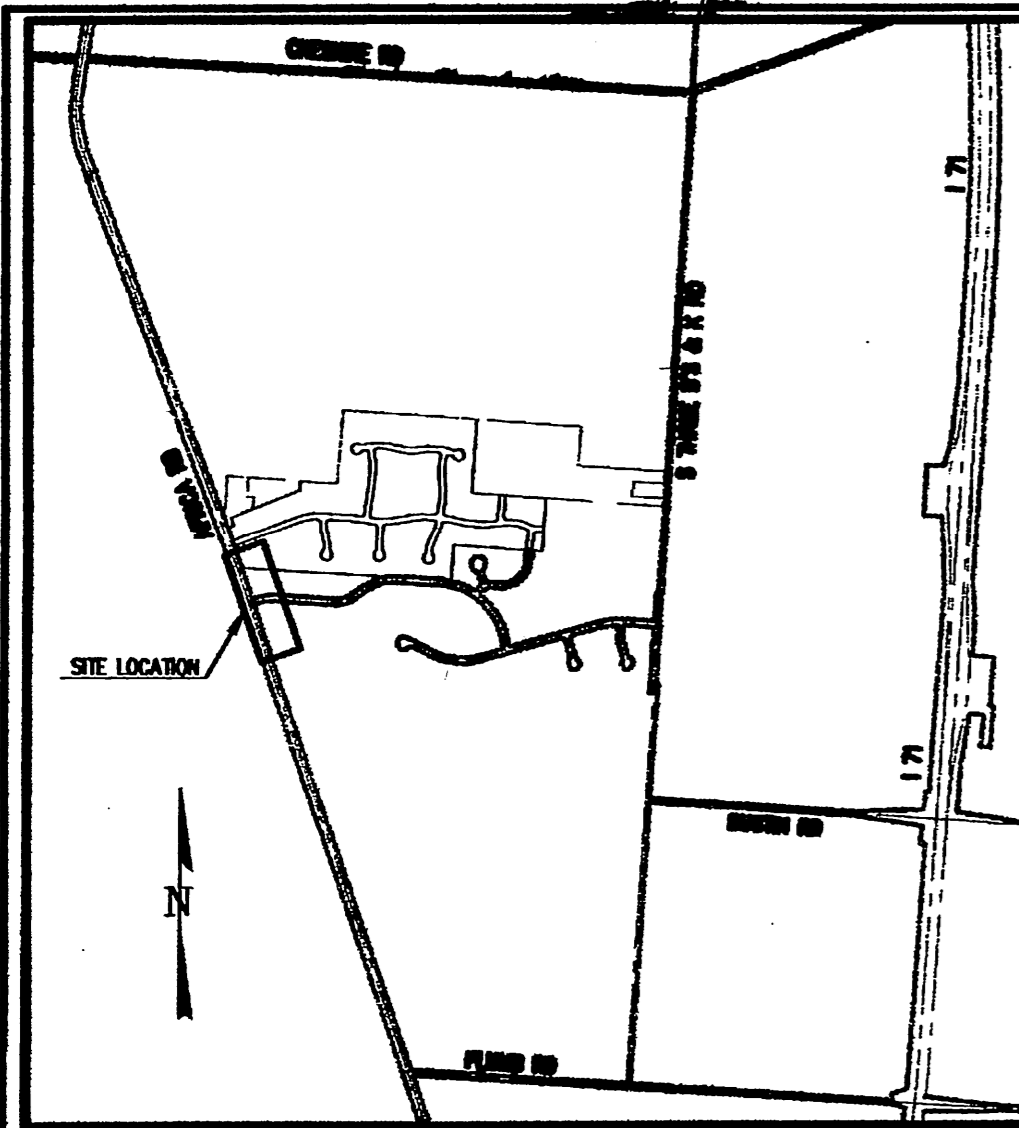


# LIFT STATION RELOCATION SUMMERWOOD

SECTION 4-4, TWP 4 N, RANGE 18 W  
UNITED STATES MILITARY LANDS  
BERLIN TOWNSHIP, DELAWARE COUNTY, OHIO

**DESIGN ENGINEER**  
THIS IS TO CERTIFY THAT GOOD ENGINEERING PRACTICES HAVE BEEN UTILIZED IN THE DESIGN OF THIS PROJECT AND IN OUR OPINION AND TO THE BEST OF OUR KNOWLEDGE THAT ALL MINIMUM STANDARDS AS DELINEATED IN THE DELAWARE COUNTY ENGINEERING AND SURVEYING STANDARDS FOR "SUBDIVISION DEVELOPMENT" HAVE BEEN MET, INCLUDING THOSE STANDARDS GREATER THAN MINIMUM WHERE, IN OUR OPINION, THEY ARE NEEDED TO PROTECT THE SAFETY OF THE PUBLIC. ANY VARIANCES TO THE ABOVE STANDARDS ARE CONSISTENT WITH SOUND ENGINEERING PRACTICE AND ARE NOT DETRIMENTAL TO THE PUBLIC SAFETY AND CONVENIENCE. THESE VARIANCES HAVE BEEN LISTED HEREIN AND HAVE BEEN APPROVED BY THE DELAWARE COUNTY ENGINEER.

*M.P.D.*  
MICHAEL P. DAVIS P.E. NO. E-65511  
7-27-04  
DATE



**SHEET INDEX**

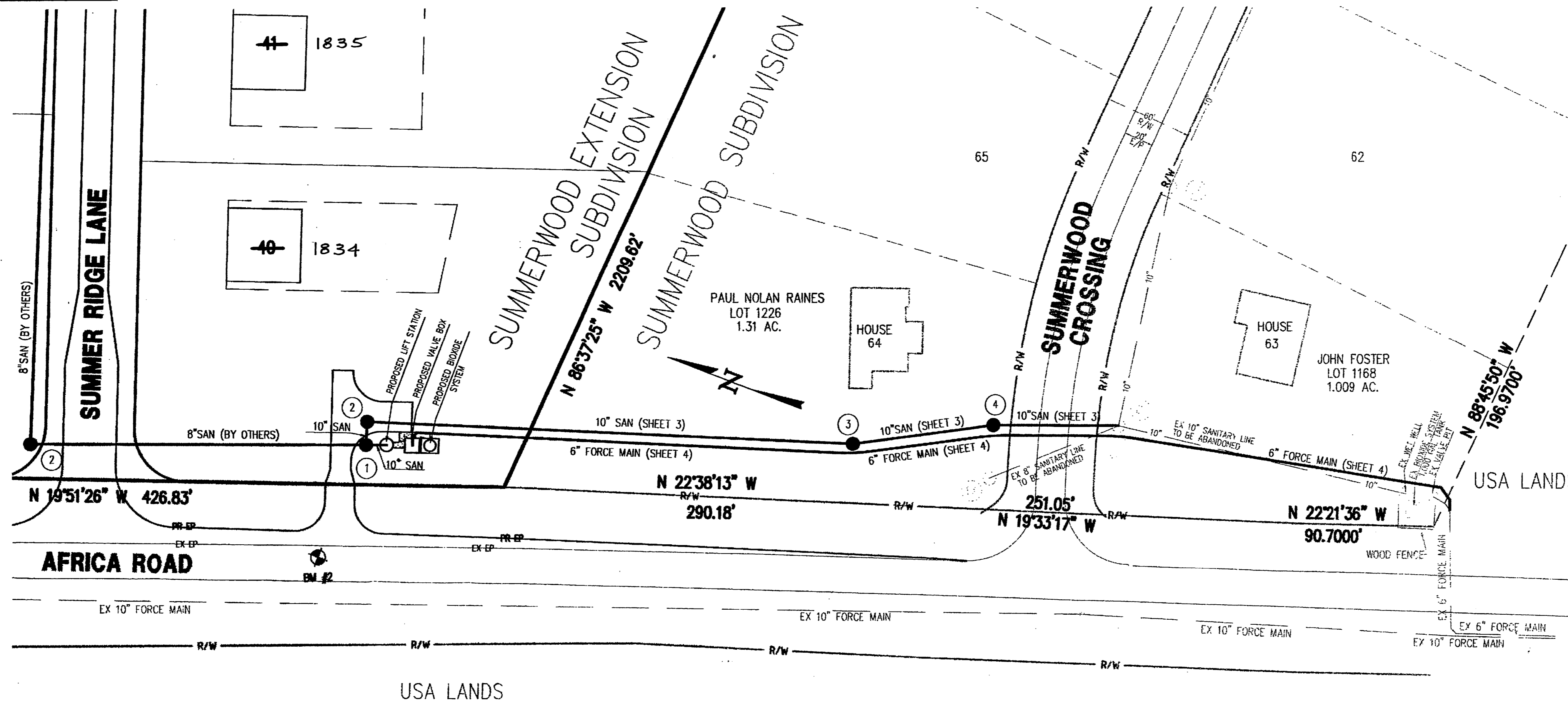
- |  |                                 |
|--|---------------------------------|
| 1. TITLE SHEET                           | 6. LIFT STATION DETAILS         |
| 2. STANDARD NOTES & DETAILS              | 7. ODOR CONTROL STATION DETAILS |
| 3. SANITARY SEWER PLAN/PROFILE VIEW      | 8. UTILITY BUILDING DETAILS     |
| 4. SANITARY FORCE MAIN PLAN/PROFILE VIEW | 9. ELECTRICAL PLAN-SCHEMATIC    |
| 5. GRADING/EROSION CONTROL               |                                 |

**CONSTRUCTION PLAN APPROVAL**

- DELAWARE COUNTY SANITARY ENGINEER  
*Jack Smelker*  
JACK SMELKER, P.E. 8-31-04  
DATE
- DELAWARE COUNTY ENGINEER  
*Chris E. Bauserman*  
CHRISTIAN E. BAUSERMAN, P.E., P.S. 9-2-04  
DATE
- DELAWARE COUNTY COMMISSIONERS  
*Kristoph W. Jule* 10-4-04  
DATE  
*Deborah B. Mart* 10-04-04  
DATE  
*James D. Ward* 10-4-04  
DATE

**OWNERS/DEVELOPER**  
CHARLIE VINCE  
110 POLARIS PARKWAY SUITE 301  
WESTERVILLE, OHIO 43082  
(614) 890-4033

**CONSULTANT**  
FLOYD BROWNE ASSOCIATES, INC.  
585 SUNBURY ROAD  
DELAWARE, OHIO 43015  
(740) 363-6792



**SCHEMATIC MAP**  
SCALE: 1" = 50'

**BENCH MARKS**

- SOURCE B.M.**  
BRASS TABLET SET IN CONCRETE AND STAMPED "97-075". THE STATION IS LOCATED ON PLUMB ROAD OPPOSITE RESIDENCE 5920 AND 14.5 FEET NORTH OF THE EDGE OF PAVEMENT.  
DELAWARE COUNTY MONUMENT 97-075  
ELEVATION - 933.54
- MASTER B.M. #1**  
RAILROAD SPIKE SET IN 12" TREE IN TREE LINE IN MIDDLE OF PROPERTY; ±40 FEET WEST OF WOODED AREA ON EAST SIDE; ±50 FEET EAST OF ACCESS DRIVE TO NORTHERN MOST FIELD; ±330.45 FEET FROM NORTHEAST PROPERTY LINE.  
ELEVATION - 947.88
- MASTER B.M. #2**  
TOP OF MONUMENT BOX AT P.I. OF AFRICA ROAD  
±350 FEET SOUTH OF COMMON ACCESS DRIVE  
ELEVATION - 926.09

