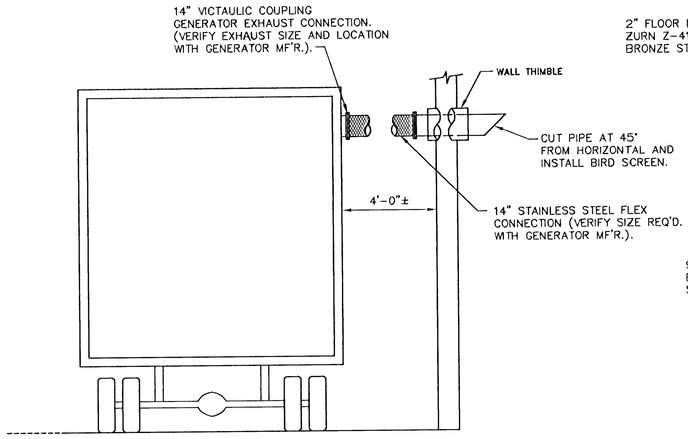
MID-KANSAS ENGINEERING CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME

PIPING & MECHANICAL
LOWER & UPPER LEVEL PLANS
SHEET TITLE

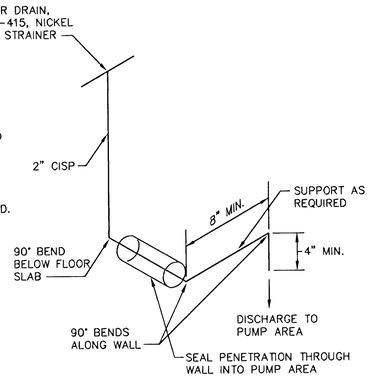
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EMERGENCY GENERATOR EXHAUST PIPING

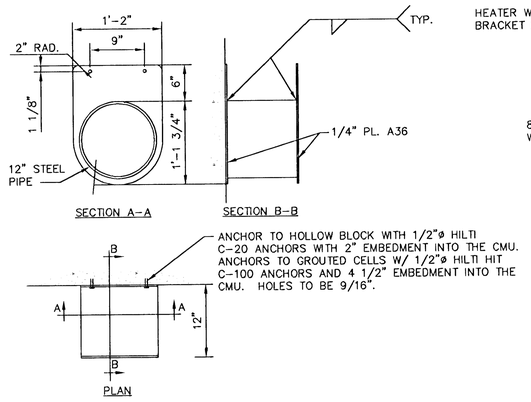
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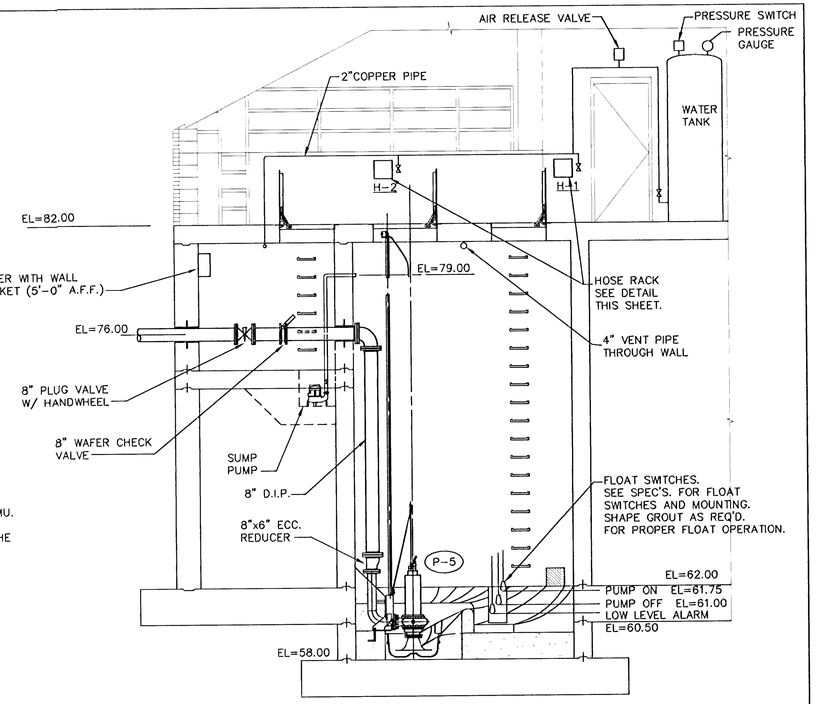


GARAGE AREA
FLOOR DRAIN

FLOOR DRAIN DETAIL

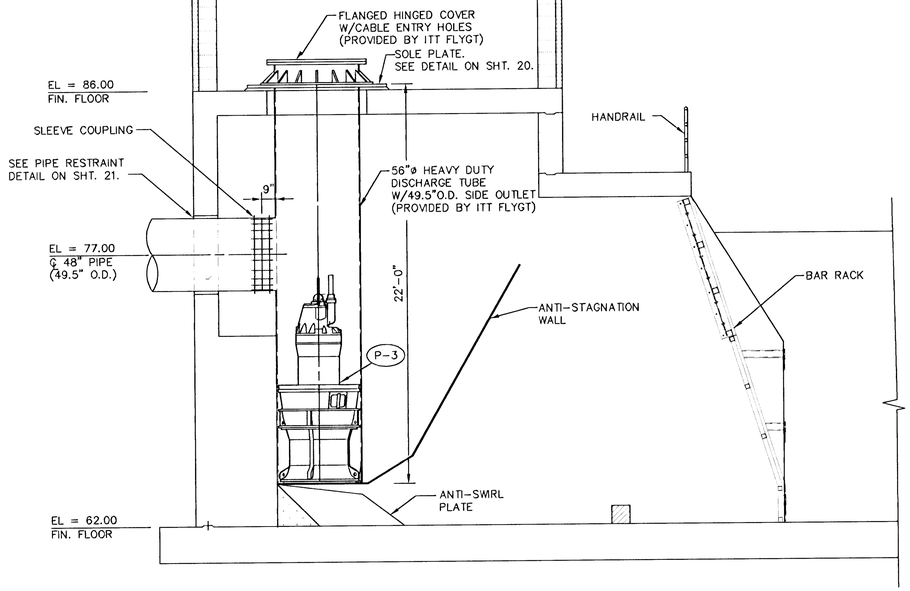
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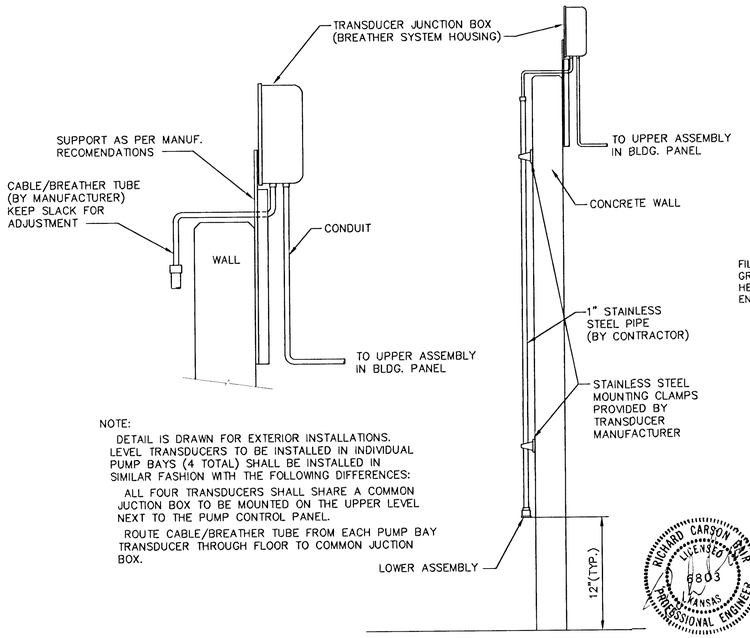
PUMP POWER CABLE RACK / HOSE RACK

SCALE: 1" = 1'-0"



SECTION (A) 24

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



NOTE:
DETAIL IS DRAWN FOR EXTERIOR INSTALLATIONS. LEVEL TRANSDUCERS TO BE INSTALLED IN INDIVIDUAL PUMP BAYS (4 TOTAL) SHALL BE INSTALLED IN SIMILAR FASHION WITH THE FOLLOWING DIFFERENCES:

ALL FOUR TRANSDUCERS SHALL SHARE A COMMON JUCTION BOX TO BE MOUNTED ON THE UPPER LEVEL NEXT TO THE PUMP CONTROL PANEL.

