GAL-35-6.79 GALLIA COUNTY SAFETY REST AREA	OHIO	1 86
	FHWA REGION 5	
	FEDERAL PROJECT	

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

GAL-35-6.79

SAFETY REST AREA

SPRINGFIELD TOWNSHIP

CONVENTIONAL SIGNS :

LIMITED ACCESS & RIGHT OF WAY	(EXISTING)	LA & R/W — LA & R/W
LIMITED ACCESS & RIGHT OF WAY	(PROPOSED)	LA & R/W — LA & R/W
LIMITED ACCESS (ONLY)	(EXISTING)	LA — LA
LIMITED ACCESS (ONLY)	(PROPOSED)	LA — LA
RIGHT OF WAY	(EXISTING)	R/W — (PROPOSED) — R/W
EXISTING RIGHT OF WAY		
PROPERTY LINE		℄ — (IN EXISTING FENCE) — X — ℄ — X
GUARDRAIL	(EXISTING)	(PROPOSED)
FENCE	(EXISTING)	(PROPOSED)
CENTERLINE		
CORPORATION LIMIT		
UTILITY POLES:	TELEPHONE	POWER — LIGHT

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*STANDARD SHEETS 59, 60, 61 AND 65 NOT APPLICABLE TO THIS PROJECT

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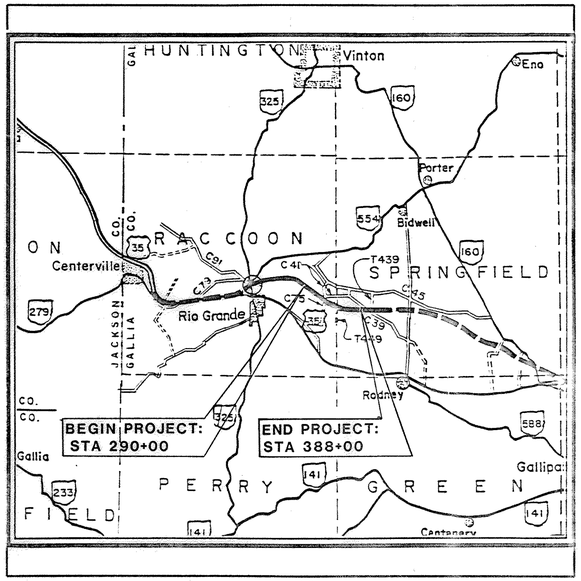
MAY 16 1994



LOCATION MAP :

SCALE IN MILES 0 1 2 3 4 5 6

STATE AND FEDERAL ROUTES

OTHER ROADS

LINE DATA :

NET LENGTH OF PROJECT= 0.00
BEGIN WORK = STATION 290+00
END WORK = STATION 388+00
TOTAL LENGTH OF WORK = 9800 LIN. FT.
OR 1.856 MILES

PLAN PREPARED BY :

OHIO DEPT. OF TRANSPORTATION
BUREAU OF DESIGN SERVICES
ROADSIDE DEVELOPMENT SECTION
COLUMBUS, OHIO

[signature] 11/20/90
REGISTERED ENGINEER, DATE

SEAL

Project : GAL-35-6.79
Date of Letting _____, 19__ Contract No. _____

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS			
√ BP-7	10-01-87		
√ BP-12	10-01-87		
√ HW-D	6-01-65		
√ MH-1	12-18-84		
√ MC-4	7-26-76		
√ MH-3	12-18-84		
√ MH-2	6-12-75		
√ LA-1	6-01-79		
√ LA-2	6-01-79		

SUPPLEMENTAL SPECIFICATIONS	
SPECIAL SPECIFICATIONS FOR REST AREA 8-1-90	

UNDERGROUND UTILITIES

2 WORKING DAYS
BEFORE YOU DIG
CALL 800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE

NON-MEMBERS
MUST BE CALLED DIRECTLY

LIMITED ACCESS

This improvement is especially designed for through traffic and has been declared a limited access highway or freeway by action of the Director in accordance with the provisions of Section 5511.02 of the revised code of Ohio.

1989 SPECIFICATIONS :

The standard specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvement.

I hereby approve these plans and declare that the making of this improvement will not require the closing of the highway except for the affected Rest Area, and that provisions for maintenance and safety of traffic will be set forth in these plans and estimate.

APPROVED Joseph L. Leach, P.E.
DATE 11-15-90 DISTRICT DEPUTY DIRECTOR OF TRANSPORTATION

APPROVED _____
DATE _____ ENGINEER, BUREAU OF DESIGN SERVICES

APPROVED Kenneth M. Miller
DATE 11/30/91 CHIEF ENGINEER, PLANNING AND DESIGN

APPROVED Jerry Wray
DATE 11/30/91 DIRECTOR, DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

PROJECT GENERAL DESCRIPTION
THE DEVELOPMENT OF A MODERN REST AREA FACILITY IN GALLIA COUNTY (GAL-35-6.79) SHALL INCLUDE MOTORIST SERVICES BUILDING WITH TWO LIFT STATIONS (MSB), A 10,000 GALLON WASTEWATER TREATMENT PLANT, SANITARY SEWER, UTILITIES (240 VOLT ELECTRICAL SERVICE FOR THE BUILDING, TELEPHONE, WATER SUPPLY SYSTEM, SIDEWALKS, SERVICE DRIVES, PICNIC TABLES, CHARCOAL GRILLS, SHELTER HOUSE AND LANDSCAPING.

ITEM 619 - FIELD OFFICE
THE GENERAL CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 400 SQUARE FEET OF FLOOR SPACE. PAYMENT SHALL BE AT THE LUMP SUM PRICE BID FOR ITEM 619 FIELD OFFICE.

BENCH MARK AND BASE LINE
A BENCH MARK AND BASE LINE WILL BE ESTABLISHED BY ODOT PERSONNEL.

MISCELLANEOUS
FOR ADDITIONAL NOTES, PAY ITEMS AND DESCRIPTIONS, SEE VARIOUS SPECIALTY ITEM SHEETS THROUGH THE PLANS.

UNDERGROUND UTILITIES
THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.04 ORC.

UTILITY OWNERS
1. POWER
BUCKEYE RURAL ELECTRIC COOPERATIVE INC.
143 THIRD AVENUE
GALLIPOLIS, OHIO 45631
2. TELEPHONE
THE OHIO BELL TELEPHONE COMPANY
150 EAST GAY STREET ROOM #6C
COLUMBUS, OHIO 43215
3. WATER
GALLIA COUNTY RURAL WATER ASSOCIATION
ROUTE #1, BOX 184
GALLIPOLIS, OHIO 45631
4. SEWER

ITEM 625 - POWER SERVICE, AS PER PLAN
THE ELECTRICAL CONTRACTOR SHALL CONTACT THE POWER COMPANY AND ARRANGE FOR THEM TO PROVIDE AND INSTALL THE SERVICE POLE, PRIMARY ELECTRIC CABLES, TRANSFORMER AND METERING EQUIPMENT AT THE LOCATIONS SHOWN IN THE PLANS AND MAKE CONNECTIONS AT THE SERVICE POLE, TRANSFORMER AND METERING EQUIPMENT TO ESTABLISH THE PERMANENT ELECTRICAL POWER SERVICE FOR THE EXCLUSIVE USE OF THE STATE'S FACILITIES BEING CONSTRUCTED BY THIS CONTRACT.

THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR COMPENSATING THE POWER COMPANY FOR THE ESTABLISHMENT OF THE SERVICE AND FOR ANY ENERGY USED BETWEEN THE ESTABLISHMENT OF THE SERVICE AND FINAL ACCEPTANCE BY THE STATE.

PAYMENT SHALL BE MADE PER EACH ITEM 625 "POWER SERVICE, AS PER PLAN", OR EACH REST AREA IN WHICH POWER SERVICE IS PROVIDED.

ITEM SPECIAL - TELEPHONE SERVICE
THE ELECTRICAL CONTRACTOR SHALL CONTACT THE TELEPHONE COMPANY AND ARRANGE FOR THE INSTALLATION OF TELEPHONE SERVICE AND TELEPHONE EQUIPMENT AT THE LOCATIONS SHOWN IN THE PLANS.

AT LEAST ONE OF THE TWO PUBLIC TELEPHONE STATIONS IN THE MOTORIST SERVICES BUILDING SHALL BE ARRANGED FOR ACCESS BY HANDICAPPED PERSONS AND SHALL BE EQUIPPED TO ALLOW ACCESS TO THE TELEPHONE COMPANY OPERATOR WITHOUT DEPOSITING ANY FORM OF PAYMENT.

THE TELEPHONE IN THE STORAGE UNIT SHALL BE EQUIPPED TO RECEIVE INCOMING CALLS AND NOT ALLOW OUTGOING CALLS TO BE CHARGED TO THE STORAGE UNIT PHONE, BUT ALLOW THE STORAGE UNIT PHONE TO BE USED TO CONTACT THE OPERATOR AT NO CHARGE, OR TO PAY FOR DIRECT-DIALED OUTGOING CALLS AT THE TIME THE CALL IS PLACED.

THE CONTRACTOR SHALL COMPENSATE THE TELEPHONE COMPANY AS REQUIRED. EQUIPMENT PROVIDED BY THE TELEPHONE COMPANY SHALL REMAIN THE PROPERTY OF THE TELEPHONE COMPANY.

PAYMENT SHALL BE MADE PER EACH ITEM SPECIAL - "TELEPHONE SERVICE" FOR EACH REST AREA FOR WHICH TELEPHONE SERVICE IS ARRANGED AND INSTALLED.

ITEM 625 - HIGH VOLTAGE TEST
A HIGH VOLTAGE TEST, AS DESCRIBED IN ITEM 625.72 SHALL BE PERFORMED ON ALL ROADWAY AND PICNIC AREA LIGHTING CIRCUITS.

UNDERDRAINS FOR PULL BOXES
REFERENCE IS MADE TO STANDARD CONSTRUCTION DRAWING HL - 10 FOR DETAILS OF DRAINING PULL BOXES. UNDERDRAINS FOR PULL BOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHERE THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED APPROXIMATELY 20 FEET. AN ESTIMATED QUANTITY OF "80 LINEAR FEET OF ITEM 603, - 4" CONDUIT TYPE E" IS INCLUDED IN THE LIGHTING GENERAL SUMMARY FOR THIS PURPOSE.

ESTIMATED QUANTITIES AND BID ITEMS
THE ESTIMATED QUANTITIES OF THE VARIOUS SPECIFIC AND SPECIAL ITEMS LISTED THROUGHOUT THESE PLANS ARE APPROXIMATE. THESE QUANTITIES ARE SUBSEQUENTLY INCLUDED IN THE FOUR (4) BID ITEMS LISTED ON THE GENERAL SUMMARY SHEET AND IN OTHER CONTRACT DOCUMENTS.

APPROVED EQUAL MANUFACTURERS OR COMPANIES
IT IS INTENDED, THAT IN THOSE LOCATIONS THROUGHOUT THE PLANS AND SPECIAL SPECIFICATIONS WHERE MANUFACTURING COMPANIES OR SOURCES OF MATERIALS ARE LISTED, THE CONTRACTORS MAY UTILIZE OTHER MANUFACTURING COMPANIES OR SOURCES OF MATERIALS PROVIDED THE INTENT OF THE PLANS AND SPECIAL SPECIFICATIONS ARE FOLLOWED. THE ACCEPTANCE OF THE CONTRACTORS PROPOSED ALTERNATIVES WILL BE DETERMINED BY THE SUBMISSION AND APPROVAL OF THE CONTRACTORS SHOP DRAWINGS OR MATERIAL SELECTIONS.

GENERAL NOTES

ITEM SPECIAL - 8' WOOD BENCH

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING WOOD BENCHES AS SHOWN ON THE PLANS.

BENCHES SHALL BE CONSTRUCTED OF CLEAR-OF-HEART CENTER, KILN DRIED CYPRESS, DOUGLAS FIR OR PURPLE HEART. SEAT PLANKS SHALL BE SURFACE MOUNTED WITH GALVANIZED, VANDAL PROOF FASTENERS AS PER MANUFACTURERS RECOMMENDATIONS AND APPROVAL OF THE ENGINEER. THE BENCHES SHALL BE SECURELY ATTACHED TO THE PAVEMENT WITH GALVANIZED VANDAL PROOF FASTENERS IN THE LOCATIONS SHOWN IN THE PLANS. APPROXIMATE LENGTH OF THE BENCHES WILL BE DETAILED IN THE PLANS.

BENCHES SHALL BE AS MANUFACTURED BY THE FOLLOWING COMPANIES OR APPROVED EQUAL:

SITE CRAFT	CRESENT STYLE BKB
MACOTTA	MBBC - CONTOUR 220-72 220-96
VICTOR STANLEY	UNISLAT *614
TIMBERFORM	*2140-6P *2140-8P

THE COST OF ALL OF THE ABOVE SHALL BE INCLUDED IN THE PRICE BID FOR EACH ITEM SPECIAL - "8' WOOD BENCH".

ITEM SPECIAL - CONCRETE SLABS

DETAIL PLACEMENT OF SHELTER HOUSE, PICNIC TABLES AND SLABS, WASTE RECEPTABLE SLABS AND SLEEVES, CHARCOAL GRILLS AND SERVING TABLES (WITH SLABS) SHALL BE AS DIRECTED BY THE ENGINEER IN CONSULTATION WITH THE DISTRICT LANDSCAPE ARCHITECT OR HORTICULTURALIST. COST FOR EACH ITEM AND SLAB SHALL BE INCLUDED IN EACH ITEM SPECIAL AS DESCRIBED AND DETAILED ON THE FOLLOWING SHEETS:

ITEM 452 - 7" PLAIN CONCRETE PAVEMENT, AS PER PLAN

SUBGRADE UNDER SERVICE DRIVES AND CURB RAMPS SHALL BE COMPACTED TO A DEPTH OF SIX INCHES (6") AS DESCRIBED IN 203.13. JOINTS SHALL BE PLACED AT MAXIMUM TEN FOOT (10') INTERVALS AND CONSTRUCTED IN ACCORDANCE WITH STANDARD DRAWING BP-6. THE COST OF JOINTS, GRADING, EXCAVATION AND COMPACTION SHALL BE INCLUDED IN ITEM 452 - "7" PLAIN CONCRETE PAVEMENT, AS PER PLAN".

ITEM SPECIAL - FOLDING LEG TABLE

THE GENERAL CONTRACTOR SHALL FURNISH ONE (1) FOLDING LEG TABLE PER MOTORIST SERVICES BUILDING IN ROOM 105, UTILITY ROOM. TABLE SHALL BE 36" X 36" X 29" WITH LAMINATED TOP, VINYL EDGE, AND TAN OR CHROME FINISHED BASE W/FOLDING LEGS AS MANUFACTURED BY KRUEGAR, PINNACLE SERIES NO. K3-3 WITH TOP COLOR 917 TIDAL SAND; GENERAL FIREPROOFING, 500 SERIES T3636SP TOP TABLE IN COLOR R2Q SMOKE WITH BASE W8-19B OR APPROVED EQUAL.

PAYMENT SHALL BE AT THE UNIT PRICE BID PER EACH ITEM SPECIAL - FOLDING LEG TABLE.

ITEM SPECIAL - STACKING CHAIR

THE GENERAL CONTRACTOR SHALL PROVIDE THREE (3) STACKING CHAIRS PER MOTORIST SERVICES BUILDING IN ROOM 105, UTILITY ROOM. CHAIRS SHALL HAVE A POLYPROPOLENE BACK AND SEAT WITH CHROME FINISHED STEEL ROD FRAME AS MANUMANUFACTURED BY KRUEGAR, MODEL NO. MX/BNN-CH/P IN COLOR PL/YG3 TAN VALUE 3; STEELCASE MODEL NO. 472-410 IN COLOR BROWN VALUE 2 OR APPROVED EQUAL.

PAYMENT SHALL BE AT THE UNIT PRICE BID PER EACH ITEM SPECIAL - STACKING CHAIR.

TREE PROTECTION

NO WORK WILL BE PERMITTED WHERE TREES, SHRUBS OR UTILITIES ARE PRESENT WITHIN THE WORK LIMITS OF THE REST AREA PROJECT PRIOR TO STAKING BY THE GENERAL CONTRACTOR OR THE LIMITS OF ALL REST AREA BUILDINGS, SERVICE DRIVES, SIDEWALKS, GRADING WORK AND EXISTING AND PROPOSED UTILITY LINES.

THE METHOD FOR MARKING TREES AND SHRUBS TO BE SALVAGED, PROTECTED OR REMOVED WILL BE ESTABLISHED BY THE ENGINEER, DISTRICT LANDSCAPE ARCHITECT OR HORTICULTURALIST AND THE GENERAL CONTRACTOR PRIOR TO WORK AROUND ANY EXISTING TREES, SHRUBS AND UTILITY LINES.

TREE AND ROOT SYSTEM PROTECTION USING SNOW FENCE SHALL BE PROVIDED BY THE GENERAL CONTRACTOR AS INDICATED ON THE PLAN AND AS DIRECTED BY THE ENGINEER. TREE ROOT AREAS EQUAL TO 24" OUTSIDE THE BRANCH SPREAD SHALL BE PROTECTED AS PER STANDARD DRAWING LA-1.

ONLY PNEUMATIC TIRED EQUIPMENT SHALL BE USED WITHIN THE REST AREAS OUTSIDE THE PARKING LOTS. CARE SHALL BE TAKEN BY THE VARIOUS CONTRACTORS NOT TO OPERATE EQUIPMENT OR OTHER VEHICLES WHEN THE GROUND IS WET OR SOFT IN ORDER TO AVOID DEEP RUTTING, SOIL COMPACTION AND OTHER DESTRUCTION OF TREE ROOT SYSTEMS.

TREES TO BE SALVAGED THAT ARE DAMAGED AT ANY TIME DURING THE CONTRACT SHALL BE REPAIRED OR REPLACED (AT THE CONTRACTOR'S EXPENSE) AS DETERMINED BY THE ENGINEER AFTER CONSULTATION WITH THE DISTRICT LANDSCAPE ARCHITECT OR HORTICULTURALIST. DAMAGED TREES THAT CAN BE REPAIRED SHALL BE PRUNED AND THE DAMAGE REPAIRED WITH PAINT OR WOUND DRESSING AS PER 663.14. REPLACEMENT SHALL BE, IN QUANTITY AND QUALITY, SUFFICIENT TO COMPENSATE FOR SIZES OR TREES LOST. THE WORK SHALL BE COMPLETED AS PER 665 WITH TREES OF THE SIZE AND VARIETY, AS DIRECTED BY THE ENGINEER IN CONSULTATION WITH THE DISTRICT LANDSCAPE ARCHITECT OR HORTICULTURALIST.

SEWERLINE LEAKAGE TEST

THE CONTRACTOR SHALL PERFORM A LEAKAGE TEST BY THE LOW PRESSURE AIR TEST METHOD, OR WHEN REQUIRED, BY THE INFILTRATION/EXFILTRATION METHOD AS DESCRIBED BELOW:

1. LOW PRESSURE AIR TEST SHALL BE CONDUCTED BETWEEN TWO CONSECUTIVE MANHOLES FOR THE ENTIRE LENGTH OF THE COMPLETED SEWERLINE. ALL PIPE OUTLETS MUST BE PLUGGED IN THE SECTION BEING TESTED WITH SUITABLE TEST PLUGS. ONE OF THE PLUGS USED AT A MANHOLE MUST BE TAPPED AND EQUIPPED FOR AN AIR COMPRESSOR. AIR SHALL BE SUPPLIED SLOWLY TO THE TEST SECTION UNTIL THE INTERNAL PRESSURE REACHES APPROXIMATELY FOUR (4) P.S.I.. AT LEAST TWO MINUTES SHALL BE ALLOWED FOR THE AIR PRESSURE TO STABILIZE. WHEN THE PRESSURE HAS STABILIZED AND IS AT OR ABOVE 3.5 P.S.I. THE AIR SUPPLY SHALL BE DISCONNECTED AND TIMING SHALL BEGIN WITH A STOP WATCH. THE STOP WATCH SHALL BE ALLOWED TO RUN UNTIL THE PRESSURE HAS DROPPED 1.0 P.S.I.. IF THE TIME SHOWN ON THE STOP WATCH IS GREATER THAN THE SPECIFIED MINIMUM TIME AS SHOWN ON THE CHART BELOW, THE SECTION SHALL BE CONSIDERED TO HAVE PASSED THE TEST.

PIPE DIAMETER IN INCHES	MINUTES
04	2.0
06	3.0
08	4.0
10	5.0
12	5.5
15	7.5
18	8.5
21	10.0
24	11.5

IF A SEWERLINE IS BELOW EXISTING GROUNDWATER LEVEL, THE INTERNAL PRESSURE SHALL BE INCREASED BY THE AVERAGE BACK PRESSURE OF ANY GROUNDWATER THAT MAY BE OVER THE PIPE. THE AIR PRESSURE SHALL BE INCREASED .433 P.S.I. FOR EACH FOOT THE GROUNDWATER LEVEL IS ABOVE THE INVERT OF THE PIPE. THE INTERNAL AIR PRESSURES SHOULD NEVER EXCEED 5.0 P.S.I..

IF THE PREVAILING GROUNDWATER IS MORE THAN TWO FEET ABOVE THE INVERT OF THE SEWERLINE, THE INFILTRATION/EXFILTRATION TEST SHOULD BE USED.

2. INFILTRATION AND EXFILTRATION TEST. IF THE SEWERLINE REQUIRES TESTING FOR LEAKAGE BY THE INFILTRATION/EXFILTRATION TEST METHOD, THE MAXIMUM ALLOWABLE LEAKAGE SHALL BE 200 GAL./INCH OF DIAMETER OF PIPE/MILE/DAY AND THE TESTS SHALL BE CONDUCTED IN ACCORDANCE WITH ASTM-C969-82.

PAYMENT FOR TESTING OF THE SEWERLINE SHALL BE INCLUDED IN THE COST OF INSTALLATION OF THE SEWERLINE.

GENERAL NOTES

ITEM SPECIAL - COMPLETE COLD WATER SERVICE

THIS ITEM SHALL CONSIST OF ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT, EXECUTING ALL EXCAVATION, BACKFILLING AND REMOVAL OF ALL WATER FROM ALL EXCAVATIONS NECESSARY TO CONSTRUCT THE COMPLETE WATER SYSTEM AS DETAILED IN THE PLANS.

THE WATER SYSTEM WILL CONSIST OF METER PIT (AS DETAILED ON SHEET 85), A 4" M.J. DUR-IRON WATER MAIN TO EACH FIRE HYDRANT (USING THE EXISTING 4" WATER MAIN CROSS UNDER U.S.35. SEE SHEET 22 .) AND BOTH 2" TYPE K COPPER BRANCH FEEDS TO EACH MOTORIST SERVICES BUILDING AND THE WASTEWATER TREATMENT PLANT HOSE BIBS.

THE FIRE HYDRANTS SHALL BE OF TRAFFIC TYPE WITH DRY TOP MEETING AWWA SPECIFICATIONS. HYDRANTS SHALL HAVE TWO 2 1/2" DISCHARGE NOZZLES WITH NATIONAL STANDARD THREAD (N.S.T.) AND ONE 4 1/2" PUMPER NOZZLE WITH N.S.T. HYDRANTS SHALL MEET REQUIREMENTS OF 300 P.S.I. SHOP TEST. HYDRANTS SHALL BE PAINTED WITH TWO COATS OF DUPONT GREEN ENAMEL OR APPROVED EQUAL AND SHALL HAVE A 6" MECHANICAL JOINTS SHOE INLET. HYDRANTS SHALL BE A KENNEDY MODEL K-81 OR APPROVED EQUAL. DEPTH OF BURY SHALL BE 4'-6" WITH 5 1/2-INCH I.D. BARREL. HYDRANT SHALL BE FURNISHED WITH ONE 1 1/2" POINT TO FLAT P662 SPANNER. PRECEEDING THE HYDRANT WILL BE A 4" MECHANICAL JOINT TO 6" PLAIN END ADAPTER AND 4" A.W.W.A. GATE VALVE WITH CAST IRON ADJUSTABLE EXTENSION VALVE BOX TO PROVIDE ACCESS TO THE VALVE NUT AND TEE-HANDLE KEY PROVIDED TO FIT VALVE NUT, 6'-0" LONG.

THE HOSE BIB SHALL BE A 3/4" FROST PROOF HYDRANT AS LOCATED IN THE PLANS (NEAR THE WASTEWATER TREATMENT PLANT AND LIFT STATION). THE HYDRANTS SHALL BE A "MURDOCK" EPA APPROVED HYDRANT, MODEL ESH-75, OR APPROVED EQUAL, SUBJECT TO THE ENGINEERS APPROVAL. INSTALLATION SHALL MEET STATE HEALTH DEPARTMENT AND EPA CODE REQUIREMENTS. THE 3/4" HOSE THREAD CONNECTION SHALL BE FURNISHED WITH A WATTS CAT. NO. 8, OR APPROVED EQUAL, BACKFLOW PREVENTER.

PAYMENT FOR ALL THE ABOVE SHALL BE INCLUDED IN THE LUMP PRICE BID FOR ITEM SPECIAL - COMPLETE COLD WATER SERVICE.

ITEM SPECIAL - 4" PVC SANITARY FORCED MAIN 'B'

THE CONTRACTOR SHALL FURNISH AND INSTALL, COMPLETE AND ACCEPTABLE, TO ESTABLISHED GRADES AND ALIGNMENT AS SPECIFIED HEREIN AND SHOWN IN THE PLANS, A 4 INCH PVC SANITARY FORCED MAIN 'B' WITH MECHANICAL JOINT-COMPACT DUCTILE IRON-CLASS 350 FITTINGS, PERFORMING ALL EXCAVATION AND BACKFILL AS PER CMS 603, AND SHALL INCLUDE SIXTY-FOUR (64) CLEAN-OUT ASSEMBLIES AND FOURTEEN (14) SEWAGE AIR-RELEASE VALVE ASSEMBLIES, TESTING, AND CONCRETE THRUST BLOCKS AS DETAILED IN THE PLANS AND AS SPECIFIED OR REQUIRED. THE 4"PVC PIPE SHALL CONFORM TO JOHN-MANVILLE POLYVINYL CHLORIDE (PVC) "BLUE BRUTE", BELL AND SPIGOT CLASS 200 (DR-14) PRESSURE PIPE WITH RING-TITE LOCKED-IN JOINTS (LOCKED IN RUBBER SEALING RING GASKETS) AND SHALL CONFORM TO CAST IRON O.D.'S; AND SHALL MEET AWWA C900 UNDERWRITERS LABORATORY LISTED, FACTORY MUTUAL AND NSF APPROVED, AND SHALL BE FURNISHED IN STANDARD TWENTY FOOT (20'0") LAYING LENGTHS. THE FITTINGS FOR THE 4 INCH PVC SANITARY FORCED MAIN 'B' SHALL BE MECHANICAL JOINT-COMPACT-DUCTILE IRON-CLASS 350 FITTINGS AND SHALL BE IN ACCORDANCE WITH ANSI/AWWA C110/A21.10 AND ANSI/AWWA C111/A21.11 STANDARDS WITH THE EXCEPTION OF DIMENSIONS AND THICKNESS AS SPECIFIED BY THE MANUFACTURER. WORKING PRESSURE SHALL BE A MINIMUM OF 350 PSI. FITTING SHALL HAVE A NOMINAL WALL THICKNESS OF CLASS 54 DUCTILE IRON PIPE. CEMENT LINING AND SEAL COATING SHALL BE IN ACCORDANCE WITH ANSI/AWWA C104/A 21.4. FITTINGS SHALL BE FURNISHED COMPLETE WITH MECHANICAL JOINT GLANDS RUBBER GASKETS, BOLTS AND NUTS PER STANDARDIZED A21.11 MECHANICAL JOINT ACCESSORIES, FITTINGS CONFORMING TO UNION FOUNDRY COMPANY, DIVISION OF MCWANE, INC P.O. BOX 309, ANNISTON ALABAMA 36202, PHONE NO. (205) 236-7601 SHALL BE FURNISHED FOR THE 4-INCH PVC FORCED MAIN 'B' AND CLEAN-OUT ASSEMBLIES. APPROVED EQUAL MANUFACTURERS PVC PRESSURE PIPE AND MECHANICAL JOINT FITTINGS CONFORMING TO THE ABOVE SPECIFIED REQUIREMENT MAY BE SUBMITTED AND SHALL BE SUBJECT TO ENGINEERS APPROVAL. PROPER SUBMITTALS OF A WRITTEN WARRANTY BY JOHN MANSVILLE SALES CORPORATION OR APPROVED EQUAL MANUFACTURER SHALL BE SUBMITTED, STATING THAT THEIR PRODUCTS ARE MANUFACTURED IN ACCORDANCE WITH THEIR APPLICABLE MATERIAL SPECIFICATIONS AND ARE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIALS, USING THEIR SPECIFICATIONS AS A STANDARD. THE 4-INCH PVC SEWAGE FORCED MAIN 'B' SHALL CONFORM TO JOHN-MANVILLES INSTALLATION GUIDE IN REGARD TO RECEIVING AND HANDLING PIPE SHIPMENTS, STORAGE, EXCAVATION OF TRENCHES, BACKFILLING, LAYING OF PIPE, ETC., UNLESS NOTED OTHERWISE IN THE PLANS OR SPECIFICATIONS. THE COMPLETE 4-INCH PVC SANITARY FORCED MAIN 'B' SHALL BE TESTED AS DESCRIBED IN THE SEWER LINE LEAKAGE TEST NOTE.

METHOD OF MEASUREMENT

THE COMPLETE AND ACCEPTED "ITEM SPECIAL" 4-INCH PVC SEWAGE FORCED MAIN 'B', INCLUDING MECHANICAL JOINT FITTINGS, CLEAN-OUT, AND SEWAGE AIR-RELEASE VALVE ASSEMBLIES, EXCAVATION AND BACKFILL, CONCRETE THRUST BLOCKS, HEAD-WALL, RIP-RAP, RESTORATION OF EXCAVATED AND WORK AREAS TO THEIR ORIGINAL CONDITION; INCLUDING REPLACEMENT OF EROSION PROTECTION MATTING ; AND TESTING, INCLUDING LABOR MATERIALS, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM OF WORK SHALL BE INSTALLED ON A LUMP SUM BASIS.

BASIS OF PAYMENT

THE WORK IN THIS ITEM INCLUDING LABOR, MATERIALS, TOOLS, AND EQUIPMENT, EXCAVATION, BACKFILL, CLEAN-OUT AND SEWAGE AIR-RELEASE VALVE ASSEMBLIES, CONCRETE THRUST BLOCKS, HEADWALL, RIP-RAP TESTING, AND RESTORATION OF EXCAVATED AND WORK AREAS TO THEIR ORIGINAL CONDITION, INCLUDING REPLACEMENT OF EROSION CONTROL MATTING AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK, COMPLETE AND ACCEPTED, INCLUDING TESTING, SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER "ITEM SPECIAL" LUMP SUM 4-INCH PVC SEWAGE FORCED MAIN B. THIS PRICE SHALL BE FULL COMPENSATION FOR ALL OF THE ABOVE LISTED ITEMS AND INCIDENTALS NECESSARY FOR THE COMPLETION OF THE SPECIFIED ITEM. THE FOLLOWING IS A PARTIAL LIST OF ITEMS THAT HAVE BEEN CALCULATED TO REFLECT THE "LUMP SUM" PRICE FOR "ITEM SPECIAL 4-INCH PVC SEWAGE FORCED MAIN 'B'."

AMOUNT	UNIT	DESCRIPTION
7420	LINEAR FOOT	4-INCH POLYVINYL CHLORIDE (PVC) "BLUE BRUTE" BELL AND SPIGOT, CLASS 200 (DR-14) PRESSURE PIPE W/ RING-TITE LOCKED IN JOINTS (LOCKED IN RUBBER SEALING RING GASKETS), MEETING AWWA C900, UNDERWRITERS LABORATORIES LISTED, FACTORY MUTUAL AND NSF APPROVED, AND SHALL CONFORM TO CAST IRON O.D.'S. NOTE THAT ACTUAL FOOTAGE INCLUDES, OFF-SETS, RISE AND DROPS OF HYPOTENUSE DISTANCES WITHIN THE COMPLETE RUN OF THE 4-INCH PVC SEWAGE FORCED MAIN 'B'
7322	LINEAR FOOT	TRENCHING DEPTH VARIES BUT DESIGN WAS BASED ON AN AVERAGE 60-INCH DEPTH TO INVERT ELEVATIONS +/- FROM STATIONS 360+00 TO 291+94.34. FROM STATION 360+00 TO STATION 3+09, 52.08' LT. RA/BL (LIFT STATION VALVE BOX OUTLET) INVERT ELEVATIONS VARY THROUGHOUT THE TOTAL OF 556.37 LINEAR FOOT 4-INCH PVC SANITARY FORCED MAIN.

ITEM SPECIAL- 4" SANITARY FORCE MAIN 'A'

THE CONTRACTOR SHALL LOCATE IN THE FIELD THE EXISTING 4" SANITARY FORCE MAIN 'A' CROSSING UNDER U.S. 35. THE CONTRACTOR WILL THEN FURNISH AND INSTALL, TO THE PROPOSED GRADES, COMPLETE AND ACCEPTABLE, ALL PIPES AND FITTINGS NECESSARY TO CONNECT THE EXISTING FORCE MAIN 'A' TO MANHOLE C AND LIFT STATION 'A'.
ALL REQUIREMENTS AND SPECIFICATIONS FOR ITEM SPECIAL 4" PVC SANITARY FORCE MAIN 'B' WILL BE APPLICABLE TO ITEM SPECIAL 4" SANITARY FORCE MAIN 'A'.
THE PRICE SHALL BE FULL COMPENSATION FOR ALL THE ABOVE ITEMS AND INCIDENTALS NECESSARY FOR THE COMPLETION OF THE SPECIFIED ITEM. PAYMENT FOR ALL THE ABOVE SHALL BE INCLUDED IN THE LUMP PRICE BID FOR ITEM SPECIAL 4" SANITARY FORCE MAIN 'A'.

ITEM SPECIAL - 6 " CAST IRON SOIL PIPE (SV) W/FLEXIBLE JOINTS

THE CONTRACTOR SHALL FURNISH AND INSTALL 6 " CAST IRON SOIL PIPE W/FLEXIBLE JOINTS IN ITEM 603, CLASS "C" BEDDING AS SHOWN IN THE PLANS.

THE PIPE SHALL CONFORM TO ASTM-A-74-75, C15P-301-78 WITH NEOPRENE GASKETS AS PER ASTM-C-564-70.

THE COMPLETE SEWER LINE SHALL BE TESTED AS DESCRIBED IN THE SEWER LINE LEAKAGE TEST NOTE.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE PER LINEAR FOOT OF "ITEM SPECIAL - " 6 " CAST IRON SOIL PIPE W/FLEXIBLE JOINTS" INSTALLED, INCLUDING ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, EXCAVATION & BACKFILLING, INCIDENTALS AND TESTING NECESSARY TO COMPLETE THIS ITEM OF WORK.

ITEM SPECIAL - 6 " DUCTILE IRON PIPE W/MECHANICAL JOINTS

THE CONTRACTOR SHALL FURNISH AND INSTALL 6 " DUCTILE IRON PIPE W/MECHANICAL JOINTS OF CLASS 53, WATER LINE QUALITY CONFORMING TO ANSI/AWWA-C151/A21.51 AND ANSI-/AWWA-C111/A21.11 STANDARDS.

PRIOR TO BACKFILLING, THE COMPLETE LINE SHALL BE TESTED AT 50 P.S.I. FOR EIGHT (8) MINUTES WITH NO PRESSURE DROP. THE EXCAVATION, INSTALLATION, BEDDING AND BACKFILL SHALL CONFORM TO ITEM 603.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER LINEAR FOOT OF 6 " DUCTILE IRON PIPE W/MECHANICAL JOINTS FURNISHED AND INSTALLED, INCLUDING ALL LABOR, MATERIAL, TOOLS, EQUIPMENT, EXCAVATION AND BACKFILL, INCIDENTALS AND TESTING NECESSARY TO COMPLETE THIS ITEM OF WORK.

CONNECTION TO EXISTING PIPE

WHERE THE PLANS PROVIDE FOR PROPOSED CONDUIT TO BE CONNECTED TO, OR TO CROSS EITHER OVER OR UNDER AN EXISTING SEWER, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING PIPE BOTH AS TO LINE AND GRADE BEFORE HE STARTS TO LAY THE PROPOSED CONDUIT.

ITEM SPECIAL - 12 " STEEL PIPE ENCASEMENT

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING A CASING OF THE DIAMETER INDICATED, TO PERMIT THE LAYING WITHIN OF A SANITARY SEWER LINE AS SHOWN IN THE PLANS. ENCASEMENT PIPE SHALL BE STEEL IN ACCORDANCE WITH ASTM-A53, SCHEDULE 40, GRADE B. THE CONTRACTOR SHALL MAKE ANY NECESSARY EXCAVATION TO COMPLETE THE OPEN CUT OR BORING OR JACKING OPERATION TO INSTALL THE STEEL CASING. THE METHOD OF BORING OR JACKING OPERATION MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL INSTALL THE CASING AS SHOWN ON THE PLANS. ANY DEVIATION IN GRADE OR ALIGNMENT OF THE CASING WHICH SHALL PREVENT THE SEWER LINE INSTALLATION AS DESIGNED OR ACCESS FOR MAINTENANCE SHALL REQUIRE THE CONTRACTOR TO REINSTALL THE CASING IN THE PROPER MANNER.

THE SEWER LINE WITHIN SHALL BE LAID ON HARDWOOD BLOCKING DESIGNED TO REMAIN FIXED IN POSITION. AFTER THE SEWER LINE IS LAID, THE CONTRACTOR SHALL COMPLETELY FILL ALL VOIDS BETWEEN THE OUTSIDE OF THE SEWER LINE AND THE CASING WITH PEA GRAVEL OR AGGREGATE CONFORMING TO 703.02. BOTH ENDS OF THE CASING SHALL BE CLOSED WITH A 4" BRICK OR CONCRETE BULKHEAD.

STEEL PIPE ENCASEMENT OF SANITARY SEWER LINE WILL BE MEASURED AS THE ACTUAL LINEAR FEET CONSTRUCTED, INCLUDING THE OPEN CUT OR BORING OR JACKING OPERATION, ENCASEMENT PIPE, BLOCKING TO SUPPORT THE INTERNAL SEWER LINE, GRAVEL OR AGGREGATE TO FILL THE INTERIOR VOID AND END BULKHEADS.

PAYMENT FOR ACCEPTABLE QUANTITIES OF STEEL PIPE ENCASEMENT WILL BE MADE AT THE CONTRACT UNIT PRICE.

PAYMENT WILL BE FULL COMPENSATION FOR LABOR, MATERIAL, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY FOR THE INSTALLATION OF THE STEEL PIPE ENCASEMENT; FURNISHED, INSTALLED IN PLACE, TESTED AND ACCEPTED.

CONDUIT END TREATMENT

UNLESS OTHERWISE SPECIFIED IN THE PLANS, THE CONTRACTOR SHALL IMMEDIATELY AFTER PLACEMENT OF ANY CONDUIT, CONSTRUCT THE END TREATMENTS REQUIRED BY THE PLANS AT BOTH THE OUTLET AND INLET ENDS. THIS SHALL INCLUDE HEADWALLS, CONCRETE RIPRAP, ROCK CHANNEL PROTECTION, SODDING, ETC.

GENERAL NOTES

ELECTRICAL SERVICE TO PROPOSED WASTEWATER TREATMENT PLANT, INCLUDING ALARM SYSTEM

THE CONTRACTOR SHALL INSTALL A COMPLETE ELECTRICAL SERVICE (INCLUDING POWER AND ALARM SYSTEM) TO THE WASTEWATER TREATMENT PLANT (W.W.T.P.) IN THE FOLLOWING MANNER.

POWER CIRCUIT - THE CONTRACTOR SHALL TAP INTO THE EXISTING INCOMING PRIMARY SERVICE INSIDE THE BUILDING PRIOR TO THE EXISTING DISTRIBUTION PANEL AND FURNISH AND INSTALL A JUNCTION BOX (HOFFMAN ENGINEERING COMPANY GASKETED SCREW COVER BOX, NEMA TYPE 12, CAT. NO. A-16126GSC, SIZE 16"X12"X6", WITH 14 GAUGE GALVANIZED STEEL BODY AND 12 GAUGE GALVANIZED STEEL COVER, WELDED CONSTRUCTION, W/CAPTIVATED STAINLESS STEEL COVER SCREWS AND OIL-RESISTANT GASKET AND ADHESIVE, OR APPROVED LIKE KIND AND QUALITY AS MANUFACTURED BY E.M. WIEGMANN AND COMPANY, INC. OR APPROVED EQUAL).

INSIDE THE JUNCTION BOX THE TAP SHALL BE MADE USING BRUNDY TRITAP SERVIT TYPE KSA UNIVERSAL TAP CONNECTORS FOR COPPER TO COPPER APPLICATION, CAT. NO. KSA4/9 OR APPROVED EQUAL, WITH 3-1/C, 110. 4/0 AWG COPPER STRANDED, TYPE RHH/RHW-USE, 600 VOLT CONDUCTORS PER CMS 625.14 AND 713.02. ROUTE THE CONDUCTORS FROM THE JUNCTION BOX VIA 2 1/2"CONDUIT (GALVANIZED RIGID STEEL CONDUIT AS PER CMS 713.04) TO A SAFETY SWITCH (SQUARE "D" HEAVY DUTY SAFETY SWITCH WITH VISIBLE BLADES, CAT. NO. H224NAWK NEMA 12, 240 VOLTS, RATED 200 AMPS., SINGLE THROW FUSIBLE, 3-WIRE (2 BLADES AND FUSEHOLDERS, 1S/N)-240 VOLT AC, 125/250 VOLT DC, WITHOUT KNOCKOUTS, FURNISHED WITH CLASS "R" FUSE KITS-240 VOLT, RATED 200 AMPERES-SQUARE "D" CAT. NO. HRK 1020 AND WITH QUICK-MAKE, QUICK-BREAK OPERATING MECHANISM, A DUAL COVER INTERLOCK AND A COLOR CODED INDICATOR HANDLE, U.L. APPROVED. APPROVED EQUALS SHALL BE AS MANUFACTURED BY I.T.E. IMPERIAL, GENERAL ELECTRIC OR WESTINGHOUSE).

FURNISH AND INSTALL WITHIN THE SAFETY SWITCH FOUR (4) GOULD SHAWMUT A2D-200, U.L. CLASS RKI FUSES W/TIME DELAY 200,000 AMPERES RMS AC INTERRUPTING RATING, 250 VOLTS, CURRENT LIMITING CHARACTERISTICS/CLASS "R" REJECTION FEATURES, ONE-PIECE REJECTION FERRULES AND END CAPS, PLATED CONTACTS, SUPER-TUBE BODIES AND IMPRINTED COLOR CODE MARKINGS, 200 AMPHERE RATING, CAT. NO. A2D, RELIANCE OR APPROVED EQUAL. ONE (1) FUSE SHALL BE PLACED IN THE CLASS "R" FUSE KITS OF THE SAFETY DISCONNECT SWITCH AND THE REMAINING THREE FUSES SHALL BE PLACED INSIDE THE DISCONNECT SWITCH FOR FUTURE REPLACEMENT FROM THE SAFETY SWITCH, ROUTE 3-1/C, NO. 4/0 CONDUCTORS TO A QO CIRCUIT BREAKER LOAD CENTER (QO CIRCUIT BREAKER LOAD CENTER, MAIN LUGS-INDOOR, FOR 1-PHASE, 3-WIRE, 120 / 240VOLT, AC, U.L. LISTED, MAIN RATING AMPS 200, W/EIGHT (8) SPACES W/QOM MAIN FRAME SIZE, W/COVER INCLUDED WITH LOAD CENTER, SQUARE "D" CAT. NO. QOC20US, SURFACE MOUNT, FURNISHED WITH SQUARE "D" EQUIPMENT GROUND BAR KIT CAT. NO. PK9GTA, MAIN WIRE SIZE AL/CU AWG/MCM #4-250, MAX. NUMBER OF SINGLE POLE CIRCUITS, EIGHT (8), MAX. NUMBER OF TANDEM CIRCUIT BREAKERS-ZERO (0), LOAD CENTER BOX AND INTERIOR SQUARE "D" CAT. NO. QO8L200, FACTORY ASSEMBLED, ENCLOSURE DIMENSIONS 14.25" W X 26.04" H X 3.75"D.

FURNISH AND INSTALL WITHIN THE LOAD CENTER, ONE (1) 100 AMPHERE, 2-POLE 120 / 240 VOLT A.C., WITH VISI-TRIP INDICATOR, PLUG-ON W/22.000 AMPHERE RMS, U.L. LISTED INTERRUPTING RATING, FOR THE W.W.T.S. CIRCUIT AND FURNISH AND INSTALL THE FOLLOWING BREAKERS IN THE REMAINING SPACES AS SPARES:

1, ___ A, 2, -POLE, 22,000 AMP. RMS
1, ___ A, 2, -POLE, 22,000 AMP. RMS
2, ___ A, 1, -POLE, 10,000 AMP. RMS

ALL CIRCUIT BREAKERS SHALL BE DESCRIBED ABOVE AND AS MANUFACTURED BY SQUARE "D". ITE IMPERIAL, GENERAL ELECTRIC OR WESTINGHOUSE.

FROM THE QO CIRCUIT BREAKER LOAD CENTER ROUTE 3-1/C NO. 4/0 VIA 2 1/2" CONDUIT UP THE WALL TO AN ELEVATION JUST BELOW THE CEILING, SUSPENDED BY HANGER AND AVOIDING ALL EXISTING PIPES, CONDUITS AND DEVICES, ROUTE AS CONDITIONS WILL PERMIT, ALONG THE CEILING TO A JUNCTION BOX (HOFFMAN ENGINEERING COMPANY GASKETED SCREW COVER BOX, NEMA TYPE 12, CAT. NO. A-16126GSC, SIZE 16"X12"X6", WITH 14 GAUGE GALVANIZED STEEL BODY AND 12 GAUGE GALVANIZED STEEL COVER, WELDED CONSTRUCTION, W/CAPTIVATED STAINLESS STEEL COVER SCREWS AND OIL-RESISTANT GASKET AND ADHESIVE, OR APPROVED LIKE AND KIND AND QUALITY AS MANUFACTURED BY E.M.WIEGMANN AND COMPANY, INC. OR APPROVED EQUAL) MOUNTED ON BACK WALL NEAR CEILING, OUT THE BACK OF THE JUNCTION BOX, THROUGH THE REAR WALL OF THE BUILDING, TURN 90 DEGREE DOWN AND ROUTE DOWN THE OUTSIDE OF THE WALL TO A DEPTH OF 36" BURY, TURN WITH 36" RADIUS 90 DEGREE ELL AND THEN ROUTE THE 3-1/C, NO. 4/0 VIA 2 1/2" CONDUIT TO THE WWTP AS SHOWN ON THE UTILITY SHEET OF THE PLANS.

ALL JUNCTION BOXES, SAFETY SWITCHES AND LOAD CENTER SHALL BE MOUNTED ON PLYWOOD BACKING BOARDS SECURED TO THE WALL OF THE BUILDING BY PHILLIPS HEAD STEEL SCREWS WITH ZINC CHROMATE FINISH. THE PLYWOOD BACKING BOARD SHALL BE FABRICATED FROM EXTERIOR TYPE B-C EXT-DFPA, GROUP 3, 3/4" THICK PLYWOOD. THE BOARDS DIMENSIONS SHALL BE 2" GREATER THAN THE LENGTH AND WIDTH OF ITS RESPECTIVE BOX.

PRIOR TO MOUNTING THE PLYWOOD BACKING PANELS, THE CONTRACTOR SHALL PAINT THEM AS FOLLOWS:

1. PRATT & LAMBERT SPEC. NO. 143.3 WHICH SHALL CONSIST OF ALKYD-ENAMEL, LOW EGGSHELL AND SHALL BE APPLIED AS FOLLOWS: 1-COAT P&L "INTERIOR TRIM PRIMER" ON FRONT, BACK AND ALL EDGES.
2. 1-COAT P&L "VITRALITE UNDERCOATING" ON FRONT, BACK AND ALL EDGES. TINT VITRALITE UNDERCOATING TO MATCH COLOR OF VITRALITE ENAMEL EGGSHELL.
3. 1-COAT P&L "VITRALITE UNDERCOATING" ON FRONT, BACK AND ALL EDGES. THIS SHALL BE THE FINISH COAT AND SHALL BE P&L CALIBRATED COLOR "WINTER CLOUD" CAT. NO. BG693P.
4. THE BLEMISH-FREE WOOD FINISH ALL PLYWOOD BACKING PANELS SHALL BE MOUNTED FACE-OUT FROM WALLS AFTER BEING PAINTED AND COMPLETELY DRY.

THE ACTUAL MOUNTED LOCATION OF THE JUNCTION BOXES, SAFETY SWITCH, LOAD CENTER AND CONDUIT RUNS WITHIN THE BUILDINGS MECHANICAL ROOM SHALL BE BASED ON A SITE INVESTIGATION AND DETERMINATION OF BEST LOCATION AND ROUTING BY THE CONTRACTOR AND APPROVAL OF THE ROUTING OF THE CIRCUIT BY THE ENGINEER.

THE GROUND ROD SHALL BE INSTALLED OUTSIDE AT THE REAR OF THE BUILDING, WITHIN THE VICINITY WHERE THE NEW CONDUITS FOR THE BRANCH FEEDS AND ALARM CIRCUITS FEED UNDERGROUND. AVOID ALL EXISTING UNDERGROUND SEWER LINES AND UTILITY LINES THAT MAY BE WITHIN THE AREA AND BE SURE THAT PLACEMENT OF THE GROUND ROD DOES NOT OBSTRUCT THE OPERATION OR FUNCTION OF DOORS, EQUIPMENT AND ETC. OR INTERFERE WITH THE SAFETY OF OPERATION, PERSONNEL OR THE PUBLIC.

FURNISH AND INSTALL 1-1/C. NO. 2, COPPER STRANDED, TYPE THHN/THWN SI-58101 CONDUCTOR FROM THE GROUND ROD OUTSIDE THE BUILDING, CONNECTION BETWEEN GROUND ROD AND CABLE SHALL BE MADE BY EXOTHERMIC WELDS WITH TWO (2) COATS OF INSULATING VARNISH APPLIED OVER THE WELDS AND EXPOSED CABLE. FROM ROD CONNECTION THE GROUND CONDUCTOR SHALL ENTER THE BUILDING THROUGH A 1-INCH GALVANIZED STEEL RIGID CONDUIT AS PER CMS 713.04, WHICH SHALL FEED DIRECTLY AS POSSIBLE, AS REQUIRED, OVER TO THE VICINITY OF THE NEWLY INSTALLED, SAFETY DISCONNECT SWITCH AND BOTTOM FEED CONNECT TO SAME. THE GROUND CONDUCTOR SHALL CONNECT TO THE GROUND TERMINAL OF THE SAFETY DISCONNECT SWITCH.

ALL NEW ELECTRICAL EQUIPMENT OR DEVICES INSTALLED FOR THE PURPOSE OF SUPPLYING POWER OR CONTROL WIRING TO THE NEW, PROPOSED WASTEWATER TREATMENT SYSTEM SHALL BE INSTALLED TO PROVIDE CONTINUOUS EQUIPMENT GROUNDING AS PER THE NATIONAL ELECTRIC CODE (N.E.C.). THE COST OF FURNISHING AND INSTALLING THE POWER CIRCUIT FOR THE WWTS INCLUDING ALL LABOR, MATERIALS AND EQUIPMENT SHALL BE INCLUDED IN THE COST OF "ITEM SPECIAL, COMPLETE 10000 GALLON WASTEWATER TREATMENT SYSTEM" W/F.M. CLARIFIER (INCLUDING ELECTRICAL).

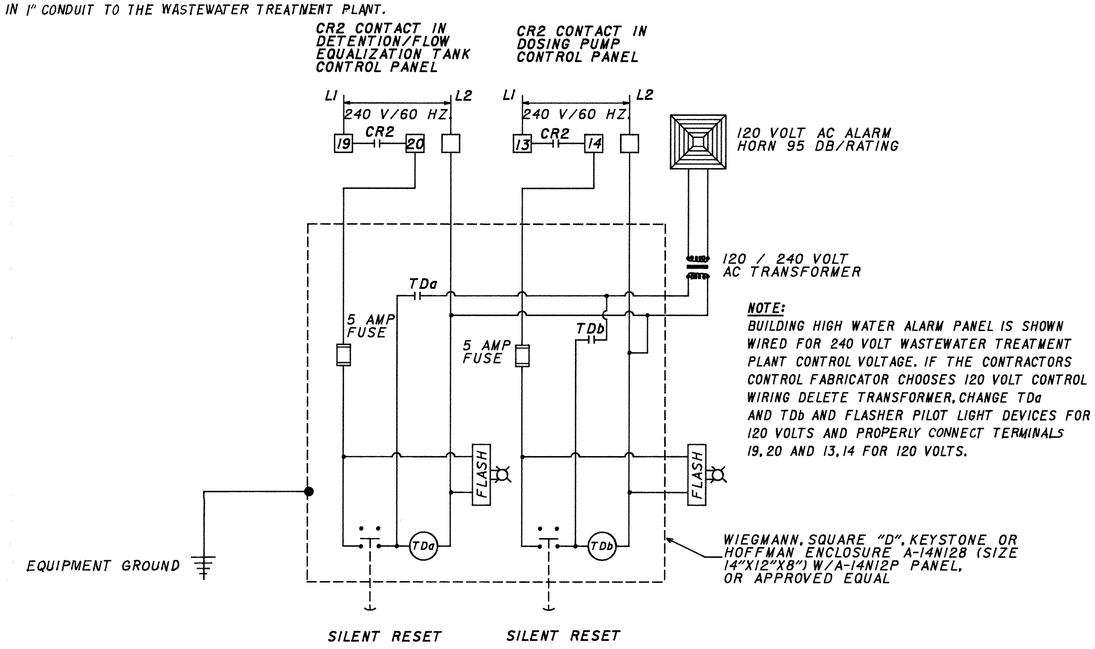
HIGH WATER ALARM CIRCUIT

THE CONTRACTOR SHALL FURNISH AND INSTALL A BUILDING HIGH WATER ALARM SYSTEM AS DESCRIBED IN "PART C - HIGH WATER ALARM SYSTEM" OF THE SPECIAL SPECIFICATIONS FOR COMPLETE WASTEWATER TREATMENT SYSTEM", WITH THE CONDUCTORS AND CONDUIT ROUTING AS DESCRIBED BELOW:

THE CONTRACTOR SHALL MOUNT AN ENCLOSURE FOR THE BUILDING HIGH WATER ALARM SYSTEM AS DESCRIBED IN THE STANDARD SPECIFICATION AND ROUTE 2 1/C, NO. 12, TYPE THHN/THWN SI-58101 CONDUCTORS VIA 3/4" CONDUIT FROM THE ALARM ENCLOSURE UP TO AN ELEVATION JUST BELOW THE CEILING TO THE ALARM HORN, INSTALLED UNDER THE POWER CIRCUIT, MOUNTED ON THE REAR WALL OF THE BUILDING NEAR THE CEILING, OUT THE REAR OF THE JUNCTION BOX, THROUGH THE REAR WALL, TURN 90 DEGREES DOWN, ROUTE DOWN THE OUTSIDE OF THE WALL TO A DEPTH OF 36" BURY, TURN WITH A 36" RADIUS 90 DEGREES ELL AND ROUTE TO THE WWWTS AS SHOWN ON THE UTILITY PLAN SHEET. 4 1/C NO.12, TYPE THHN THWN SI-58101 CONDUCTORS SHALL FEED IN 1" CONDUIT TO THE WASTEWATER TREATMENT PLANT.

THE ACTUAL MOUNTED LOCATION OF THE ALARM ENCLOSURE AND CONDUIT RUNS WITHIN THE MECHANICAL ROOM OF THE BUILDING SHALL BE DETERMINED BASED ON SITE INVESTIGATION BY THE CONTRACTOR AND APPROVAL OF LOCATION AND ROUTING BY THE PROJECT ENGINEER.

THE COST OF FURNISHING AND INSTALLING THE HIGH WATER ALARM SYSTEM FOR THE WWTP INCLUDING ALL LABOR, MATERIALS AND EQUIPMENT SHALL BE INCLUDED IN THE COST OF "ITEM SPECIAL - COMPLETE 10000 GALLON WASTEWATER TREATMENT SYSTEM W/F.M. CLARIFIER (INCLUDING ELECTRICAL).

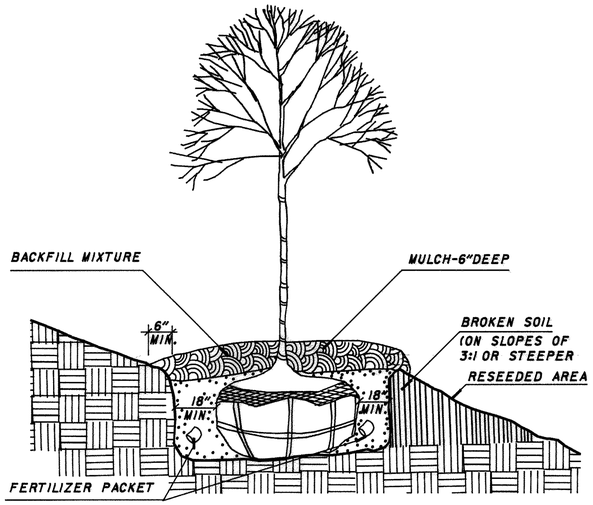


W.W.T.P. HIGH WATER ALARM

ELECTRICAL NOTES
REV 1/14/88

CALC BY / DATE	GAL-35-6.79	OHIO	6
CHKD BY / DATE	GALLIA COUNTY	FHWA REGION 5	86
	SAFETY REST AREA		

GENERAL NOTES



THE TOP OF THE ROOT BALL SHALL BE SET AT THE NORMAL GROUND LINE.

ON SLOPES WHERE HEAVY CLAY AND IMPERMEABLE SOILS ARE PRESENT, THE DOWN HILL SIDE OF THE POCKET HOLE SHALL BE BROKEN OR LOOSENED AND RETURNED TO ITS NATURAL GRADE TO PROVIDE DRAINAGE FOR THE HOLE.

PLANTING HOLE AND BED PREPARATION

PRIOR TO LAYOUT AND PLANTING OF ALL SHRUB AND GROUNDCOVER BEDS EXISTING SOIL WILL BE EXCAVATED TO A DEPTH OF TWELVE ") INCHES AND THE BEDS SHALL BE BACKFILLED WITH NO.2 BACKFILL MIXTURE. EXCAVATED MATERIAL WILL BE DISPOSED OF AS PER ITEM 203. THE EXCAVATION AND BACKFILLING SHALL TAKE PLACE AS FAR IN ADVANCE OF THE PLANTING OPERATIONS AS POSSIBLE. WHERE SHRUBS ARE SHOWN, INDIVIDUAL HOLES SHALL BE DUG ON CENTERS AS SHOWN ON THE PLANS. THESE HOLES SHALL ALLOW FOR A MINIMUM OF EIGHTEEN (18) INCHES OF BACKFILL MIXTURE AROUND THE SIDES OF THE BALLS. THE BOTTOM OF THE HOLE SHALL BE NO DEEPER THAN THE BALL TO BE PLANTED.
THE MATERIAL REMOVED FROM THE HOLES SHALL BE TAKEN FROM THE PROJECT IF IT IS FOUND TO BE UNACCEPTABLE FOR USE AS BACKFILL AS DETERMINED BY THE ENGINEER.
THE PLANT SHALL THEN BE SET AND THE HOLE FILLED WITH BACKFILL MIXTURE, AND THE PLANTING OPERATION PERFORMED AS SPECIFIED IN ITEMS 662.17 AND 662.18. ALL EXCESS DIRT SHALL BE REMOVED FROM THE SITE.

EXISTING TREES AND SHRUBS SHALL TAKE PRIORITY OVER PROPOSED PLANTINGS. THE LOCATIONS OF THE PROPOSED TREES AND SHRUBS ARE APPROXIMATE AND MAY BE REARRANGED AT THE DIRECTION OF THE ENGINEER WHEN OBSTRUCTIONS ARE ENCOUNTERED.

IF AN AUGER IS USED IN DIGGING POCKET HOLES AND POLISHED (SHINY) SIDES OCCUR IN CLAY OR HEAVY SOIL, THE USE OF SUCH AN AUGER SHALL BE DISCONTINUED AND THE HOLES SHALL BE DUG WITH A BACKHOE OR ANOTHER APPROVED METHOD.

BACKFILL NO.1 - THE BACKFILL MIXTURE USED TO FILL POCKET HOLES IN LIGHT AND MEDIUM SOILS (SAND AND AVERAGE) SHALL CONSIST BY VOLUME OF 2 PARTS *SOIL CONDITIONER, 2 PARTS COMPRESSED SPHAGNUM PEAT OR 3 PARTS SEDGE PEAT, AND 2 PARTS APPROVED TOPSOIL.

BACKFILL NO.2 - THE BACKFILL MIXTURE USED TO FILL POCKET HOLES IN HEAVY SOILS (CLAY AND SHALE) SHALL CONSIST BY VOLUME OF 1 PART *SOIL CONDITIONER, 1 PART COMPRESSED SPHAGNUM PEAT OR 2 PARTS SEDGE PEAT, AND 2 PARTS APPROVED TOPSOIL.

INCORPORATE THOROUGHLY INTO THE BACKFILL MIXTURES 5 LBS. OF COMMERCIAL FERTILIZER (20-20-20) PER CUBIC YARD. THE ENGINEER, AFTER CONSULTATION WITH THE LANDSCAPE ARCHITECT, SHALL DETERMINE THE LOCATIONS WHERE THE BACKFILL MIXTURES SHALL BE USED.

SOIL CONDITIONER

A SOIL CONDITIONER SUCH AS "HAYDITE", "PERLITE" OR AN APPROVED EQUAL SHALL BE USED. THE PARTICLE SIZE GRADATION OF THE SOIL CONDITIONER SHALL BE AT LEAST 80% PASSING A NO.6 SIEVE AND NOT MORE THAN 5% PASSING A NO.50 SIEVE.

PLANTING PERIOD OF ESTABLISHMENT

BEFORE FINAL INSPECTION, ALL PLANTINGS SHALL BE IN PLACE AND UNDER THE CARE OF THE CONTRACTOR FOR A PERIOD OF ESTABLISHMENT. THIS PERIOD SHALL BEGIN IMMEDIATELY UPON COMPLETION OF THE PLANTING OPERATION FOR ANY PLANT OR SPECIES GROUP AND CONTINUE UNTIL OCTOBER 1. IN NO CASE SHALL IT BE LESS THAN ONE GROWING SEASON, JUNE 1 TO OCTOBER 1.

DURING THIS PERIOD OF ESTABLISHMENT, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW SUCH HORTICULTURAL PRACTICES AS REQUIRED TO ASSURE THE VIGOR AND GROWTH OF THE TRANSPLANTED MATERIAL. THIS CARE SHALL INCLUDE WATERING, REMULCHING, RESTAKING, GUYING AND CULTIVATING. THERE SHALL BE A MINIMUM OF TWO WEEDING AND MOWING (BED EDGES, AROUND TREES AND GUY STAKES) PROGRAMS OF SUCH INTENSITY AS TO COMPLETELY RID THE PLANTED AND MULCHED AREAS OF WEEDS AND GRASSES. THE FIRST PROGRAM SHALL BEGIN ON OR ABOUT JUNE 15 AND THE OTHER APPROXIMATELY 8 WEEKS LATER.

EACH PLANT SHALL HAVE SUFFICIENT WATER TO KEEP IT IN A HEALTHY, GROWING CONDITION. IF LOCAL WEATHER CONDITIONS WARRANT, THE ENGINEER MAY REQUIRE WEEKLY WATERING. A SCHEDULE FOR WATERING EACH PLANT AND MAINTENANCE AS DESCRIBED IN THE PROCEEDING PARAGRAPH SHALL BE SUPPLIED TO AND APPROVED BY THE ENGINEER BEFORE PLANTING BEGINS. SOIL MIXTURE SHALL BE MEASURED IN EACH PLANTING ZONE BY A SOIL MOISTURE METER APPROVED BY THE ENGINEER. WATERING SHALL BE DONE ACCORDING TO THE WATERING TABLE WHEN INDICATED BY METER READINGS. THE WATER SHALL BE APPLIED IN SUCH A MANNER AS TO SATURATE THE ROOT AND MULCHED AREA OF EACH PLANT WITHOUT CAUSING RUN-OFF (SEE WATERING TABLE). IN CASE OF FALL PLANTINGS, THESE WATERINGS SHALL CONTINUE UNTIL SOIL FREEZES UP AND RECOMMENCE AFTER THE SPRING THAW UNLESS OTHERWISE DIRECTED.

ON OR ABOUT SEPTEMBER 15, THE ENGINEER SHALL INSPECT THE PLANTING AND SUPPLY THE CONTRACTOR WITH A LISTING OF THOSE PLANTS HAVING DIED, DIED BACK BEYOND NORMAL PRUNING LINES OR ARE MISSING FROM THE PLANTING. THE CONTRACTOR SHALL MAKE THE REPLANTING AS REQUIRED IN ACCORDANCE WITH THE SPECIFICATIONS FOR THE ORIGINAL MATERIAL. THESE REPLACEMENTS ARE NOT SUBJECT TO THE PERIOD OF ESTABLISHMENT, HOWEVER, PLANTS PLANTED INITIALLY IN THE FALL WHICH HAVE DIED BEFORE THE SPRING PLANTING SEASON SHALL BE REPLACED IMMEDIATELY AND ARE SUBJECT TO THE ESTABLISHMENT PERIOD.

AFTER REPLACEMENTS HAVE BEEN PLANTED, THE FINAL INSPECTION SHALL BE MADE AND THE ACTUAL COUNT OF LIVE PLANTS OF EACH VARIETY AND SPECIES LISTED FOR PAYMENT.

ITEM 661.21 WATERING

WATER SHALL BE FURNISHED BY THE CONTRACTOR AND ALL PLANT MATERIAL SHALL BE WATERED THOROUGHLY AT THE TIME OF PLANTING REGARDLESS OF AMPLE MOISTURE CONTENT OF THE SURROUNDING SOIL. SUSPENSION OF WATERING OPERATIONS BECAUSE OF RAINFALL WILL BE DETERMINED BY THE ENGINEER IN CONSULTATION WITH THE LANDSCAPE ARCHITECT. AN AVERAGE OF ONE INCH OF RAINFALL PER WEEK SHALL BE CONSIDERED ADEQUATE. DETERMINATION OF RAINFALL SHALL BE BASED UPON THE USE OF A RAIN GAUGE APPROVED BY THE PROJECT ENGINEER.

WATERING TABLE

SHRUBS 1'-2' SIZE	2 GAL. PER PLANT
SHRUBS 2'-3' SIZE	4 GAL. PER PLANT
SHRUBS 4'-5' SIZE	7 GAL. PER PLANT
TREES 5'-6' SIZE	10 GAL. PER PLANT
TREES 1-1/4" - 1-1/2" CAL.	15 GAL. PER PLANT
TREES 1-1/2" - 2-1/2" CAL.	20 GAL. PER PLANT
TREES 2" - 3" CAL.	25 GAL. PER PLANT
TREES 3" - 4" CAL.	30 GAL. PER PLANT

THE METHOD OF MEASUREMENT FOR SUMMER WATERING SHALL BE BY APPROVED METERING FROM TANKS OR BY INDIVIDUALLY MEASURED CONTAINERS TO EACH PLANT TO BE WATERED. PAYMENT FOR PLANTING PERIOD OF ESTABLISHMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEMS 661, 662 AND 663 AND IS CONSIDERED TO BE 15% OF THE COST FOR THE ITEM.

MULCH

MULCH SHALL BE AS PER ITEM 661.04 WITH THE FOLLOWING EXCEPTIONS, WOOD SHAVINGS OR PEAT MOSS OR CORN COBS SHALL NOT BE USED AS A TOP MULCH. WOOD CHIPS SHALL BE AGED (STOCKPILED) AT LEAST SIX MONTHS PRIOR TO PLACEMENT AROUND PLANTS. MULCH SHALL BE SIX INCHES LOOSE MEASUREMENT AFTER MULCHING. COMMERCIAL FERTILIZER (12-12-12) SHALL BE APPLIED AS SPECIFIED IN ITEM 662.18.

PRUNING

ALL PLANTS SHALL BE PRUNED WITHIN SEVEN DAYS AFTER PLANTING. THE PRUNING SHALL BE DONE ACCORDING TO SELECTED TYPICAL PLANTS OF EACH SPECIES PRUNED AND USED AS A SAMPLE AS DIRECTED BY THE ENGINEER.

ANY CANDLE GROWTH ON NEEDLE EVERGREENS WHICH EXCEED THREE INCHES AT PLANTING TIME SHALL BE CUT BACK TO THAT LENGTH IMMEDIATELY.

STAKING MATERIALS

ALL TREES SHALL BE STAKED AS SHOWN IN THE STANDARD DRAWING LA-2. STAKING OF SMALL ORNAMENTAL TREES SHALL BE SIMILAR TO THAT OF EVERGREENS.

FERTILIZER

FOUR OUNCE (8-YEAR) COMMERCIAL FERTILIZED PACKETS USED IN PLANTING OPERATION SHALL BE DELIVERED DRY IN ORIGINAL, UNOPENED CONTAINERS. FERTILIZER ANALYSIS SHALL BE 16% NITROGEN, 8% PHOSPHORIC ACID AND 16% POTASH. FERTILIZER SHALL BE OF A SLOW RELEASE TYPE IN A POLYETHYLENE PERFORATED PACKET WITH MICROPORE HOLES.

THE PACKETS SHALL BE PLACED 6 TO 8 INCHES DEEP AND EVENLY SPACED AROUND THE PERIMETER OF THE PLANTING HOLE, ADJACENT TO THE BALL OR ROOT MASS BUT NOT IN DIRECT CONTACT WITH THE ROOTS. THE PACKETS SHALL NOT BE CUT, RIPPED OR DAMAGED.

EACH SHRUB OR TREE SHALL BE FERTILIZED ACCORDING TO THE FOLLOWING SCHEDULE:

SHRUBS 1' - 2'	2 PACKETS
SHRUBS 2' - 3'	2 PACKETS
SHRUBS 3' - 4'	3 PACKETS
TREES 5' - 6'	3 PACKETS
TREES 6' - 8'	4 PACKETS
TREES 1-1/2" - 2" CAL.	2 PACKETS
TREES 2" - 2-1/2" CAL.	3 PACKETS
TREES 2-1/2" - 3" CAL.	4 PACKETS
TREES 3" - 3-1/2" CAL.	5 PACKETS

IF IT BECOMES NECESSARY TO REMOVE AND REPLACE MISSING, DEAD OR UNHEALTHY PLANTS, ALL OLD PACKETS SHALL BE REPLACED WITH NEW PACKETS.

THE FOUR OUNCE 16-8-16 FERTILIZER PACKETS SHALL BE DESIGNATED BY THE MANUFACTURER TO BE EFFECTIVE FOR EIGHT YEARS. PACKETS SUCH AS "EEESY GROW" (SPECIALTY FERTILIZER, INC., BOX 355, SUFFERN, N.Y. 10901, (914) 357-7722; "THE UNIQUE FEEDER", UNIQUE FERTILIZER, INC., P.O. BOX 99, DEPTFORD, N.J. 08096, (609) 848-4444; OR APPROVED EQUAL.

