

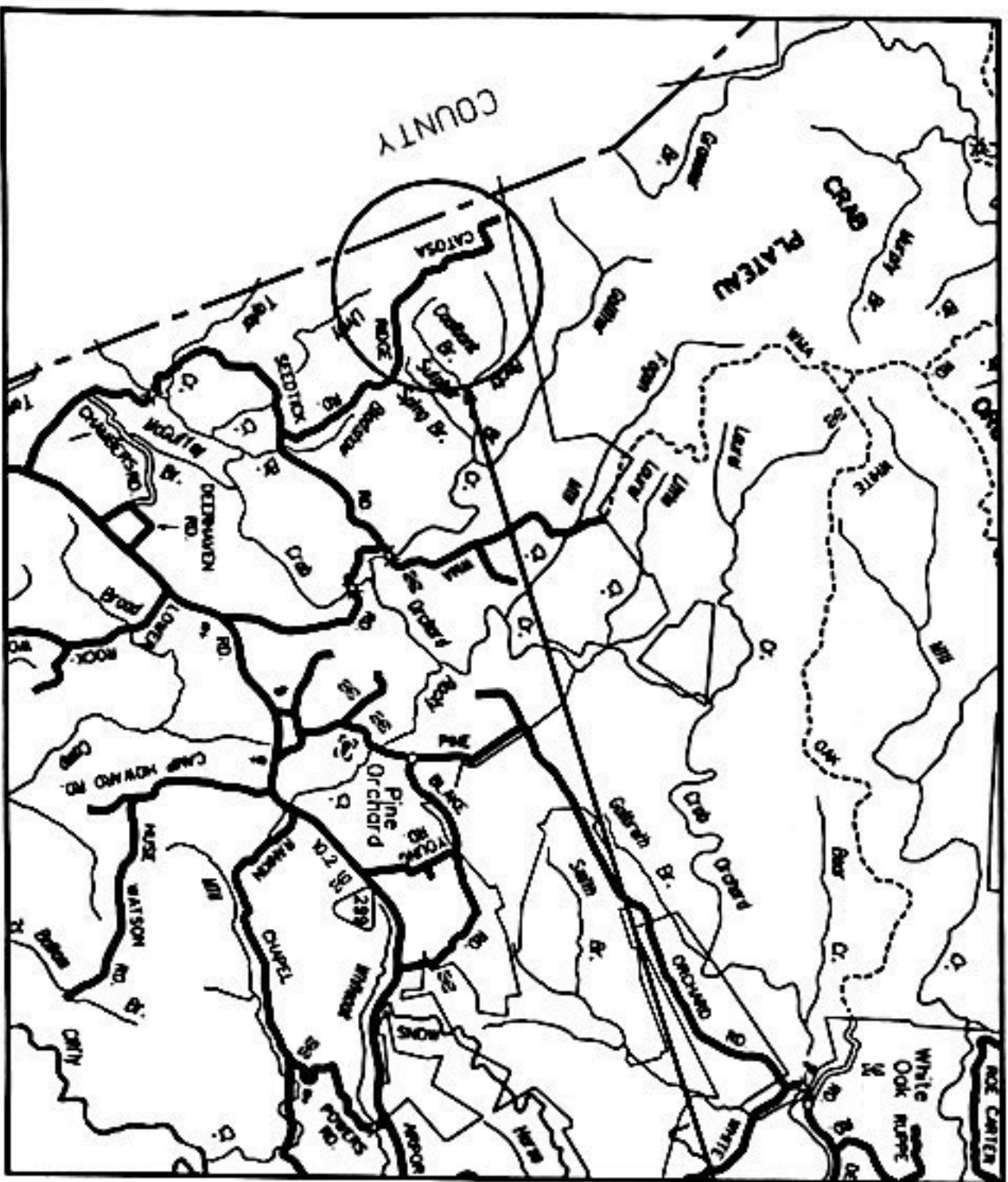
HARRIMAN UTILITY BOARD Morgan County, Tennessee

WATER LINE EXTENSIONS CATOOSA RIDGE ROAD CONTRACT 205

Project Engineer



LOCATION MAP



PROJECT LOCATION

PLANS REVIEWED AND APPROVED BY HARRIMAN UTILITY BOARD

DATE

SHEET INDEX

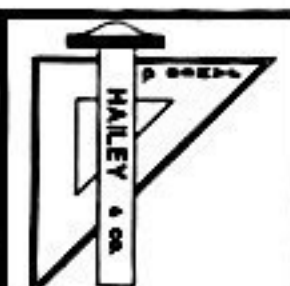
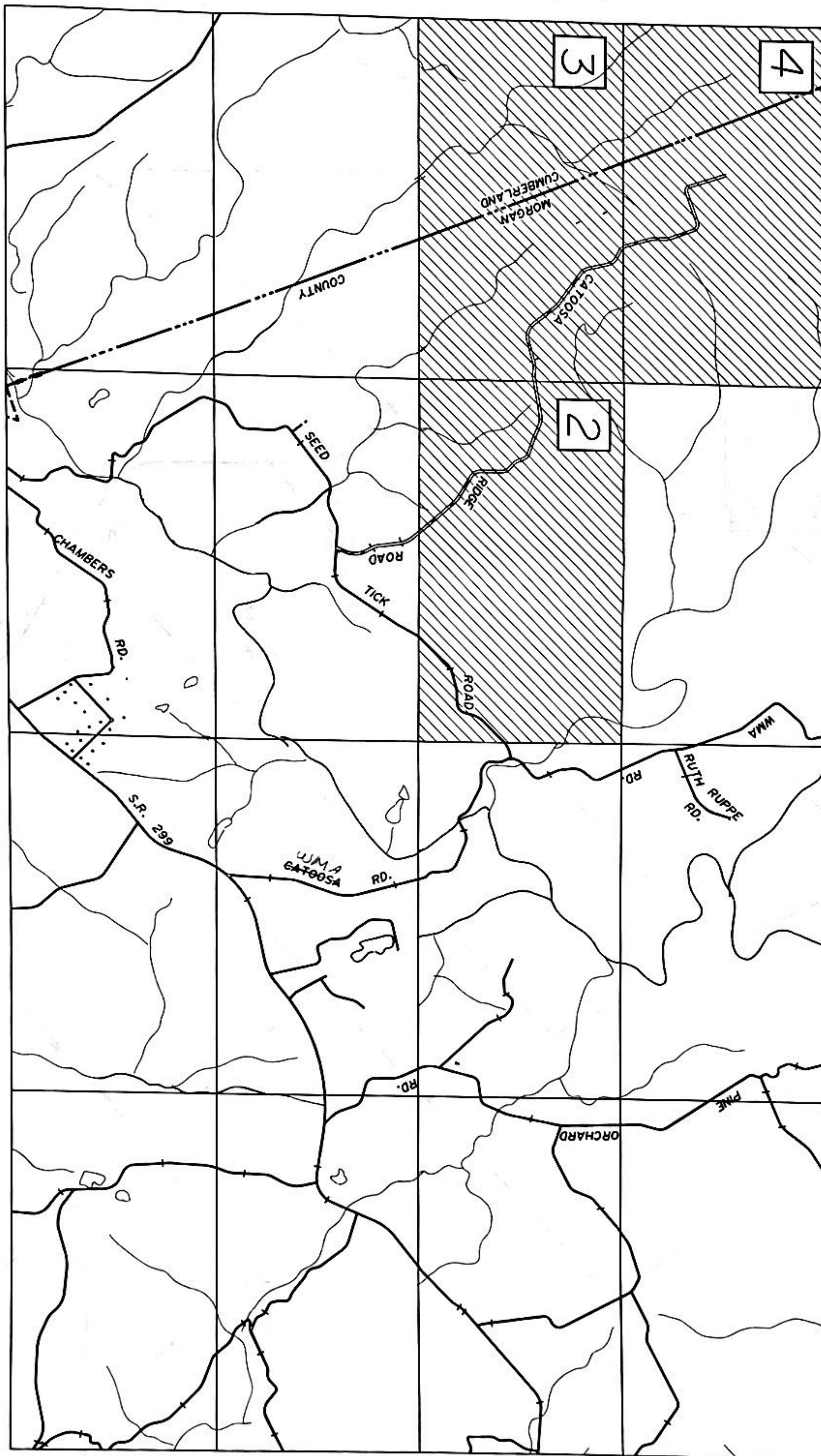
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|------------------------------------|---|
| KEY MAP | 1 |
| WATER LINE EXTENSIONS (152 SW) | 2 |
| WATER LINE EXTENSIONS (152 NW) | 3 |
| WATER LINE EXTENSIONS (152 NE) | 4 |
| PUMP STATION #1 - PLAN AND DETAILS | 5 |
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SHEET NUMBER