ROUTE CABLE/BREATHER TUBE FROM EACH PUMP BAY TRANSDUCER THROUGH FLOOR TO COMMON JUCTION BOX.

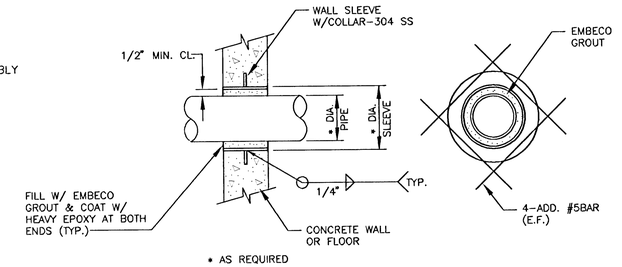
RICHARD CARSON ROSS LICENSED 9803 KANSAS PROFESSIONAL ENGINEER

TYPICAL LEVEL TRANSDUCER MOUNTING DETAIL

NO SCALE

SECTION (B) 24

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



TYPICAL WALL/FLOOR SLEEVE DETAIL

NO SCALE

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SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME

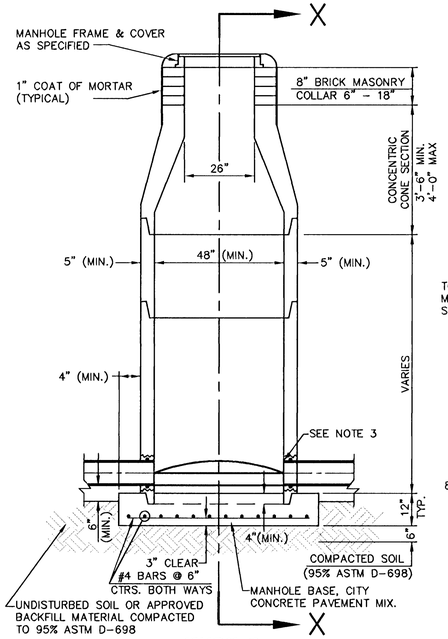
PIPING & MECHANICAL
SECTIONS & DETAILS
SHEET TITLE

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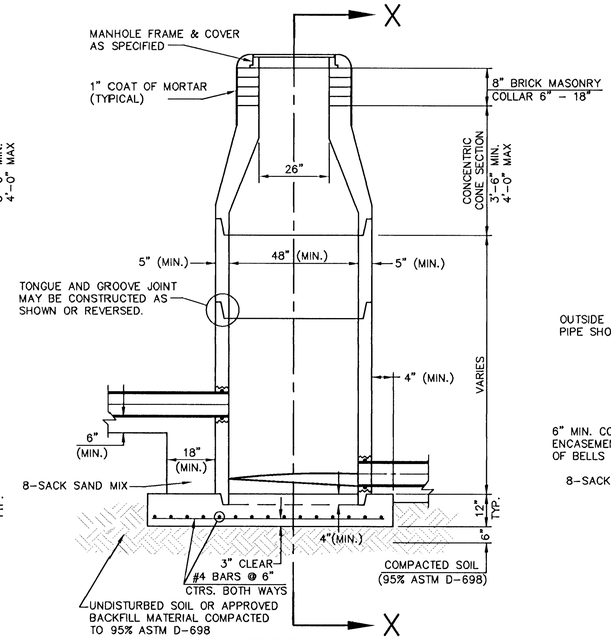
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SEWER APPURTENANCES DETAILS

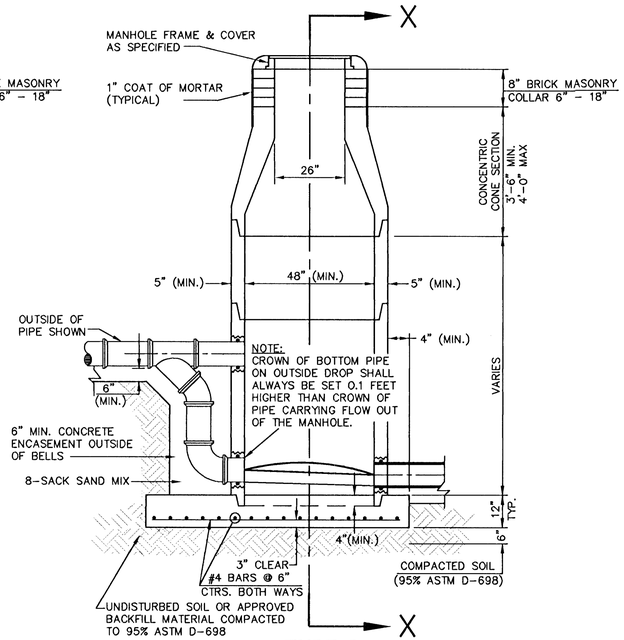
ADOPTED AS STANDARD DESIGN BY CITY OF WICHITA



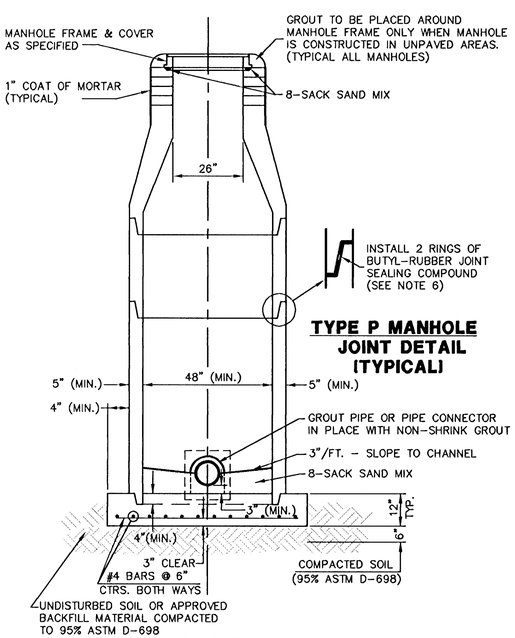
TYPE P
STANDARD MANHOLE



TYPE P
INSIDE DROP MANHOLE



TYPE P
OUTSIDE DROP MANHOLE

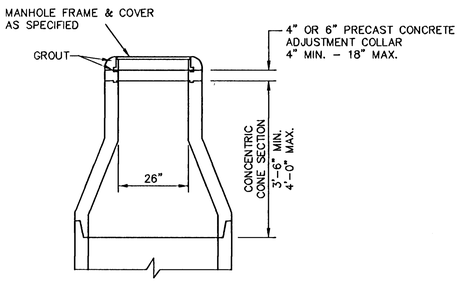


TYPE P MANHOLE JOINT DETAIL (TYPICAL)

SECTION X (TYPICAL)