HERBICIDES

THE MONTH PRIOR TO CULTIVATION AND PLANTING ALL SHRUB BEDS WILL BE TREATED WITH "ROUNDUP" BRAND HERBICIDE OR AN APPROVED EQUAL, IF WEEDS ARE PRESENT.
AFTER PLANTING AND FERTILIZING HAVE BEEN COMPLETED AND APPROVED, THE SHRUB BEDS WILL BE TREATED WITH "SURFLAN" BRAND HERBICIDE OR AN APPROVED EQUAL. THE RATE AND METHOD OF APPLICATION SHALL BE IN STRICT CONFORMANCE WITH THE MANUFACTURERS PRODUCT LABEL AND CONSISTENT WITH CURRENT PRACTICES FOR ROADSIDE MANAGEMENT. THIS WORK SHALL BE ACCOMPLISHED UNDER THE DIRECT SUPERVISION OF A PESTICIDE APPLICATOR LICENSED BY THE STATE OF OHIO.

STORAGE AREAS

THE CONTRACTOR MAY STORE PLANT MATERIALS AND EQUIPMENT 30 FEET FROM PAVEMENT, BEHIND GUARDRAIL AND WITHIN OR ADJACENT TO THE PROJECT LIMITS BY OBTAINING OFFICIAL PERMISSION OF THE ENGINEER. NO PEDESTRIAN OR VEHICULAR TRAFFIC MAY BE IMPEDED NOR HAZARDOUS CONDITION CREATED AS A RESULT OF SUCH STORAGE.

THE STORAGE OF ALL DUG PLANTS SHALL CONFORM TO 661.14 WHETHER WITHIN THE PROJECT LIMITS, ADJACENT THERETO, OR AT SOME OTHER LOCATION. THESE AREAS SHALL BE DESIGNATED PRIOR TO ACTUAL PLANT STORAGE AND SHALL BE OPEN TO INSPECTION UPON REQUEST OF THE ENGINEER.

SCHEDULING

ALL DIGGING AND PLANTING OF DECIDUOUS PLANTS SHALL BE DONE AFTER OCTOBER 1, AND BEFORE JUNE 1. EVERGREENS SHALL BE DUG AND PLANTED AFTER MARCH 15, AND BEFORE JUNE 1.

ITEMS 662 AND 663

ALL TREES AND SHRUBS SHALL BE SPECIMEN (NO. 1 GRADE) PLANTS WITH GROWTH AND BRANCHING HABIT TYPICAL OF THE SPECIES SPECIFIED. NO PARK GRADE (NO.2 OR 3 GRADE) PLANTS WILL BE ACCEPTED.

TOPSOIL TESTING

TOPSOIL FAILING CURRENT TEST STANDARDS MAY BE ALTERED, UPON APPROVAL OF THE ENGINEER, BY ADDING APPROVED CONDITIONERS TO CORRECT DEFICIENCIES. TOPSOIL SHALL BE FREE OF JOHNSON GRASS AND CONFORM TO ITEM 653 AS DETERMINED BY THE ENGINEER.

GENERAL SUMMARY

CALC BY / DATE	GAL-35-6.79	OHIO
CHKD BY / DATE	GALLIA COUNTY	FHWA REGION 5
	SAFETY REST AREA	7 / 86

SHEET NUMBER												PARTICIPATION			ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
3	4	11	12	13	14	16	17		18	19	22								GENERAL CONTRACT- SPECIAL INSTRUCTIONS
		1				1									SPECIAL	680 10400	2	EACH	MOTORIST SERVICES BUILDING MSB-4, (GENERAL ONLY)
											1				SPECIAL	680 11404	1	EACH	COMPLETE WASTEWATER TREATMENT SYSTEM (GENERAL ONLY) 10,000 GALLON W/F.M. CLARIFIER (SEE SHEET 5)
											2				SPECIAL	680 19200	2	EACH	LIFT STATION (GENERAL ONLY)
	LUMP														SPECIAL	680 98000	LUMP		4" PVC SANITARY FORCED MAIN 'A' (SEE SHEET 4)
	LUMP														SPECIAL	680 98000	LUMP		4" PVC SANITARY FORCED MAIN 'B' (SEE SHEET 4)
											52				SPECIAL	680 98300	52	L.F.	12" STEEL PIPE ENCASEMENT, OPEN CUT (SEE SHEET 4)
											946				SPECIAL	680 43900	946	L.F.	CAST IRON SOIL PIPE (SV) W/FLEXIBLE JOINTS, 6" SIZE (SEE SHEET 4)
											45				SPECIAL	680 44000	45	L.F.	DUCTILE IRON PIPE W/MECH. JTS. 6" SIZE (SEE SHT. 4)
2															SPECIAL	680 18200	2	EACH	FOLDING LEG TABLE (SEE SHEET 3)
6															SPECIAL	680 18100	6	EACH	STACKING CHAIR (SEE SHEET 3)
		1				1									SPECIAL	680 11000	2	EACH	SHELTER HOUSE (GENERAL ONLY)
		637				637									SPECIAL	680 98300	1274	L.F.	BRICK PAVER
					5					5					SPECIAL	680 14000	10	EACH	PICNIC TABLE AND SLAB
					4					4					SPECIAL	680 13000	8	EACH	PICNIC TABLE
		76				76									SPECIAL	680 98300	152	L.F.	WOOD FENCE
				126					519						SPECIAL	680 98300	645	L.F.	WOOD FENCE WITH GATE
					12					9					SPECIAL	680 15000	21	EACH	WASTE RECEPTACLE SLEEVE
					7					6					SPECIAL	680 15500	9	EACH	WASTE RECEPTACLE SLAB
					2					2					SPECIAL	680 14500	4	EACH	CHARCOAL GRILL AND SERVING TABLE (WITH SLAB)
					4					4					SPECIAL	680 17000	8	EACH	8' WOOD BENCH (SEE SHEET 3)
		44		35		44									202	32000	123	L.F.	CURB REMOVED
			LUMP	LUMP			LUMP		LUMP						203	13200	LUMP		EXCAVATION, NOT INCLUDING EMBANKMENT CONSTRUCTION
			LUMP	LUMP			LUMP		LUMP						203	35200	LUMP		EMBANKMENT
		355		223		357			245						452	1100 1	1180	SQ.YD.	7" PLAIN CONCRETE PAVEMENT, AS PER PLAN (SEE SHEET 3)
											11				601	32200	11	CU.YD.	ROCK CHANNEL PROTECTION, TYPE C, WITH FILTER
											1.3				602	2000 0	1.3	CU.YD.	CONCRETE MASONRY
											966				603	0140 0	966	L.F.	6" CONDUIT, TYPE E
									36						603	0490 0	36	L.F.	12" CONDUIT, TYPE D
											5				604	3151 0	5	EACH	MANHOLE, NO.3 W/FLAT TOP
		13070				11500									608	10000	24570	SQ. FT.	4" CONCRETE WALK
		156				156									608	5300 1	312	SQ. FT.	CURB RAMP, TYPE 1, AS PER PLAN
		644				644									609	2600 0	1288	L.F.	CURB, TYPE 6

GENERAL SUMMARY

CALC BY / DATE	GAL-35-6.79	OHIO
CHKD BY / DATE	GALLIA COUNTY	FHWA REGION 5
	SAFETY REST AREA	8 / 86

SHEET NUMBER											PARTICIPATION			ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION		
14		15		19		20		21												
								517						653	1000 0	517	CU YD	TOPSOIL FURNISHED AND PLACED		
								45833						659	1000 0	45833	SQ YD	SEEDING & MULCHING (URBAN GRASS MIXTURE)		
								144						**659**	**3500 0**	**144**	**M.GAL.**	**WATER**		
								667						659	1000 0	667	SQ YD	SEEDING & MULCHING (CROWN VETCH SEEDING)		
								11945						659	1010 0	11945	SQ YD	SEEDING & MULCHING FOR WILDLIFE		
								29.93						659	3000 0	29.**93**	TON	AGRICULTURAL LIMING		
								5.99						659	2000 0	5.**99**	TON	COMMERCIAL FERTILIZER		
								8055						660	3000 0	8055	SQ YD	SODDING		
																		BOTANICAL NAME-COMMON NAME	SIZE	COND
9700		2800		9700		4500								661	1000 0	26700	EACH	EUONYMUS FORTUNEI COLORATUS-COLORATUS EUONYMUS	1 YR	FLAT
5172				6060										661	1000 0	11232	EACH	VINCA MINOR-PERIWINKLE	1 YR	FLAT
				3										662	9990 0	3	EACH	AMELANCHIER LAEVIS-ALLEGHENY SERVICEBERRY (SHRUB FORM)	6'-7' HT	18"B&B
3				3										662	9990 0	6	EACH	AESCULUS PARVIFLORA-BOTTLEBRUSH BUCKEYE	4'-5' HT	14"B&B
10				10										662	2050 0	20	EACH	BERBERIS THUNBERGI 'CRIMSON PYGMY'-CRIMSON PYGMY BARBERRY	15"-18" HT	2 GAL
3				3										662	9990 0	6	EACH	CERCIS CANADENSIS-REDBUD (SHRUB FORM)	6'-7' HT	10"B&B
		11				20								662	1200 0	31	EACH	CORNUS SERICEA 'BAILEYI'-BAILEY DOGWOOD	3-4' HT.	12"B&B
23				15										662	1050 0	38	EACH	COTONEASTER APICULATA-CRANBERRY COTONEASTER	15"-18" HT	2 GAL
		5												662	1200 0	5	EACH	FORSYTHIA INTERMEDIA-BORDER FORSYTHIA	3-4' HT	12"B&B
30				37										662	2050 0	67	EACH	ILEX CRENATA 'GREEN LUSTRE'-GREEN LUSTRE JAPANESE HOLLY	15"-18" HT	2 GAL
9				26										662	2050 0	35	EACH	JUNIPERUS SABINA 'BROADMOOR'-BROADMOOR JUNIPER	15"-18" HT	2 GAL
25				13										662	1150 0	38	EACH	LONICERA FRAGRANTISSIMA-WINTER HONEYSUCKLE	2'-3' HT	10"B&B
14				26										662	2050 0	40	EACH	PICEA PUMILA ABIES -IMPROVED NEST SPRUCE	15"-18" HT	2 GAL
22				17										662	2050 0	39	EACH	PINUS MUGO - MUGO PINE	15"-18" HT	2 GAL
				79		17								662	1100 0	96	EACH	ROSA RUGOSA-RUGOSA ROSE	18"-24" HT	1 GAL
10				10										662	1050 0	20	EACH	SPIREA JAPONICA 'PINK PRINCESS'-PINK PRINCESS SPIREA	15"-18" HT	2 GAL
38				39										662	2100 0	77	EACH	TAXUS X MEDIA 'EVERLOW'-EVERLOW YEW	18"-24" HT	10"B&B
10				10										662	1150 0	20	EACH	VIBURNUM CARLESI 'CHESAPEAKE'-CHESAPEAKE KOREAN VIBURNUM	2'-3' HT	10"B&B
5				13										662	1050 0	18	EACH	VIBURNUM OPULUS 'NANUM'-NANUM CRANBERRYBUSH VIBURNUM	15"-18" HT	2 GAL
5														662	1150 0	5	EACH	VIBURNUM PRUNIFOLIUM-BLACKHAW VIBURNUM	2'-3' HT	10"B&B
1				1										663	9990 0	2	EACH	ACER PALMATUM 'BURGUNDY LACE'-BURGUNDY LACE JAPANESE MAPLE	4'-5' HT	16"B&B
5				6				6						663	2150 0	17	EACH	ACER RUBRUM 'RED SUNSET'-RED SUNSET MAPLE	2 1/2-3" CAL.	28"B&B
6				6										663	9990 0	12	EACH	AMELANCHIER LAEVIS -ALLEGHENY SERVICEBERRY (TREE FORM)	8'-10' HT	20"B&B
1				1										663	9990 0	2	EACH	CERCIDIPHYLLUM JAPONICUM 'PENDULA'-WEEPING KATSURA TREE	8'-10' HT	20"B&B
		3				3		6						663	9990 0	12	EACH	CERCIS CANADENSIS - REDBUD (TREE FORM)	6'-7' HT	18"B&B
3														663	1100 0	3	EACH	CRATEAGUS PHAENOPYRUM-WASHINGTON HAWTHORNE	1 1/2"-1 3/4"CAL.	20"B&B

GENERAL SUMMARY

CALC BY / DATE	GAL-35-6.79 GALLIA COUNTY SAFETY REST AREA	OHIO FHWA REGION 5	9 / 86
CHKD BY / DATE			

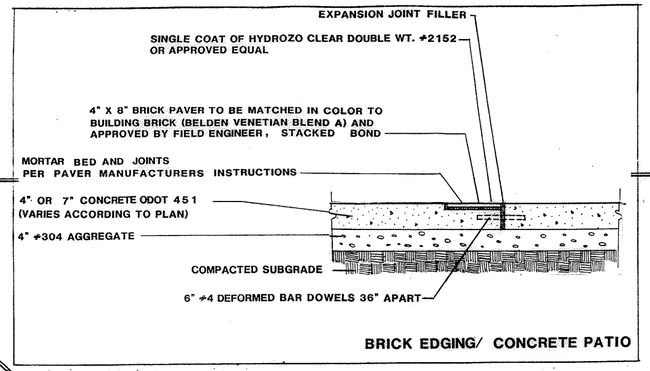
SHEET NUMBER												PARTICIPATION			ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION		
14		15		19		20		21		22									BOTANICAL NAME COMMON NAME	SIZE	CONDITION
3								12							663	2150 0	15	EACH	FRAXINUM AMERICANA 'AUTUMN PURPLE'-AUTUMN PURPLE ASH	2 1/2"-3" CAL.	28"B&B
				3				6							663	2150 0	9	EACH	GINGKO BILOBA-GINGKO	2 1/2"-3" CAL.	28"B&B
4				4											663	9990 0	8	EACH	KOELREUTERIA PANICULATA-GOLDEN RAINTREE	8'-10' HT	20"B&B
5															663	2150 0	5	EACH	LIQUIDAMBAR STYRACIFLUA 'MORAINE'-MORAINE SWEETGUM	2 1/2"-3" CAL.	28"B&B
3				4											663	2150 0	7	EACH	LIRIODENDRON TULIPIFERA-TULIPTREE	2 1/2"-3" CAL.	28"B&B
6				4		5		10							663	1200 0	25	EACH	MALUS 'SUGAR TYME'-SUGAR TYME CRABAPPLE	2"-2 1/2" CAL.	24"B&B
15		5		11		7									663	3300 0	38	EACH	PICEA OMORIKA-SERBIAN SPRUCE	6'-7' HT	22" B&B
				1				6							663	3300 0	7	EACH	PINUS BUNGEANA-LACEBARK PINE	6'-7' HT	22" B&B
6		16		13		26									663	3350 0	61	EACH	PINUS NIGRA-AUSTRIAN PINE	7'-8' HT	24"B&B
11															663	3200 0	11	EACH	PINUS NIGRA-AUSTRIAN PINE	4'-5'HT	16"B&B
5				13				19							663	3350 0	37	EACH	PINUS STROBUS-WHITE PINE	7'-8' HT	24"B&B
17															663	3200 0	17	EACH	PINUS STROBUS-WHITE PINE	4'-5'HT	16"B&B
3				3											663	1200 0	6	EACH	PYRUS CALLERYANA-ARISTOCRAT PEAR	2"-2 1/2" CAL.	24"B&B
3				3											663	9990 0	6	EACH	QUERCUS RUBRA-RED OAK	2"-3" CAL.	28"B&B
4				2											663	2150 0	6	EACH	ULMUS PARVIFOLIA-CHINESE ELM	2 1/2"-3" CAL.	28"B&B
															619	1000 0	LUMP		FIELD OFFICE		
															623	1000 0	LUMP		CONSTRUCTION LAYOUT STAKES		
															624	1000 0	LUMP		MOBILIZATION		
																			PLUMBING CONTRACT		
										2					SPECIAL	680 20400	2	EACH	MOTORIST SERVICES BUILDING, MSB-4 (PLUMBING ONLY)		
										2					SPECIAL	680 20400	2	EACH	MOTORIST SERVICES BUILDING, MSB-4 (PLUMBING FIXTURES AND TRIM ONLY)		
										LUMP					SPECIAL	680 98000	LUMP		COMPLETE COLD WATER SERVICE (SEE SHEET 4)		
															624	1000 0	LUMP		MOBILIZATION		
																			HEATING & VENTILATING CONTRACT		
										2					SPECIAL	680 30400	2	EACH	MOTORIST SERVICES BUILDING MSB-4 (HEATING & VENTILATING ONLY)		
															624	1000 0	LUMP		MOBILIZATION		

GENERAL SUMMARY

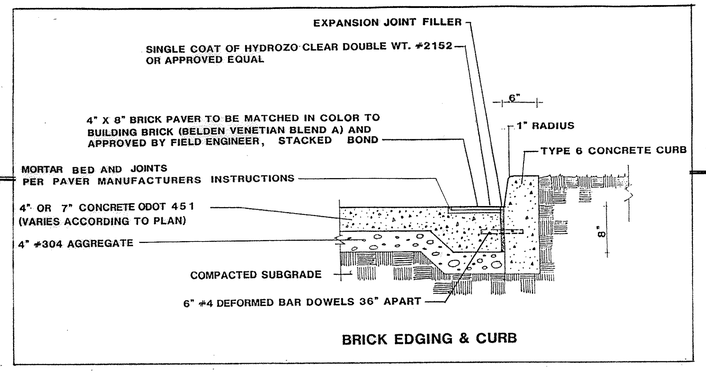
CALC BY / DATE	GAL-35-6.79 GALLIA COUNTY SAFETY REST AREA	OHIO FHWA REGION 5	10/86
CHKD BY / DATE			

SHEET NUMBER	PARTICIPATION	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
23						
						ELECTRICAL CONTRACT — SPECIAL INSTRUCTIONS
2		SPECIAL	680 40400	2	EACH	MOTORIST SERVICES BUILDING MSB-4 (ELECTRICAL ONLY)
2		SPECIAL	680 44700	2	EACH	TELEPHONE SERVICE (SEE SHEET 2)
25		SPECIAL	625 36000	25	L.F.	PLASTIC CAUTION TAPE
2		SPECIAL	625 34001	2	EACH	POWER SERVICE, AS PER PLAN (SEE SHEET 2)
1		SPECIAL	680 41300	1	EACH	COMPLETE WASTEWATER TREATMENT SYSTEM (ELECTRICAL ONLY)
2		SPECIAL	680 49200	2	EACH	LIFT STATION (ELECTRICAL ONLY)
480		603	0040 0	480	L.F.	4"CONDUIT, TYPE E
LUMP		625	3800 0	LUMP		HIGH VOLTAGE TEST
1157		625	2920 0	1157	L.F.	TRENCH, 48" DEEP
2717		625	2900 2	2717	L.F.	TRENCH, 24" DEEP
90		625	2560 0	90	L.F.	CONDUIT,4", 713.04
1645		625	2550 0	1645	L.F.	CONDUIT,3", 713.04
168		625	2590 0	168	L.F.	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, SIZE:3"
1882		625	2540 0	1882	L.F.	CONDUIT,2", 713.04
1595		625	2530 0	1595	L.F.	CONDUIT, 1 1/2", 713.04
168		625	2592 0	168	L.F.	4" CONDUIT, SCD 40 PVC,BORED
1275		625	2592 0	1275	L.F.	4" CONDUIT SCD 40 PVC
6		625	3160 0	6	EACH	PULLBOX, 48" CONCRETE 713.08
21		625	3070 6	21	EACH	PULLBOX, 24" 713.08
220		625	2320 0	220	L.F.	NO. 4 AWG. 5000 VOLT DISTRIBUTION CABLE
110		625	9810 0	110	L.F.	500 MCM UL TYPE, 600 VOLT SEC. FEEDER CABLE
1515		625	2330 8	1515	L.F.	1/C NO. 4/0 AWG. 600 VOLT DISTRIBUTION CABLE
367		625	2330 8	367	L.F.	NO. 10 AWG. 6000 VOLT DISTRIBUTION CABLE
4040		625	2330 8	4040	L.F.	NO. 12 AWG. 6000 VOLT DISTRIBUTION CABLE
2140		625	2330 8	2140	L.F.	1/C NO.12 AWG 600 VOLT DISTRIBUTION CABLE
2		625	3200 0	2	EACH	GROUND ROD
3210		625	2330 8	3210	L.F.	1/C NO.1/0 AWG., 600 VOLT DISTRIBUTION CABLE
1070		625	9810 0	1070	L.F.	1/C NO.6 AWG., 600 VOLT-GREEN GROUND
1070		625	9810 0	1070	L.F.	1/C NO.12 AWG.,600 VOLT-GREEN GROUND
		623	1000 0	LUMP		CONSTRUCTION LAYOUT STAKES
		624	1000 0	LUMP		MOBILIZATION

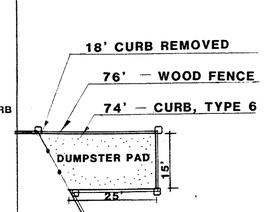
CALC. BY		GAL-35-6.79 REST AREA	OHIO	11
DATE			FHWA REGION 5	86
CHKD. BY				
DATE				

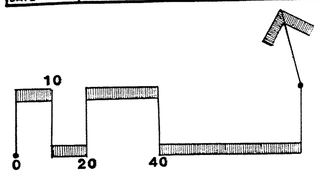


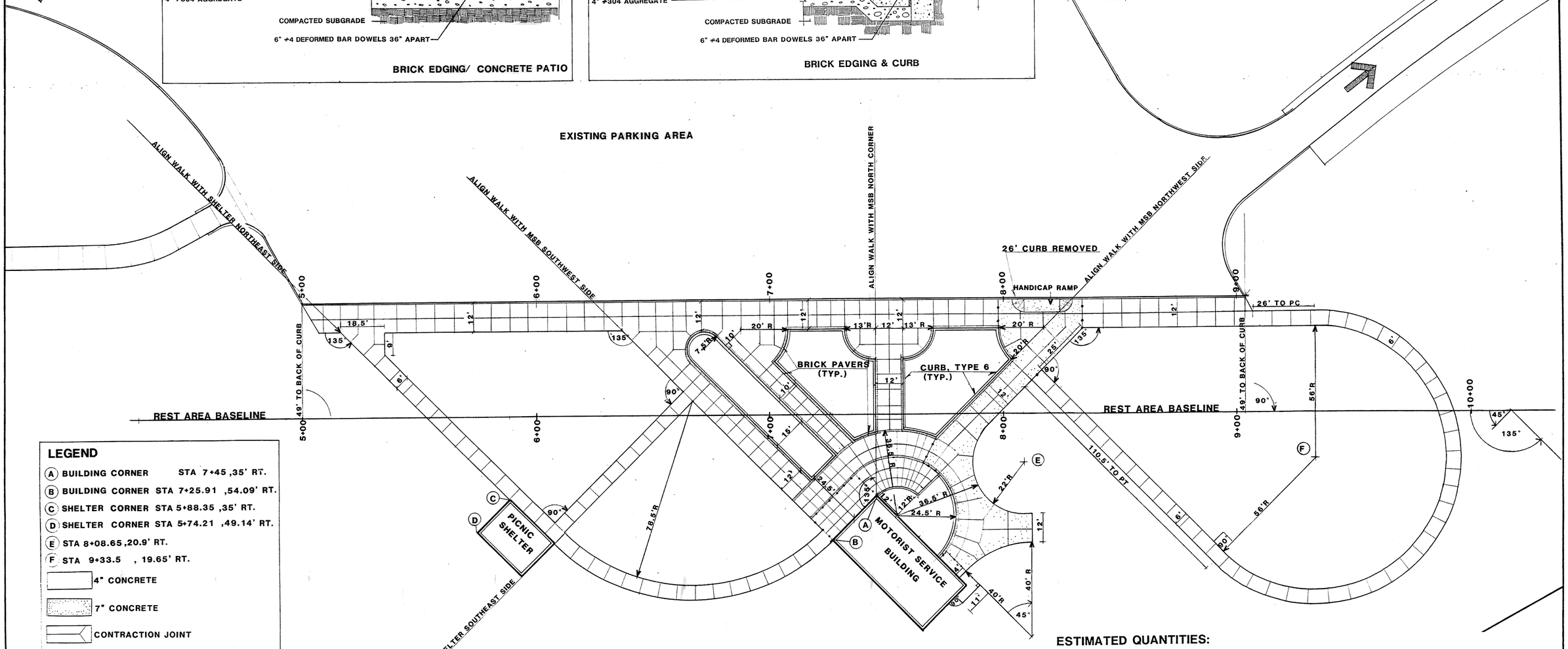
BRICK EDGING/ CONCRETE PATIO



BRICK EDGING & CURB







LEGEND

- (A) BUILDING CORNER STA 7+45 ,35' RT.
- (B) BUILDING CORNER STA 7+25.91 ,54.09' RT.
- (C) SHELTER CORNER STA 5+88.35 ,35' RT.
- (D) SHELTER CORNER STA 5+74.21 ,49.14' RT.
- (E) STA 8+08.65 ,20.9' RT.
- (F) STA 9+33.5 , 19.65' RT.
- 4" CONCRETE
- 7" CONCRETE
- CONTRACTION JOINT
- EXPANSION JOINT
- BRICK EDGING
- WOOD FENCE

NOTES

* ALL MEASUREMENTS TO BOTTOM OF CURB UNLESS OTHERWISE NOTED.
* 26' OF EXISTING CURB SHALL BE REMOVED TO PERMIT CONSTRUCTION OF HANDICAPPED ACESS RAMP AS SHOWN ON THE PLANS.
* ADJUSTMENTS TO SIDEWALKS MAY BE REQUIRED IN THE FIELD TO PROTECT EXISTING TREES

ESTIMATED QUANTITIES:

ITEM	DESCRIPTION	QUANTITY
SPECIAL	MOTORIST SERVICE BUILDING (GENERAL ONLY)	1 EACH
SPECIAL	BRICK PAVER	637 L.F.
202	CURB REMOVED	44 L.F.
452	7" PLAIN CONCRETE PAVEMENT, AS PER PLAN	355 SQ.YD.
608	4" CONCRETE WALK	13,070 S. F.
608	CURB RAMP, TYPE 1, AS PER PLAN	156 S.F.
SPECIAL	SHELTER HOUSE	1 EACH
609	CURB, TYPE 6	644 LF
SPECIAL	WOOD FENCE	76 L.F.

EASTBOUND LAYOUT PLAN

CALC. BY		GAL-35-3.79 REST AREA	OHIO	12
DATE			FHWA REGION 5	86
CHKD. BY				
DATE				

CONTOUR INTERVAL=1'

LEGEND:

- 707 — EXISTING CONTOUR
- 708 — PROPOSED CONTOUR
- \+ SPOT GRADE

N

0 10 20 40

DUMPSTER PAD

SLOPE TO DRAIN

EXISTING PARKING AREA

SERVICE DRIVE

+T.C.=706 +T.C.=707 +T.C.=708 +T.C.=708

+707.31 707.56 707.98 +708.71 708.71 +708.30 +707.91

+708.94 +708.73

0.5% 0.47% 0.28%

+710.30 PICNIC SHELTER F.F.=710.30

+711.0 MOTORIST SERVICE BUILDING F.F. ELEV=711.00

+711.0 +710.16 +710.37 +710.80 +710.92

2% 712

L/A L/A

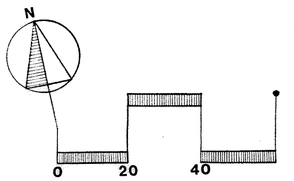
ESTIMATED QUANTITIES:

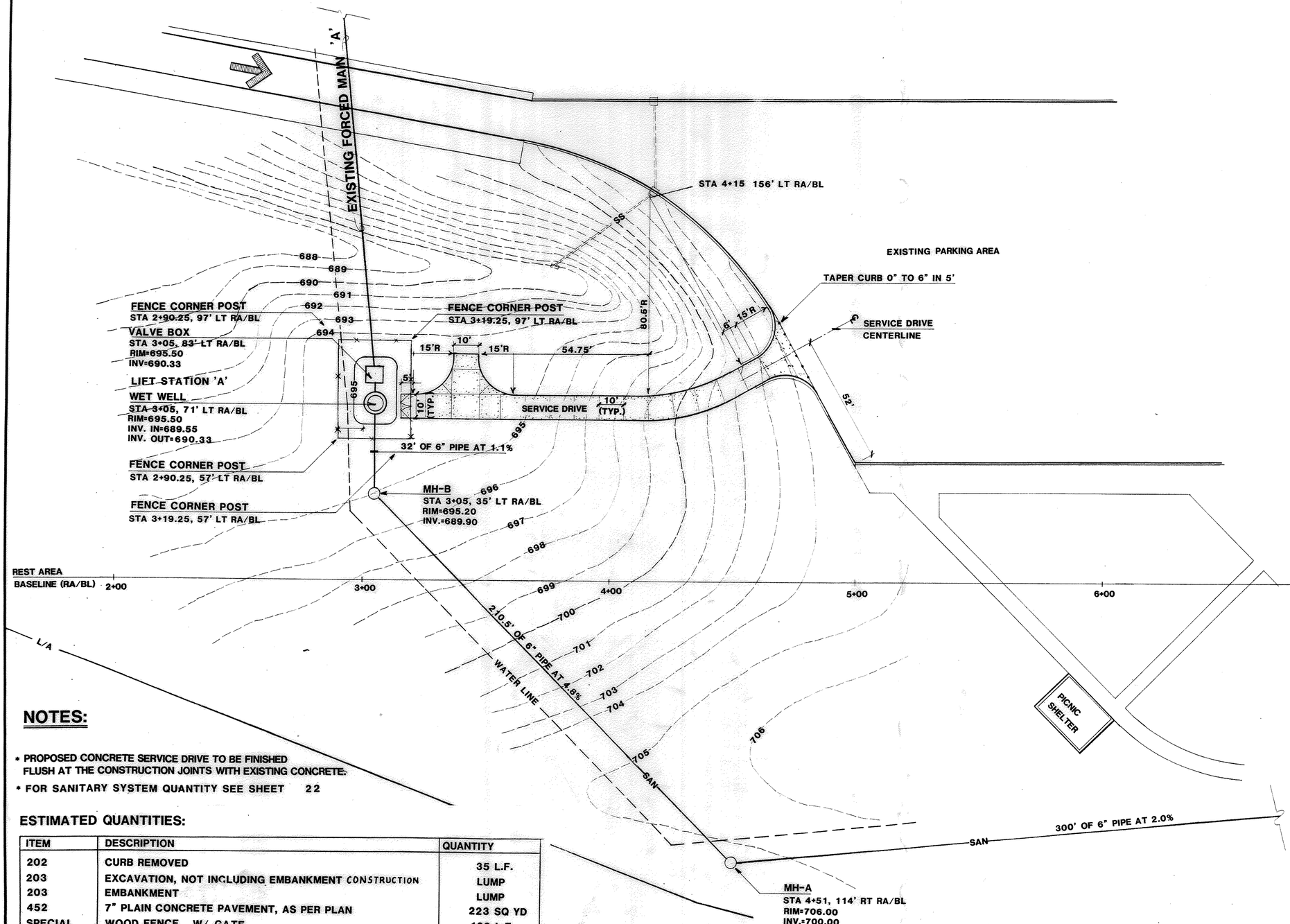
ITEM	DESCRIPTION	QUANTITY
203	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	LUMP
203	EMBANKMENT	LUMP

EASTBOUND GRADING PLAN

CALC BY / DATE	GAL-35-6.79 REST AREA	OHIO	13
CHKD BY / DATE		FHWA REGION 5	86

CONTOUR INTERVAL = 1'





LEGEND:

- 702 — EXISTING CONTOUR
- 703 — PROPOSED CONTOUR
- PROPOSED EXPANSION JOINT
- SS — EXISTING STORM DRAIN
- SAN — PROPOSED SANITARY SEWER
- PROPOSED MANHOLE
- \+ PROPOSED SPOT GRADE
- PROPOSED 7" CONCRETE

NOTES:

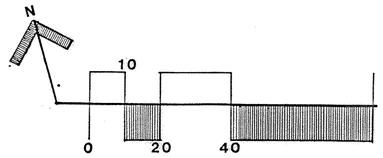
* PROPOSED CONCRETE SERVICE DRIVE TO BE FINISHED FLUSH AT THE CONSTRUCTION JOINTS WITH EXISTING CONCRETE.
* FOR SANITARY SYSTEM QUANTITY SEE SHEET 22

ESTIMATED QUANTITIES:

ITEM	DESCRIPTION	QUANTITY
202	CURB REMOVED	35 L.F.
203	EXCAVATION, NOT INCLUDING EMBANKMENT CONSTRUCTION	LUMP
203	EMBANKMENT	LUMP
452	7" PLAIN CONCRETE PAVEMENT, AS PER PLAN	223 SQ YD
SPECIAL	WOOD FENCE W/ GATE	126 L.F.

EASTBOUND LIFT STATION A LAYOUT & GRADING PLAN

CALC. BY		GAL-35-6.79	OHIO	14
DATE		REST AREA	FHWA REGION 5	86
CHKD. BY				
DATE				



ESTIMATED QUANTITIES

ITEM	KEY	QTY	DESCRIPTION (BOTANICAL NAME/COMMON NAME)	SIZE	COND.
	AP	1	ACER PALMATUM BURGUNDY LACE BURGUNDY LACE JAPANESE MAPLE	4-5'	16" B&B
	AR	5	ACER RUBRUM RED SUNSET RED SUNSET MAPLE	2 1/2"-3" CAL.	28" B&B
	AL	6	AMELANCHIER LAEVIS (TREE FORM) ALLEGHENY SERVICEBERRY	8-10'	20" B&B
	CJ	1	CERCIDIPHYLLUM JAPONICUM PENDULA WEEPING KATSURA TREE	8'-10'	20" B&B
	CC	0	CERCIS CANADENSIS REDBUD	6-7'	18" B&B
	CP	3	CRATAEGUS PHAENOPYRUM WASHINGTON HAWTHORNE	1 1/2-1 3/4"CAL.	20" B&B
	FA	3	FRAXINUS AMERICANA AUTUMN PURPLE AUTUMN PURPLE ASH	2 1/2-3" CAL.	28" B&B
	GB	0	GINGKO BILOBA GINGKO	2 1/2-3" CAL.	28" B&B
	KP	4	KOELREUTERIA PANICULATA GOLDEN RAINTREE	8'-10'	20" B&B
663	LS	5	LIQUIDAMBAR STYRACIFLUA MORAINE MORAINE SWEETGUM	2 1/2"-3" CAL.	28" B&B
	LT	3	LIRIODENDRON TULIPIFERA TULIPTREE	2 1/2-3" CAL.	28" B&B
	MS	6	MALUS SUGAR TYME SUGAR TYME CRABAPPLE	2-2 1/2" CAL	24" B&B
	PO	15	PICEA OMORIKA SERBIAN SPRUCE	6-7'	22" B&B
	PB	0	PINUS BUNGEANA LACEBARK PINE	6-7'	22" B&B
	PNA	6	PINUS NIGRA AUSTRIAN PINE	7-8'	24" B&B
	PN	11	PINUS NIGRA AUSTRIAN PINE	4-5'	16" B&B
	PSA	5	PINUS STROBUS WHITE PINE	7-8'	24" B&B
	PS	17	PINUS STROBUS WHITE PINE	4'-5'	16" B&B
	PC	3	PYRUS CALLERYANA ARISTOCRAT PEAR	2-2 1/2" CAL.	24" B&B
	QR	3	QUERCUS RUBRA RED OAK	2 -3" CAL.	28" B&B
	UP	4	ULMUS PARVIFOLIA CHINESE ELM	2 1/2"-3" CAL.	28" B&B

ITEM	KEY	QTY.	DESCRIPTION	SIZE	COND.
	AL	0	AMELANCHIER LAEVIS (SHRUB FORM) ALLEGHENY SERVICEBERRY	6-7'	18" B&B
	AV	3	AESCULUS PARVIFLORA BOTTLEBRUSH BUCKEYE	4-5'	14" B&B
	BT	10	BERBERIS THUNBERGI CRIMSON PYGMY CRIMSON PYGMY BARBERRY	15-18"	2 GAL.
	CC	3	CERCIS CANADENSIS (SHRUB FORM) REDBUD	6-7'	10"B&B
	CA	23	COTONEASTER APICULATA CRANBERRY COTONEASTER	15-18"	2 GAL.
	IC	30	ILEX CRENATA GREEN LUSTRE GREEN LUSTRE JAPANESE HOLLY	15-18"	2 GAL.
	JS	9	JUNIPERUS SABINA BROADMOOR BROADMOOR JUNIPER	15-18"	2 GAL.
662	LF	25	LONICERA FRAGRANTISSIMA WINTER HONEYSUCKLE	2-3'	10"B&B
	PA	14	PICEA PUMILA ABIES IMPROVED NEST SPRUCE	15-18"	2 GAL.
	PM	22	PINUS MUGO MUGO PINE	15-18"	2 GAL.
	RR	0	ROSA RUGOSA RUGOSA ROSE	18-24"	1 GAL.
	SJ	10	SPIREA JAPONICA PINK PRINCESS PINK PRINCESS SPIREA	15-18"	2 GAL.
	TM	38	TAXUS X MEDIA EVERLOW EVERLOW YEW	18-24"	10" B&B
	VC	10	VIBURNUM CARLESI CHESAPEAKE CHESAPEAKE KOREANSPICE VIBURNUM	2-3'	10"B&B
	VO	5	VIBURNUM OPULUS NANUM NANUM CRANBERRYBUSH VIBURNUM	15-18"	2 GAL.
	VP	5	VIBURNUM PRUNIFOLIUM BLACKHAW VIBURNUM	2-3'	10"B&B
661	EF	9700	EUONYMOUS FORTUNEI COLORADUS EUONYMOUS	1 YR.	8" O.C.
	VM	5172	VINCA MINOR PERIWINKLE	1 YR.	8" O.C.
659			SEEDING , SODDING, AND FERTILIZING SEE SHEET		
SPEC.		4	PICNIC TABLE (IN SHELTER)		
SPEC.		5	PICNIC TABLE AND SLAB		
SPEC.		12	WASTE RECEPTACLE SLEEVES		
SPEC.		7	WASTE RECEPTACLE SLAB		
SPEC.		2	CHARCOAL GRILL AND SERVING TABLE WITH SLAB		
SPEC.		4	8' WOOD BENCH		

* NOTE:
All QUANTITIES CARRIED TO THE GENERAL SUMMARY

SEE PUMP STATION DETAIL SHEET # 78

NATURALIZED AREA (BY OTHERS)

PICNIC SHELTER

MOTORIST SERVICE BUILDING

EXISTING MAPLE TO BE SAVED

L/A

NOTES:

* NATURALIZED AREAS SHALL BE MANAGED BY DISTRICT PERSONNEL THROUGH NO MOW AND/OR SEEDLING PROGRAM.

* EXACT LOCATION OF PICNIC TABLES , GRILLS AND WASTE RECEPTACLES SHALL BE DETERMINED IN THE FIELD BY THE LANDSCAPE ARCHITECT OR FIELD ENGINEER

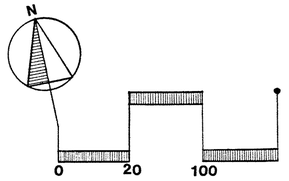
* ALL SHRUB BEDS TO BE BACKFILLED WITH 12" TOPSOIL (BACKFILL #2)

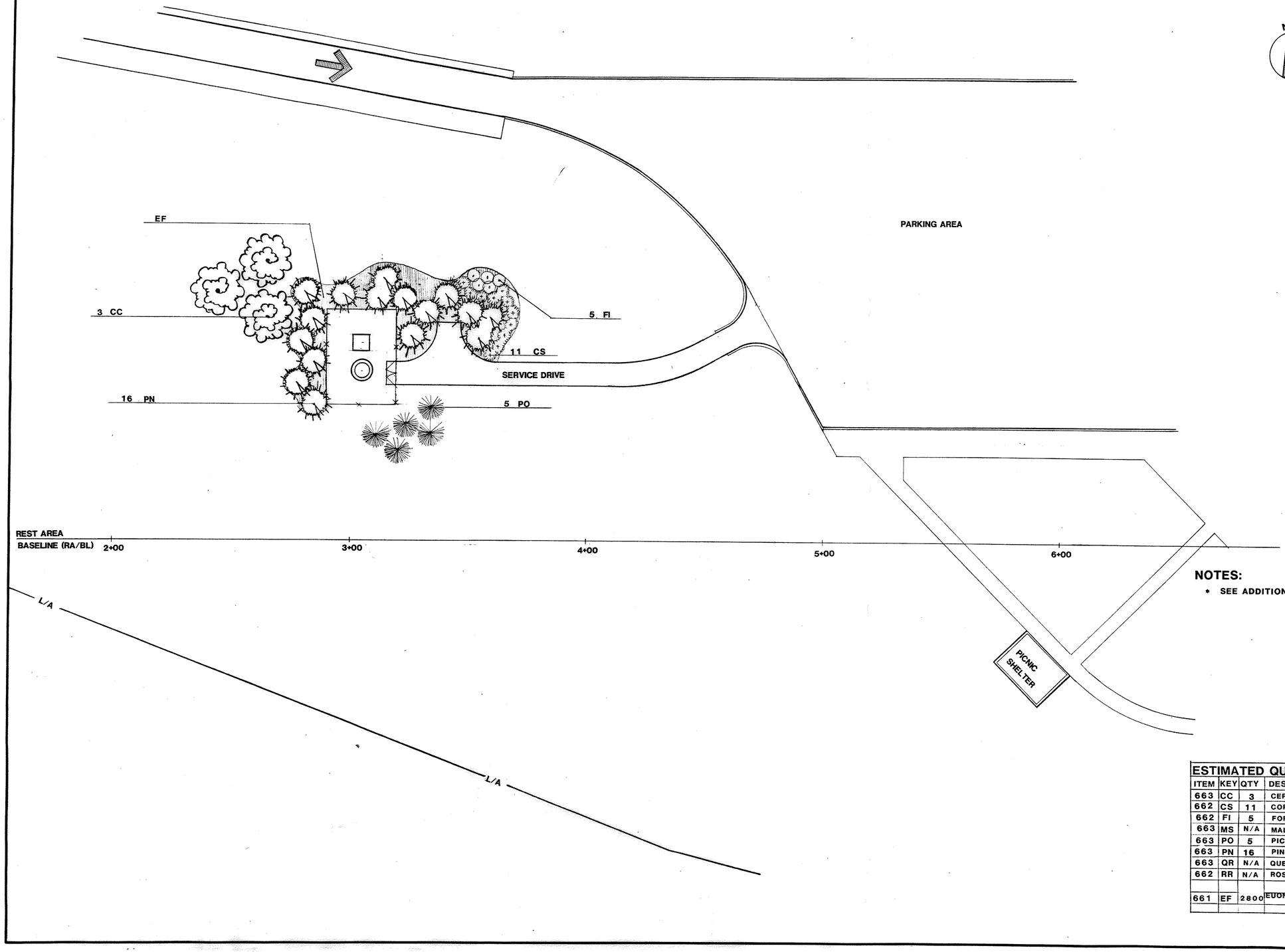
* ADDITIONAL LANDSCAPING SEE SHEETS 4,5,19,20, & 21

* SIDEWALK LOCATIONS MAY REQUIRE FIELD ADJUSTMENTS TO PROTECT EXISTING TREES

BLDG. AREA LANDSCAPE PLAN
EASTBOUND

CALC BY / DATE	GAL-35-6.79 REST AREA	OHIO	15
CHKD BY / DATE		FHWA REGION 5	86





NOTES:

* SEE ADDITIONAL LANDSCAPING SHEETS 4,19,20 & 21

ESTIMATED QUANTITIES

ITEM	KEY	QTY	DESCRIPTION BOTANICAL NAME/COMMON NAME	SIZE	COND.
663	CC	3	CERCIS CANADENSIS REDBUD	6-7'	18" B&B
662	CS	11	CORNUS SERICEA BAILEYI BAILEY DOGWOOD	3-4'	12" B&B
662	FI	5	FORSYTHIA INTERMEDIA BORDER FORSYTHIA	3-4'	12" B&B
663	MS	N/A	MALUS SUGAR TYME SUGAR TYME CRABAPPLE	2-2 1/2" CAL.	24" B&B
663	PO	5	PICEA OMORIKA SERBIAN SPRUCE	6-7'	22" B&B
663	PN	16	PINUS NIGRA AUSTRIAN PINE	7-8'	24" B&B
663	QR	N/A	QUERCUS RUBRA RED OAK	2-3" CAL.	28" B&B
662	RR	N/A	ROSA RUGOSA RUGOSA ROSE		
661	EF	2800	EUONYMOUS COLORATUS FORTUNEI COLORATUS EUONYMOUS	1 YR.	12"O.C.

LIFT STATION A PLANTING PLAN

CALC. BY / DATE	GAL-35-6.79 REST AREA	OHIO	16
CHKD. BY / DATE		FHWA REGION 5	86

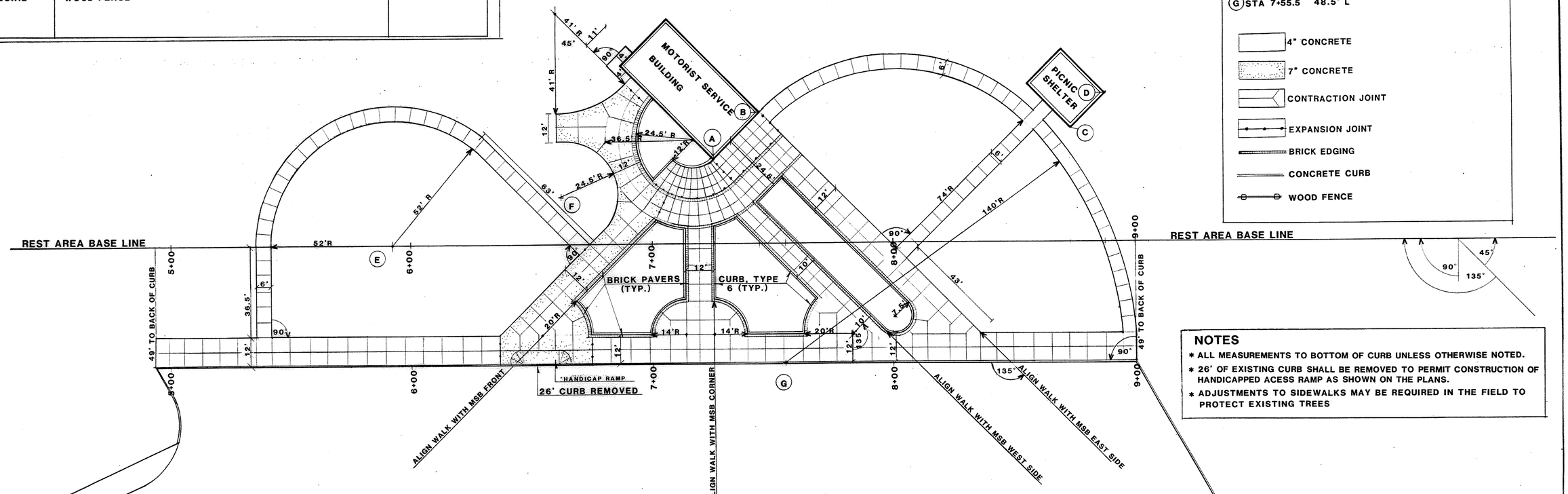
ESTIMATED QUANTITIES:

ITEM	DESCRIPTION	QUANTITY
SPECIAL	MOTORIST SERVICE BUILDING MSB-4 (GENERAL ONLY)	1 EACH
SPECIAL	BRICK PAVER	637 L.F.
202	CURB REMOVED	44 L.F.
452	7" PLAIN CONCRETE PAVEMENT, AS PER PLAN	357 SQ.YD.
608	4" CONCRETE WALK	11,500 S.F.
608	CURB RAMP, TYPE 1, AS PER PLAN	156 S.F.
SPECIAL	SHELTER HOUSE	1 EACH
609	CURB, TYPE 6	644 LF
SPECIAL	WOOD FENCE	76 LF

LEGEND

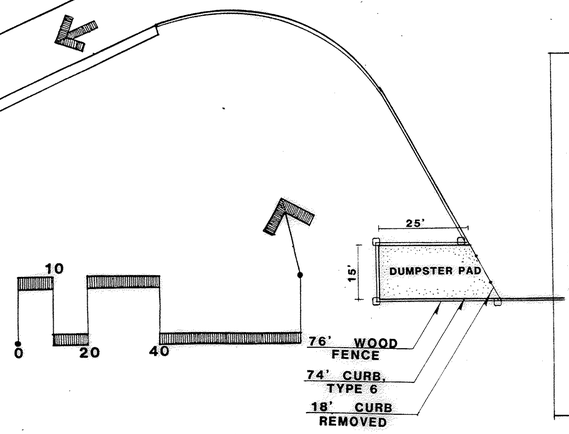
- (A) BUILDING CORNER STA 7+25.8 , 35'R
- (B) BUILDING CORNER STA 7+44.89 ,54.09'R
- (C) SHELTER CORNER STA 8+73.2 , 47'R
- (D) SHELTER CORNER STA 8+87.34 ,61.14' R
- (E) STA 5+92.2
- (F) STA 6+62.2 19.5' R
- (G) STA 7+55.5 48.5' L

4" CONCRETE
7" CONCRETE
CONTRACTION JOINT
EXPANSION JOINT
BRICK EDGING
CONCRETE CURB
WOOD FENCE

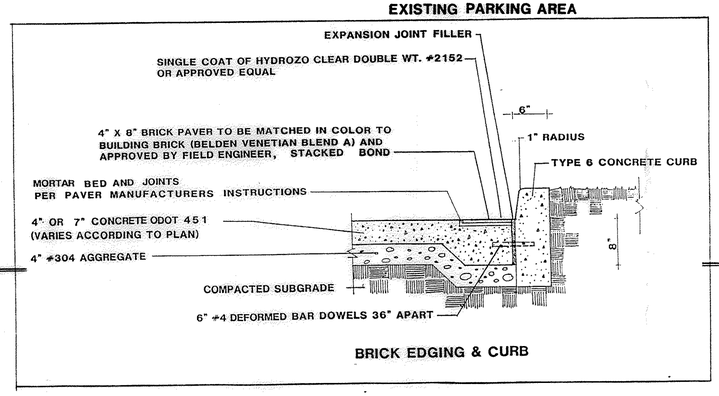


NOTES

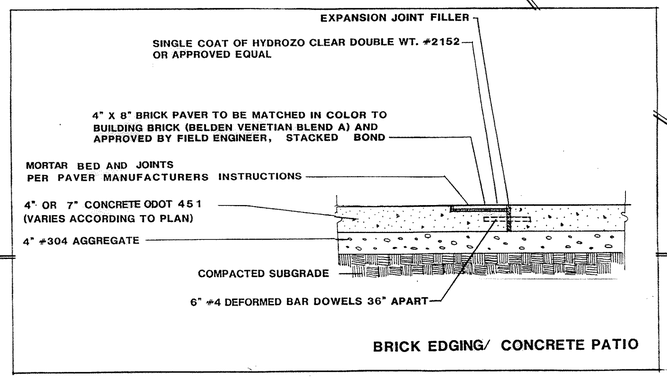
* ALL MEASUREMENTS TO BOTTOM OF CURB UNLESS OTHERWISE NOTED.
* 26' OF EXISTING CURB SHALL BE REMOVED TO PERMIT CONSTRUCTION OF HANDICAPPED ACESS RAMP AS SHOWN ON THE PLANS.
* ADJUSTMENTS TO SIDEWALKS MAY BE REQUIRED IN THE FIELD TO PROTECT EXISTING TREES



EXISTING PARKING AREA



BRICK EDGING & CURB



BRICK EDGING/ CONCRETE PATIO

WESTBOUND LAYOUT PLAN

CALC. BY	GAL-35-6.79	OHIO	17
DATE	REST AREA	FHWA REGION 5	86
CHKD. BY			
DATE			

CONTOUR INTERVAL= 1'

LEGEND:

706 PROPOSED CONTOUR

708 EXISTING CONTOUR

\+ SPOT GRADE

EVERETTE - DENNY ROAD C.R. 34

L/A

L/A

MOTORIST SERVICE BUILDING F.F. ELEV.=708.6

PICNIC SHELTER F.F.=710.40

3.33%

1.0%

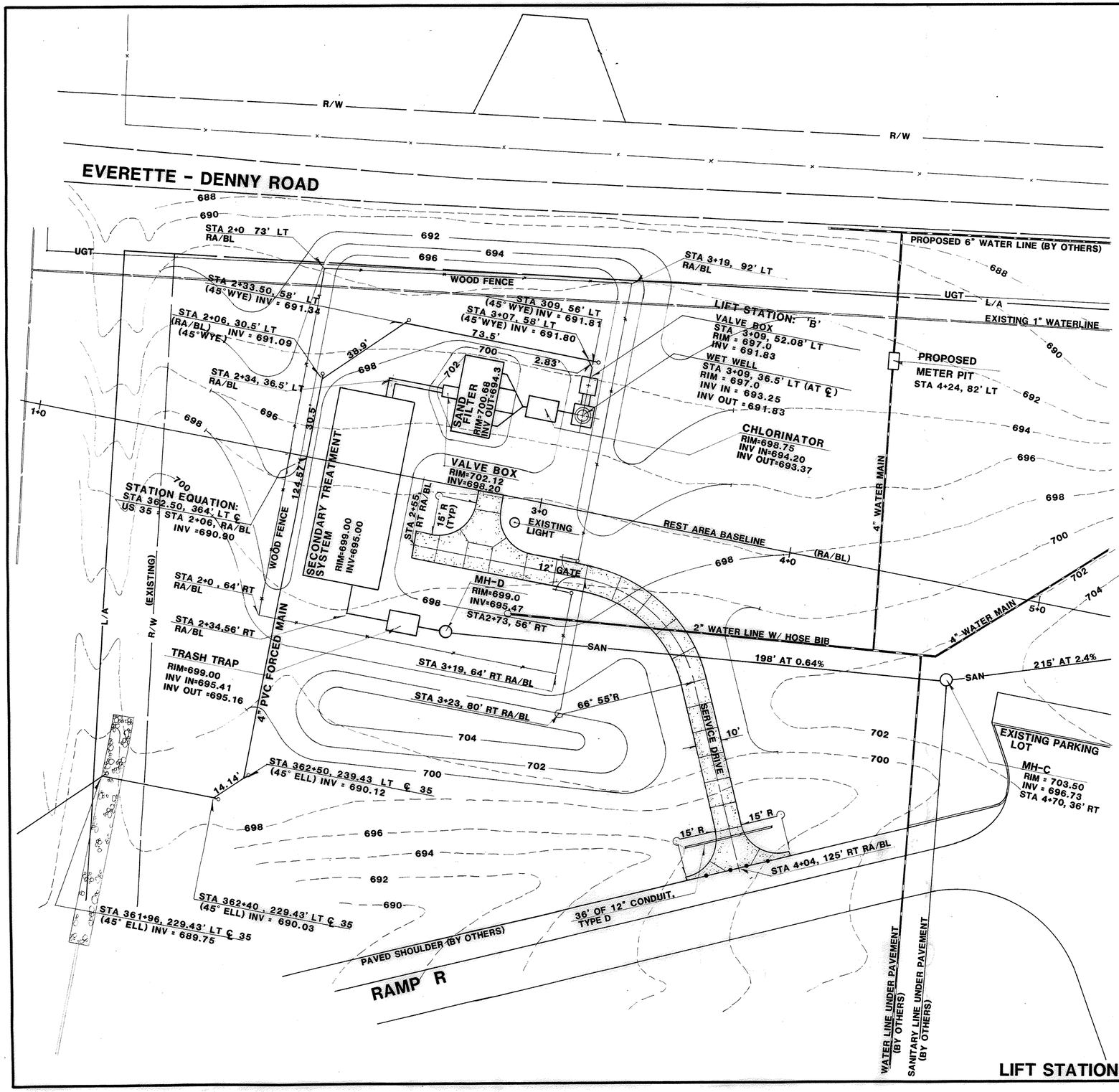
EXISTING PARKING AREA

10 0 20 40

ESTIMATED QUANTITIES:

ITEM	DESCRIPTION	QUANTITY
203	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	LUMP
203	EMBANKMENT	LUMP

WESTBOUND GRADING PLAN



N

0 10 20 50 100

LEGEND:

- 7" CONCRETE W/ CONTRACTION JOINTS
- 7" CONCRETE W/ EXPANSION JOINT
- SAN — SANITARY SEWER
- W — WATER LINE
- HOSE BIB
- 702 — EXISTING CONTOUR
- 702 — PROPOSED CONTOUR

NOTES:

- FOR SANITARY & WATER SYSTEM QUANTITIES SEE SHEET 22
- PROPOSED SERVICE DRIVE TO BE FINISHED FLUSH WITH PAVED SHOULDER.
- FOR WOOD FENCE AND GATE DETAILS SEE SHEET 84

FOR CONTINUATION OF 4" PVC FORCED SEE SHEETS 26-28

FOR WASTEWATER TREATMENT PLANT DETAILS SEE SHEETS 62-7

FOR LIFT STATION DETAILS SEE SHEETS 76-79

ESTIMATED QUANTITIES:

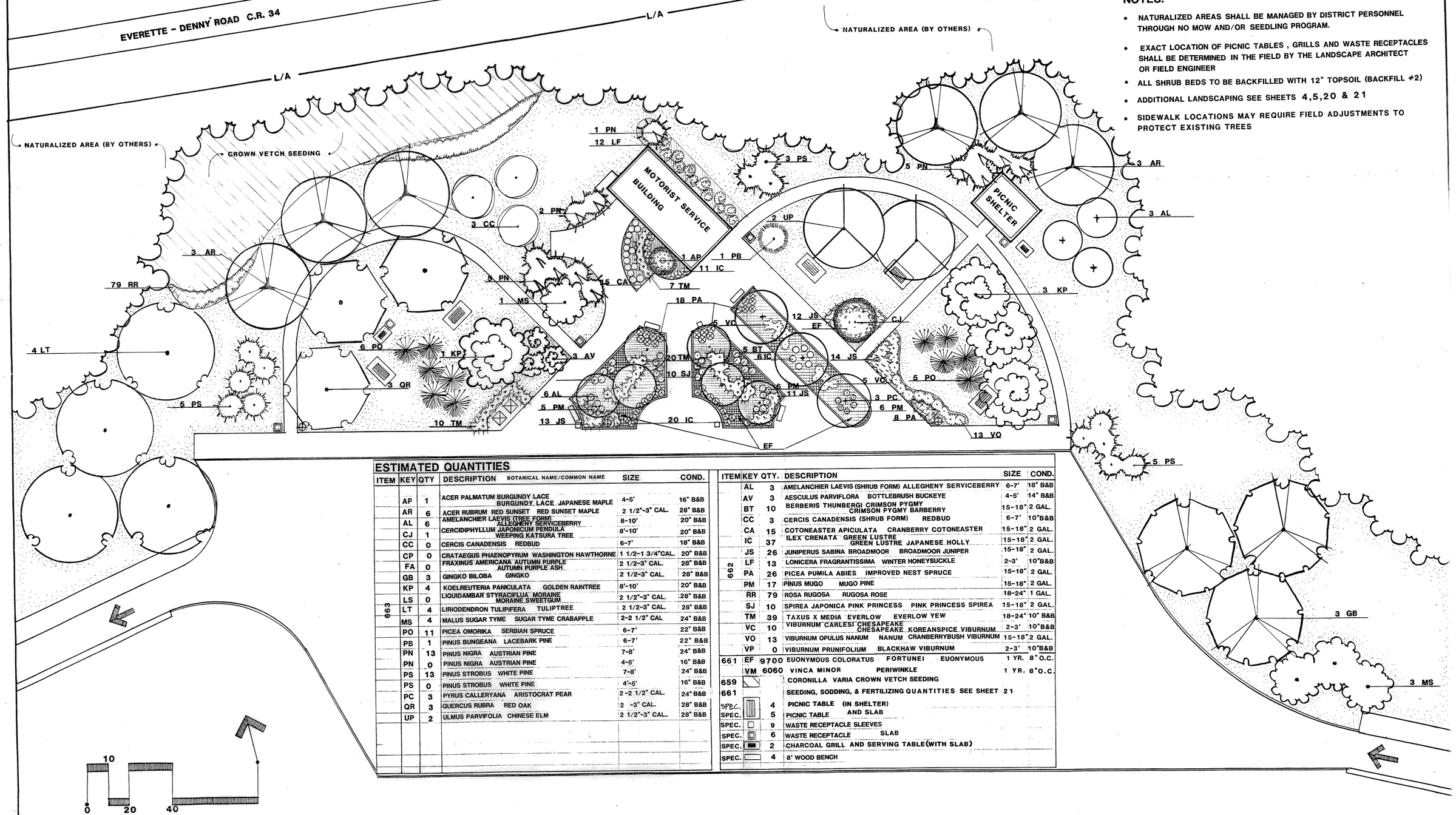
ITEM	DESCRIPTION	QUANTITY
SPECIAL	WOOD FENCE WITH 12' GATE	519 L.F.
203	EMBANKMENT	LUMP
203	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	LUMP
452	7" PLAIN CONCRETE PAVEMENT, AS PER PLAN	245 SQ. YD.
603	12" CONDUIT, TYPE D	36 L.F.

LIFT STATION B & WASTEWATER TREATMENT PLANT LAYOUT & GRADING PLAN

CALC. BY		GAL-35-6.79	OHIO	19
DATE		REST AREA	FHWA REGION 5	86
CHKD. BY				
DATE				

NOTES:

* NATURALIZED AREAS SHALL BE MANAGED BY DISTRICT PERSONNEL THROUGH NO MOW AND/OR SEEDLING PROGRAM.
* EXACT LOCATION OF PICNIC TABLES , GRILLS AND WASTE RECEPTACLES SHALL BE DETERMINED IN THE FIELD BY THE LANDSCAPE ARCHITECT OR FIELD ENGINEER
* ALL SHRUB BEDS TO BE BACKFILLED WITH 12" TOPSOIL (BACKFILL #2)
* ADDITIONAL LANDSCAPING SEE SHEETS 4,5,20 & 21
* SIDEWALK LOCATIONS MAY REQUIRE FIELD ADJUSTMENTS TO PROTECT EXISTING TREES



ESTIMATED QUANTITIES

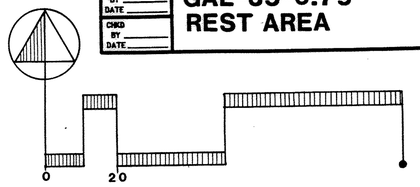
ITEM	KEY	QTY	DESCRIPTION BOTANICAL NAME/COMMON NAME	SIZE	COND.
	AP	1	ACER PALMATUM BURGUNDY LACE BURGUNDY LACE JAPANESE MAPLE	4-5'	16" B&B
	AR	6	ACER RUBRUM RED SUNSET RED SUNSET MAPLE	2 1/2"-3" CAL.	28" B&B
	AL	6	AMELANCHIER LAEVIS (TREE FORM) ALLEGHENY SERVICEBERRY	8-10'	20" B&B
	CJ	1	CERCIDIPHYLLUM JAPONICUM PENDULA WEEPING KATSURA TREE	8'-10'	20" B&B
	CC	0	CERCIS CANADENSIS REDBUD	6-7'	18" B&B
	CP	0	CRATAEGUS PHAENOPYRUM WASHINGTON HAWTHORNE	1 1/2-1 3/4"CAL.	20" B&B
	FA	0	FRAXINUS AMERICANA AUTUMN PURPLE AUTUMN PURPLE ASH	2 1/2-3" CAL.	28" B&B
	GB	3	GINGKO BILOBA GINGKO	2 1/2-3" CAL.	28" B&B
	KP	4	KOELREUTERIA PANICULATA GOLDEN RAINTREE	8'-10'	20" B&B
	LS	0	LIQUIDAMBAR STYRACIFLUA MORAINE MORAINE SWEETGUM	2 1/2"-3" CAL.	28" B&B
663	LT	4	LIRIODENDRON TULIPIFERA TULIPTREE	2 1/2-3" CAL.	28" B&B
	MS	4	MALUS SUGAR TYME SUGAR TYME CRABAPPLE	2-2 1/2" CAL	24" B&B
	PO	11	PICEA OMORIKA SERBIAN SPRUCE	6-7'	22" B&B
	PB	1	PINUS BUNGEANA LACEBARK PINE	6-7'	22" B&B
	PN	13	PINUS NIGRA AUSTRIAN PINE	7-8'	24" B&B
	PN	0	PINUS NIGRA AUSTRIAN PINE	4-5'	16" B&B
	PS	13	PINUS STROBUS WHITE PINE	7-8'	24" B&B
	PS	0	PINUS STROBUS WHITE PINE	4'-5'	16" B&B
	PC	3	PYRUS CALLERYANA ARISTOCRAT PEAR	2-2 1/2" CAL.	24" B&B
	QR	3	QUERCUS RUBRA RED OAK	2 -3" CAL.	28" B&B
	UP	2	ULMUS PARVIFOLIA CHINESE ELM	2 1/2"-3" CAL.	28" B&B

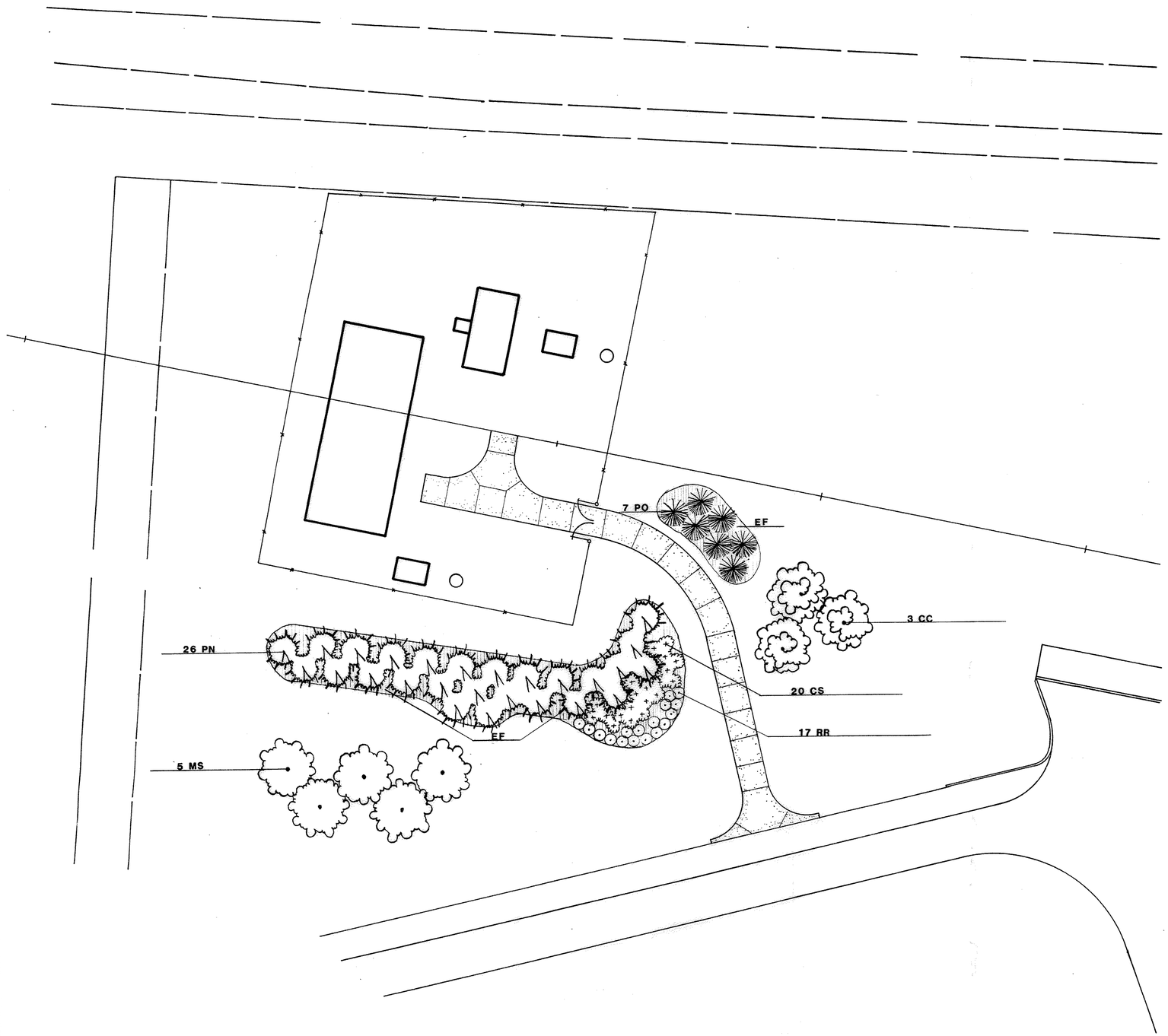
ITEM	KEY	QTY.	DESCRIPTION	SIZE	COND.
	AL	3	AMELANCHIER LAEVIS (SHRUB FORM) ALLEGHENY SERVICEBERRY	6-7'	18" B&B
	AV	3	AESCULUS PARVIFLORA BOTTLEBRUSH BUCKEYE	4-5'	14" B&B
	BT	10	BERBERIS THUNBERGI CRIMSON PYGMY CRIMSON PYGMY BARBERRY	15-18"	2 GAL.
	CC	3	CERCIS CANADENSIS (SHRUB FORM) REDBUD	6-7'	10"B&B
	CA	15	COTONEASTER APICULATA CRANBERRY COTONEASTER	15-18"	2 GAL.
	IC	37	ILEX CRENATA GREEN LUSTRE GREEN LUSTRE JAPANESE HOLLY	15-18"	2 GAL.
	JS	26	JUNIPERUS SABINA BROADMOOR BROADMOOR JUNIPER	15-18"	2 GAL.
	LF	13	LONICERA FRAGRANTISSIMA WINTER HONEYSUCKLE	2-3'	10"B&B
662	PA	26	PICEA PUMILA ABIES IMPROVED NEST SPRUCE	15-18"	2 GAL.
	PM	17	PINUS MUGO MUGO PINE	15-18"	2 GAL.
	RR	79	ROSA RUGOSA RUGOSA ROSE	18-24"	1 GAL.
	SJ	10	SPIREA JAPONICA PINK PRINCESS PINK PRINCESS SPIREA	15-18"	2 GAL.
	TM	39	TAXUS X MEDIA EVERLOW EVERLOW YEW	18-24"	10" B&B
	VC	10	VIBURNUM CARLESI CHESAPEAKE CHESAPEAKE KOREANSPICE VIBURNUM	2-3'	10"B&B
	VO	13	VIBURNUM OPULUS NANUM NANUM CRANBERRYBUSH VIBURNUM	15-18"	2 GAL.
	VP	0	VIBURNUM PRUNIFOLIUM BLACKHAW VIBURNUM	2-3'	10"B&B
661	EF	9700	EUONYMOUS COLORATUS FORTUNEI EUONYMOUS	1 YR.	8" O.C.
	VM	6060	VINCA MINOR PERIWINKLE	1 YR.	8"O.C.
659			CORONILLA VARIA CROWN VETCH SEEDING		
661			SEEDING, SODDING, & FERTILIZING QUANTITIES SEE SHEET 21		
SPEC.		4	PICNIC TABLE (IN SHELTER)		
SPEC.		5	PICNIC TABLE AND SLAB		
SPEC.		9	WASTE RECEPTACLE SLEEVES		
SPEC.		6	WASTE RECEPTACLE SLAB		
SPEC.		2	CHARCOAL GRILL AND SERVING TABLE(WITH SLAB)		
SPEC.		4	8' WOOD BENCH		

BLDG. AREA LANDSCAPE PLAN

WESTBOUND

CALC BY / DATE	GAL-35-6.79 REST AREA	OHIO	20
CHKD BY / DATE		FHWA REGION 5	86





NOTES:

* SEE ADDITIONAL LANDSCAPING SHEETS 4,5,19 & 21

ESTIMATED QUANTITIES

ITEM	KEY	QTY	DESCRIPTION BOTANICAL NAME/COMMON NAME	SIZE	COND.
663	CC	3	CERCIS CANADENSIS REDBUD	6-7'	18" B&B
662	CS	20	CORNUS SERICEA BAILEYI BAILEY DOGWOOD	3-4'	12" B&B
662	FI	N/A	FORSYTHIA INTERMEDIA BORDER FORSYTHIA	3-4'	12" B&B
663	MS	5	MALUS SUGAR TYME SUGAR TYME CRABAPPLE	2-2 1/2" CAL.	24" B&B
663	PO	7	PICEA OMORIKA SERBIAN SPRUCE	6-7'	22" B&B
663	PN	26	PINUS NIGRA AUSTRIAN PINE	7-8'	24" B&B
663	QR	N/A	QUERCUS RUBRA RED OAK	2-3" CAL.	28" B&B
662	RR	17	ROSA RUGOSA RUGOSA ROSE	18-24"	1 GAL.
661	EF	4500	EUONYMOUS COLORATUS FORTUNEI COLORATUS EUONYMOUS	1 YR.	12"O.C

LIFT STATION & WASTEWATER TREATMENT PLANT PLANTING PLAN

CALC. BY		GAL-35-6.79	OHIO	21
DATE		REST AREA	FHWA REGION 5	86
CHKD. BY				
DATE				

N

0 50 100

LIMIT OF SEEDING

R/W

EVERETTE-DENNY ROAD C 34

L/A

CROWN VETCH

MSB

PARKING AREA

WESTBOUND US 35

EASTBOUND US 35

6 FA

3 CC

3 GB

3 PB

5 MS

3 AR

9 PS

10 PS

3 AR

5 MS

3 PB

3 GB

3 CC

6 FA

LIMIT OF SEEDING

PARKING AREA

MSB

L/A

R/W

PROPOSED CR 2-CR 33 CONNECTOR

LIMIT OF SEEDING

LIMIT OF SEEDING

NOTES

* AREAS SEEDED IN PREVIOUS CONTRACT AND IN GOOD CONDITION NEED NOT BE RE-SEEDED

* ADDITIONAL LANDSCAPING SEE SHEETS 4,5,19 & 20

LEGEND

- SEEDING & MULCHING (URBAN GRASS MIXTURE)
- SODDING
- SEEDING &MULCHING FOR WILDLIFE
- CROWN VETCH SEEDING
- 12"TOPSOIL FURNISHED & PLACED SEE SHEET 6 : PLANTING HOLE & BED PREPARATION.