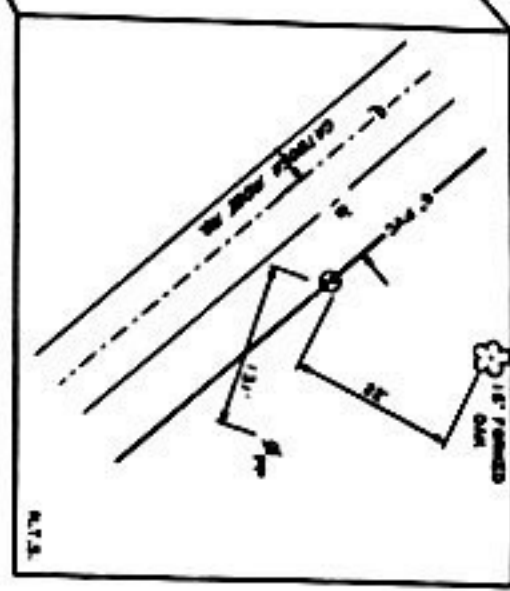
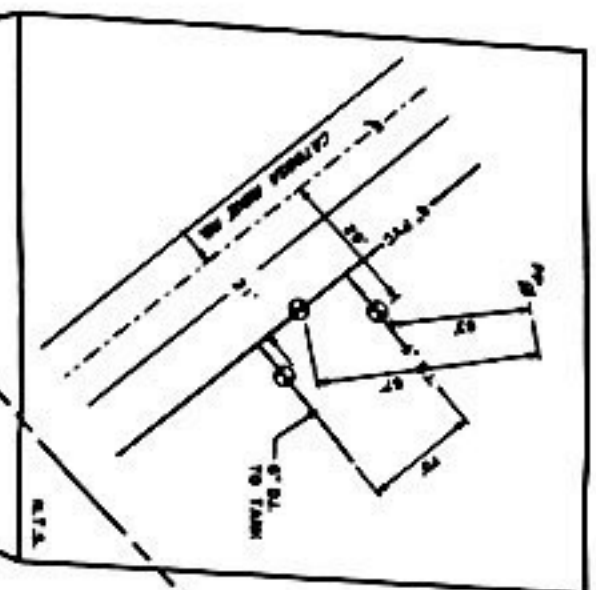
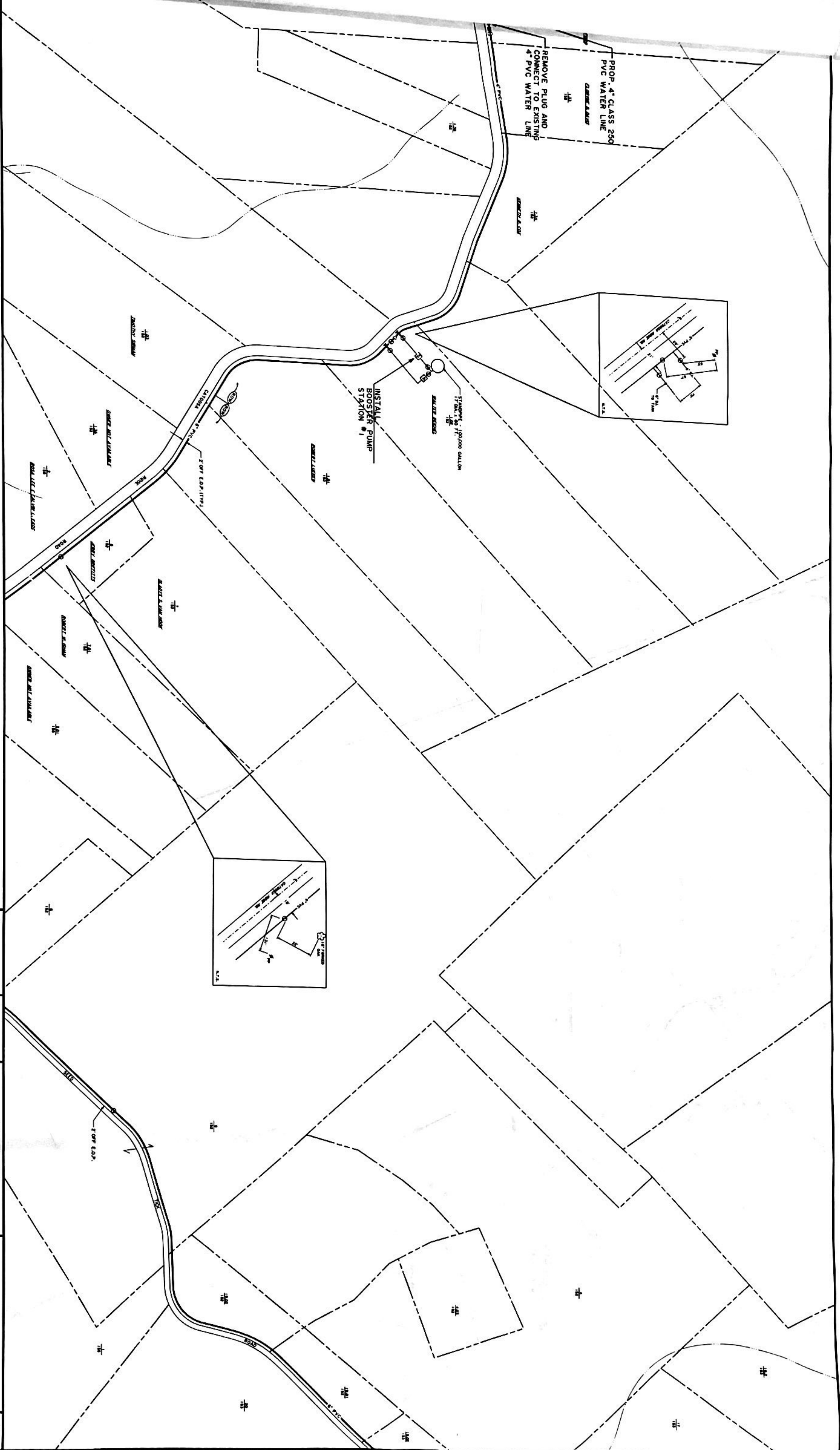
JCH PROJECT NO. 03147