GENERAL NOTES - PRECAST MANHOLE NOTES

1. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
2. NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
3. APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN A.B.S. COMPOSITE PIPE OR P.V.C. PIPE IS USED. FOR OTHER TYPES OF PIPE THE SEWER SHALL BE GROUTED IN PLACE WITH NON-SHRINK GROUT. THE SEWER PIPE SHALL BE SUPPORTED WITH CONCRETE ENCASEMENT A MINIMUM OF 3 FEET FROM THE MANHOLE WALL AND TO THE FIRST JOINT FOR V.C.P. SUCH THAT THE JOINT REMAINS FLEXIBLE.
4. ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH 2 COATS TNEMEC SERIES 66 HI-BUILD EPOXOLINE, DRY THICKNESS OF 8 MILS (MIN.)
5. EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINUS COATING.
6. JOINT SEALING COMPOUND SHALL BE KENT SEAL NO. 2 OR APPROVED EQUAL.
7. PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE.
8. TOP OF MANHOLE FLOOR SLAB SHALL BE AT LEAST 3 INCHES BELOW THE FLOW LINE OF THE OUTLET PIPE TO INSURE SUFFICIENT MINIMUM THICKNESS OF SHAPED INVERT.
9. LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.
10. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24" SHALL HAVE AN INSIDE DIAMETER OF 4'. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE 24" OR LARGER SHALL HAVE AN INSIDE DIAMETER OF 5'. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.
11. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED AT LEAST 3" ABOVE THE BOTTOM OF THE MANHOLE BASE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
12. OPENINGS SHALL BE CUT INTO THE MANHOLE WALL WHEN OUTSIDE DROPS ARE CONSTRUCTED ON EXISTING MANHOLES. SUCH OPENINGS CUT INTO EXISTING MANHOLES SHALL BE AS SMALL AS PRACTICAL TO FACILITATE INSTALLING AND GROUTING THE NEW PIPE IN PLACE. WATERSTOP GASKETS SHALL BE USED WITH P.V.C. AND A.B.S. COMPOSITE PIPE. THE NEW PIPE SHALL BE GROUTED INTO THE OPENING USING AN APPROVED NONSHRINK GROUT FOR THE FULL MANHOLE WALL THICKNESS. THE EXTERIOR OF THE COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT. FLOOR OF MANHOLE SHALL BE MODIFIED TO FORM NEW FLOW CHANNEL FOR THE NEW CONNECTION AS INDICATED BY THE DRAWING. THIS WORK, INCLUDING MODIFICATION OF MANHOLE FLOOR, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR OUTSIDE DROP STACK CONSTRUCTED ON EXISTING MANHOLE.
13. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING AND FREE OF AREAS WHERE SOLIDS COULD BE DEPOSITED AS SEWAGE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE DRAWINGS EXCEPT FOR INSIDE DROP MANHOLES. FLOW CHANNELS FOR INSIDE DROP MANHOLES SHALL BE CONSTRUCTED AS INDICATED BY THE DRAWING. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO NEAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.
14. PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. WHEN CLAY PIPE IS USED, THE CRADLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MANHOLE. THE CRADLE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. COST OF CRADLE WITHIN MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
15. MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWING.
16. THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 2' FOR INFLOWING PIPES. THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
17. STANDARD MANHOLES AND STANDARD INSIDE DROP MANHOLES SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.
18. A BRICK MASONRY COLLAR SHALL BE INSTALLED BETWEEN THE CAST IRON FRAME AND THE CONCENTRIC CONE. THE COLLAR WILL HAVE 8" WALLS AND A VERTICAL HEIGHT OF 6" MINIMUM AND 18" MAXIMUM. A 1" COAT OF MORTAR WILL BE PLASTERED ON THE OUTSIDE OF THE COLLAR.



ALTERNATE CONSTRUCTION IN UNPAVED AREAS

REVISED: 6-12-86

26 / 30
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MANHOLE DETAILS

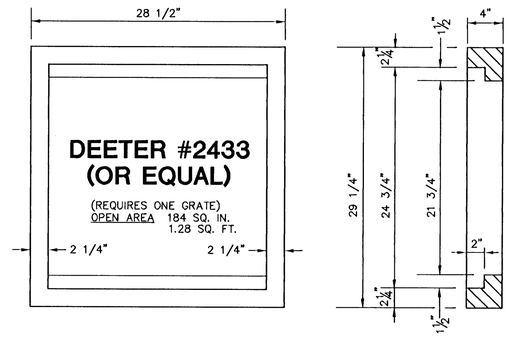
CITY OF WICHITA, KANSAS

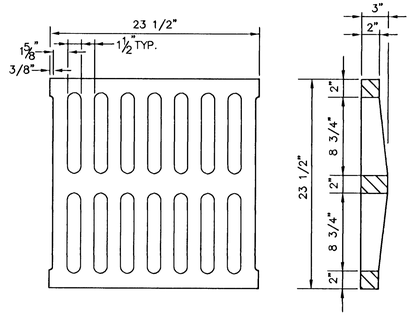
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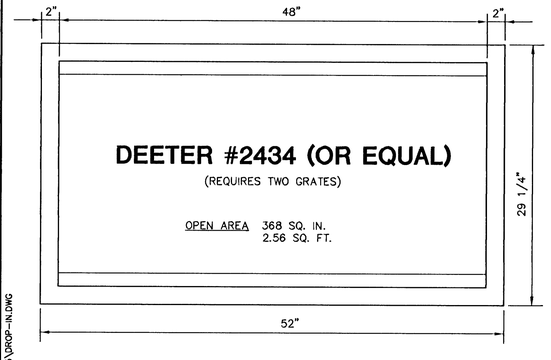
NOTE: GRATES SHALL BE IMPRINTED ON THE TOP SURFACE WITH "CITY OF WICHITA" USING LETTERS AT LEAST 1" IN HEIGHT. OTHER MARKING METHODS MAY BE USED ONLY IF APPROVED BY THE ENGINEER.