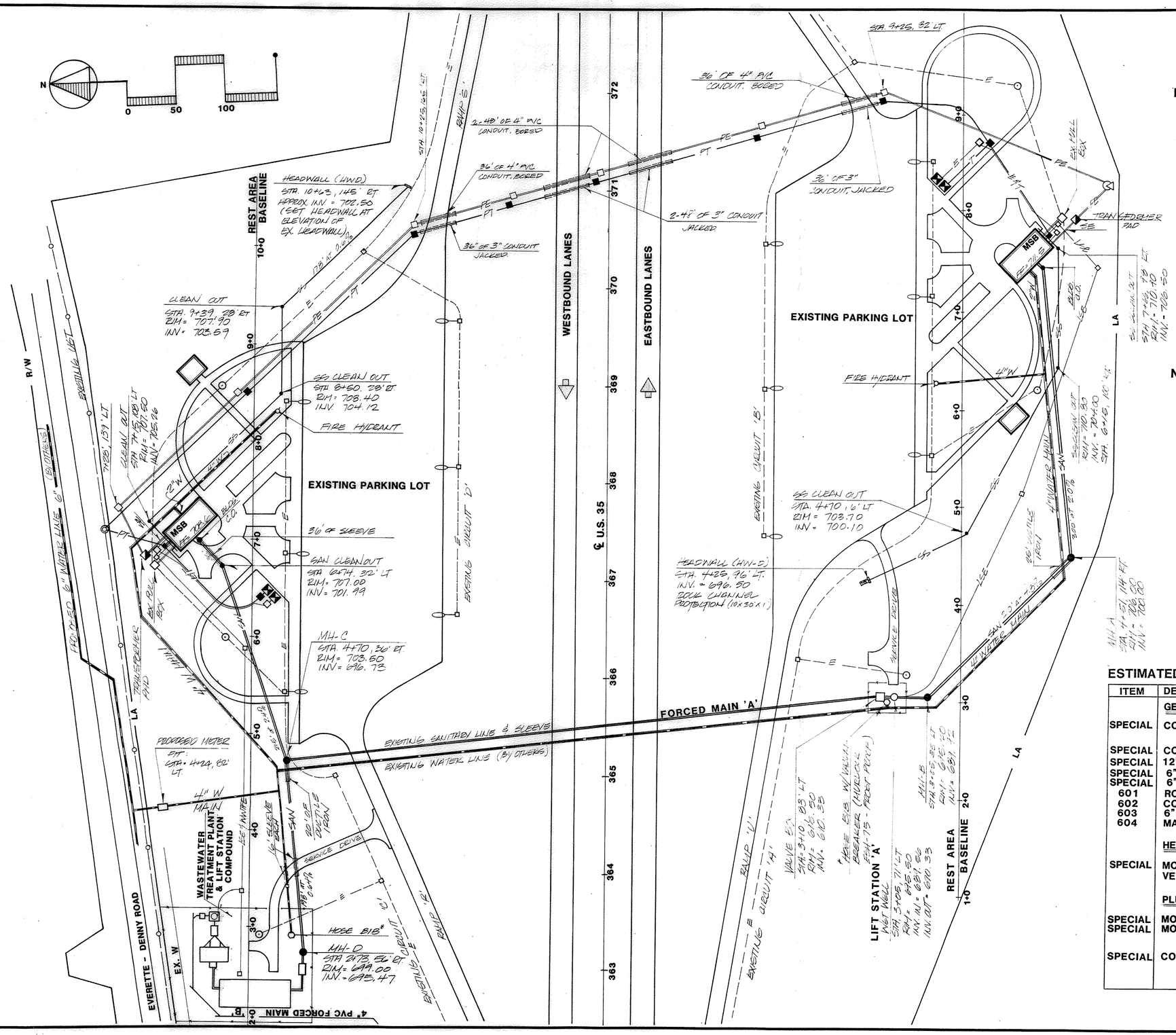
ESTIMATED QUANTITIES

ITEM	KEY	QTY	DESCRIPTION BOTANICAL NAME/COMMON NAME	SIZE	COND.
	AP	NA	ACER PALMATUM BURGUNDY LACE BURGUNDY LACE JAPANESE MAPLE	4-5'	16" B&B
	AR	6	ACER RUBRUM RED SUNSET RED SUNSET MAPLE	2 1/2"-3" CAL.	28" B&B
	AL	NA	AMELANCHIER LAEVIS (TREE FORM) ALLEGHENY SERVICEBERRY	8-10'	20" B&B
	CJ	NA	CERCIDIPHYLLUM JAPONICUM PENDULA WEEPING KATSURA TREE	8'-10'	20" B&B
	CC	6	CERCIS CANADENSIS REDBUD	6-7'	18" B&B
	CP	NA	CRATAEGUS PHAENOPYRUM WASHINGTON HAWTHORNE	1 1/2-1 3/4"CAL.	20" B&B
	FA	12	FRAXINUS AMERICANA AUTUMN PURPLE AUTUMN PURPLE ASH	2 1/2-3" CAL.	28" B&B
	GB	6	GINGKO BILOBA GINGKO	2 1/2-3" CAL.	28" B&B
	KP	NA	KOELREUTERIA PANICULATA GOLDEN RAINTREE	8'-10'	20" B&B
	LS	NA	LIQUIDAMBAR STYRACIFLUA MORAINE MORAINE SWEETGUM	2 1/2"-3" CAL.	28" B&B
663	LT	NA	LIRIODENDRON TULIPIFERA TULIPTREE	2 1/2-3" CAL.	28" B&B
	MS	10	MALUS SUGAR TYME SUGAR TYME CRABAPPLE	2-2 1/2" CAL	24" B&B
	PO	NA	PICEA OMORIKA SERBIAN SPRUCE	6-7'	22" B&B
	PB	6	PINUS BUNGEANA LACEBARK PINE	6-7'	22" B&B
	PN	NA	PINUS NIGRA AUSTRIAN PINE	7-8'	24" B&B
	PN	NA	PINUS NIGRA AUSTRIAN PINE	4-5'	16" B&B
	PS	19	PINUS STROBUS WHITE PINE	7-8'	24" B&B
	PS	NA	PINUS STROBUS WHITE PINE	4'-5'	16" B&B
	PC	NA	PYRUS CALLERYANA ARISTOCRAT PEAR	2-2 1/2" CAL.	24" B&B
	QR	NA	QUERCUS RUBRA RED OAK	2 -3" CAL.	28" B&B
	UP	NA	ULMUS PARVIFOLIA CHINESE ELM	2 1/2"-3" CAL.	28" B&B

ITEM	QTY.	DESCRIPTION
660	8055 SY	SODDING
659	45833 SY	SEEDING & MULCHING (URBAN GRASS MIXTURE)
659	11945 SY	SEEDING & MULCHING FOR WILDLIFE
659	2293 TONS	AGRICULTURAL LIMING
659	5.99 TONS	COMMERCIAL FERTILIZER
659	667 SY	SEEDING & MULCHING (CROWN VETCH SEEDING)
663	517 C.Y.	TOPSOIL FURNISHED AND PLACED
659	144 M.GAL.	WATER

EASTBOUND & WESTBOUND PLANTING PLAN

CALC BY / DATE	GAL-35-6.79 REST AREA	OHIO	22
CHKD BY / DATE		FHWA REGION 5	86


N
0
50
100
REST AREA BASELINE
10+0
9+0
8+0
7+0
6+0
5+0
4+0
3+0
2+0
1+0
HEADWALL (HWD)
STA. 10+63, 145' RT.
APPROX. INV = 709.50
(SET HEADWALL AT ELEVATION OF EX. HEADWALL)
CLEAN OUT
STA. 9+39, 28' RT
RIM = 707.90
INV = 703.59
SS CLEAN OUT
STA. 8+50, 28' RT.
RIM = 708.40
INV. 704.12
FIRE HYDRANT
EXISTING PARKING LOT
36' OF SLEEVE
SAN CLEANOUT
STA. 6+74, 32' LT
RIM = 707.00
INV = 701.99
MH-C
STA. 4+70, 36' RT.
RIM = 703.50
INV = 696.73
PROPOSED METER PIT
STA. 4+24, 82' LT.
4" W MAIN
WASTEWATER TREATMENT PLANT & LIFT STATION COMPOUND
MH-D
STA. 2+78, 54' RT
RIM = 699.00
INV. = 695.47
HOSE BIB
4" PVC FORCED MAIN 'B'
EVERETTE - DENNY ROAD
R/W
EXISTING WET
PROPOSED 6" WATER LINE
EX. W
LA
MSB
BLDG. CO.
EX. POLE
EX. TRANSFORMER PAD
EX. MANHOLE
EX. 4" W
EX. 12" W
EX. 6" W
EX. 6" SAN
EX. 8" SAN
EX. 12" SAN
EX. 6" SAN FORCE MAIN

SUB-SUMMARY

CALC BY / DATE	GAL-35-6.79	OHIO	23
CHKD BY / DATE	GALLIA COUNTY	FHWA REGION 5	86
	SAFETY REST AREA		

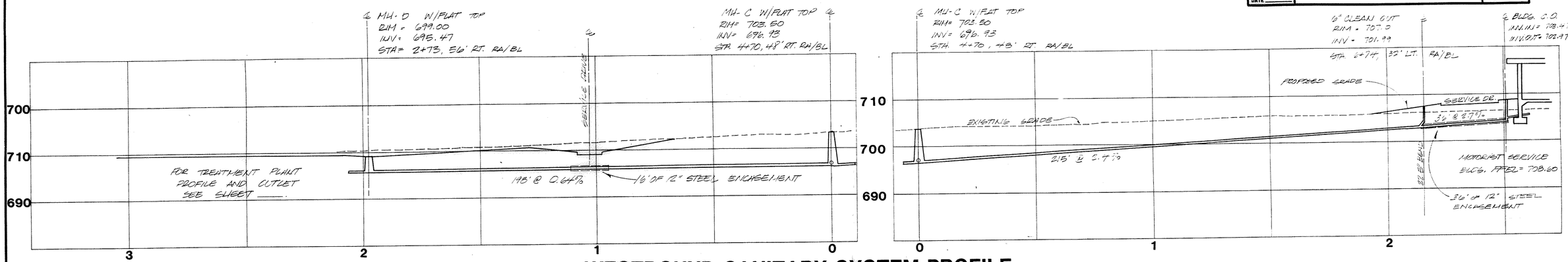
KEY	DESCRIPTION	SPEC	SPEC	SPEC	SPEC	603		625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	626
		MOTORIST SERVICE BLDG. ELECTRICAL ONLY	TELEPHONE SERVICE	PLASTIC CAUTION TAPE	POWER SERVICE, AS PER PLAN	4" CONDUIT TYPE E (PULLBOX UNDERDRAIN)		TRENCH, 48" DEEP	TRENCH, 36"	TRENCH, 30"	TRENCH, 24" DEEP	2" CONDUIT, 7:13.04	3" CONDUIT, 7:13.04	2" CONDUIT, 7:13.04	1.5" CONDUIT, 7:13.04	2" CONDUIT, SCD 40, PVC	4" CONDUIT, SCD 40, PVC BORED	PULLBOX, CONCRETE 7:13.08, 48"	PULLBOX, CONCRETE 7:13.08, 24"	NO.4 AWG, 5000 VOLT DISTRIBUTION CABLE	500 MCM UL TYPE, 600 VOLT, SEC. FEEDER CABLE	1/C NO.4/0 AWG. 600 VOLT DISTRIBUTION CABLE		NO. 10 AWG. 5000 VOLT DISTRIBUTION CABLE	1/C NO. 1/0 AWG. 600 VOLT DISTRIBUTION CABLE	1/C NO. 8 AWG. 600 VOLT - GREEN GROUND		NO. 12 AWG. 5000 VOLT DISTRIBUTION CABLE	1/C NO. 12 AWG 600 VOLT DISTRIBUTION CABLE	1/C NO. 12 AWG. 600 VOLT - GREEN GROUND							GROUND ROD	LIFT STATION (ELECTRICAL ONLY)		COMPLETE WASTEWATER TREATMENT SYSTEM (ELECTRIC ONLY)	CONDUIT JACKED UNDER PAVEMENT, SIZE: 3"	#6&1 VOLTAGE TEST	
		EA	EA	L.F.	EA	L.F.		L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	EA	EA	L.F.	L.F.	L.F.		L.F.	L.F.	L.F.		L.F.	L.F.	L.F.							EA	EA	EA	EA	L.F.	LUMP
	EASTBOUND (400 AMP SERVICE)																																						
	MOTORIST SERVICES BUILDING	1																																					
LSE	LIFT STATION ELECTRICAL CIRCUITS					60					600		600	600					3					1860	620			1240	620									1			
SE	SECONDARY ELECTRIC CIRCUITS			25				25				45									55																1				
T	TELEPHONE CIRCUITS (MSB TO PHONE BOOTHS)					40					175				185				2																					
E	ELECTRIC CIRCUITS TO PHONE BOOTHS										100			182										192																
E	LIGHTING CIRCUITS (MSB TO 1ST PB - FEEDING EX. CIRCUITS A&B)										25		50							100																				
	WESTBOUND (800 AMP SERVICE)																																						
	MOTORIST SERVICES BUILDING	1																																					
LSE	LIFT STATION ELECTRICAL CIRCUITS												430	430										1350	450			900	450									1			
WWTPE	WASTEWATER TREATMENT PLANT ELECTRICAL					20					505		505	505					4			1515						4040											1		
SE	SECONDARY ELECTRIC CIRCUITS							25				45									55																1				
T	TELEPHONE CIRCUITS (MSB TO PHONE BOOTHS)					20					140				150				1																					
E	ELECTRIC CIRCUITS TO PHONE BOOTHS					40					50			165					2					175																
E	LIGHTING CIRCUITS (MSB TO 1ST PB - FEEDING EX. CIRCUITS C&D)										30		60							120																				
	PRIMARY ELECTRIC CIRCUIT																																						
PE	PRIMARY ELECTRIC (FROM SERVICE POLE TO E.B. TRANSFORMER)				1			45								45																								
PE	PRIMARY ELECTRIC (FROM SERVICE POLE TO W.B. TRANSFORMER)				1	120		1062								1230	168	6																						
	PRIMARY TELEPHONE CIRCUIT																																						
PT	PRIMARY TELEPHONE (FROM SERVICE POINT TO E.B. MSB)		1			160					1032				1200				8																				168	
PT	PRIMARY TELEPHONE (FROM SERVICE POINT TO W.B. MSB)		1			20					60				60				1																					
	TOTAL	2	2	25	2	480		1157			2717	90	1645	1882	1595	1275	168	6	21	220	110	1515		367	3210	1070		4040	2140	1070							2	2		1	168	LUMP

CALC BY _____ DATE _____
CHKD BY _____ DATE _____

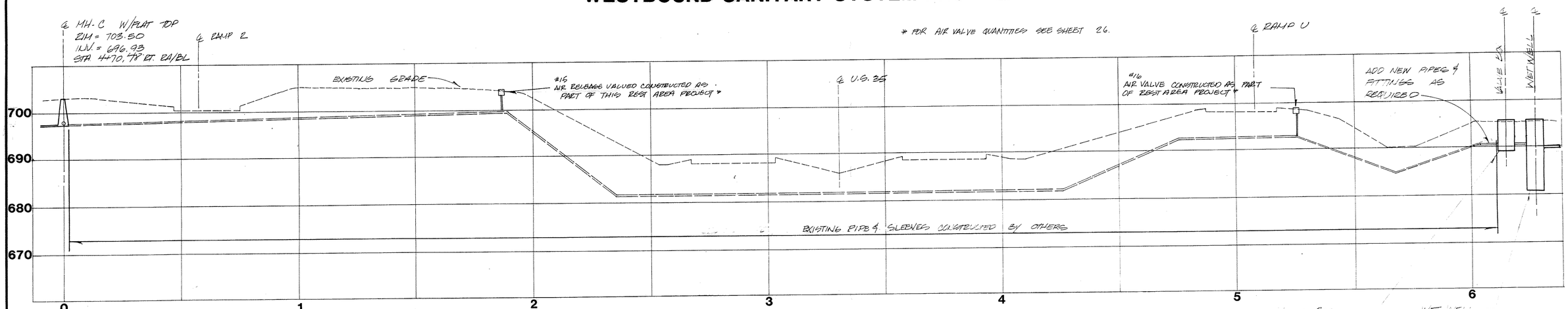
GAL-35-6.79
REST AREA

OHIO
FHWA REGION 5

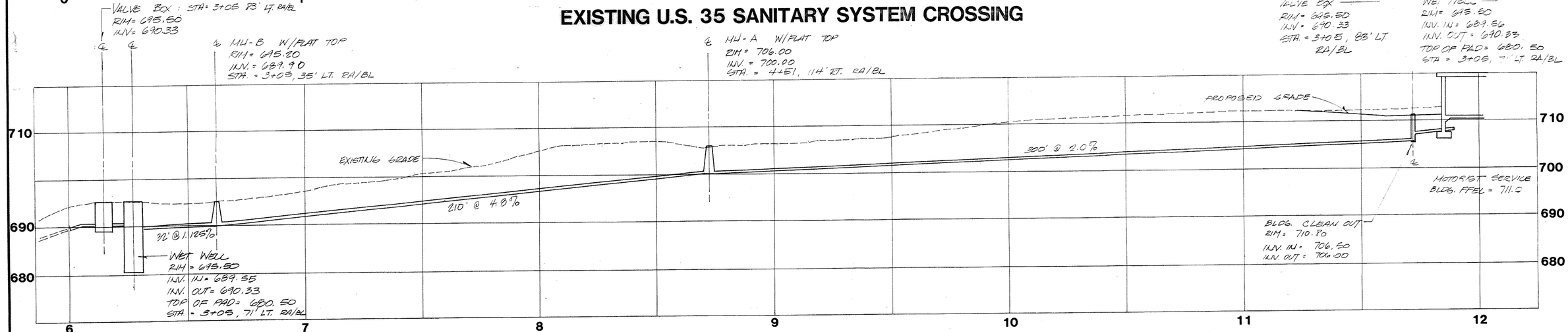
24
86



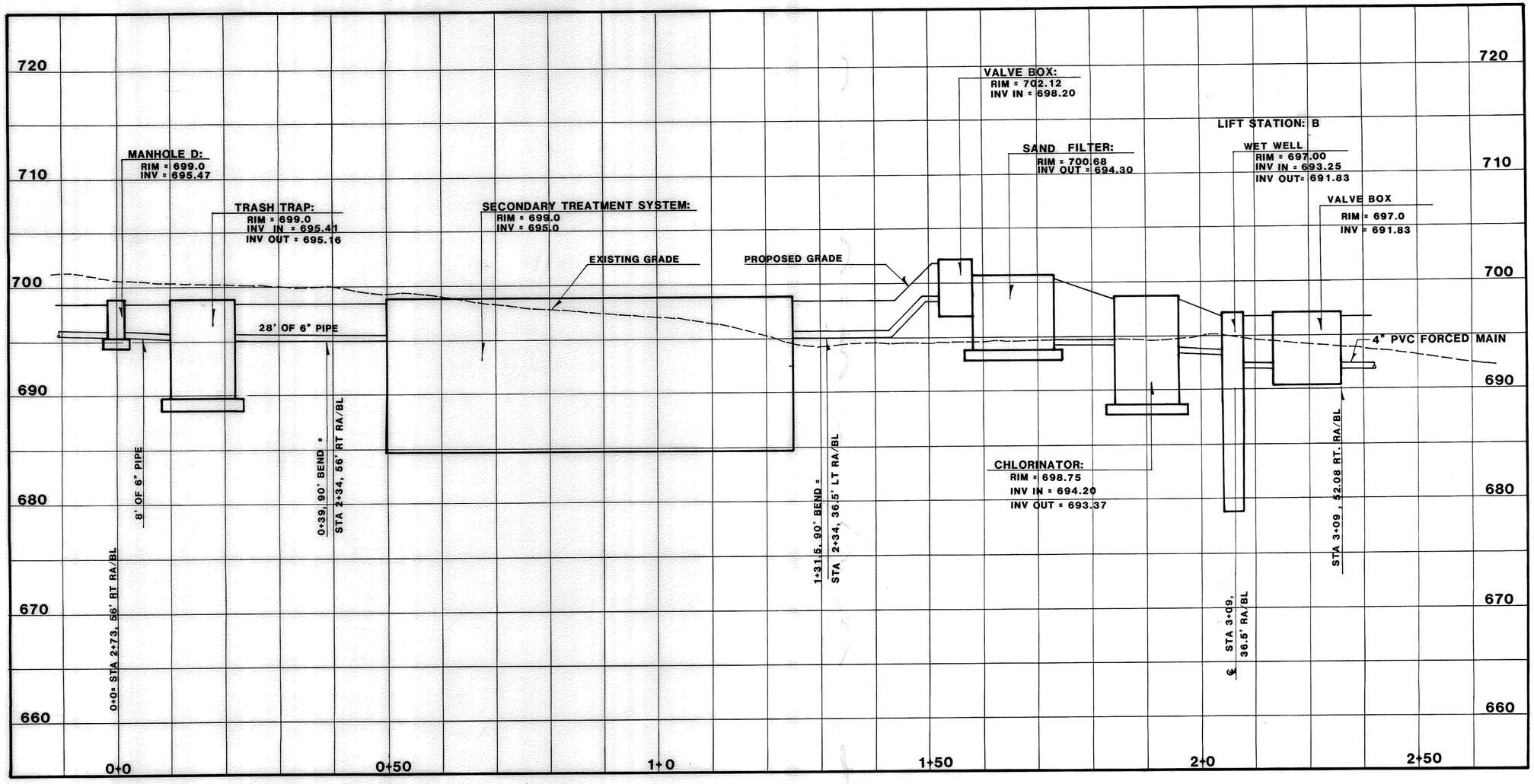
WESTBOUND SANITARY SYSTEM PROFILE



EXISTING U.S. 35 SANITARY SYSTEM CROSSING



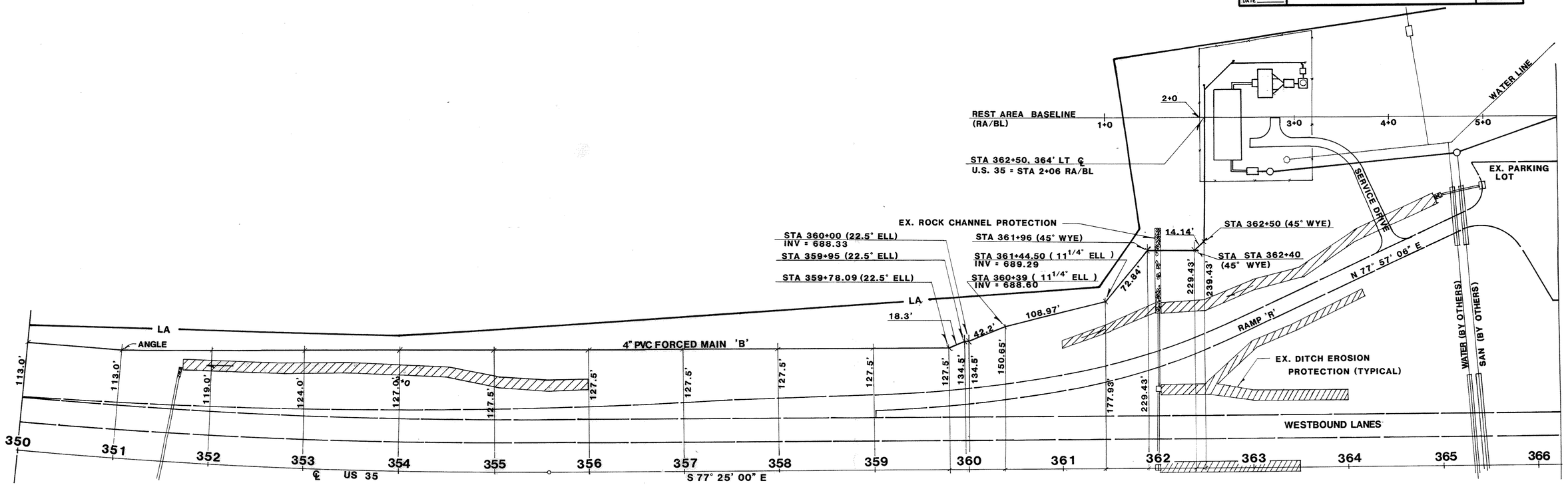
EASTBOUND SANITARY SYSTEM PROFILE



- FOR CONTINUATION OF FORCED MAIN SEE SHEETS 26-41
- FINISH GRADE IS 6" BELOW RIM ELEVATIONS OF ALL TREATMENT COMPONENTS

WASTEWATER TREATMENT PLANT & LIFT STATION 'B' PROFILE

CALC BY / DATE	GAL - 35 - 6.79	OHIO	26
CHKD BY / DATE	GALLIA COUNTY	FHWA REGION 5	86



4" CLEANOUT STATION LOCATIONS:

1	360+00+	30	327+35-
2	359+95+	31	326+00
3	359+78.09+	32	325+72.42+
4	359+00+	33	325+00+
5	357+00	34	324+00+
6	355+00	35	322+00+
7	353+00	36	320+00
8	351+00+	37	318+00
9	349+00+	38	316+62+
10	348+00+	39	316+38-
11	347+00+	40	316+00
12	346+61+	41	314+00
13	346+22-	42	312+00
14	346+00+	43	310+00
15	344+00+	44	308+00
16	343+23.5-	45	306+00
17	342+00+	46	304+00
18	341+51.72+	47	302+00
19	340+00+	48	300+00
20	338+00+	49	298+00
21	337+75.86-	50	297+61.78+
22	336+00+	51	297+13.50+
23	335+90+	52	297+00+
24	334+16+	53	296+75.86+
25	334+00+	54	296+00
26	332+00	55	294+00
27	330+00	56	293+00+
28	328+00	57	292+87.92 +
29	327+65+	58	292+00+

SEWAGE AIR RELEASE VALVE ASSEMBLY STATION LOCATIONS:

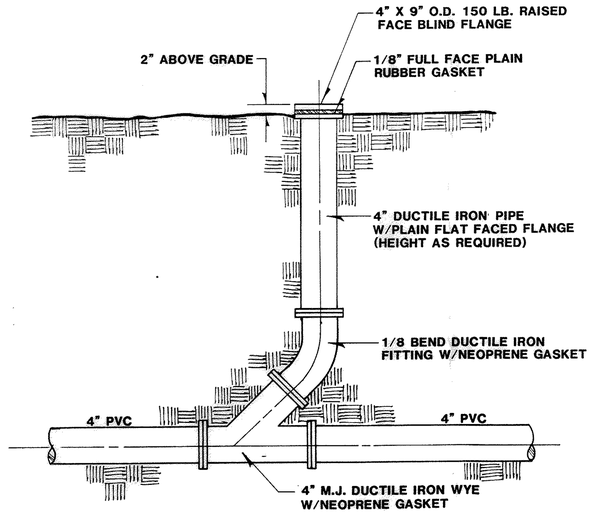
1	359+03
2	348+97
3	346+64
4	346+19
5	344+03
6	343+20.5
7	337+97
8	344+97
9	327+62
10	327+32
11	324+97
12	322+97
13	316+65
14	316+35

· STATION LOCATIONS SHOWN AS + OR - DESIGNATE AHEAD OR BACK OF FITTING AT THE GIVEN STATION AND SHALL FALL IN THE DIRECTION AND SLOPE OF THE FORCED MAIN.

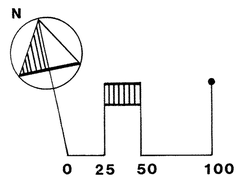
SEWAGE AIR RELEASE VALVES FOR EXISTING FORCED MAIN 'A' 2 VALVES REQUIRED AS SHOWN ON SHEET 24.

15	1+86
16	5+26

4" TYPICAL CLEANOUT DETAIL:



STA 350 TO STA 366+25



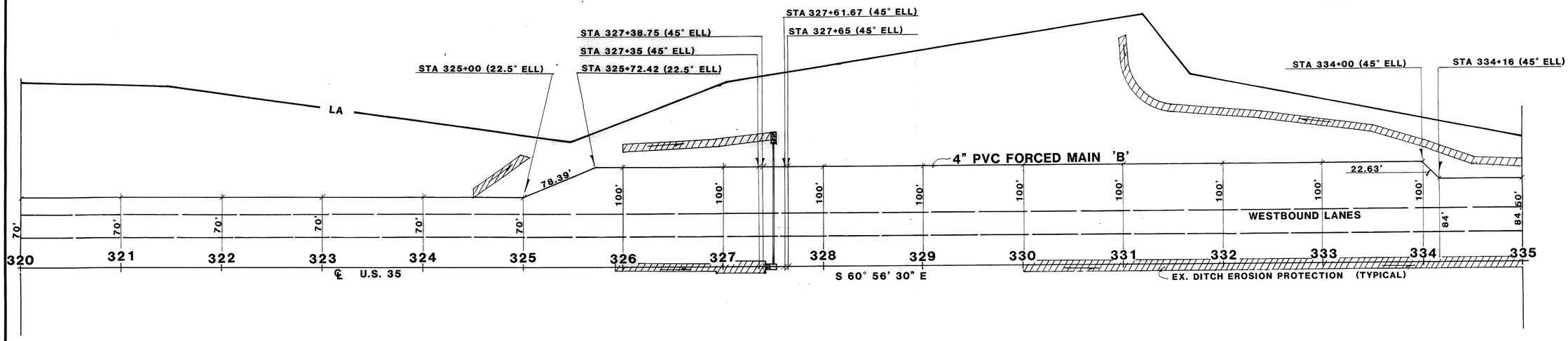
· FOR FORCED MAIN CROSS SECTIONS SEE SHEETS 29-41.

· FOR CONTINUATION OF FORCED MAIN LAYOUT DATA AND LAYOUT AND GRADING OF WASTEWATER TREATMENT PLANT AND LIFT STATION SEE SHEET 18

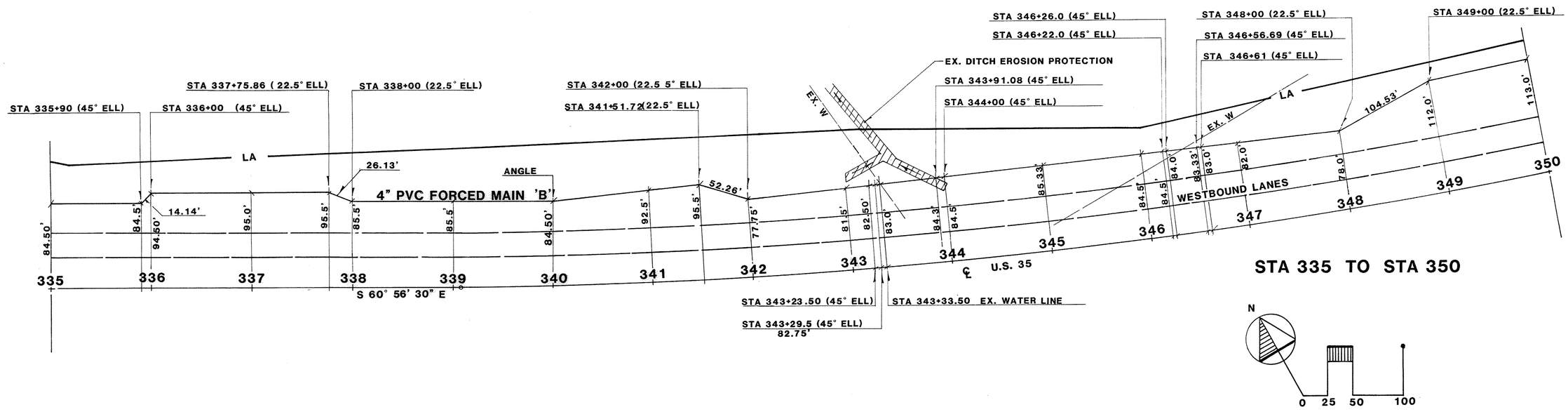
· FOR 4" PVC FORCED MAIN 'B' QUANTITIES SEE GENERAL NOTES.

4" PVC FORCED MAIN PLAN

CALC BY / DATE	GALLIA COUNTY	OHIO	27
CHKD BY / DATE	GAL - 35 - 6.79	FHWA REGION 5	86



STA 320 TO STA 335

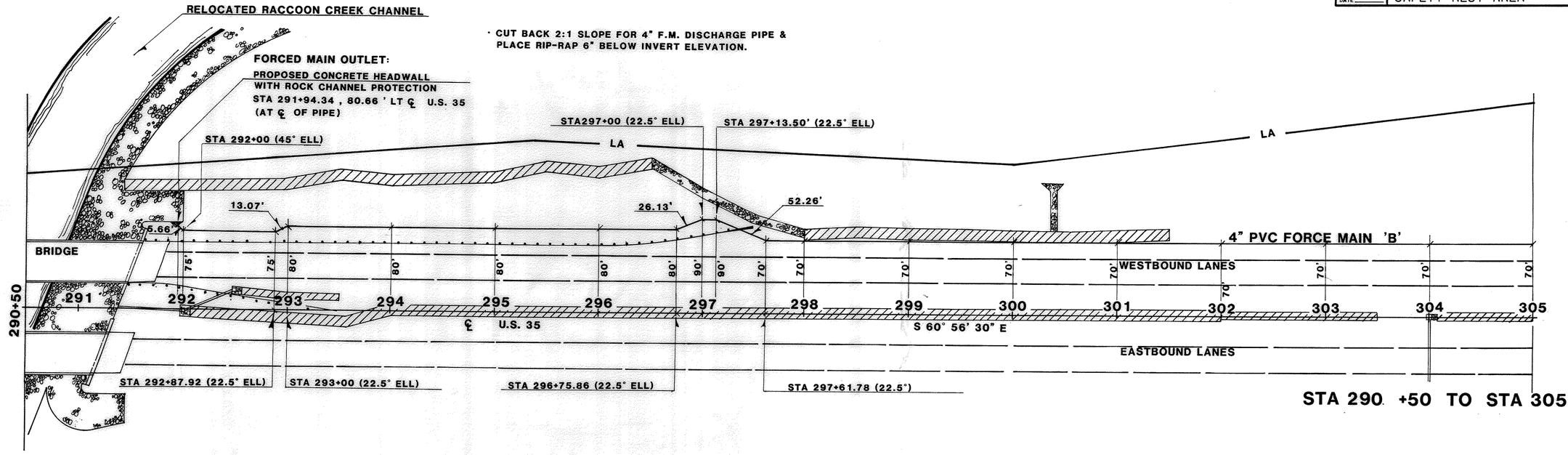


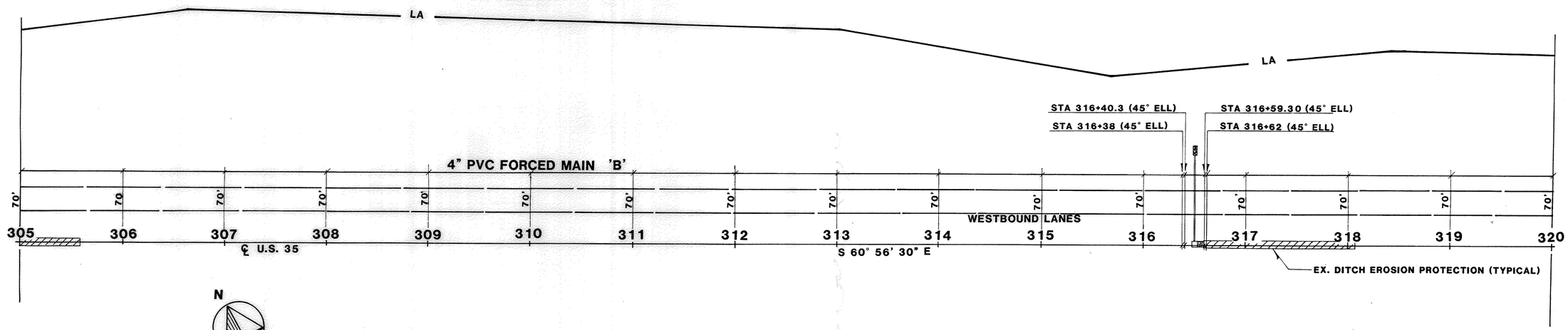
STA 335 TO STA 350

- FOR FORCED MAIN CROSS SECTIONS SEE SHEETS 29-41
- FOR ESTIMATED QUANTITIES SEE GENERAL NOTES.

4" PVC FORCED MAIN PLAN

CALC BY / DATE	GAL-35-6.79	OHIO	28
CHKD BY / DATE	GALLIA COUNTY	FHWA REGION 5	86
	SAFETY REST AREA		





· FOR FORCED MAIN CROSS SECTIONS SEE SHEETS 29-41
· FOR ESTIMATED QUANTITIES SEE GENERAL NOTES

4" PVC FORCED MAIN PLAN

GALLIA COUNTY
GAL-35-6.79
SAFETY REST AREA

29
80

FINAL SURVEY — PROJECT LIMITS — TEMPLATE AREAS — AREAS CHECKED — BY — DATE

ORIGINAL SURVEY — PROJECT LIMITS — TEMPLATE AREAS — AREAS CHECKED — BY — DATE

150 100 50 0

- CUT BACK 2:1 SLOPE FOR 4" PVC F.M. DISCHARGE PIPE & PLACE RIP-RAP 6" BELOW INVERT ELEVATION.

620
610
600
590
580

ELEV. 598.80 50 YR. HIGH WATER LINE

STA. 292+00 INV 597.15
75' LT ℄ 35 45° ELL

STA 291+94.34

STA 292+00

STA 291+94.34
80.66' LT ℄ 35
INV 597.00
END OF 4" PVC F.M. DISCHARGE PIPE & DISCHARGE FACE SIDE OF CONCRETE FACE WALL HEAD

150 100 50 0

4" PVC FORCED MAIN CROSS SECTION

GALLIA COUNTY
GAL-35-6.79
SAFETY REST AREA

30
80

STA 292+87.92
INV. 598.76
75.00' LT ℄ 35
22.5° ELL

STA 293+00
INV. 599.00
80.00' LT ℄ 35
22.5° ELL

STA 292+87.92
STA 293+00

STA 294+00
INV. 601.17
80.00' LT ℄ 35

STA 294+00

STA 295+00
INV. 603.75
80.00' LT ℄ 35

STA 295+00

STA 296+00
INV. 603.75
80.00' LT ℄ 35

STA 296+00

STA 296+75.86
INV. 611.42
80.00' LT ℄ 35
22.5° ELL

STA 297+00
INV. 612.92
90.00' LT ℄ 35
22.5° ELL

STA 296+75.86
STA 297+00

STA 297+13.5 90.00' LT ℄ 35
INV. 613.96 22.5° ELL

STA 298+00 INV. 620.92 70.00' LT ℄ 35

STA 297+61.78
70.00' LT ℄ 35
INV. 617.98 22.5° ELL

STA 297+13.5
STA 297+61.78
STA 298+00

4" PVC FORCED MAIN CROSS SECTION

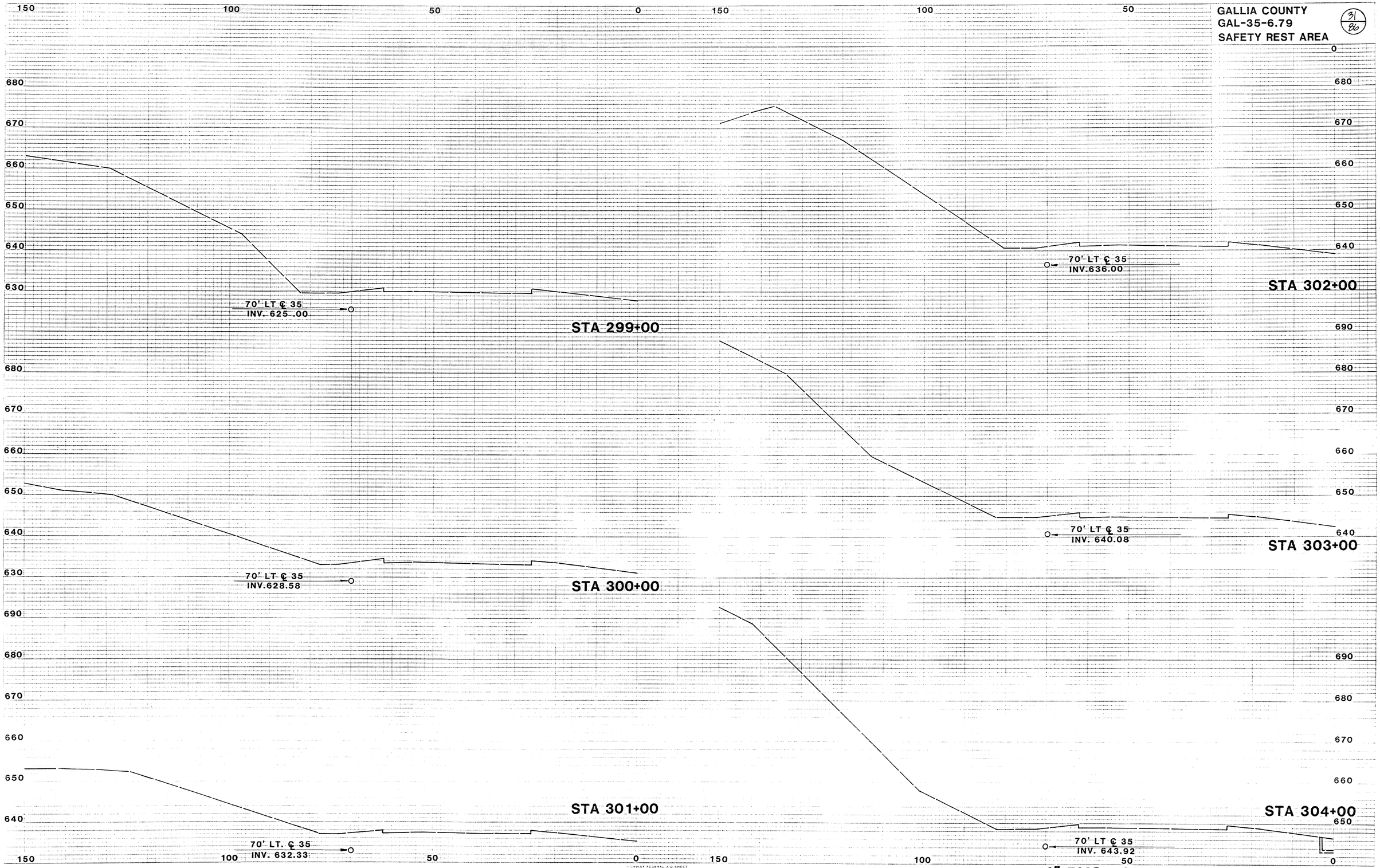
FINAL SURVEY

PLATE 3-FULL CROSS SECTION-FULL LINE

GALLIA COUNTY
GAL-35-6.79
SAFETY REST AREA

31
86

FINAL SURVEY
SURVEYED
PLOTTED
CHECKED
NOTE BOOK
PAGE
ATLAS SHEET



4" PVC FORCED MAIN CROSS SECTION

HIGHWAY FEDERAL AID PROJECT
PLATE 3-FULL CROSS SECTION-FULL LINE
CAPTELLONE
PRINTED IN U.S.A.

GALLIA COUNTY
GAL-35-6.79
SAFETY REST AREA

32
86

FINAL SURVEY

STA 305+00
INV. 647.25
70.00' LT ℄ 35

STA 306+00
INV. 651.42
70.00' LT ℄ 35

STA 307+00 70.00' LT ℄ 35
INV. 655.42

STA 308+00
INV. 658.92
70.00' LT ℄ 35

STA 309+00
INV. 662.75
70.00' LT ℄ 35

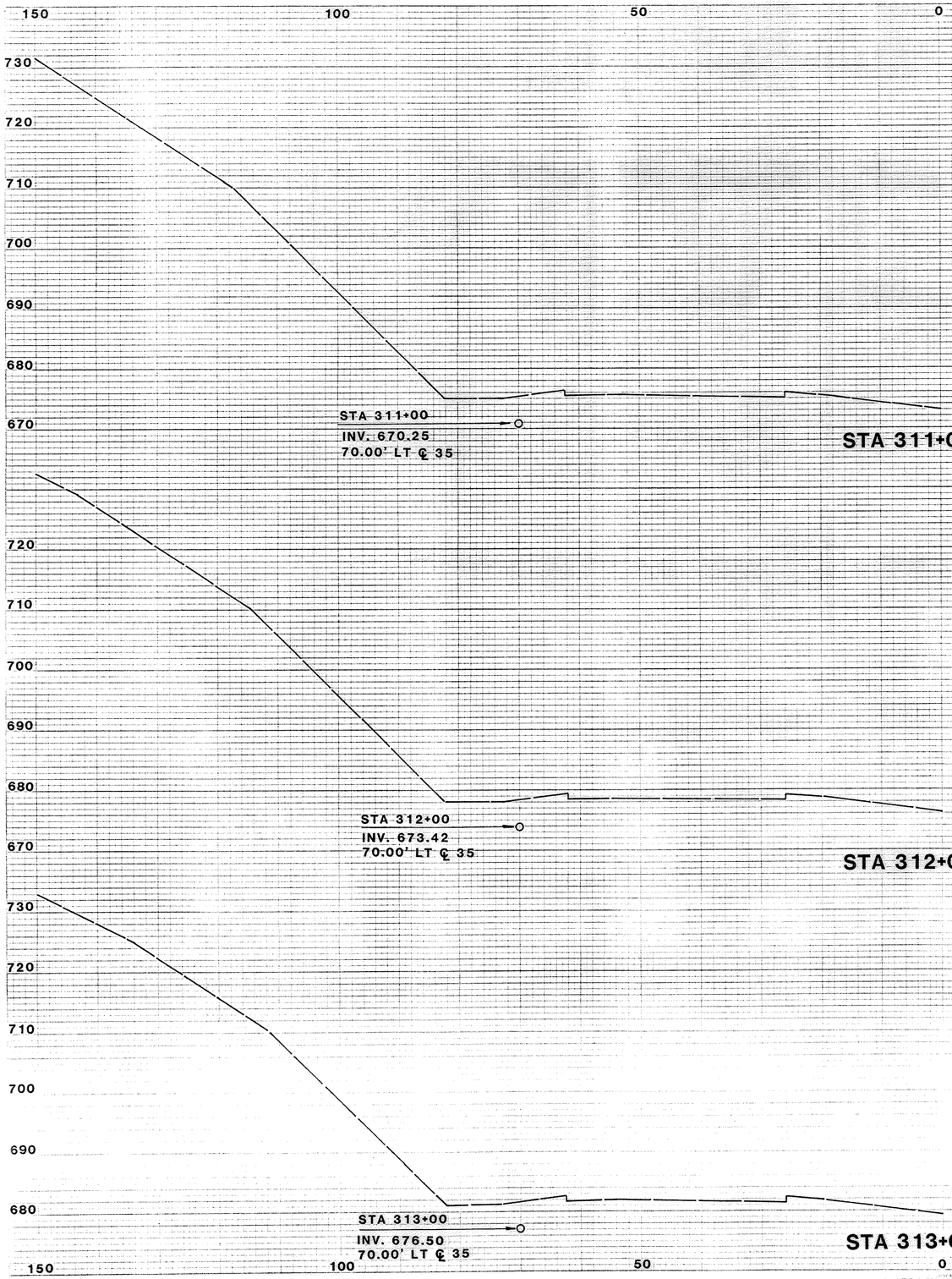
STA 310+00 70.00' LT ℄ 35
INV. 666.42

PLATE 3-FULL CROSS SECTION

4" PVC FORCED MAIN CROSS SECTION

GALLIA COUNTY
GAL-35-6.79
SAFETY REST AREA

37
80



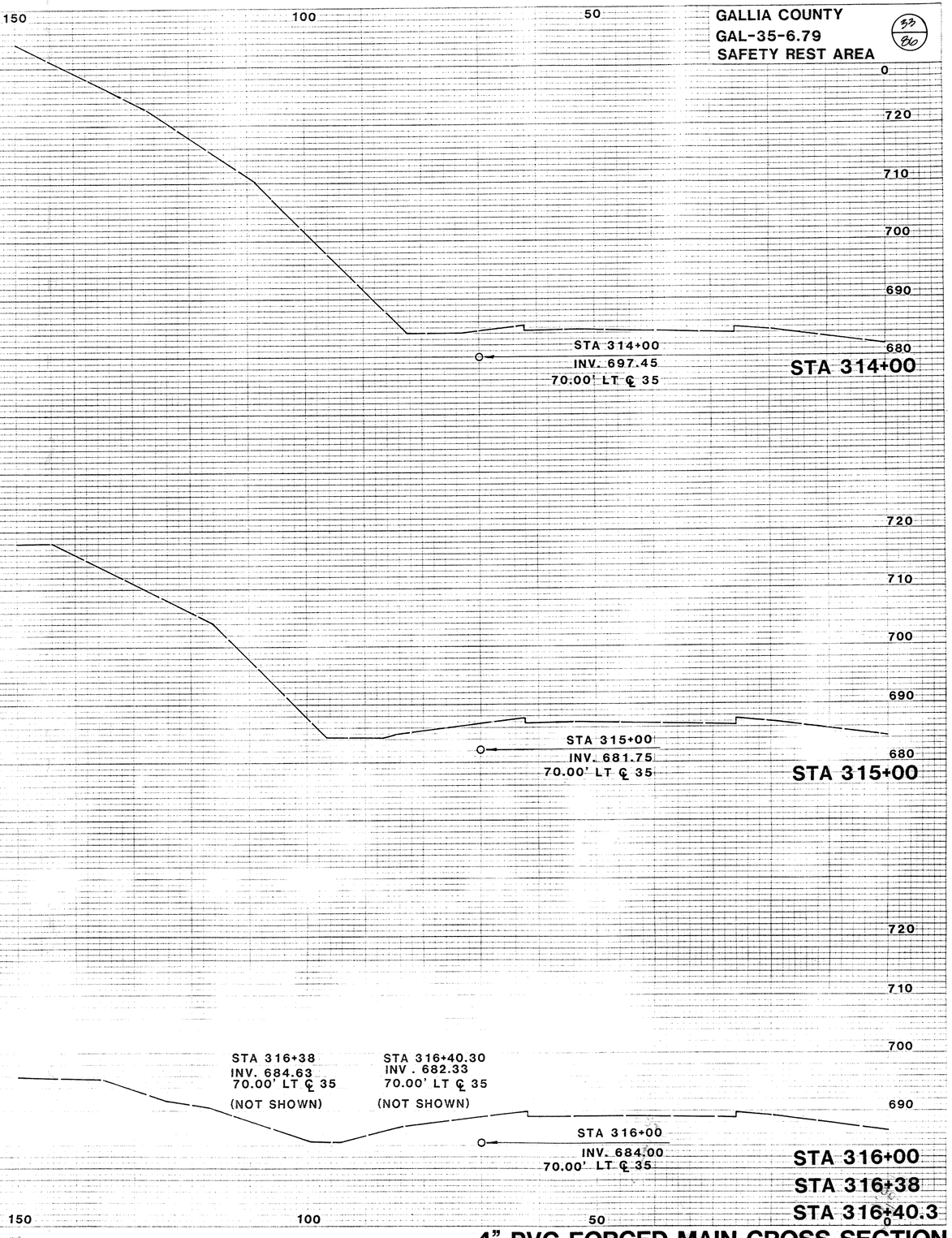


PLATE 3-FULL CROSS SECTION-FULL LINE

4" PVC FORCED MAIN CROSS SECTION

GALLIA COUNTY
GAL-35-6.79
SAFETY REST AREA

34/00

FINAL SURVEY
SURVEYED
PLOTTED
NOTE BOOK
ESTIMATE
AREAS
AREAS CHECKED
BY
DATE

STA 316+62
INV. 685.03
70.00' LT ℄ 35
45° ELL (NOT SHOWN)

STA 317+00
INV. 685.67
70.00' LT ℄ 35

STA 316+59.3
INV. 682.33
70.00' LT ℄ 35
45°ELL

STA 316+59.3
STA 316+62
STA 317+00

STA 320+00
INV. 689.42
70.00' LT ℄ 35

STA 320+00

STA 318+00
INV. 687.25
70.00' LT ℄ 35

STA 318+00

STA 321+00
INV. 690.17
70.00' LT ℄ 35

STA 321+00

STA 319+00
INV. 688.58
70.00' LT ℄ 35

STA 319+00

STA 322+00
INV. 690.58
70.00' LT. ℄ 35

STA 322+00

KEUFFEL & ESSER
A KNAPCO Company

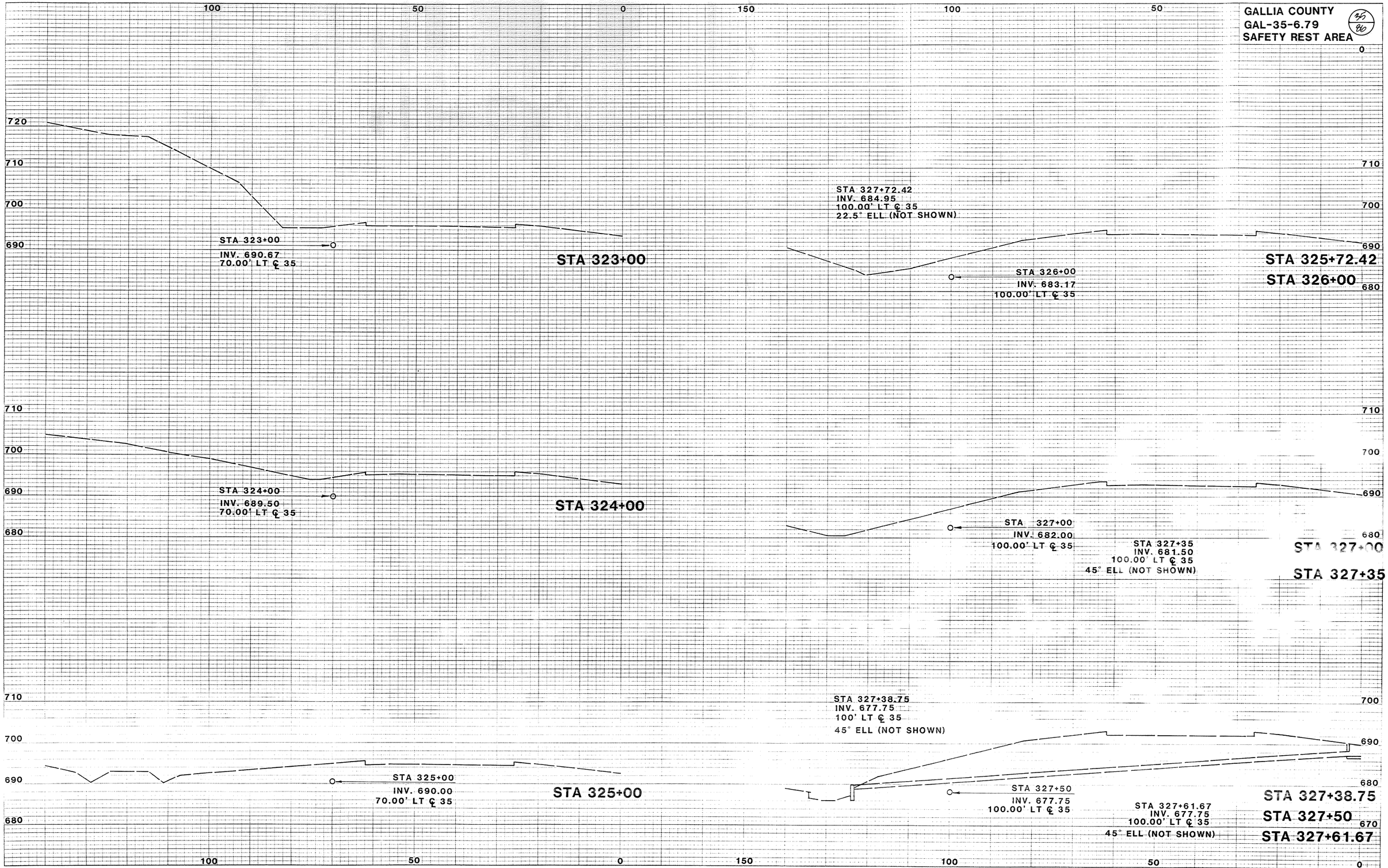
PLATE 3, CROSS SECTION

4" PVC FORCED MAIN CROSS SECTION

GALLIA COUNTY
GAL-35-6.79
SAFETY REST AREA

35
86

FINAL SURVEY	NO	BY	DATE
NOTE BOOK			
SURVEYED			
PLOTTED			
TEMPLATE			
AREAS			
AREAS CHECKED			



KEUFFEL & ESSER A KAMAN Company | PLATE 3, CROSS SECTION

4" PVC FORCED MAIN CROSS SECTION

GALLIA COUNTY
GAL-35-6.79
SAFETY REST AREA

36/86

STA 328+00
INV. 680.58
100' LT ℄ 35

STA 327+65
STA 328+00

STA 327+65 (NOT SHOWN)
100' LT ℄ 35
INV. 681.08
45° ELL

INV 674.42
100' LT ℄ 35

STA 331+00

INV. 678.92
100' LT ℄ 35

STA 329+00

INV 672.17
100' LT ℄ 35

STA 332+00

INV 676.67
100 LT ℄ 35

STA 330+00

INV. 670.08
100' LT ℄ 35

STA 333+00

FINAL SURVEY	SURVEYED	BY	DATE
	PLOTTED		
NOTE BOOK	TEMPLATE		
	AREAS		
HD	AREAS CHECKED		

KEUFFEL & ESSER
A KRATOS Company

PLATE 3, CROSS SECTION

4" PVC FORCED MAIN CROSS SECTION

GALLIA COUNTY
GAL-35-6.79
SAFETY REST AREA

37
80

FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

KEUFFEL & ESSER
A KANSTEL Company

PLATE 3, CROSS SECTION

4" PVC FORCED MAIN CROSS SECTION

GALLIA COUNTY
GAL-35-6.79
SAFETY REST AREA

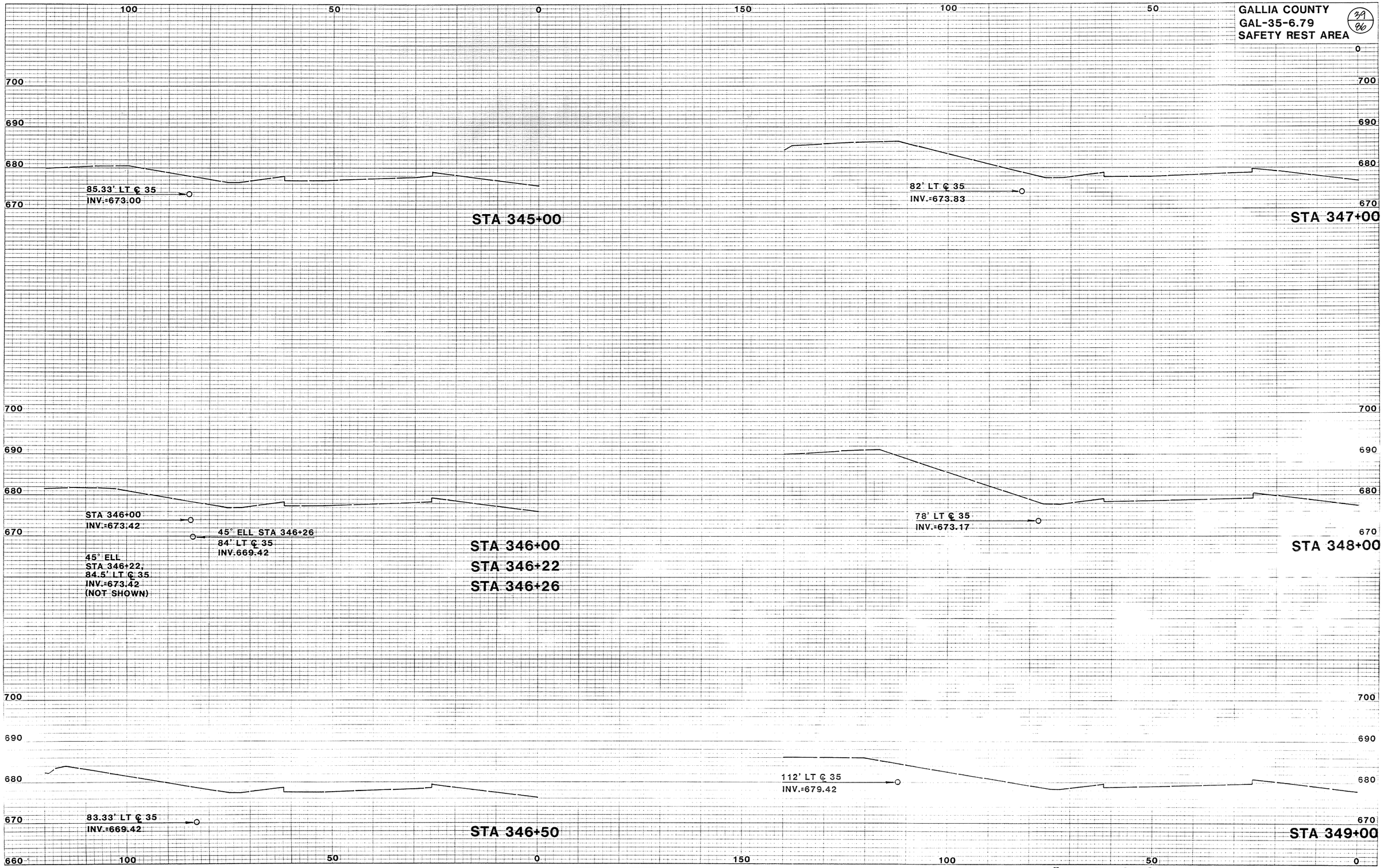
FINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

KEUFFEL & ESSER PLATE 3. CROSS SECTION

4" PVC FORCED MAIN CROSS SECTION

GALLIA COUNTY
GAL-35-6.79
SAFETY REST AREA

39/86



FINAL SURVEY
NOTE BOOK
HD
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

KEUFFEL & ESSER
A RAYMOND Company

PLATE 3, CROSS SECTION

4" PVC FORCED MAIN CROSS SECTION

GALLIA COUNTY
GAL-35-6.79
SAFETY REST AREA

(40/86)

FINAL SURVEY
NOTE BOOK
HD
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

ORIGINAL SURVEY
NOTE BOOK
HD
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

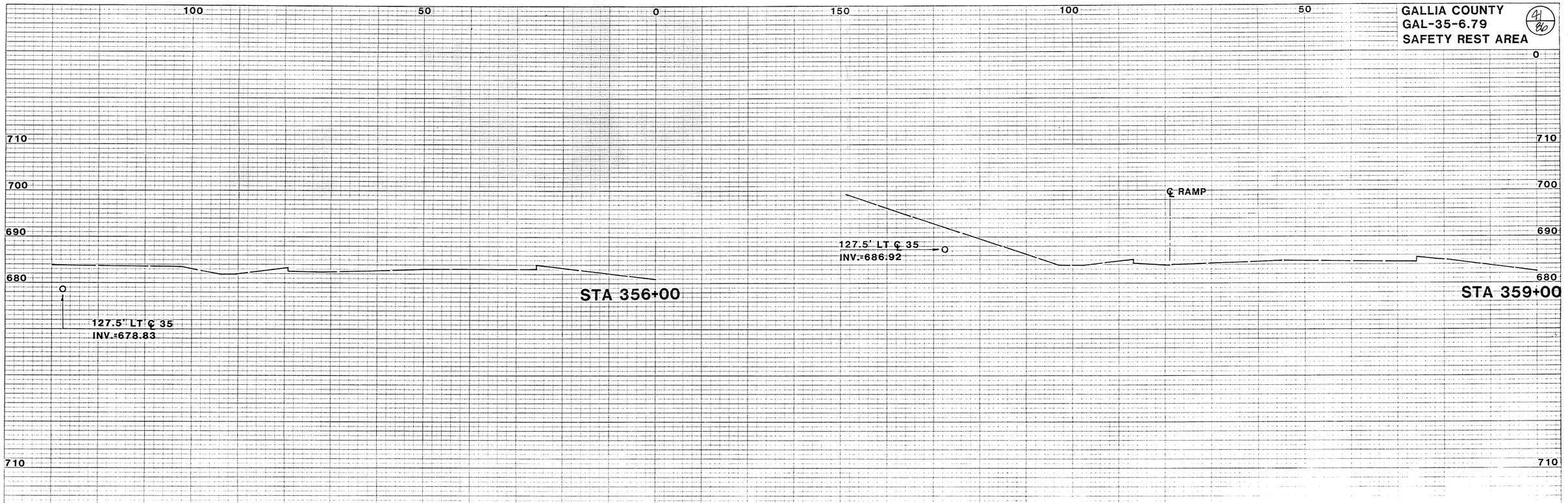
KEUFFEL & ESSER
A KAMAN Company

PLATE 3, CROSS SECTION

4" PVC FORCED MAIN CROSS SECTION

GALLIA COUNTY
GAL-35-6.79
SAFETY REST AREA

41/80



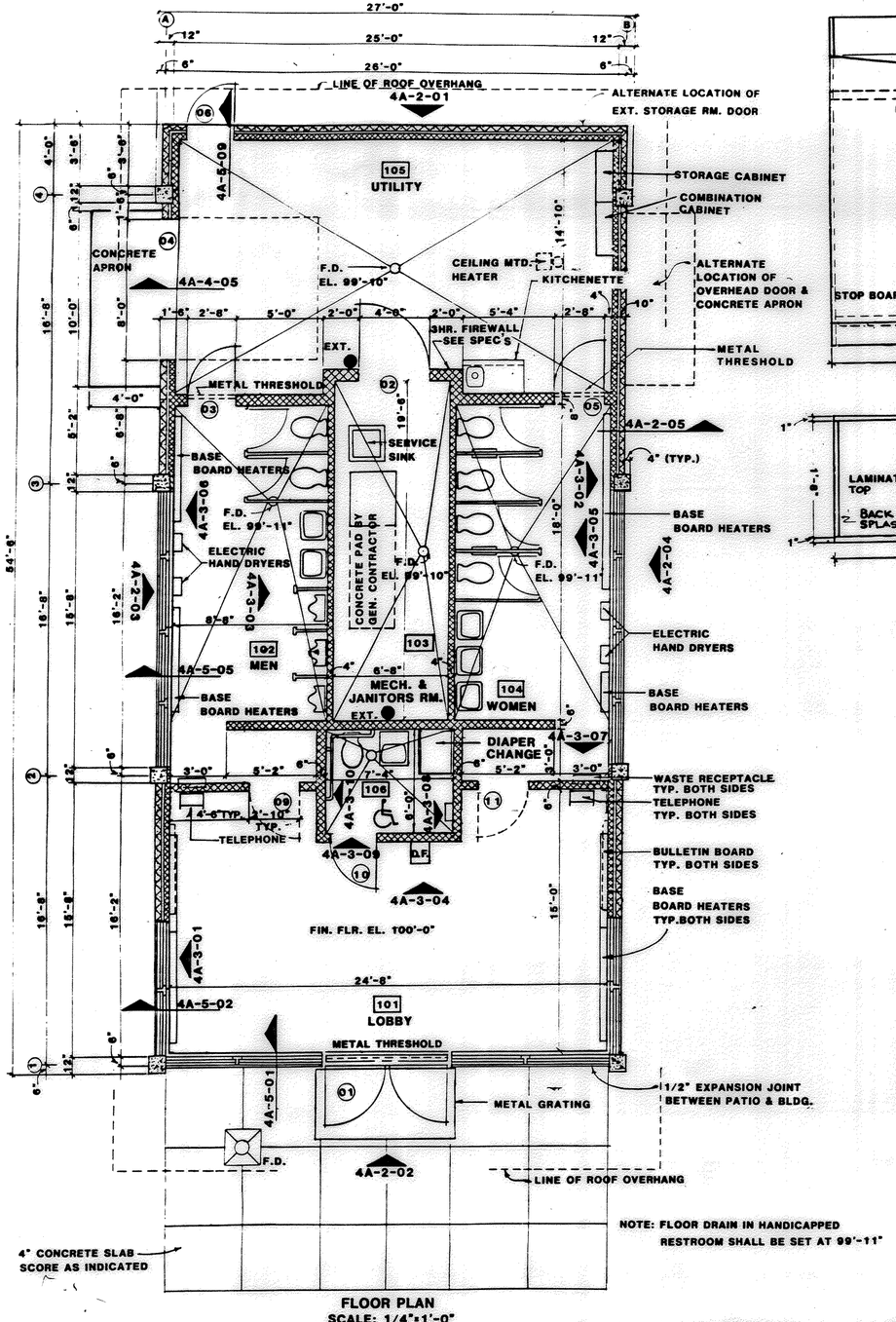
FINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NOTE BOOK
BY
DATE

KEUFFEL & ESSER
A KHATOS Company

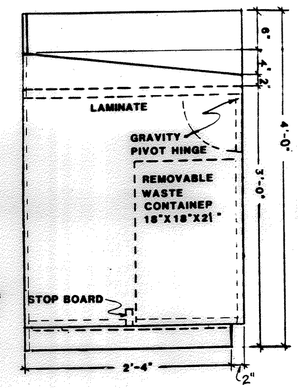
PLATE 3. CROSS SECTION

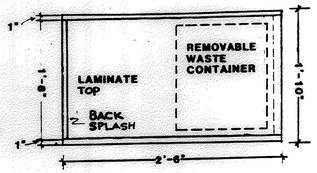
4" PVC FORCED MAIN CROSS SECTION

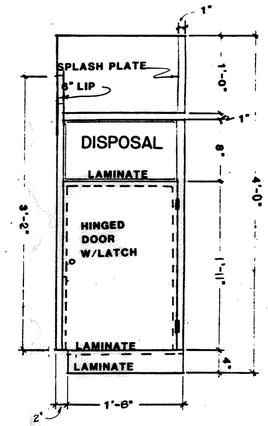
BY			
DATE	GAL-353-6.79	OHIO	42/86
CHKD. BY		FHWA REGION 5	
DATE			



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

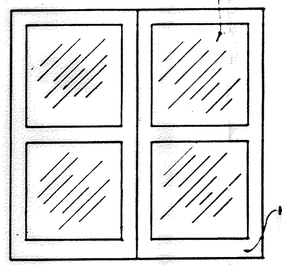




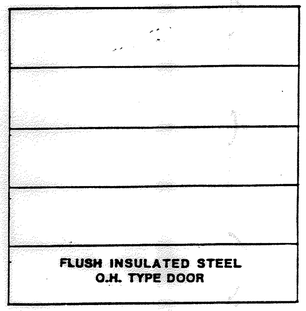


ORTHOGRAPHIC VIEW OF DIAPER CHANGING TABLE/ DISPOSAL UNIT

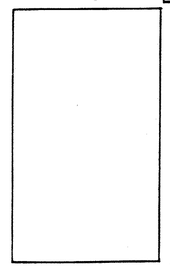
NO SCALE



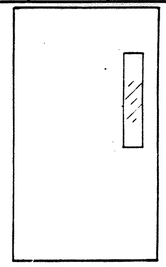
TYPE-A



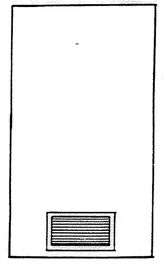
TYPE-C



TYPE-B
TYPE-D



TYPE-E
OPTIONAL



TYPE-F

ROOM FINISH SCHEDULE

ROOM NO.	NAME	FLOOR	BASE	WALLS	CEILING	HT.	REMARKS
101	LOBBY	QUARRY TILE	* COVE BLOCK	GLAZED BLOCK	CONC. PAINTED	9'-0"	
102	MEN	QUARRY TILE	* COVE BLOCK	GLAZED BLOCK	CONC. PAINTED	9'-0"	
103	MECH. & JANITOR	CONCRETE		GLAZED BLOCK	CONC. PAINTED	9'-0"	
104	WOMEN	QUARRY TILE	* COVE BLOCK	GLAZED BLOCK	CONC. PAINTED	9'-0"	
105	UTILITY	CONCRETE		CONC. BLOCK	CONC. PAINTED	9'-0"	
106	♿	QUARRY TILE	COVE BLOCK	GLAZED BLOCK	CONC. PAINTED	9'-0"	

*RECESSED

DOOR SCHEDULE.