JAMES C. HAILEY & CO. 2622 OLD LEBANON ROAD - SUITE 200 NASHVILLE, TENNESSEE



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|---|-----|-----|--|--|-------|-------------|
| HARRIMAN UTILITY BOARD Morgan County, Tennessee | | | | WATER LINE ADDITIONS CATOOSA RIDGE ROAD | | |
| RNW | LLB | RNW | | DATE | SCALE | PROJECT NO. |
| | | | | JUN. 2005 | NONE | 03147 |



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HARRIMAN
UTILITY BOARD
Morgan County, Tennessee

WATER LINE ADDITIONS
CATOOSA RIDGE ROAD

DESIGN: RNW

DRAWN: LLB

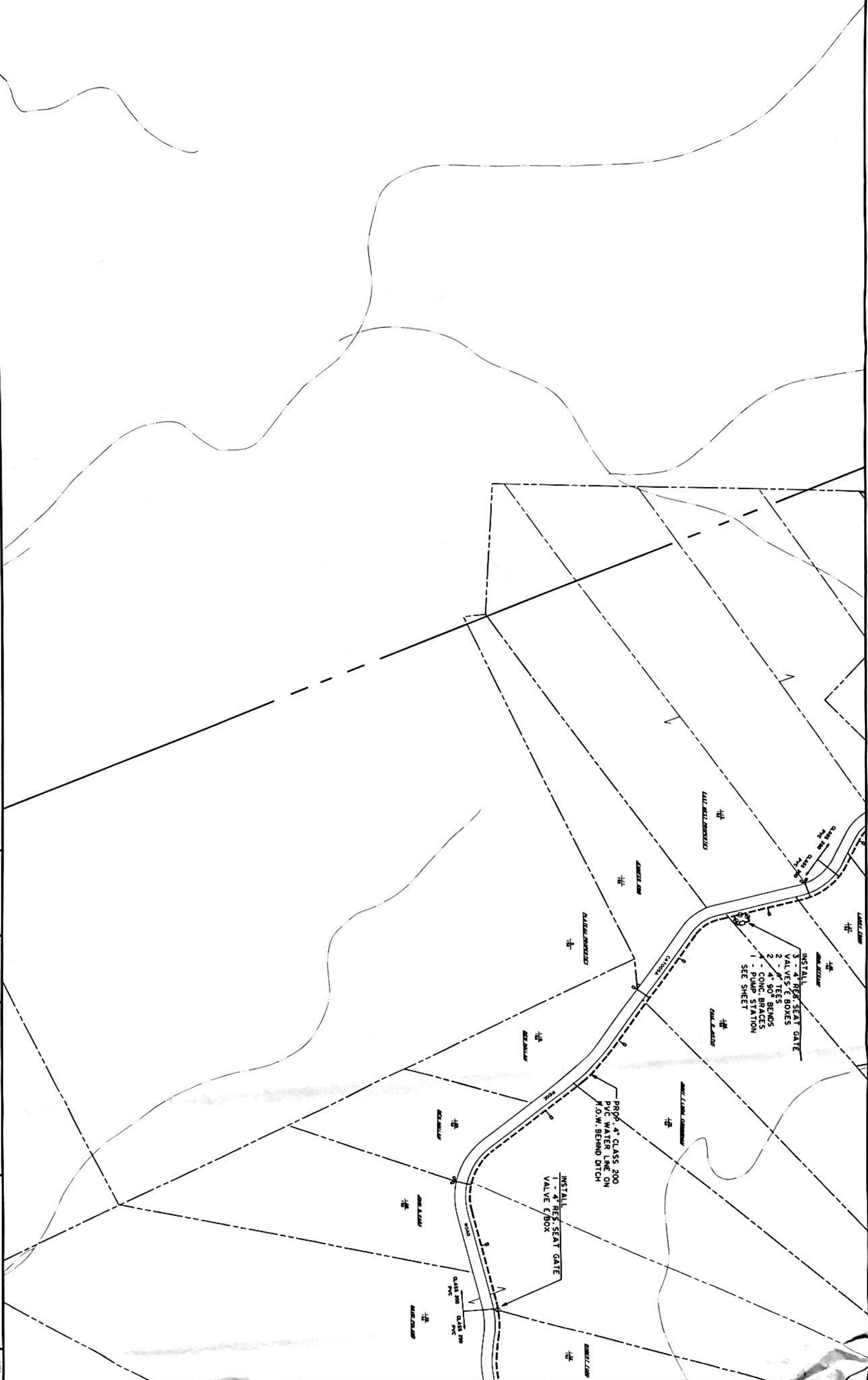
CHECKED: RNW

DATE: JUN. 2005

SCALE: 1" = 200'

PROJECT NO: 03147

Sheet
2

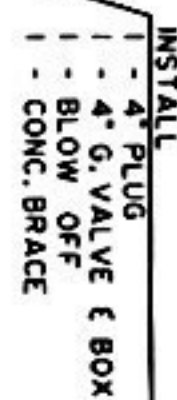


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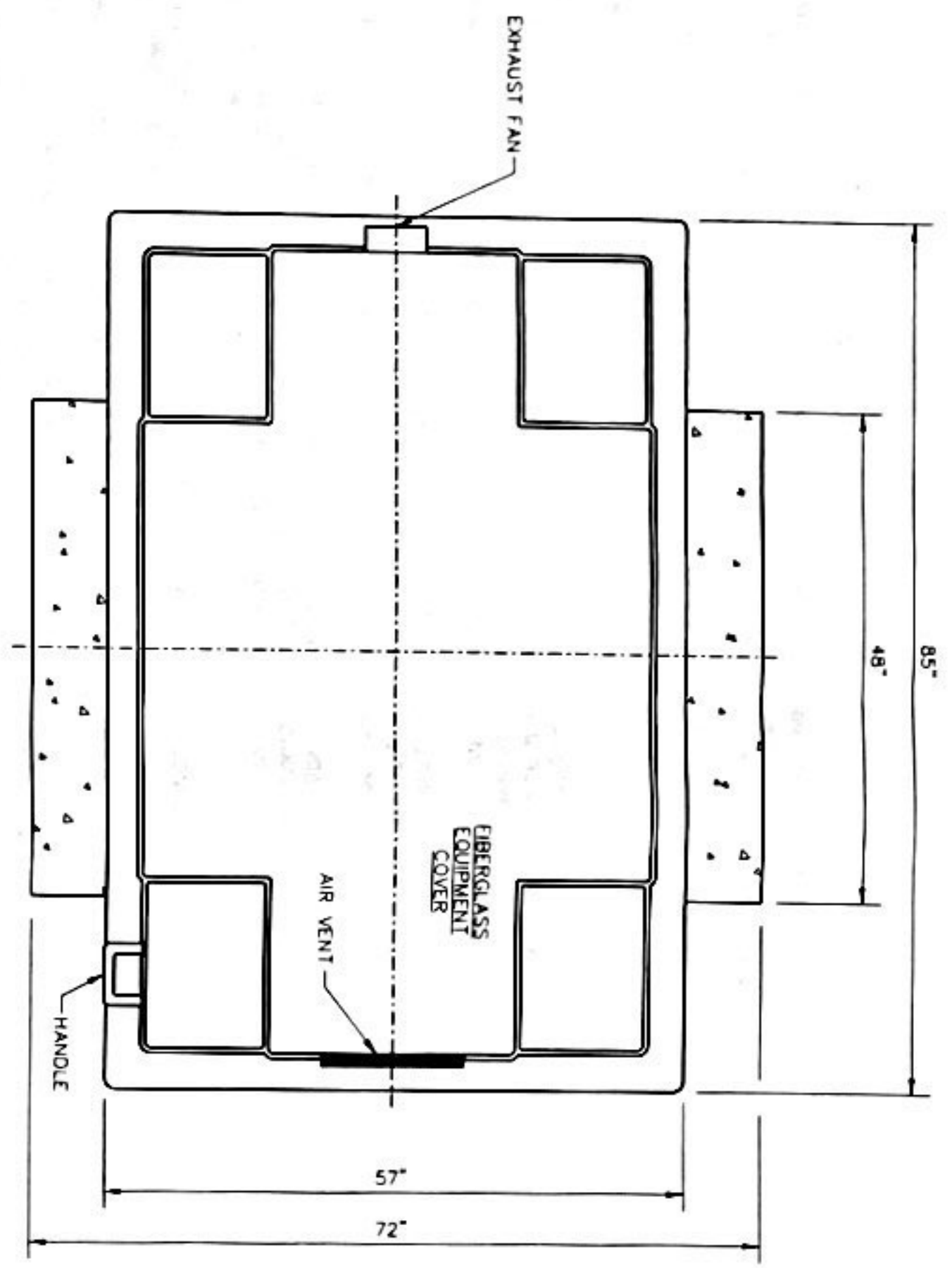
HARRIMAN
 UTILITY BOARD
 Morgan County, Tennessee
 RNW LLB RNW