**UTILITY COMPANIES:**

- |   |   |
|---|---|
| SPRINT<br>P.O. BOX 1031<br>PATASKALA, OHIO 43062<br>(740) 927-3000  | DEL-CO WATER COMPANY, INC.<br>6773 OLENTANGY RIVER ROAD<br>DELAWARE, OHIO 43015<br>(740) 548-7746           |
| AEP<br>61 WEST WILLIAM STREET<br>DELAWARE, OHIO 43015<br>(740) 363-1935   | COLUMBIA GAS OF OHIO<br>68 NORTH SANDUSKY STREET<br>DELAWARE, OHIO 43015<br>(740) 362-7701                  |
| COAXIAL COMMUNICATIONS<br>3770 EAST LIVINGSTON AVENUE<br>COLUMBUS, OHIO 43227<br>(614) 238-1292                   | DELAWARE COUNTY ENGINEER<br>CHRIS BAUSERMAN<br>50 CHANNING STREET<br>DELAWARE, OHIO 43015<br>(740) 833-2400 |
| DELAWARE COUNTY SANITARY ENGINEER<br>JACK SMELKER<br>50 CHANNING STREET<br>DELAWARE, OHIO 43015<br>(740) 833-2240 |   |

**FLOOD DESIGNATION**

THE SUBJECT PROPERTY LIES WITHIN ZONE "X", AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN AS DETERMINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY AND DESIGNATED ON THE FLOOD INSURANCE RATE MAP COMMUNITY PANEL NUMBER 39041 C02304, DATED APRIL 21, 1999.

**SOURCE OF TOPOGRAPHY**

FIELD TOPOGRAPHY SHOWN HEREON WAS COMPILED BY FLOYD BROWNE ASSOCIATES, INC. DECEMBER, 2003

CHANGE ORDER SCHEDULE					
CHANGE	PREPARED	DESCRIPTION OF CHANGE	SHT NO.	APPROVED	DATE OF APPROVAL
▲	SAK	FORCE MAIN REVISED ± AIR RELEASE	4	<i>J.R.R.</i>	2-24-05
		VALVE ADDED TO PLAN VIEW			
▲	SAK	VERTICAL ELEVATIONS REVISED	3,4	<i>J.R.</i>	4-21-05
		DUE TO LOWERING WEST WELL	516	<i>J.R.</i>	4-21-05

**FLOYD BROWNE ASSOCIATES, INC.**  
FBA INC

\* Contact Office  
Dayton, Ohio  
937.431.1004  
Delaware, Ohio  
740.363.6792  
\* Marion, Ohio  
740.363.2187

DATE AUGUST 12, 2004  
JOB NO. 03-290-08  
CADD FILE G:\Client\Vince...  
APPROVED

**CHARLIE VINCE**  
**LIFT STATION RELOCATION**  
**SUMMERWOOD**

**TITLE SHEET**

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

**GENERAL NOTES**

- EXISTING SANITARY SEWERS, STORM DRAIN, WATER LINES, GAS LINES, TELEPHONE CONDUITS, ELECTRICAL CABLES AND OTHER UTILITIES SHOWN ARE APPROXIMATE LOCATION ONLY. INFORMATION WAS OBTAINED FROM EXISTING RECORDS, A FIELD INVESTIGATION AND/OR FIELD LOCATION BY THE RESPECTIVE OWNER. NEITHER THE OWNER NOR THE CONSULTING ENGINEER WARRANT OR REPRESENT THE INFORMATION SHOWN TO BE COMPLETE OR ACCURATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INVESTIGATION AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO AND DURING CONSTRUCTION.
- ROOF DRAINS, FOUNDATION DRAINS AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.
- PIPE MATERIAL FOR GRAVITY SEWERS SHALL BE:
  - MAIN LINE SEWERS: POLYVINYL CHLORIDE (PVC) GRAVITY SEWER PIPE - ASTM D-3034, SDR-35, WITH ASTM D-3212 JOINTS AS SPECIFIED ON DRAWINGS
  - FORCE MAINS SHALL BE: POLYVINYL CHLORIDE GRAVITY SEWER PIPE - ASTM D-2241, SDR-26 WITH ASTM D-3139 JOINTS
- GRANULAR BACKFILL SHALL BE USED UNDER PAVEMENT, BERMS, DRIVEWAYS, CURBS, SIDEWALKS, AND WHEN THE SANITARY SEWER OR STORM DRAIN IS CONSTRUCTED WITHIN 5' OF THE EDGE OF PAVEMENT OR AS DIRECTED BY THE RESIDENT REPRESENTATIVE.
- WHEN CROSSING UNDER CULVERTS, GAS LINES AND PIPE LINES, ALL VOIDS SHALL BE FILLED WITH COMPACTED GRANULAR MATERIAL.
- REMOVE AND REPLACE SIGNS AND MAIL BOXES AS REQUIRED. PAYMENT TO BE INCLUDED WITH THE BASE BID FOR PIPE INSTALLATION.
- WHEN EXISTING SURFACE DRAINAGE IS DISTURBED, THE AREA SHALL BE REGRADED TO THE ORIGINAL LINE, GRADE, AND CROSS SECTION UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DISPOSE OF ALL EXCAVATED MATERIALS AT HIS OWN EXPENSE.
- ALL SANITARY SEWERS AND WATER LINES SHALL HAVE A MINIMUM HORIZONTAL SEPARATION OF 10' AND A VERTICAL SEPARATION OF 1.5'.
- RIGHT-OF-WAY MONUMENTS OR PROPERTY LINE PINS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR AT THEIR OWN EXPENSE.
- WATER LINES, IF REQUIRED TO BE RELOCATED DURING CONSTRUCTION OR IF DAMAGED DURING CONSTRUCTION, SHALL BE DONE IN ACCORDANCE WITH AWWA SPECIFICATIONS.
- THE CONTRACTOR AND/OR SUBCONTRACTOR SHALL REFER TO THE "STANDARD PLANS AND SPECIFICATIONS FOR CONSTRUCTION OF SANITARY FACILITIES IN DELAWARE COUNTY, OHIO" FOR ALL NECESSARY CONSTRUCTION DETAILS.
- ALL SANITARY SEWERS ARE SUBJECT TO DEFLECTION TESTING AS PER SECTION 5.1 OF THE DELAWARE COUNTY STANDARD PLANS AND SPECIFICATIONS FOR CONSTRUCTION OF SANITARY FACILITIES.
- THE FOLLOWING UTILITIES AND OWNERS COULD BE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT AND SOME DO NOT SUBSCRIBE TO A REGISTERED UNDERGROUND UTILITY PROTECTION SERVICE:
  - THE CONTRACTOR SHALL MAINTAIN ALL EXISTING DRAINAGE PIPES OR TILES AND, IF DAMAGED, REPLACE THEM WITH THE SAME SIZE AND QUALITY OF MATERIALS AS FOUND.

**EROSION/SEDIMENT/DUST CONTROL PRACTICES**

- STOCKPILED TOPSOIL AND EXCAVATED MATERIAL IS TO BE PROTECTED THROUGH THE USE OF TEMPORARY SEEDING, OR COVERED WITH ANCHORED STRAW MULCH.
- FINAL GRADING WILL BE CONSISTENT WITH PRE-CONSTRUCTION TOPOGRAPHY TO MAINTAIN DRAINAGE AND AESTHETICS.
- REMOVE ONLY THOSE TREES, SHRUBS, AND GRASSES THAT MUST BE REMOVED TO PERMIT ACTUAL CONSTRUCTION: PROTECT THE REMAINING TO PRESERVE THEIR AESTHETIC AND EROSION CONTROL VALUE.
- DISTURBED LAND SHALL BE TEMPORARILY STABILIZED BY SEEDING AND/OR MULCHING.
- BACKFILL TRENCHES IMMEDIATELY AFTER COMPACTION. SEED AND MULCH TRENCHES WITHIN TWO WEEKS AFTER TRENCHES ARE OPENED.
- SILT FROM CONSTRUCTION OPERATIONS SHALL NOT BE PERMITTED TO ENTER THE STORM DRAIN SYSTEM. CONSTRUCTION OCCURRING NEAR STORM DRAIN INLETS, EROSION CONTROL MEASURES, SUCH AS SILT FENCES, ROCK CHECKS, SEDIMENT BASINS, ETC., SHALL BE USED TO PREVENT SILT FROM ENTERING THE STORM DRAIN.

**NOISE CONTROL PRACTICES**

- CONSTRUCTION ACTIVITY WILL BE LIMITED TO DAYTIME HOURS.
- CONSTRUCTION EQUIPMENT WILL BE PROVIDED WITH INTAKE SILENCERS AND MUFFLERS AS REQUIRED BY SAFETY STANDARDS.

**PROHIBITED CONSTRUCTION ACTIVITIES**

THE CONTRACTOR SHALL NOT USE CONSTRUCTION PROCEEDINGS, ACTIVITIES OR OPERATIONS THAT MAY UNNECESSARILY IMPACT THE NATURAL ENVIRONMENT OR THE PUBLIC HEALTH AND SAFETY. PROHIBITED CONSTRUCTION PROCEDURES, ACTIVITIES OR OPERATIONS INCLUDE BUT ARE NOT LIMITED TO:

- DISPOSING OF EXCESS OR UNSUITABLE EXCAVATED MATERIAL IN WETLANDS OR FLOODPLAINS, EVEN WITH THE PERMISSION OF THE PROPERTY OWNER.
- INDISCRIMINATE, ARBITRARY, OR CAPRICIOUS OPERATION OF EQUIPMENT IN ANY STREAM CORRIDORS, ANY WETLANDS, ANY SURFACE WATERS, OR OUTSIDE THE EASEMENT LIMITS.
- PUMPING OF SEDIMENT-LADEN WATER FROM TRENCHES OR OTHER EXCAVATIONS INTO ANY SURFACE WATERS, ANY STREAM CORRIDORS, ANY WETLANDS, OR STORM SEWERS.
- DISCHARGING POLLUTANTS SUCH AS CHEMICALS, FUELS, LUBRICANTS, BITUMINOUS MATERIALS, RAW SEWAGE AND OTHER HARMFUL WASTE INTO OR ALONGSIDE OF RIVERS, STREAMS, IMPOUNDMENTS OR INTO NATURAL OR MAN-MADE CHANNELS LEADING THERETO.
- PERMANENT OR UNSPECIFIED ALTERATION OF THE FLOW LINE OF A STREAM DAMAGING VEGETATION OUTSIDE OF THE CONSTRUCTION AREA.
- DISPOSAL OF TREES, BRUSH AND OTHER DEBRIS IN ANY STREAM CORRIDORS, ANY WETLANDS, ANY SURFACE WATERS, OR AT UNSPECIFIED LOCATIONS.
- OPEN BURNING OF PROJECT DEBRIS WITHOUT A PERMIT, AND
- STORING CONSTRUCTION EQUIPMENT AND VEHICLES AND/OR STOCKPILING CONSTRUCTION MATERIALS ON PROPERTY, PUBLIC OR PRIVATE, NOT PREVIOUSLY SPECIFIED BY THE ENGINEER OF SAID PURPOSES.