DOOR NO.	TYPE	SIZE	HRDWR.	REMARKS
01	A	PR.-3'-6"X7'-0"X1 3/4"	A	CENTER STILE (MIN. 4" HIGH)
02	B	4'-0"X6'-8"X1 3/4"	C	U.L."A" LABEL, 3-HOUR RE.
03	B	2'-8"X6'-8"X1 3/4"	B	U.L."A" LABEL, 3-HOUR RE.
04	C	8'-2"X8'-1"	D	S SECTION
05	B	2'-8"X6'-8"X1 3/4"	B	U.L."A" LABEL, 3-HOUR RE.
06	D	2'-10" X6'-8"X1 3/4"	E	EXTERIOR/INSULATED
09	E	2'-10"X6'-8"X1 3/4"	F	OPTIONAL DOOR W/WIRE GLASS VISION PANEL
10	F	2'-10"X6'-8"X1 3/4"	G	24"X12" LOUVER
11	E	2'-10"X6'-8"X1 3/4"	F	OPTIONAL DOOR W/WIRE GLASS VISION PANEL

BUILDING USE AND OCCUPANCY INFORMATION

FIRST FLOOR USE GROUP.....B
FIRE GRADING HOURS.....2
OCCUPANCY LOAD 49
FLOOR LIVE LOAD.....100P.S.F.

SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

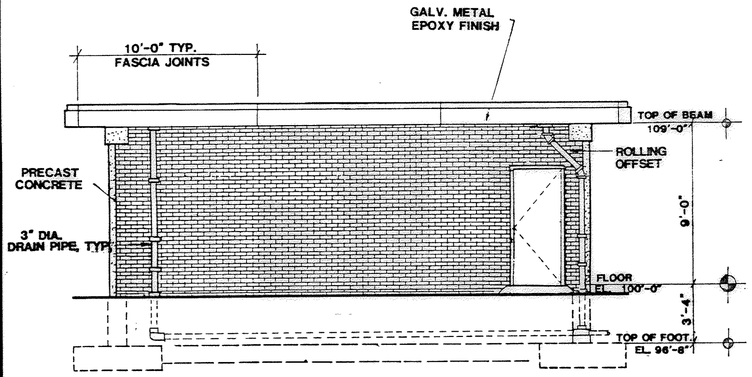
MSB-4
FLOOR PLAN & SCHEDULES

DATE
5/2/85
5/6/86
8/1/86
8/26/86
11/20/86
1/20/87
3/5/87
10/30/87
5/2/88
10-30-90

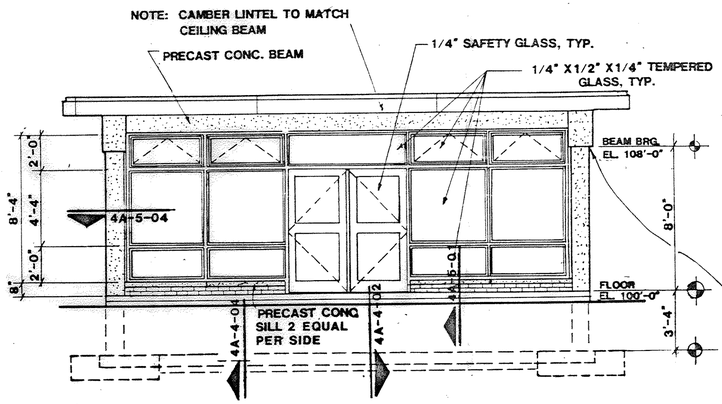
APPROVED _____ Engr. of Design Services

4A-1

CALC BY		GAL - 35 - 6.79	OHIO	43/86
CHKD BY			FHWA REGION 5	
DATE				

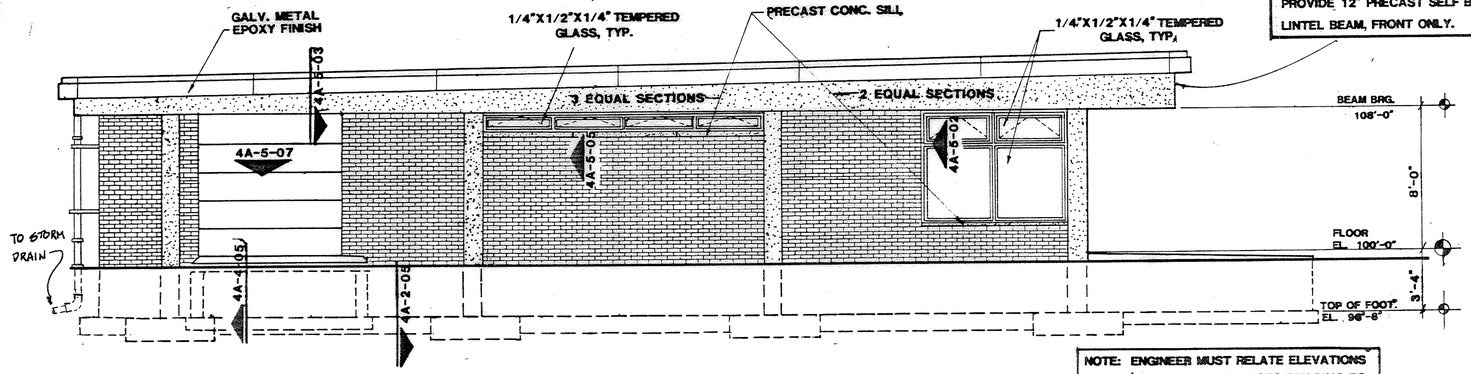


4A-2-01
REAR ELEVATION



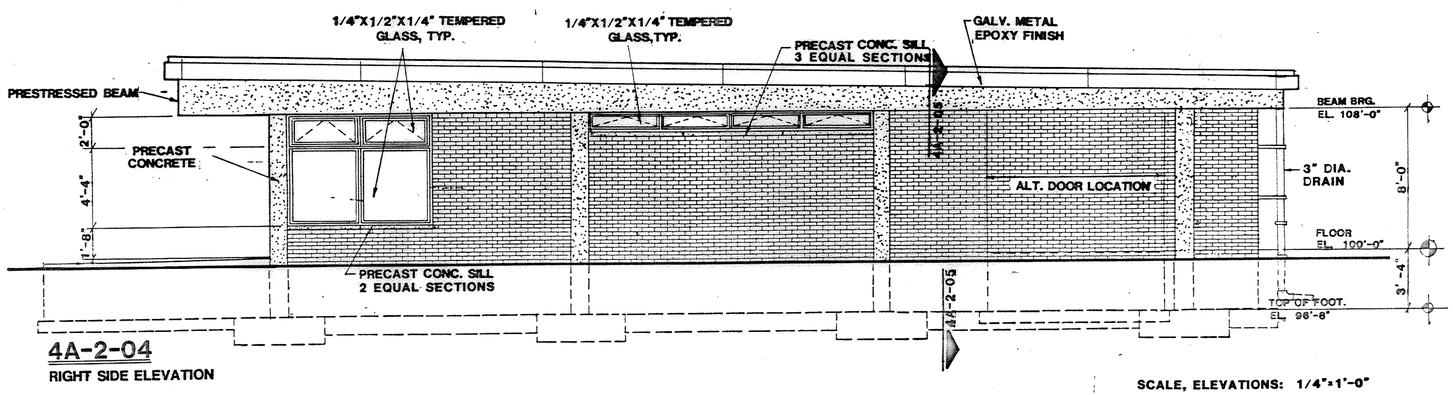
4A-2-02
FRONT ELEVATION

PRESTRESSED BEAMS ARE TO BE TAPERED FROM 24" IN FRONT TO 12" IN BACK TO GIVE ROOF SLOPE FOR PROPER DRAINAGE. PROVIDE 12" PRECAST SELF BEARING LINTEL BEAM, FRONT ONLY.



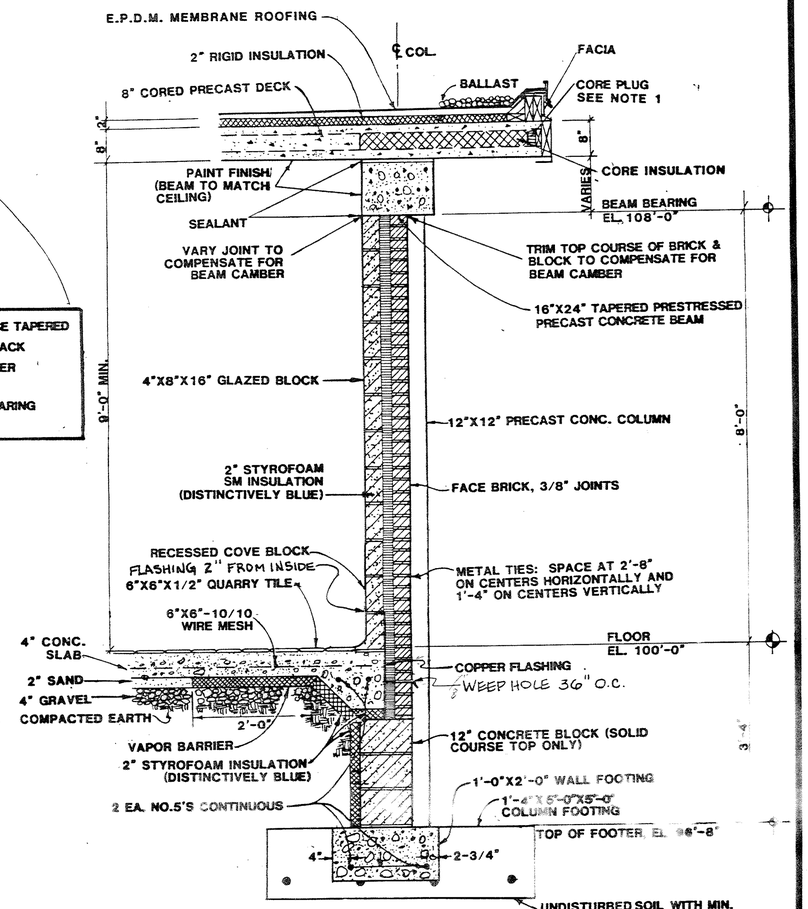
4A-2-03
LEFT SIDE ELEVATION

NOTE: ENGINEER MUST RELATE ELEVATIONS OF MOTORIST SERVICES BUILDING TO ELEVATIONS ON SITE PLAN.



4A-2-04
RIGHT SIDE ELEVATION

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



4A-2-05
WALL SECTION

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

SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

NOTE 1

THE GENERAL CONTRACTOR SHALL FURNISH AND INSTALL WOOD PLUGS IN ALL CORE OPENINGS. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL METAL PLUGS BEHIND THE WOOD PLUGS WHEN ELECTRICAL WIRES ARE INSIDE THE CORES.

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

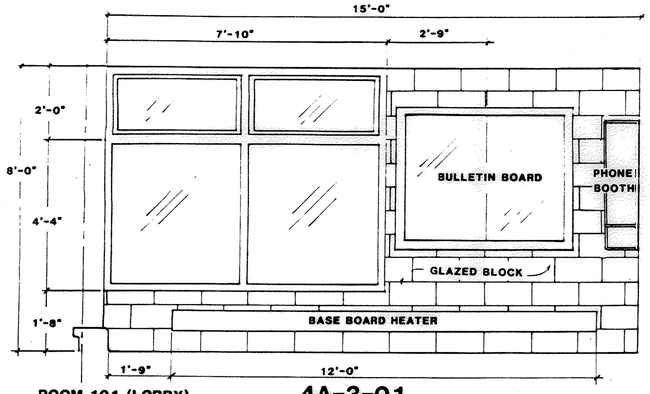
MSB-4

ELEVATIONS & WALL SECTIONS

DATE
5/2/85
5/6/86
8/1/86
1/20/87
3/2/87
10/30/87

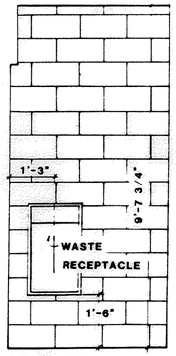
APPROVED R. H. Anderson Engr. of Design Services

4A-2



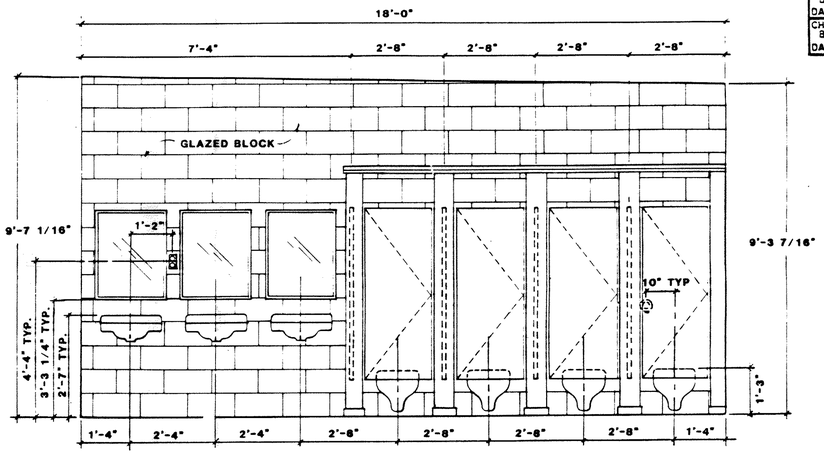
ROOM 101 (LOBBY)
SAME BOTH SIDES

4A-3-01



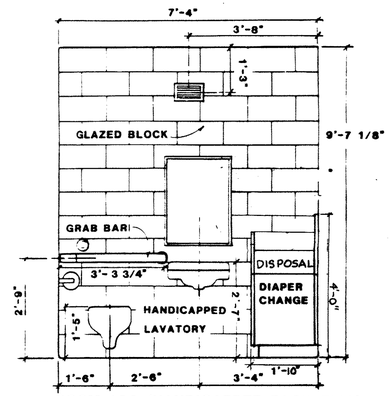
ROOM 102/104

4A-3-07



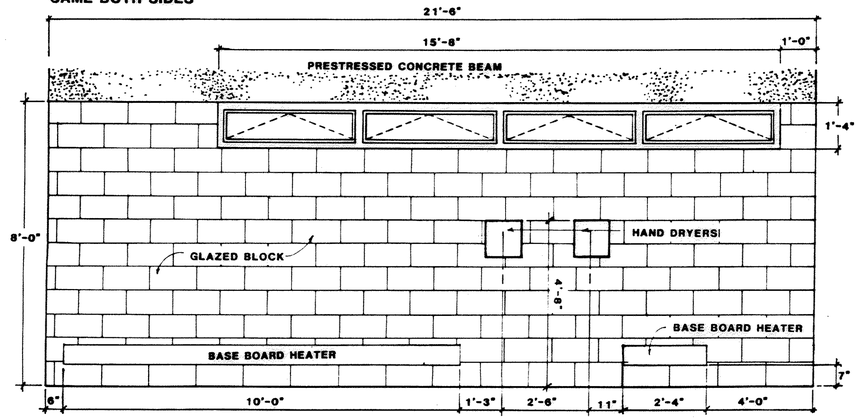
ROOM 104 (WOMEN)

4A-3-05



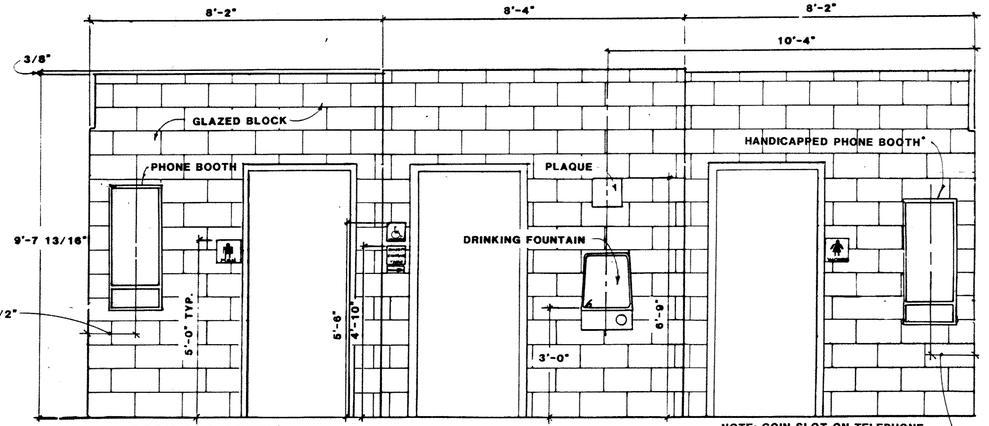
ROOM 106 (HANDICAPPED FACILITIES)

4A-3-09



ROOM 104 (WOMEN)

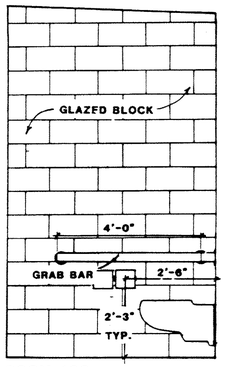
4A-3-02



ROOM 101 (LOBBY)

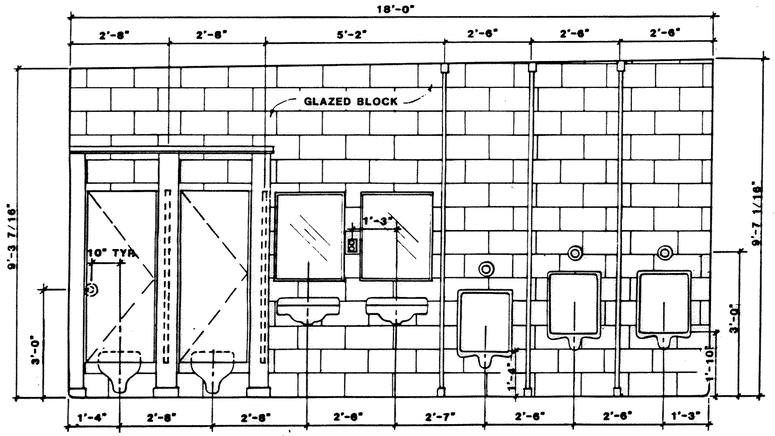
4A-3-04

NOTE: COIN SLOT ON TELEPHONE SHALL BE 54" ABOVE FINISHED FLOOR



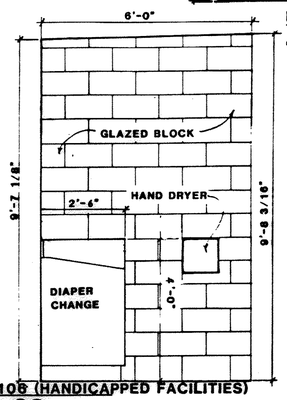
ROOM 106
(HANDICAPPED FACILITIES)

4A-3-10



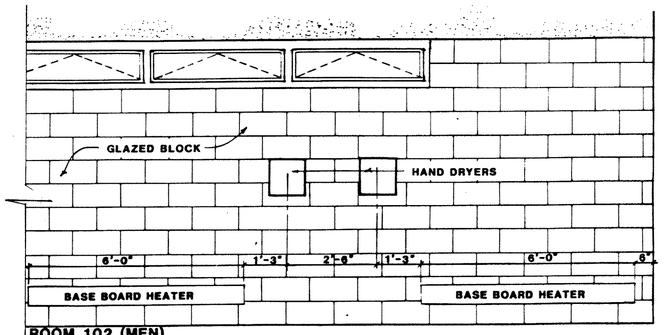
ROOM 102 (MEN)

4A-3-03



ROOM 106 (HANDICAPPED FACILITIES)

4A-3-08



ROOM 102 (MEN)

4A-3-06

SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

MSB-4

INTERIOR WALL CROSS SECTIONS

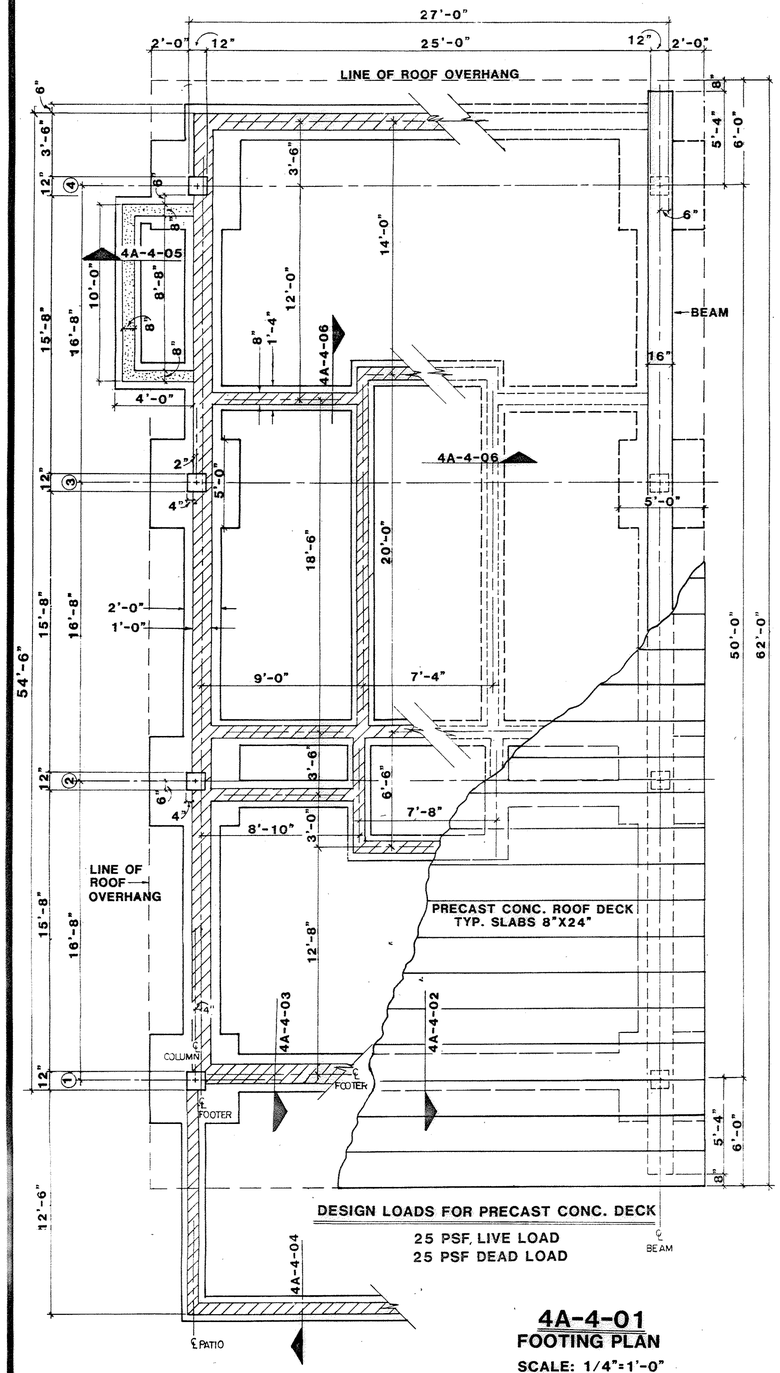
DATE
8/1/86
1/20/87
3/2/87
10-30-87
2-2-88
10-30-90

APPROVED _____ Engr. of Design Services

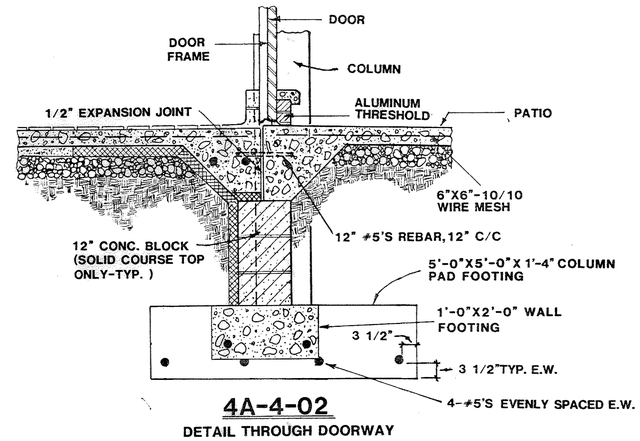
4A-3

GAL-35-6.79

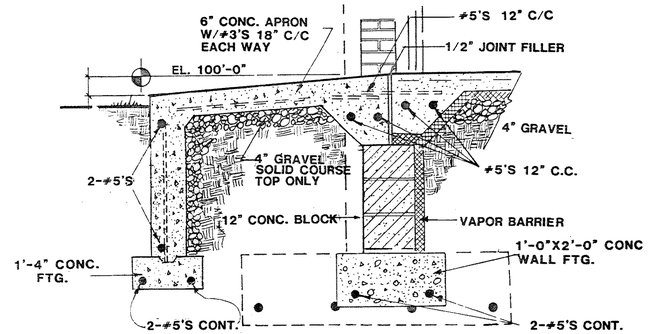
45/86



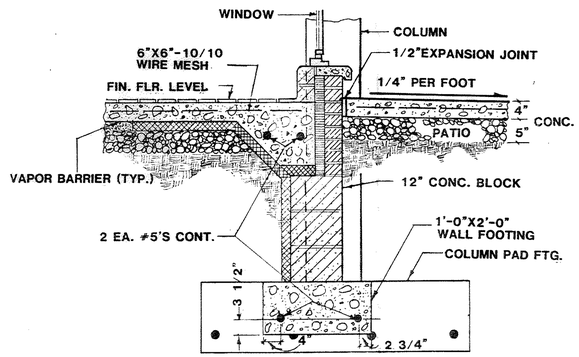
4A-4-01
FOOTING PLAN
SCALE: 1/4"=1'-0"



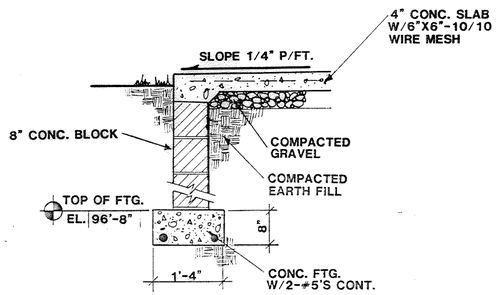
4A-4-02
DETAIL THROUGH DOORWAY



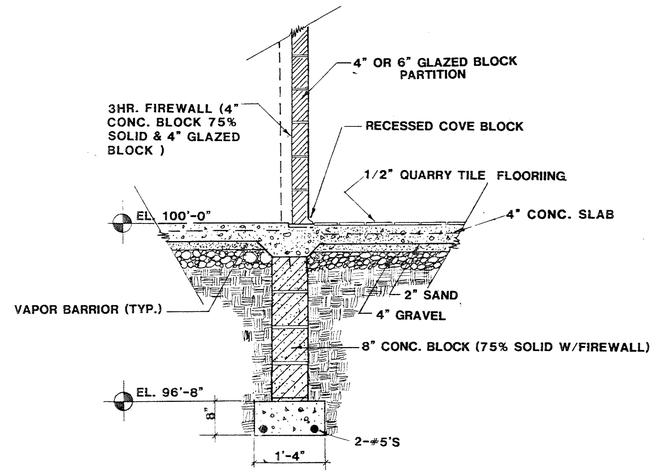
4A-4-05
APRON DETAIL



4A-4-03
DETAIL THROUGH WINDOW



4A-4-04
PATIO FOOTING DETAIL



4A-4-06
TYP. FTG. UNDER PARTITION

SCALE, ALL DETAILS: 3/4"=1'-0"

FOUNDATION NOTES:

1. FOOTINGS ARE DESIGNED FOR 2000 PSI SOIL BEARING PRESSURE. FOOTINGS SHALL BE FOUNDED ON UNDISTURBED SOIL . EXCAVATIONS KEPT FREE OF WATER AT ALL TIMES CONSULT ENGINEER IF SOIL AT GIVEN ELEVATION DO NOT SATISFY REQUIREMENTS.
2. MATERIALS:
   - A. CONCRETE
     INTERIOR SLAB ON GRADE, FOOTINGS: f_c =3000 PSI
     EXTERIOR SLAB ON GRADE: f_c =4000 PSI (AIR)
     LEAN CONCRETE FOR OVEREXCAVATION: f_c =1500 PSI
   - B. REINFORCING STEEL: f_c =60000 PSI
3. CAST IN FOOTINGS INSERTS, ANCHOR BOLTS AND/OR POCKETS FOR PRECAST CONCRETE COLUMN CONNECTION AS DETAILED ON APPROVED PRECAST CONCRETE ERECTION DRAWINGS. ALL LOOSE HARDWARE AND SETTING DIAGRAMS WILL BE FURNISHED BY THE PRECAST CONCRETE SUPPLIER.

SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

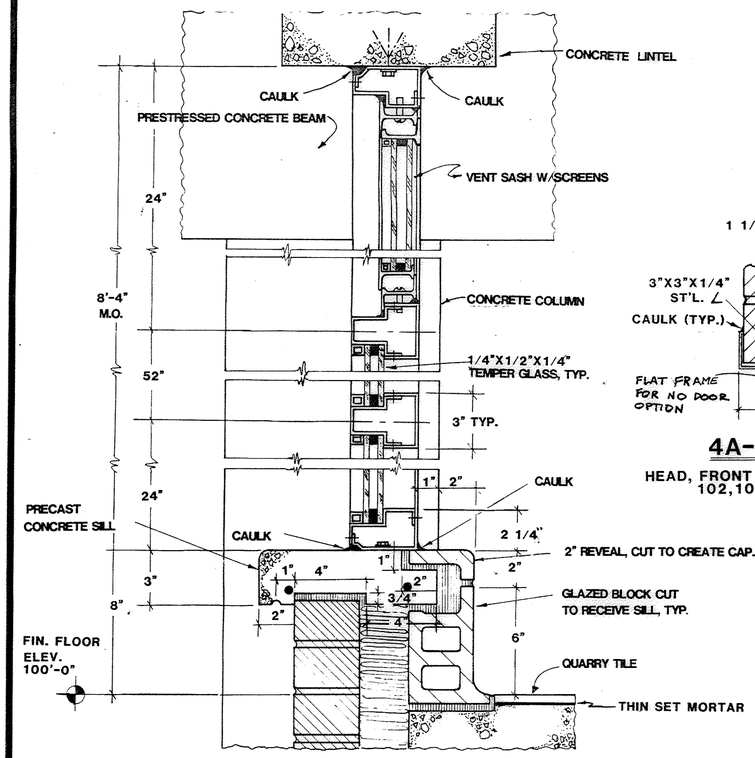
MSB-4
FOOTING PLAN & DETAILS

DATE
5/2/85
5/6/86
8/4/86
8/26/86
1/20/87

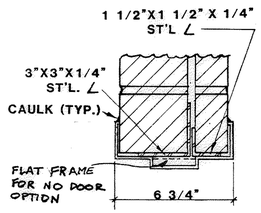
APPROVED R. Wilson Engr. of Design Services

4A-4

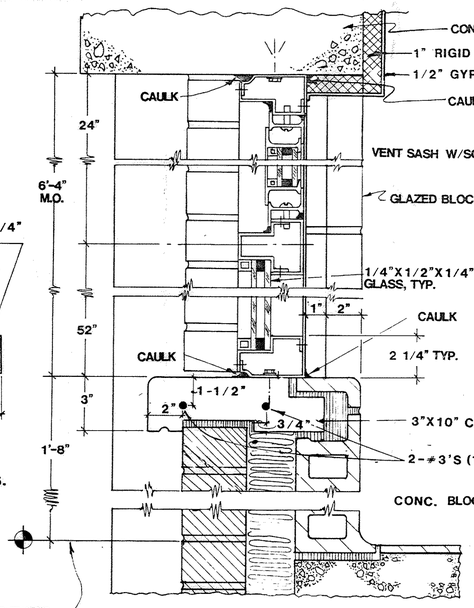
GAL-35-6.79 (A6 86)



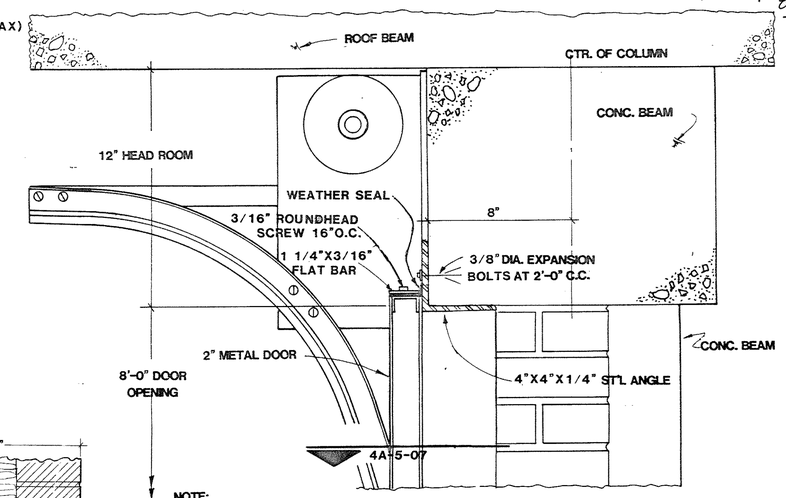
4A-5-01
FRONT WINDOW, 101



4A-5-10
HEAD, FRONT DOORS, RMS. 102,104,& 106

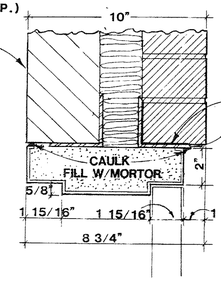


4A-5-02
SIDE WINDOWS, ROOM 101

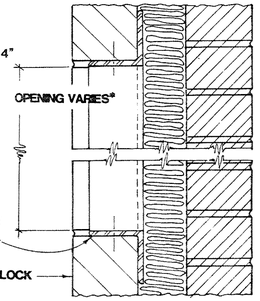


NOTE:
FOR WEATHER SEALS, SEE SPECIFICATIONS

4A-5-03
HEAD, OVERHEAD DOOR

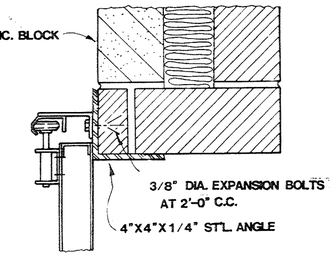


4A-5-09
HEAD , EXT. DOOR RM.105

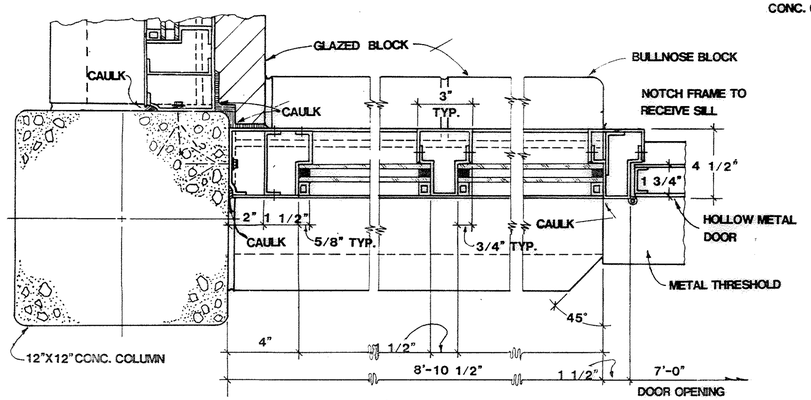


4A-5-06
OPENING FRAMES FOR WASTE RECEPTACLES AND HAND DRYERS

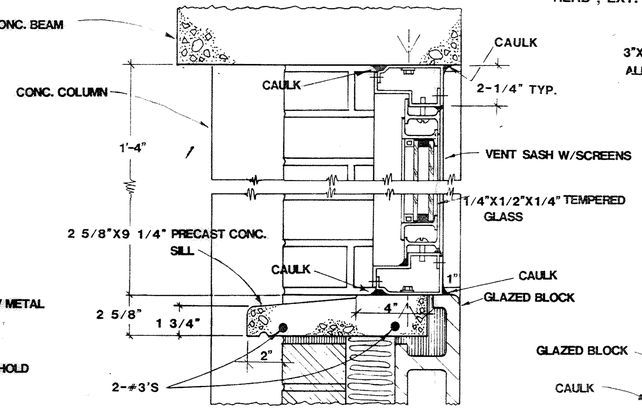
* CHECK REQUIRED OPENINGS OF DESIRED RECEPTICALS & HAND DRYERS.



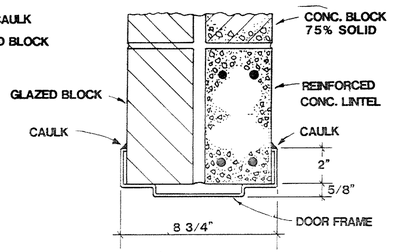
4A-5-07
JAMB,OVERHEAD DOOR



4A-5-04
FRONT WINDOW & DOOR FRAME



4A-5-05
SIDE WINDOWS, RM'S. 102 & 104



4A-5-08
HEAD, REAR DOORS, RM'S. 102 103 & 104

SCALE: 3"=1'-0"

SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

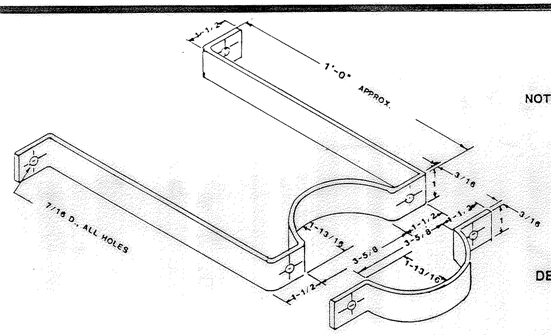
MSB-4
DOOR & WINDOW DETAILS

DATE
5-2-85
5/6/86
8/1/86
8/26/86
1/20/87
3/2/87
10/30/87

APPROVED Richard Hanlon Engr. of Design Services

4A-5

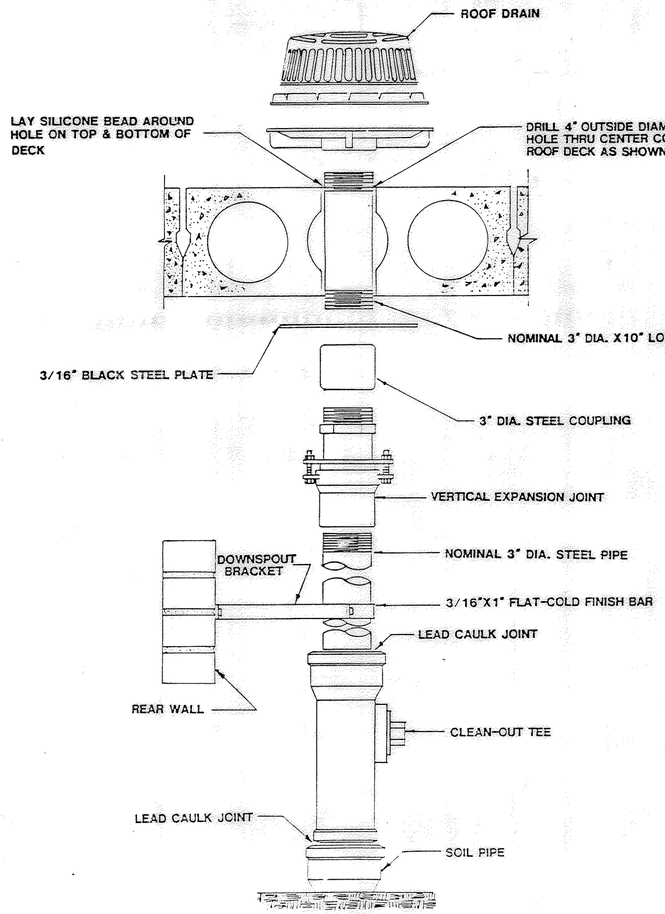
GAL-35-679 (47/86)



NOTE: USE 2-3/8" WEDGE ANCHORS W/WASHERS TO MOUNT PIPE BRACKET TO WALL & 2-3/8"X1" CADMIUM PLATED BOLTS W/WASHERS TO BOLT BRACKET TOGETHER

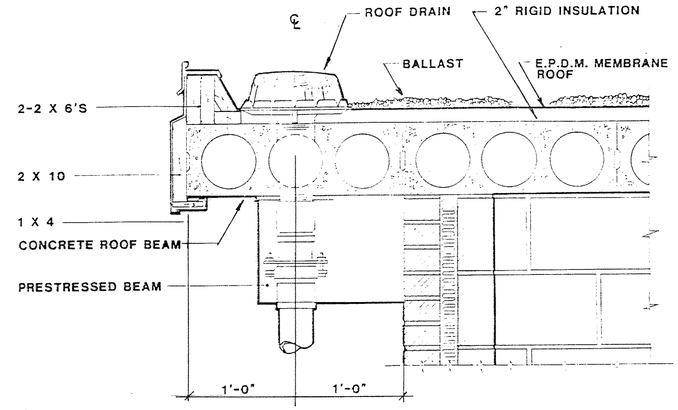
4A-6-01
DETAIL OF DOWNSPOUT BRACKET

NO SCALE

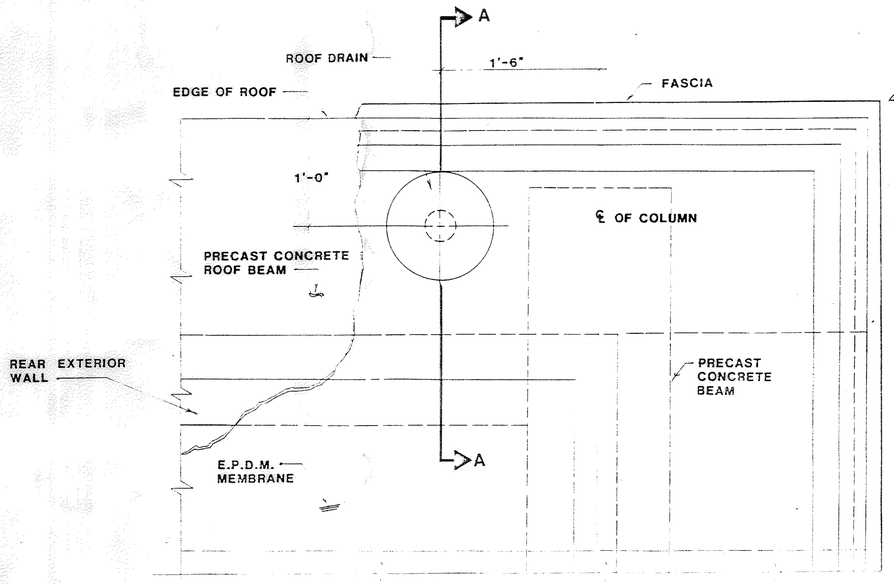


4A-6-02
ROOF DRAIN & DOWNSPOUT ASSEMBLY DETAIL

NO SCALE

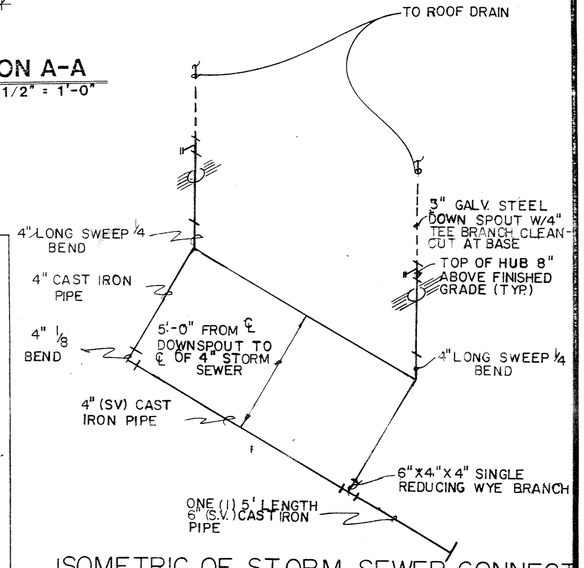


SECTION A-A
SCALE: 1 1/2" = 1'-0"



4A-6-04
RIGHT HALF OF ROOF WITH DRAIN

NO SCALE

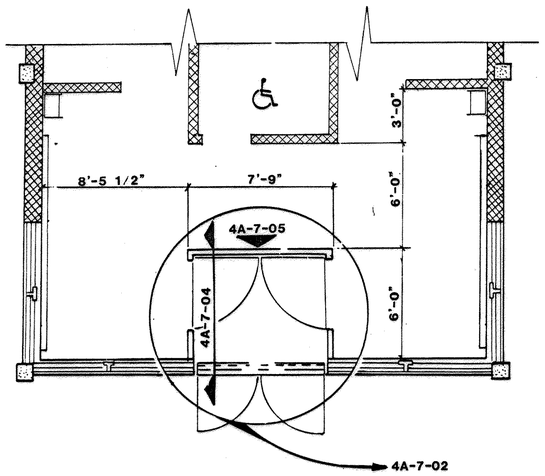


ISOMETRIC OF STORM SEWER CONNECT TO BUILDING DOWNSPOUT & ROOF DRAIN

SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

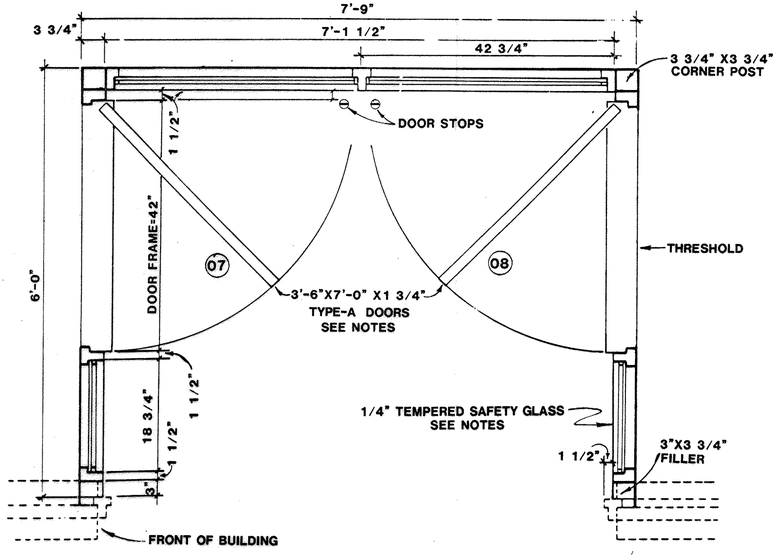
BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT	DATE 5/2/85 8/11/86 10/30/87
MSB-4 ROOF DETAILS	
APPROVED Engr. of Design Services	4A-6



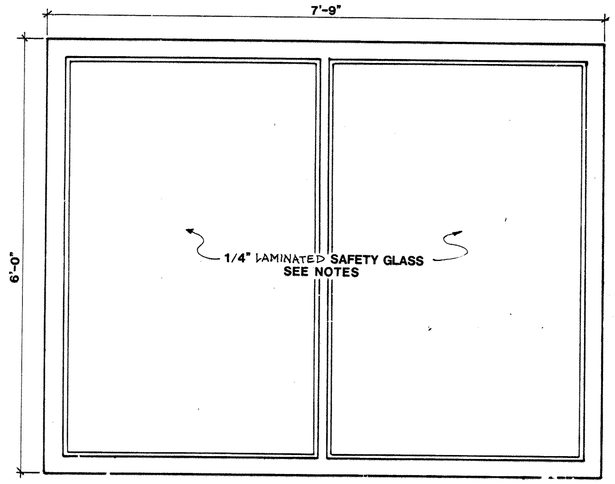
4A-7-01
PARTIAL PLAN OF BUILDING

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



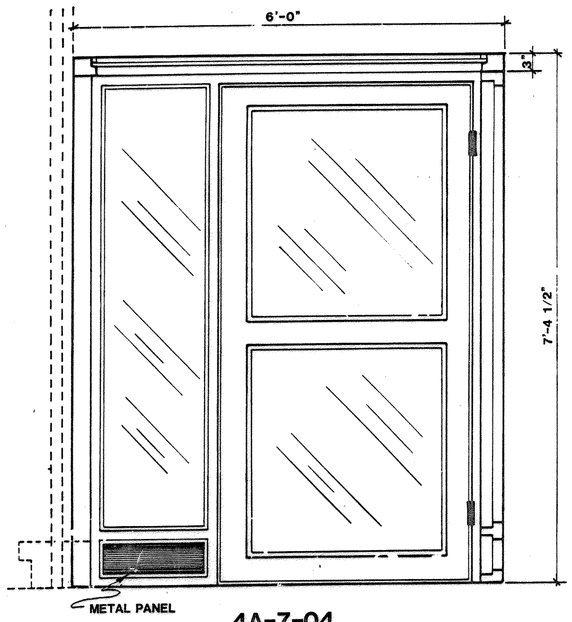
4A-7-02
PLAN

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



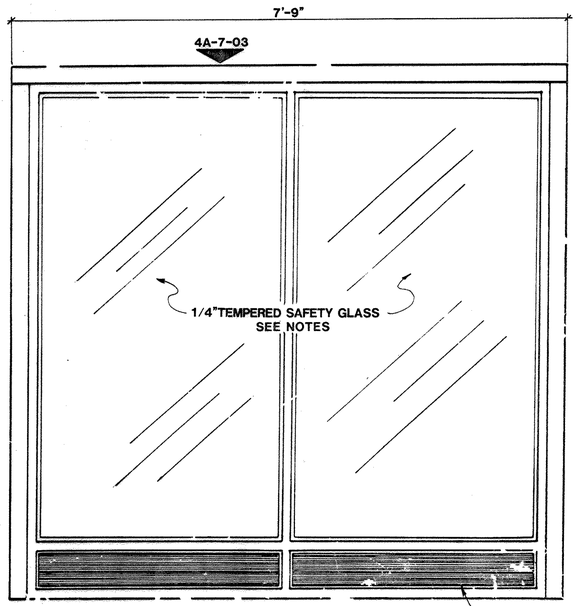
4A-7-03
TOP

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



4A-7-04
SIDE ELEVATION/SECTION

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



4A-7-05
REAR ELEVATION

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

DOOR SCHEDULE				
DOOR NO.	TYPE	SIZE	HDWR.	REMARKS
07	A	3'-6"X7'-0"X1 3/4"	H	CENTER STILE (MIN. 4" HIGH) W/1/4" LAMINATED SAFETY GLASS
08				

NOTES

1. DOOR & WINDOW FRAMES SHALL BE EXTRUDED FROM 6063-T5 ALUMINUM WITH A FINISH EQUAL TO PPG HARD COAT #62 DARK BRONZE ANODIZED FINISH.
2. DOOR GLASS SHALL BE 1/4" CLEAR LAMINATED SAFETY GLASS.
3. WINDOW GLASS SHALL BE 1/4" CLEAR SAFETY GLASS.
4. FOR MANUFACTORING & IDENTIFICATION REQUIREMENTS SEE SECT. 08800, GLAZING, IN SPECIFICATIONS.

HARDWARE -H

1 1/2	PRS. BUTTS SS4B500 45TBB 32DXNRP
1	PULL 1" DIA. X 13" LONG STAINLESS STEEL ROD W/V.P. BOLTS
1	KICK PLATE 8X35 32D
1	CLOSER 4040 EDA CUSH & STOP ALUM.
1	THRESHOLD PEMKO 270B OR APPROVED EQUAL
1	PUSH PLATE 4 1/2"X15"X 0.05" BEVELED EDGES, US 32
1	DOOR STOP 400-264

SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

MSB-4

AIRLOCK

DATE
3-5-86
1-20-87
3-2-87
10-30-87

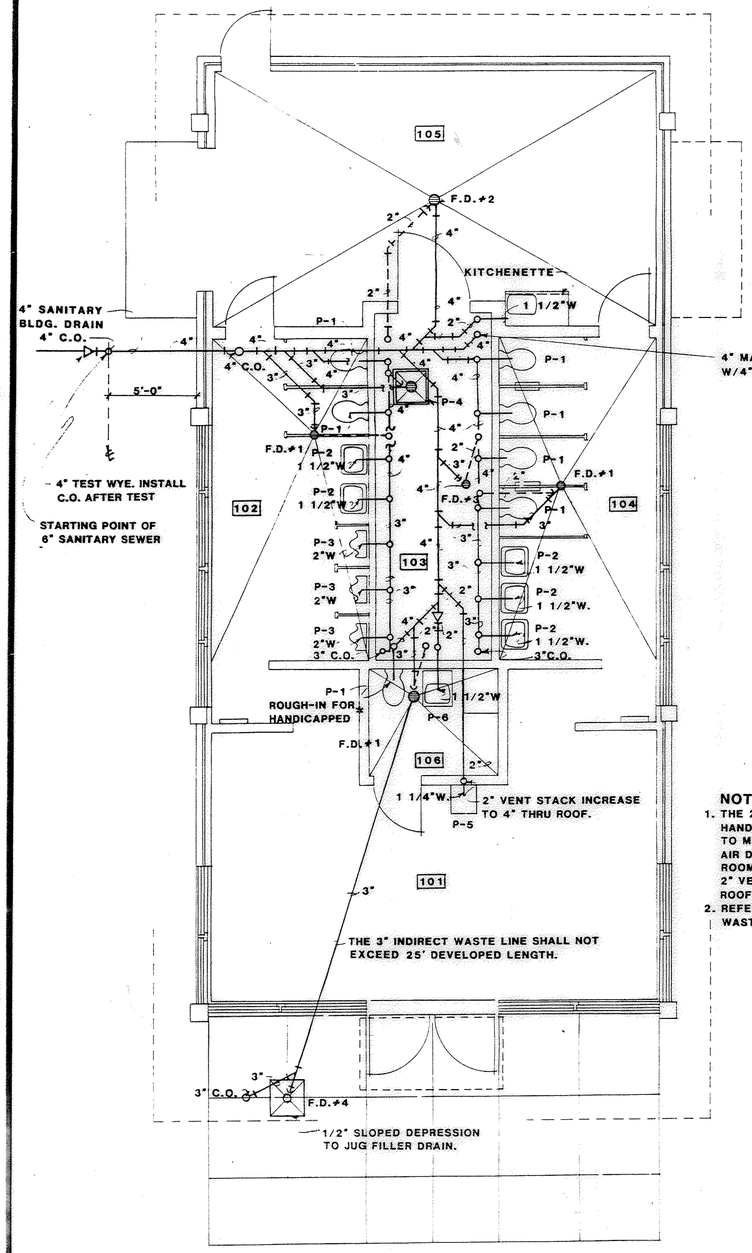
APPROVED R. Henderson Engr. of Design Services

4A-7

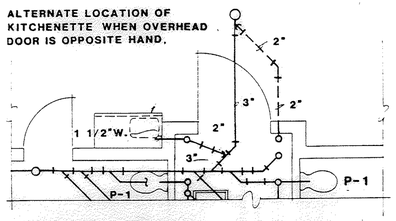
CALC. BY	
DATE	
CHKD. BY	
DATE	

GAL-35-6.79

OHIO | FHWA REGION 5 | 49 / 86

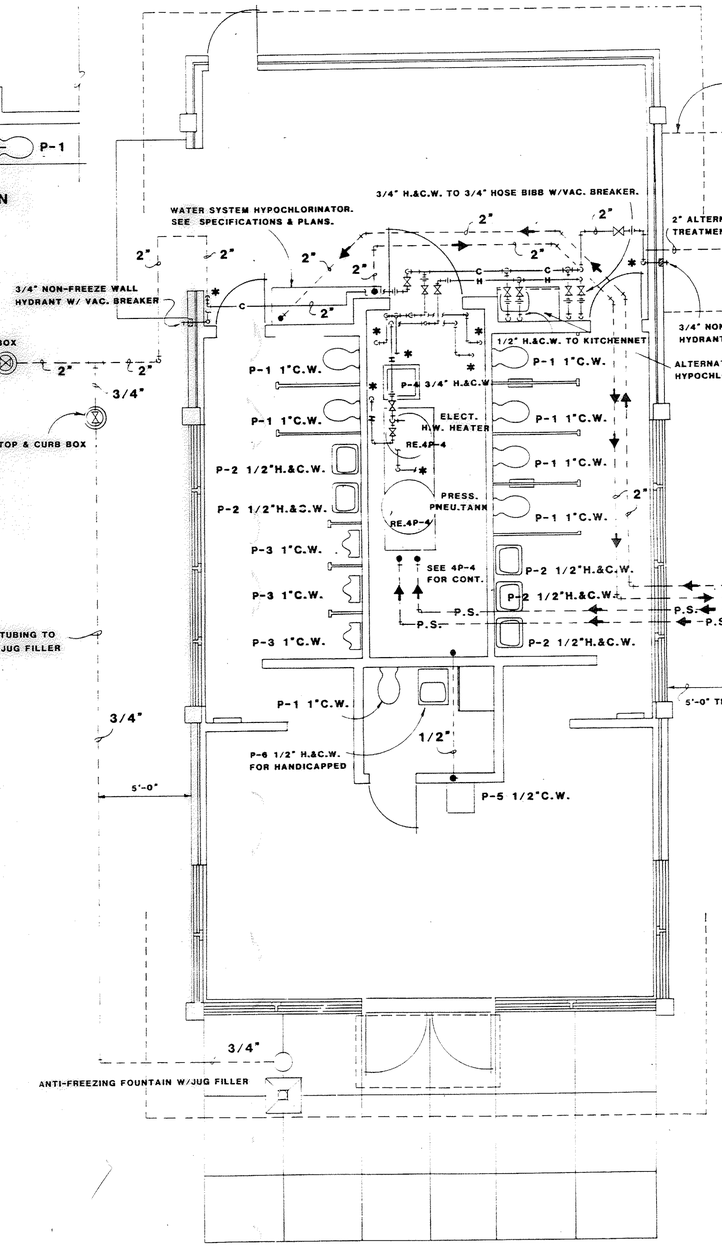


WASTE AND VENT PLUMBING PLAN
4P-1-01

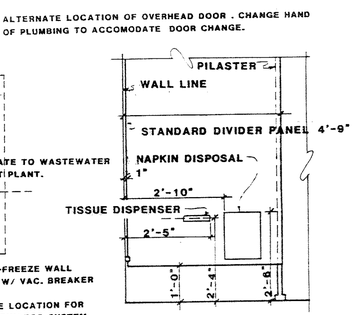


ALTERNATE KITCHENETTE LOCATION

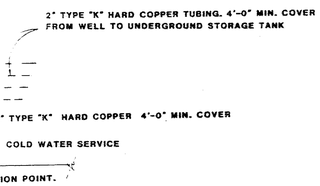
NOTE:
1. THE 2" VENT OFF OF FLOOR DRAIN IN HANDICAPPED TOILET ROOM SHALL OFFSET TO MISS 2" BACK VENT AND EXHAUST AIR DUCT FROM HANDICAPPED TOILET ROOM AND SEPARATELY VENT THRU ROOF. 2" VENT SHALL INCREASE TO 4" THRU ROOF W/2" C.O. AT BASE.
2. REFER TO ISOMETRIC FOR THE SOIL. WASTE AND VENT PIPING INSTALLATION.



WATER SYSTEM PLUMBING PLAN
4P-1-02



DETAIL OF TOILET ROOM ACCESSORIES
4P-1-03



NOTES:
1. THE ASTERISK (*) WHERE SHOWN ON THE PLAN INDICATES REFERENCE SHALL BE MADE TO P4-2 FOR CONT. OF PIPING.
2. COPPER PIPE SLEEVES SHALL BE FURNISHED AND INSTALLED AS SHOWN OR REQUIRED FOR ALL WATER LINES PASSING THROUGH WALLS OR FLOORS.

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

DATE 8-22-86

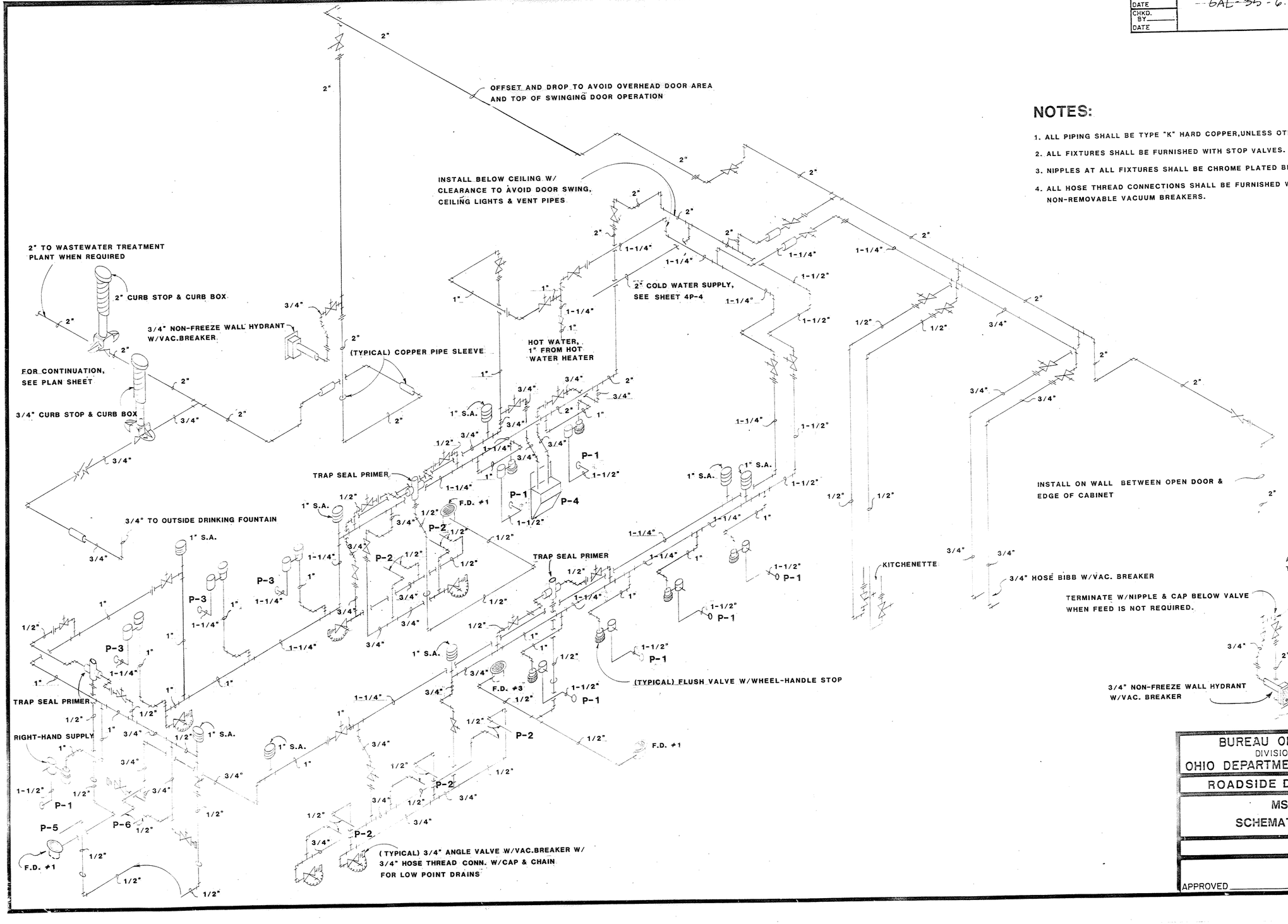
MSB-4

PLUMBING PLANS

APPROVED _____ Engr. of Design Services

4P-1

CALC. BY	-6AL-35-6.79	OHIO	50
DATE		FHWA REGION 5	86
CHKD. BY			
DATE			



NOTES:

1. ALL PIPING SHALL BE TYPE "K" HARD COPPER, UNLESS OTHERWISE NOTED.
2. ALL FIXTURES SHALL BE FURNISHED WITH STOP VALVES.
3. NIPPLES AT ALL FIXTURES SHALL BE CHROME PLATED BRASS.
4. ALL HOSE THREAD CONNECTIONS SHALL BE FURNISHED WITH NON-REMOVABLE VACUUM BREAKERS.