WATER LINE ADDITIONS
 CATOOSA RIDGE ROAD
 JUN. 2005 1" = 200' 03147



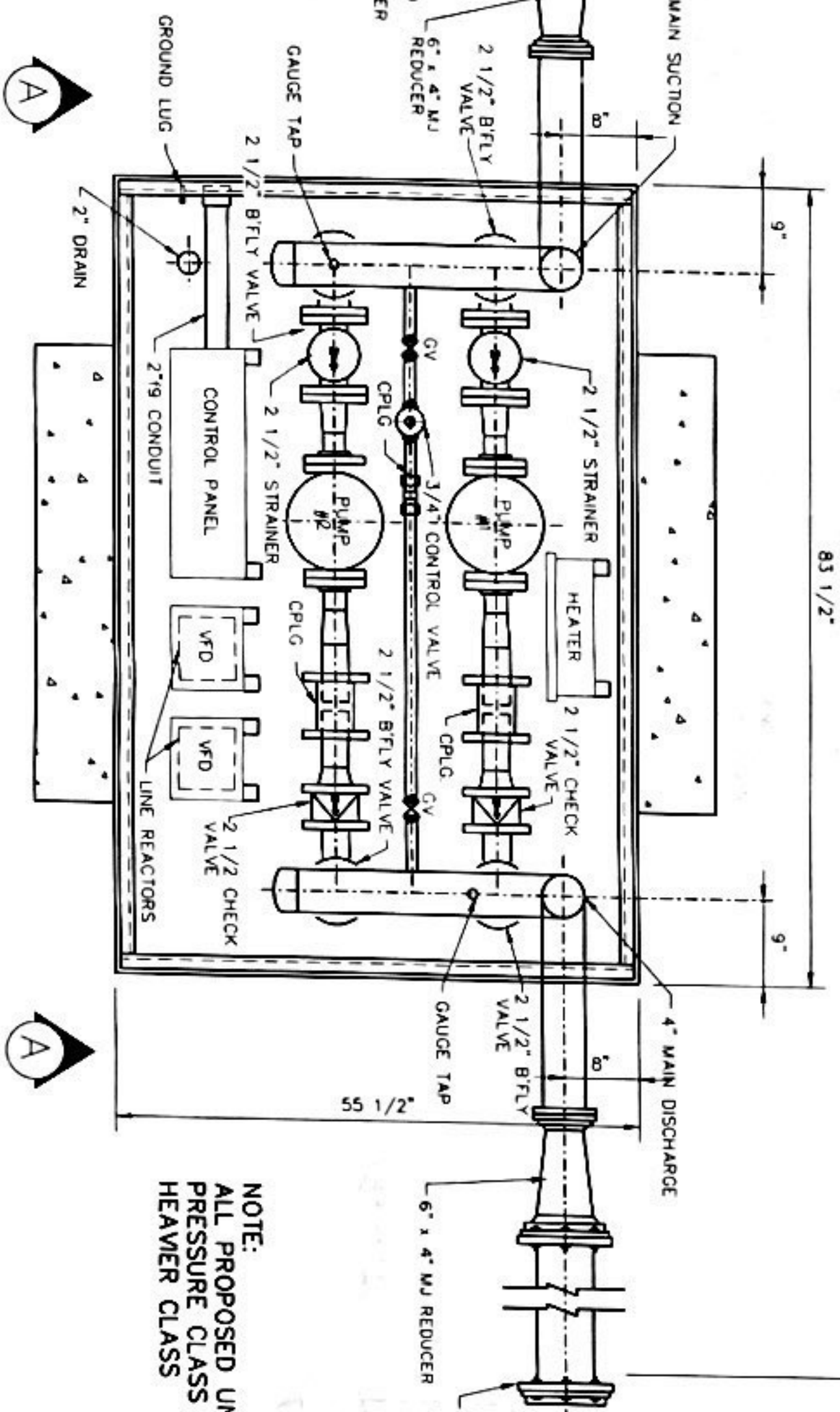
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| HARRIMAN UTILITY BOARD Morgan County, Tennessee | | | WATER LINE ADDITIONS CATOOSA RIDGE ROAD | | Sheet 4 |
|---|------|-------|--|-----------|-------------|
| BY | DATE | CHK'D | DATE | SCALE | PROJECT NO. |
| RNW | LLB | RNW | JUN. 2005 | 1" = 200' | 03147 |
| | | | | | 152 RW |