**TRANSPORTATION/SAFETY PRACTICES**

- ONE LANE TRAFFIC MUST BE MAINTAINED AT ALL TIMES ALONG THE TRAVEL ROUTE TO THE WASTEWATER TREATMENT PLANT.
- ANY CONSTRUCTION EQUIPMENT OR EXCAVATIONS NEAR THE ROADS MUST BE MARKED WITH LIGHTS, REFLECTORS, OIL LANTERNS OR SMUDGEPOTS.
- PAVEMENT REPLACEMENT MUST MATCH EXISTING PAVEMENT STRUCTURE.
- ACCESS MUST BE MAINTAINED FOR EMERGENCY VEHICLES AT ALL TIMES.

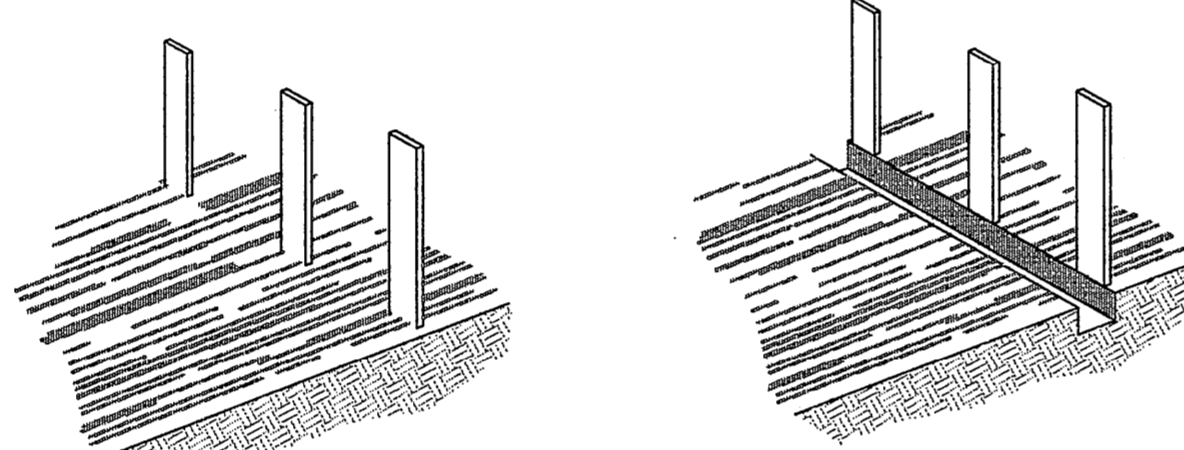
**GENERAL NOTES TO CONTRACTOR**

- TREE REMOVAL AND PROTECTION:
  - NO FILL MATERIAL SHALL BE STORED AGAINST OR WITHIN THE DRIP LINE OF THE TREES.
  - TREES REMOVED SHOULD BE FILLED SO AS NOT TO DAMAGE REMAINING TREES.
  - WHEN ROOTS ARE DAMAGED DURING EXCAVATION, THE ABOVE GROUND PORTION OF THE TREE WILL BE PRUNED TO COMPENSATE.
- NO HEAVY EQUIPMENT SHALL ENTER THE STREAM DURING CONSTRUCTION OF THE HEADWALL UNLESS ABSOLUTELY NECESSARY AND IN ACCORDANCE WITH CORPS OF ENGINEERS PERMIT REQUIREMENTS.
- ALL MATERIALS DISPOSED OF OFF-SITE MUST BE DISPOSED OF IN AN ENVIRONMENTALLY SOUND FASHION. DISPOSING OF DEBRIS ON PRIVATE PROPERTY AND/OR ON AN UNAPPROVED LANDFILL IS NOT ACCEPTABLE.
- PROVIDE SOIL EROSION BARRIERS AS REQUIRED FOR CONSTRUCTION, AS SPECIFIED AND AS DETAILED ON THIS SHEET.
- CONTRACTOR SHALL REFRAIN FROM CLEARING AND GRUBBING UNTIL TWO WEEKS BEFORE CONSTRUCTION AND RESTORE SITE TWO WEEKS AFTER CONSTRUCTION.
- ALL DEWATERING FLOWS ARE TO BE KEPT FREE OF SILT, SEDIMENT, DEBRIS AND OTHER POLLUTANTS THROUGH APPROPRIATE MEANS (SETTLING BASINS, FILTERS, ETC.) AND THAT FOLLOWING THIS, THE FLOWS SHALL ONLY BE RELEASED DIRECTLY INTO STORM DRAINS, STREAM CHANNELS, OR OTHER STABILIZED DRAINAGE COURSES, AND NOT ONTO EXPOSED SOILS, STEEP SLOPES OR ANY OTHER SITE WHERE THE FLOWS COULD CAUSE EROSION.
- WATER OR CALCIUM CHLORIDE WILL BE USED FOR DUST CONTROL.

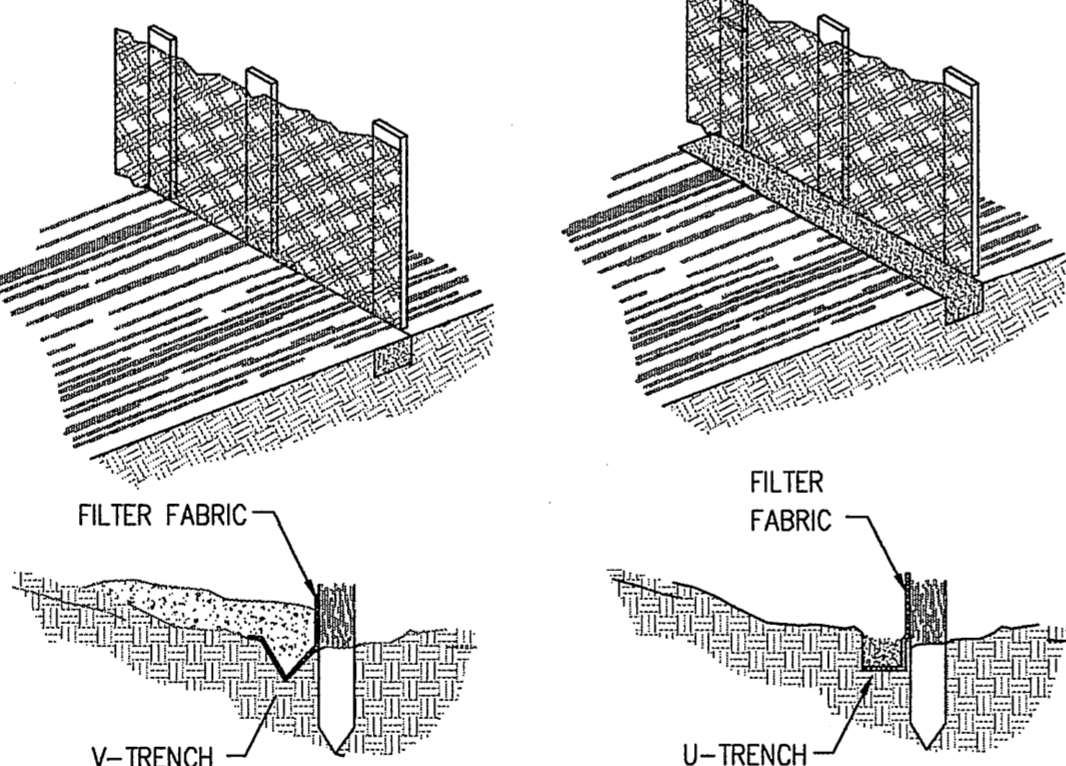
**INSTALLATION NOTES:**

SILT FENCES ARE TO BE INSTALLED AROUND ALL CONSTRUCTION ACTIVITIES IN ORDER TO CONTAIN SILT ON SITE. SILT FENCE LOCATIONS ARE TO BE APPROVED BY ENGINEER/PROJECT REPRESENTATIVE BEFORE INSTALLATION. SILT FENCES SHALL BE ERRECTED USING THE OUTLINED PROCEDURES BELOW UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

- SET STAKES NO MORE THAN 3 FT. APART AND DRIVE THEM INTO THE GROUND AT LEAST 8".
- EXCAVATE A 4"x4" TRENCH UPSLOPE ALONG THE LINE OF THE STAKES.
- STAPLE FILTER MATERIAL ON UPSLOPE SIDE OF STAKES AND EXTEND IT INTO THE TRENCH. WHEN JOINTS ARE NEEDED OVERLAP THE MATERIAL BETWEEN TWO STAKES AND FASTEN IT SECURELY.
- BACKFILL AND COMPACT THE MATERIAL EXCAVATED FROM THE 4"x4" TRENCH.