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

DATE 8-22-86

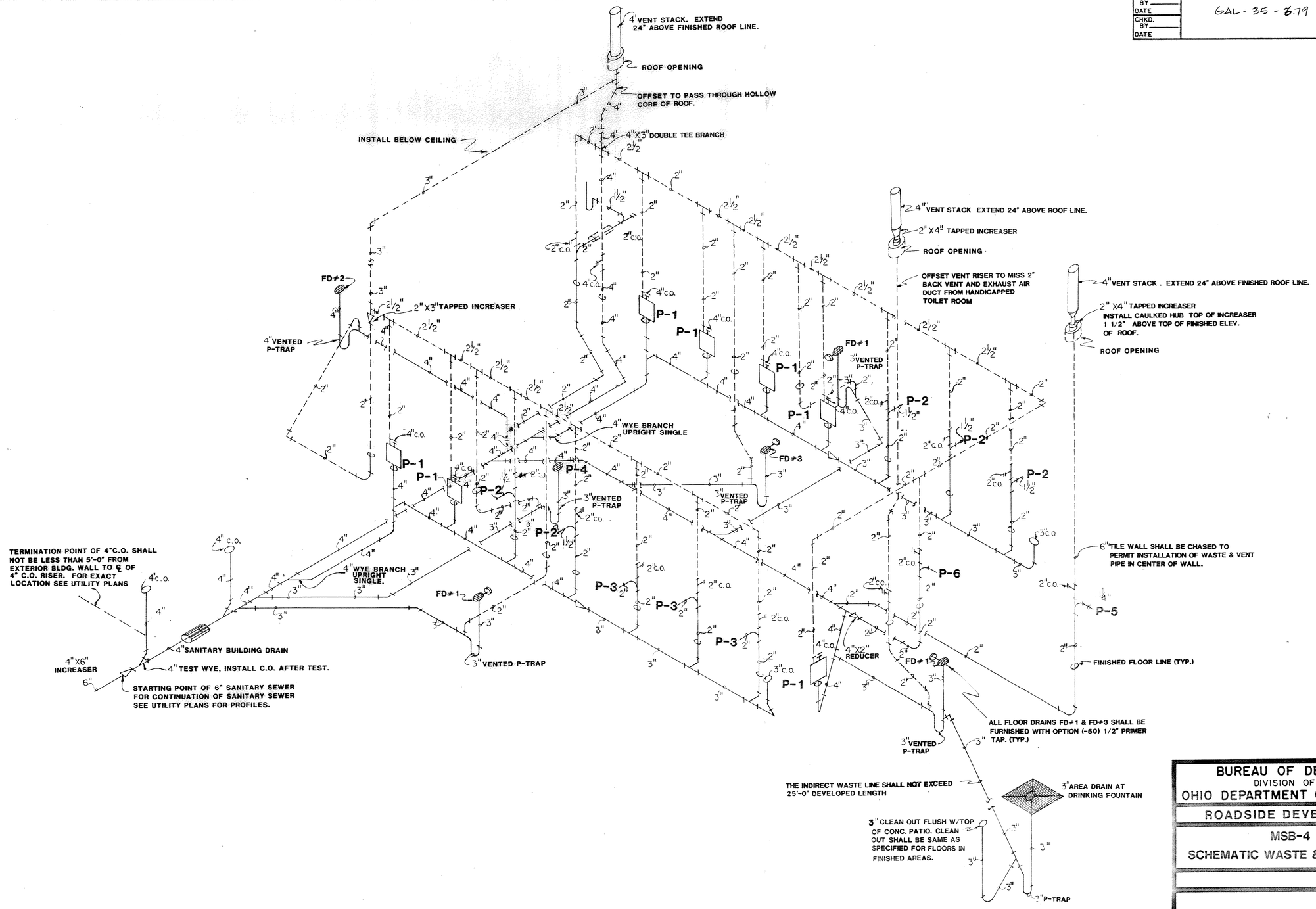
MSB-4

SCHEMATIC WATER

APPROVED _____ Engr. of Design Services

4P-2

CALC. BY	GAL - 35 - 8.79	OHIO	51
DATE		FHWA REGION 5	86
CHKD. BY			
DATE			



BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

DATE 8-20-86

MSB-4

SCHEMATIC WASTE & VENT PIPING

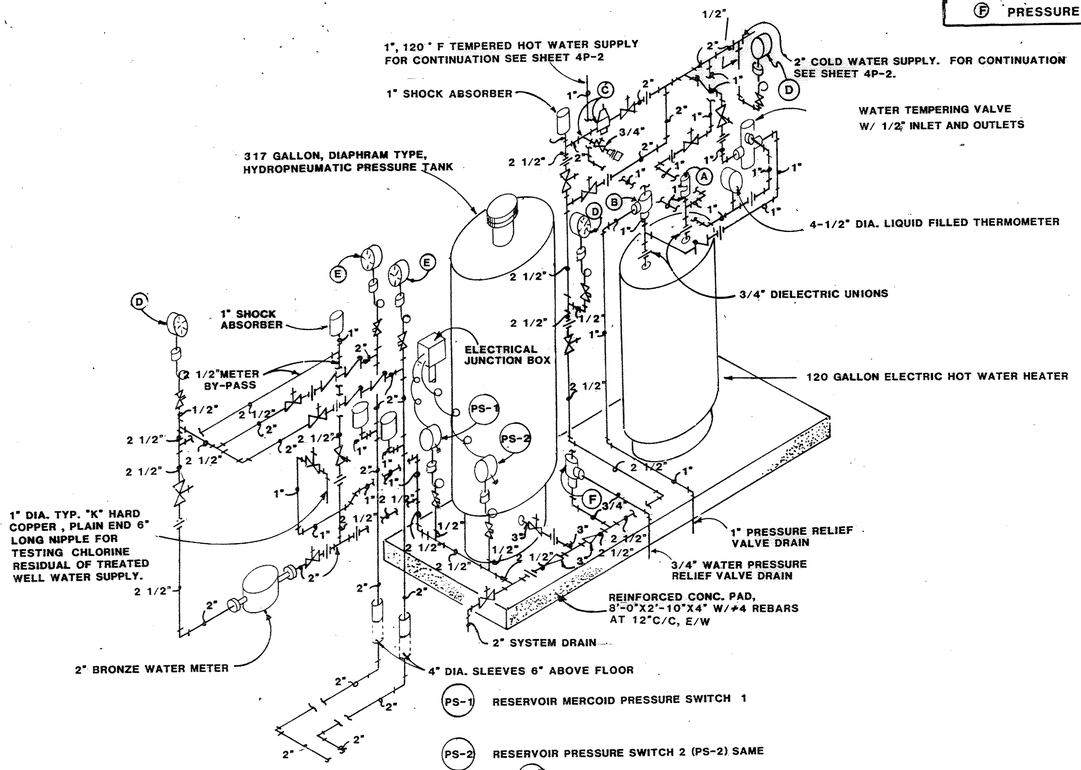
APPROVED _____ Engr. of Design Services

4P-3

GAL-35-6.79

52/86

- (A) 1" DIA. VACUUM RELIEF VALVE
- (B) PRESSURE & TEMP. RELIEF VALVE
- (C) 2" DIA. WATER PRESSURE REDUCING VALVE
- (D) 3-1/2" DIA. PRESSURE GAUGE W/TYPICAL SNUBBER ASSEMBLY
- (E) 3-1/2" DIA. COMPOUND PRESSURE GAUGE W/1/4" BRASS PIGTAIL 1/4" SNUBBER, & 1/4" BRASS TEE HANDLE COCK
- (F) PRESSURE RELIEF VALVE



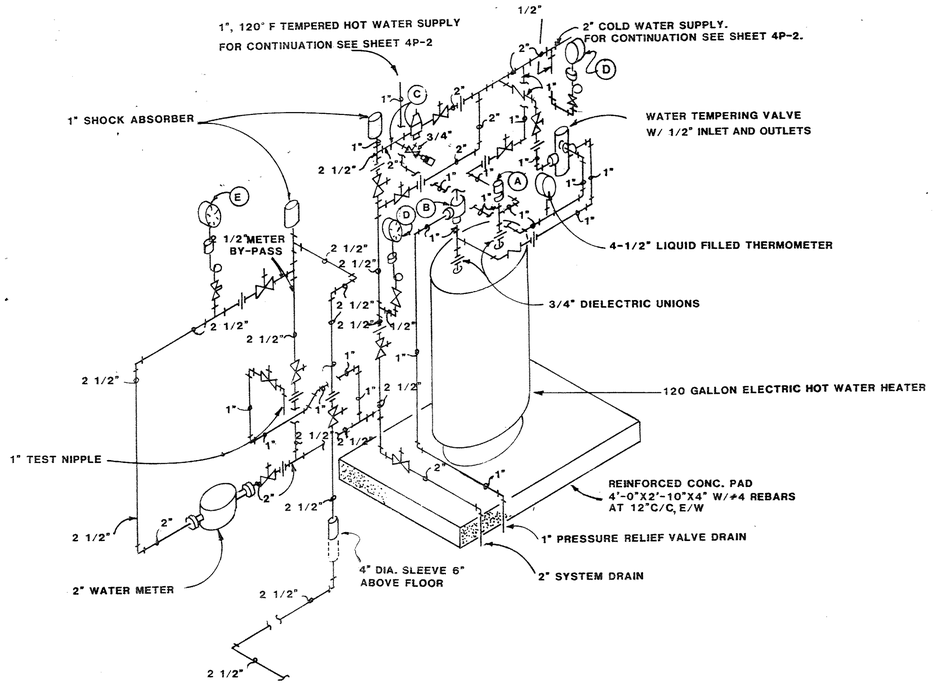
(PS-1) RESERVOIR MERCOID PRESSURE SWITCH 1

(PS-2) RESERVOIR PRESSURE SWITCH 2 (PS-2) SAME AS (PS-1) ABOVE.

4P-4-01
WELL WATER SYSTEM

NOTES:

1. FOR NAMES OF APPROVED MANUFACTURERS FOR ITEMS NOTED HEREON REFER TO SPECIFICATIONS.
2. REVERSE POSITION OF PLUMBING LINES MAY BE REQUIRED DUE TO DOOR RELOCATION & EQUIPMENT REPLACEMENT. ALSO SITE CONDITIONS. CHECK SITE PLANS & MAKE ALL CORRECTIONS AS REQUIRED.
3. ALL UNVENTED FLOOR DRAINS SHALL NOT EXCEED 10'-0" IN DEVELOPED LENGTH.



4P-4-02
PUBLIC WATER SYSTEM

SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

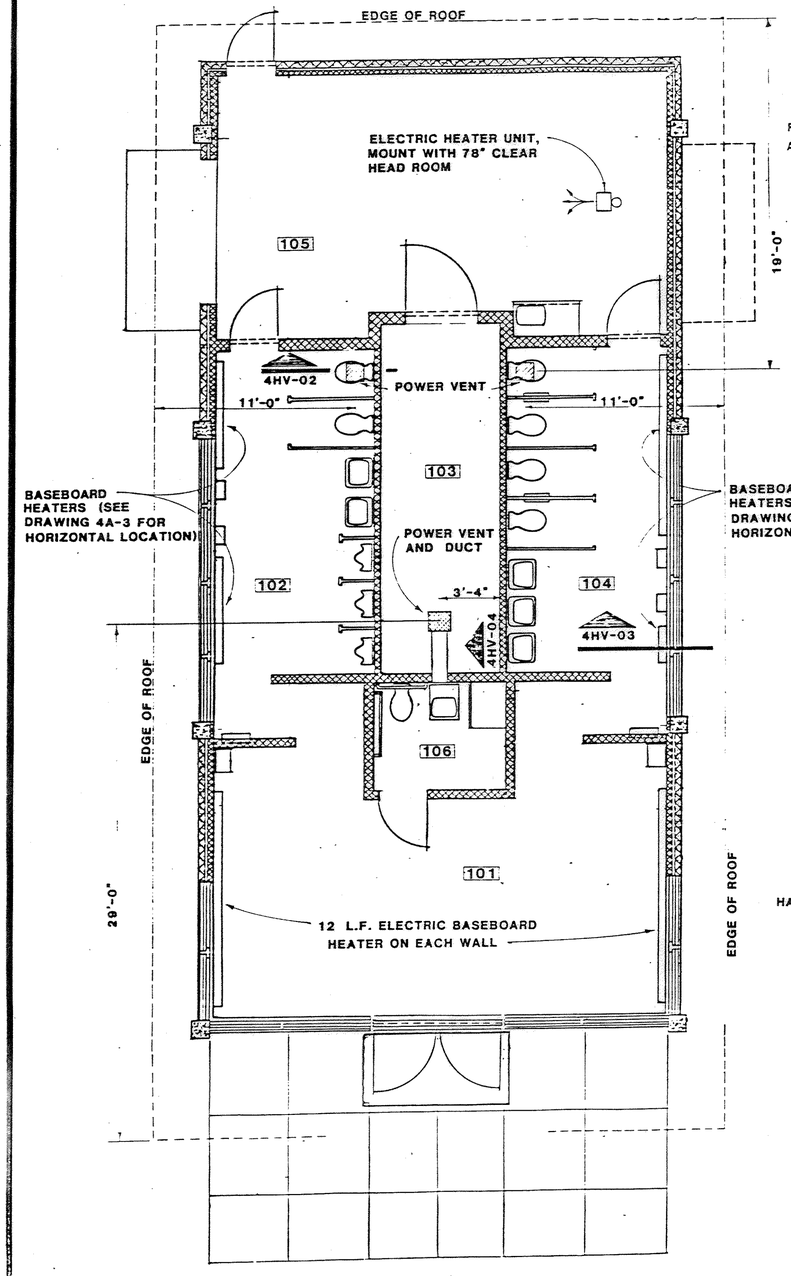
MSB-4
PUBLIC & WELL WATER SYSTEMS

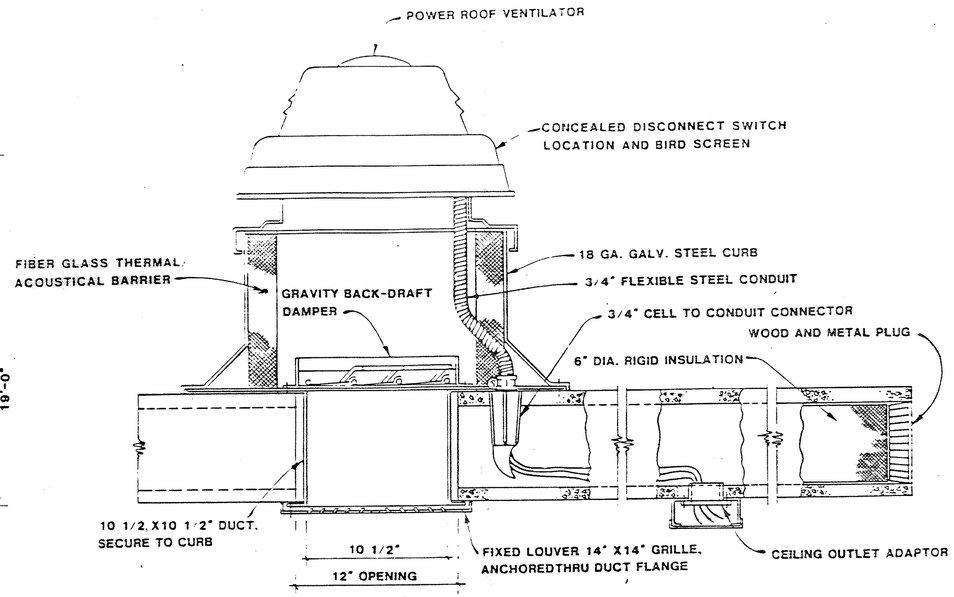
DATE
5/2/85
8/26/86
12-12-89

APPROVED Judith Johnson Engr. of Design Services

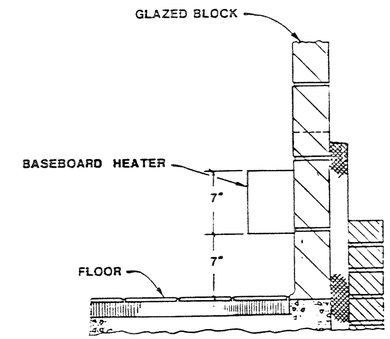
4P-4

CALC. BY / DATE	GAL - 35 - 6.79	OHIO	53 / 86
CHKD. BY / DATE		FHWA REGION 5	

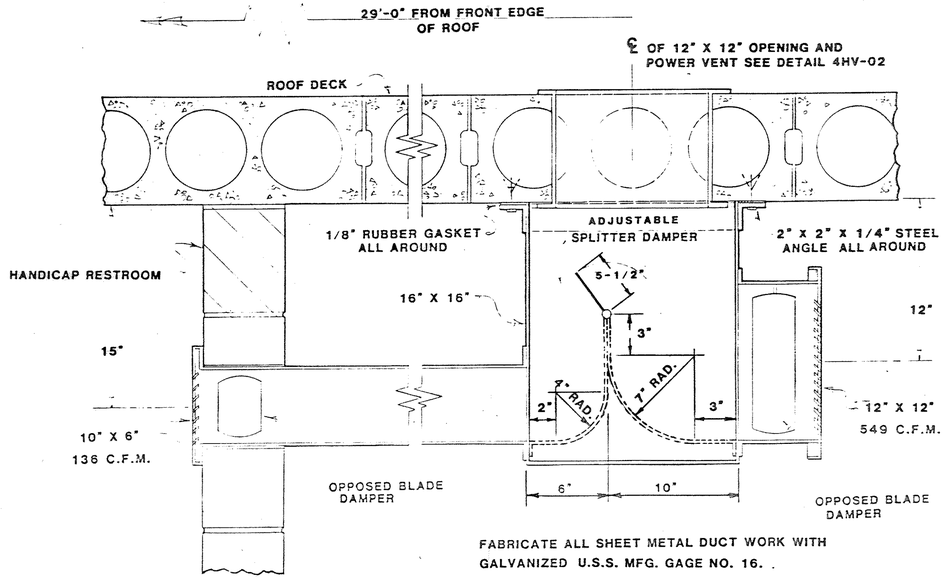




4HV-02
POWER VENTILATOR ROOMS 102 & 104
SCALE: 3/16"=1"

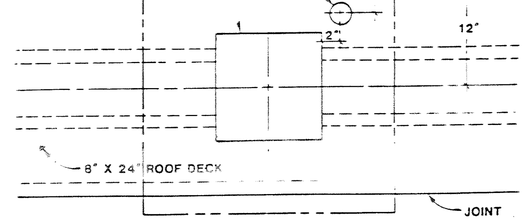


4HV-03
SECTION THRU WALL
SCALE: 1 1/2"=1'-0"



FABRICATE ALL SHEET METAL DUCT WORK WITH GALVANIZED U.S.S. MFG. GAGE NO. 16.

4HV-04
POWER VENT AND DUCT
ROOMS 103 AND 106 SCALE 3/16" = 1"



4HV-01
VENTILATOR OPENING
SCALE: 1 1/2"=1'-0"

SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

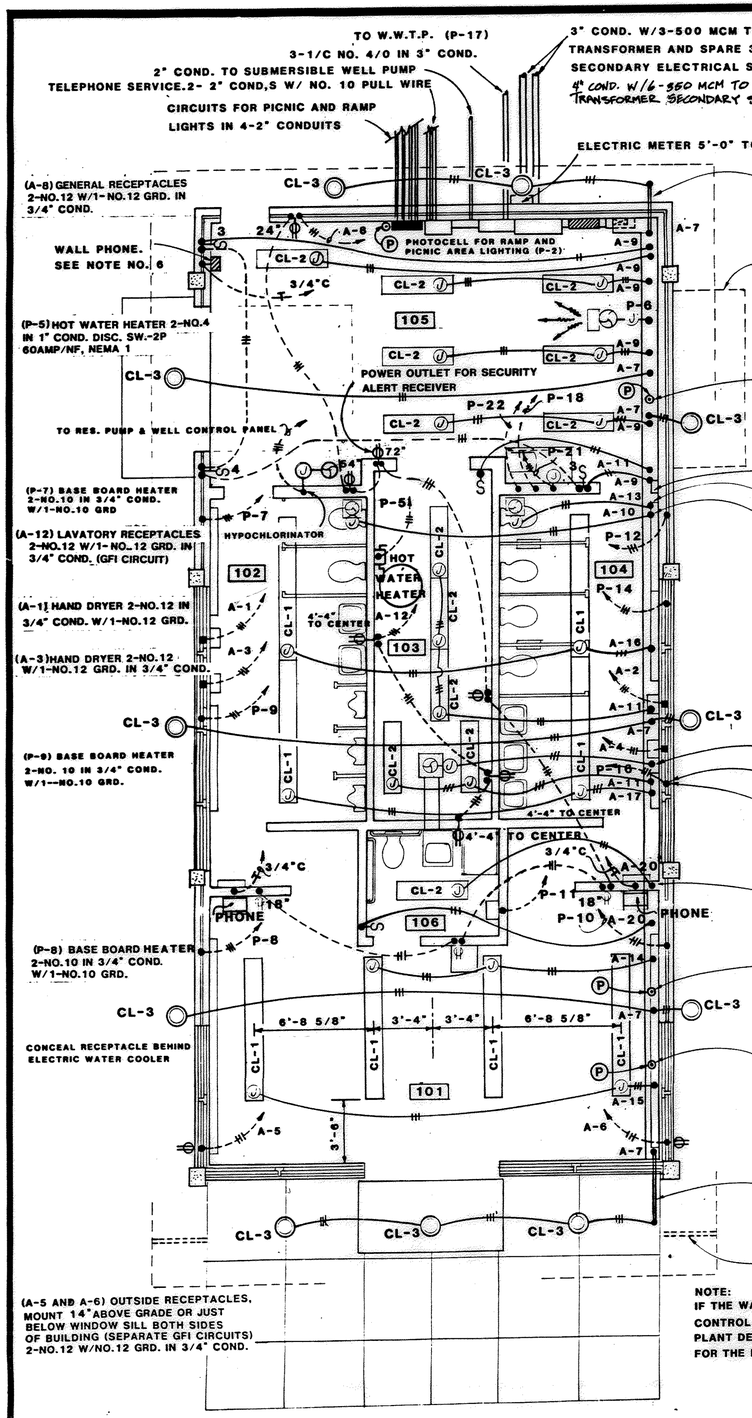
MSB-4

HEATING AND VENTILATION

DATE 5/2/85 8/11/86 3/2/87

APPROVED _____ Engr. of Design Services

4 HV



3/4" COND. CONCEALED IN FIRST LAYER OF INSULATION ON ROOF

IF OVERHEAD DOOR IS LOCATED THIS SIDE OF BUILDING-SEE NOTE NO.1

CEILING MOUNTED UNIT HEATER (P-6)
2-NO.10 IN 3/4" COND. W/1-NO.10 GRD.

PHOTOCELL FOR CL-3 FIXTURES - CIRCUIT (A-7) (SEE NOTE NO.2)

ROUGH-IN (P-18),(P-21) & (P-22) AS REQUIRED TO BE COMPATIBLE WITH KITCHENETTE FURNISHED

12" COVER SECTION THROUGH WALL FOR SURFACE METAL RACEWAY

(A-13) POWER ROOF VENTILATOR
2-NO.12 IN 3/4" COND. W/1-NO.12 GRD.

(A-10) POWER ROOF VENTILATOR
2-NO.12 IN 3/4" COND. W/1-NO.10 GRD.

BASE BOARD HEATER (P-12)
2-NO.10 IN 3/4" COND.W/1-NO.10 GRD.

BASEBOARD HEATER (P-14)
2-NO. 10 IN 3/4" COND. W/ 1-NO. 10 GRD.

CONCEAL CONDUIT IN WALL RECESS FOR HAND DRYERS.
REFER TO PLANS FOR VARIOUS ROUGH-IN HEIGHT REQUIREMENTS.

HAND DRYER (A-2) 2-NO.12
W/1-NO.12 GRD. IN 3/4" COND.

HAND DRYER (A-4) 2-NO.12
W/1-NO.12 GRD. IN 3/4" COND.

(P-13) POWER ROOF VENTILATOR 2-NO.12
IN 3/4" COND. W/ 1-NO.10 GRD.

BASE BOARD HEATER (P-16)
2-NO.10 IN 3/4" COND. W/1-NO.10 GRD.

FLUSH OUTLET FOR BASEBOARD HEATERS (SEE NOTE 4)

HAND DRYER (P-11) 2-NO.12
W/1-NO.12 GRD. IN 3/4" COND.

8" COVER SECTION THROUGH WALL FOR SURFACE METAL RACEWAY

BASE BOARD HEATERS (P-10)
2-NO.10 IN 3/4" COND. W/1-NO.10 GRD.

PHOTOCELL FOR LIGHTS ON CIRCUIT (A-14) SEE NOTE NO.2

PHOTOCELL FOR LIGHTS ON CIRCUIT (A-15) SEE NOTE NO.2

3/4" COND. CONCEALED IN FIRST LAYER OF INSULATION ON ROOF

CORE PLUG-SEE NOTE NO.3

FOR LIFT STATION AND W.W.T.P. BUILDING ALARM INSTALLATIONS, REFER TO PLANS, SPECIFICATIONS AND SUMMARIES. COMPLETE CONDUIT, CONDUCTORS, ALARMS AND EPDM MOLDED, FLEXIBLE PIPE FLASHINGS W/ STAINLESS STEEL WORM CLAMPS SHALL BE FURNISHED, INSTALLED AND TESTED BY THE ELECTRICAL CONTRACTOR.

CALC. BY
DATE
CHKD. BY
DATE
604-35-6.79
OHIO
FHWA REGION 5
54
86

LEGEND

SYMBOL	MEANING	MOUNTING HEIGHT
○	LIGHTING OUTLET, CEILING	SEE FIXTURE SCHEDULE
$ ^{3}	SWITCH , 3-WAY, ETC.	4'-6"
⊖	DUPLEX RECEPTACLE	AS NOTED
(P)	PHOTOELECTRIC CELL	18" ABOVE ROOF
(PS)	PRESSURE SWITCH	AS REQUIRED
(J)	JUNCTION BOX	AS REQUIRED
	WIRING CONCEALED IN CORE OF CEILING	HASH MARKS INDICATE NUMBER OF CONDUCTORS WHEN MORE THAN TWO ARE PRESENT
	WIRING CONCEALED IN OR BELOW FLOOR SLAB	
⊗	MOTOR OUTLET	AS REQUIRED
	DISCONNECT SWITCH	5'-4" OR AS REQUIRED
	STARTER W/DISCONNECT SWITCH BELOW	5'-4" OR AS REQUIRED
○ ○	FLUSH CEILING OUTLET B=WITH BLANK COVER	
○	WIRED JUNCTION	AS REQUIRED
▨	POWER PANEL "P"	AS REQUIRED
■	LIGHTING PANEL "A"	AS REQUIRED

FIXTURE SCHEDULE

FIXT. NO.	MANUFACTURER	CATALOGUE NO.	LAMP SIZE	REMARKS:
CL-1	MILLER	CP-2191-08	4-F40 WW	RAPID START
CL-2	MILLER	CP-2191-04	2-F40 WW	RAPID START
CL-3	HOLOPHANE	PARK PAK #247	70W. S62	HIGH PRES. SODIUM

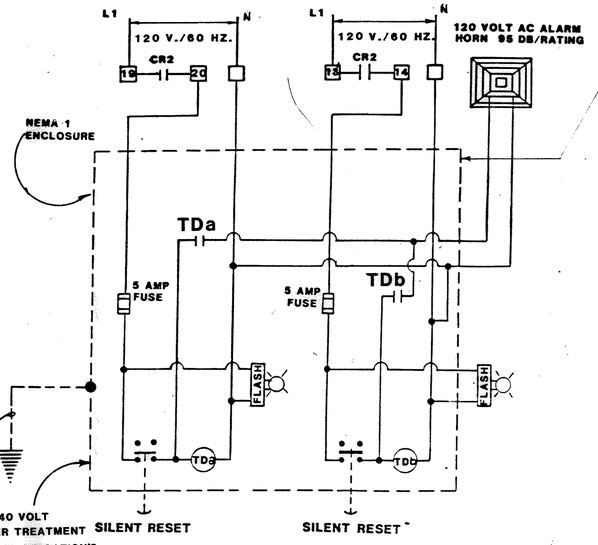
NOTE: FIXTURE NUMBER LETTER PREFIX DENOTES TYPE OF MOUNTS AS FOLLOWS: CL=MOUNT ON CEILING SURFACE, W=MOUNT ON WALL

NOTE: FIXTURES SHOWN ARE GIVEN FOR TYPE AND QUALITY ONLY, OTHER FIXTURE MANUFACTURERS SHALL BE COLUMBIA, DAYBRITE, MARCO, MC PHILBEN, LITHONIA AND MERCURY LIGHTING PRODUCTS CO., INC.

NOTES

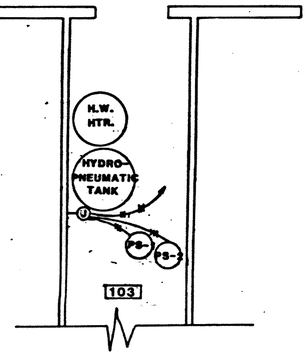
1. IF OVERHEAD DOOR IS LOCATED IN THIS SIDE OF BUILDING, ALL ELECTRICAL LIGHTS , PANELS, SURFACE METAL RACEWAY, THERMOSTATS, SWITCHES, HEATERS, ETC., SHALL BE LOCATED OPPOSITE HAND TO THE ARRANGEMENT SHOWN. THE MAIN SWITCH GEAR SHALL REMAIN ON THE SAME WALL BUT SHALL BE REVERSED FROM THAT SHOWN IN DETAIL, AND SHALL MOVE BACK TOWARDS THE SIDE OF THE BUILDING AWAY FROM THE OVERHEAD DOOR.
2. PHOTOCELLS SHALL BE MOUNTED ON THE END OF 3/4" CONDUIT AT 18" ABOVE THE ROOF. THE "WINDOW" OF THE SENSING DEVICE IN THE PHOTO-ELECTRIC CELL SHALL BE FACED DUE NORTH IF NO MARKING IS PROVIDED TO INDICATE AIMING THE DEVICE.
3. METAL CORE PLUGS SHALL BE INSTALLED BETWEEN THE INSULATION CORE AND WOOD CORE PLUG BY THE ELECTRICAL CONTRACTOR IN BOTH ENDS OF ALL DECK CORES USED FOR ELECTRICAL WIRING. INSULATION CORES AND WOOD CORE PLUGS SHALL BE INSTALLED BY THE GENERAL CONTRACTOR. REFER TO DETAILS 4HV-02.
4. THE ELECTRICAL CONTRACTOR SHALL INSTALL A FLUSH OUTLET AND CONCEALED CONDUIT FOR ELECTRIC BASE BOARD HEATERS. THE ELECTRICAL CONTRACTOR SHALL VERIFY THE HEIGHT OF THE HEATING AND VENTILATING CONTRACTOR.
5. ALL WIRE, UNLESS OTHERWISE NOTED, SHALL BE TYPE "THW" OR "THWN" WITH COPPER CONDUCTORS. GREEN CONDUCTORS SHALL BE USED FOR GROUNDING PURPOSES.
6. THE ELECTRICAL CONTRACTOR SHALL ALWAYS INSTALL CONDUIT AND OUTLET BOX IN WALL. A STANDARD WALL HUNG TELEPHONE, DIRECT DIAL, FOR CARETAKERS USE ONLY, WILL BE FURNISHED AND INSTALLED BY THE TELEPHONE COMPANY, WHEN SPECIFIED.

HOFFMAN ENCLOSURE A-14N128 (SIZE 14"X12"X8") W/A-14N12P PANEL, WIEGMANN, SQUARE "D", KEYSTONE OR APPROVED EQUAL.



W.W.T.P. HIGH WATER ALARM

NOTE:
IF THE WASTEWATER TREATMENT PLANT CONTROL PANEL'S ARE WIRED FOR 240 VOLT CONTROL, REFER TO " BUILDING HIGH WATER ALARM SYSTEM FOR WASTEWATER TREATMENT PLANT DETENTION/FLOW EQUALIZATION TANK AND DOSING TANK " ELECTRIAL SPECIFICATION'S FOR THE REQUIRED CHANGES OF SOME OF THE BUILDING ALARM PANEL COMPONENTS.



ELECTRICAL INSTALLATION REQUIRED FOR WELL WATER SYSTEM

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

MSB-4
ELECTRICAL PLAN

DATE
5/2/85
10/31/85
3/12/86
9/11/86
3/2/87
10/30/87
2/2/88
12/12/89
10-23-90

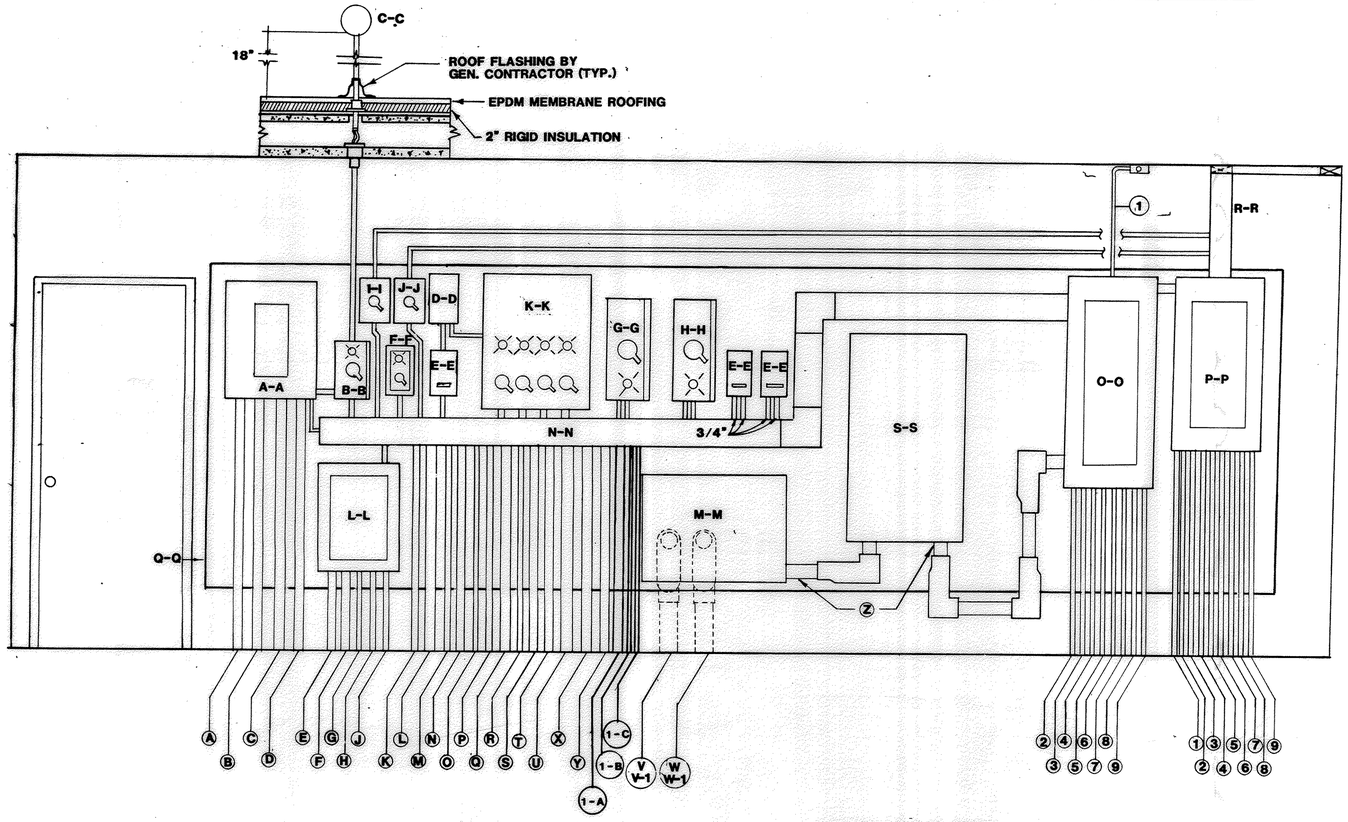
APPROVED _____ Engr. of Design Services

4E-1

GXL-35-6.79

55/86

600 AMPS



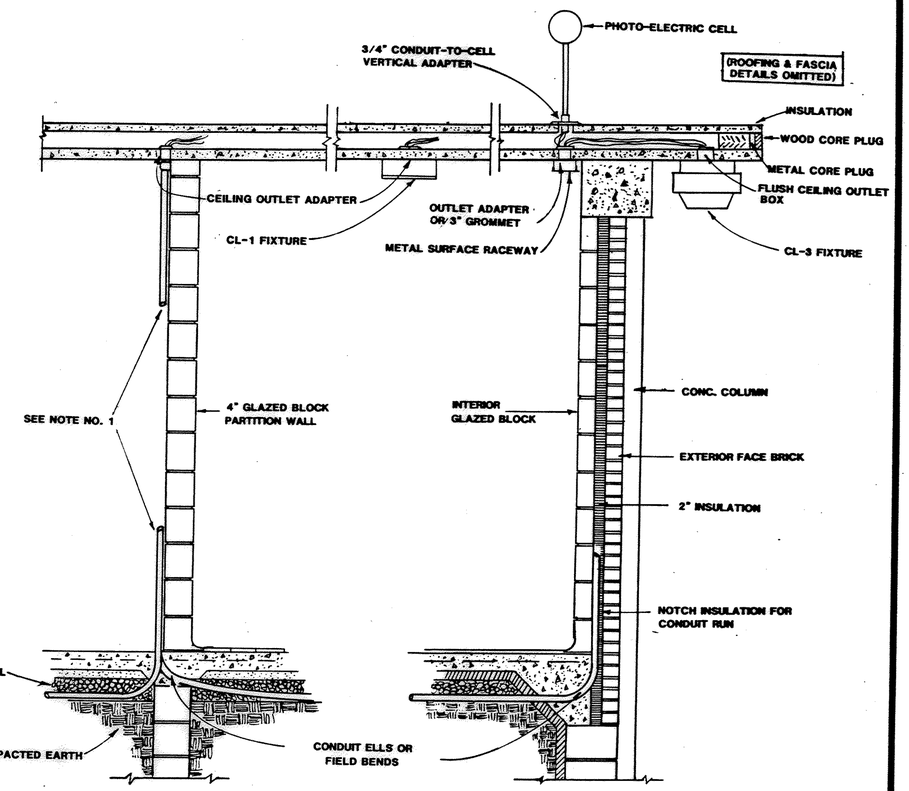
ELECTRICAL PANEL
4E-2-01

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

LEGEND

A-A	P & R PANEL
B-B	P & R LIGHTING CONTACTOR & DISCONNECT SWITCH
C-C	P & R PHOTO-ELECTRIC CELL SWITCH
D-D	SUB. WELL PUMP DISCONNECT SWITCH
E-E	SUB. WELL & RES. PUMP MOTOR CONTROL BOX
F-F	SUB. WELL PUMP A/C MAGNETIC STARTER
G-G	RESERVOIR PUMP #1
H-H	RESERVOIR PUMP #2
I-I	LIGHTING CONTACTOR A-14
J-J	LIGHTING CONTACTOR A-15
1-A	2" CONDUIT TO LIFT STATION MAIN PANEL
1-B	1" CONDUIT TO LIFT STATION ALARM
1-C	SPARE (CAP CONDUIT OUTSIDE BUILDING) 3/4" CONDUIT
K-K	RES. & WELL PUMP CONTROL PANEL
L-L	TELEPHONE
M-M	C/T CABINET
N-N	6X6 WIREWAY
O-O	PANEL "P"
P-P	PANEL "A"
Q-Q	PLYWOOD MOUNTING BOARD
R-R	SURFACE METAL RACEWAY
S-S	SERVICE ENTRANCE SWITCH

3. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ONE(1) 1-INCH CONDUIT FROM 6X6 WIREWAY (N-N) TO THE TELEPHONE CABINET (L-L) AND EXTEND ONE(1) INSULATED 1/c,NO.8 GROUND WIRE FROM PANEL "P" (O-O) TO THE TELEPHONE CABINET (L-L). LEAVE 3'-0" OF COILED GROUND WIRE IN TELEPHONE CABINET FOR TELEPHONE CO. TO MAKE NECESSARY GROUND CONNECTION TO THEIR SYSTEM.



ELECTRICAL DISTRIBUTION
4E-2-02

ELECTRICAL DISTRIBUTION NOTES

1. ELECTRICAL DEVICE BOXES INSTALLED IN THE 4" PARTITION WALL BETWEEN ROOM 103 AND ROOMS 101, 102 AND 104 MAY BE SERVICED BY EXPOSED CONDUIT ATTACHED TO THE 4" WALL INSIDE OF ROOM 103, INSTEAD OF CONCEALING CONDUIT INSIDE OF THE 4" WALL. DISCONNECT SWITCHES, MOTOR CONTROLS AND OTHER ELECTRICAL DEVICES INSIDE OF ROOM 103 MAY BE SERVICED BY ELECTRICAL CONDUITS ATTACHED TO THE WALL; HOWEVER, NO ELECTRICAL CONDUITS SHALL RUN EXPOSED ACROSS THE FLOOR OR CEILING. THE ONLY EXPOSED ELECTRICAL CONDUITS IN ROOM 105 SHALL BE BETWEEN THE PANELBOARD AND THE FLOOR OR CEILING. NO EXPOSED ELECTRICAL CONDUITS SHALL BE PERMITTED IN ROOMS 101, 102 AND 104 EXCEPT FOR THE CEILING MOUNTED SURFACE METAL RACEWAY SHOWN ON THE PLANS.

2. METAL CORE PLUGS SHALL BE INSTALLED BETWEEN THE INSULATION CORES AND WOOD PLUGS BY THE ELECTRICAL CONTRACTOR IN BOTH ENDS OF ALL CORES USED FOR ELECTRICAL WIRING. INSULATION CORES AND WOOD CORE PLUGS SHALL BE INSTALLED BY THE GENERAL CONTRACTOR.

SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

DATE
5/2/85
10/31/85
10-23-90

MSB-4 600 AMPS
ELECTRICAL PANEL/DISTRIBUTION

APPROVED _____ Engr. of Design Services

4E-2
600 AMP

GAL - 35 - 6.79

56/86

ELECTRICAL PANEL NOTES

400 AMP

P & R LIGHTING PANEL (A-A)

(A) 2" COND. PER 713.04 W/3-NO. 4 AWG, U.L. TYPE MV-90 DRY, 5000 VOLT CONDUCTORS. FEED TO RAMP AND AREA LIGHTS CIRCUIT "A". EXTEND TO 1ST. PULL BOX AND PROVIDE (3) EPOXY FILLED SPLICE KIT PER 713.15. 2" DIA., 36" RADIUS 90° ELBOW AS PER 713.04 SHALL BE USED TO ENTER BUILDING, (120/240 VOLT, 3-WIRE GROUNDED NEUTRAL CIRCUIT)

(B) 2" COND. PER 713.04 W/3-NO. 4 AWG, U.L. TYPE MV-90 DRY, 5000 VOLT CONDUCTORS. FEED TO RAMP AND AREA LIGHTS CIRCUIT "B". EXTEND TO 1ST PULL BOX AND PROVIDE (3) EPOXY FILLED SPLICE KITS PER 713.15. 2" DIA., 36" RADIUS 90° ELBOW AS PER 713.04 SHALL BE USED TO ENTER BUILDING. (120/240 VOLT, 3-WIRE GROUNDED NEUTRAL CIRCUIT).

(C) 2" COND. PER 713.04 W/3- NO. 4 AWG, U.L. TYPE MV-90 DRY, 5000 VOLT CONDUCTORS. FEED TO RAMP AND AREA LIGHTS CIRCUIT "C". EXTEND TO 1ST PULL BOX AND PROVIDE (3) EPOXY FILLED SPLICE KITS PER 713.15. 2" DIA., 36" RADIUS 90° ELBOWS AS PER 713.04 SHALL BE USED TO ENTER BUILDING. (120/240 VOLT, 3-WIRE GROUNDED NEUTRAL CIRCUIT.) IF ONLY "A" AND "B" CIRCUITS IS USED, TERMINATE CIRCUIT "C" IN 1ST PULL BOX. INSTALL AS NOTED HERE-IN.

(D) 2" COND. PER 713.04 W/3-NO. 4 AWG, U.L. TYPE MV-90 DRY, 5000 VOLT CONDUCTOR. FEED TO RAMP AND AREA LIGHTS CIRCUIT "D". EXTEND TO 1ST PULL BOX AND PROVIDE (3) EPOXY FILLED SPLICE KITS PER 713.15. 2" DIA., 36" RADIUS 90° ELBOWS AS PER 713.04 SHALL BE USED TO ENTER BUILDING. (120/240 VOLT, 3-WIRE GROUNDED NEUTRAL CIRCUIT.) IF ONLY "A", "B" AND "C" CIRCUITS ARE USED, TERMINATE CIRCUIT "D" IN 1ST PULL BOX. INSTALL AS NOTED HERE-IN.

TELEPHONE CABINET (L-L)

(E) 2" COND. PER 713.04 W/1 - NO. 10 PULL WIRE (FOR TELEPHONE SERVICE 20-PAIR CONDUCTORS) FROM TELEPHONE CABINET TO 1ST PULL BOX IF TELEPHONE CO. TERMINAL BOX IS REMOTE FROM BUILDING. IF TELEPHONE COMPANY TERMINAL BOX IS ADJACENT TO BACK WALL OF BUILDING. THE CONDUIT SHALL FEED TO THEIR TERMINAL BOX AND ANOTHER 2" COND. AS PER ABOVE SHALL FEED FROM THEIR TERMINAL BOX TO THE 1ST. PULL BOX.

(F) 2" COND. PER 713.04 W/1 - NO. 10 PULL WIRE (FOR EXTERIOR TELEPHONE DISTRIBUTION) FROM TELEPHONE CABINET TO 1ST PULL BOX.

(G) 3/4" COND. PER 713.04 W/1-NO. 10 PULL WIRE (TELEPHONE) TO TELEPHONE STATION IN RM. 101, ADJACENT TO MEN'S TOILET ROOM ENTRANCE.

(H) 3/4" COND. PER 713.04 W/ 1-NO. 10 PULL WIRE (TELEPHONE) TO TELEPHONE STATION IN RM. 105 (DIRECT DIAL PHONE FOR EMPLOYEE USE ONLY). IF TELEPHONE NOT REQUESTED BY ODOT DISTRICT OFFICE, PROVIDE STAINLESS STEEL BLANK COVER ON OUTLET BOX.

(J) 3/4" COND. PER 713.04 W/1-NO. 10 PULL WIRE (TELEPHONE) TO TELEPHONE STATION IN RM. 101, ADJACENT TO WOMEN'S TOILET ENTRANCE.

CIRCUITS TO 6" X 6" WIRE WAY (N-N)

(K) 1.) (1)-1 1/4" CONDUIT PER 713.04 W/6-NO. 12 (▲) CONDUCTORS FROM PANEL "A" CIRCUITS NO. A-14 AND A-15 FROM 1 1/4" CONDUIT FROM PANEL "S" (120 VOLTS, 1-PHASE, 3-WIRE, 60 HZ. FEED (LIGHTS IN ROOM NO. 101).

2.) FROM 6" X 6" WIREWAY, 3-NO. 12 (▲) CONDUCTORS, 600 VOLTS, SHALL FEED THROUGH 1" CONDUIT PER 713.04 AND CONNECT TO CAT. NO. 702L-TAD 92 AC LIGHTING CONTRACTOR NOTED AS "CIR. A-15" (120 VOLTS, 1-PHASE, 60HZ. FEED)(LIGHTS IN ROOM NO. 101)

3.) FROM 6" X 6" WIREWAY, 3-NO. 12 (▲) CONDUCTORS, 600 VOLTS, SHALL FEED THROUGH 1" CONDUIT PER 713.04 AND CONNECT TO CAT. NO. 702L-TAD 92 AC LIGHTING CONTRACTOR NOTED AS "CIR. A-14". (120 VOLTS, 1-PHASE, 60 HZ. FEED)(LIGHTS IN ROOM NO. 101)

(L) (1) 2" CONDUIT PER 713.04 W/1-NO. 10 PULL WIRE. EXTEND 5'-0" OUTSIDE BUILDING WALL, UNDERGROUND, AND CAP. (FOR FUTURE CIRCUIT)

(M) (1) 1" CONDUIT PER 713.04 W/5-TYPE 3Z1A SUSPENSION WIRES, 4/64" INSULATED, SINGLE CONDUCTOR, 18 GAUGE, 41 STRAND COPPER; 2-ACTIVE TO WELL PUMP START/STOP ELECTRODE CENSOR, 1-ACTIVE TO WELL PUMP GROUND ELECTRODE CENSOR AND 2-SPARE (TO SUBMERSIBLE WELL PUMP FROM RELAYS IN THE RESERVOIR AND WELL PUMP CONTROL PANEL. B/W SW SUSPENSION WIRE AND ELECTRODE CENSORS ALSO MEET APPROVAL.

(N) 1.) (1) 2" CONDUIT PER 713.04 W/3-NO. 10 RHH/RHW, 600 VOLT CONDUCTORS. BRANCH FEED TO SUBMERSIBLE WELL PUMP FROM F.E. MYERS CO. MOTOR CONTROL CAT. NO. CU3-2. (240 VOLTS, 1-PHASE, 3-WIRE, 60 HZ. BRANCH FEED TO SUBMERSIBLE WELL PUMP)

2.) FROM MOTOR CONTROL CAT. NO. CJ3-2 FEED THROUGH 1 1/4" CONDUIT PER 713.04 TO WIREWAY AND FROM WIREWAY TO SQUARE "D" AC MAGNETIC STATER CAT. NO. SAG 11, CLASS 8536. 3-NO. 10 (▲) , 600 VOLTS CONDUCTORS IN 1 1/4" CONDUIT PER 713.04. (240 VOLTS, 1-PHASE, 3-WIRE, 60 HZ. FEED)

3.) FROM 2) ABOVE FEED 3-NO. 10 (▲) , 600 VOLT CONDUCTORS IN 1 1/4" CONDUIT TO SQUARE "D" HEAVY DUTY, 3-POLE, 240 VOLT, VISIBLE BLADE, FUSED, SAFETY SWITCH, CAT. NO. H221N.

4.) FROM 3) ABOVE FEED 3-NO. 10 (▲) , 600 VOLT CONDUCTORS IN 2" CONDUIT. PER 713.04 TO CIRCUIT AND RELAYS IN THE RESERVOIR AND WELL PUMP CONTROL PANEL. (240 VOLTS, 1-PHASE, 3-WIRE, 60 HZ, BRANCH FEED)

(O) (1) 3/4" CONDUIT PER 713.04 W/3-NO. 12 (▲) , 600 VOLT CONDUCTOR TO ROOM NO. 105. EXTEND CONDUIT UP TO OUTLET BOX, IN WALL, AND INSTALL AN ARROW-HART, U.L. LISTED, 3-WIRE ISOLATED GROUNDING DUPLEX RECEPTACLE, 15 AMP, 125 VOLT CAT. NO. IG-5262 W/STAINLESS STEEL WALL PLATE CAT. NO. 93101. THIS RECEPTACLE SHALL BE USED TO PLUG THE CHLORINATOR LIQUID LEVEL SWITCH ASSEMBLY INTO WHICH, IN TURN, OPERATES THE 110 WATT RATED CHLORINATOR PUMP. (120 VOLTS, 1-PHASE, 60 HZ. BRANCH FEED.) FROM THE 6" X 6" WIREWAY THE 3-NO. 12 (▲), 600 VOLT CONDUCTORS SHALL FEED THROUGH 2" CONDUIT TO RESERVOIR AND WELL PUMP CONTROL PANEL AND CONNECT TO THE 120 VOLT TERMINALS ON THE PRIMARY 240/480 VOLT, 60 HZ, SECONDARY 120 VOLT, 60 HZ FUSED, 50 V.A. RATED CONTROL CIRCUIT TRANSFORMER, ALLEN-BRADLEY CAT. NO. 1497-N27 (MOUNT IN RESERVOIR AND WELL PUMP CONTROL CABINET.)

FROM THE 240 VOLT TERMINALS OF THE TRANSFORMER THE 3-NO. 12 CONDUCTORS SHALL FEED TO CONTACTS AS SHOWN ON THE WIRING. SCHEMATIC FOR WELL PUMP CONTROL. A ALLEN-BRADLEY OIL-TIGHT, 3-POSITION HAND-OFF-AUTO (H.O.A.) SWITCH UNIT CAT. NO. 800T-J2A W/STANDARD TYPE OPERATOR, MAINTAINED POSITION, 2 N.O.-2 N.C., COMPLETE W/LEGEND PLATE MARKED "HAND-OFF-AUTO", SHALL BE INSTALLED IN THE RESERVOIR WELL PUMP CONTROL PANEL TO ENERGIZE THE LIQUID LEVEL SWITCH ASSEMBLY AND CHLORINATOR PUMP FOR TESTING OR IN THE AUTO MODE TO BE ENERGIZED BY ACTION OF THE RELAYS. REFER TO WIRING SCHEMATIC FOR CONTROL WIRING.

(P) (1) 1 1/4" CONDUIT PER 713.04 W/6-NO. 12 (▲) , 600 VOLT CONDUCTORS FROM PRESSURE SWITCHES P-1 AND P-2 CONTACTS IN RESERVOIR AND WELL PUMP CONTROL PANEL TO PRESSURE SWITCHES IN ROOM # 103. 3-CONDUCTOR SHALL FEED PRESSURE SWITCH P-1, OF WHICH ONE CONDUCTOR SHALL BE A GROUND; THE REMAINING 3-CONDUCTORS SHALL FEED PRESSURE SWITCH P-2, OF WHICH ONE CONDUCTOR SHALL BE A GROUND.

(Q) (1) 2" CONDUIT PER 713.04 W/3 NO. 4 AWG, MV-90 DRY, 5000 VOLT CONDUCTORS TO 1ST. PULL BOX AND PROVIDE (3) EPOXY FILLED SPLICE KITS PER 713.15, FEED OFF OF 1-POLE, 20 AMP CIRCUIT BREAKER IN P&R PANEL WHICH IS CONTROLLED BY A PHOTO-ELECTRIC CELL. THIS CIRCUIT SHALL FEED THE LIGHTS IN THE EXTERIOR TELEPHONE BOOTHS. 2-CONDUCTORS SHALL BE FOR THE 120 VOLT, 1-PHASE, 60 HZ. CIRCUIT, THE REMAINING CONDUCTOR SHALL BE A GROUND. THE 3-NO. 4 AWG, MV-90 DRY, 5000 VOLT CONDUCTORS SHALL FEED FROM THE 6" X 6" WIREWAY IN 1" CONDUIT PER 713.04 TO THE P&R PANEL.

(R) (1) 1" CONDUIT AS PER 713.04 W/9-TYPE 3Z1A SUSPENSION WIRE, 4/64" INSULATED, SINGLE CONDUCTOR, 18 GAUGE, 41 STRAND COPPER OR APPROVED EQUAL BY BW. 4 ACTIVE FOR ELECTROD LEVEL SENSORS AND 1-FOR GROUND SENSOR, AND 4-SPARE TO UNDER GROUND RESERVOIR TANK FROM RESERVOIR AND WELL PUMP CONTROL PANEL. TERMINATE SPARES AS REQUIRED. (240 VOLTS, 60 HZ. CONTROL COIL CONTACT CONNECTIONS.)

(S) (1) 2" CONDUIT PER 713.04 W/6-NO. 6 RHH/RHW, 600 VOLT CONDUCTORS. TWO SEPARATE 3-WIRE CIRCUIT BRANCH FEEDS, ONE TO EACH SUBMERSIBLE RESERVOIR PUMP, EXTERIOR LOCATION ADJACENT TO RESERVOIR TANK. FROM THE 6" X 6" WIREWAY THE CONDUCTORS SHALL FEED THRU 2" CONDUIT PER 713.04 TO THE TWO (2) SQUARE "D" NEMA I, CLASS 8538, CAT. NO. SBG-12, 30 AMP, (230 VOLT, 1-PHASE, 3-WIRE, 60 HZ., 3-POLE) COMBINATION STARTER, FUSIBLE DISCONNECT SWITCH TYPE W/CLASS R FUSE CLIPS, NON-REVERSING W/3-MELTING OVERLOAD RELAYS NEMA SIZE O RATING W/HAND-OFF-AUTO SELECTOR SWITCH FORM C, FUSED CONTROL TRANSFORMER FORM FT, AND PILOT LIGHT FORM P-G. NOTE: THE H.O.A. AND PILOT LIGHT SHALL BE MOUNTED IN THE COMBINATION STARTERS, ADDITIONAL H.O.A. AND PILOT LIGHTS SHALL BE INSTALLED IN THE RESERVOIR AND WELL PUMP CONTROL PANEL FOR RESERVOIR PUMP PER THE WIRING SCHEMATIC. FUSE ONLY TWO POLES W/30 AMP CLASS R FUSES. (THESE CIRCUITS SHALL FEED RESERVOIR PUMP NO. 1 AND RESERVOIR PUMP NO. 2, 3-H.P., 230 VOLT, 1-PHASE, 3-WIRE, 6 HZ. SUBMERSIBLE RESERVOIR PUMPS.)
FROM PANEL "P" CIRCUIT NO. P-3 AND P-4 SHALL FEED THROUGH 6"X6" WIREWAY AND FROM WIREWAY THROUGH 2" CONDUIT PER 713.04 INTO RESERVOIR AND WELL PUMP CONTROL PANEL W/6-NO. 6 RHH/RHW, 600 VOLT CONDUCTORS AND MAKE CONNECTIONS TO RELAY AND CONTROL TERMINALS AS PER WIRING SCHEMATIC.

(T) (1)- 2" CONDUIT PER 713.04 W/1-NO. 12 PULL WIRE FOR ANNUCIATOR CONDUCTORS FROM SEWAGE TREATMENT PLANTS MAIN CONTROL PANEL AND DOSING PUMPS CONTROL PANEL. TERMINATE PULL WIRES IN 6"X6" WIREWAY, PULL BOXES AND PANELS AS REQUIRED.

(U) (1) - 3" CONDUIT PER 713.04 W/3-NO. 4/0 TYPE USE, RHH/RHW, 600 VOLT CONDUCTORS FROM PANEL "P" CIRCUIT P-17 THROUGH 6"X6" WIREWAY TO SEWAGE TREATMENT PLANT MAIN BLOWER CONTROL PANEL. (230 VOLTS, 1-PHASE, 3-WIRE, 60 HZ. BRANCH FEED.) FOR CONTINUATION OF CIRCUIT P-17 REFER TO UTILITY PLANS AND WIRING DIAGRAMS FOR CONNECTIONS TO ALL SEWAGE TREATMENT CONTROL PANELS.

(V) (1) - 3" CONDUIT PER 713.04 W/3-500 MCM, TYPE USE, RHH/RHW, 600 VOLT CONDUCTORS, FOR 120/240 VOLTS, 1-PHASE, 3-WIRE, 60HZ. SECONDARY ELECTRICAL SERVICE FROM UTILITY COMPANY'S TRANSFORMER (PRIMARY SERVICE). ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL CROUSE-HINES COMPANY OR APPROVED EQUAL 3" SIZE CAT. NO. LBNEC8 DIE CAST ALUMINUM MOGUL PULLING 90° ELBOW, COMPLETE W/GASKET AND SCREWS. THIS SHALL EXTEND FROM A 3" DIA., 36" RADIUS LONG SWEEP 90° E11 ON EXTERIOR SIDE OF WALL, AND FEED INTO C/T CABINET THROUGH A 3" DIA. NIPPLE PER 713.04. FURNISH AND INSTALL TWO "BRUNDY" CAT. NO. KS-34 SOLDERLESS SERVICE CONNECTORS OR APPROVED EQUAL BY BLACKBURN OR PENN-UNION, ONE ON EACH PHASE LEG OF THE 240 VOLT, 3-WIRE, 60 HZ CONDUCTORS INSIDE THE C/T CABINET. THESE SHALL BE USED TO PERMIT C/T COILS TO BE INSTALLED ON EACH PHASE LEG OF THE SECONDARY SERVICE IF THE UTILITY COMPANY SELECTS TO INSTALL C/T COILS. THESE CONNECTORS SHALL BE TAPED WITH ELECTRICIANS TAPE AFTER ALL DEVICES AND CONDUCTORS HAVE BEEN PROPERLY INSTALLED. A

CONT'D.

(▲) THWN OR THHN S1-58101

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

DATE 5/2/85 10/31/85

MSB-4 400 AMP

ELECTRICAL PANEL NOTES

APPROVED _____ Engr. of Design Services

4E-3 a

ELECTRICAL PANEL NOTES (CONT'D)

GAL-35-6.79

57/86

400 AMP CONT'D

1 1/4" DIA. NIPPLE PER 713.04 SHALL EXTEND FROM THE C/T CABINET, THROUGH THE WALL TO PERMIT CONDUCTOR WIRES TO CONNECT TO THE 400 AMP METER SOCKET ENCLOSURE IF REQUIRED. IF NOT REQUIRED THIS NIPPLE SHALL BE CAPPED ON THE EXTERIOR SIDE OF WALL. THE NEUTRAL CONDUCTOR SHALL NOT BE FURNISHED WITH A "BRUNDY" FITTING.

(W) 1) - 3" CONDUIT PER 713.04 W/1-NO. 10 PULL WIRE. THE 3" CONDUIT SHALL BE INSTALLED SAME AS (V) ABOVE AND SHALL BE USED FOR SPARE SECONDARY ELECTRICAL SERVICE. TERMINATION POINTS SHALL BE IN THE C/T CABINET AND IN THE TRANSFORMER (PRIMARY SERVICE). STUB 6" ABOVE TOP OF PAD OR FINISHED GRADE AND CAP.

(V-1) IF THE ELECTRIC UTILITY COMPANY FURNISHES A 400 AMP METER SOCKET ENCLOSURE W/C/T COILS IN THE ENCLOSURE, THE 3" CONDUIT W/3-500 MCM, TYPE USE, RHH/RHW, 600 VOLT CONDUCTORS IN (V) ABOVE SHALL FEED TO THE 400 AMP. METER ENCLOSURE, AND FROM ENCLOSURE SHALL FEED THROUGH 3" CONDUIT PER 713.04 DOWN EXTERIOR WALL TO A 3" SIZE CAT. NO. LBNEC8 MOGUL PULLING 90° ELBOW AND ENTER C/T CABINET THROUGH A 3" DIA. NIPPLE PER 713.04 THROUGH WALL. THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL SPADE LUG TERMINAL CONNECTORS TO CONNECT THE 3-500 MCM, TYPE USE, RHH/RHW CONDUCTORS TO THE 400 AMP METER SOCKET AS REQUIRED. LUGS MUST MEET APPROVAL OF THE UTILITY COMPANY BEFORE BEING INSTALLED.

(W-1) IF (V-1) IS INSTALLED, (W) ABOVE SHALL BE INSTALLED IN LOCATION SHOWN BUT SHALL TERMINATE 6" ABOVE FINISHED GRADE AND CAPPED FOR SPARE SECONDARY ELECTRICAL SERVICE OUTSIDE BUILDING WALL. THE OTHER END SHALL TERMINATE IN THE PAD MOUNTED TRANSFORMER AS NOTED IN (W) ABOVE.

PANEL "P" (O-O)

(1) 2 - NO. 10 (▲) & 1 - NO. 10 (▲) GREEN GRD. IN 3/4" COND. TO JUNCTION BOX ON CEIL. THEN TO CEIL. MOUNT UNIT HEATER. 5KW. CKT. P-6, RM. 105.

(2) 2 - NO. 4 (▲) & 1 - NO. 4 (▲) GREEN GRD. IN 1¼" COND. TO H.W. HEATER. 10 KW, CKT. P-5, RM. 103.
CKT. P-5 SHALL FEED TO A SQUARE "D" HEAVY DUTY SAFETY SWITCH, VISIBLE BLADES, SINGLE THROW FUSIBLE, 3-WIRE (2 BLADES AND FUSEHOLDERS, 1 S/N) 120/240 V. AC, 1-PHASE, NEMA 1, UL LISTED, 60 AMPS. CAT. NO. H 222 N, WITH CLASS R FUSE REJECTION KIT CAT. NO. HRK 60. FUSES SHALL BE GOULD SHAWMUT A2D 60 R OR APPROVED EQUAL. FROM DISCONNECT SWITCH MOUNTED ON WALL OF RM. 103 CONDUCTOR SHALL CONNECT TO H.W. HEATER AS REQUIRED.

(3) 4 - NO. 10 (▲) & 2 - NO. 10 (▲) GREEN GRD. IN 1" COND. TO (2) 2-P/30A BRK'S, TO (2) 4'-0", 2.5 KW B.B. HEATERS, CKT'S P-7 & P-9, RM. 102.

(4) 4 - NO. 10 (▲) & 2 - NO. 10 (▲) GREEN GRD. IN 1" COND. TO (2) 2-P/30A BRK'S, TO (2) 4'-0", 2.5 KW B.B. HEATERS, CKT'S P-11 & P-13, RM. 102.

(5) 2 - NO. 10 (▲) & 1 - NO. 10 (▲) GREEN GRD. IN 3/4" COND. TO 2 - P/30A BRK., (2) 6'-0", 2.25 KW B.B. HEATERS, CKT. P-8, RM. 101.

(6) 2 - NO. 10 (▲) & 1 - NO. 10 (▲) GREEN GRD. IN 3/4" COND. TO 2-P/30A BRK., (2) 6'-0", 2.25 KW B.B. HEATERS, CKT. P-10, RM. 101.

(7) 4 - NO. 10 (▲) & 2 - NO. 10 (▲) GREEN GRD. IN 1" COND. TO (2) 2-P/30A BRK'S, TO (2) 4'-0", 2.5 KW B.B. HEATERS, CKT'S P-12 & P-14, RM. 104.

(8) 4 - NO. 10 (▲) & 2 - NO. 10 (▲) GREEN GRD. IN 1" COND. TO (2) 2-P/30A BRK'S, TO (2) 4'-0", 2.5 KW B.B. HEATERS, CKT'S P-15 & P-18, RM. 104.

(9) 1 - NO. 1/0 COPPER (▲) GREEN GROUND IN 1" CONDUIT. CONDUCTOR SHALL BE THE SECONDARY SERVICE EQUIPMENT GROUNDING CONDUCTOR. CONDUIT SHALL EXTEND UNDER FLOOR TO OUTSIDE THE EXTERIOR WALL AND STUB 8" ABOVE FINISH GRADE.

THE GROUND WIRE SHALL BE BONDED, AS PER 625.10 AND 713.16, TO A GROUND ROD. BONDING AND GROUND CONNECTIONS SHALL BE FURNISHED AND INSTALLED ON EACH CONDUIT AS PER ARTICLE 250 OF THE N.E.C..

PANEL "A" (P-P)

(1) 1 1/4" CONDUIT PER 713.04 w/6-NO. 12 (▲) CONDUCTORS TO "K" LINE FEEDING INTO 6"X6" WIREWAY. 3 - NO. 12 (▲), 600 VOLT CONDUCTORS SHALL FEED OFF OF CIRCUIT NO. A15 FROM PANEL "A" AND CONNECT TO ALLEN BRADLEY CAT. NO. 702L-TAD 92 AC LIGHTING CONTRACTOR W/H.O.A. SWITCH NOTED AS "CIR. A-15". THE REMAINING 3-NO. 12 (▲), 600 VOLT CONDUCTOR SHALL FEED OFF OF CIRCUIT NO. A14 FROM PANEL "A" AND CONNECT TO ALLEN BRADLEY CAT. NO. 702L-TAD 92 AC LIGHTING CONTRACTOR W/H.O.A. SWITCH NOTED AS "CIR. A-14".

(2) 2 - NO. 12 (▲) & 1 - NO. 12 (▲) GREEN GRD. IN 3/4" COND. HAND DRYER, CKT. A-1, RM 102.

(3) 2 - NO. 12 (▲) & 1 - NO. 12 (▲) GREEN GRD. IN 3/4" COND. HAND DRYER CKT A-2, RM 104.

(4) 2 - NO. 12 (▲) & 1 - NO. 12 (▲) GREEN GRD. IN 3/4" COND. HAND DRYER, CKT A-3, RM 102.

(5) 2 - NO. 12 (▲) & 1 - NO. 12 (▲) GREEN GRD. IN 3/4" COND. HAND DRYER, CKT. A-4, RM. 104.

(6) 2 - NO. 12 (▲) & 1 - NO. 12 (▲) GREEN GRD. IN 3/4" COND. FROM GFCI CKT. BRK, TO EXTERIOR DUPLEX RECEPTACLE, CKT. A-5.

(7) 2 - NO. 12 (▲) & 1 - NO. 12 (▲) GREEN GRD. IN 3/4" COND. FROM GFCI CKT. BRK. TO EXTERIOR DUPLEX RECPTACLE, CKT. A-6.

(8) 2 - NO. 12 (▲) & 1 - NO. 12 (▲) GREEN GRD. IN 3/4 " COND. TO RECEPTACLE IN RM'S. 105, 103 & 101, CKT. A-8.

(9) 2 - NO. 12 (▲) & 1 - NO. 12 (▲) GREEN GRD. IN 3/4" COND. FROM GFCI CKT. BREAKER TO (2) INTERIOR DUPLEX RECEPTACLES IN RM'S 102 & 104. CKT. A-12.

(▲) THHN OR THWN S1-58101

600 AMP.

600 AMP. SYSTEM

(X) 1) 2" CONDUIT PER 713.04 W/3- 1/C NO. 4 TYPE USE, RHH/RHW, 600 VOLT CONDUCTORS FROM PANEL "P", CIRCUIT P-19, THROUGH 6" X 6" WIREWAY TO NO. 1 SEWAGE LIFT STATION MAIN CONTROL PANEL LOCATED AT LIFT STATION. (240 VOLTS, 1-PHASE, 3-WIRE, 60 HZ. BRANCH FEED). FOR CONTINUATION OF CIRCUIT P-17, REFER TO UTILITY PLANS AND WIRING DIAGRAMS FOR CONNECTIONS TO THE NO. 1 SEWAGE LIFT STATION MAIN CONTROL PANEL.

2) SHOULD NO LIFT STATION NO. 2 BE REQUIRED THE ELECTRICAL CONTRACTOR SHALL EXTEND THE 2" CONDUIT, PER 713.04, 5'-0" BEYOND EXTERIOR WALL, INSTALL ONE (1) 1/C NO. 10 PULL WIRE IN THE 2" CONDUIT AND PROVIDE A 2" CAP ON END OF CONDUIT AT TERMINATION POINT OUTSIDE BUILDING. THIS SHALL BE USED FOR FUTURE CIRCUIT AND SHALL BE NOTED AS A "SPARE".

(Y) (1) 2" CONDUIT PER 713.04 W/3-1/C NO. 4, TYPE USE, RHH/RHW, 600 VOLT CONDUCTORS FROM PANEL "P", CIRCUIT P-20, THROUGH 6" X 6" WIREWAY TO NO. 2 SEWAGE LIFT STATION MAIN CONTROL PANEL LOCATED AT LIFT STATION. (240 VOLTS, 1-PHASE, 3-WIRE, 60 HZ. BRANCH FEED). FOR CONTINUATION OF CIRCUIT P-20, REFER TO UTILITY PLANS AND WIRING DIAGRAMS FOR CONNECTIONS TO THE NO. 2 SEWAGE LIFT STATION MAIN CONTROL PANEL.

(2) SHOULD NO LIFT STATION NO. 2 BE REQUIRED THE ELECTRICAL CONTRACTOR SHALL EXTEND THE 2" CONDUIT, PER 713.04, 5'-0" BEYOND EXTERIOR WALL, INSTALL ONE (1) 1/C NO. 10 PULL WIRE IN THE 2" CONDUIT AND PROVIDE A 2" CAP ON END OF CONDUIT AT TERMINATION POINT OUTSIDE BUILDING. THIS SHALL BE USED FOR FUTURE CIRCUIT AND SHALL BE NOTED AS A "SPARE".

(Z) THE ELECTRICAL CONTRACTOR SHALL EXTEND THE SECONDARY ELECTRICAL SERVICES 6-1/C - 350 MCM, TYPE USE, RHH/RHW, 600 VOLT CONDUCTORS FROM THE C/T CABINET THROUGH 4" CONDUIT, PER 713.04, INTO THE 600 AMP. SERVICE ENTRANCE FUSED DISCONNECT SWITCH, MAKE CONNECTION THEREIN, AS REQUIRED AND FEED LIKE CONDUCTORS FROM DISCONNECT SWITCH TO POWER PANEL "P" THROUGH 4" CONDUIT, PER 713.04 AND MAKE CONNECTION TO TERMINALS LUGS AS REQUIRED. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL FOUR (4) CROUSE-HINDS THREADED RIGID BODIES, CONDULET CONDUIT OUTLET BODIES LB FITTINGS, STYLE MARK 9, CAT. NO. LB1089, HUB SIZE 4" w/CROUSE-HINDS FERALOY BLANK COVERS W/GASKETS CAT. NO. 8G98, SIZE 4", AS SHOWN ON DRAWING TO PERMIT THE SECONDARY SERVICE CONDUCTORS TO BE INSTALLED IN AN EASY MANNER WITHOUT DAMAGE TO THE CONDUCTORS. A CONTINUOUS INSULATED GROUND SHALL CONNECT TO ALL COMPONENTS AND SHALL BE SIZED AS NOTED IN THE SPECIFICATIONS.

SECONDARY

(V) (1) - 4" CONDUIT PER 713.04 W/6-350 MCM, TYPE USE, RHH/RHW, 600 VOLT CONDUCTORS, FOR 120/240 VOLTS, 1-PHASE, 3-WIRE, 60HZ. SECONDARY ELECTRICAL SERVICE FROM UTILITY COMPANY'S TRANSFORMER (PRIMARY SERVICE). ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL CROUSE-HINES COMPANY OR APPROVED EQUAL 4" SIZE CAT. NO. LBNEC10DIE CAST ALUMINUM MOGUL PULLING 90° ELBOW, COMPLETE W/GASKET AND SCREWS. THIS SHALL EXTEND FROM A 4" DIA., 36" RADIUS LONG SWEEP 90° ELL ON EXTERIOR SIDE OF WALL, AND FEED INTO C/T CABINET THROUGH A 4" DIA. NIPPLE PER 713.04. FURNISH AND INSTALL (4) "BRUNDY" CAT. NO. KS-31 SOLDERLESS SERVICE CONNECTORS OR APPROVED EQUAL BY BLACKBURN OR PENN-UNION, ONE ON EACH PHASE LEG OF THE 240 VOLT, 3-WIRE, 60 HZ CONDUCTORS INSIDE THE C/T CABINET. THESE SHALL BE USED TO PERMIT C/T COILS TO BE INSTALLED ON EACH PHASE LEG OF THE SECONDARY SERVICE IF THE UTILITY COMPANY SELECTS TO INSTALL C/T COILS. THESE CONNECTORS SHALL BE TAPED WITH ELECTRICIANS TAPE AFTER ALL DEVICES AND CONDUCTORS HAVE BEEN PROPERLY INSTALLED. A 1 1/4" DIA. NIPPLE PER 713.04 SHALL EXTEND FROM THE C/T CABINET, THROUGH THE WALL TO PERMIT CONDUCTOR WIRES TO CONNECT TO THE 600 AMP METER SOCKET ENCLOSURE IF REQUIRED. IF NOT REQUIRED THIS NIPPLE SHALL BE CAPPED ON THE EXTERIOR SIDE OF WALL. THE NEUTRAL CONDUCTOR SHALL NOT BE FURNISHED WITH A "BRUNDY" FITTING. USE TWO CONDUCTOR PER PHASE AND GROUND FOR A TOTAL OF SIX CONDUCTORS.