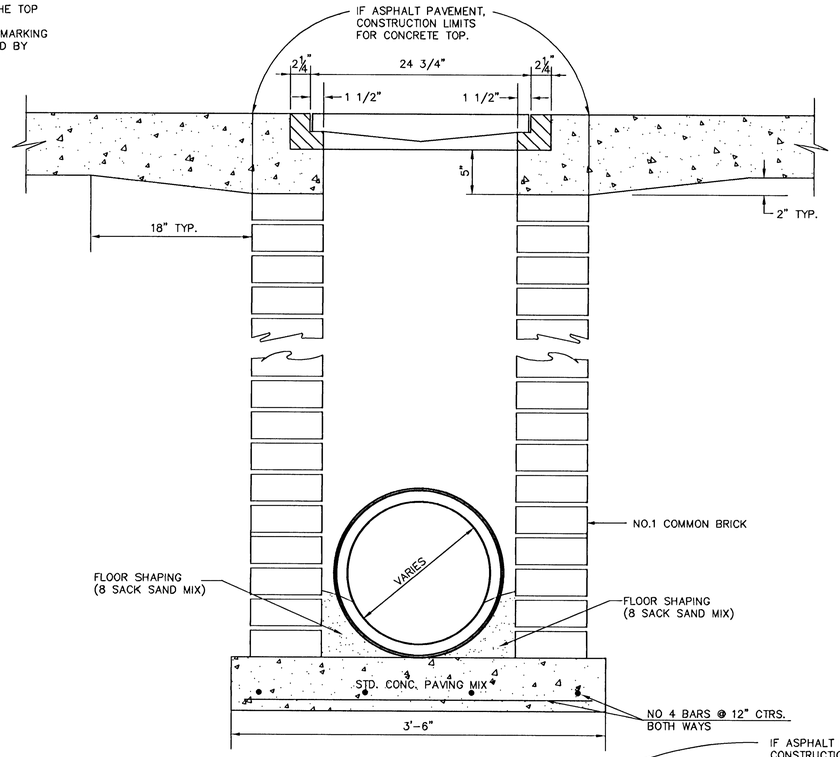


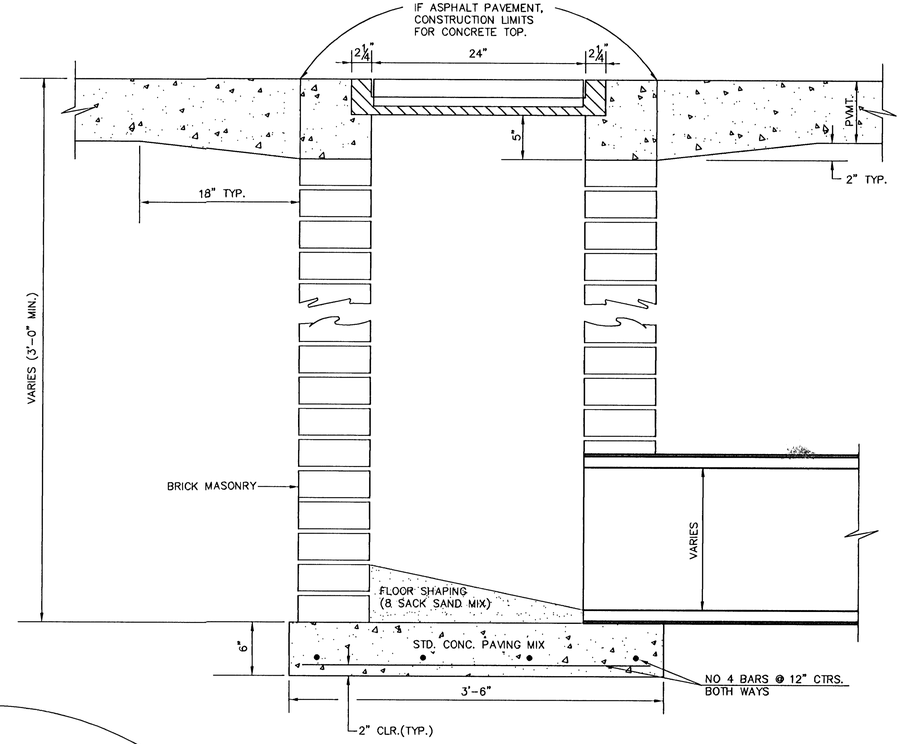
GRATE

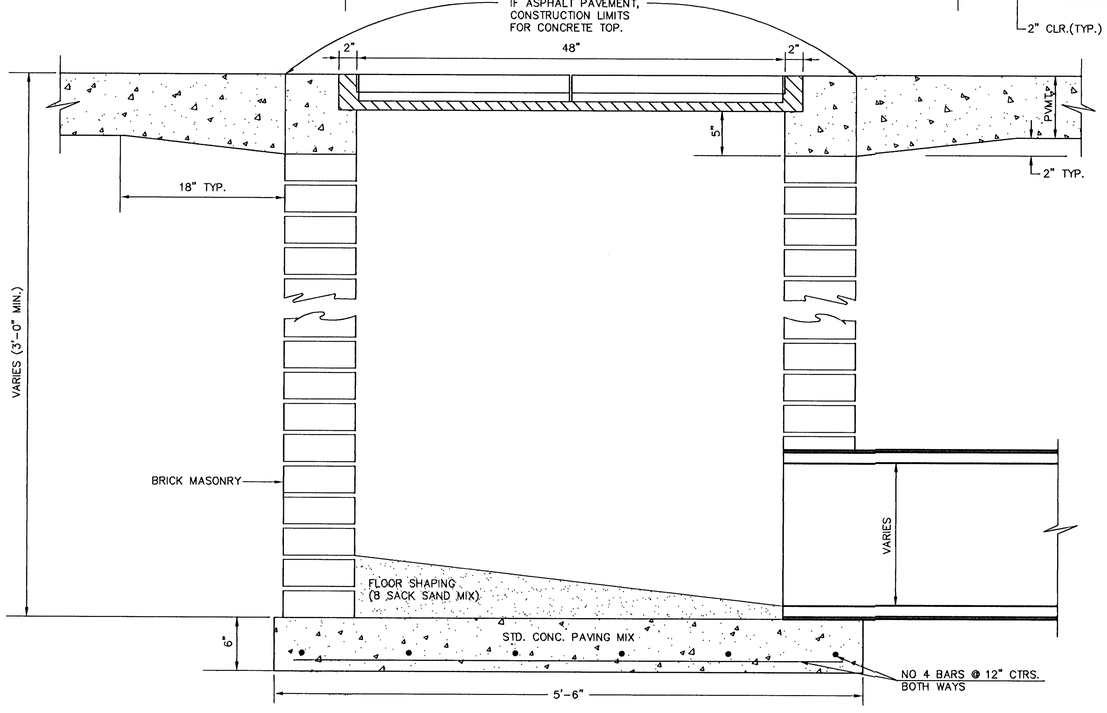
24"x24" FRAME & GRATE DETAIL

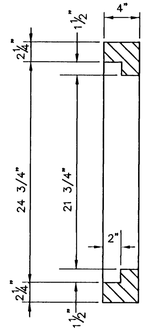


DOUBLE 24"x24" FRAME DETAIL









ORIFICE EQUATION		
$Q=C*A*\sqrt{2gh}$ C=0.60		
h (DEPTH)	#2433 (SINGLE)	#2434 (DOUBLE)
0.1	1.95 cfs	3.89 cfs
0.2	2.75 cfs	5.50 cfs
0.3	3.37 cfs	6.74 cfs
0.4	3.89 cfs	7.78 cfs
0.5	4.35 cfs	8.70 cfs
0.6	4.77 cfs	9.53 cfs
0.7	5.15 cfs	10.30 cfs
0.8	5.50 cfs	11.01 cfs
0.9	5.84 cfs	11.67 cfs
1.0	6.15 cfs	12.30 cfs

REVISED: 5-8-90 JNJ

27 / 30
SHEET/OF

DROP INLET DETAILS

CITY OF WICHITA, KANSAS

Design C.O.W.	Checked by	Checked by	
Drawn by	Date	Date	Job No.

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EQUIPMENT CONNECTION SCHEDULE

SVA

SCH. CODE: SW=DISC. SW, CB=CIR.BKR., T=TOGGLE SW.

UNIT DESIG.	120/60/1	230/60/1	400/60/3	230/60/3	LOAD H.P.	LOAD FLA	LOAD MCA	PANEL DEVICE RATING (AMPS/POLE) 20/1	20/3	30/3	60/3	100/3	200/3	400/3	600/3	800/3	DISCONNECTING DEVICE AT UNIT (AMPS/POLE) FUSTAT	30/3	60/3	100/3	200/3	400/3	600/3	800/3	N.F.	FUSE SIZE	NEMA SIR	STARTER (SIZE/POLE) Ø/3	1/3	2/3	3/3	Ø/2	IN MCC	AT UNIT	NEMA SIR	CIRCUIT NUMBER	FEEDER IDENT.
P-1			●		3Ø5											●					SW				●							●	●			MCCA-1	1
P-2			●		3Ø5											●					SW				●							●	●			MCCA-2	1
P-3			●		3Ø5											●					SW				●							●	●			MCCB-1	1
P-4			●		3Ø5											●					SW				●							●	●			MCCB-2	1
P-5			●		10	14			●							●					SW				●				●				●			MCCA-3	6
③ UH-1A			●			15			●							●					SW				●					●			●			MCCA-4	6
④ UH-1A		●			1/15							●										T									●		●			A-1	T
③ UH-1B			●			15			●							●					SW				●					●			●			MCCA-5	6
④ UH-1B		●			1/15							●										T									●		●			A-5	T
③ UH-1C			●			15			●							●					SW				●					●			●			MCCB-4	6
④ UH-1C		●			1/15							●										T									●		●			A-9	T
③ UH-1D			●			15			●							●					SW				●					●			●			MCCB-5	6
④ UH-1D		●			1/15							●										T									●		●			A-13	T
EF-1	●				1/2	9.8		●										●																		A-24	T
EF-2			●		10	14			●												SW				●		●			●			●			MCCB-3	6
SP-1	●				1/2			●										●																		A-8	T
DEHUM	●				7.5			●										●																		A-10	T
HTR	●				15			●										●																		A-12	T
MD-1	●				2			●										●																		A-18	T
HOIST			●		7.5				●												SW				●					●			●			MCCA-8	6
TROLLEY			●		1/2									●							SW				●					●			●			MCCA-9	6
WELL			●		2	3.4								●							SW				●		●			●			●			MCCA-10	6
CRANE			●		3/4				●												SW				●					●			●			MCCA-7	6

EQUIPMENT CONNECTION SCHEDULE NOTES

SVA

1. ALL CONNECTIONS AND ELECTRICAL EQUIPMENT LISTED IN THIS SCHEDULE SHALL BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR
2. REFER TO THE MECHANICAL DRAWINGS AND SPECIFICATIONS FOR THE REQUIREMENTS ASSOCIATED WITH WIRING AND CONNECTIONS OF INTERLOCKING, THERMOSTAT LOCATIONS, EXHAUST FAN CONTROL SWITCHES AND OTHER CONTROLS OF MECHANICAL EQUIPMENT.
3. HEATING CONNECTION
4. MOTOR CONNECTION

FEEDER SCHEDULE

SVA

FEEDER IDENT.	CONDUCTORS SETS	CONDUCTORS QUANT. PER SET	CONDUCTORS SIZE	GROUND SIZE PER SET	ISOLATED GRD. SIZE PER SET	CONDUIT SIZE PER SET
1	2	3	#500 KCMIL	#1/0	--------	4"
2	6	4	#4/0 (1)	#4/0	--------	--------
3	7	4	#500 KCMIL	--------	--------	4"
4	1	3	#1	#6	--------	1 1/2"
5	1	4	#350	#1/0	--------	3"
6	1	3	#10	#10	--------	3/4"
7	1	2	#12	#10	--------	3/4"
8	7	4	#500 KCMIL (2)	#350	--------	4"
9	1	4	#3 "SO" TYPE CORD (3)	#8	--------	--------
10	1	4	#12 "SO" TYPE CORD (5)	#12	--------	--------
11	1	4	TWISTED PAIR (4)	--------	--------	--------
12	1	4	#3	#8	--------	1 1/4"
13	1	4	TWISTED PAIR	--------	--------	3/4"
14	1	4	#500	#4/0	--------	3 1/2"