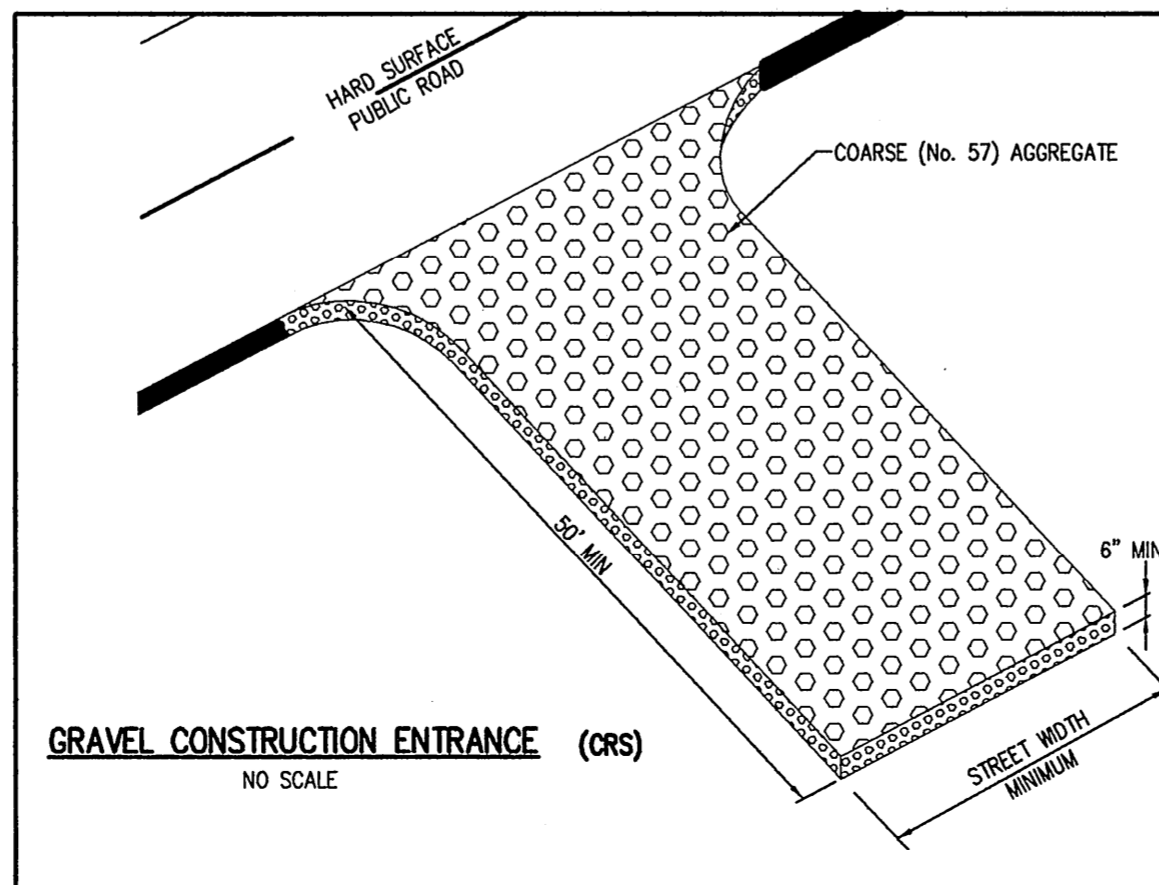


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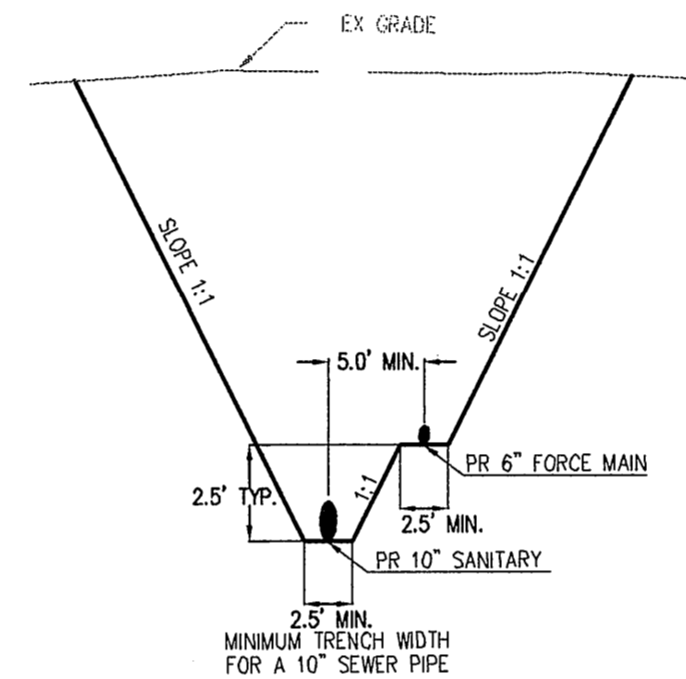
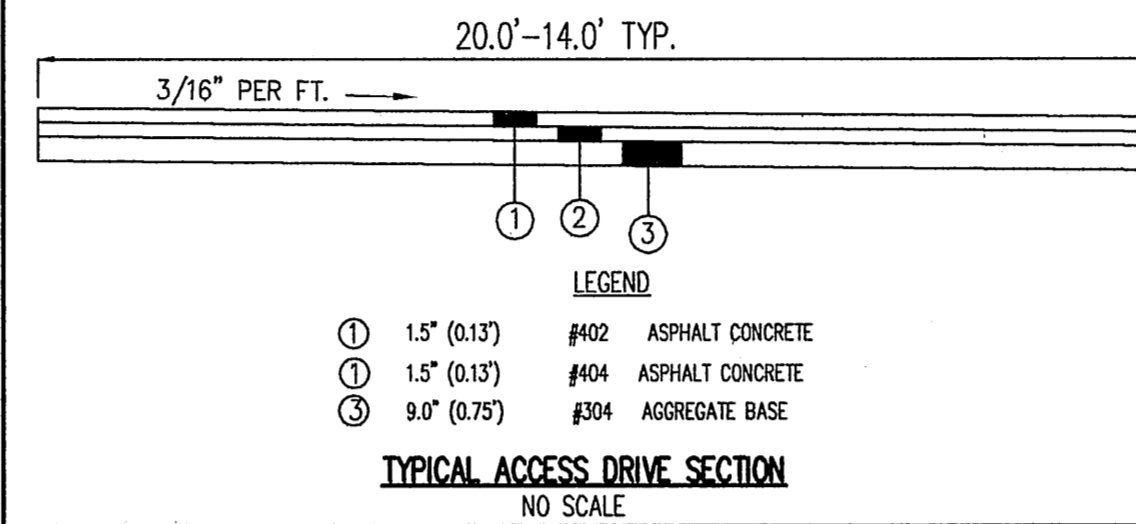
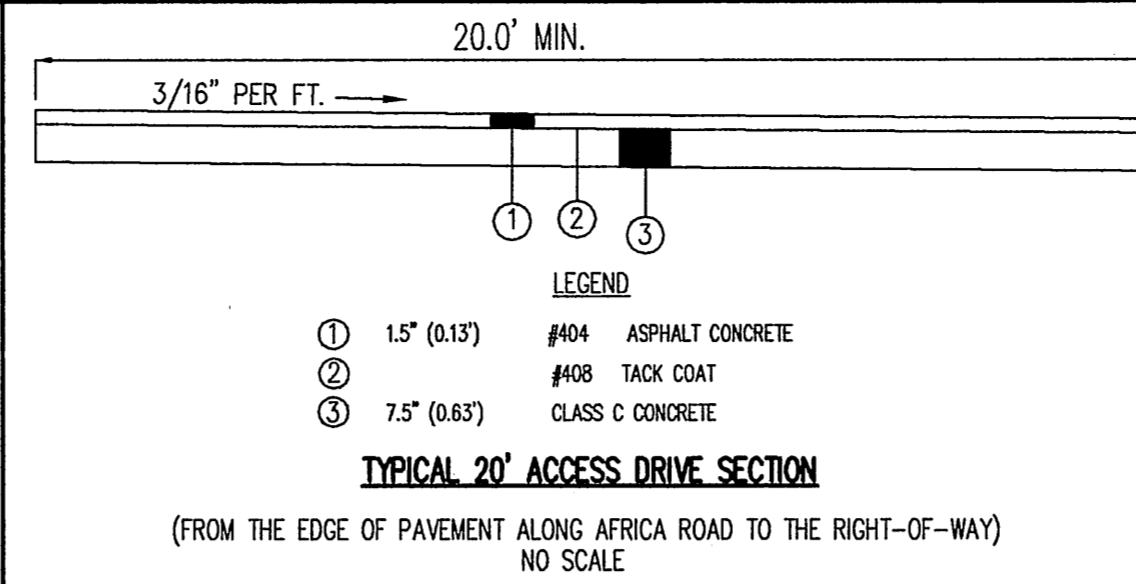