(W) 1) - 4" CONDUIT PER 713.04 W/1-NO. 10 PULL WIRE. THE 4" CONDUIT SHALL BE INSTALLED SAME AS (V) ABOVE AND SHALL BE USED FOR SPARE SECONDARY ELECTRICAL SERVICE. TERMINATION POINTS SHALL BE IN THE C/T CABINET AND IN THE TRANSFORMER (PRIMARY SERVICE). STUB 6" ABOVE TOP OF PAD OR FINISHED GRADE AND CAP.

(V-1) IF THE ELECTRIC UTILITY COMPANY FURNISHES A 600 AMP METER SOCKET ENCLOSURE W/C/T COILS IN THE ENCLOSURE, THE 4" CONDUIT W/6-350 MCM, TYPE USE, RHH/RHW, 600 VOLT CONDUCTORS IN (V) ABOVE SHALL FEED TO THE 600 AMP. METER ENCLOSURE, AND FROM ENCLOSURE SHALL FEED THROUGH 4" CONDUIT PER 713.04 DOWN EXTERIOR WALL TO A 4" SIZE CAT. NO. LBNEC10MOGUL PULLING 90° ELBOW AND ENTER C/T CABINET THROUGH A 4" DIA. NIPPLE PER 713.04 THROUGH WALL. THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL SPADE LUG TERMINAL CONNECTORS TO CONNECT THE 6-350 MCM, TYPE USE, RHH/RHW CONDUCTORS TO THE 600 AMP METER SOCKET AS REQUIRED. LUGS MUST MEET APPROVAL OF THE UTILITY COMPANY BEFORE BEING INSTALLED.

(W-1) IF (V-1) IS INSTALLED, (W) ABOVE SHALL BE INSTALLED IN LOCATION SHOWN BUT SHALL TERMINATE 6" ABOVE FINISHED GRADE AND CAPPED FOR SPARE SECONDARY ELECTRICAL SERVICE OUTSIDE BUILDING WALL. THE OTHER END SHALL TERMINATE IN THE PAD MOUNTED TRANSFORMER AS NOTED IN (W) ABOVE.

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT	DATE 5/2/85
MSB-4 400 AMP/600 AMP ELECTRICAL PANEL NOTES	
APPROVED Engr. of Design Services	4E-3 b

DESIGN BY	GAL-35-6.79	OHIO	58
DATE		FHWA REGION 5	86
CHKD. BY			
DATE			

600 AMP SCHEDULES

PANEL "P" SCHEDULE

600 AMPS.42 POLES.120/240 V..1-PHASE.60 HERTZ.3-WIRE S/N
(MAIN LUGS ONLY)

CIRCUIT NO.	DESCRIPTION	LOCATION		VOLTS	HP/FLA	BREAKER POLES	BREAKER AMPS	CONNECTED WATTS
1	PANEL "A", 26.4 KW (Q2-H SUB-FEED BREAKER)	RM. 105		240	180.4	2	225	26449
2	RAMP & PICNIC AREA LIGHTING, 10.0KW	EXTERIOR		240	41.7	2	60	10000
3	SPARE	EXTERIOR		240	17.0	2	30	4080
4	SPARE	EXTERIOR		240	17.0	2	30	4080
5	HOT WATER HEATER, 10.0KW	RM. 103		240	41.7	2	60	10000
6	UNIT HEATER, 5.0KW	RM. 105		240	20.8	2	30	5000
7	B.B. HEATER (1) 3.75 KW	RM. 102		240	15.6	2	20	3750
8	B.B. HEATER (2) 2.25 KW	RM. 101		240	18.8	2	30	4500
9	B.B. HEATER (1) 3.75 KW	RM. 102		240	15.6	2	20	3750
10	B.B. HEATER (2) 2.25 KW	RM. 101		240	18.8	2	30	4500
11	HAND DRYER, 2.4 KW	RM. 106		240	10.0	2	20	2400
12	B.B. HEATER (1) 3.13 KW	RM. 104		240	13.0	2	20	3125
13	EXHAUST FAN 0.3 KW	RM. 103		120	2.4	1	20	288
14	B.B. HEATER (1) 3.13 KW	RM. 104		240	13.0	2	20	3125
15	SUBMERSIBLE WELL PUMP, 1.7KW	EXTERIOR		240	6.9	2	20	1656
16	B.B. HEATER (1) 1.25 KW	RM. 104		240	5.2	2	20	1250
17	WASTE TREATMENT PLANT, 20.7 KW	EXTERIOR	5-HP	240	86.2	2	125	20688
18	REFRIGERATOR UNIT (DUPLEX RECETACLE)	RM.105		120	1.7	1	20	200
19	A&B SEWAGE LIFT STATION, 15.1KW	EXTERIOR	5-HP	240	63.0	2	80	15120
20	SPARE	EXTERIOR	3-HP	240	38.3	2	70	9192
21	MICROWAVE OVEN 1.44 KW	RM. 105		120	12.0	1	20	1440
22	COFFEE MAKER 1.8 KW (DUPLEX RECEPTACLE)	RM. 105		120	15.0	1	20 GFI	1800
23	SPARE			240	8.0	2	10	1920

		THIS PROJECT
TOTAL CONNECTED WATTS	138313	115716
TOTAL CONNECTED AMPS	631.9	522.7

PANEL "A" SCHEDULE

225 AMPS , 30 POLES, 120/240 VOLTS, 1-PHASE, 60-HERTZ, 3-WIRE S/N
(MAIN LUGS ONLY)

CIRCUIT NO.	DESCRIPTION	LOCATION		VOLTS	HP/FLA	BREAKER POLES	BREAKER AMPS	CONNECTED WATTS
1	HAND DRYER, 2.4KW	RM. 102		240	10.0	2	20	2400
2	HAND DRYER, 2.4KW	RM. 104		240	10.0	2	20	2400
3	HAND DRYER, 2.4KW	RM. 102		240	10.0	2	20	2400
4	HAND DRYER, 2.4KW	RM. 104		240	10.0	2	20	2400
5	DUPLEX RECEPT. TO GRD. FAULT CIR. BKR., 2.4KW	EXTERIOR		120	20.0	1	20 GFI	2400
6	DUPLEX RECEPT. TO GRD. FAULT CIR. BKR., 2.4KW	EXTERIOR		120	20.0	1	20 GFI	2400
7	EXTERIOR BLD'G. LIGHTS, 1.0KW	EXTERIOR		120	8.2	1	20	979
8	DUPLEX RECEPTACLES, 2.4KW	RM.'S 101, 103, & 105		120	20.0	1	20	2400
9	LIGHTS, 0.7 KW	RM. 105		120	5.6	1	20	672
10	EXHAUST FAN, 0.3KW	RM. 102		120	2.4	1	20	288
11	LIGHTS, 0.5 KW	RM. 103		120	4.0	1	20	480
12	(3) DUPLEX RECEPTACLES, TO GRD. FAULT CIR. BKR., 2.4KW	RM'S 102, 104 & 106		120	20.0	1	20 GFI	2400
13	EXHAUST FAN, 0.3KW	RM. 104		120	2.4	1	20	288
14	LIGHTS, 0.4KW	RM. 101		120	3.2	1	20	384
15	LIGHTS, 0.4KW	RM. 101		120	3.2	1	20	384
16	LIGHTS, 0.4KW	RM.'S 102 & 104		120	3.2	1	20	384
17	LIGHTS, 0.4KW	RM.'S 102 & 104		120	3.2	1	20	384
18	IRRIGATION SYSTEM CONTROLLER BOX	RM. 103		120		1	20	
19	FLOW SWITCH	RM. 103		120	24.0	1	25	2880
20	LIGHT, 0.1 KW	RM. 106		120	0.8	1	20	96
21	SPARE	RM'S 102 - 104		120	2.5	1	15	30
22	SPARE			120		1	15	
23 - 24	SPARE			240		2	20	

		THIS PROJECT
TOTAL CONNECTED WATTS	26449	26419
TOTAL CONNECTED AMPS	180.4	180.2

NOTE: ALL CIRCUIT BREAKERS SHALL BE FURNISHED AS SHOWN FOR EACH PANEL

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

MSB-4 (600 AMP)
ELECTRICAL PANEL SCHEDULES

DATE: 5/2/85, 9/12/86, 10/30/87, 7-12-90, 10-23-90

APPROVED _____ Engr. of Design Services

4E-4

CALC BY DATE	GAL-35-6.79	OHIO
CHKD BY DATE		FHWA REGION 5

62/86

PLANT CAPACITY	TRASH TRAP	DETENTION FLOW EQUALIZATION TANK	SLUDGE STORAGE TANK	AERATION TANK	FINAL SETTLING TANK		FIX MEDIA CLARIFIER		DOSING TANK PUMP		SAND FILTER	CHLORINATION TANK
					SURFACE AREA	EFFECTIVE VOLUME	VOLUME	AREA	VOLUME	RATE		
GPD.	GAL.	GAL.	GAL.	GAL.	S.F.	GAL.	GAL.	S.F.	GAL.	S.F.	S.F.	GAL.
4,000	650	2480	1000	4000	40	1000	647	18	304	83	162	152
5,000	750	3100	1000	5000	50	1250	1294	36	374	83	200	187
6,000	900	3720	1000	6000	60	1500	1294	36	454	83	242	227
7,000	1050	4340	1050	7000	70	1750	1294	36	524	83	280	262
8,000	1200	4960	1200	8000	80	2000	1294	36	600	83	321	300
9,000	1350	5580	1350	9000	90	2250	1294	36	682	83	365	341
10,000	1500	6200	1500	10000	100	2500	1294	36	760	83	406	380
12,000	1750	7440	1800	12000	105	3000	1294	36	900	83	481	450
14,000	1950	8680	2100	14000	112	3500	1294	36	1060	83	567	530
16,000	2100	9920	2400	16000	116	4000	1294	36	1212	83	648	606
18,000	2250	11160	2700	18000	120	4500	1294	36	1350	83	722	675
20,000	2400	12400	3000	20000	126	5000	1486	40	1496	83	800	748

NOTE: THESE MINIMUM ACCEPTABLE CAPACITIES APPLY TO BOTH THE STEEL AND CONCRETE WASTEWATER TREATMENT PLANTS.

NOTE: ALL COMPONENTS OF THE PLANT SHALL BE AS DESCRIBED IN THE SPECIFICATIONS.

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

MINIMUM ACCEPTABLE CAPACITIES

WWTP-1

DATE 10/30/87

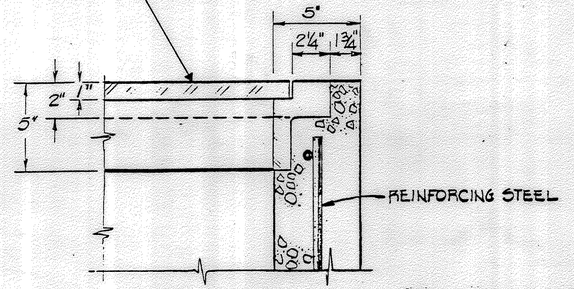
APPROVED R. H. Henderson ENGR OF DESIGN SERVICES

1/14

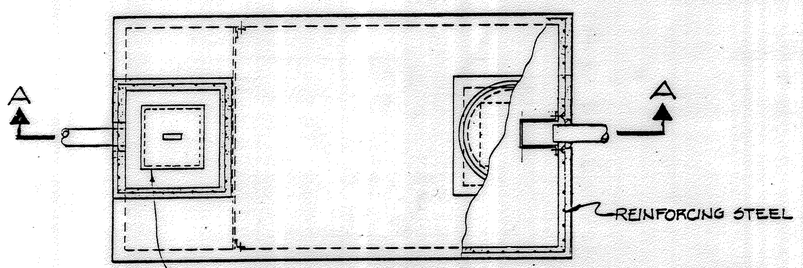
CALC BY		GAL-35-6.79	OHIO
DATE			FHWA REGION 5
CHKD BY			
DATE			

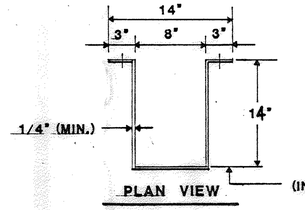
63
86

CAST IRON FRAME W/ ALUMINUM SOLID LID (30" CLEAR OPENING), OR LIKE KIND AND QUALITY BY APPROVED EQUAL MANUFACTURERS AS SPECIFIED. (TWO (2) EACH REQUIRED)

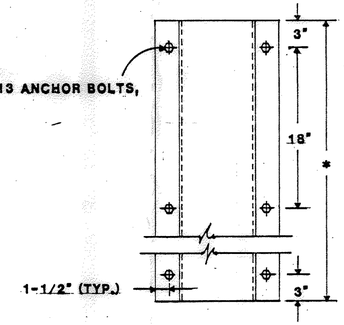


DETAIL "A"



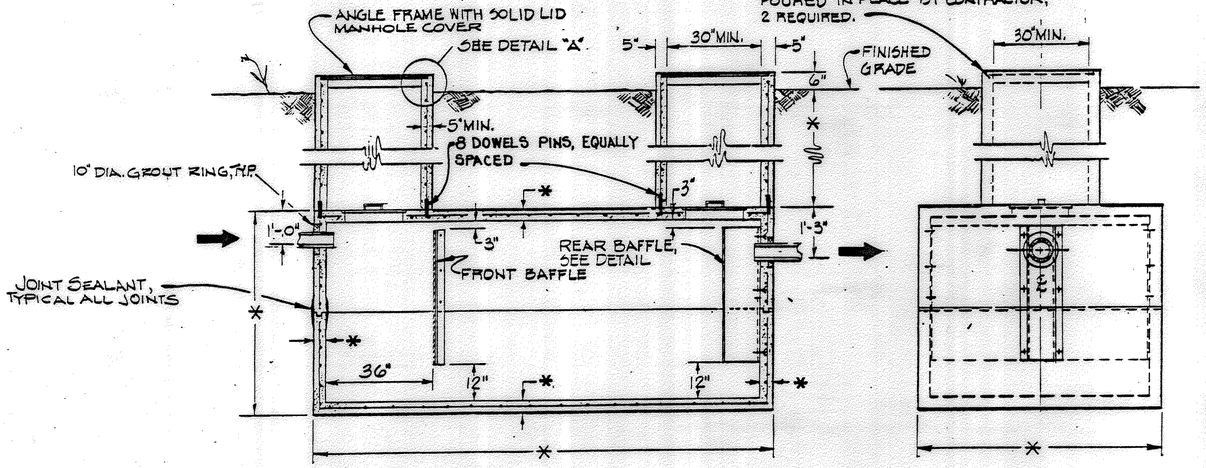


PLAN VIEW



FRONT VIEW

REAR BAFFEL



SECTION A-A

NOTE: ALL COMPONENTS OF THE PLANT SHALL BE AS DESCRIBED IN THE SPECIFICATIONS.

*=DIMENSION TO BE SHOWN ON MANUFACTURERS SHOP DRAWINGS. FOR TANK CAPACITIES SEE SHEET WWTP-1

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

DATE 8/25/86, 12/11/86, 10/30/87, 11/21/88

CONCRETE TRASH TRAP

WWTP-2

APPROVED _____ Engr. of Design Services

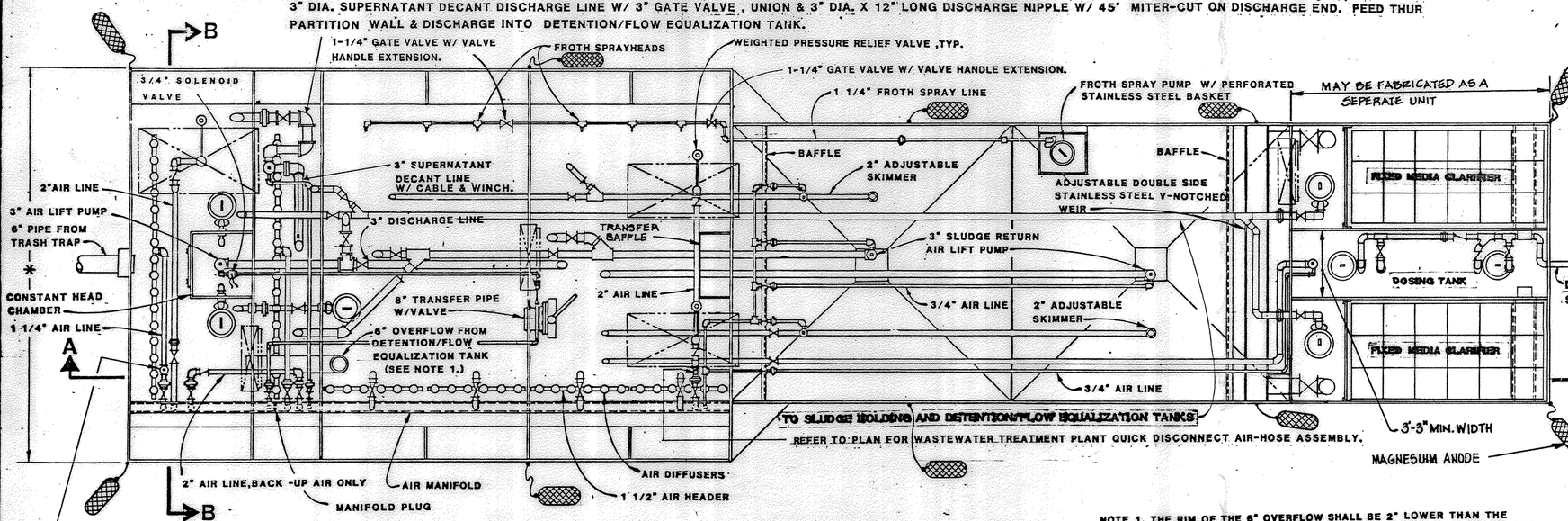
2/14

WASTEWATER TREATMENT PLANT

CHC BY		GAL-35-6.79	OHIO
CHKD BY			FHWA REGN 5
DATE			

64 / 86

3" DIA. SUPERNATANT DECANT DISCHARGE LINE W/ 3" GATE VALVE , UNION & 3" DIA. X 12" LONG DISCHARGE NIPPLE W/ 45° MITER-CUT ON DISCHARGE END. FEED THUR PARTITION WALL & DISCHARGE INTO DETENTION/FLOW EQUALIZATION TANK.

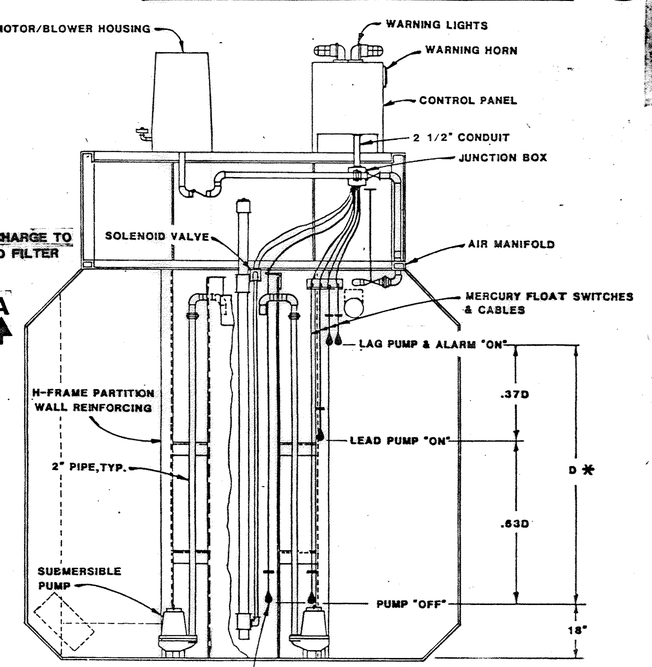


NOTE: EVACUATION PUMP 2" DIA. DISCHARGE LINE SHALL FEED THRU BOTH PARTITION WALLS OF THE SLUDGE HOLDING TANK AND DISCHARGE INTO THE DETENTION/FLOW EQUALIZATION TANK. PROVIDE & INSTALL VALVE, NIPPLES & UNIONS IN 2" RISER NEAR 90° ELBOW AND ON FEED THRU DISCHARGE LINE. CENTER LINE OF 2" FEED THRU DISCHARGE LINE SHALL BE INSTALLED 12" BELOW TOP OF TANK (NOT TOP OF WALL EXTENTION).

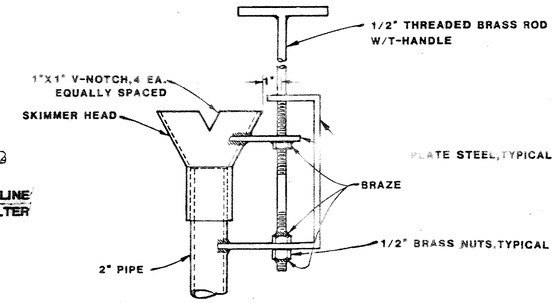
1" NPS DIFFERENTIAL LOW PRESSURE REGULATOR VALVE ON AIR LINE TO DIFFUSERS.

NOTE 1. THE RIM OF THE 6" OVERFLOW SHALL BE 2" LOWER THAN THE INVERT ELEVATION OF THE INCOMING 6" PIPE IN THE DETENTION/ FLOW EQUALIZATION TANK

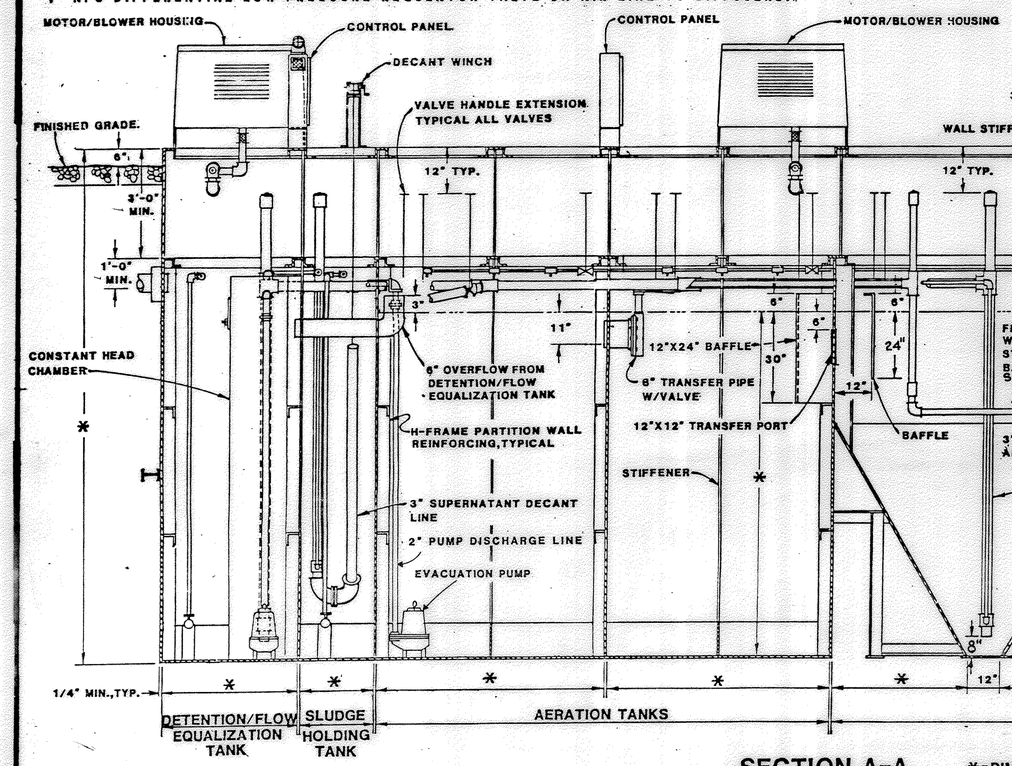
2. FURNISH AND INSTALL MAGNESIUM ANODES AND ANODE TEST BOXES AS SPECIFIED.



SECTION B-B



ADJUSTABLE SKIMMER DETAIL



SECTION A-A

*=DIMENSION TO BE SHOWN ON MANUFACTURERS SHOP DRAWINGS. FOR TANK CAPACITIES SEE SHEET WWTP-1

NOTE: ALL COMPONENTS OF THE PLANT SHALL BE AS DESCRIBED IN THE SPECIFICATIONS.

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

STEEL WASTEWATER TREATMENT PLANT

WWTP- 3

DATE
8/25/86
10/31/86
12/11/86
10/30/87
11/27/87
11/27/87
12-12-88

APPROVED _____ Engr. of Design Services

3 / 14

CALC BY / DATE	EDL - 3/5 - 6.79	OHIO	66 / 86
CHKD BY / DATE		FHWA REGION 5	

2" DIA. GALV. SLUDGE RETURN AND/OR SUPERNATANT RETURN LINE FROM SLUDGE HOLDING TANK TO DETENTION/FLOW EQUALIZATION TANK.

2 1/2" ELECTRICAL FEED TO CONTROL PANEL

6" PIPE FROM TRASH TRAP

45" MIN.

B

GRATING PANELS INSTALLED ON THE TOP OF AND AT THE INTERMEDIATE SERVICE LEVEL OF THE DETENTION/FLOW EQUALIZATION TANK AND CONSTANT-HEAD PUMP CHAMBER (ONLY) SHALL BE FIBERGLASS GRATING AS SPECIFIED.

18" I.D. MIN. CONSTANT HEAD CHAMBER

4" OVERFLOW PIPE

2" AIR LINE FROM MAIN BLOWERS, TAG " VALVE BACK-UP ONLY"

60" MIN.

A

A

GRATING

SUBMERSIBLE PUMP,2 REQUIRED

72" MIN.

3" AIR LIFT DISCHARGE PIPE TO AERATION TANK(S)

B

6" OVERFLOW PIPE TO AERATION

CONTROL PANEL

2" DIA. EVACUATION PUMP DISCHARGE LINE FROM AERATION TANK TO DETENTION / FLOW EQUALIZATION TANK.

2 1/2" CONDUIT

MOTOR/BLOWER HOUSING

2" AIR LINE FROM FROM MAIN BLOWERS TAG VALVE "BACK UP ONLY"

PRESSURE DIFFERENTIAL VALVE

SOLENOID VALVE

1/4" DIA. AIR LINE TO DIFFUSERS.

6"

FIBER MAT

36" MIN.

19" MIN.

FIBER GLASS GRATING W/ 2"X2"X1/4" ANGLE SUPPORTS

2" GATE VALVE

MERCURY FLOAT SWITCHES AND CABLES

2" DIA. EVACUATION PUMP DISCHARGE LINE FROM AERATION TANK TO DETENTION / FLOW EQUALIZATION TANK.

18" I.D. MIN. CONSTANT HEAD CHAMBER

REINFORCING STEEL ,TYPICAL

JOINT SEALANT, TYPICAL ALL JOINTS

SOLENOID VALVE FLOAT SWITCH AND CABLE

1 1/2" PIPE

DIFFUSERS ON 6" C/C

8"

8"

HEADER CHAIRS

SECTION A-A

2" DIA. GALV. SLUDGE RETURN AND/OR SUPERNATANT RETURN LINE FROM SLUDGE HOLDING TANK TO DETENTION / FLOW EQUALIZATION TANK.

WARNING LIGHTS

WARNING HORN

CONTROL PANEL

MOTOR/BLOWER HOUSING

3/4" AIR LINE TO AIR LIFT PUMP

WEIGHTED PRESSURE RELIEF VALVE

FINISHED GRADE

6"

2 1/2"ELECTRICAL FEED TO CONTROL PANEL

12"

2" DIA. GALV. SLUDGE RETURN AND/OR SUPERNATANT RETURN LINE FROM SLUDGE HOLDING TANK TO DETENTION / FLOW EQUALIZATION TANK.

38" MIN

48" MAX.

3" AIR LIFT PUMP

6" PIPE FROM TRASH TRAP

6" OVERFLOW PIPE TO AERATION TANK

HIGH WATER ALARM "ON" (SEPARATE FLOAT SWITCH)

17"

LAG PUMP "ON" (SEPARATE FLOAT SWITCH)

3" AIR LIFT DISCHARGE PIPE TO AERATION TANK (S).

3" MIN.

2" PIPE

.37D (±)

LEAD PUMP "ON"

PUMP LIFT CABLE

D (±)

.63D (±)

SUBMERSIBLE PUMP

8" FILLET,BOTH SIDES

PUMP "OFF"

18"

SECTION B-B

NOTE: ALL COMPONENTS OF THE PLANT SHALL BE AS DESCRIBED IN THE SPECIFICATIONS.

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

DATE 8/25/86
12/11/86
10/30/87
11/21/88
12-12-89

CONCRETE DETENTION/ FLOW EQUALIZATION TANK

WWTP- 5

APPROVED _____ Engr. of Design Services

5 / 14

NOTE: IN LIEU OF THE TWO (2) FINAL SETTLING TANKS SHOWN ON PLANS, THE GENERAL CONTRACTOR SHALL HAVE THE OPTION TO PROVIDE ONE (1) TANK. THE ONE TANK SHALL MEET OR EXCEED THE SPECIFIED SQUARE FEET OF USABLE SURFACE AREA AND GALLONS OF EFFECTIVE VOLUME. THE ONE TANK SHALL BE FURNISHED WITH TWO (2) SLOPED HOPPERS IN THE BOTTOM OF THE TANK.

CALC BY | DATE | CHKD BY | DATE | GAL-35-6.79 | OHIO | FHWA REGION 5 | 67 / 86

1-1/4" GATE VALVE W/ VALVE HANDLE EXTENSION. (TYPICAL ON EACH FROTH SPRAY BRANCH LINE)

FROTH SPRAY PUMP W/STAINLESS STEEL PERFORATED BASKET

CONTROL PANEL

3'-0" MIN. | 3'-0" MIN.

6" TRANSFER PIPE

1 1/4" FROTH SPRAY LINE

3" SLUDGE RETURN LINES

3" DISCHARGE LINE FROM DETENTION/FLOW EQUALIZATION TANK

AIR DIFFUSERS

1-1/4" AIR LINE

FROTH SPRAY HEADS

1 1/4" AIR LINE TYPICAL

2" AIR LINE

3" DIA. DISCHARGE BY-PASS LINE

6" OVERFLOW FROM DETENTION/FLOW EQUALIZATION TANK

2" DIA. PUMP DISCHARGE LINE

EVACUATION PUMP

2" AIR LINE TO DETENTION/FLOW EQUALIZATION TANK

GALV. STEEL GRATING, COVER ALL TANK TOP OPENINGS

36" L x 12" W x 27" H ALUMINUM TRANSFER BAFFLE

2" SKIMMER RETURN LINE

45° MITER

2" SKIMMER RETURN LINE

6" DIA. TRANSFER PIPE

BAFFLE

2" ADJUSTABLE SKIMMER

3/4" AIR LINE TO DOSING TANK

2" SLUDGE RETURN LINE FROM DOSING TANK

2" AIR LINE

3'-0" MIN.

6" TRANSFER LINE TO FIXED MEDIA CLARIFIER

6" ADJUSTABLE STAINLESS STEEL WEIR TROUGH

2" ADJUSTABLE SKIMMER, FOR DETAILS SEE DRAWING WWTP-3

3" SLUDGE RETURN LINES

2" AIR LINE

2" AIR LINES

8" TRANSFER PIPE W/ BUTTER-FLY VALVE & EXTENDED HANDLE

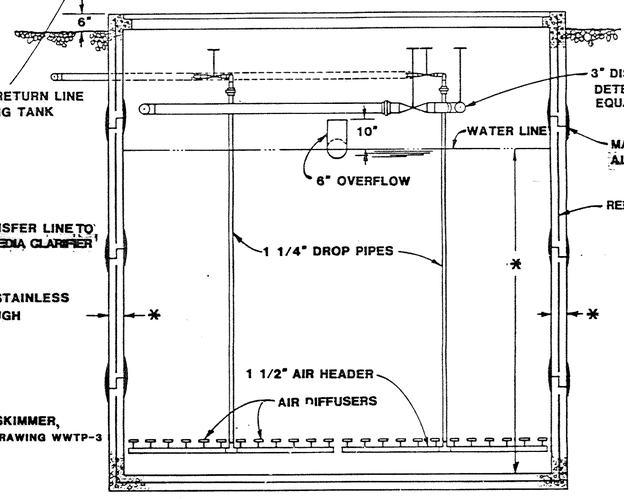
3" SLUDGE DISPOSAL LINES TO SLUDGE HOLDING TANK

2" AIR LINE TO SLUDGE HOLDING TANK

2" DIA. EVACUATION PUMP DISCHARGE LINE FROM AERATION TANK TO DETENTION/FLOW EQUALIZATION TANK.

THE RIM OF THE 6" OVERFLOW SHALL BE 2" LOWER THAN THE INVERT ELEVATION OF THE INCOMING 6" PIPE OF THE DETENTION/FLOW EQUALIZATION TANK.

INV. ELEVATIONS OF EACH 6" DIA. TRANSFER PIPE LINE OUTLET SHALL BE IDENTICAL.



SECTION C-C
AERATION TANK

CONTROL PANEL

WEIGHTED PRESSURE RELIEF VALVE

MOTOR/BLOWER HOUSINGS

3" ELECTRICAL CONDUIT SHALL FEED FROM THE CONCRETE PULL BOX TO " MAIN BLOWER, EVACUATION AND FROTH PUMP CONTROL PANEL "

3/4" AIR LINE

3/4" HOSE BIBB

3/4" AIR LINE, TYPICAL

GRATING AS SPECIFIED FOR INTERMEDIATE SERVICE LEVEL, TYPICAL

VALVE HANDLE EXTENTION, TYPICAL ALL VALVES

2" DIA. EVACUATION PUMP DISCHARGE LINE FROM AERATION TANK TO DETENTION /FLOW EQUALIZATION TANK.

FINISHED GRADE

6" | 3" DISC. LINE FROM DET./FLOW EQUAL. TANK. | 3" | 11" | WATER LINE | GROUT RING TYPICAL | (*-1)

2" DIA. PUMP DISCHARGE LINE.

EVACUATION PUMP | AIR DIFFUSERS | FILLET

12" MAX. | 6" | 27" | FROTH SPRAY HEAD | 6" | 6" 90° ELL

8" TRANSFER PIPE W/ BUTTER-FLY VALVE & EXTENDED HANDLE

36"L x 12"W x 27"H ALUMINUM TRANSFER BAFFLE

8"X8" CONCRETE FILLET | AIR DIFFUSERS | 8" TYPICAL

6" DIA. TRANSFER PIPES (TWO (2) REQUIRED. SEE PLAN ABOVE.

BAFFLE | 6" | 21" | 18" | 8" MIN. | 8" MIN. | 60° TYP. | 12"

WATER LINE | 6" | 6" | 18" | 2" MIN.

BAFFLE | WEIR TROUGH | 6"

3" AIR LIFT PUMPS

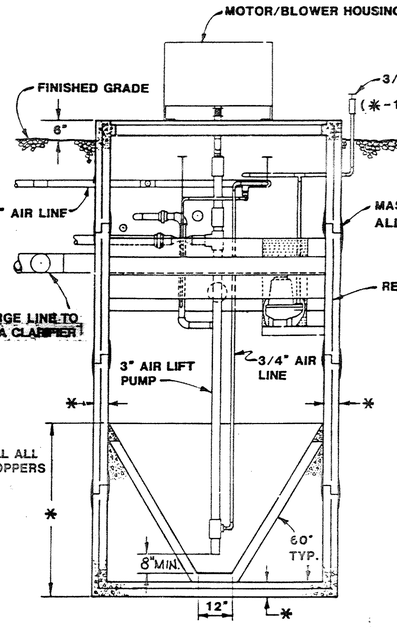
FROTH SPRAY PUMP W/STAINLESS STEEL PERFORATED BASKET SIDES AND BOTTOM ONLY

MORTAR MIX, FILL ALL VOIDS UNDER HOPPERS

AERATION TANKS | FINAL SETTLING TANK

SECTION A-A

NOTE: ALL CONCRETE TANKS SHALL REQUIRE A 4-INCH SAND BED BETWEEN THE BOTTOM OF TANKS AND TOPS OF CONCRETE BASE PADS.



SECTION B-B
FINAL SETTLING TANK

*=DIMENSION TO BE SHOWN ON MANUFACTURERS SHOP DRAWINGS. FOR TANK CAPACITIES SEE SHEET WWTP-1

NOTE: ALL COMPONENTS OF THE PLANT SHALL BE AS DESCRIBED IN THE SPECIFICATIONS.

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

CONCRETE AERATION & FINAL SETTLING TANKS

WWTP-6

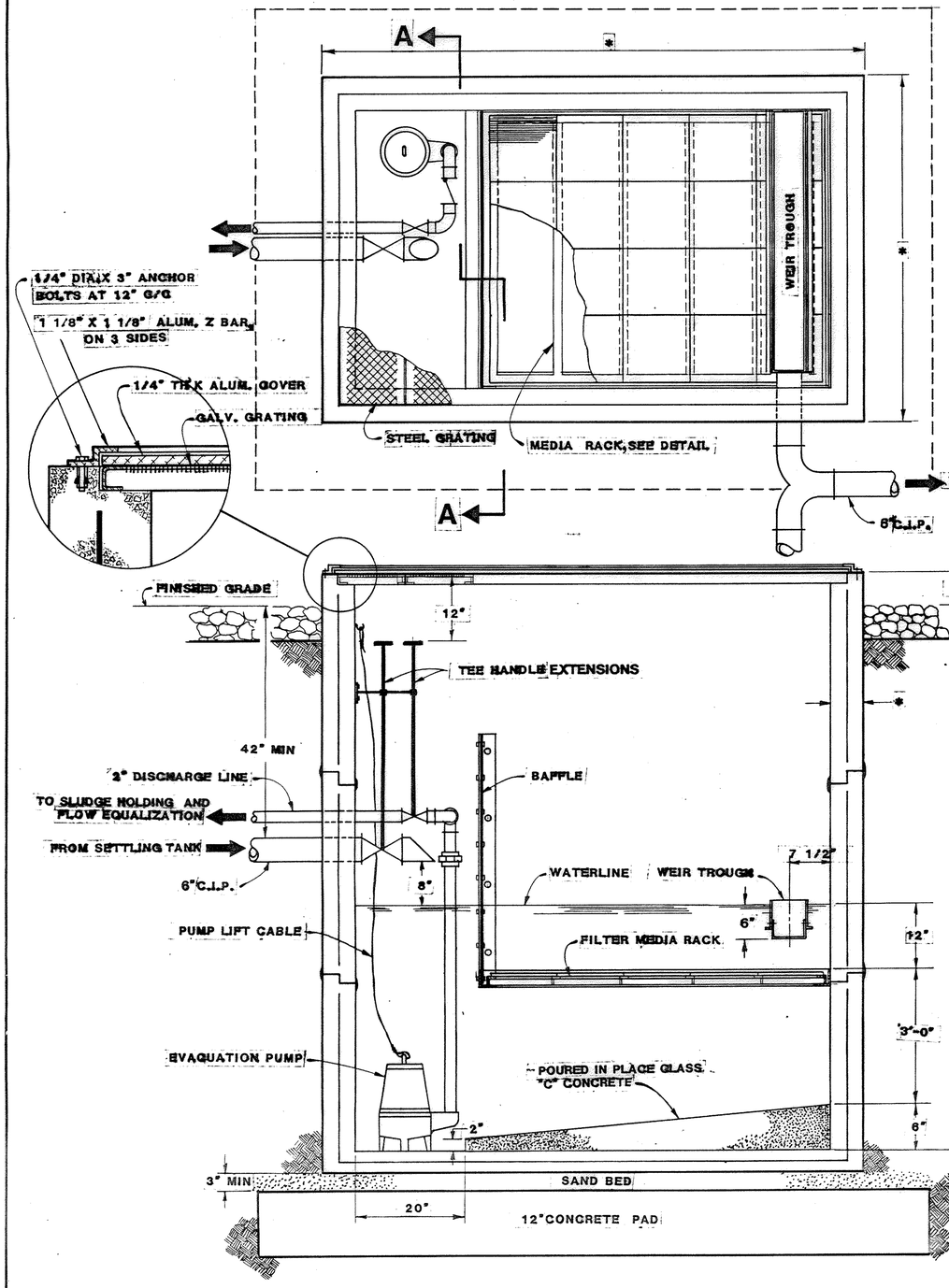
APPROVED _____ Engr. of Design Services

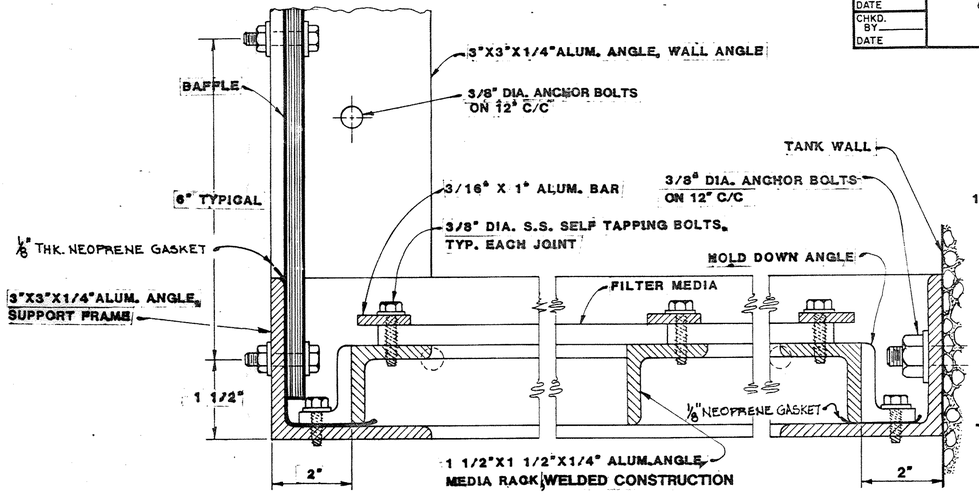
DATE: 8/25/86 | 10/31/86 | 12/11/86 | 10/28/87 | 11/21/88 | 12-12-89

6 / 14

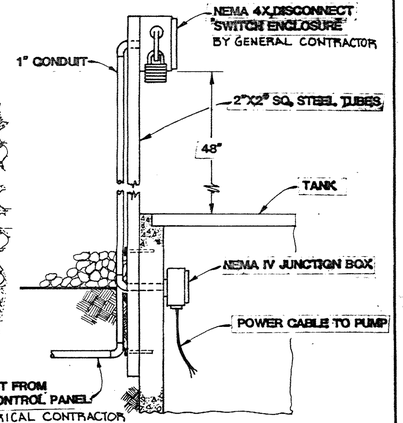
WASTEWATER TREATMENT PLANT

CALC. BY		GAL - 35 - 6.79	OHIO
DATE			FHWA REGION 5
CHKD. BY			68/86
DATE			

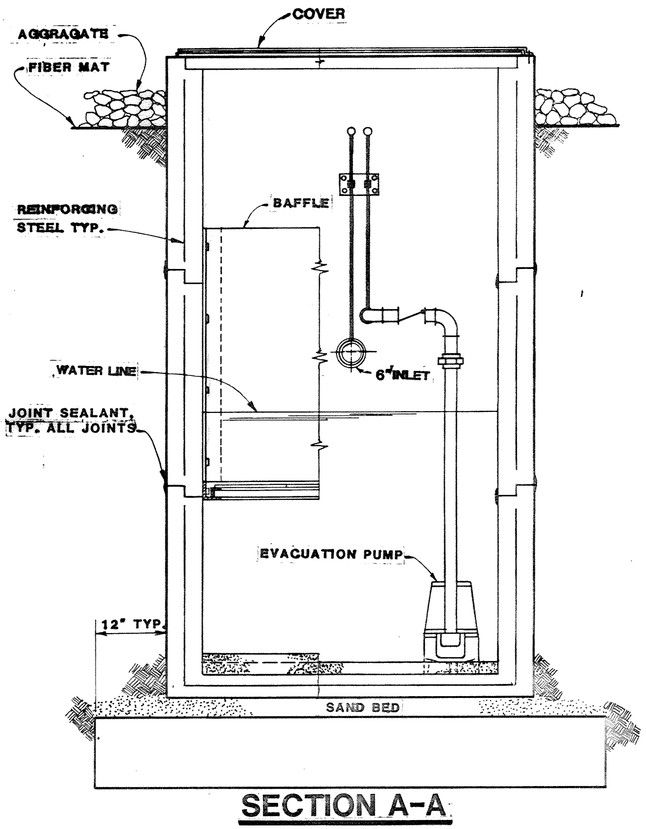




FILTER MEDIA RACK DETAILS



ELECTRICAL DETAILS



SECTION A-A

WEIR TROUGH DETAILS

* DIMENSIONS TO BE SHOWN ON MANUFACTURERS SHOP DRAWINGS. FOR TANK CAPACITIES SEE SHEET WWTP-1

NOTE: ALL COMPONENTS OF THE PLANT SHALL BE AS DESCRIBED IN THE SPECIFICATIONS.

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADWAY DEVELOPMENT

DATE: 10/30/87, 11/21/88

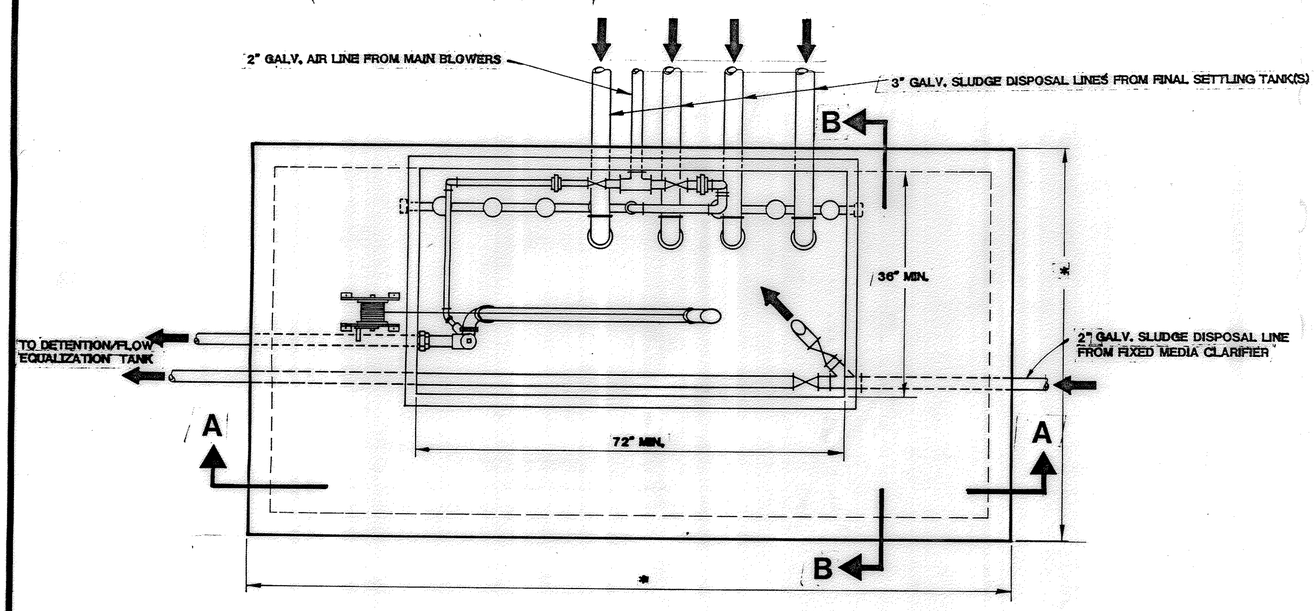
FIXED MEDIA CLARIFIER

WWTP-7

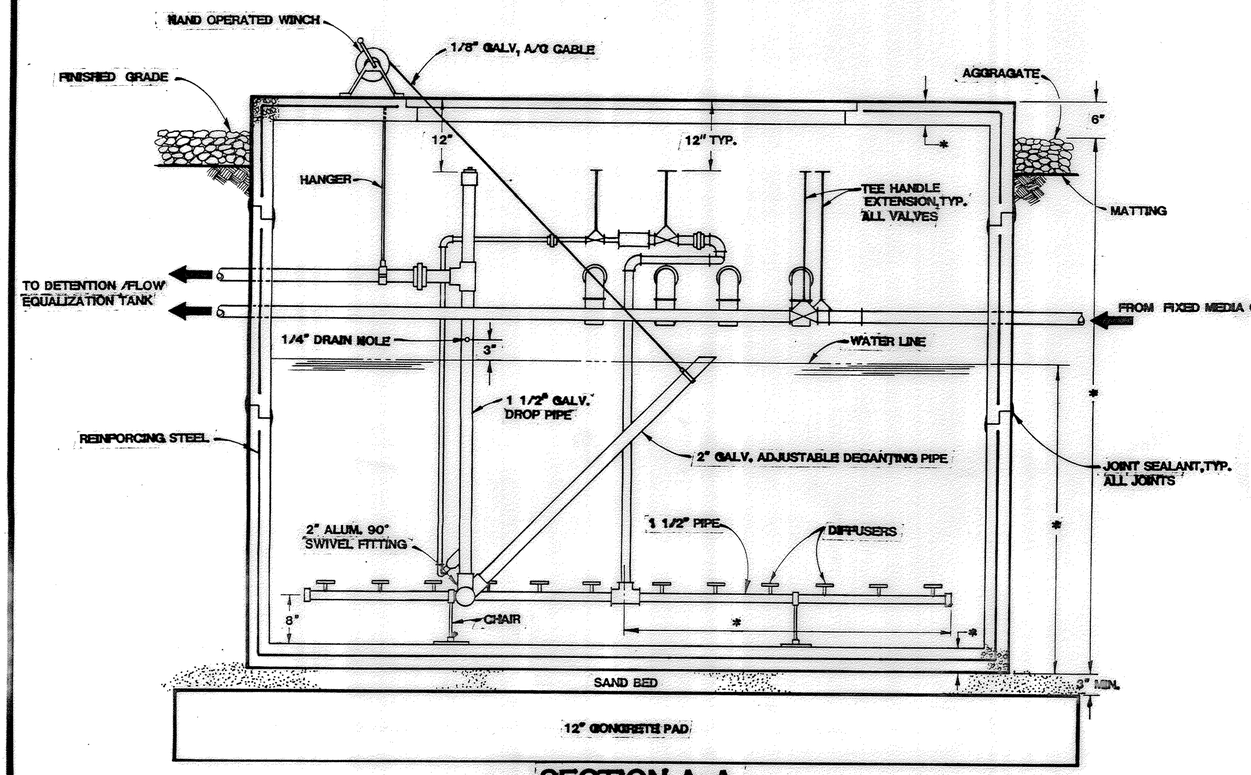
APPROVED Bill Henderson ENGR. OF DESIGN SERVICES

GAL-35-6.79

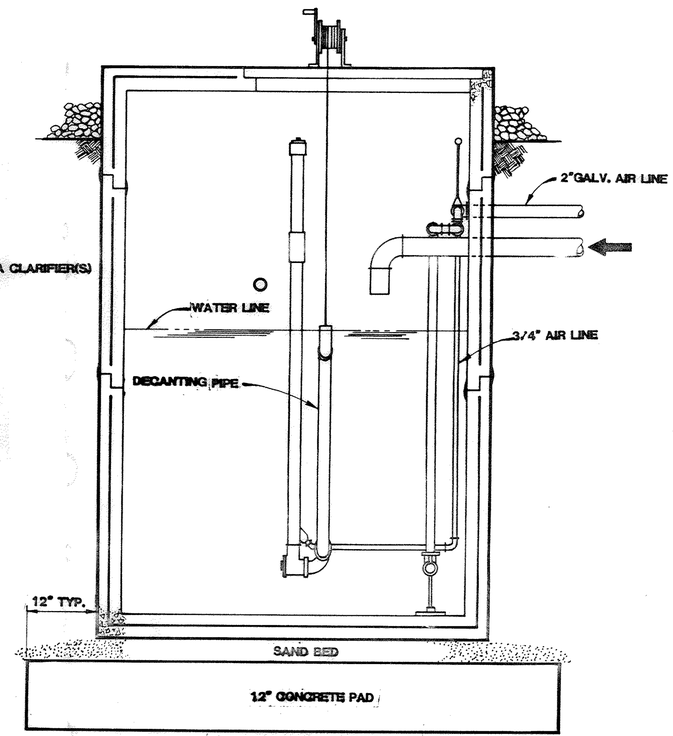
69
86



* = DIMENSIONS TO BE SHOWN ON MANUFACTURERS SHOP DRAWINGS
FOR TANK CAPACITIES SEE SHEET WWTP-1



SECTION A-A



SECTION B-B

NOTE: ALL COMPONENTS OF THE PLANT SHALL BE AS DESCRIBED IN THE SPECIFICATIONS

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

DATE
10/30/87
11/21/88

CONCRETE
SLUDGE HOLDING TANK

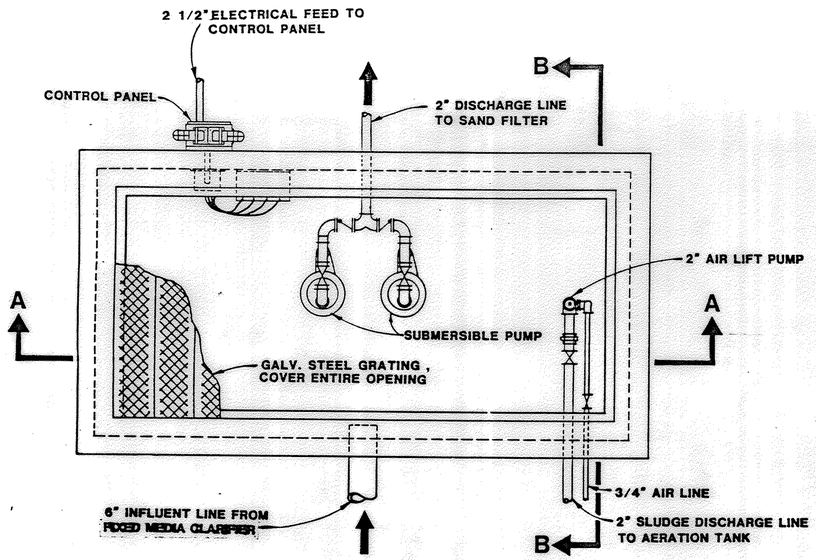
WWTP-8

APPROVED _____ DIR. OF DESIGN SERVICES

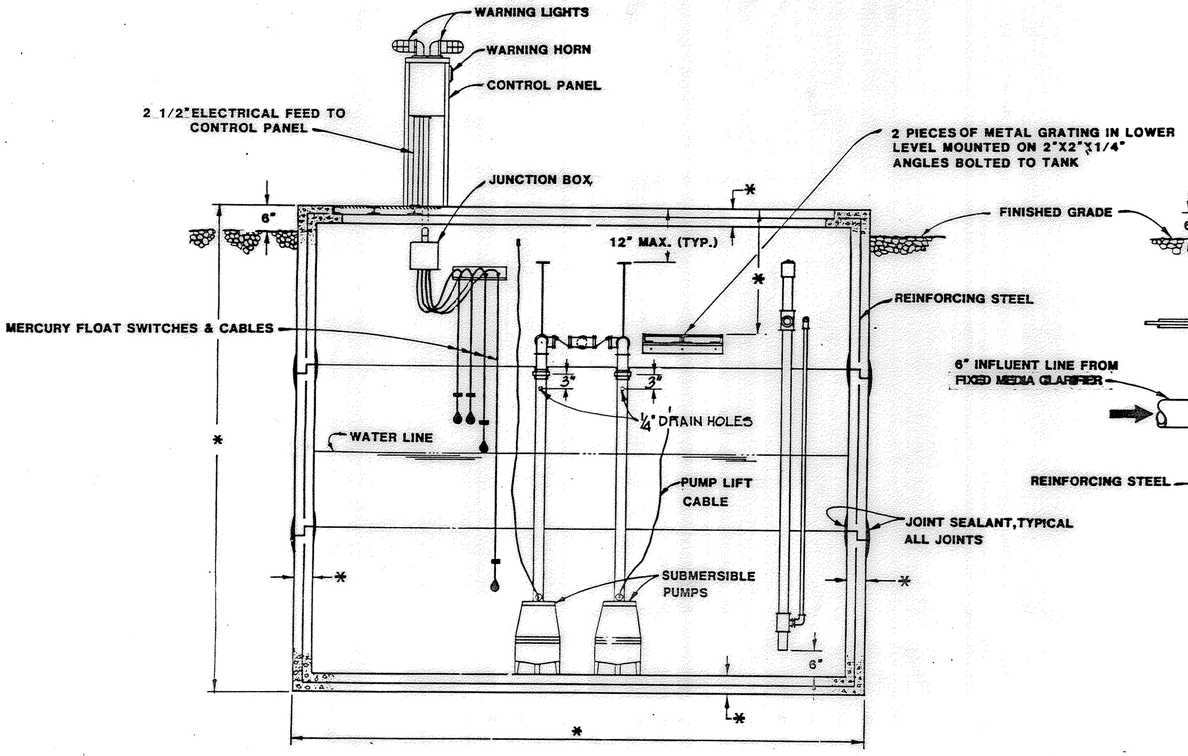
8/14

CALC BY / DATE	GAL-35-6.79	OHIO
CHKD BY / DATE		FHWA REGION 5

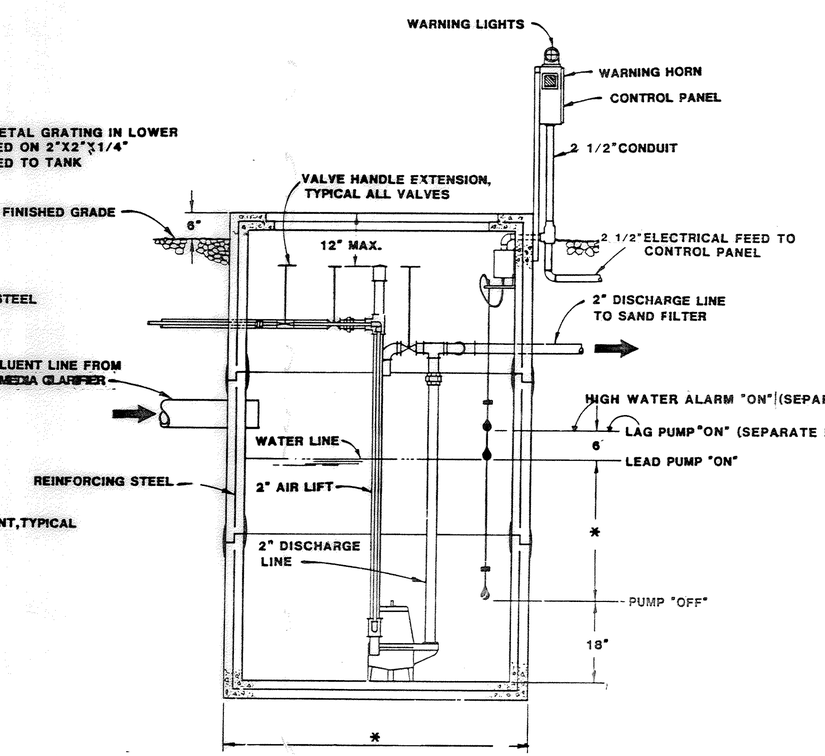
10/86



* - DIMENSION TO BE SHOWN ON MANUFACTURERS SHOP DRAWINGS. FOR TANK CAPACITIES SEE SHEET WWTP-1



SECTION A-A



SECTION B-B

NOTE: ALL COMPONENTS OF THE PLANT SHALL BE AS DESCRIBED IN THE SPECIFICATIONS.

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

CONCRETE DOSING TANK

WWTP-9

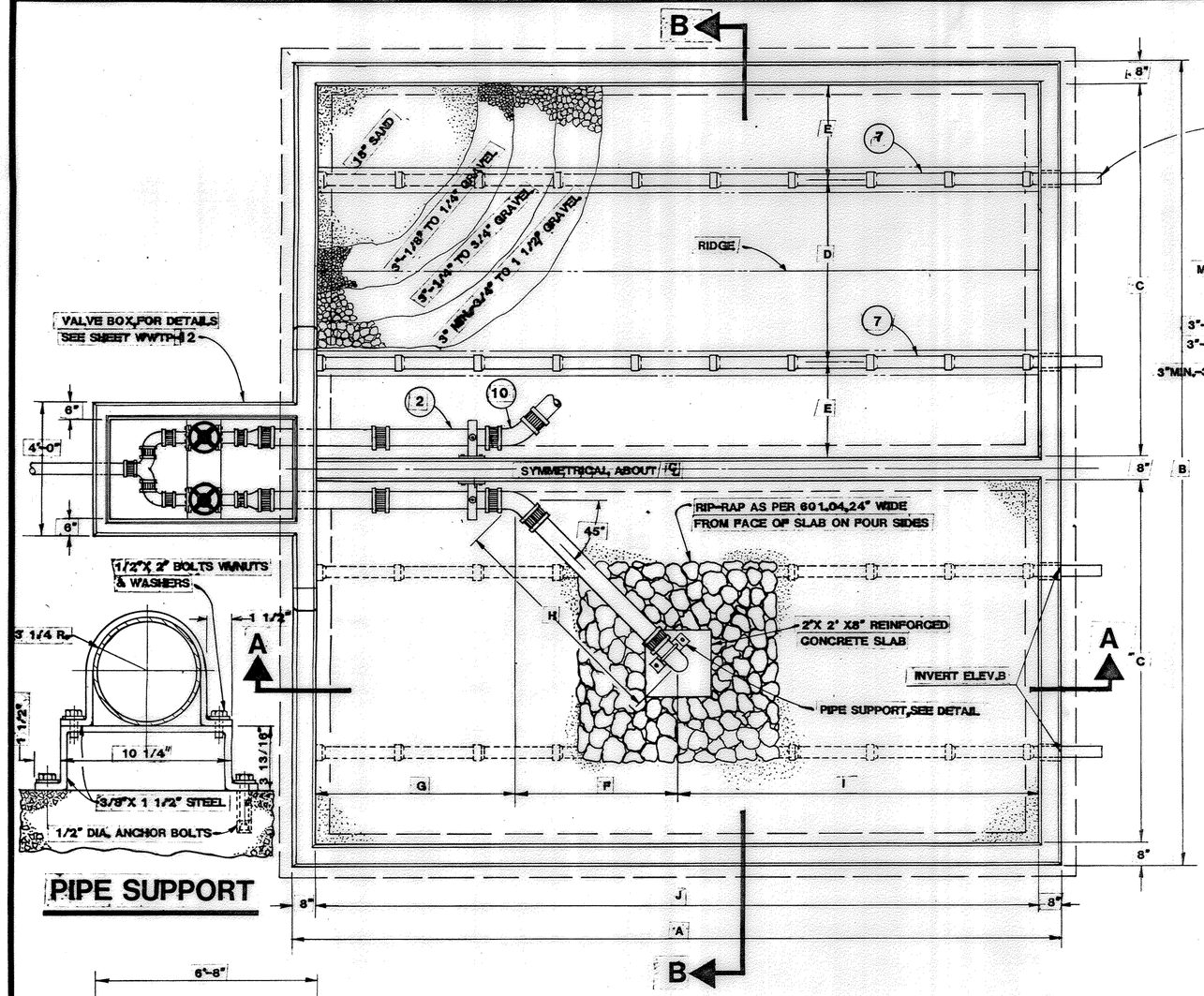
APPROVED _____ Engr. of Design Servi...

DATE
8/25/86
12/11/86
10/30/87
11/21/88
12-12-89

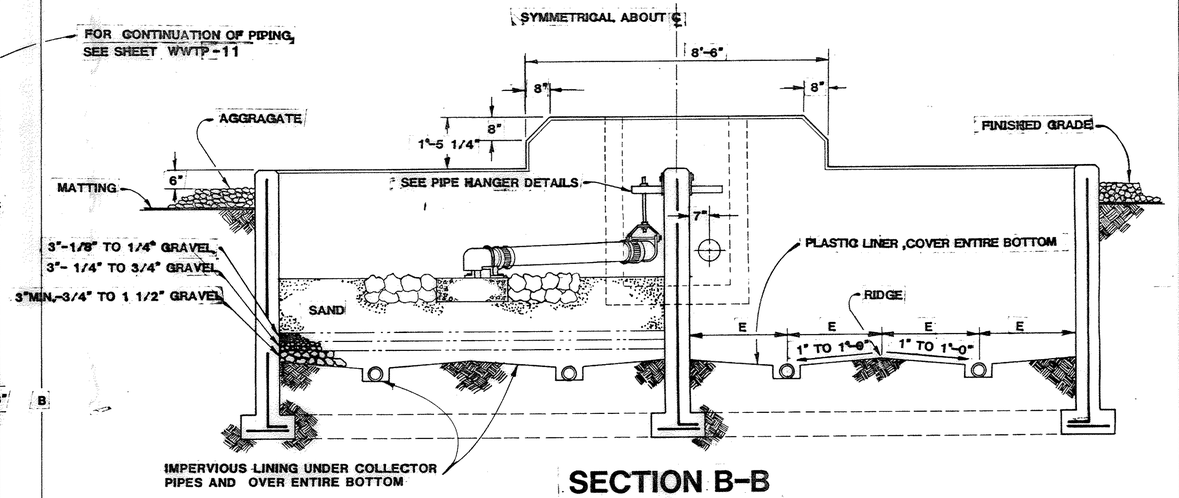
9/14

GAL-35-6.79

71
86

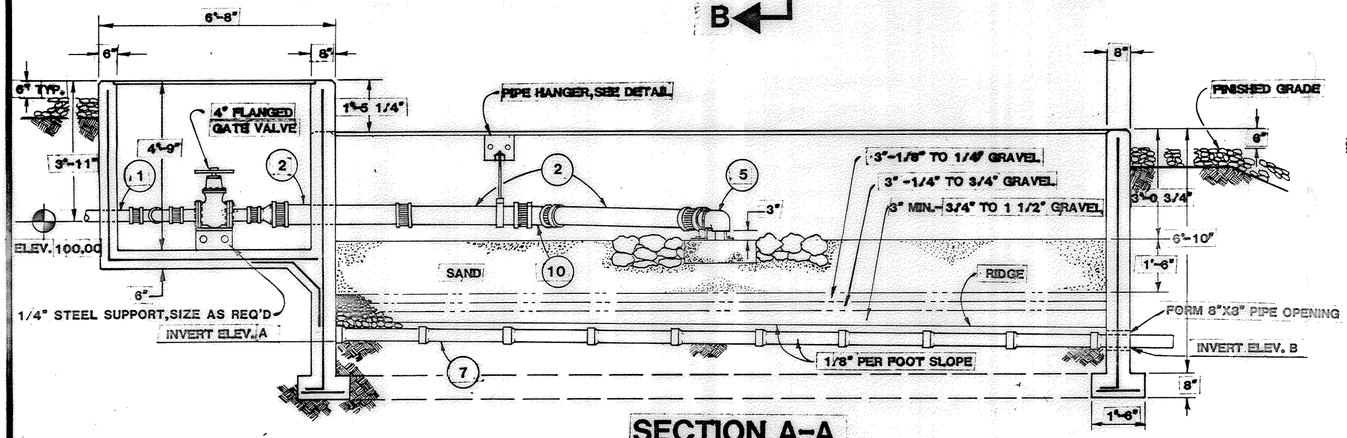


PIPE SUPPORT

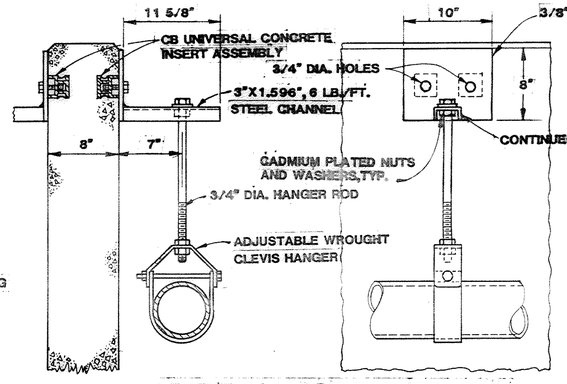


SECTION B-B

SAND FILTER												
PLANT CAPACITY G.P.D.	DIMENSIONS										INVERT A	INVERT B
	A	B	C	D	E	F	G	H	I	J		
4000	10'-4"	20'-0"	9'-0"	4'-6"	2'-3"	3'-11"	7"	5'-6 1/2"	4'-6"	9'-0"	96.26	96.17
5000	11'-4"	22'-0"	10'-0"	5'-0"	2'-6"	4'-5"	7"	6'-3"	5'-0"	10'-0"	96.26	96.16
6000	12'-4"	24'-0"	11'-0"	5'-6"	2'-9"	4'-11"	7"	6'-11 1/2"	5'-6"	11'-0"	96.26	96.15
7000	13'-2"	25'-6"	11'-10"	5'-11"	2'-11 1/2"	5'-4"	7"	7'-6 1/2"	5'-11"	11'-10"	96.26	96.14
8000	14'-0"	27'-4"	12'-8"	6'-4"	3'-2"	5'-9"	7"	8'-1 5/8"	6'-4"	12'-8"	96.26	96.13
9000	14'-10"	29'-0"	13'-6"	6'-9"	3'-4 1/2"	6'-2"	7"	8'-8 5/8"	6'-9"	13'-6"	96.26	96.12
10000	15'-7"	30'-6"	14'-3"	7'-1 1/2"	3'-6 3/4"	6'-6 1/2"	7"	9'-3"	7'-1 1/2"	14'-3"	96.26	96.11
12000	21'-4"	26'-0"	21'-0"	6'-0"	3'-0"	5'-5"	4'-7"	7'-8"	10'-0"	20'-0"	96.26	96.05
14000	21'-7"	30'-0"	14'-0"	7'-0"	3'-6"	6'-5"	3'-8 1/2"	9'-1"	10'-1 1/2"	20'-3"	96.26	96.05
16000	24'-8"	30'-0"	14'-0"	7'-0"	3'-6"	6'-5"	5'-2"	9'-1"	11'-7"	23'-2"	96.26	96.02
18000	27'-2"	30'-0"	14'-0"	7'-0"	3'-6"	6'-5"	6'-6"	9'-1"	12'-11"	25'-10"	96.26	95.99
20000	29'-11"	30'-0"	14'-0"	7'-0"	3'-6"	6'-5"	7'-10 1/2"	9'-1"	14'-3 1/2"	28'-7"	96.26	95.96



SECTION A-A



PIPE HANGER DETAIL

NOTE: ALL COMPONENTS OF THE PLANT SHALL BE AS DESCRIBED IN THE SPECIFICATIONS

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

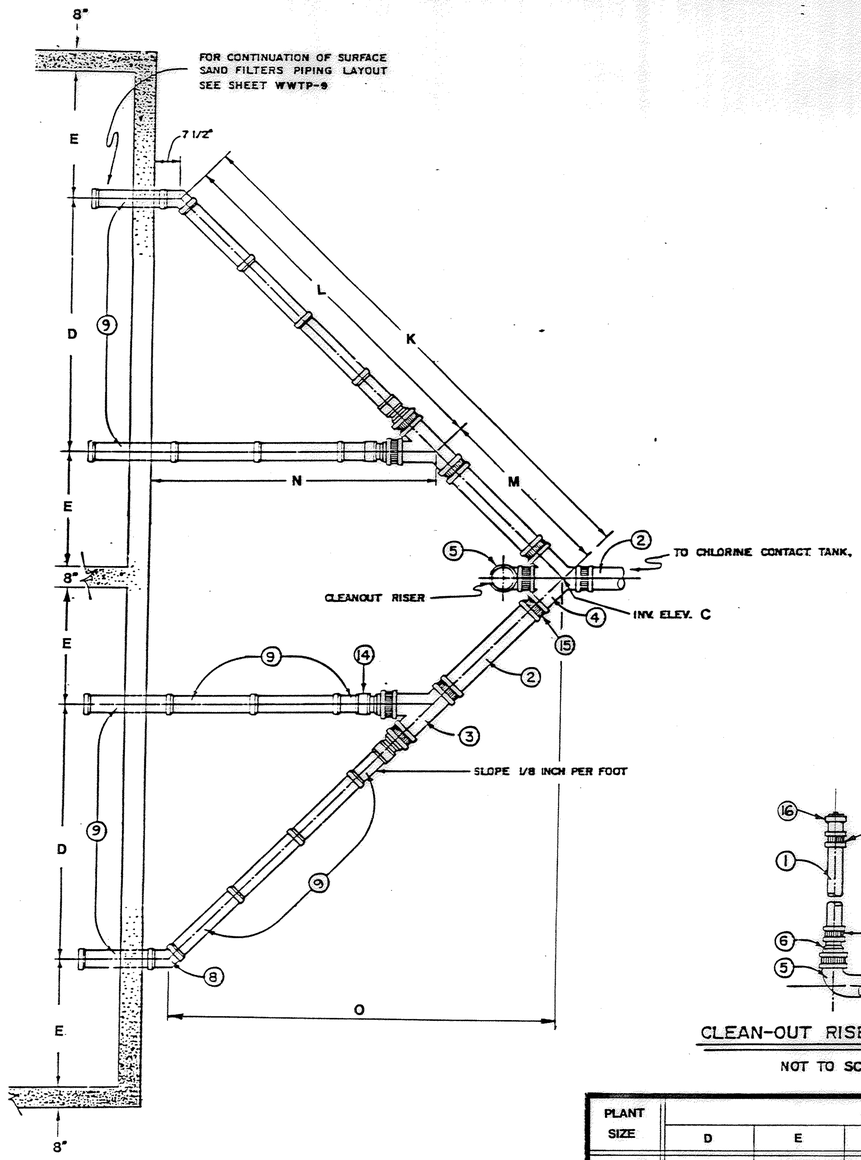
DATE: 10/30/87, 11/21/88

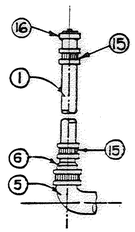
SAND FILTER

WWTP-10

APPROVED _____ CHIEF, OF DESIGN SERVICES

10/14





CLEAN-OUT RISER DETAIL

NOT TO SCALE

PIPE AND FITTING LEGEND

1. 4-INCH NO HUB CAST-IRON SOIL PIPE
2. 6-INCH, SAME AS ABOVE
3. 6-INCH x 6-INCH NO HUB CAST-IRON SOIL 45° WYE
4. 6-INCH x 6-INCH NO HUB CAST-IRON SOIL DOUBLE WYE BRANCH
5. 6-INCH NO HUB CAST-IRON SOIL 1/4 BEND
6. 6-INCH x 4-INCH NO HUB CAST-IRON SOIL REDUCER
7. 4-INCH EXTRA STRENGTH PERFORATED VITRIFIED CLAY PIPE 706.08 WITH 706.12 RESILIENT AND FLEXIBLE JOINTS.
8. 4-INCH EXTRA STRENGTH VITRIFIED CLAY PIPE FITTING 45° CUT CURVE 706.08 WITH 706.12 RESILIENT AND FLEXIBLE JOINTS.
9. 4-INCH EXTRA STRENGTH VITRIFIED CLAY PIPE 706.08 WITH 706.12 RESILIENT AND FLEXIBLE JOINTS
10. 6-INCH NO HUB CAST-IRON SOIL 1/8 BEND
11. 4-INCH x 2-INCH NO HUB CAST-IRON SOIL 45° WYE AND 1/8 BEND
12. 4-INCH NO HUB CAST IRON SOIL 1/4 BEND
13. 2-INCH NO HUB CAST-IRON SOIL PIPE
14. 4-INCH VITRIFIED CLAY TO 4-INCH CAST-IRON PIPE CONNECTOR
15. NO HUB CAST-IRON SOIL PIPE CONNECTOR
16. 4"x8" NO HUB EXTENSION W/3½" BRASS CLEANOUT PLUG

PLANT SIZE	COLLECTOR PIPING EXTENSION DIMENSIONS							
	D	E	K	L	M	N	O	INVERT C
4000	4'-6"	2'-3"	10'-0 1/8"	6'-4 21/64"	3'-7 13/16	5'-1 29/64	7'-1"	95.97
5000	5'-0"	2'-6"	11'-31/32"	7-27/32	4'-0"	5'-7 29/64"	7'-10"	95.95
6000	5'-6"	2'-9"	12'-1 11/16"	7'-9 3/3"	4'-0 21/64"	6'-1 29/64"	8'-7"	95.93
7000	5'-11"	2'-11 1/2"	13'-0 1/4"	8'-4 29/64"	4'-7 59/64"	6'-6 31/64"	9'-2 1/2"	95.91
8000	6'-4"	3'-2"	13'-10 13/16"	8'-11 17/32"	4'-11 13/32	6'-11 17/32"	9'-10"	95.89
9000	6'-9"	3'-4 1/2	14'-9 31/64"	9'-6 39/64	5'-3"	7'-4 29/64"	10'-5 1/2"	95.87
10000	7'-1 1/2"	3'-6 3/4"	15'-5 41/64"	10'-0 31/32"	5'-4 11/16"	7'-9"	10'-11 1/4"	95.85
12000	6'-0"	3'-0"	13'-2 13/32"	8'-5 57/64	4'-8 17/32"	6'-7 29/64"	9'-4"	95.82
14000	7'-0"	3'-6"	15'-3 27/32"	9'-10 13/16"	5'-5 3/64"	7'-7 29/64"	10'-10"	95.79
16000	7'-0"	3'-6"	15'-3 27/32"	9'-10 13/64"	5'-5 3/64"	7'-5 29/64	10'-10"	95.76
18000	7-0"	3'-6"	15'-3 27/32"	9'-10 13/16"	5'-5 3/64"	7'-7 29/64"	10'-10"	95.73
20000	7'-0"	3'-6"	15'-3 27/32"	9'-10 13/16"	5'-5 3/64"	7'-7 29/64"	10'-10"	95.70

NOTE: ALL COMPONENTS OF THE PLANT SHALL BE AS DESCRIBED IN THE SPECIFICATIONS.