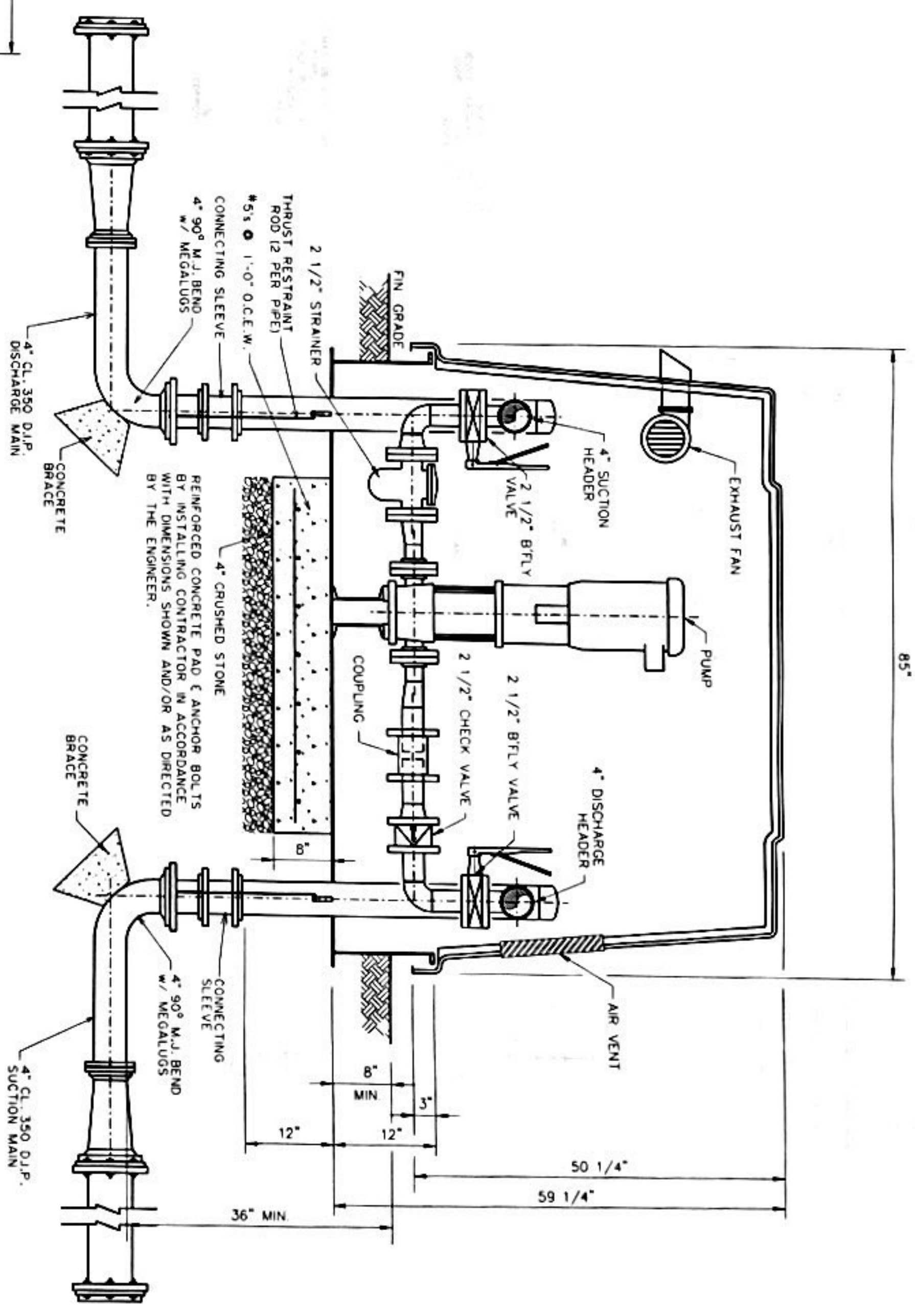
EXTERIOR PLAN

PUMP STATION - LUMP SUM



INTERIOR PLAN

NOTE:
ALL PROPOSED UNDERGROUND PIPING TO BE
PRESSURE CLASS 350 DUCTILE IRON OR
HEAVIER CLASS

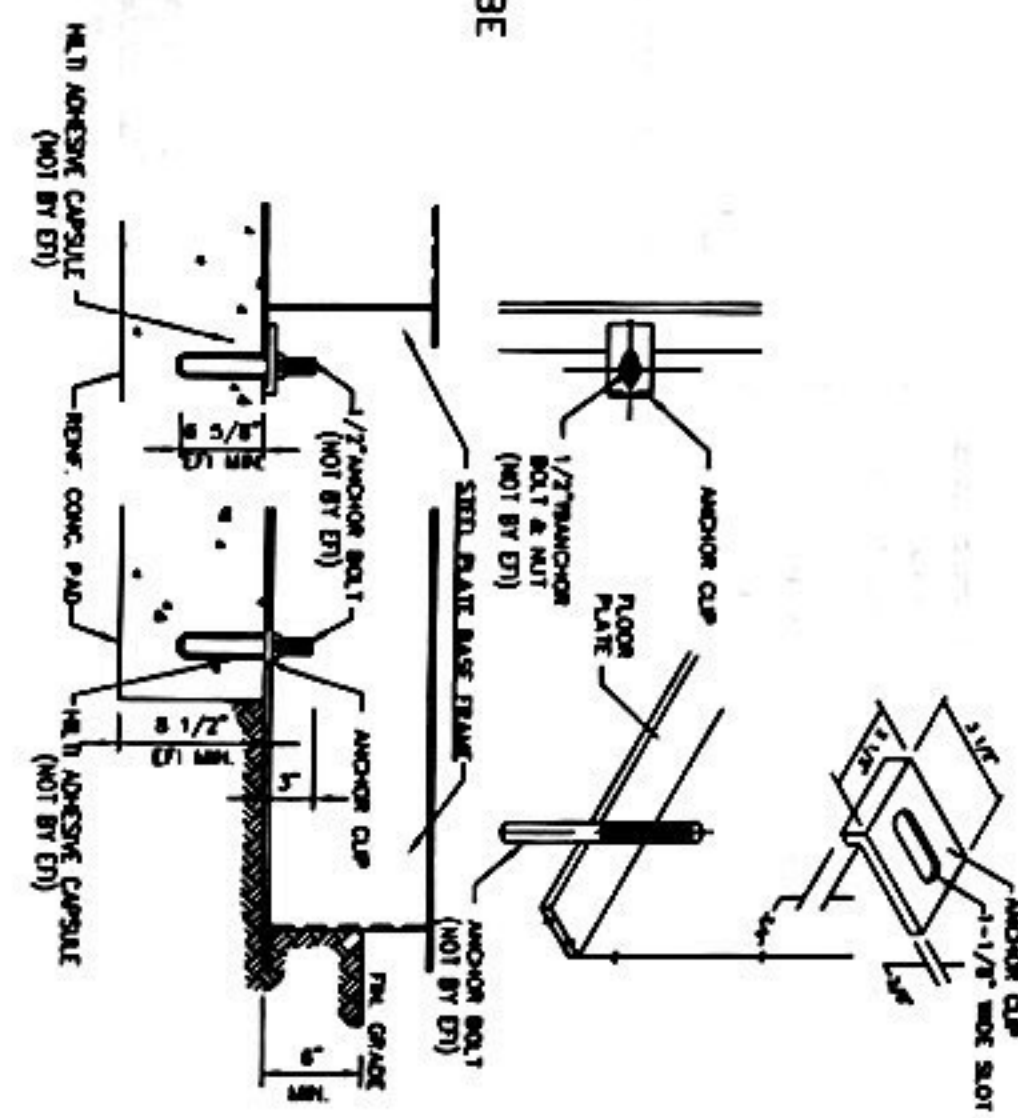


SECTION A-A

DESIGN CRITERIA

Controls CONSTANT PRESSURE
Power Service: 240 Volts, 1 Phase, 60 Cycle

PUMP DATA
Type: VERTICAL, MULTI-STAGE CENTRIFUGAL
Capacity: 75 G.P.M. AT 330 FEET T.D.H.
Size: 2" x 2"
Motor: 10 H.P., 3500 R.P.M.