1. GENERATOR POWER FEEDER. PROVIDE AND INSTALL "WELDING CABLE" OR "MINING CABLE" WITH 500 AMP, 600 VOLT AC OR GREATER CURRENT AND VOLTAGE RATINGS FOR ALL PHASE, NEUTRAL AND GROUND WIRES. PROVIDE CABLE ENDS AT GENERATOR CONNECTION PANEL WITH COMPRESSION TYPE BOLTED LUGS. PROVIDE CABLE ENDS AT GENERATOR WITH CROUSE HINDS POSH-LOCK, 400 AMP, 600 VOLT CRIMP TYPE MALE CONNECTORS TO MATCH CONNECTION PANELS PROVIDED ON GENERATOR. FEEDER TO BE PROVIDED WITH KELLUM TYPE CORD GRIPS AND STRAIN RELIEF CONNECTORS AT BUILDING CONNECTION POINT. CABLES TO BE MINIMUM 20 FEET IN LENGTH. VERIFY ALL REQUIREMENTS PRIOR TO BID.
2. CONTRACTOR HAS THE OPTION TO UTILIZE 2400 AMP FEEDER DUCT WITH 100% NEUTRAL BUS AND GROUND BUS IN LIEU OF CABLING AND CONDUIT FOR THIS FEEDER.
3. GENERATOR 208 VOLT PANEL FEEDER. PROVIDE CABLE END AT GENERATOR WITH 100 AMP, 240 VOLT, 4 POLE, 5 WIRE GROUNDING TYPE LOAD BREAK FEMALE CONNECTOR TO MATCH MALE CONNECTOR PROVIDED ON GENERATOR. FEEDER TO BE PROVIDED WITH KELLUM TYPE CORD GRIP AND STRAIN RELIEF CONNECTOR AT BUILDING CONNECTION POINT. CABLE TO BE MINIMUM 20 FEET IN LENGTH. VERIFY ALL REQUIREMENTS PRIOR TO BID.
4. COMMUNICATIONS FEEDER. PROVIDE CABLE END AT GENERATOR WITH CONNECTOR TO MATCH CONNECTOR PROVIDED ON GENERATOR. CABLE TO BE MINIMUM 20 FEET IN LENGTH. VERIFY ALL REQUIREMENTS PRIOR TO BID. PROVIDE CABLE AND CONNECTORS PER MANUFACTURERS REQUIREMENTS.
5. E.P.O. AND START FEEDER. PROVIDE CABLE END AT GENERATOR WITH 15 AMP, 240 VOLT, 4 POLE, 5 WIRE GROUNDING TYPE MALE TWISTLOCK CONNECTOR TO MATCH FEMALE TWISTLOCK CONNECTOR PROVIDED ON GENERATOR. FEEDER TO BE PROVIDED WITH KELUM TYPE CORD GRIP AND STRAIN RELIEF CONNECTOR AT BUILDING CONNECTION POINT.CABLE TO BE MINIMUM 20 FEET IN LENGTH. VERIFY ALL REQUIREMENTS PRIOR TO BID.

GSB

SVA (GENERATOR SWITCHBOARD)

2TT/480V/3Ø/4W + GRD.
2400A. MAIN BREAKER
50,000 A.I.C. RATING

CIRC. NO.	SWITCH RATING (AMPS/POLE) 30/3	60/3	100/3	200/3	400/3	600/3	800/3	SHUNT TRIP	LOAD DESCRIPTION	FEEDER IDENT.
1					●			●	RECEPTACLE	14
2					●			●	RECEPTACLE	14
3					●			●	RECEPTACLE	14
4					●			●	RECEPTACLE	14
5					●			●	RECEPTACLE	14
6					●			●	RECEPTACLE	14

(1) SHUNT TRIP FROM GENERATOR POWER FEEDER RECEPTACLE LIMIT SWITCH. 24 VOLT POWERED FROM GENERATOR SET BATTERIES.

ATO

SVA

2TT/480V/3Ø/4W + GRD.
2400A. MAIN BREAKERS
50,000 A.I.C. RATING

CIRC. NO.	SWITCH RATING (AMPS/POLE) 30/3	60/3	100/3	200/3	2400/3 (1)	LOAD DESCRIPTION	FEEDER IDENT.
1				●	●	NORMAL SWITCH	3
2				●	●	EMERGENCY SWITCH	8

(1) MICROPROCESSOR CONTROLLED.

LIGHT FIXTURE SCHEDULE

SVA

FIXT LTR	MANUFACTURER	CATALOG NUMBER	LAMPS NO.	LAMPS TYPE	FIXT. VOLT.	FINISH	MOUNTING	REMARKS
A	WILLIAMS	B175-UL-KEOC432	4	F32T8/TL735	120	WHITE	SURFACE	
B	WILLIAMS	B175-UL-KEOC-232-B50/1	4	F32T8/TL735	120	WHITE	SURFACE	
C	HUBBELL	VX-151-VCG-15	1	100A	120	STANDARD	SURFACE	MOUNT ABOVE CATWALK BELOW

LIGHT FIXTURE SCHEDULE NOTES

SVA

1. GENERAL CONTRACTOR SHALL PROVIDE FIREPROOFING AROUND RECESSED FIXTURES INSTALLED IN FIRE RATED CEILING PER U.L. REQUIREMENTS. ELECTRICAL CONTRACTOR SHALL COORDINATE.
2. SEE SPECIFICATIONS FOR LAMP AND BALLAST TYPE.
3. PROVIDE ARROWS AND FACES AS INDICATED BY THE DRAWINGS.
4. MANUFACTURERS LISTED IN THIS SCHEDULE OR BY WRITTEN ADDENDUM WILL BE THE ONLY APPROVED MANUFACTURERS TO BID THE LIGHTING FIXTURES FOR THIS PROJECT. CONTRACTORS AND SUPPLIERS USING PRICING FROM MANUFACTURERS NOT LISTED ON SCHEDULE OR BY ADDENDUM DO SO AT THEIR OWN RISK.
5. FIXTURES BY THE FOLLOWING MANUFACTURERS EQUAL TO THOSE SPECIFIED AND APPROVED BY THE ENGINEER WILL BE ACCEPTABLE: FIXTURE EQUALS SHALL BE MANUFACTURED THE SAME AS SPECIFIED UNITS, I.E., ENCLOSED SPRING LOADED LATCHES, ALUMINUM DOORS, POST PAINTED FINISH.

   FIXTURES A, B: METALUX, COLUMBIA

BRANCH CIRCUIT PANEL SUMMARY

SVA

PANEL DESIG.	120/208V 3Ø,4W	277/480V 3Ø,4W	MAINS RATING (AMPS) M.L.O.	MAINS RATING (AMPS) BKR.	MOUNTING S	MOUNTING F	BRANCH CIRCUIT BREAKERS (AMPS/POLE) STATUS	20/1	20/3	15/2	100/3	# SPACE	SUPPLY DEVICE RATING (SW/FUSE)	CIRCUIT NUMBER	FEEDER IDENT.
A	●			300	●		ACTIVE	9	2	4	1	13			
							SPARE	6	-	-	-	1	T-1	T-1	5
							ACTIVE								
							SPARE								
							ACTIVE								
							SPARE								

MCCA

SVA

2TT/480V/3Ø/4W + GRD.
2000A. M.L.O.
50% NEUTRAL

CIRC NO.	SWITCH RATING (AMPS/POLE) 30/3	60/3	100/3	100/3	200/3	15/3	STARTER RATING (SIZE/POLE) P.T. LT.	H.O.A.	1/3	2/3	3/3	6/3	H.P.	LOAD DESCRIPTION	FEEDER IDENT.
1			●				●	●					●	3Ø5	P-1	1
2			●				●	●					●	3Ø5	P-2	1
3				●			●	●	●					10	P-5	6
4				●			●	●	●					15A	UH-1A	6
5				●			●	●	●					15A	UH-1B	6
6				●			●	●	●						SPARE	
7				●			●	●	●					3/4	CRANE	6
8				●			●	●	●					7 1/2	HOIST	6
9					●		●	●	●					1/2	TROLLEY	6
10					●		●	●	●					2	WELL	6
11					●		●	●	●					3/4	O.H. DOOR	6
12					●		●	●	●					1/2	O.H. DOOR	6
13					●		●	●	●						SPARE	6
14					●		●	●	●					1/2	O.H. SCREEN	6
15					●		●	●	●					1/2	O.H. SCREEN	6