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

DATE 8/25/86, 12/11/86, 10/30/87, 11/21/88

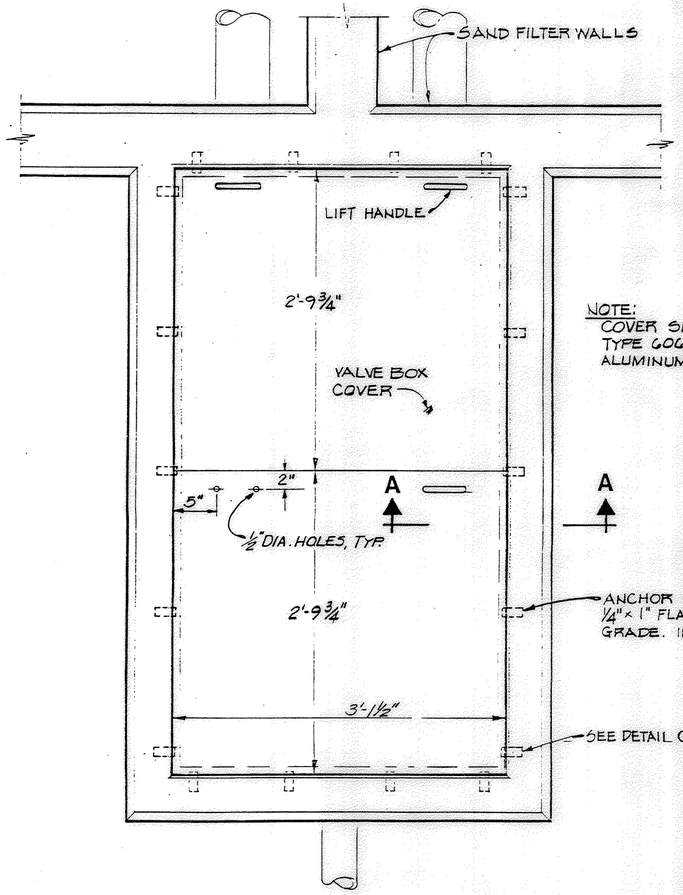
SAND FILTER

WWTP-11

APPROVED _____ Engr. of Design Services 11/14

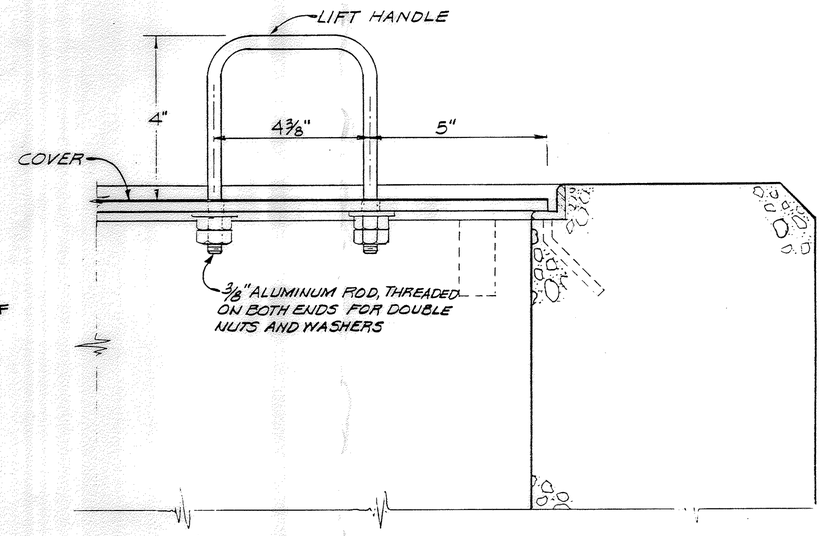
WASTEWATER TREATMENT PLANT

CALC BY / DATE	SAL-35-6.79	OHIO	73
CHKD BY / DATE		FHWA REGION 5	86

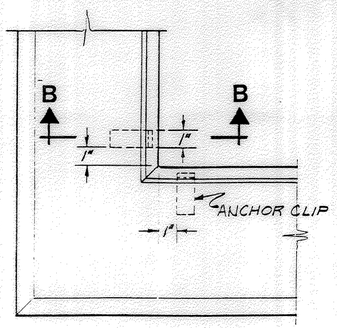


NOTE:
COVER SHALL BE CONSTRUCTED OF TYPE 6061, 3/8" PATTERN C-102, 5.6 PSF ALUMINUM DIAMOND PLATE.

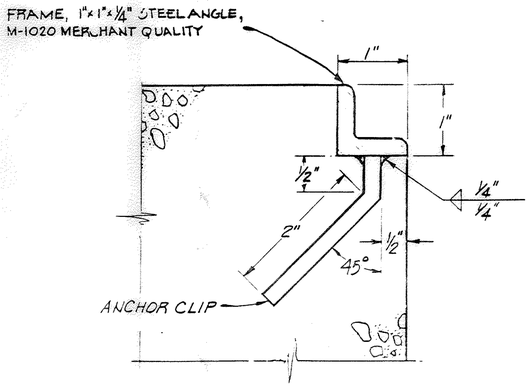
ANCHOR CLIPS, SHALL BE CONSTRUCTED OF 1/4" x 1" FLAT, COLD DRAWN STEEL C1018 COMMERCIAL GRADE. 18 REQUIRED.



SECTION A-A



DETAIL C



SECTION B-B

NOTE: ALL COMPONENTS OF THE PLANT SHALL BE AS DESCRIBED IN THE SPECIFICATIONS.

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

DATE 8/25/86 12/11/86 10/30/87

SAND FILTER
VALVE BOX DETAILS

WWTP-12

APPROVED _____ Engr. of Design Services

12/14

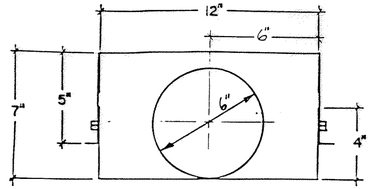
WASTEWATER TREATMENT PLANT

CALC BY / DATE	6AL-35-6.79	OHIO
CHKD BY / DATE		FHWA REGION 5

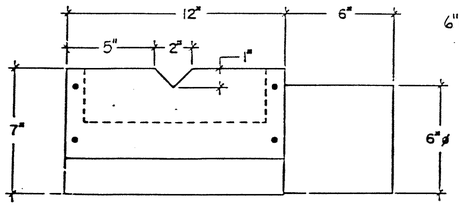
74/86

NOTE: ALL COMPONENTS OF THE PLANT SHALL BE AS DESCRIBED IN THE SPECIFICATIONS.

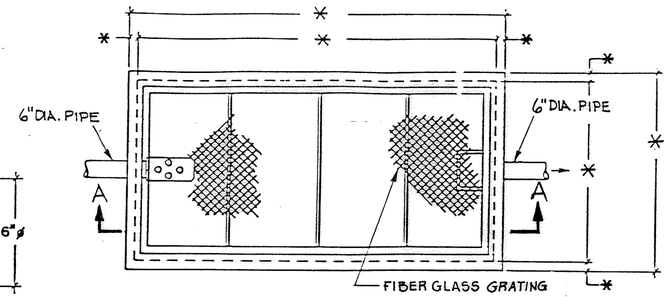
*=DIMENSION TO BE SHOWN ON MANUFACTURERS SHOP DRAWINGS. FOR TANK CAPACITIES SEE SHEET WWTP-1



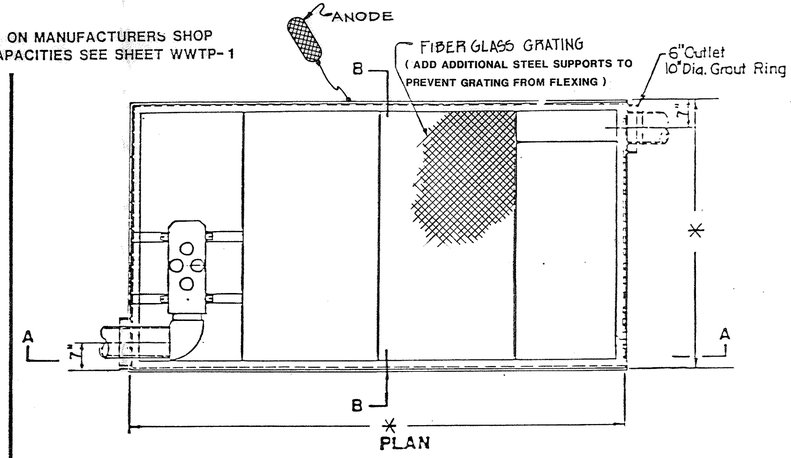
SECTION



SIDE

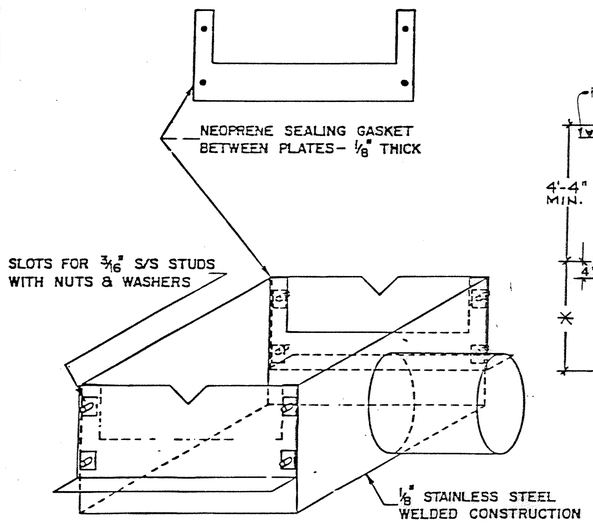


PLAN



PLAN

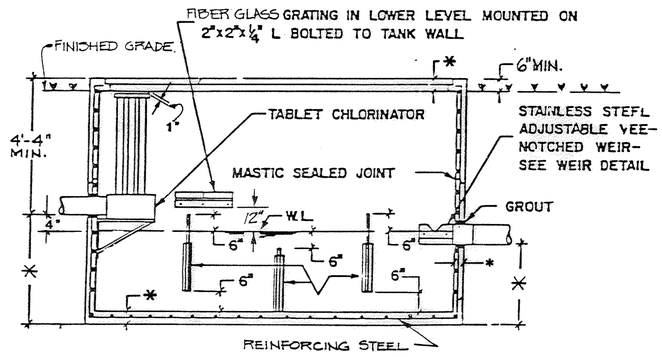
NOTE: FURNISH AND INSTALL MAGNESIUM ANODES AND ANODE TEST BOXES AS SPECIFIED.



OBLIQUE

WEIR DETAIL

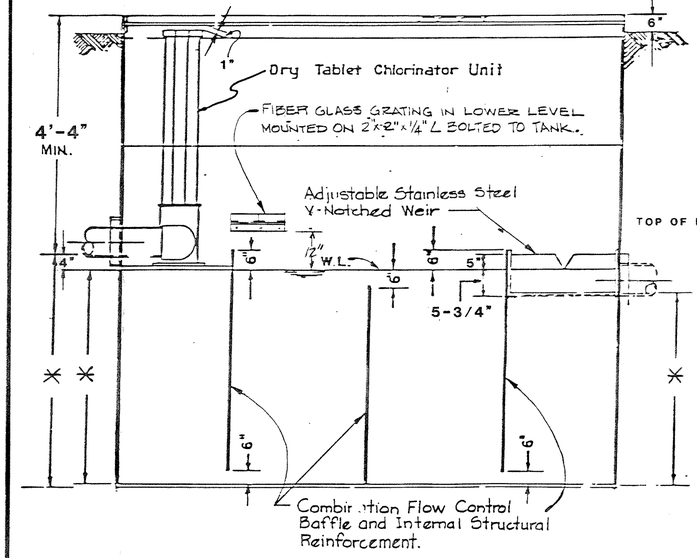
NOT TO SCALE



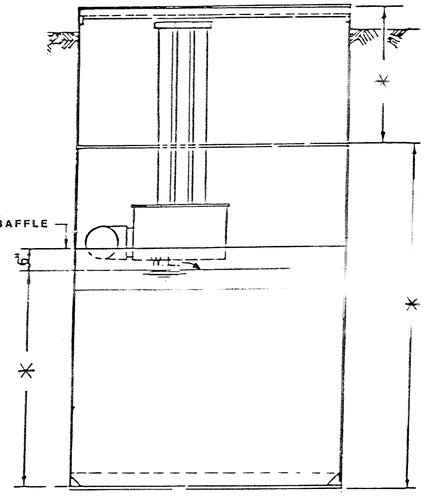
SECTION A-A

CONCRETE CHLORINE CONTACT TANK

NOT TO SCALE



SECTION A-A



SECTION B-B

STEEL CHLORINE CONTACT TANK

NOT TO SCALE

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

CHLORINE CONTACT TANKS

DATE 8/25/86, 12/11/86, ~~12/22/87~~, 11/21/88, 11/27/89

WWTP-13

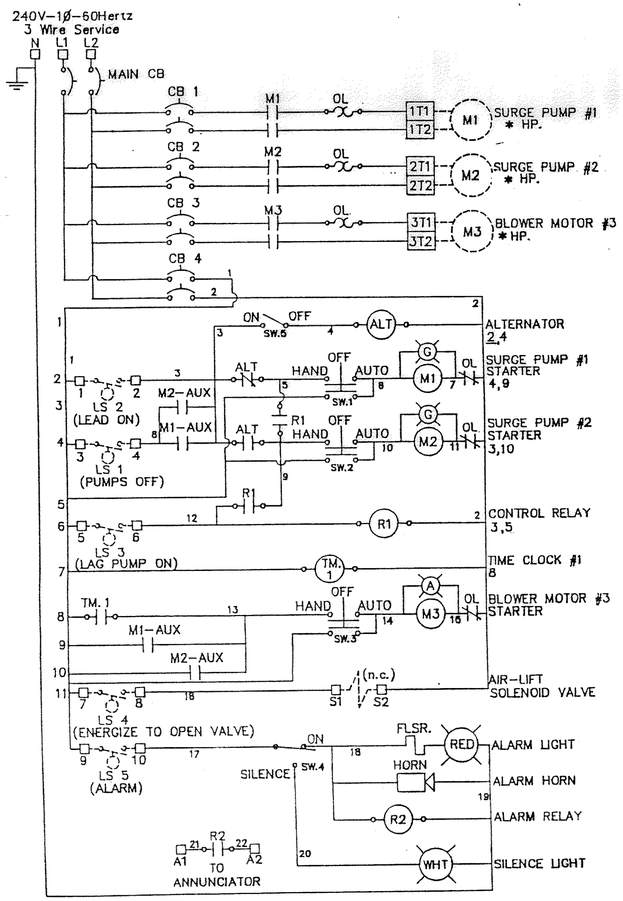
APPROVED _____ Engr. of Design Services

13/14

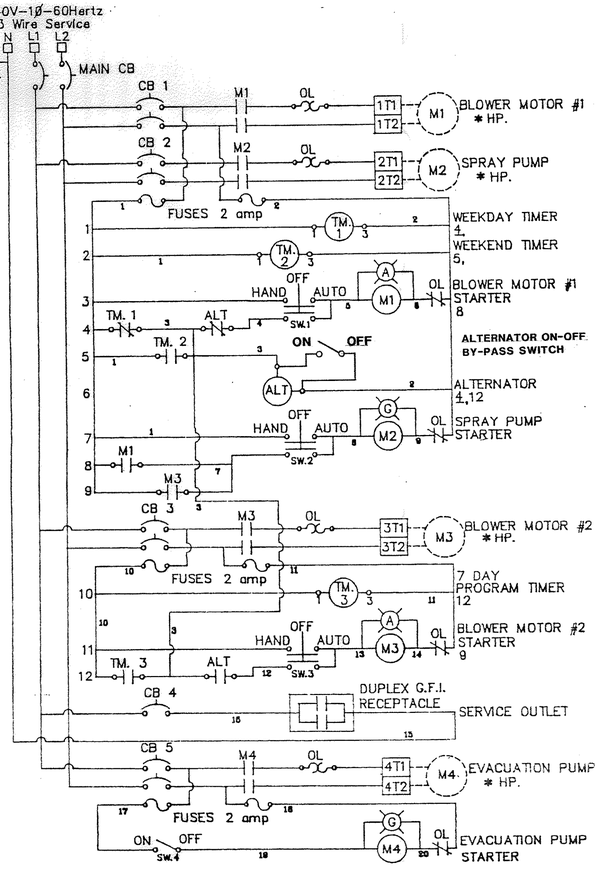
WASTEWATER TREATMENT PLANT

GAL-35-6.79

75/86

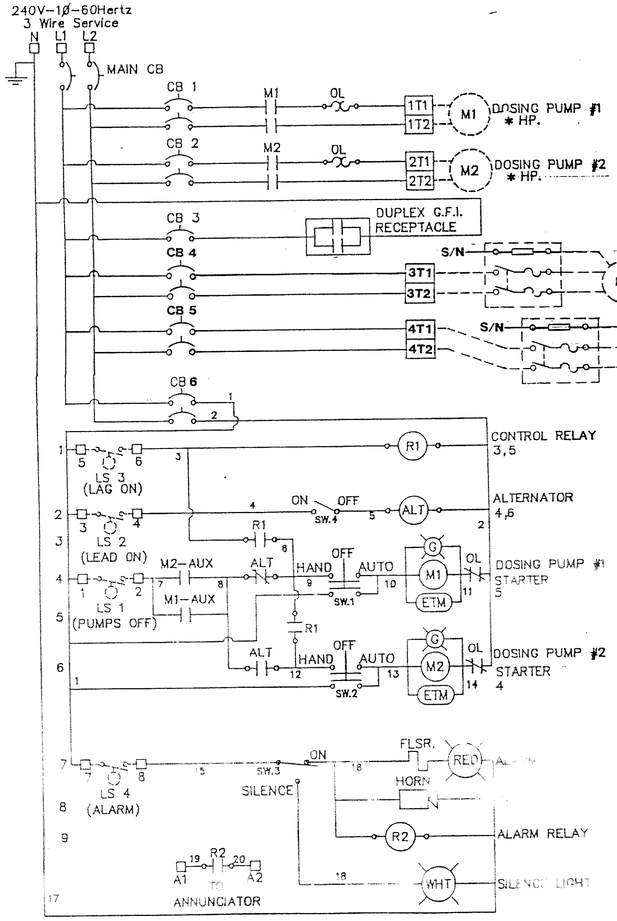


DETENTION/FLOW EQUALIZATION TANK CONTROL PANEL



MAIN BLOWER,EVACUATION AND FROTH PUMP CONTROL PANEL

* SEE SPECIFICATIONS FOR REQUIRED MOTOR HORSE POWER RATING



DOSING PUMP CONTROL PANEL

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

DATE
10/30/87
11/21/88
11/27/89

ELECTRICAL WIRING DIAGRAM

WWTP-14

APPROVED _____ ENGR. OF DESIGN SERVICES

14/14

CALC BY		EAL-345-6.79	OHIO	76/86
CHKD BY			FHWA REGION 5	
DATE				

NOTES

LIFT STATION AND VALVE BOX ASSEMBLY

SHALL INCLUDE THE FOLLOWING ITEMS:

1. 72" C-478 CONCRETE WET WELL W/REINFORCED CONCRETE FOUNDATIONS AND CAST IN PLACE SLAB.
2. REINFORCED CONCRETE VALVE PIT.
3. DUPLEX CONTROL PANEL AND CONTROL PANEL SUPPORT.
4. 3" X 3" X 1/4" ANGLE IRON GATE VALVE SUPPORT BRACKET W/ANCHOR BOLTS, NUTS AND WASHERS.
5. QUICK LIFT ASSEMBLY. (TWO (2) REQUIRED).
6. VALVE PIT CONCRETE SLOPE BUILD-UP.
7. CAST IRON REGULAR REDUCING FLANGE, SIZE 2" X 7 1/2". (TWO (2) REQUIRED).
8. CAST IRON FLANGED 4" CROSS (ONE (1) REQUIRED).
9. 4" MAKEUP D.I. PIPING FLANGE TO FLANGE, (D.I.= DUCTILE IRON).
10. CAST IRON FLANGED 4" 90 DEGREE ELBOWS (FOUR (4) REQUIRED).
11. CAST IRON FLANGED 4" X 3" CONCENTRIC REDUCER (TWO (2) REQUIRED).
12. 3" TRAP DRAIN ASSEMBLY.
13. 3/8" HIGH TEST LIFT CHAIN ASSEMBLY U.L. LISTED. (TWO (2) REQUIRED), LENGTH AS REQUIRED W/ TWO (2) LIFT CHAIN HOOK SUPPORTS.
14. FOUR INCH DUCTILE IRON FLANGED JOINT PIPE AND FITTINGS PER ANSI/AWWA C115/A21.15 AND C151/A21.51 STANDARDS FOR PIPE BARREL REQUIREMENTS. CLASS A53 AND CLASS 125 CAST IRON FLANGED FITTINGS, COMPLETE W/FULL FACED RED RUBBER GASKETS. BOLTS, NUTS PER CLASS 125 ANSI B16.1 OR ANSI/AWWA C110/A21.10 STANDARD AS REQUIRED.
15. 3" VENT PIPE.
16. WET WELL CONCRETE SLOPE BUILD-UP.
17. CAST-IN-PLACE METAL GROUT RINGS. ONE (1) FOR 6" PIPE AND FIVE (5) FOR 4" PIPE AND ONE (1) FOR 3" PIPE.
18. GROUND ROD, 1" DIAMETER AS PER CMS 625.10 AND 713.16, (ONE (1) REQUIRED).
19. 2 EA. SUBMERSIBLE SEWAGE GRINDER PUMPS AS DESCRIBED IN THE "SUBMERSIBLE PUMPS" NOTES ON THIS SHEET.
20. CLASS 125, P.S.I. IRON BODY, BRONZE MOUNTED, DOUBLE DISC, PARALLEL SEAT, FLANGED ENDS, NON-RISING STEM (NRS) W/WHEEL HANDLE. CLOW CORPORATION, FIG. NO. 5280, GATE VALVE OR APPROVED EQUAL BY CRANE, NIBCO, OR W.M. POWELL CO., (THREE (3) REQUIRED) SIZE 4" DIAMETER.
21. DOVER CORPORATION/OPW DIVISION, CAT. NO. OPW 23, SIZE 3" VENT W/40-MESH BRASS SCREEN, OR APPROVED EQUAL, (ONE (1) REQUIRED).
22. CLASS 175 P.S.I. IRON BODY, BRONZE MOUNT, HORIZONTAL SWING CHECK VALVE, FLANGED ENDS 2/OUTSIDE SPRING & LEVER, CLOW FIG. NO. 5381 OR APPROVED EQUAL BY CRANE, NIBCO OR WM. POWELL CO., (TWO (2) REQUIRED), SIZE 4" DIAMETER.
23. CAST IRON 4" CONNECTOR MJ/FLANGED, (ONE (1) REQUIRED).
24. FULL FACED RED RUBBER SHEET GASKETS, BOLTS, NUTS AND WASHERS AS REQUIRED.
25. CAST IRON BLIND FLANGE, (ONE (1) REQUIRED).
26. NEMA 4X JUNCTION BOX FOR FLOAT SENSOR CABLES. MERCURY LIQUID LEVEL SENSOR SWITCHES AND 30-FEET CORD ATTACHMENTS, (ONE (1) REQUIRED).
27. 30-FEET, 3-WIRE, POWER LEAD CABLES TO EACH SUBMERSIBLE GRINDER PUMP MOTOR.
28. 2" X 1 1/4", 125 LB. STANDARD, SCREWED, CONCENTRIC REDUCER W/2" DIAMETER X 6" LONG. THREADED AS PER ASTM A-53, SCHEDULE 40, GALVANIZED STEEL NIPPLE. (TWO (2) REQUIRED).
29. 1 1/4" GALVANIZED STEEL PIPE AS PER ASTM A-53, THREAD AND COUPLING (LENGTH AS REQUIRED).
30. 2'-6" X 4'-6" DOUBLE-LEAF, ALUMINUM CONSTRUCTED ACCESS DOORS W/TORSION BAR SPRINGS TO HOLD DOORS IN OPEN POSITION, (TWO (2) REQUIRED).

31 A. TYLER PIPE, SUBSIDIARY OF TYLER CORPORATION, CAT. NO. 5-136 CAST IRON MECHANICAL JOINT REDUCER (MJ SMALL END BELL REDUCER) SIZE 4" X 2" W/APPROPRIATE FLEXIBLE NEOPRENE GASKET FOR CONNECTION FROM 2" MJ TO 2" PVC PIPE OR APPROVED EQUAL (REQUIRED ONLY WHEN 2" FORED MAIN IS SPECIFIED). IF 3" PVC RING-TITE PIPE IS SPECIFIED, ONE (1) MECHANICAL JOINT CAST IRON CONCENTRIC REDUCER, SIZE 4" X 3" (4" P.E. X 3" M.J.) CLOW CAT. NO. F-965 OR APPROVED EQUAL SHALL BE USED IN LIEU OF THE ABOVE AND FURNISHED W/TRANSITION GASKETS FOR THE PVC CONNECTORS.

31 B. WHEN THE FORCED MAIN IS SPECIFIED TO BE 4-INCH CLASS 200 PVC RING-TITE PIPE, OMIT ITEMS NOTED IN ITEM 31 A ABOVE AND, IN LIEU OF SUCH, FURNISH AND INSTALL ONE (1) TYLER PIPE, SUBSIDIARY OF TYLER CORPORATION, CAT. NO. 5-160 MJXPE (MECHANICAL JOINT X PLAIN END) 4" DIA. SIZE X 16-INCHES LONG CAST IRON ADAPTER FITTING, MEETING ANSI A21.10 (AWWA C110-77), ANSI A21.11 (AWWA C111-72) AND FED. SPEC. WW-P-421c, COMPLETE WITH GLAND, FLEXIBLE GASKET, BOLTS AND NUTS. APPROVED EQUALS SHALL BE AS MANUFACTURED BY CLOW CORPORATION, U.S. PIPE AND FOUNDRY CO., OR AMERICAN CAST IRON PIPE CO.

32. EXCAVATION FOR LIFT STATION WET WELL AND VALVE PIT SHALL CONFORM TO CMS 503, DISPOSAL OF EXCAVATED MATERIAL SHALL CONFORM TO CMS 203.05, AGGREGATE BACKFILL SHALL CONFORM TO CMS 703.05, OMITTING THE USE OF AIR-COOLED SLAG. SIEVE SIZE SHALL BE 3/8", 100% PASSING. FOREIGN MATTER SUCH AS ROCK, CINDERS, LUMBER, ETC. SHALL NOT BE ALLOWED IN BACKFILL. EXCAVATION AND BACKFILL FOR SEWER LINES SHALL CONFORM TO CMS 603 W/CLASS B BEDDING.
33. LIFT STATION WET WELL AND VALVE PIT SHALL BE CLEANED AND THE WET WELL FILLED WITH NECESSARY WATER AS SOON AS POSSIBLE TO PREVENT FLOTATION. WET WELL MUST REMAIN PROPERLY FILLED AT ALL TIMES TO PREVENT FLOATATION. LIFT STATION SHALL BE CHECKED FOR LEAKS AND REPAIRS MADE TO THE SATISFACTION AND APPROVAL OF THE ENGINEER. PRIOR TO FINAL ACCEPTANCE AND APPROVAL OF THE LIFT STATION WET WELL AND VALVE PIT INSTALLATION, WET WELL SHOULD BE PUMPED OUT AND CLEANING AND WATER FILLING REPEATED TO ENABLE FURTHER TESTING PROCEDURES THAT SHALL BE PERFORMED AND APPROVED BEFORE FINAL ACCEPTANCE. THIS SHALL BE CONDUCTED WHEN DIRECTED BY THE ENGINEER.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR LIFT STATION AND VALVE BOX ASSEMBLY. PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY FOR EACH ITEM FURNISHED IN PLACE AND ALL CONNECTIONS COMPLETE AND ACCEPTED.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON DISTRICT SURVEY DATUM.

PERMITS

THE OHIO DEPARTMENT OF TRANSPORTATION SHALL OBTAIN THE FOLLOWING PERMITS:

1. PERMIT TO CONSTRUCT - OHIO ENVIRONMENTAL PROTECTION AGENCY, WATER AND WASTEWATER UNITS.

ALL OTHER PERMITS SHALL BE OBTAINED AND PAID FOR BY THE CONTRACTOR.

GUARANTEES AND WARRANTIES

THE FOLLOWING GUARANTEES AND/OR WARRANTIES SHALL BE REQUIRED FOR THE LIFT STATION AND VALVE BOX ASSEMBLY.

MANUFACTURER'S WARRANTIES OR GUARANTEES ON ALL ELECTRICAL AND MECHANICAL EQUIPMENT AS WELL AS STRUCTURES CONSISTENT WITH THOSE PROVIDED AS CUSTOMARY TRADE PRACTICE.

CONTRACTOR'S WARRANTIES OR GUARANTEES PROVIDING FOR SATISFACTORY IN SERVICE OPERATION OF THE MECHANICAL AND ELECTRICAL EQUIPMENT AND RELATED COMPONENTS FOR A PERIOD NOT TO EXCEED TWELVE (12) MONTHS FOLLOWING PROJECT ACCEPTANCE.

THE OHIO ADMINISTRATIVE CODE (OAC) FOR BUILDING APPROVAL COMPLIANCE

ALL ELECTRICAL WORK WILL CONFORM TO THE REQUIREMENTS OF ARTICLE 20 (OAC 4101:2-27) AND NEC, NFPA STANDARD NO. 70 AND IS SUBJECT TO THE APPROVAL OF THE DISTRICT ELECTRICAL INSPECTOR ASSIGNED BY THE DIVISION OF FACTORY AND BUILDING INSPECTION.

SHOP DRAWINGS

THE CONTRACTOR SHALL SUBMIT FOR APPROVAL, PRIOR TO INSTALLATION, 7 SETS OF SHOP DRAWINGS, WIRING DIAGRAMS AND DESCRIPTIVE LITERATURE OF ALL EQUIPMENT AND THEIR COMPONENT PARTS WHICH CONSTITUTE THE MAKE-UP OF AN EQUIPMENT UNIT. THIS SHALL INCLUDE ITEMS SUCH AS INDIVIDUAL MOTORS, CONTROLS, PUMPS, BLOWERS AND/OR ELECTRICAL ENCLOSURES OR HOUSINGS OR ELECTRICAL SAFETY DEVICES CONSTITUTING AN INDIVIDUAL PIECE OF EQUIPMENT SOLD AS A PACKAGE UNIT. PUMP CURVES SHALL ALSO BE INCLUDED.

THE ELECTRICAL WIRING DIAGRAM SHALL BE SUBMITTED IN THE FOLLOWING MANNER:

1. ONE (1) DRAWING SHALL BE PRESENTED IN THE FORM ACTUAL "WIRING DIAGRAM" WHICH SHALL INCLUDE ALL OF THE DEVICES IN THE SYSTEM AND SHOW THEIR PHYSICAL RELATIONSHIP TO EACH OTHER. ALL POLES, TERMINALS, COILS, ETC., SHALL BE SHOWN IN THE PROPER PLACES ON EACH DEVICE.
2. THE DRAWING DESCRIBED ABOVE SHALL BE SUPPLEMENTED BY THE ADDITION OF ONE (1) "LINE DIAGRAM", SOMETIMES REFERRED TO AS A "SCHEMATIC DIAGRAM", WHICH IS A REPRESENTATIVE OF THE SYSTEM SHOWING EVERYTHING IN THE SIMPLEST FORM. ALL CONTROL DEVICES ARE SHOWN BETWEEN VERTICAL LINES WHICH REPRESENT THE SOURCE OF CONTROL POWER AND CIRCUITS ARE SHOWN CONNECTED AS DIRECTLY AS POSSIBLE FROM ONE OF THESE LINES TO THE OTHER. THIS SHALL SHOWN THE EFFECT THAT OPENS AND CLOSES VARIOUS CONTACTS OR DEVICES IN THE CIRCUIT.
3. A COPY OF EACH OF THE ABOVE APPROVED DRAWINGS SHALL BE PLACED IN THE CONTROL PANEL OF EACH INDIVIDUAL SYSTEM REQUIRED OR SHOWN ON THE DRAWINGS FOR READY REFERENCE FOR MAINTENANCE. THIS SHALL BE IN ADDITION TO THE OPERATION MANUALS WHICH SHALL ALSO INCLUDE THE ABOVE SPECIFIED DRAWINGS.

MANUFACTURER'S SHOP DRAWINGS

THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL, SEVEN (7) COPIES OF MANUFACTURER'S DRAWINGS AND/OR DATA FOR ALL PRECAST CONCRETE STRUCTURAL WORK REQUIRED AND FOR ALL PURCHASED UNITS REQUIRED TO COMPLETE INSTALLATION OF THE WORK, INCLUDING PIPE, CONDUIT, WIRING, ETC..

THE CONTRACTOR SHALL CHECK ALL MANUFACTURER'S DRAWINGS FOR CONFORMANCE TO THE PLANS AND SPECIFICATIONS AND SHALL INDICATE HIS APPROVAL OF THE DRAWINGS BEFORE FORWARDING THEM TO THE ENGINEER. THE ENGINEER WILL NOT CONSIDER ANY MANUFACTURER'S DRAWINGS OR SCHEDULES SUFFICIENT TO RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS OR OMISSIONS IN MANUFACTURER'S DRAWINGS OR SCHEDULES OR DEVIATIONS FROM THE PLANS AND SPECIFICATIONS.

AFTER THE CONTRACTOR RECEIVES CORRECTED APPROVED SHOP DRAWINGS AND MANUFACTURER'S SHOP DRAWINGS HE SHALL SUBMIT TO THE ENGINEER (13) COPIES OF APPROVED DRAWINGS AND DATA. THE ENGINEER WILL RETAIN FOUR (4) COPIES OF THE DRAWINGS SUBMITTED FOR APPROVAL AND NINE (9) COPIES OF THE APPROVED DRAWINGS.

SUBMERSIBLE PUMPS

THE CONTRACTOR SHALL FURNISH AND INSTALL TWO (2) ABS PUMPS, INC., PIRANNA GRINDER, VERTICAL GUIDE RAIL SYSTEM MOUNT WITH INTEGRAL REMOVEABLE CHECK VALVES PER EACH PUMP, DESIGNED FOR THE FOLLOWING CAPACITIES:

LIFT STATION "A"	"B"	
3	5	MODEL NO. OF SUBMERSIBLE SEWAGE PUMPS
3	5	H.P.
(*) 20	(*) 100	FOOT TOTAL DYNAMIC HEAD
99	167	T.D.H., PUMP SHUT OFF HEAD
83	83	MAX. U.S. GPM @ (*) FOOT T.D.H.

OR APPROVED EQUAL AS MANUFACTURED BY GORMAN - RUPP COMPANY OR FLYGT CORPORATION.

EACH PUMP SHALL HAVE A U.L. LISTED, HERMETICALLY SEALED SUBMERSIBLE TYPE, ELECTRIC MOTOR OF 3450 R.P.M. FOR OPERATION ON 3-WIRE, 230 VOLT, SINGLE PHASE, 60 HERTZ POWER DESIGNED TO CLASS F, INSULATION AND MOTOR SHALL BE AIR-FILLED SPECIFICATIONS FOR GENERAL USE IN PUMPING WATER AND SEWAGE. THE MOTOR NAME PLATE HORSE-POWER RATING SHALL NOT BE EXCEEDED BY THE BRAKE HORSEPOWER REQUIREMENT OF THE PUMP FOR THE DESIGN CONDITION OF SERVICE SPECIFIED AND FOR THE IMPELLER DIAMETER FURNISHED. THE MOTOR SHAFT SHALL BE 420 STAINLESS STEEL, IMPERVIOUS TO THE LIQUID AND WASTE MATTER WHICH IS BEING PUMPED. THERMAL OVERLOAD PROTECTION AND A MOISTURE DETECTION SYSTEM SHALL BE BUILT INTO THE MOTOR. BIMETALLIC THERMAL SWITCHES SHALL BE EMBEDDED IN EACH PHASE OF WINDING TO SENSE HIGH TEMPERATURES. TWO MECHANICAL SEALS SHALL BE USED TO CONTAIN THE OIL IN THE PROBE AND DETECTION CHAMBER. TWO PROBES SHALL BE SUPPLIED IN THIS CHAMBER FOR MOISTURE DETECTION. THE MECHANICAL SEALS SHALL HAVE CARBON AND CERAMIC MATING FACES, STAINLESS STEEL METAL PARTS AND BUNA N ELASTOMERS.

THIRTY FEET OF U.L. APPROVED, EXTRA HARD USAGE, MULTI-CONDUCTOR CABLE WITH GROUND WIRE SHALL BE SUPPLIED WITH THE MOTOR. (NEC CODE 501-11) FURNISH W/STRAIN RELIEF POSITIVE CABLE CLAMP.

LIFTING EYES SHALL BE CAST INTO THE MOTOR HOUSING ADEQUATELY DESIGNED TO LIFT THE PUMP-MOTOR ASSEMBLY. THE PUMP SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM A48-64, CLASS 30, WHICH SHALL INCLUDE CAST IRON FOR INTEGRAL SUPPORT LEGS, PUMP, CASING AND IMPELLER. ALL PIPE FLANGES SHALL BE FACED AND TO THE THICKNESS REQUIRED FOR COMPLIANCE WITH 125 LB. AMERICAN STANDARD. BOLT SLOTS ARE ACCEPTABLE IN LIEU OF DRILLED HOLES.

THE PUMP CASING SHALL BE OF THE VOLUTE TYPE AND MADE OF CAST IRON. THE CASING SHALL BE OF ONE PIECE CONSTRUCTION AND OF CENTER LINE DISCHARGE DESIGN TO MINIMIZE CLOGGING OR FLOW INTERFERENCE. THE EXTERIOR SHALL BE FACTORY FINISH. ALL FASTENERS SHALL BE 304 STAINLESS STEEL.

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NOTES

THE BRONZE IMPELLER SHALL BE CAST IN ONE PIECE AND DIRECTLY MOUNTED TO A ONE PIECE STAINLESS STEEL PUMP-MOT SHAFT. IT SHALL NOT REQUIRE SEPARATE PUMP SHAFT OR OR COUPLING. EACH IMPELLER SHALL BE A MULTIPLE VANE CENTRIFUGAL TYPE. THE CUTTER MATERIAL SHALL BE SIMILAR TO AN ANSI 440C STAINLESS STEEL W/THE ADDITION OF COBALT, VANADIUM AND MOLYBDENUM FOR SUPERIOR ABRASION RESISTENCE AND A HARDNESS OF 58-62 ROCKWELL C 420. IMPELLER SHALL PASS A SHEARED, REDUCED FINE SLURRY OF ALL WASTE MATERIALS ENTERING PUMPS AND CAPABLE OF FREELY PASSING THROUGH A 1 1/4" PIPING SYSTEM INTO A 4" FORCED MAIN TO PREVENT CLOGGING.

THE IMPELLER HUB SHALL BE PROVIDED WITH A KEYWAY AND KEY AND WILL BE LOCKED TO THE PUMP SHAFT AND MAINTAINED IN THIS POSITION BY A WASHER AND SELF-LOCKING IMPELLER SCREW OR NUT. IMPELLER DIAMETER SHALL BE 177 - MILLIMETERS OR 6.97 - INCHES.

BEARINGS SHALL BE IN ACCORDANCE WITH ELECTRIC MOTOR SPECIFICATION B-10 LIFT OF 15,000 HOURS. THE BOTTOM BEARING IS TO BE A LOCKED SHELF, HIGH THRUST, ANTI-FRICTION BEARING WHICH PREVENTS SHAFT MOVEMENT.

QUICK LIFT ASSEMBLY

THE CONTRACTOR SHALL FURNISH TWO SLIDE RAIL ASSEMBLIES TO GUIDE SUBMERSIBLE PUMPS FROM UPPER LEVEL TO ITS OPERATIONAL LOCATION IN THE SUMP BASIN, PER ABS GUILD RAIL SYSTEM OR EQUIVALENT. ALL SLIDE MECHANISMS TO LINK UP THE PUMP WITH THE BASE ELBOW, MOUNTING OR RAILS, ETC. SHALL BE INCLUDED AND SHALL BE U.L. LISTED EQUIPMENT. PUMP SHALL BE FURNISHED W/BALL CHECKS PER ABS PUMP CO. SPECIFICATIONS OR APPROVED EQUAL.

DUPLEX SUBMERSIBLE PUMP CONTROL PANEL

THE CONTRACTOR SHALL FURNISH AND INSTALL A 36" X 30" X 8" FREE STANDING MOUNTING DEAD FRONT CONTROL PANEL ENCLOSURE. FABRICATED OF 14 GAUGE, TYPE 304 STAINLESS STEEL WITH FULLY GASKETED HINGED DOOR AND STAINLESS STEEL LOCKABLE DOOR HANDLE. THE PANEL SHALL BE WEATHER-PROOF AND CONFORM TO NEMA 4 X STAINLESS STEEL CONSTRUCTION MAIN DISCONNECT SWITCH. ENCLOSURE SHALL BE FURNISHED W/MAIN DISCONNECT HANDLE MECHANISM, VARIED DEPTH TYPE W/ACCESSORIES TO MEET NEMA 4 REQUIREMENTS W/EB THERMAL MAGNETIC MOLDED CASE CIRCUIT BREAKER, 2-POLE, 240 VOLT A.C., AMP. SIZE AS SHOWN ON PLANS. HANDLE PARTS MECHANISM SHALL BE WESTINGHOUSE CAT. NO. 373D958G22, 47A4446636 AND 504C323G04 OR APPROVED EQUAL BY ITT, SQUARE D OR GENERAL ELECTRIC; W/HOFFMAN TYPE L24 QUICK-RELEASE LATCHES APPROVED FOR NEMA 4 ENCLOSURES. THE CONTROLS WILL BE MOUNTED TO A REMOVABLE SUBPANEL, WIRED AND SPACED IN ACCORDANCE WITH NATIONAL ELECTRIC CODE. EACH PUMP WILL BE SUPPLIED WITH A PROPERLY SIZED MAGNETIC TYPE CIRCUIT BREAKER TO PROVIDE SHORT CIRCUIT PROTECTION AND ACT AS A MAIN DISCONNECT FOR EACH PUMP. MAGNETIC ACROSS-THE-LINE STARTER TO PROVIDE UNDER VOLTAGE RELEASE AND THERMAL OVERLOAD RELAYS IN ALL THREE PHASES TO INSURE COMPLETE SINGLE PHASE PROTECTION. CONTROLS SHALL INCLUDE CONTACTS FOR FOUR LEVEL SENSORS, AN ALTERNATOR RELAY, TWO GREEN RUNNING LIGHTS AND TWO HAND-OFF-AUTO SELECTOR SWITCHES. ALL CONTROLS EXCEPT THE LEVEL SENSORS ARE TO BE MOUNTED INSIDE THE CONTROL CABINET UNLESS SHOWN OTHERWISE.

AN AUTOMATIC ALTERNATOR IS TO PROVIDE OPERATIONAL SEQUENCE OF LEAD AND LAG PUMPS TO EQUALIZE WEAR AND USAGE OF THE PUMPS.

CONTROL CENTER ENCLOSURE SHALL BE FACTORY WIRED AND TESTED FOR 115 / 230 VOLTS, SINGLE PHASE, 60 HERTZ, 3 WIRE POWER SUPPLY. A 120 VOLT CONTROL CIRCUIT WITH 1-POLE, 20 AMP. BREAKER, ALSO CONTROL RELAY AND CONTACTS FOR HIGH WATER ALARM TO REMOTE ALARM IN BUILDING, DISCONNECT AND OVERLOAD PROTECTION SHALL BE INCLUDED. ALL ITEMS SHALL BE WIRED TO TERMINAL STRIPS FOR CONNECTION TO EXTERNAL WIRING. CONTROL PANEL SHALL CONFORM TO ENCLOSED DRAWING OF "SUBMERSIBLE DUPLEX PUMP LIFT STATION CONTROL PANEL" WIRING DETAIL PUMP CONTROL CENTER OR EQUIVALENT FABRICATED BY OHIO ELECTRIC CONTROL, INC., 1661 CLEVELAND ROAD, ASHLAND, OHIO 44805.; GORMAN-RUPP COMPANY; OR FLYGT CORP..

IN ADDITION TO THE CONTROL CENTER, THE FOLLOWING OPTIONS SHALL BE INCLUDED: CONTROL RELAY WITH HIGH WATER ALARM, ALARM HORN, RED ALARM (FLASHING) AND WHITE SILENT LIGHT SILENCING SWITCH; UTILITY LIGHT OUTLET FOR USE OF TROUBLE LIGHT AND SMALL MAINTENANCE TOOLS W/GROUND FAULT 2-POLE, 3 WIRE GROUND, 20 AMP., 125 VOLT A.C., HOSPITAL GRADE DUPLEX G.F.I.C. RECEPTACLE PROTECTION; FLOAT SWITCH TEST PUSH-BUTTONS; AUXILIARY CONTACTS WIRED TO TERMINAL BLOCKS; LIGHTNING ARRESTOR, MAIN DISCONNECT SWITCH ON INCOMING LINES; 120 VOLT CONTROL WIRING FOR SAFE PANELS; AUDIBLE ALARM AND SILENT SWITCH AND GROUND ROD (1" DIAMETER) AS PER 625.10 (713.16).

LEVEL SENSORS

FOUR MERCURY LIQUID LEVEL SENSORS SHALL BE FURNISHED AND INSTALLED. THEY SHALL BE SHOCK RESISTANT, MERCURY SWITCH, SEALED IN A VINYL BALL AND SHALL EACH HAVE THE DESIGNED LENGTH PLUS AN ADDITIONAL 15 FEET OF CORD ATTACHED. THE MERCURY SWITCH LEVEL CONTROL SHALL SENSE THE LIQUID LEVEL AND PROVIDE THE SIGNAL TO THE CONTROL PANEL.

THREE SWITCHES ARE REQUIRED FOR NORMAL OPERATION OF A DUPLEX PUMP INSTALLATION, PROVIDING THE FOLLOWING SIGNAL: ONE SHALL STOP ALL PUMPS, THE SECOND STARTS THE LEAD PUMP AND THE THIRD OPERATES THE LAG PUMP. ONE ADDITIONAL SWITCH SHALL PROVIDE A SIGNAL FOR HIGH WATER ALARM. FURNISH AND INSTALL A NEMA 3X JUNCTION BOX FOR FLOAT CABLES PER ABS PUMPS, INC. OR APPROVED EQUAL. EACH BRACKET SHALL PROVIDE HANGING POSITIONS FOR FOUR SENSORS.

ELAPSE TIME METER AND MOISTURE DETECTOR

EACH DUPLEX SUBMERSIBLE PUMP WILL BE EQUIPPED WITH A METER WHICH TOTALS ITS OPERATIONAL TIME IN HOURS, 115 VOLTS, 60 HERTZ, MAXIMUM READING 99999.9 HOURS, NON-RESET, 8" WIRE LEAD TERMINALS, WITH DUST COVER EQUAL TO GRAINGER'S (CRAMER MFR'S MODEL 635G), ENGLER INSTRUMENTS 200 SERIES, CAT. NO. AC200 190 N-L27, CRAMER MODEL NO. 635K OR APPROVED EQUAL.

EACH DUPLEX SUBMERSIBLE PUMP WILL BE EQUIPPED WITH A MOISTURE DETECTOR ALARM LIGHT AND SHUTDOWN. EACH MOTOR SHALL BE EQUIPPED WITH TWO SEALS AND AN OIL CHAMBER BETWEEN THEM IF WATER GETS PAST THE LOWER SEAL, IT WILL ACTUATE THE MOISTURE PROBE AND ALARM LIGHT.

72" PRECAST REINFORCED CONCRETE PIPE WET WELL

THE 72" PRE-CAST CONCRETE CONDUIT FOR THE LIFT STATION WASTEWATER RECEIVER SHALL CONFORM TO REINFORCED CONCRETE CIRCULAR PIPE ASTM C-478 WITH RESILIENT AND FLEXIBLE GASKET JOINTS FOR CONCRETE PIPE ASTM C-443-LATEST ADDITION. WALLS SHALL BE SEVEN INCHES (7") THICK.

VOIDS AND JOINTS

ALL VOIDS AND JOINTS IN THE 72" PRE-CAST REINFORCED CONCRETE WET WELL AND VALVE BOX SHALL BE SEALED WITH A NON-SHRINK, NON-METALLIC GROUT OR MORTAR.

ACCESS DOORS

LIFT STATION AND VALVE BOX ACCESS DOORS ARE TO BE DOUBLE DOOR, ALUMINUM CONSTRUCTION. THEY ARE TO BE EQUIPPED WITH CONCRETE ANCHORS FOR SETTING IN CONCRETE AND TORSION BAR SPRINGS TO HOLD THE DOORS IN THE OPEN POSITION WHILE WORK IS BEING PERFORMED AND SHALL BE DOUBLE-LEAFED.

OUTSIDE ENTRANCE SHALL BE OBTAINED WITH A REMOVABLE KEY WRENCH. A HANDLE SHALL BE PROVIDED INSIDE THE ACCESS DOORS TO PERMIT OPENING THE DOOR FROM THE INSIDE. DOORS SHALL BE ALUMINUM CHECKERED PLATE 2'-6" X 4'-6" IN SIZE (OVER-ALL SIZE), 2'-6" X 2'-3" EACH. DOORS AS MANUFACTURED BY "BILCO", "ABS" OR APPROVED EQUAL MAY BE SUBMITTED FOR APPROVAL.

THE ACCESS DOORS SHALL BE CONSTRUCTED INTEGRALLY WITH THE LIFT STATION PRE-CAST COVER SLAB AND THE VALVE BOX COVER SLAB.

ELECTRICAL CIRCUITS SHALL BE JOINTED TO THE MANHOLE WITH A GASKETED FLEXIBLE WATERTIGHT CONNECTION ON A WATERTIGHT RESILIENT CONNECTOR CONFORMING TO ASTM C-923 OR SEALED WITH A NON-SHRINK NON-METALLIC GROUT.

ELECTRICAL ITEMS

THE POWER CONTROL PANEL SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AS SHOWN ON THE PLANS.

POWER SERVICE TO THE DUPLEX CONTROL PANEL SHALL BE SUPPLIED FROM THE MOTORIST SERVICES BUILDING WHICH SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AS PER SECTION 625 OF THE SPECIFICATIONS.

THE CONTRACTOR SHALL CONNECT THE POWER SERVICE TO THE INPUT SIDE OF THE CONTROL PANEL AND CONNECT THE VARIOUS PANEL LEADS TO THE PUMPS AND LEVEL CONTROLS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND AT THE DIRECTION OF THE ENGINEER. CONTRACTOR SHALL ALSO INSTALL AND MAKE CONNECTION TO THE GROUND ROD AS REQUIRED.

GROUND ROD

THE EQUIPMENT GROUND ROD SHALL BE FURNISHED AND INSTALLED AND TESTED AS PER CONSTRUCTION AND MATERIAL SPECIFICATIONS, ITEM 625.10 AND 713.16 AND SHALL ALSO COMPLY TO THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC). THE EQUIPMENT INTENDED BEING THE LIFT STATION CONTROL PANEL AND ALL RELATED COMPONENTS.

IDENTIFICATION

THE CONTRACTOR SHALL PROVIDE LAMINATED NAMEPLATES FOR ALL DISCONNECT SWITCHES, PANELS, MOTOR STARTERS, CONTACTORS, CABINET TRANSFORMERS AND SIMILAR ITEMS OF EQUIPMENT STATING THE PURPOSE OF EACH SWITCH SIZE AND TRANSFORMER. DESIGNATION OF EACH CONTROL UNIT, CONTACTOR, ETC., PLATES SHALL BE LAMINATED PHENOLIC WITH WHITE CORE AND BLACK SURFACE, 1/16" THICK FOR SIZE UP TO 2" X 4" AND 1/8" THICK FOR LARGER SIZES. ENGRAVED LETTERING SHALL BE CONDENSED GOTHIC 1/4" LETTERS AT FOUR LETTERS PER INCH, WITH 3/4" HIGH LETTERS ON THE LARGEST PLATES. PLATES SHALL BE SECURED TO EQUIPMENT WITH BRASS SCREWS AND NUTS. PANEL SCHEDULES SHALL BE TYPEWRITTEN.

PADLOCKS

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL PADLOCKS REQUIRED FOR ACCESS DOORS AND CONTROL PANELS. PADLOCKS SHALL BE MASTER LOCK NO. 4 BKA, W/BRASS SHACKLES, KEYED-ALIKE AND FURNISHED WITH 10 KEYS. WILSON BOHANNON 660 OR APPROVED EQUAL, SUBJECT TO THE ENGINEER'S APPROVAL.

HYDROSTATIC TESTING

IN LIEU OF THE HYDRAULIC (WATER), TEST AS IN 603.06 OF THE CONSTRUCTION AND MATERIALS SPECIFICATION AN AIR PRESSURE TEST SHALL BE PERFORMED BY THE CONTRACTOR. THE AIR PRESSURE TEST OF THE PIPE JOINTS SHALL BE MADE AFTER THE COMPLETION OF THE SEWER.

ALL JOINTS SHALL BE FREE AND CLEAR OF ANY BACKFILL TO ALLOW FOR INSPECTION.

THE AIR PRESSURE TEST FOR LEAKAGE SHALL BE PERFORMED ON ALL SANITARY SEWER LINES WHICH SHALL INCLUDE THE 6" SEWER PIPE GRAVITY SECTION AND THE 4" SEWER PIPE FORCED MAIN SECTION OF THE SYSTEM. THE AIR PRESSURE TEST SHALL MEET THE REQUIREMENTS OF THE ENVIRONMENTAL PROTECTION AGENCY AND THE APPROPRIATE COUNTY SANITARY DISTRICT.

SHOULD ANY SECTION OF THE SEWER LINE FAIL TO MEET THE TEST REQUIREMENTS, CORRECTIONS SHALL BE MADE UNTIL THE TEST REQUIREMENTS FOR THE SECTION ARE MET.

THE ENVIRONMENTAL PROTECTION AGENCY AND THE APPROPRIATE SANITARY DISTRICT SHALL BE NOTIFIED BY O.D.O.T. A MINIMUM OF 48 HOURS PRIOR TO PERFORMING ANY AIR TESTS.

THE COST OF ALL MATERIALS, EQUIPMENT, LABOR AND INCIDENTALS NECESSARY FOR PERFORMING THE TESTS AND MAKING ANY NECESSARY CORRECTIONS AND REPLACEMENTS SHALL BE INCLUDED IN THE PRICE BID FOR THE PERTINENT SEWER LINE.

FIELD SERVICE

AT THE TIME THE LIFT STATION IS FILLED WITH WATER BY THE CONTRACTOR, POWER CONNECTIONS ARE COMPLETED AND ALL EQUIPMENT IS APPROVED FOR SERVICE. THE CONTRACTOR SHALL PROVIDE THE SERVICES OF A MANUFACTURER'S REPRESENTATIVE WHO SHALL INSTRUCT THE STATE'S REPRESENTATIVES IN THE PROPER START-UP, MAINTENANCE AND OPERATION OF THE LIFT STATION, INCLUDING INSTRUCTIONS IN CONDUCTING ALL REQUIRED OPERATIONAL TESTS. THE MANUFACTURER'S REPRESENTATIVE SHALL TURN OVER TO THE STATE'S REPRESENTATIVES, AT THAT TIME, EIGHT (8) SETS OF SERVICE MANUALS OUTLINING IN DETAIL ALL OPERATIONAL INSTRUCTIONS AND PROCEDURES. THE MANUFACTURER'S REPRESENTATIVE SHALL ALSO MAKE INSPECTIONS EVERY OTHER MONTH AND PROVIDE REPORTS TO THE DISTRICT DEPUTY DIRECTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE OHIO DEPARTMENT OF HEALTH AND OHIO DEPARTMENT OF TRANSPORTATION FOR A PERIOD OF ONE (1) YEAR. AN ADDITIONAL COPY OF EACH REPORT SHALL BE FORWARDED TO BUREAU OF DESIGN SERVICES, 25 SOUTH FRONT STREET, COLUMBUS, OHIO, 43215.

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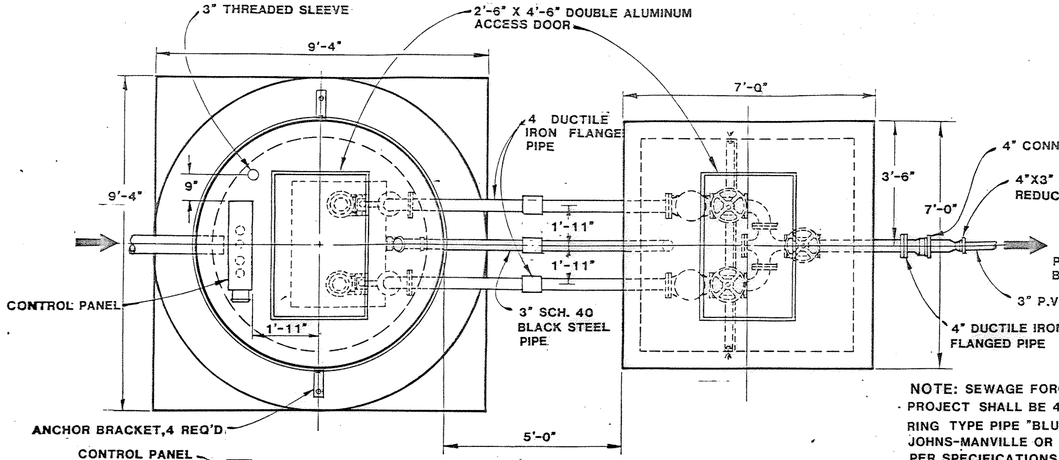
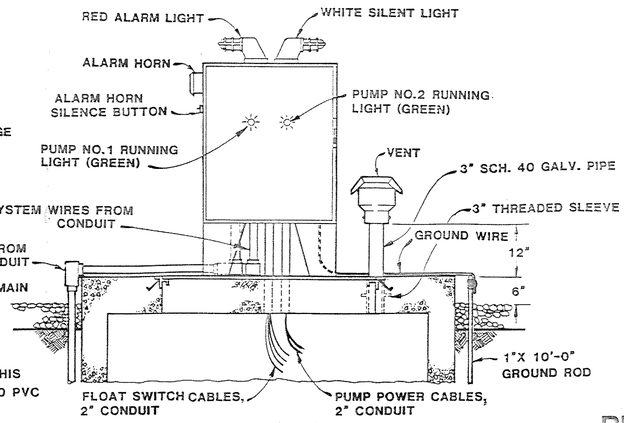
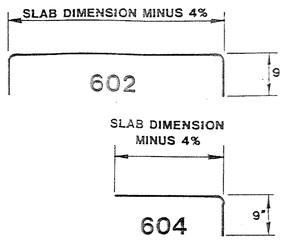
LIFT STATION: A & B



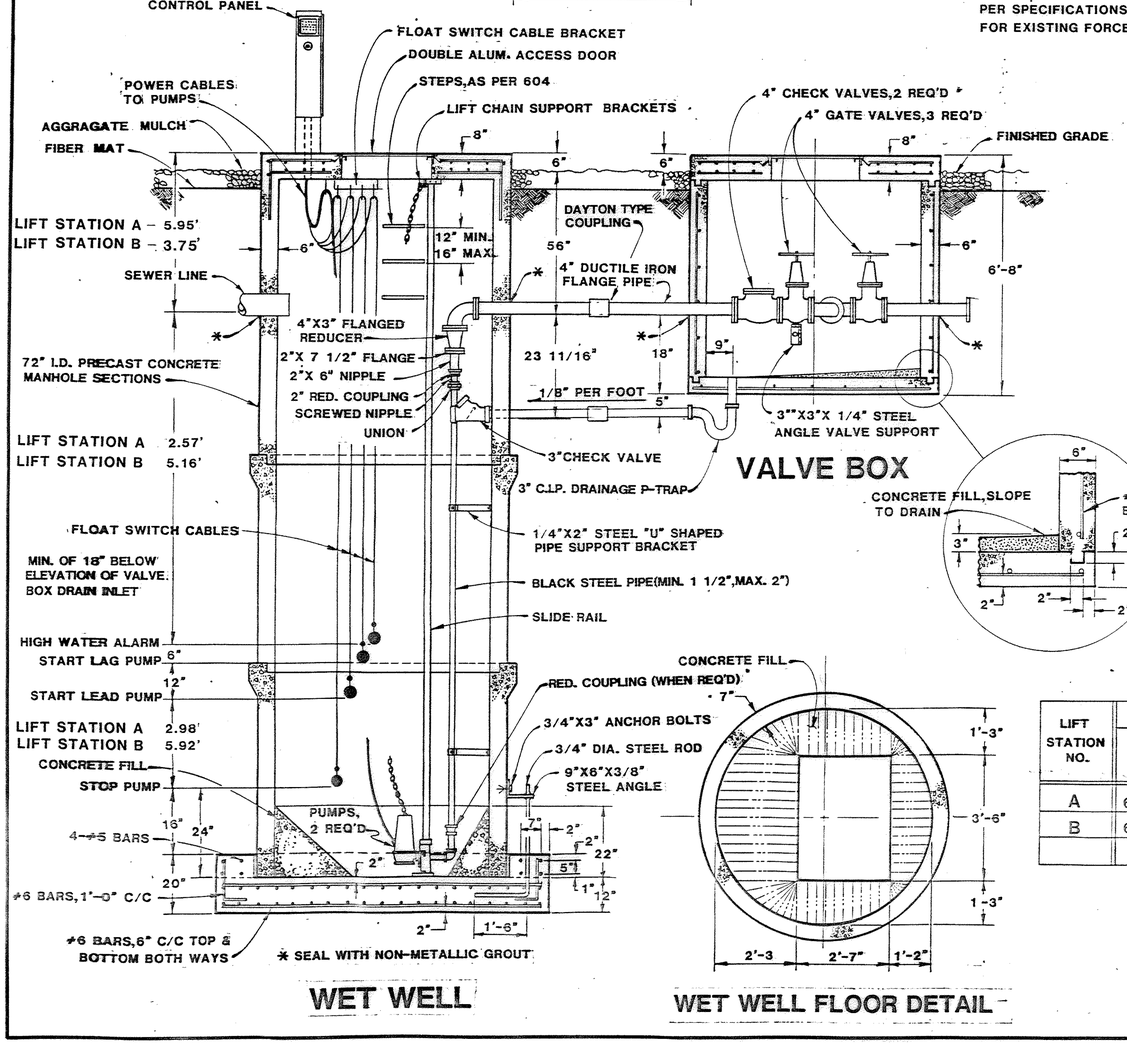
NOTE: SEWAGE FORCED MAIN FOR THIS PROJECT SHALL BE 4" DIA. CLASS 200 PVC RING TYPE PIPE "BLUE BRUTE" BY JOHNS-MANVILLE OR APPROVED EQUAL AS PER SPECIFICATIONS. REFER TO GENERAL NOTES. FOR EXISTING FORCE MAIN SEE PLANS.



CONTROL PANEL

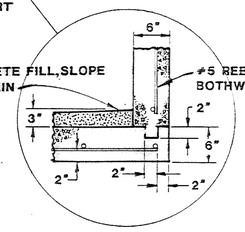


REBAR BENDING DIAGRAM



WET WELL

VALVE BOX



WET WELL FLOOR DETAIL

NOTE: TOP REBARS SHALL BE #5,BOTTOM SHALL BE #6

WET WELL TOP REBAR DETAILS

NOTE: TOP REBARS SHALL BE #5,BOTTOM SHALL BE #6

VALVE BOX TOP REBAR DETAILS

REQUIRED ELEVATIONS

LIFT STATION NO.	WET WELL										VALVE BOX		
	TOP	SEWER LINE INVERT		VALVE BOX DRAIN LINE INV.	HIGH WATER ALARM	START LAG PUMP	START LEAD PUMP	STOP PUMP	FLOOR	BOTTOM OF FOOTER	TOP	BOTTOM	SEWER LINE INV.
		IN	OUT										IN & OUT
A	695.50	689.55	690.33	688.36	686.98	686.48	685.48	682.50	680.50	679.50	695.50	688.83	690.33
B	697.00	693.25	691.83	689.86	688.09	687.59	686.59	680.67	678.67	677.67	697.00	690.33	691.33

NOTE: ALL COMPONENTS OF THE LIFT STATION SHALL BE AS DESCRIBED IN THE "LIFT STATION NOTES".

* WET WELL WALL SHALL BE FOR 7" THICK

FOR PUMP SIZE AND TYPE,SEE "LIFT STATION NOTES" SHEET _____.