TYPICAL ANCHOR DETAIL

NOTE: ANCHOR BOLTS & NUTS BY INSTALLER



JAMES C. HAILEY & CO.
CONSULTING ENGINEERS
NASHVILLE, TENNESSEE

CATOOSA RIDGE
PUMP STATION #1
PLAN AND DETAILS

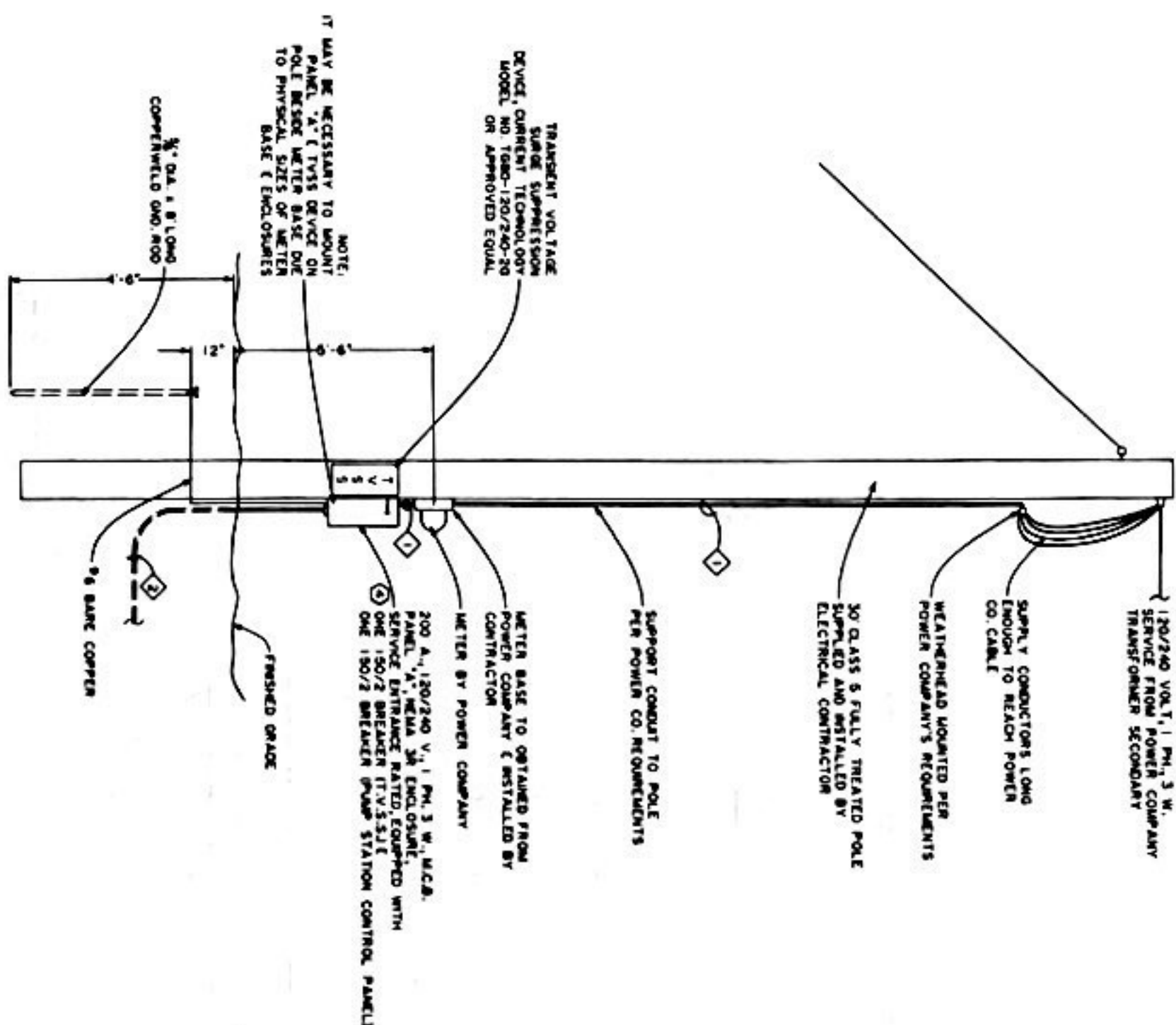
HARRIMAN
UTILITY BOARD
Morgan County, Tennessee



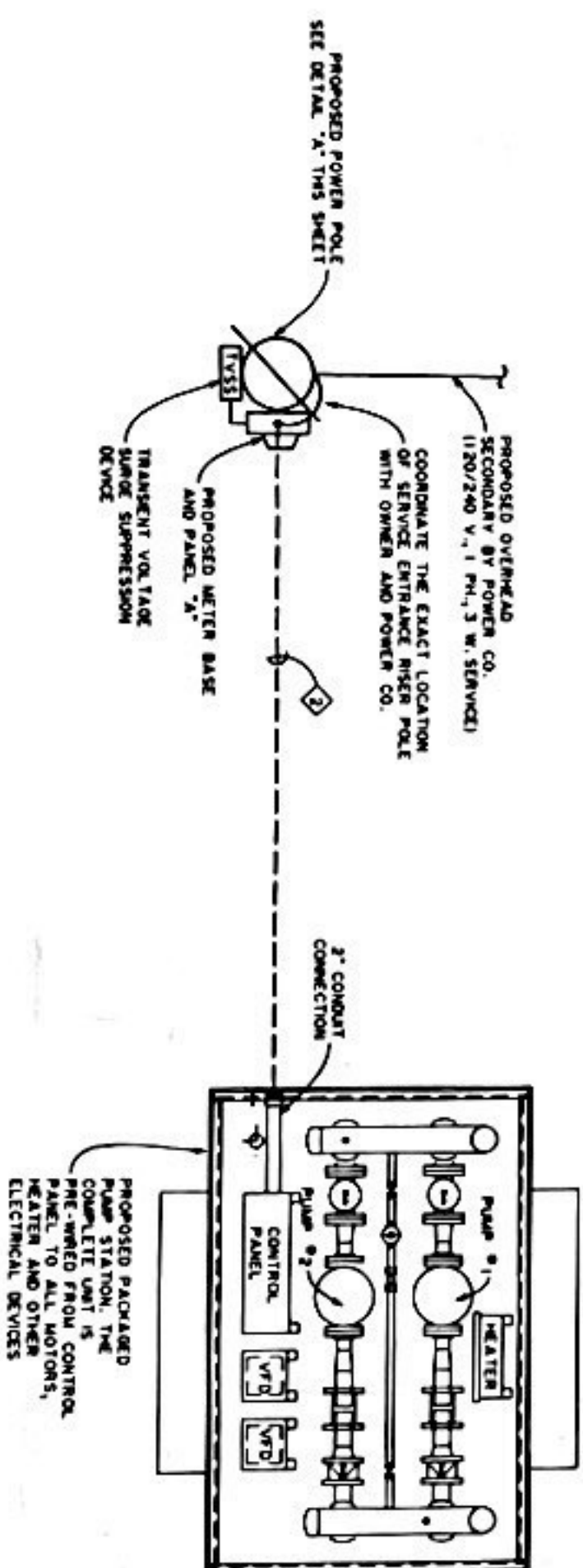
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| DATE | OCT. 2005 |
| SCALE | 1" = 1'-0" |
| PROJECT NO. | 03147 |
| DESIGNER | LLB |
| CHECKER | RNW |
| DATE | |
| BY | |
| 5 | |