**SILT FENCES**

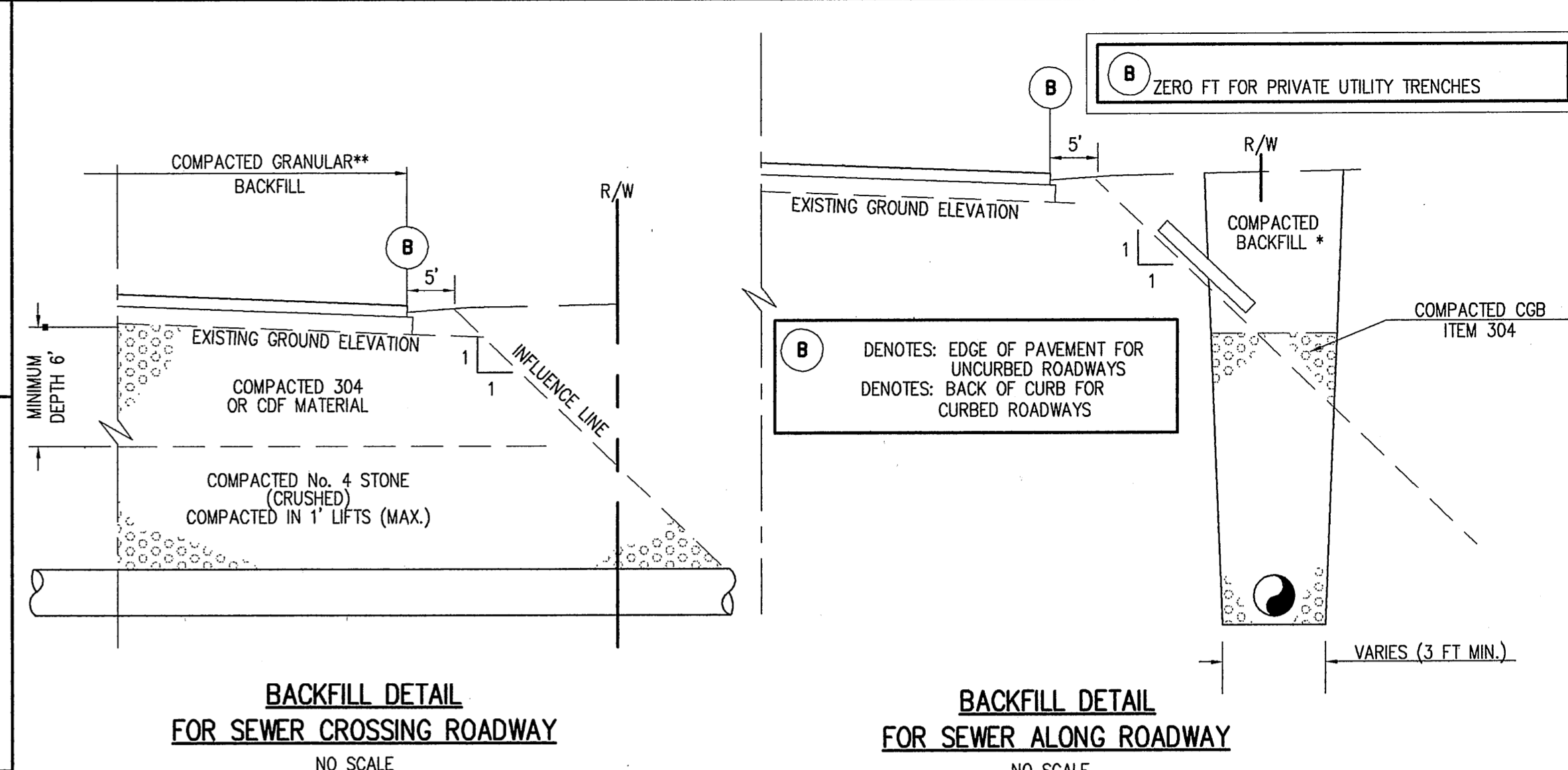
NO SCALE



**GRAVEL CONSTRUCTION ENTRANCE (CRS)**  
NO SCALE



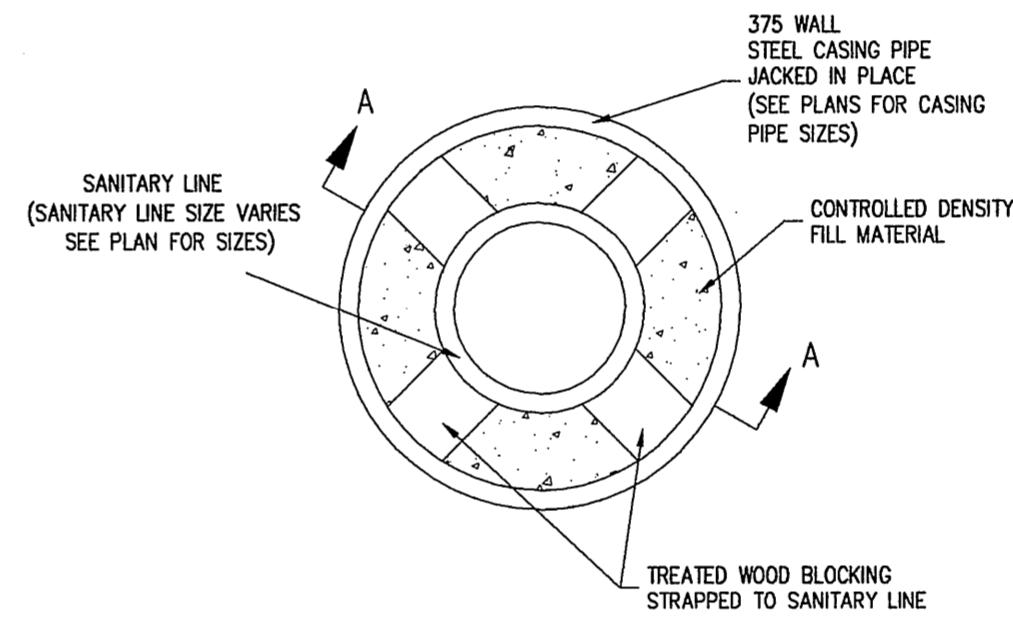
**TYPICAL FORCE MAIN GRAVITY MAIN TRENCH DETAIL**  
NO SCALE



**BORING DETAIL SECTION A-A**

NO SCALE

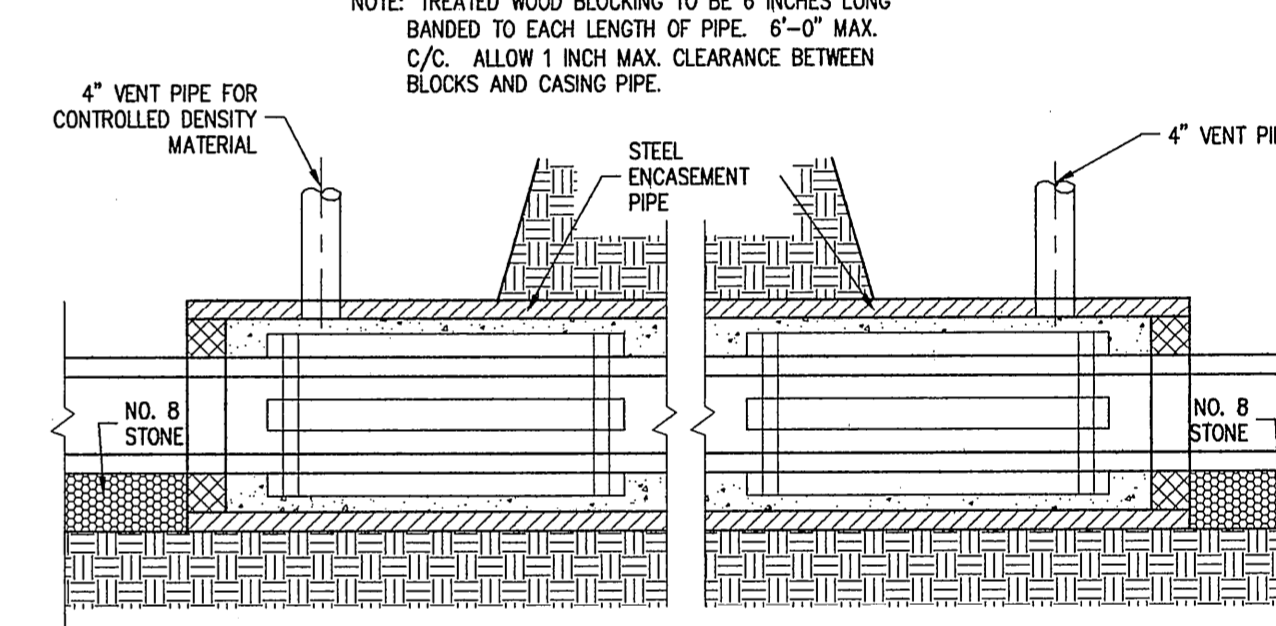
NOTE: TREATED WOOD BLOCKING TO BE 6 INCHES LONG



**JACK CASING DETAIL**

NO SCALE

NOTE: TREATED WOOD BLOCKING TO BE 6 INCHES LONG BANNED TO EACH LENGTH OF PIPE. 6"-0" MAX. C/C. ALLOW 1 INCH MAX. CLEARANCE BETWEEN BLOCKS AND CASING PIPE.



**ALPINE STORMWATER MANAGEMENT FABRIC DITCH CHECK DETAILS**

**MATERIALS GUIDE:**

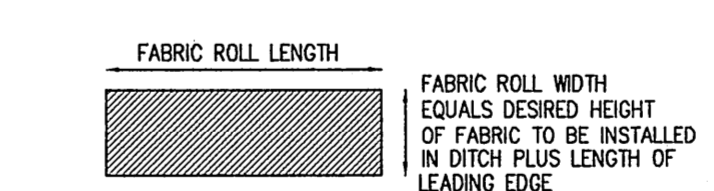
- 2"x2" PINE STAKES, SHARPENED (2"x4" & 4"x4" STAKES FOR HIGH FLOW) (2"x6" AND 6"x6" STAKES FOR HEAVY DUTY HIGH FLOW)
- WOVEN MONOFILAMENT GEOTEXTILE FABRIC (100-250 GPM/50 FT FLOW RATE) OR HIGH FLOW FABRIC (HIGH SPUN TYPAR FOR ADDITIONAL PONDING)
- 9/16" WIRE STAPLES AND 6" SOD STAPLES
- STRAW/COCONUT FIBER BLANKET
- 0.001 #57 STONE

**INSTALLATION GUIDE:**

- DETERMINE REQUIRED HEIGHT OF FABRIC - IN GENERAL, REQUIRED HEIGHT EQUALS 1.25 TO 1.5 TIMES NORMAL FLOW DEPTH OF DITCH
- INSTALL STAKES PER DIAGRAMS
- USE 4" CARPENTER LEVEL TO MARK STAKES AT TOP OF FABRIC LOCATION (TOP OF FABRIC TO BE LEVEL ALONG THE WIDTH OF DITCH)
- STAPLE TOP EDGE OF FABRIC TO STAKES AT LEVEL MARKS
- TRIM EXCESS FABRIC TO PROVIDE A LEADING EDGE THAT LIES FLAT AND FLUSH WITH DITCH BOTTOM
- HIGH SPUN TYPAR FABRIC MAY BE ADDED AT UPSTREAM END IF ADDITIONAL PONDING IS DESIRED OR IF SUPER FINES ARE OF CONCERN
- STAPLE BOTTOM OF FABRIC AT DITCH BOTTOM; CHECK TO ENSURE A TIGHT FIT
- SHOVEL DIRT OR GRAVEL TO COMPLETELY COVER LEADING EDGE

**INSTALLATION GUIDE CONT.:**

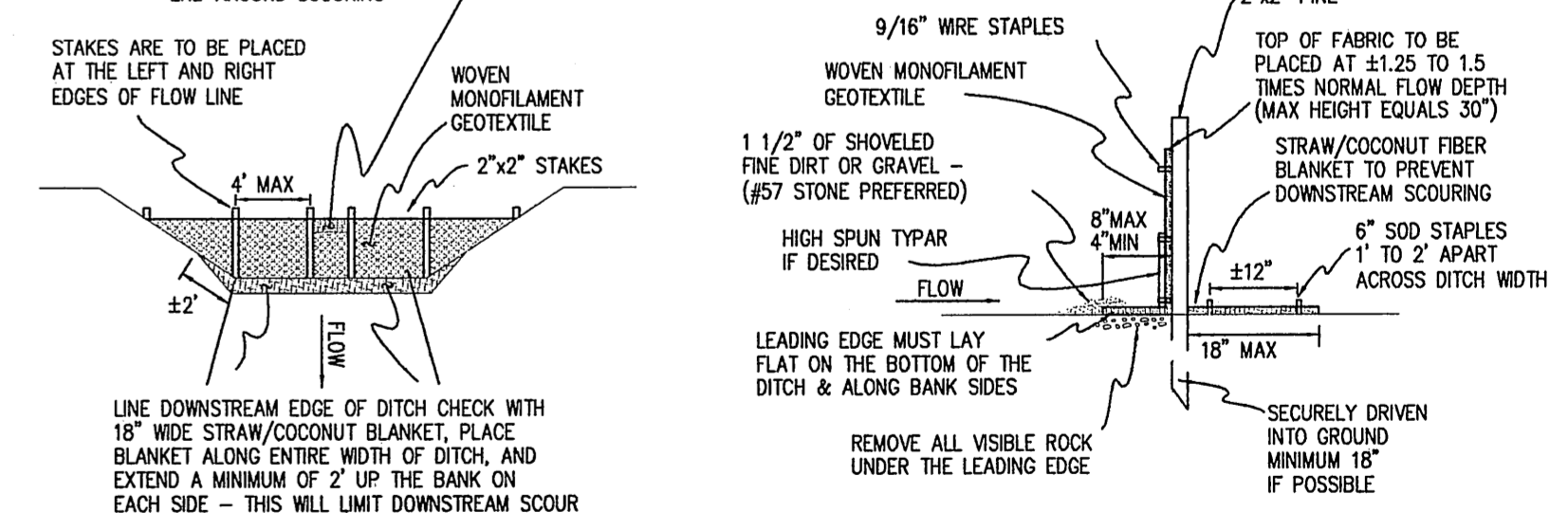
- PLACE STRAW/COCONUT FIBER AT DOWNSTREAM END; SECURE WITH SOD STAPLES; TRIM EXCESS MATERIAL SO THAT IT LIES FLAT AND FLUSH WITH DITCH BOTTOM
- FABRIC ROLL DIMENSIONS TO BE BASED ON INSTALLATION REQUIREMENTS - ALL EXCESS TO BE TRIMMED WITH SHARP UTILITY KNIFE OR SCISSORS
- ANY INSTALLATION FOLDS MUST BE CAREFULLY TRIMMED AND OVERLAPPED TO AVOID WRINKLES OR UNDESIRABLE IRREGULARITIES