MCCB

SVA

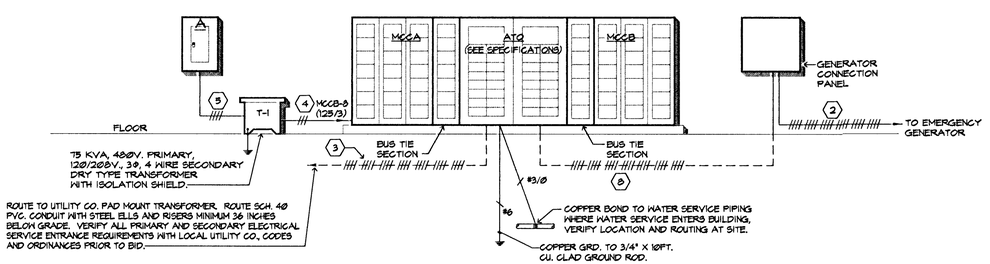
2TT/480V/3Ø/4W + GRD.
2000A. M.L.O.
50% NEUTRAL

CIRC NO.	SWITCH RATING (AMPS/POLE) 30/3	60/3	100/3	100/3	200/3	15/3	125/3	STARTER RATING (SIZE/POLE) P.T. LT.	H.O.A.	1/3	2/3	3/3	6/3	H.P.	LOAD DESCRIPTION	FEEDER IDENT.
1			●					●	●				●	3Ø5	P-3	1
2			●					●	●				●	3Ø5	P-4	1
3				●				●	●					10	EF-2	6
4				●				●	●					15A	UH-1C	6
5				●				●	●					15A	UH-1D	6
6				●				●	●						SPARE	
7				●				●	●						SPARE	
8						●		—	—	—	—	—	—		T-1	4
9				●				●	●						SPARE	
10				●				●	●						SPARE	

ELECTRICAL DISTRIBUTION RISER DIAGRAM

NO SCALE

VOLTAGE: 2TT/480V, 3Ø, 4 WIRE



SYMBOL LIST

SVA

SYMBOL	DESCRIPTION	MOUNTING
(A)	FLUORESCENT FIXTURE & FIXTURE LETTER	CEILING
(A)	FLUORESCENT FIXTURE & FIXTURE LETTER	CEILING
(A) (A)	INCAND. OR H.I.D. FIXTURE & FIXT. LETTER	SURF/RECESSED
(A)	INCAND. OR H.I.D. FIXTURE & FIXT. LETTER	WALLBRACKET
	EXIT FIXT. - SHADING DENOTES FACE(S)	CEIL./WALL
	GFCI DUPLEX GROUNDED RECEPTACLE	1'-3" AFF
	DUPLEX GROUNDED RECEPTACLE	1'-3" AFF
	EXTERIOR GFCI RECEPT. WEATHERPROOF	1'-3" AFF
	SPECIAL OUTLET, SEE SCHEDULE OR AS NOTED	
	TELEPHONE OUTLET (P=PAY, 48"/H= 48")	1'-3" AFF
$ $3 $4 $PSK	SWITCHES (1-POLE,3-WAY,4-WAY,PILOT,KEY)	4'-0" TO TOP
J	JUNCTION BOX	
F	FUSTAT	
	SPECIAL DEVICE AS NOTED ON PLAN	
A	BRANCH CIRCUIT PANEL & PANEL DESIG.	6'-6"TO TOP
30/3/240	H.D. SAFETY SWITCH (AMPS/POLE,VOLTAGE)	6'-6"TO TOP
Ø/3/240	STARTER (SIZE/POLE,VOLTAGE)	6'-6"TO TOP
T	THERMOSTAT (BY M.C.)	4'-0" TO TOP
●	MOTOR	
	CONDUIT RUN 2#12 & 1#12 GRD.-1/2"C.	CEIL./WALL
	CONDUIT RUN 2 CIRCUIT3#12 & 1#12 GRD.-1/2"C.	EARTH/FLOOR
	PARTIAL HOMERUN (MULTIPLE LOAD LOCATIONS)	
#8 3Ø/3	SEE NOTE #7	
1	FEEDER IDENTIFICATION, SEE SCHEDULE	
CT	SEE NOTE #8	
WP	WEATHERPROOF	
EM	ITEM SUPPLIED FROM EMERGENCY SYSTEM	
a,b,c	INDICATES SWITCHING SCHEME	
	DOOR CONTACT FOR INTRUSION ALARM	VERIFY
K	KEYPAD FOR INTRUSION ALARM	5'-0" TO TOP
M	MOTION SENSOR FOR INTRUSION ALARM	VERIFY
H	WEATHERPROOF HORN FOR INTRUSION ALARM	VERIFY

GENERAL NOTES

SVA

1. VERIFY ALL OUTLET LOCATIONS ON THE JOB PRIOR TO ROUGH-IN.
2. REFER TO RELATED ARCHITECTURAL, MECHANICAL, AND STRUCTURAL DRAWINGS FOR RELATED INFORMATION.
3. REFER TO THE SPECIFICATIONS FOR DATA NOT ON THE DRAWINGS.
4. COORDINATE OUTLET BOX LOCATIONS WITH MASONRY TO MINIMIZE CUTTING OF BRICK OR BLOCK.
5. ALL MOUNTING HEIGHTS TO BOTTOM OF ITEM UNLESS OTHERWISE NOTED.
6. E.C. SHALL REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR THE REQUIREMENTS ASSOCIATED WITH WIRING AND CONNECTION OF INTERLOCKING AND CONTROLS OF MECHANICAL UNITS AND THERMOSTAT LOCATIONS.
7. CONDUIT RUN W/CONDUCTORS AS INDICATED, CONDUIT SIZE AS REQUIRED. CONDUIT RUN TO PANEL DRVICE SIZE AS INDICATED (AMP/POLE). CIRCUIT WITHOUT INDICATION IS ROUTED TO 20A./P. BREAKER.
8. A GROUND CONDUCTOR SIZED PER N. E. C. ARTICLE 250 IS REQUIRED IN ALL POWER, RECEPTACLE, AND LIGHTING CIRCUITS. GROUND CONDUCTORS ARE NOT SHOWN ON DRAWINGS.
9. CONTRACTOR SHALL VERIFY ALL EQUIPMENT CONNECTION REQUIREMENTS WITH MANUFACTURER PRIOR TO BID. PROVIDE AND INSTALL ALL EQUIPMENT CONNECTIONS, CONDUIT AND WIRING TO PROVIDE A COMPLETE AND FUNCTIONAL SYSTEM.
10. CONTRACTOR SHALL VERIFY ALL PUMP CONTROL AND SCADA (SITE CONTROL AND DATA AQUISITION) CONNECTION REQUIREMENTS WITH MANUFACTURER PRIOR TO BID. PROVIDE AND INSTALL ALL EQUIPMENT CONNECTIONS, CONDUIT AND WIRING TO PROVIDE A COMPLETE AND FUNCTIONAL SYSTEM.