GENERAL SPECIFICATIONS

- THE DRAWINGS ARE DIAGRAMATIC AND INDICATE THE GENERAL DESIGN AND ARRANGEMENT OF THE PROPOSED WORK. THE CONTRACTOR SHALL NOT SCALE DRAWINGS FOR THE EXACT LOCATION OF EQUIPMENT AND WORK. THE EXACT LOCATION OF ALL PANELS AND EQUIPMENT TO BE CONFIRMED BY THE OWNER. THE CONTRACTOR SHALL VERIFY ALL EXISTING AND PROPOSED WORK TO INSURE PROPER INSTALLATION BEFORE FABRICATING AND INSTALLING ANY WORK.
- ALL WIRING SHALL BE TYPE THHN/THWN (90° C) COPPER CONDUCTORS.
- ALL CONDUIT SHALL BE STANDARD RIGID GALVANIZED STEEL EXCEPT WHERE NOTED OTHERWISE ON THE DRAWINGS AND SPECIFIED HEREIN. USE PVC SCHEDULE 40 WHEN RUN UNDERGROUND. USE ONLY RIGID GALVANIZED WHEN EXPOSED. WHEN PVC CONDUIT IS USED, TURN UP RIGID GALVANIZED ELBOWS AND PROVIDE EQUIPMENT GROUNDING CONDUCTOR IN ACCORDANCE WITH NEC ARTICLE 250.
- LIQUID TIGHT FLEXIBLE CONDUIT SHALL BE OF FLEXIBLE STEEL, SINGLE STRIP TYPE, MILD STEEL CONTINUOUS LENGTH OF UNIFORM WEIGHT AND THICKNESS WITH OUTER LIQUID TIGHT COVERING. MINIMUM SIZE SHALL BE 1/2", EXCEPT AS PERMITTED BY THE NEC.
- CONDUIT SHALL BE RUN PARALLEL OR PERPENDICULAR TO WALLS, CEILINGS, BEAMS OR COLUMNS, ETC. CONDUIT SHALL BE ADEQUATELY SUPPORTED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE REQUIREMENTS. NO DOWNT SHALL BE SUPPORTED BY THE EQUIPMENT TO WHICH IT IS CONNECTED.
- FINAL CONNECTION TO MOTORS SHALL BE MADE WITH FLEXIBLE STEEL CONDUIT. ALL WIRING SHALL BE COMPLETE TO MOTORS.
- FEEDER CABLES SHALL BE SPLICED ONLY AT TAP POINTS AS INDICATED IN THE DRAWINGS.
- ALL ELECTRICAL EQUIPMENT SUPPORTS AND CONDUIT SUPPORTS, ANCHORS, BOLTS, SCREWS, AND MOUNTING HARDWARE INCLUDING UNISTRUT, ANGLE IRON, AND STRUCTURAL MEMBERS SHALL BE STAINLESS STEEL OR ALUMINUM.
- SAFETY SWITCHES SHALL BE HEAVY DUTY TYPE, QUICK MAKE, QUICK BREAK WITH INTERLOCKING COVER. PROVIDE NEMA 4X, STAINLESS STEEL ENCLOSURE OR NEMA 3R ENCLOSURE AS NOTED ON THE PLANS. PROVIDE EQUIPMENT GROUND LUG IN EACH SWITCH.
- PANELBOARDS SHALL BE FACTORY ASSEMBLED, DEAD FRONT TYPE WITH COPPER BUS, LUGS, FINISH TRIM NEMA TYPE 3R AND THERMAL-MAGNETIC MOLDED CASE CIRCUIT BREAKERS OF FRAME AND TRIP RATINGS SHOWN ON THE PLANS AS MANUFACTURED BY SQUARE D, ITE OR CUTLER HAMMER.
- PANELBOARDS, POWER PANELS, SAFETY SWITCHES AND OTHER ELECTRICAL EQUIPMENT SHALL BE EQUIPPED WITH ENGRAVED LAMINATED PLATES SECURELY MOUNTED WITH SCREWS.
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- ALL CONDUITS SHALL HAVE INSTALLED A GREEN EQUIPMENT GROUNDING CONDUCTOR WHICH SHALL BE ATTACHED TO ALL FIXTURES, PANELS, DEVICES, ETC.
- THE CONTRACTOR SHALL WARRANTY ALL WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE BY THE OWNER.



POWER POLE DETAIL "A"
SCALE: NONE



POWER LAYOUT
SCALE: 1/4\"/>

| CONDUIT & WIRE DESIGNATION SCHEDULE | |
|-------------------------------------|---|
| DESIG. | DESCRIPTION |
| 1 | 1 1/4" C., 3 - #4 THHN/THWN CU. |
| 2 | 1 1/4" C., 3 - #3/0 THHN/THWN CU. & 1 - #4 THHN/THWN CU. GND. |

| ELECTRICAL LEGEND | |
|-------------------|---|
| SYMBOL | DESCRIPTION |
| (---) | CONDUIT CONCEALED IN WALL OR CEILING |
| (---) | CONDUIT CONCEALED IN FLOOR SLAB OR UNDERGROUND |
| (---) | CONDUIT EXPOSED ON WALL OR CEILING |
| (---) | FLEXIBLE CONDUIT |
| (---) | WEATHERPROOF CABLE |
| (---) | JUNCTION BOX |
| (S) | SINGLE POLE SWITCH, 20 AMP, MTD. HT. PER SPECS. |
| (SUS) | MANUAL MOTOR SWITCH W/ THERMAL PROTECTION |
| (D) | DUPLEX RECEPTACLE - MTD. HT. PER SPECS. |
| (DWP) | WEATHERPROOF DUPLEX RECEPTACLE |
| (DRI) | DUPLEX RECEPTACLE, GROUND FAULT INTERRUPTER TYPE |
| (DIS) | DISCONNECT SWITCH, FUSIBLE, 30 AMP / 3 POLE |
| (DISN) | DISCONNECT SWITCH, NON-FUSIBLE, RAINIGHT, 30 AMP / 3 POLE |
| (DIP) | DISTRIBUTION PANEL |
| (MCS) | MOTOR CONTROLLER OR STARTER, MAGNETIC |
| (MCSN) | COMBINATION STARTER AND DISCONNECT |
| (M) | MOTOR W/ APPROXIMATE HORSEPOWER |
| (W) | WOOD POLE |
| (N) | DESIGNATES NOTE NUMBER |
| (D) | DESIGNATES CONDUIT & WIRE DESCRIPTION PER SCHEDULE |

NOTES:

- ALL EQUIPMENT AND APPURTENANCES SHOWN IN POWER POLE DETAIL SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED.
- ALL CONDUIT ROUTING SHOWN IS DIAGRAMATIC. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL OF THE RACEWAY INSTALLATIONS WITH OTHER TRADES TO AVOID INTERFERENCES WITH STRUCTURES AND PIPING. MAINTAIN APPROX. 24\"/>
- CONFIRM SERVICE ENTRANCE INSTALLATION WITH POWER CO. AND COMPLY WITH NECESSARY REQUIREMENTS. POWER COMPANY IS ROCKWOOD ELECTRIC.
- THE EXACT AIC RATING OF PANEL "A" SHALL BE COORDINATED WITH THE POWER COMPANY'S AVAILABLE FAULT CURRENT AND ADJUSTED ACCORDINGLY.
- ALL ELECTRICAL WORK SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE AND NATIONAL CODES.