**MAINTENANCE GUIDE:**

- AFTER FIRST RAIN, REPLACE ANY MISSING ROCK AND DIRT AT LEADING EDGE
- INSPECT FABRIC DITCH CHECK AFTER HEAVY RAINS
- REMOVE SEDIMENT DEPOSITS FROM FABRIC DITCH CHECK WHEN THE TOP OF SEDIMENT REACHES 75% OF FABRIC HEIGHT

WHERE PONDING AVAILABILITY AND DITCH HEIGHT IS LIMITED, A NOTCH OVER FLOW LINE MAY BE CUT INTO FABRIC BETWEEN 2 CLOSELY SPACED STAKES TO PREVENT END AROUND SCOURING



**ALPINE MODERATE FLOW FABRIC DITCH CHECK**

NO.	REVISION DATA	DATE	BY	APP'D

**FLOYD BROWNE ASSOCIATES, FBA INC.**

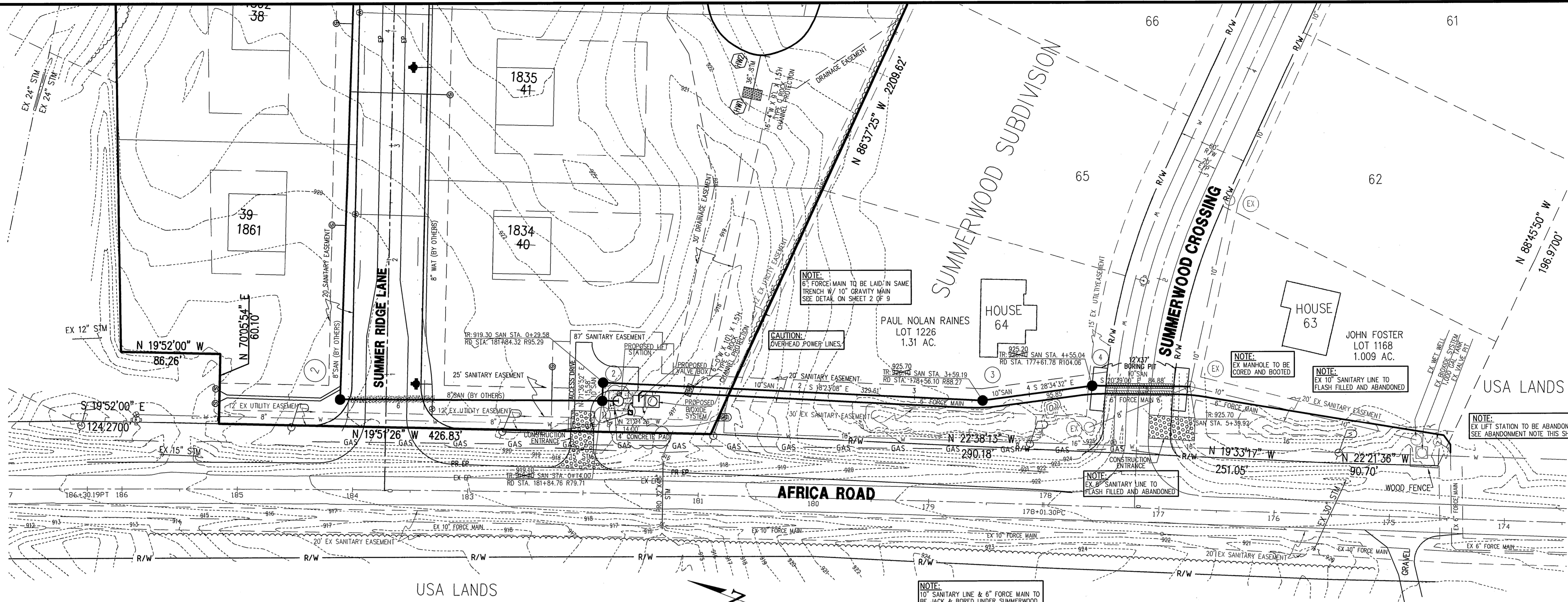
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DATE: AUGUST 12, 2004  
JOB NO. 03-290-08

CADD FILE G:\Client\Vince...  
APPROVED

**CHARLIE VINCE**  
**LIFT STATION RELOCATION SUMMERWOOD**

**STANDARD NOTES & DETAILS**



NOTE:  
6" FORCE MAIN TO BE LAID IN SAME TRENCH W/ 10" GRAVITY MAIN SEE DETAIL ON SHEET 2 OF 9

CAUTION:  
OVERHEAD POWER LINES

NOTE:  
10" SANITARY LINE & 6" FORCE MAIN TO BE JACK & BORED UNDER SUMMERWOOD CROSSING SEE SHEET 2 OF 9 FOR DETAIL

NOTE:  
EX LIFT STATION MUST CONTINUE TO OPERATE DURING CONSTRUCTION OF THE PROPOSED LIFT STATION, FORCE MAIN AND GRAVITY MAIN.

**SUGGESTED METHOD OF CONSTRUCTION:**

- INSTALL PROPOSED LIFT STATION, FORCE MAIN AND GRAVITY MAIN PRIOR TO CONNECTING TO THE EXISTING SYSTEM.
- CONTRACTOR SHOULD NOTIFY LOTS 63, 64 AND 65 OF SUMMERWOOD SUBDIVISION BEFORE PLUG IS INSTALLED IN THE EXISTING MANHOLE ON LOT 62.
- TEMPORARILY PLUG THE EXISTING MANHOLE ON LOT 62 IN ORDER TO KEEP WASTE WATER FROM ENTERING THE DOWNSTREAM SANITARY SEWER.
- CONTRACTOR SHALL FURNISH A PUMP FOR BYPASSING FLOW (IF NECESSARY) DURING CONSTRUCTION, THIS PUMP WILL DRAW FROM THE EXISTING MANHOLE, ON LOT 62, AND WILL PUMP TO THE EXISTING LIFT STATION (APPROXIMATELY 360 FEET).
- INSTALL PROPOSED GRAVITY MAIN (CORED AND BOOTED) INTO THE EXISTING MANHOLE. THE MANHOLE WILL THEN BE LEAK TESTED. ONCE IT HAS PASSED THE TEST THE TEMPORARY PLUG, LOCATED IN THE EXISTING UPSTREAM MANHOLE, CAN BE REMOVED AND SERVICE WILL THEN BE DIVERTED TO THE NEW LIFT STATION.
- ONCE DIVERSION BEGINS, PUMP AS MUCH WATER AS POSSIBLE INTO THE EXISTING LIFT STATION AND THROUGH THE EXISTING FORCE MAIN.
- UPON COMPLETION, TIE THE PROPOSED 6" FORCE MAIN INTO THE EXISTING 6" FORCE MAIN SOUTH OF THE EXISTING VALVE PIT. THE CONTRACTOR SHALL FIELD VERIFY THE DEPTH, LOCATION, SIZE AND MATERIAL OF THE EXISTING FORCE MAIN. THE CONTRACTOR IS RESPONSIBLE FOR ANY ADAPTORS AND FITTINGS NECESSARY FOR THE CONNECTION TO THE EXISTING FORCE MAIN.

**ABANDONMENT OF THE EXISTING LIFT STATION**

THE CONTRACTOR SHALL REMOVE ALL PIPING, EQUIPMENT, AND OTHER APPURTENANCES FROM THE WET WELL.

THE CONTRACTOR SHALL PLUG AND ABANDON ALL INLET AND OUTLET PIPING AT THE LIFT STATION.

DEMOLISH AND REMOVE THE EXISTING CONCRETE TOP SLABS AND WALLS TO A LEVEL TWO FEET BELOW EXISTING GRADE.

AT THE BOTTOM OF THE WET WELL AND VALVE PIT CORE OR CUT AND BREAK 16" DIAMETER MINIMUM OR 14" X 14" HOLES THRU THE BASE SLABS.

FILL THE ABANDONED STRUCTURE TO GRADE NOTED ON THE DRAWINGS. PROVIDE UNFROZEN EXCAVATED MATERIAL, FREE FROM LUMPS OR ROCKS LARGER THAN 3 INCHES, OR SUBSOIL MATERIAL CONFORMING TO STATE OF OHIO DEPARTMENT OF TRANSPORTATION SPECIFICATION STANDARD ITEM 203.02.R. INSTALL COMPACTED LAYERS NOT EXCEEDING 12 INCHES.

**"AS-BUILT CERTIFICATION"**

AS-BUILT pertains to field elevations of public utilities. For example: top of castings and flow lines, and does not include any field checks of overland grading.

AS-BUILT ELEVATIONS FIELD CHECKED AND AMENDED.