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WICHITA, KS. 67206
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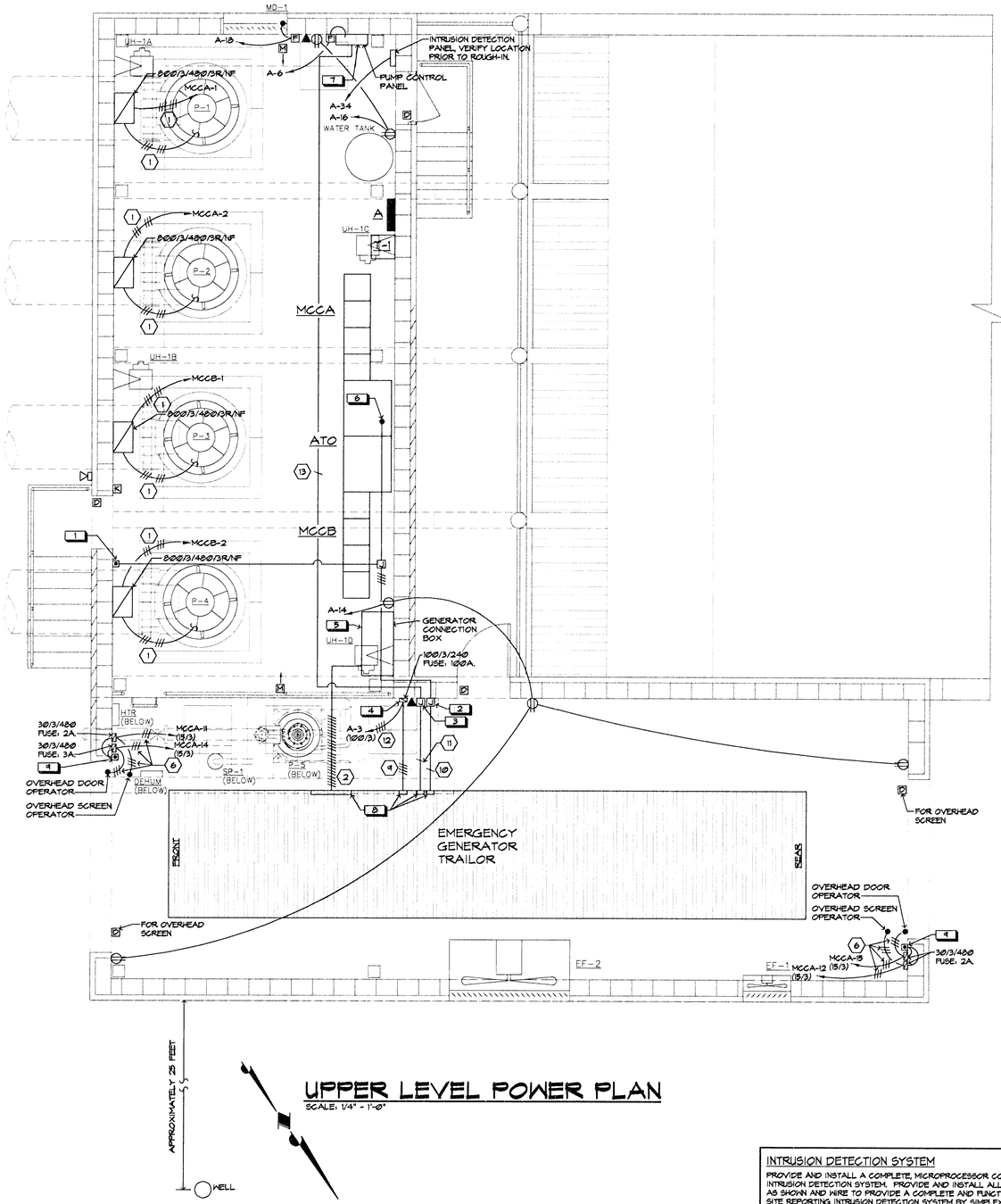
SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME

ELECTRICAL DETAILS AND RISER DIAGRAM
SHEET TITLE

DESIGN BY:	DRAWN BY:	CHECKED BY:
SVA	SVA	SVA
DATE: MARCH, 1996	JOB NO.: 93035	SHEET/OF: 28 / 30

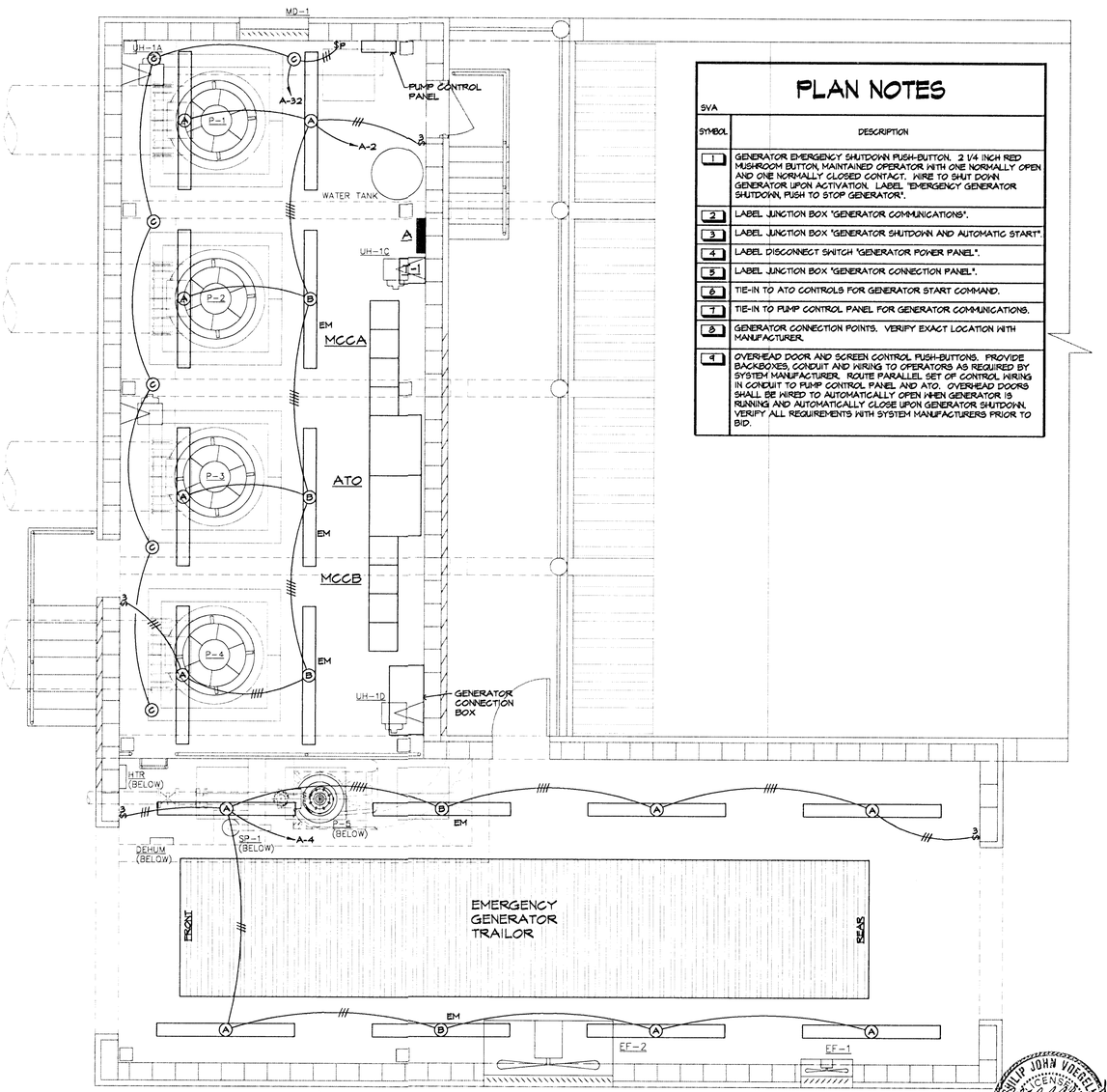
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95057-014



UPPER LEVEL POWER PLAN

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



UPPER LEVEL LIGHTING PLAN

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

PLAN NOTES

SVA

SYMBOL	DESCRIPTION
1	GENERATOR EMERGENCY SHUTDOWN PUSH-BUTTON, 2 1/4 INCH RED MUSHROOM BUTTON, MAINTAINED OPERATOR WITH ONE NORMALLY OPEN AND ONE NORMALLY CLOSED CONTACT. WIRE TO SHUT DOWN GENERATOR UPON ACTIVATION. LABEL "EMERGENCY GENERATOR SHUTDOWN, PUSH TO STOP GENERATOR".
2	LABEL JUNCTION BOX "GENERATOR COMMUNICATIONS".
3	LABEL JUNCTION BOX "GENERATOR SHUTDOWN AND AUTOMATIC START".
4	LABEL DISCONNECT SWITCH "GENERATOR POWER PANEL.".
5	LABEL JUNCTION BOX "GENERATOR CONNECTION PANEL.".
6	TIE-IN TO ATO CONTROLS FOR GENERATOR START COMMAND.
7	TIE-IN TO PUMP CONTROL PANEL FOR GENERATOR COMMUNICATIONS.
8	GENERATOR CONNECTION POINTS. VERIFY EXACT LOCATION WITH MANUFACTURER.
9	OVERHEAD DOOR AND SCREEN CONTROL PUSH-BUTTONS. PROVIDE BACKBOXES, CONDUIT AND WIRING TO OPERATORS AS REQUIRED BY SYSTEM MANUFACTURER. ROUTE PARALLEL SET OF CONTROL WIRING IN CONDUIT TO PUMP CONTROL PANEL AND ATO. OVERHEAD DOORS SHALL BE WIRED TO AUTOMATICALLY OPEN WHEN GENERATOR IS RUNNING AND AUTOMATICALLY CLOSE UPON GENERATOR SHUTDOWN. VERIFY ALL REQUIREMENTS WITH SYSTEM MANUFACTURERS PRIOR TO BID.