JAMES C. HAILEY & CO.
CONSULTING ENGINEERS
NASHVILLE, TENNESSEE

CATOOSA RIDGE
PUMP STATION #1
POWER LAYOUT

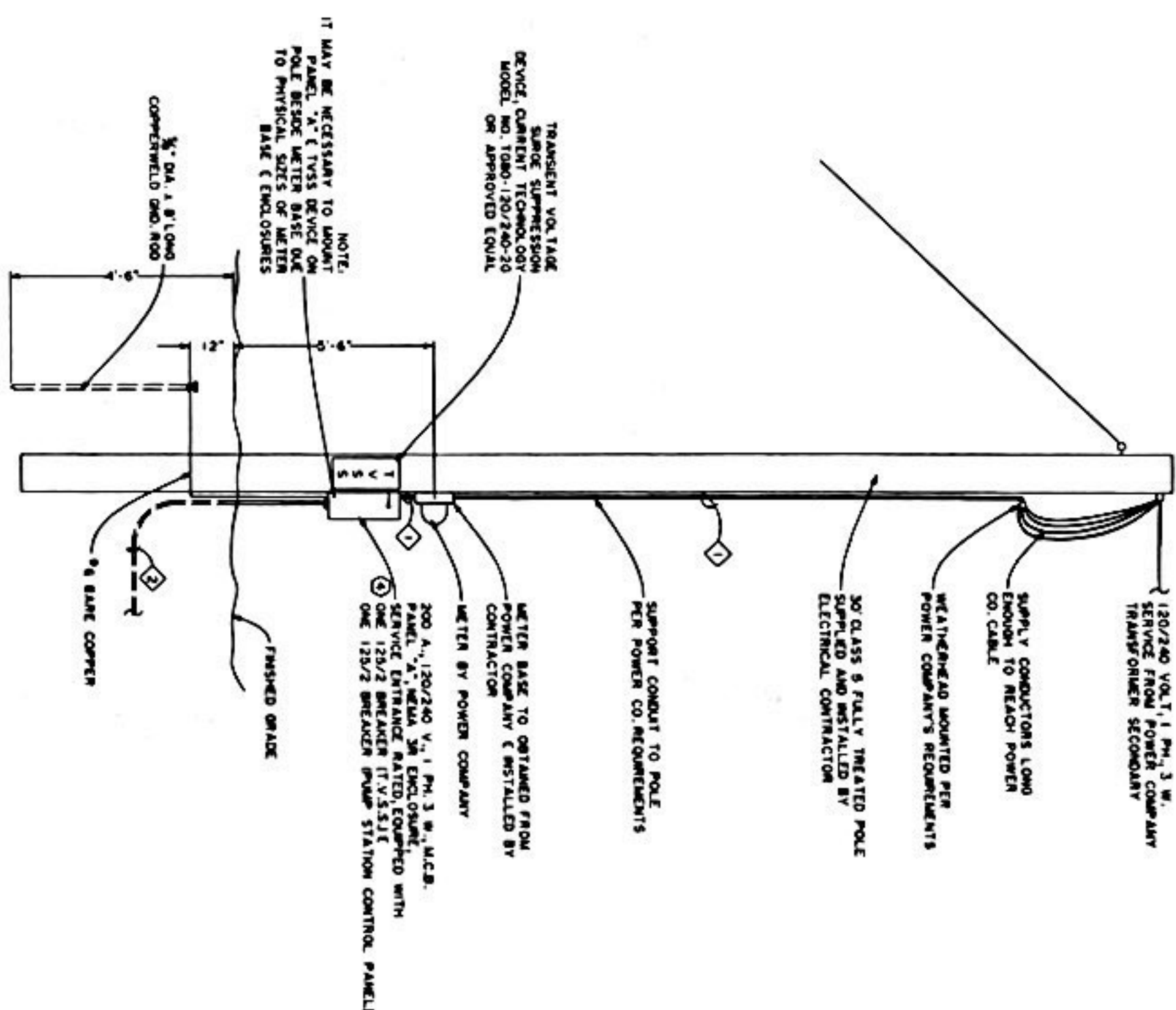
HARRIMAN
UTILITY BOARD
Morgan County, Tennessee



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| DESIGN | RNW |
| CHECKED | LLB |
| DRAWN | RNW |
| DATE | OCT. 2005 |
| TITLE | 1\"/> |
| PROJECT NO. | 03147 |
| SHEET | 6 |

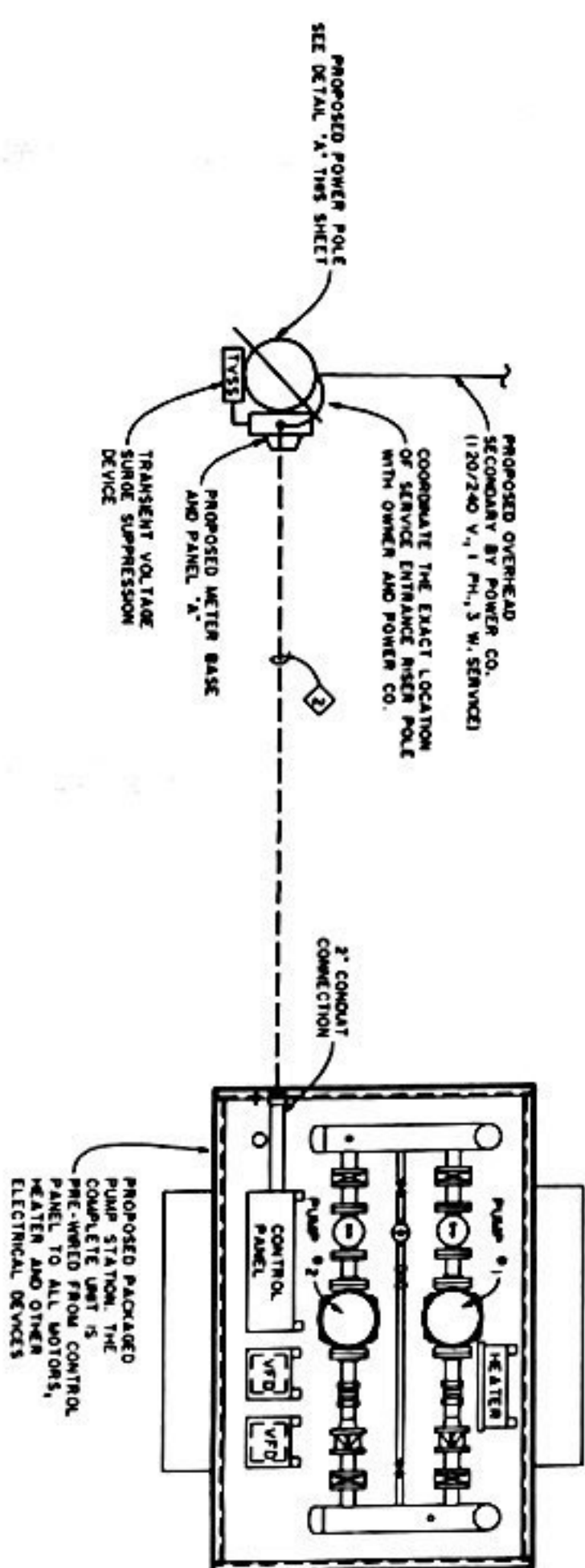
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POWER POLE DETAIL "A"

SCALE: NONE



POWER LAYOUT

SCALE: 3/4\"/>

| CONDUIT & WIRE DESIGNATION SCHEDULE | |
|-------------------------------------|-------------|
| DESIG. | DESCRIPTION |
| 1 | 1 1/2\"/> |

| ELECTRICAL LEGEND | |
|-------------------|---|
| SYMBOL | DESCRIPTION |
| (Symbol) | CONDUIT CONCEALED IN WALL OR CEILING |
| (Symbol) | CONDUIT CONCEALED IN FLOOR SLAB OR UNDERGROUND |
| (Symbol) | CONDUIT EXPOSED ON WALL OR CEILING |
| (Symbol) | FLEXIBLE CONDUIT |
| (Symbol) | WEATHERPROOF CABLE |
| (Symbol) | JUNCTION BOX |
| (Symbol) | SINGLE POLE SWITCH, 20 AMP, MTD. HT. PER SPECS. |
| (Symbol) | MANUAL MOTOR SWITCH W/ THERMAL PROTECTION |
| (Symbol) | WEATHERPROOF DUPLEX RECEPTACLE |
| (Symbol) | DUPLEX RECEPTACLE, GROUND FAULT INTERRUPTER TYPE |
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CATOOSA RIDGE
PUMP STATION #2
POWER LAYOUT

HARRIMAN
UTILITY BOARD
Morgan County, Tennessee