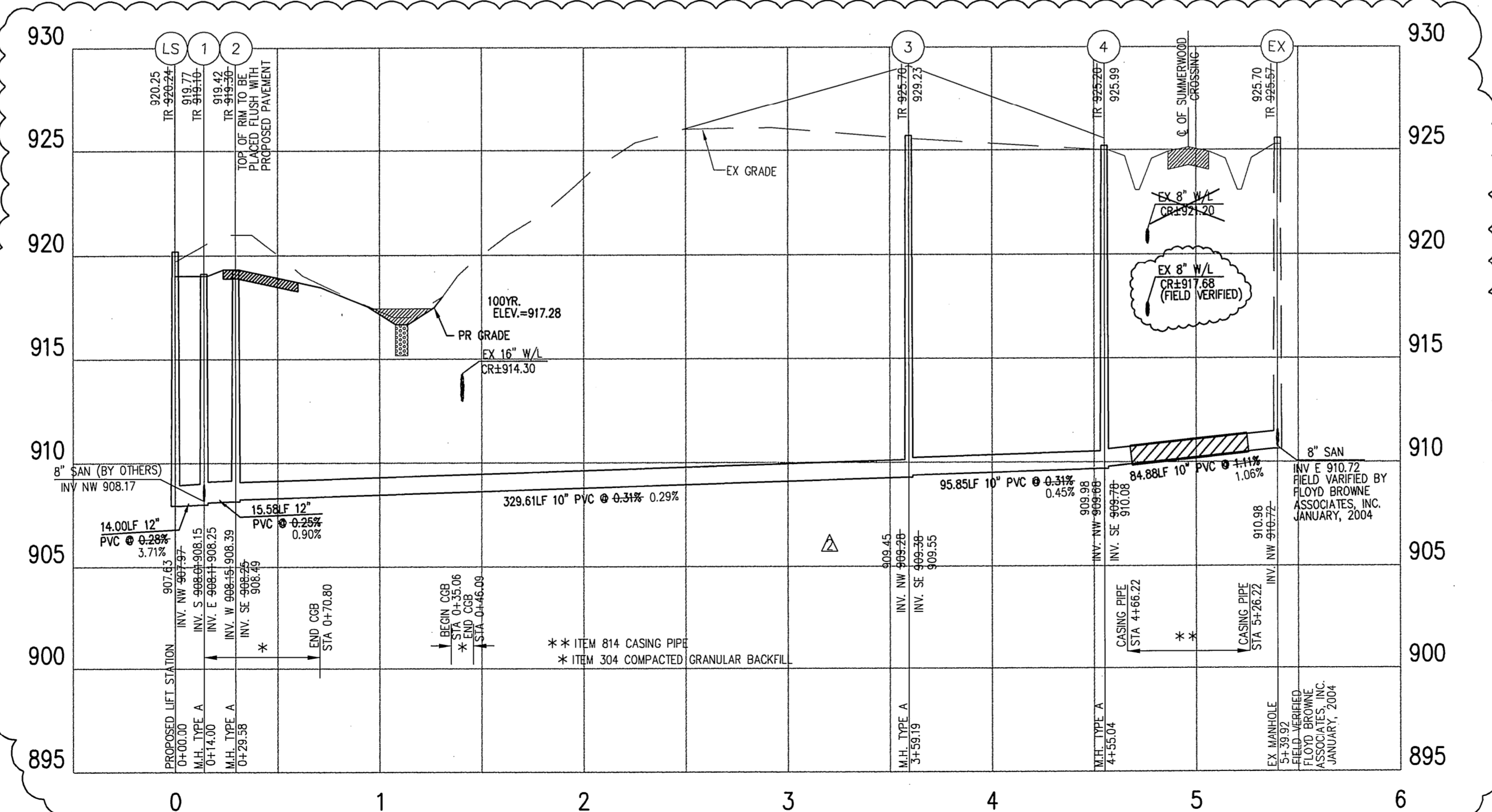
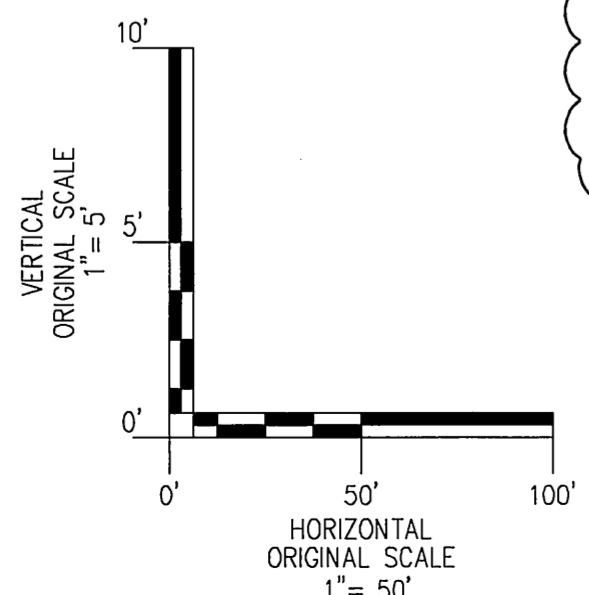
By: *William R. Winter* Date: *1/24/06*  
William R. Winter, Registered Surveyor No. 6767

NOTE:  
CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES.

NOTE:  
ALL MANHOLES TO BE WATER TESTED

**LEGEND**

- POWER POLE
- SAN SANITARY
- SANITARY MANHOLE
- SANITARY SERVICE
- ② SANITARY STRUCTURE NUM
- WAT WATER
- FIRE HYDRANT
- WATER VALVE
- WATER SERVICE
- STM STORM
- STORM CATCH BASIN
- STORM MANHOLE
- CR CROWN ELEVATION (WATER)
- TR TOP OF RIM
- FGE FINISH GRADE ELEVATION
- TREE-LINE
- COMPACTED GRANULAR BACKFILL
- CASING PIPE



NO.	REVISION DATA	DATE	BY	APP'D
1	VERTICAL ELEVATIONS REVISED DUE TO LOWERING WET WELL	4/26/05	SAK	

**FLOYD BROWNE ASSOCIATES, FBA INC.**

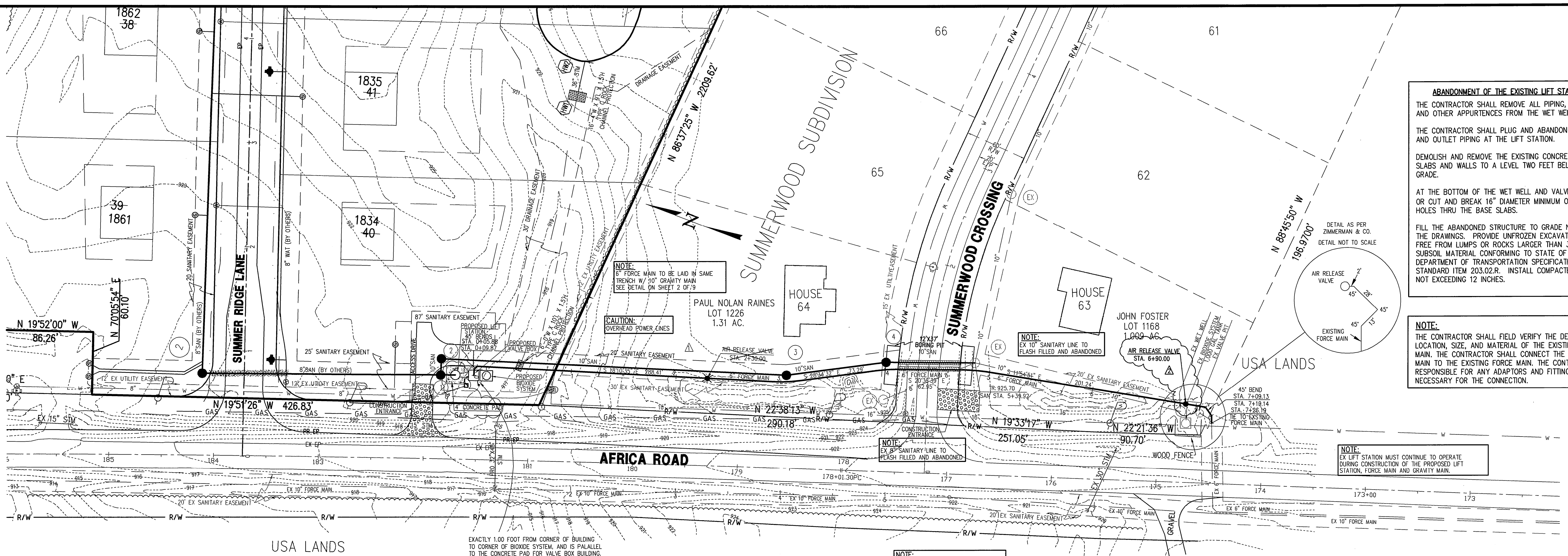
Dayton, Ohio 937.431.1004  
Delaware, Ohio 740.363.6792  
Marion, Ohio 740.383.2187

DATE: AUGUST 12, 2004  
JOB NO. 03-290-08

CADD FILE G:\Client\Vince...  
APPROVED

**CHARLIE VINCE**  
**LIFT STATION RELOCATION**  
**SUMMERWOOD**

**SANITARY SEWER**  
**PLAN & PROFILE**



**ABANDONMENT OF THE EXISTING LIFT STATION**

THE CONTRACTOR SHALL REMOVE ALL PIPING, EQUIPMENT, AND OTHER APPURTENANCES FROM THE WET WELL.

THE CONTRACTOR SHALL PLUG AND ABANDON ALL INLET AND OUTLET PIPING AT THE LIFT STATION.

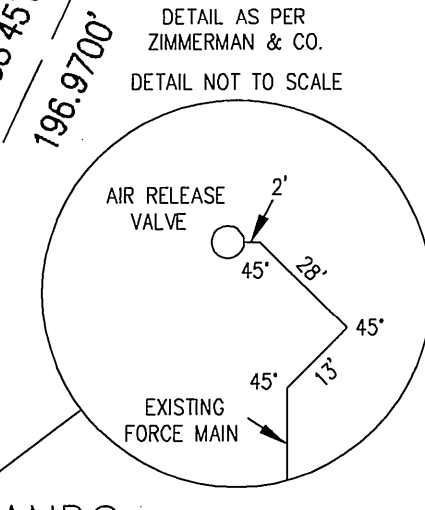
DEMOLISH AND REMOVE THE EXISTING CONCRETE TOP SLABS AND WALLS TO A LEVEL TWO FEET BELOW EXISTING GRADE.

AT THE BOTTOM OF THE WET WELL AND VALVE PIT CORE OR CUT AND BREAK 16" DIAMETER MINIMUM OR 14" X 14" HOLES THRU THE BASE SLABS.

FILL THE ABANDONED STRUCTURE TO GRADE NOTED ON THE DRAWINGS. PROVIDE UNFROZEN EXCAVATED MATERIAL, FREE FROM LUMPS OR ROCKS LARGER THAN 3 INCHES, OR SUBSOIL MATERIAL CONFORMING TO STATE OF OHIO DEPARTMENT OF TRANSPORTATION SPECIFICATION STANDARD ITEM 203.02.R. INSTALL COMPACTED LAYERS NOT EXCEEDING 12 INCHES.

**NOTE:**

THE CONTRACTOR SHALL FIELD VERIFY THE DEPTH, LOCATION, SIZE, AND MATERIAL OF THE EXISTING FORCE MAIN. THE CONTRACTOR SHALL CONNECT THE NEW FORCE MAIN TO THE EXISTING FORCE MAIN. THE CONTRACTOR IS RESPONSIBLE FOR ANY ADAPTORS AND FITTINGS NECESSARY FOR THE CONNECTION.



**NOTE:**

EX LIFT STATION MUST CONTINUE TO OPERATE DURING CONSTRUCTION OF THE PROPOSED LIFT STATION, FORCE MAIN AND GRAVITY MAIN.