INTRUSION DETECTION SYSTEM

PROVIDE AND INSTALL A COMPLETE, MICROPROCESSOR CONTROLLED, INTRUSION DETECTION SYSTEM. PROVIDE AND INSTALL ALL DEVICES AS SHOWN AND WIRE TO PROVIDE A COMPLETE AND FUNCTIONAL OFF-SITE REPORTING INTRUSION DETECTION SYSTEM BY SIMPLEX OR MULTI-MEDIA SECURITY SYSTEMS. OFF-SITE REPORTING SHALL BE VIA TELEPHONE LINES. PROVIDE SYSTEM WITH ONE YEAR MONITORING CONTRACT WITH OPTIONS FOR A MINIMUM OF 5 YEARS DDITIONAL MONITORING AT OWNERS OPTION. ALL WIRING TO BE IN CONDUIT. VERIFY ALL REQUIREMENTS WITH SYSTEM MANUFACTURERS PRIOR TO BID.

NOTES:

1. BRANCH CIRCUITS ARE INDICATED AS ONE CIRCUIT HOME RUNS FOR CLARITY ONLY. CONTRACTOR MAY GROUP SINGLE POLE BRANCH CIRCUITS IN MULTIPLE CIRCUIT HOME RUNS. (3 CIRCUIT MAXIMUM). A GROUND CONDUCTOR SIZED PER N.E.C. ARTICLE 250 IS REQUIRED IN ALL POWER, RECEPTACLE, AND LIGHTING CIRCUITS.
2. FOR ELECTRICAL CONNECTIONS TO ITEMS SUPPLIED BY OTHER CONTRACTORS, SEE EQUIPMENT CONNECTION SCHEDULE.

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SOUTH SENECA DRAINAGE IMPROVEMENTS
DRAINAGE OUTFALL PUMP STATION
PROJECT NAME

ELECTRICAL
UPPER LEVEL PLANS
SHEET TITLE

SVA	SVA	SVA
DESIGN BY:	DRAWN BY:	CHECKED BY:
MARCH, 1996	93035	29 / 30
DATE	JOB NO.	SHEET/OF

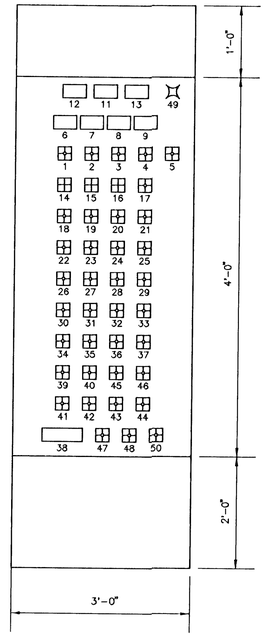
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SOUTH SENECA PUMP STATION CONTROL PANEL

PUMP CONTROL PANEL			
PANEL DESIGNATION			
ITEM NO.	DESCRIPTION	SERVICE SWITCHES	INDICATING LAMPS
1	Pump #1 On-Off-Auto	Indication and Control	G-R-W
2	Pump #2 On-Off-Auto	Indication and Control	G-R-W
3	Pump #3 On-Off-Auto	Indication and Control	G-R-W
4	Pump #4 On-Off-Auto	Indication and Control	G-R-W
**5	Dewatering Pump On-Off-Auto-Alarm	Indication and Control	G-R-W-A
*6	Pump #1 Water Level	Indication and Control	N/A
*7	Pump #2 Water Level	Indication and Control	N/A
*8	Pump #3 Water Level	Indication and Control	N/A
*9	Pump #4 Water Level	Indication and Control	N/A
10	Number Not Used		
*11	Bar Rack Upstream Water Level	Indication and Control	N/A
*12	Upstream Channel Water Level - High Level Alarm	Indication and Control	N/A
*13	Floodway Water Level - High Level Alarm	Indication and Control	N/A
14	Pump #1 Low Level Alarm	Indication and Control	A
15	Pump #2 Low Level Alarm	Indication and Control	A
16	Pump #3 Low Level Alarm	Indication and Control	A
17	Pump #4 Low Level Alarm	Indication and Control	A
18	Pump #1 Bar Rack Plugged Alarm	Indication and Control	A
19	Pump #2 Bar Rack Plugged Alarm	Indication and Control	A
20	Pump #3 Bar Rack Plugged Alarm	Indication and Control	A
21	Pump #4 Bar Rack Plugged Alarm	Indication and Control	A
22	Pump #1 Junction Box Water Intrusion Alarm	Indication and Control	A
23	Pump #2 Junction Box Water Intrusion Alarm	Indication and Control	A
24	Pump #3 Junction Box Water Intrusion Alarm	Indication and Control	A
25	Pump #4 Junction Box Water Intrusion Alarm	Indication and Control	A
26	Pump #1 Stator Housing Water Intrusion Alarm	Indication and Control	A
27	Pump #2 Stator Housing Water Intrusion Alarm	Indication and Control	A
28	Pump #3 Stator Housing Water Intrusion Alarm	Indication and Control	A
29	Pump #4 Stator Housing Water Intrusion Alarm	Indication and Control	A
30	Pump #1 Stator Overtemperature Alarm	Indication and Control	A
31	Pump #2 Stator Overtemperature Alarm	Indication and Control	A
32	Pump #3 Stator Overtemperature Alarm	Indication and Control	A
33	Pump #4 Stator Overtemperature Alarm	Indication and Control	A
34	Pump #1 Lower Thrust Bearing Temperature Monitor/Alarm	Indication and Control	A
35	Pump #2 Lower Thrust Bearing Temperature Monitor/Alarm	Indication and Control	A
36	Pump #3 Lower Thrust Bearing Temperature Monitor/Alarm	Indication and Control	A
37	Pump #4 Lower Thrust Bearing Temperature Monitor/Alarm	Indication and Control	A
38	Microprocessor - based Controller/Transceiver (MCT)	Control	N/A
39	Generator Remote Local Switch On-Off	Indication and Control	G-R
40	Generator Alarm	Indication	A
41	Large Coiling Door Open-Closed	Indication and Control	G-R
42	Large Coiling Grille Open-Closed	Indication and Control	G-R
43	Small Coiling Door Open-Closed	Indication and Control	G-R
44	Small Coiling Grille Open-Closed	Indication and Control	G-R
45	Power Failure Alarm	Indication and Control	A
46	Well On-Off-Auto-Alarm	Indication and Control	G-R-W-A
47	Entry Alarm	Indication	A
48	Control Panel Low Battery Voltage Alarm	Indication	A
49	Horn	Audio	N/A
50	Silence Switch Alarm - Normal - Silence	Indication and Control	A-W

* Level Transducer
** Float Switches



PUMP CONTROL PANEL
INSTRUMENTATION LAYOUT

NO SCALE

NOTES:
1. CONTROL & STATUS UNITS PROVIDED BY ITT FLYGT TO BE INSTALLED IN CONTROL PANEL. THE PANEL CONTROLS AND INSTRUMENTS SUPPLIER WILL BE REQUIRED TO INCORPORATE THESE UNITS INTO THE CONTROLS.

2. SWITCH LOCATIONS AS SHOWN ARE APPROXIMATE ONLY. CONTROLS SUPPLIER MAY ARRANGE SWITCHES AS REQ'D. TO FIT HIS CONTROL AND INSTRUMENTATION LAYOUT.

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14-9-4-3

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