REV. 8-10-90

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LIFT STATION DETAILS

LIFT STATION "B"

70 AMP. MAIN CIRCUIT BREAKER DISCONNECT SWITCH,3-POLE,240 VOLTS,A.C., W/STANDARD-(NO INTERNAL LOCKOFF) MECHANISM,HANDLE KIT FOR NEMA 4 ENCLOSURE AND STANDARD SHAFT AS MANUFACTURED BY WESTINGHOUSE, SQUARE "D" OR GENERAL ELECTRIC

LIFT STATION "A"

50 AMP MAIM CIRCUIT BREAKER, SAME DATA AS ABOVE.

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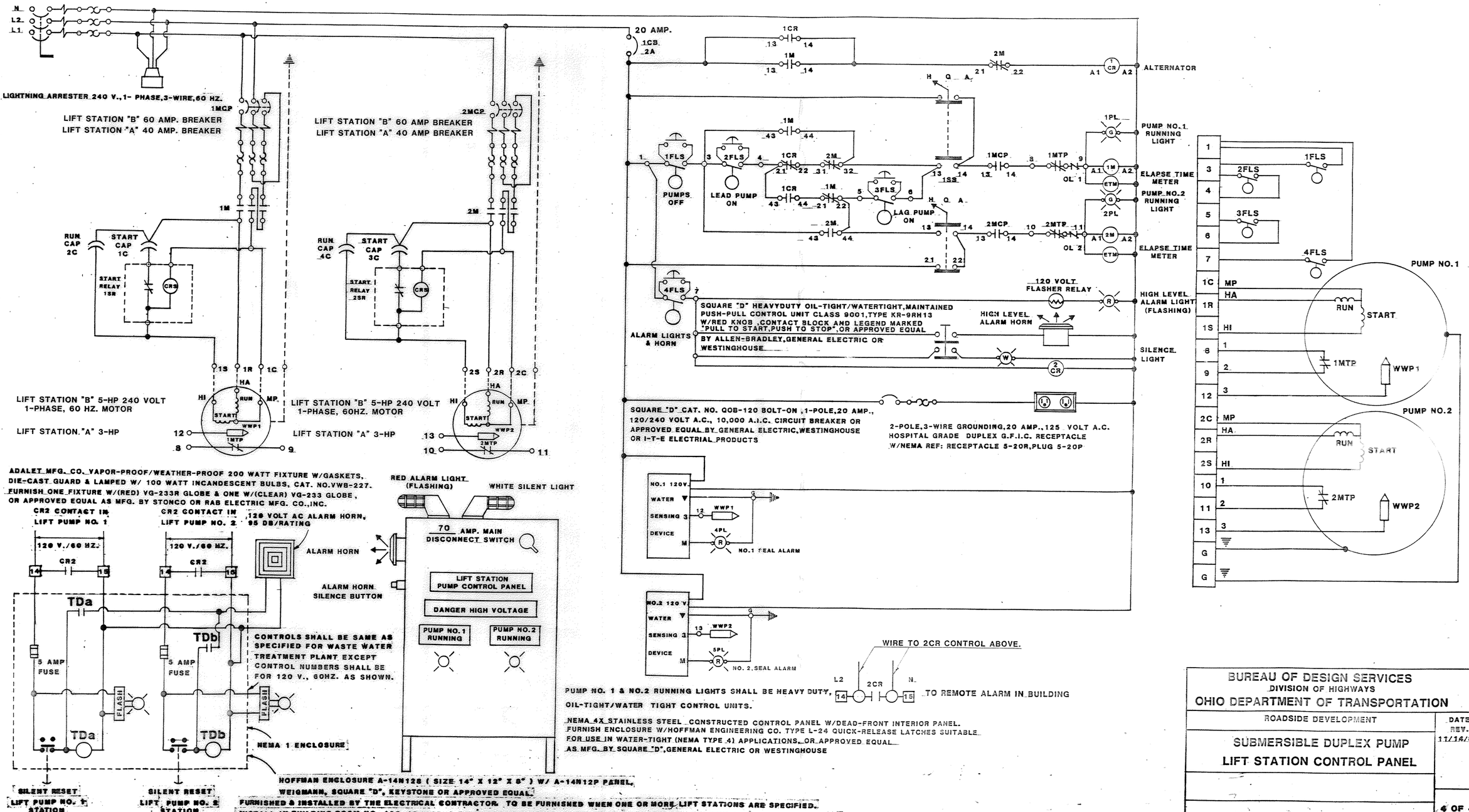
LIFT STATION "B" & "A"



ADALET MFG. CO. VAPOR-PROOF/WEATHER-PROOF 200 WATT FIXTURE W/GASKETS, DIE-CAST GUARD & LAMPED W/ 100 WATT INCANDESCENT BULBS, CAT. NO.VWB-227. FURNISH ONE FIXTURE W/(RED) VG-233R GLOBE & ONE W/(CLEAR) VG-233 GLOBE, OR APPROVED EQUAL AS MFG. BY STONCO OR RAB ELECTRIC MFG. CO.,INC.

,120 VOLT AC ALARM HORN, 95 DB/RATING

ALARM HORN

ALARM HORN SILENCE BUTTON

RED ALARM LIGHT (FLASHING)

WHITE SILENT LIGHT

PUMP NO. 1 & NO.2 RUNNING LIGHTS SHALL BE HEAVY DUTY, OIL-TIGHT/WATER TIGHT CONTROL UNITS.

NEMA 4X STAINLESS STEEL CONSTRUCTED CONTROL PANEL W/DEAD-FRONT INTERIOR PANEL. FURNISH ENCLOSURE W/HOFFMAN ENGINEERING CO. TYPE L-24 QUICK-RELEASE LATCHES SUITABLE FOR USE IN WATER-TIGHT (NEMA TYPE 4) APPLICATIONS, OR APPROVED EQUAL AS MFG. BY SQUARE "D",GENERAL ELECTRIC OR WESTINGHOUSE

HOFFMAN ENCLOSURE A-14N12S (SIZE 14" X 12" X 8") W/ A-14N12P PANEL, WEIGMANN, SQUARE "D", KEYSTONE OR APPROVED EQUAL

FURNISHED & INSTALLED BY THE ELECTRICAL CONTRACTOR. TO BE FURNISHED WHEN ONE OR MORE LIFT STATIONS ARE SPECIFIED.

INSTALL IN BUILDING ROOM NO. 105, ADJACENT TO ELECTRIC PANELS AS REQUIRED. INCLUDE ALL CONDUIT & WIRING AS REQUIRED.

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

DATE REV. 11/14/86

SUBMERSIBLE DUPLEX PUMP
LIFT STATION CONTROL PANEL

APPROVED _____ ENGR. OF DESIGN SERVICES

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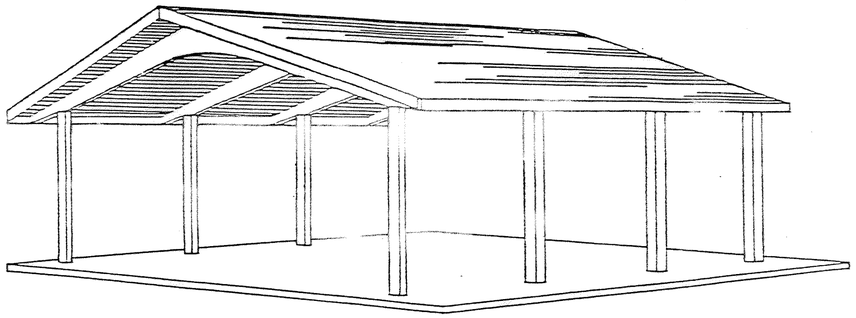
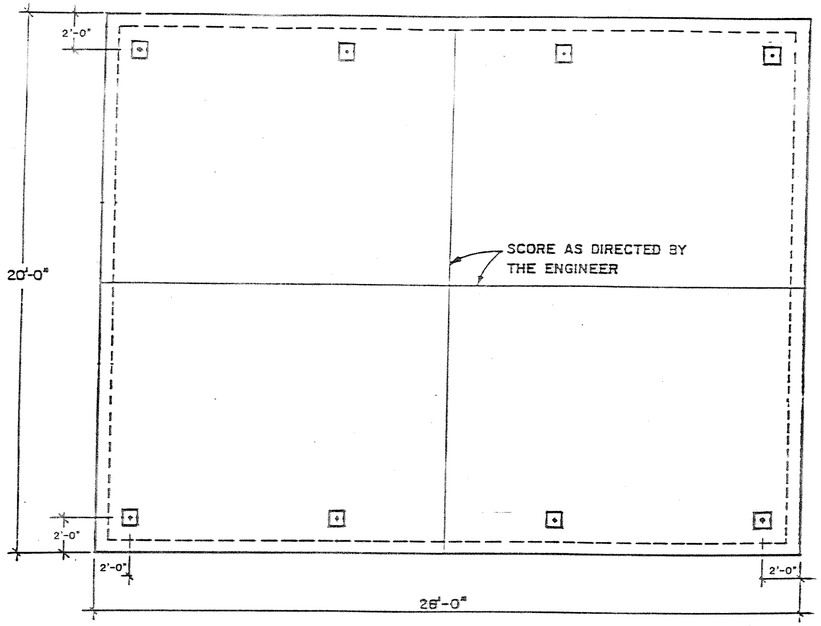
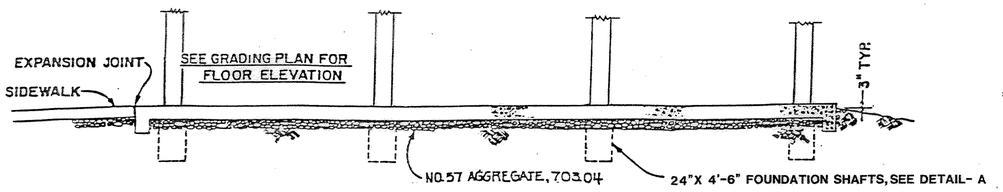
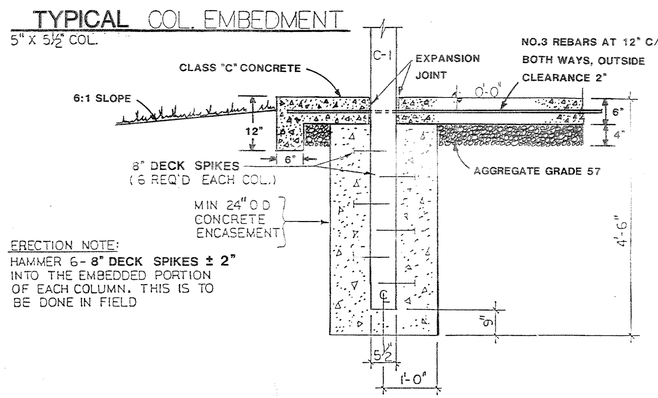








ERECTION NOTE:
HAMMER 6- 8" DECK SPIKES ± 2" INTO THE EMBEDDED PORTION OF EACH COLUMN. THIS IS TO BE DONE IN FIELD

DETAIL- A

FOOTER AND SLAB

1) THE NECESSARY EXCAVATION AND BACK FILLING SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 503.

2) SUBBASE AGGREGATE SHALL MEET THE REQUIREMENTS OF 703.04 NO.57 AGGREGATE.

3) REINFORCING BAR TYPE AND PLACEMENT SHALL BE IN ACCORDANCE WITH ITEM 509.

4) CONCRETE SHALL BE CLASS "C" IN ACCORDANCE WITH ITEM 511.

*** ROOFING

THE ROOF SHALL BE COVERED WITH 15 LB. FELT AND 240 LB. 3-TAB, SEAL-DOWN DARK BROWN ASPHALT SHINGLES WITH A 25 YEAR LIMITED WARRANTY.

THE CONTRACTOR MAY PROVIDE AN "IRON MOUNTAIN FORGE - PARK SHELTER" (AS MODIFIED BELOW) OR EQUAL*, AS A SHELTER HOUSE ON THIS PROJECT.

THE SHELTER HOUSE SHALL HAVE A MINIMUM SIZE OF 20' x 26' (ALT. 20' x 28') AND SHALL BE MANUFACTURED FROM KILN-DRIED SOUTHERN PINE. THE STRUCTURAL, GLUED LAMINATED TIMBER SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS: AITC-100, 117, 177, 200 AND PS-56-73. A CERTIFICATE OF CONFORMANCE SHALL BE FURNISHED AND THE AITC QUALITY MARK SHALL APPEAR ON ALL LAMINATED MEMBERS. THE ADHESIVE SHALL BE WATERPROOF AND CONFORM TO ASTM D-2559-70. THE ROOF DECK SHALL BE NOMINAL 2" x 6" AND BTR, SINGLE TONGUE AND GROOVE WITH V-JOINT FACE SIDE AND SHALL BE FACTORY FINISHED WITH A POTLATCH ACRYLIC POLYMER IN EARTH TONE.** THE ASPHALT SHINGLE ROOF SHALL **BE THE SAME AS USED ON MOT.SERV.BLDG.*** THE ROOF SYSTEM SHALL, IN ADDITION TO THE MANUFACTURERS LOADING BE ABLE TO WITHSTAND 90 MPH WIND LOADS IN CONFORMANCE WITH ARTICLE 9 (OAC 4101:2-9) OF THE OHIO BASIC BUILDING CODE. THE FABRICATOR SHALL FURNISH COMPLETE SHOP DRAWINGS, SHOWING ALL DETAILS AND CONNECTIONS OF THE COLUMNS AND ROOF SYSTEM, AS WELL AS CALCUALATIONS VERIFYING THAT THE SYSTEM SATISFIES THE OHIO BUILDING CODE ARTICLE 9.

ALL MEMBERS SHALL BE INDIVIDUALLY WRAPPED FOR PROTECTION DURING SHIPPING AND STORAGE. THE COLUMNS AND FASCIA SHALL BE TREATED BY THE CELLON PROCESS IN ACCORDANCE WITH STD C-28 AWPA TO A RETENTION OF 0.6 #.PER CUBIC FEET. THE CONTRACTOR SHALL PROTECT THE SHELTER HOUSE MATERIALS ON THE JOB SITE. IF STORED TEMPORARILY, MEMBERS SHALL BE PLACED ON BLOCKS WELL OFF THE GROUND AND SEPARATED BY WOOD STRIPS SO THAT AIR CAN CIRCULATE AROUND EACH MEMBER.

THE TOP AND BOTTOM SHALL BE COVERED WITH MOISTURE-RESISTANT PAPER. ALL ERECTION WORK SHALL BE PERFORMED USING NON-MARRING SLINGS WHEN MEMBERS ARE TO BE HANDLED.

THE FOOTER, SLAB, HARDWARE AND AGGREGATE BASE SHALL **BE AS SHOWN HEREIN.** IN ADDITION THE FOUNDATION SHAFTS SHALL HAVE A MIN. DIA. & DEPTH OF 2'-0" AND 4'-6" RESP.

* **"UNIT STRUCTURES INC.(KOPPERS CO.) RALEIGH PARK SHELTER W/CURVED ROOF BEAMS,"(AS MODIFIED).**

** If the manufacturer does not furnish the specified Potlatch Acrylic Polymer factory finished roof deck and beams with their shelter house, the Contractor is authorized to field finish these items and the columns at no additional cost to the contract. The acceptable field painting procedure is as follows:

1. Apply one (1) coat of Pratt and Lambert Early American Maple Tonetic wood stain to all sides and edges of each piece of roof decking, each beam and each column before erection.
2. Let stain dry for four (4) hours before starting erection.
3. Apply two (2) coats of Pratt and Lambert Yitralite UVA Spar Vitralite to all the exposed surfaces of the beams, roof decking and columns after erection. Allow 12 hours drying time between coats. Finish thickness shall be 2.0 mils.
4. No thinning is permitted and application method shall be in accordance with paint manufacturers recommended procedure.

METHOD OF MEASUREMENT

The quantity will be one Shelter House with Laminated Arch Roof Beams constructed in accordance with the plans, complete and in place.

BASIS OF PAYMENT

The cost of all materials, labor and incidentals required to construct the structure as detailed and described on this sheet shall be included in the unit bid price for "Item Special - Shelter House."

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

ROADSIDE DEVELOPMENT

DATE
2-23-90
10-3-90

SHELTER HOUSE

DRAWN BY H.W. BAKER

CALC. BY HWB	GAL-35-6.79	OHIO	81
DATE 9-1-85		FHWA REGION 5	86
CHKD. BY			
DATE			

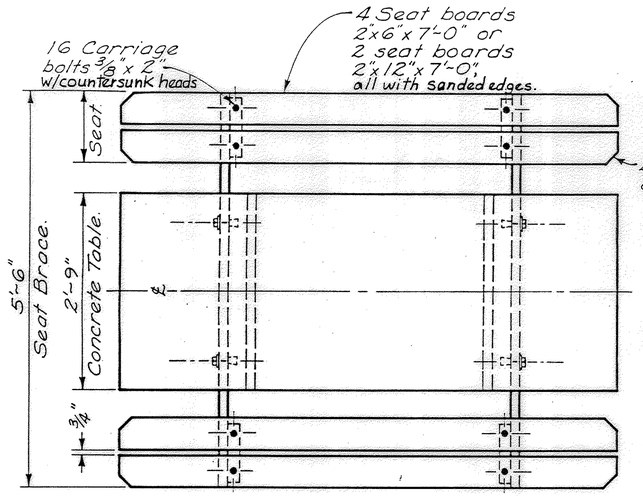
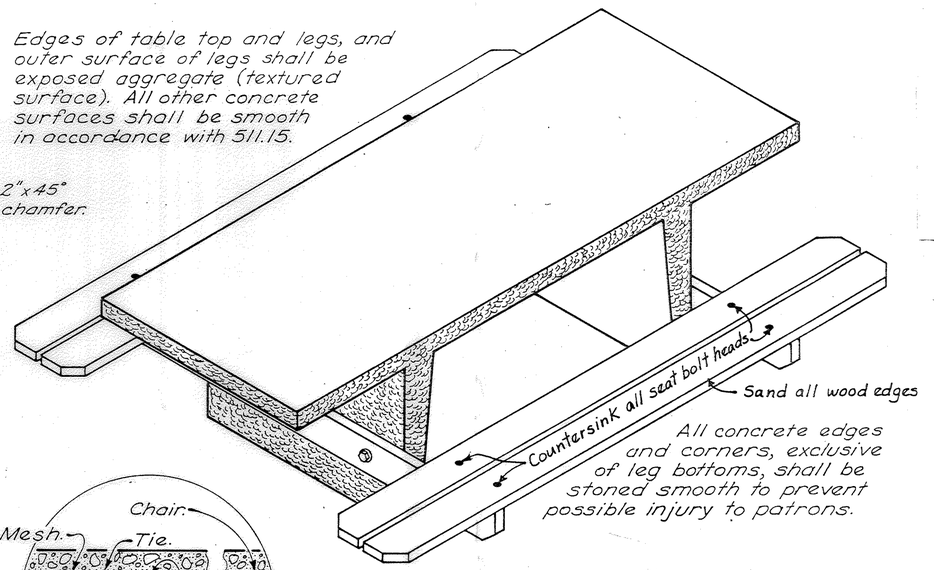


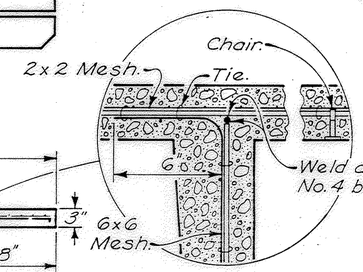
TABLE ~ PLAN

Edges of table top and legs, and outer surface of legs shall be exposed aggregate (textured surface). All other concrete surfaces shall be smooth in accordance with 511.15.



All concrete edges and corners, exclusive of leg bottoms, shall be stoned smooth to prevent possible injury to patrons.

TABLE ASSEMBLY



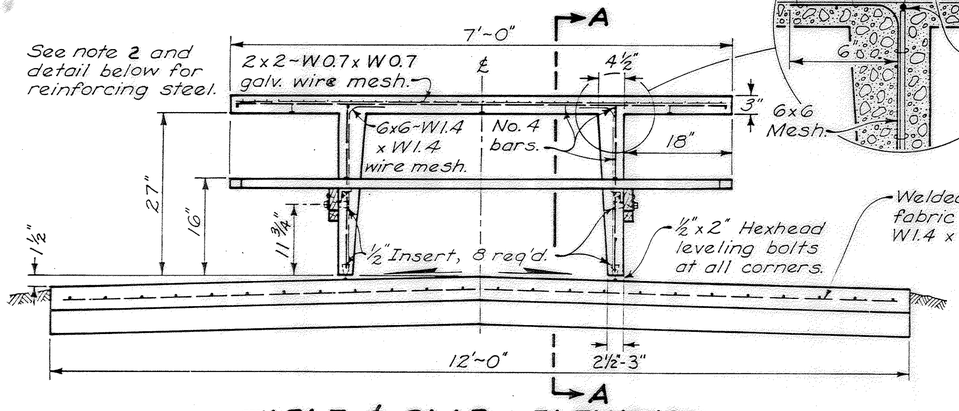
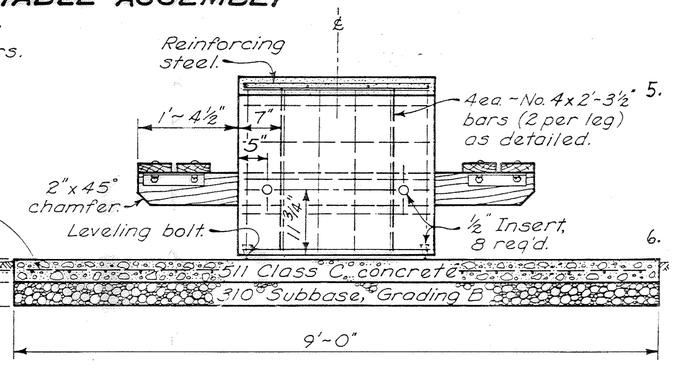


TABLE & SLAB ~ ELEVATION



SECTION A-A

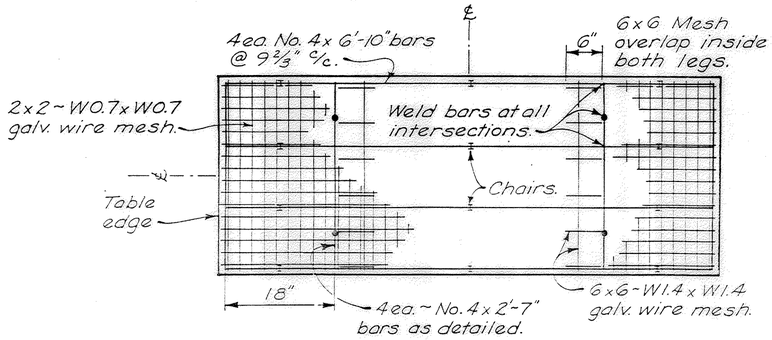
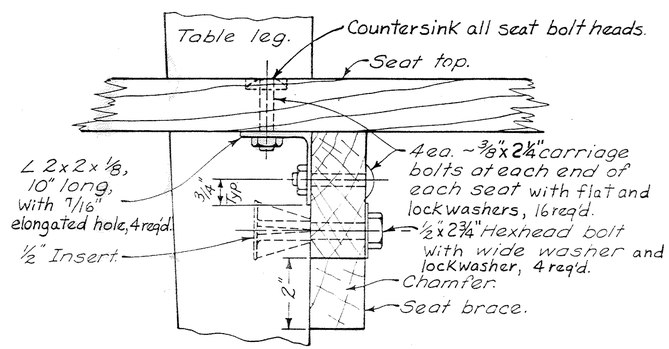


TABLE TOP ~ STEEL DETAIL



SEAT DETAIL

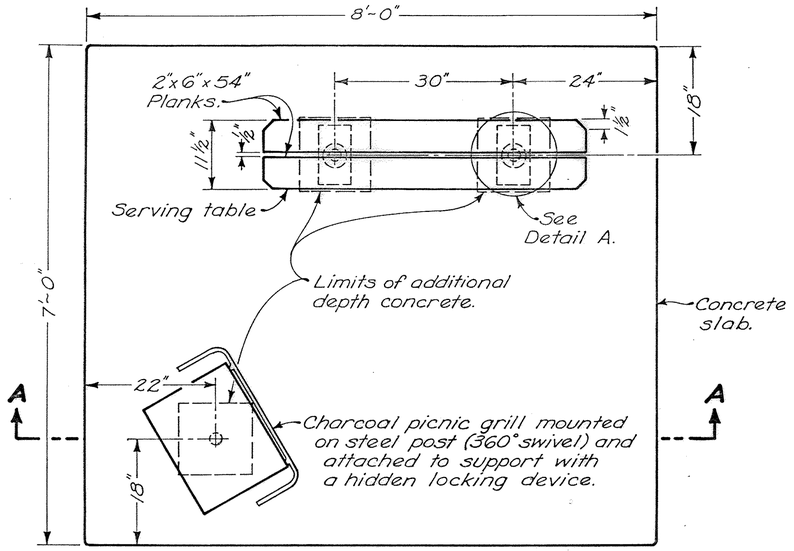
1. All bolts, nuts, washers, lockwashers and seat angles shall be galvanized. Each hex bolt shall have one wide washer and one lockwasher at the head end.
2. Reinforcing steel for table shall be:
   TOP ~ 4 each No. 4 x 6'-10" rebars longitudinally with 4 each No. 4 x 2'-7" rebars welded transversly. Place 2'x2"~W0.7xW0.7 galv. wire mesh across rebars and tie to rebars.
   LEGS ~ 4 each No. 4 x 2'-3½" rebars (2 per leg) welded at right angles to the top rebar frame. Place 6x6-W1.4xW1.4 galv. wire mesh on the insides of the leg rebars, bend the top 6" under the top rebar frame and tie to all rebars.
3. Table top and aggregate surfaces shall have two coats of sealer such as the Euclid Chemical Co.'s Rez-Seal, the Thoro System's Thoroglaze, Sonneborn KNS309, or approved equal.
4. Lumber shall be S4S Std., K.D., No.1 common or better Southern Yellow Pine or Douglas Fir, 711.26, treated with CCA (chromated copper arsenate) conforming to AASHTO M 133, Type A, B or C (see 712.06). Alternate shall be CCA-C (Osmose K-33 Sunwood).
5. Method of measurement ~ Picnic table and slab may be bid together or separately as follows:
   Item Special ~ Picnic table and slab.
   Item Special ~ Picnic table.
   Item Special ~ Picnic table without seats.
   Item Special ~ Concrete slab for picnic table.
6. Payment for each of the above items shall include excavation and backfill, furnishing, hauling and placing all materials, and all labor, equipment, tools and incidentals necessary to complete these items, as required for each item. The number of units to be paid for shall be the number completed and accepted under the item specified.
7. Weight: Concrete table only ~ approx. 1265 lbs. Table shall be precast concrete and meet the requirements of 706.13 with 6 ± 2% air void content in the hardened concrete.

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

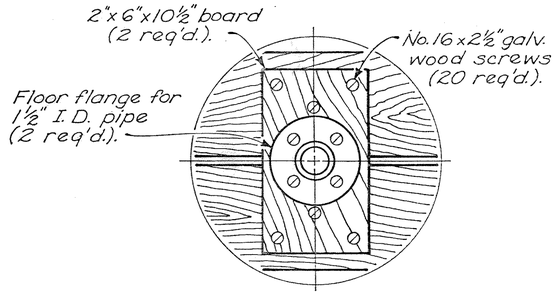
LANDSCAPING

DATE 2-2-81 9-1-85

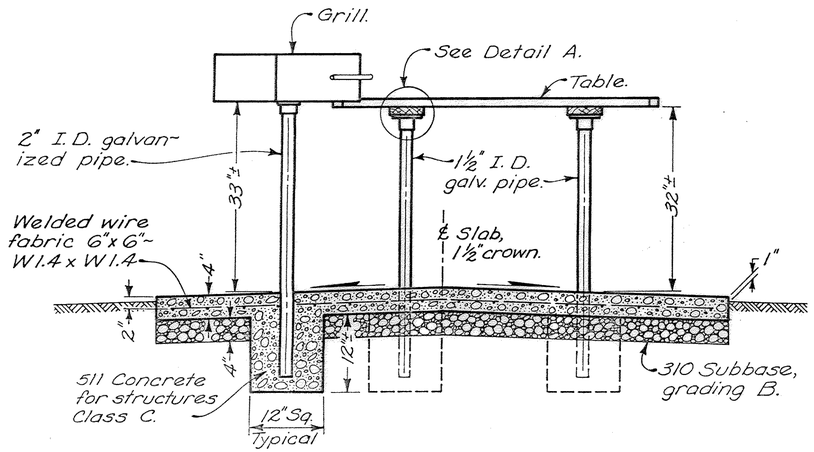
PICNIC TABLE



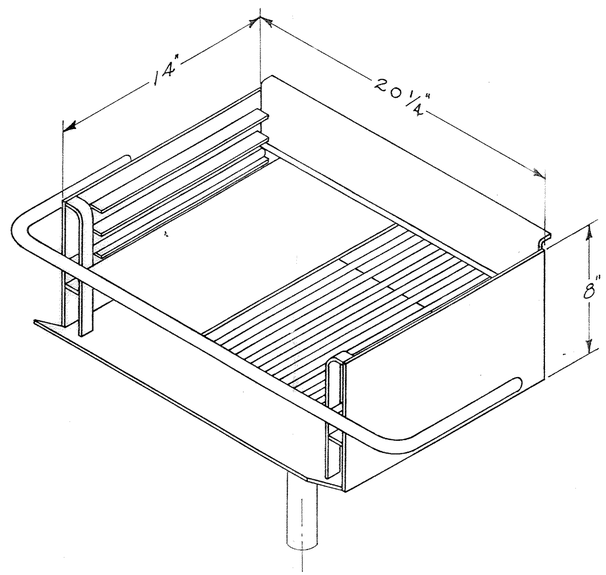
PLAN VIEW



DETAIL A
UNDERSIDE OF TABLE TOP



SECTION A-A



CHARCOAL GRILL

NOTES

6AL-35-6.79

82/86

MATERIALS: Lumber shall be S4S Std, KD, No. 1 common or better, Southern Yellow Pine or Douglas Fir, 711.26. It shall be treated with CCA (chromated copper arsenate) conforming to AASHTO M 133, Types A, B or C (see 712.06).

Pipe and pipe fittings shall meet the requirements of 707.08 and 711.02.

Screws shall meet the requirements of 711.09.

CHARCOAL GRILL shall be the same as the one shown hereon, or an approved equal. Detailed descriptive literature must be submitted for approval by ODOT.

METHOD OF MEASUREMENT: THE CHARCOAL GRILL AND SERVING TABLE AND CONCRETE SLAB MAY BE BID TOGETHER OR SEPARATELY AS FOLLOWS:

ITEM SPECIAL - CHARCOAL GRILL, SERVING TABLE AND CONCRETE SLAB
ITEM SPECIAL - CHARCOAL GRILL AND SERVING TABLE
ITEM SPECIAL - CONCRETE SLAB FOR CHARCOAL GRILL AND SERVING TABLE

BASIS OF PAYMENT: EACH OF THE ABOVE ITEMS SHALL INCLUDE EXCAVATION AND BACKFILL; FURNISHING, HAULING AND PLACING ALL MATERIALS; AND ALL LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THESE ITEMS AS REQUIRED FOR EACH ITEM.

THE NUMBER OF UNITS TO BE PAID FOR SHALL BE THE NUMBER COMPLETED AND ACCEPTED UNDER THE ITEM SPECIFIED.

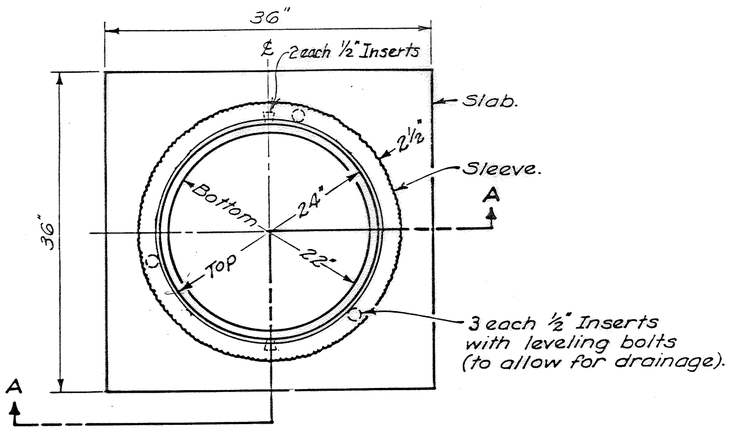
BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

LANDSCAPING

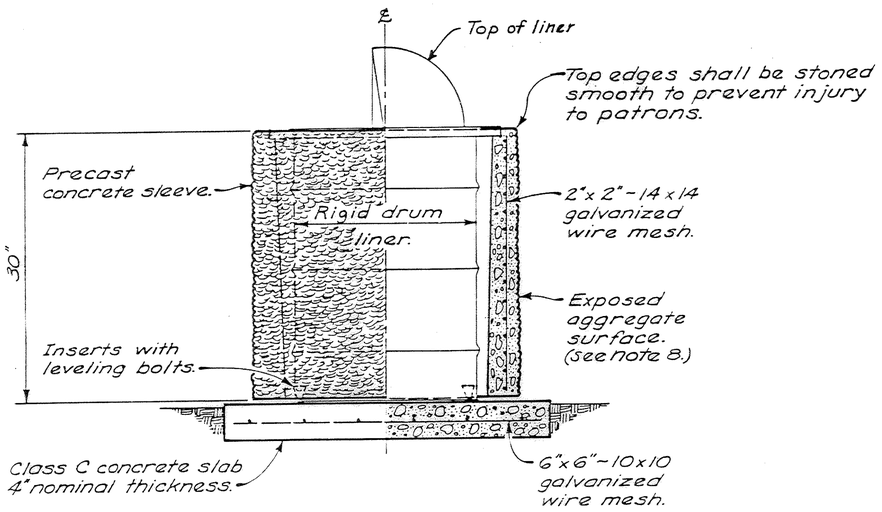
DATE
6-1-79
11-8-88

CHARCOAL GRILL & SERVING TABLE

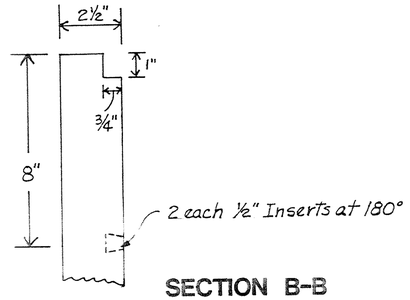
CALC. BY HWB DATE 2-24-88 CHKD. BY DATE	6AL-35-6.79	OHIO FHWA REGION 5	82/86



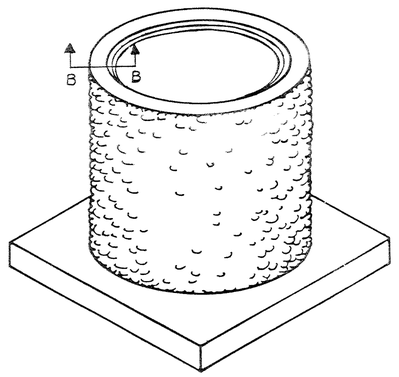
PLAN VIEW



SECTION A-A



SECTION B-B



SLEEVE & SLAB

1. Leveling bolts shall be ½" x 2" electro-galv. hex-head bolts.
2. The top edge of sleeve and its aggregate surface shall have two coats of sealer such as the Euclid Chemical Co.'s Rez-Seal, the Thoro System's Thoroglaze, Textured Coatings of America, Inc.'s, Rainstopper Clear or Approved Equal.
3. Method of measurement. - Sleeve and slab shall be bid as:
   Item Special - Waste receptacle sleeve.
   Item Special - Waste receptacle slab.
4. Payment shall include all excavation and backfill; furnishing, hauling and placing all materials; and all labor, equipment, tools and incidentals necessary to complete these items as required. The number of units paid for shall be the number completed and accepted under the item specified.
5. When the interior of the sleeve is tapered from 24" I.D. at the top to 22" I.D. at the base (as detailed) the approximate weight of sleeve is **638** pounds. The sleeve may also be formed with a uniform 2½" thickness and a 24" I.D. The approximate weight of this unit is **542** pounds.
6. The slab weighs approximately 450 pounds.
7. Concrete volume:

Tapered sleeve	**4.25** Cu. Ft. or **.157** Cu. Yd.
Uniform sleeve	**3.61** Cu. Ft. or **.134** Cu. Yd.
Slab	3.00 Cu. Ft. or .111 Cu. Yd.

8. The Engineer may require a sample of the exposed, washed round riverbed gravel, or crushed limestone, aggregate finish for approval prior to fabrication. All aggregate shall be free of pyrite.
9. Each sleeve shall be equipped with a durable polyethylene gray, dome top with plated captive chain and a gray, 32gal. rigid polyethylene liner with molded handles. The material shall be made of pure virgin resin without fillers or regrind materials. It shall be crack resistant with ultraviolet inhibitor.
10. Precast concrete waste receptacle sleeve shall meet the requirements of 706.13 with 6 ±2% air void content in the hardened concrete.

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

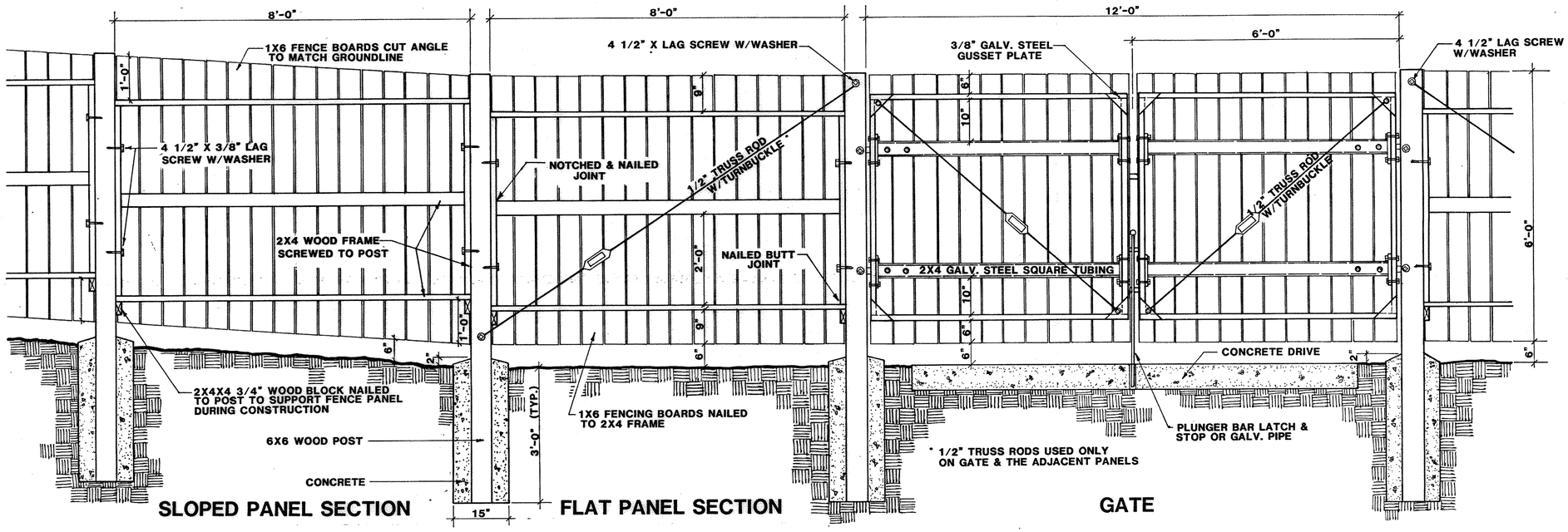
LANDSCAPING

WASTE RECEPTACLE SLEEVE

DATE
10-16-81
12-22-82
9-1-85
1-13-86
7-1-86
2-24-88

GAL-35-6.79

84/86



SLOPED PANEL SECTION

FLAT PANEL SECTION

GATE

NOTES

CONCRETE: ALL CONCRETE SHALL BE CLASS C. THE PROVISIONS OF 511.12 ARE MODIFIED TO THE EXTENT THAT THE CONCRETE SHALL BE PROTECTED DURING THE CURING PROCESS IN A MANNER SUCH THAT IT WILL NOT FREEZE.

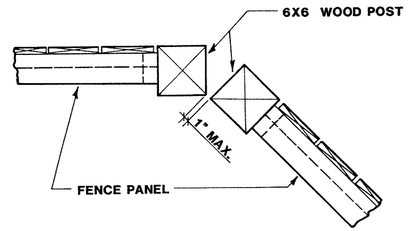
WOOD: ALL WOOD MEMBERS SHALL BE CLEAR DOUGLAS FIR, REDWOOD OR CCA PRESSURE TREATED PINE.

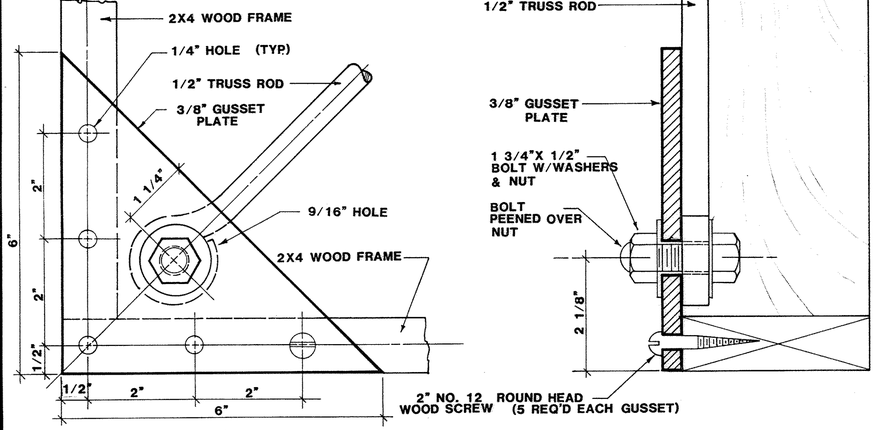
STEEL TUBING: THE STEEL TUBING SHALL BE 2 X 4 X 1/4" GALVANIZED STEELWITH A 3 1/2 X 8 X 3/8" GALVANIZED ANCHOR PLATE WELDED ON EACH END.

HARDWARE: ALL HARDWARE , WITH THE EXCEPTION OF THE BOLT HOOK AND STRAP HINGES, SHALL BE HOT DIPPED GALVANIZED.

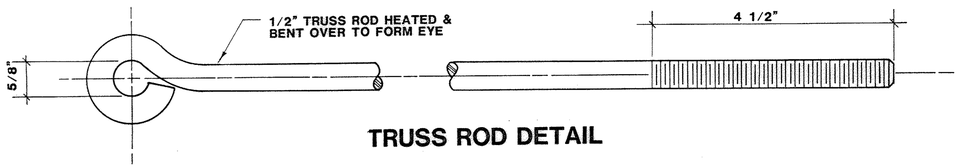
GATES: EACH GATE SHALL BE EQUIPPED WITH A GALVANIZED PLUNGER BAR, LATCH AND STOP ALONG WITH AN APPROVED PADLOCK WITH DOUBLE LOCKING BOLT, FIVE PIN TUMBLER, LAMINATED STEEL CASE , BRASS CYLINDER, AND BE RUST PROOF. WHERE COMPANION GATES ARE INSTALLED ON OPPOSITE SIDES OF THE HIGHWAY TUMBLERS SHALL BE IDENTICALLY IN EACH LOCK. TWO KEYS SHALL BE FURNISHED WITH EACH LOCK.

POST PLACEMENT: IN THOSE SITUATIONS WHERE A FENCE CORNER IS SOMETHING OTHER THAN 90° TWO POSTS WILL BE PLACED SIDE BY SIDE, AS SHOWN BELOW. A COMMON CONCRETE FOOTER SHALL BE CONSTRUCED FOR BOTH POSTS.

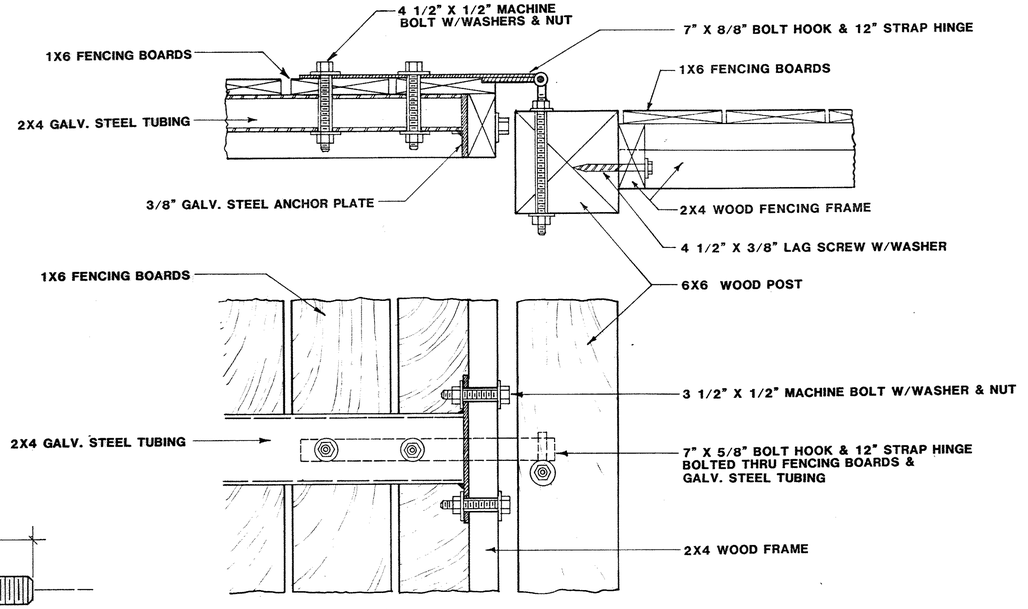




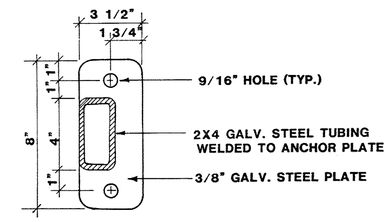
GUSSET PLATE DETAIL



TRUSS ROD DETAIL



BOLT HOOK & STRAP HINGE DETAIL



STEEL TUBING & ANCHOR DETAIL

OHIO DEPARTMENT OF TRANSPORTATION
BUREAU OF DESIGN SERVICES
ROADSIDE DEVELOPMENT SECTION

WOOD FENCE

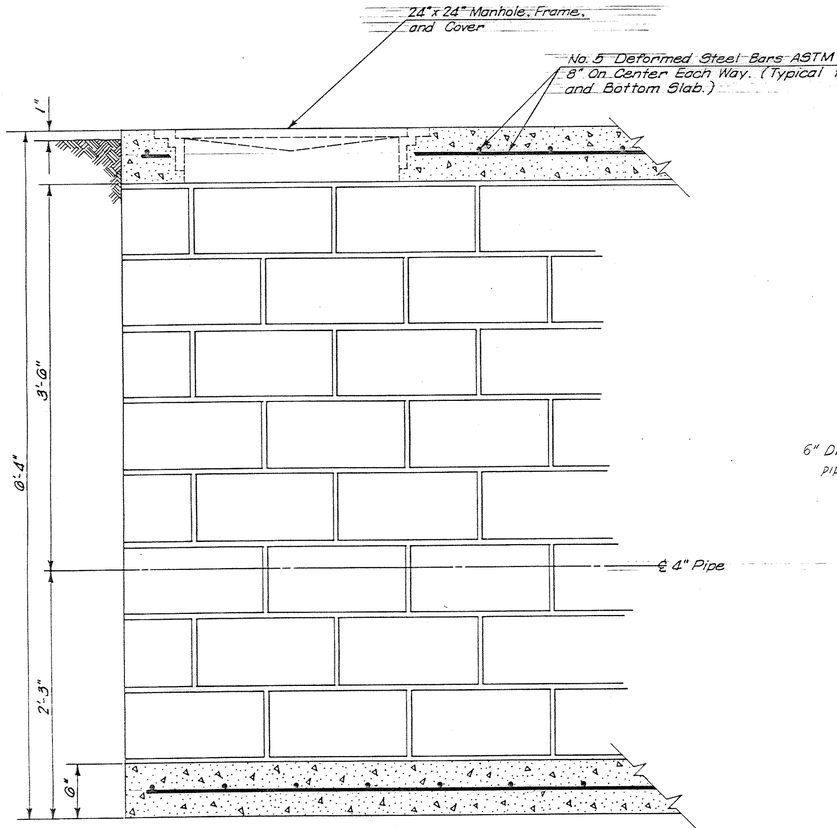
DATE: 12-15-88

FHWA REGION	STATE	PROJECT	
5	OHIO		

85/86

GALLIA COUNTY
GAL-35-6.79

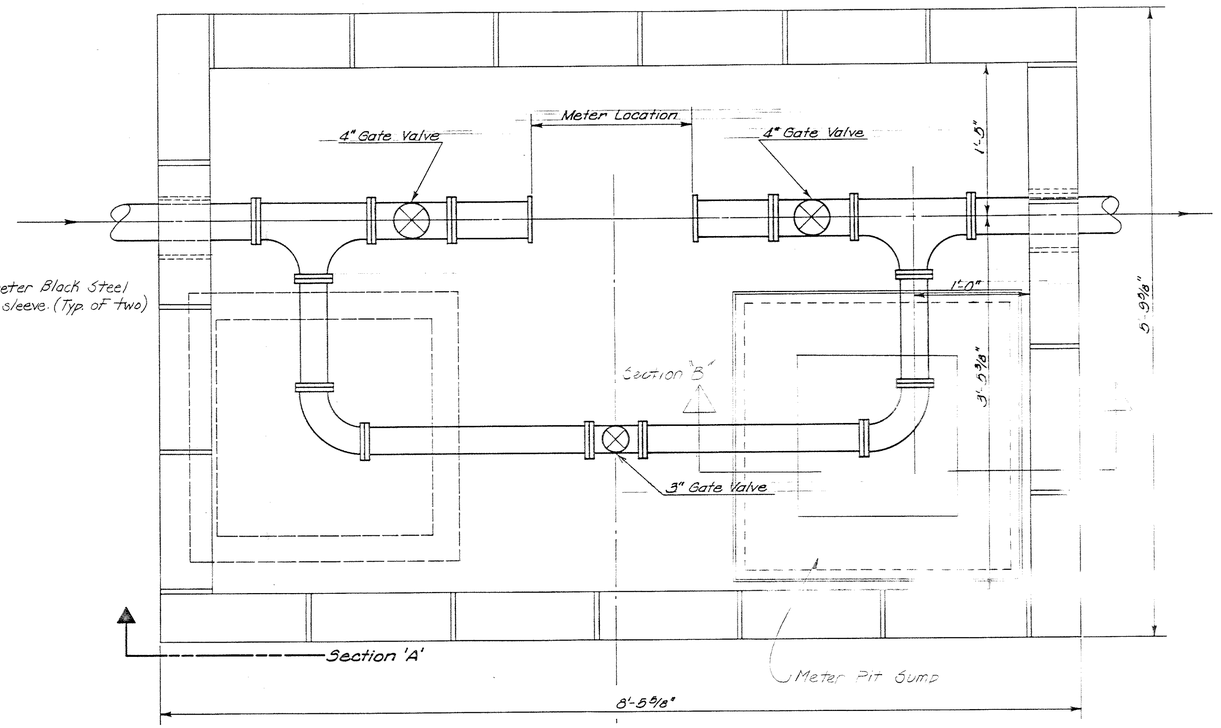
METER PIT DETAIL



Section "A" N.T.S.

Section "B"

Meter Pit Sump
1½" = 1'0"



Plan N.T.S.

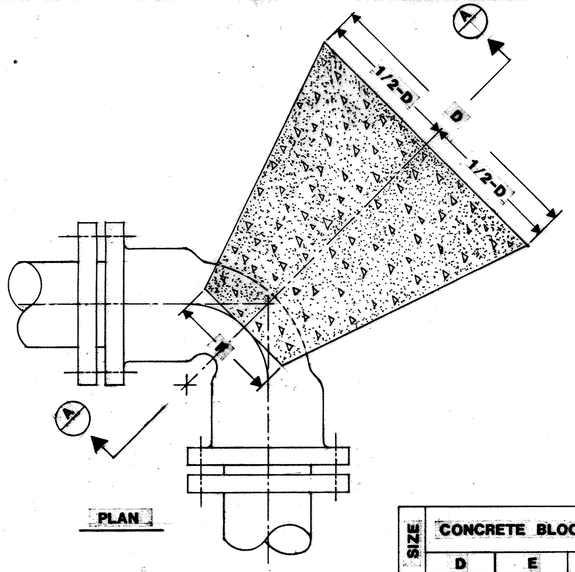
Waterline Extension Sta. 10+00

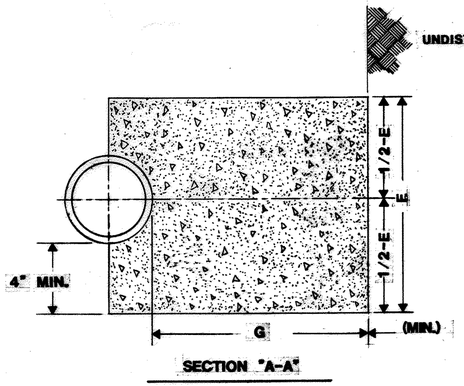
Note:

1. Step Rungs Shall Be Required in the Meter Pit, Spaced at Each 8" Block Joint as Required.
2. A Four Inch (4"), Single Register Magnetic (SRM) Compound Water Meter, As Manufactured By Rockwell, or Approved Equal, Shall Be Furnished and Installed By The General Contractor.
3. Excavation and backFill for the meter shall conform to CMS 604.04
4. Concrete block walls shall be reinforced with Duc-O-Wall Truss single Wythe standard class (No. 9 rod, wt. 1.7) reinforcement for 6" block wall and provide pre-fab corners of the same design. Install on top of First block course and every other consecutive block course thereafter. Approved equal reinforcement shall be AA Wire Products Company, Block-Lox of AA; Hohmann & Barnard, Inc.; or National Wire Products Industries, Inc.
5. Concrete block shall be 8"H x 6"W x 16"L Standard hollow load bearing block, made with gravel or crushed stone aggregate and meeting all general and detailed requirements of ASTM C-90 for Grade A Block.
6. ASTM A-53, Grade B, Schedule 40 Black steel pipe sleeves 6" diameter, shall be Furnished and installed as shown on Plan. Fill Void between pipe and sleeve with non-shrink epoxy grout.
7. Prime ½" concrete joint and adjacent concrete Forming the joint with PCP No. 57 primer; Fill joint with PCP closed cell backer rod, allowing ⅜" depth for PCP No. 270 Reservoir sealant Fill or approved equal materials as specified here in.
8. Support water meter and pipe assembly with ITT Grinnell Fig. no. 260, galvanized adjustable Clevis hangers for 4" diameter pipe, and supported from ceiling by use of ½" diameter galvanized steel rod and ½" Red Head or approved anchor shields, as required Approved equal hangers shall be Elcen or Fee and Mason.

CALC. BY / DATE	GAL-35-6.79	OHIO
CHKD. BY / DATE	REST AREA	FHWA REGION 5

86
86

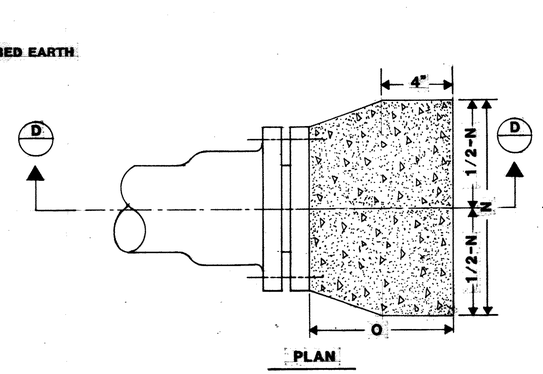


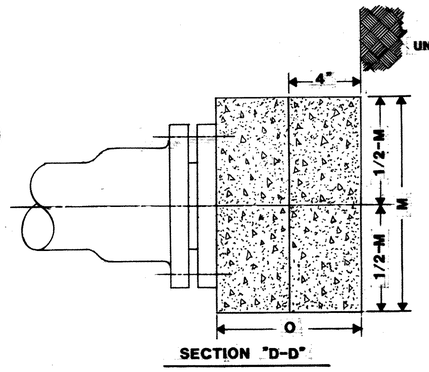


SECTION "A-A"

SIZE	CONCRETE BLOCK DIMENSIONS			
	D	E	F	G
2"	1'-0"	1'-0"	4"	1'-0"
3"	1'-0"	1'-0"	6"	1'-0"
4"	1'-4"	1'-0"	6"	1'-0"
6"	1'-9"	1'-2"	6"	1'-6"
8"	2'-6"	1'-4"	8"	1'-6"

90° ELBOW BLOCKING DETAILS



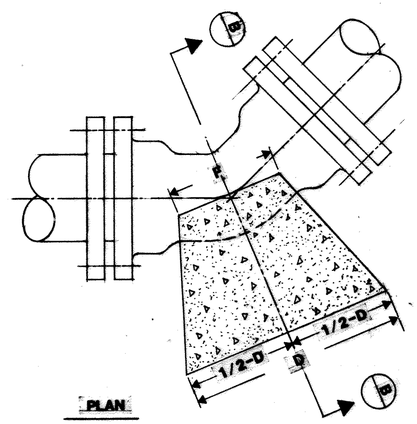


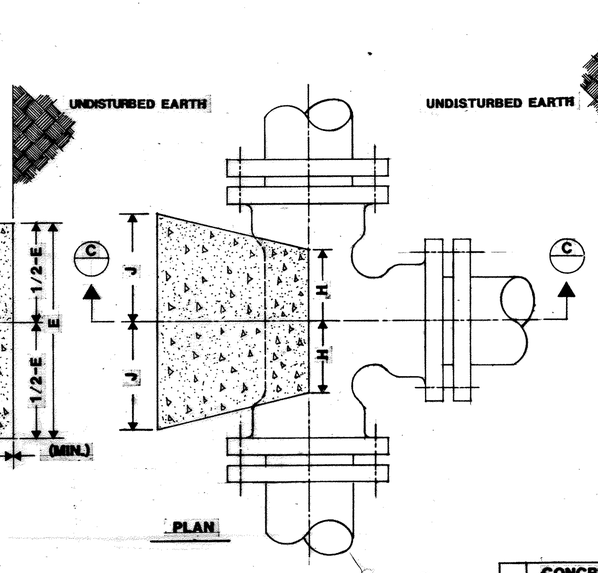
SIZE	CONCRETE BLOCK DIMENSIONS FOR PLUGS AND CAPS			
	M	N	O	
2"	1'-0"	1'-0"	8"	
3"	1'-0"	1'-0"	8"	
4"	1'-0"	1'-0"	8"	
6"	1'-6"	1'-6"	8"	
8"	2'-6"	1'-6"	10"	

BUTTRESS FOR PLUGS AND CAPS

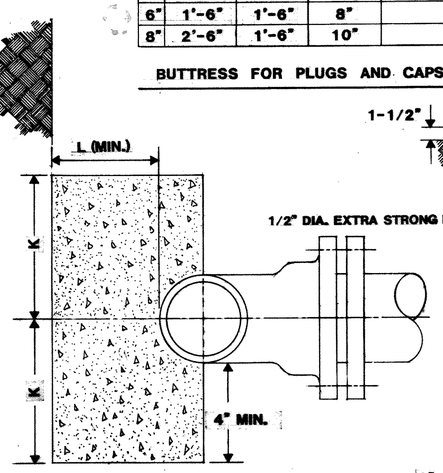
NIBCO MODEL T-134,CLASS 150 BRONZE GATE VALVE, BLOCK PATTERN, UNION BONNET, RISING STEM, SOLID WEDGE, F.S.P.S. OR APPROVED EQUAL BY CRANE OR WM. POWELL CO.

VAL-MATIC VALVE & MFG. CORP. SEWAGE AIR RELEASE VALVE W/ ALL STAINLESS STEEL TRIM, MODEL NO. 48, INLET SIZE 2" DIA. N.P.T. AND DISCHARGE SIZE 1/2" DIA. N.P.T., ORIFICE SIZE 3/16" W/ 0 TO 150 P.S.I. WORKING PRESSURE OR APPROVED EQUAL BY CLOW- EDDY-IOWA DIVISION OR GOLDEN-ANDERSON INDUSTRIES, INC.





SECTION "B-B"



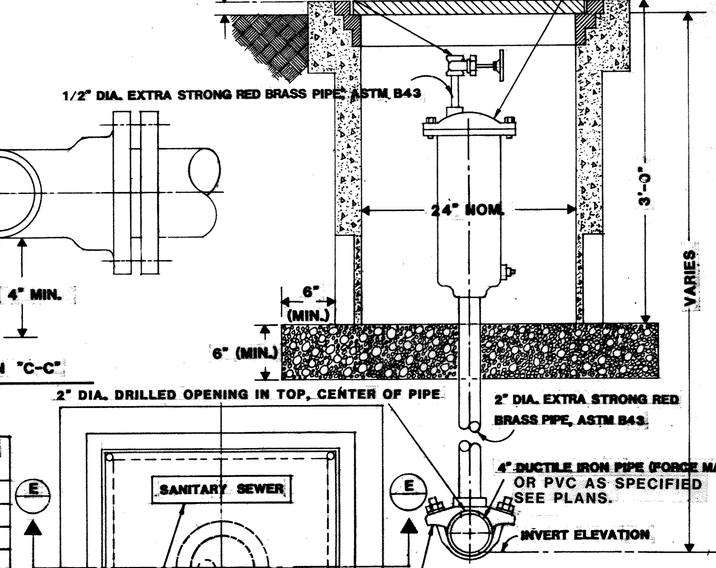
SECTION "C-C"

SIZE	CONCRETE BLOCK DIMENSIONS			
	D	E	F	G
2"	9"	1'-0"	4"	6"
3"	9"	1'-0"	6"	6"
4"	9"	1'-0"	6"	6"
6"	1'-0"	1'-2"	6"	8"
8"	1'-6"	1'-4"	8"	9"

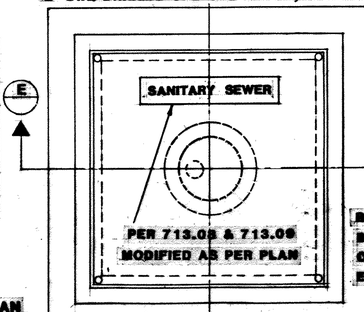
22-1/2" AND 45° ELBOW BLOCKING DETAILS

SIZE	CONCRETE BLOCK DIMENSIONS FOR TEES			
	H	J	K	L
2"	2.5"	6"	6"	6"
3"	4"	6"	6"	6"
4"	4"	6"	8"	6"
6"	6"	8"	10"	9"
8"	6"	9"	1'-3"	9"

BUTTRESS FOR TEES



ROCKWELL INTERNATIONAL CAT. NO. 219-056214-000 DOUBLE STRAP IRON SERVICE SADDLE NOM. SIZE 4"-8" O.D. RANGE 4.74"-8.62" W/ 2" NPT TAP, OR APPROVED EQUAL BY MUELLER CO. OR JCM INDUSTRIES, INC.



CONCRETE PULL BOX PER 625.11, MODIFIED AS PER PLAN

SEWAGE AIR RELEASE VALVE ASSEMBLY

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

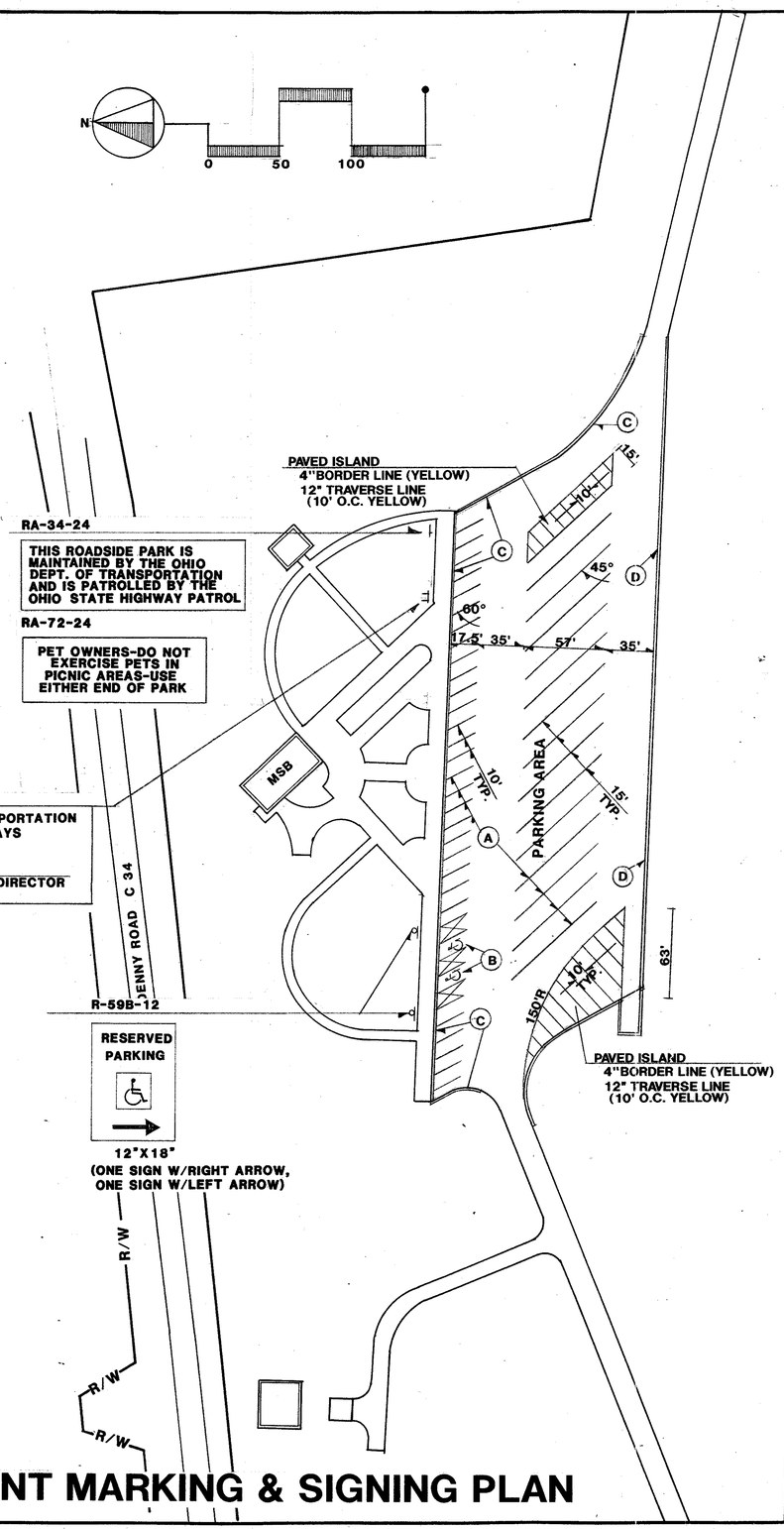
11/14/86

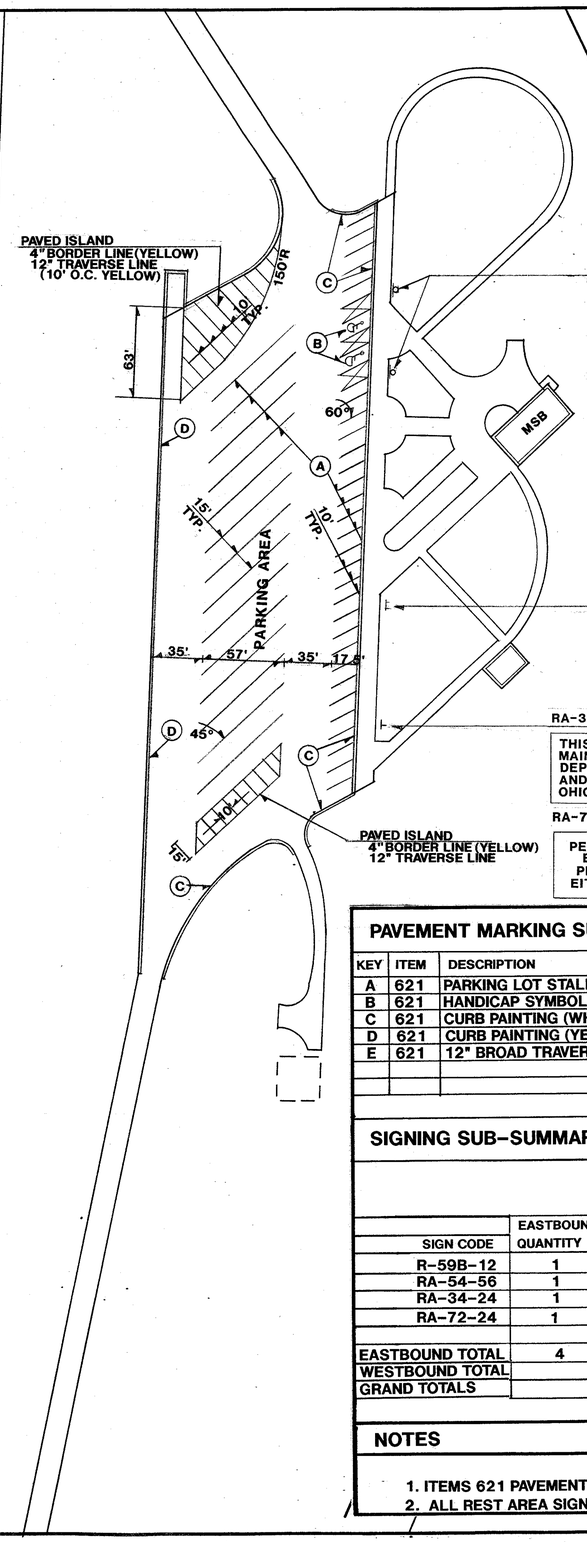
THRUST BLOCK DETAILS

NOT TO SCALE

MASTER

CALC. BY		GAL-35-6.79	OHIO	1
DATE		REST AREA	FHWA REGION 5	1
CHKD. BY				
DATE				





PAVEMENT MARKING & SIGNING PLAN

PAVEMENT MARKING SUB-SUMMARY

KEY	ITEM	DESCRIPTION	EASTBOUND QUANTITY	WESTBOUND QUANTITY	TOTAL
A	621	PARKING LOT STALL MARKING (YELLOW)	2408 L.F.	2408 L.F.	4816 L.F.
B	621	HANDICAP SYMBOL MARKING	2 EA.	2 EA.	4 EA.
C	621	CURB PAINTING (WHITE)	650 L.F.	650 L.F.	1300 L.F.
D	621	CURB PAINTING (YELLOW)	675 L.F.	675 L.F.	1350 L.F.
E	621	12" BROAD TRAVERSE STRIPES (YELLOW)	283 L.F.	283 L.F.	566 L.F.

SIGNING SUB-SUMMARY

				ITEM 630		
				SIGNS	GROUND MOUNTED SIGNS	
				FLAT SHEET	NO.2 POST	NO.4 POST
SIGN CODE	EASTBOUND QUANTITY	WESTBOUND QUANTITY	SIZE(INCHES)	SQ. FT.	LIN. FT.	LIN. FT.
R-59B-12	1	1	12X18	1.50	12.0	
RA-54-56	1	1	56X16	6.22		11.0/11.0
RA-34-24	1	1	24X18	3.00	12.0	
RA-72-24	1	1	24X18	3.00		
EASTBOUND TOTAL	4			13.72	24	22
WESTBOUND TOTAL		4		13.72	24	22
GRAND TOTALS	8			27.44	48	44

NOTES

1. ITEMS 621 PAVEMENT MARKING HAVE BEEN CHANGED TO 642 IN 1991 CMS.
2. ALL REST AREA SIGNS WILL BE PLACED 4'0" BEHIND SIDEWALK