**NOTE:**

6" FORCE MAIN TO BE LAID IN SAME TRENCH W/ 10" GRAVITY MAIN SEE DETAIL ON SHEET 2 OF 9

**CAUTION:**

OVERHEAD POWER LINES

**NOTE:**

10" SANITARY LINE & 6" FORCE MAIN TO BE JACK & BORED UNDER SUMMERWOOD CROSSING SEE SHEET 2 OF 9 FOR DETAIL

**NOTE:**

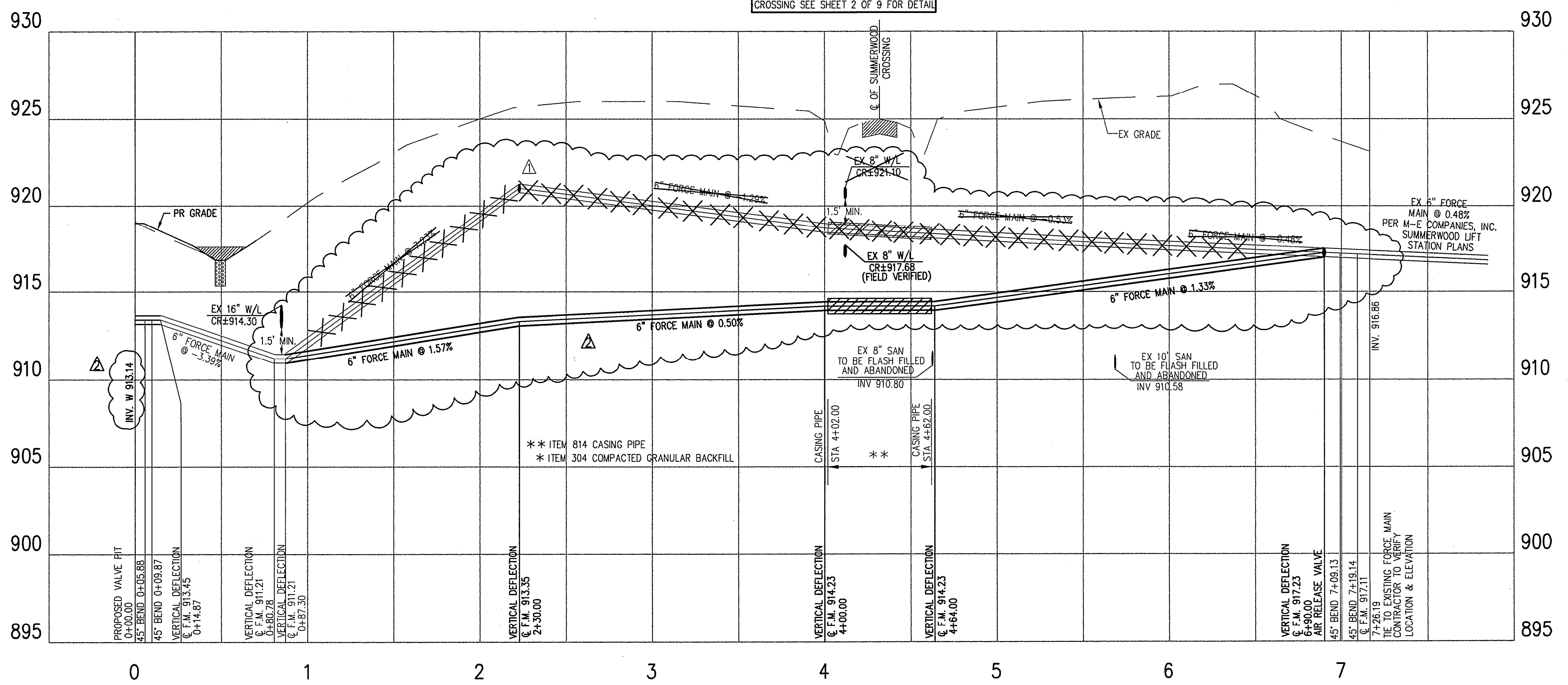
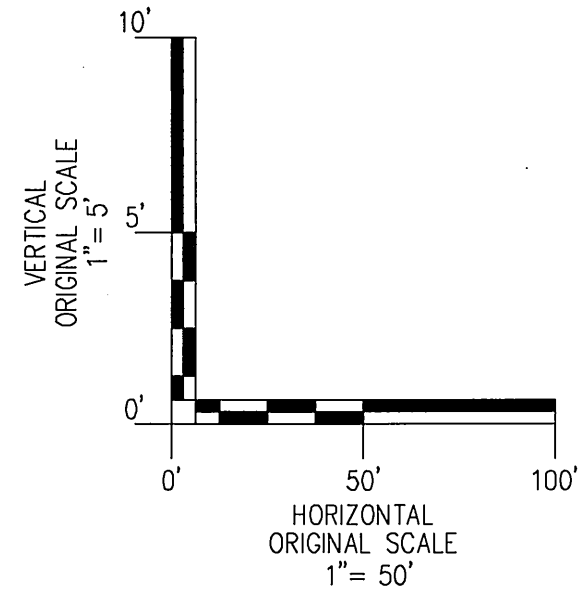
CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES.

**NOTE:**

ALL MANHOLES TO BE WATER TESTED

**LEGEND**

- POWER POLE
- SAN SANITARY
- SANITARY MANHOLE
- SANITARY SERVICE
- ② SANITARY STRUCTURE NUM
- WAT WATER
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- TR TOP OF RIM
- FGE FINISH GRADE ELEVATION
- TREE-LINE
- COMPACTED GRANULAR BACKFILL
- CASING PIPE



NO.	REVISION DATA	DATE	BY	APP'D
1	VERTICAL LOCATION OF FORCE MAIN WAS REVISED & AN AIR RELEASE VALVE WAS ADDED TO THE PLAN VIEW.	2/22/05	SAK	
2	VERTICAL ELEVATIONS REVISED DUE TO WET WELL CHANGES AND FIELD VARIFIED UTILITIES. AIR RELEASE VALVE ADDED.	4/26/05	SAK	

**FLOYD BROWNE ASSOCIATES, INC.**  
FBA INC.

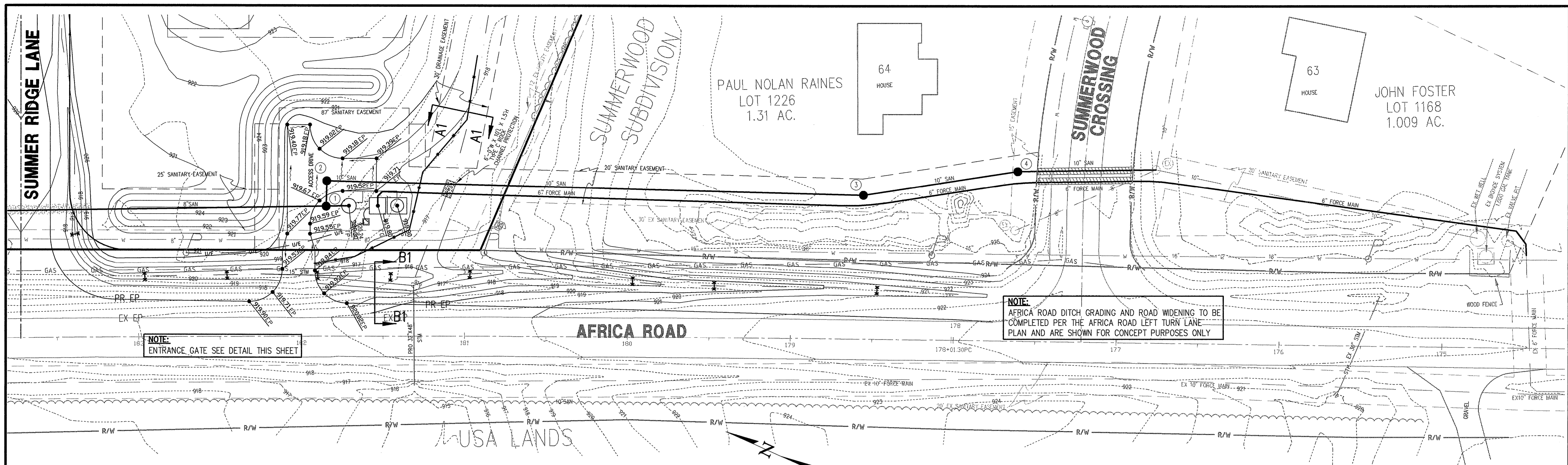
Dayton, Ohio 937.431.1004  
Delaware, Ohio 740.363.6792  
Marion, Ohio 740.383.2187

DATE: AUGUST 13, 2004  
JOB NO. 03-290-05

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APPROVED

**CHARLIE VINCE**  
**LIFT STATION RELOCATION**  
**SUMMERWOOD**

**SANITARY FORCE MAIN**  
**PLAN & PROFILE**

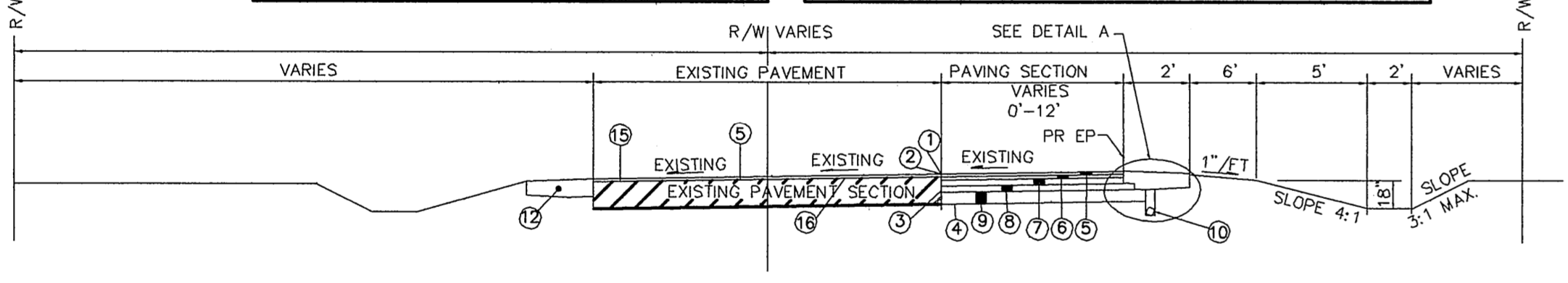
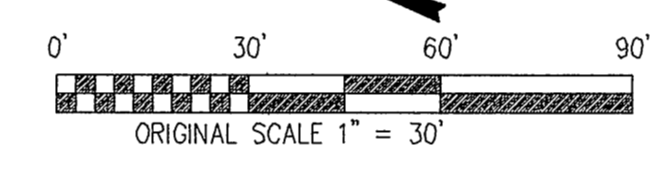


**NOTE:**  
ENTRANCE GATE SEE DETAIL THIS SHEET

**NOTE:**  
AFRICA ROAD DITCH GRADING AND ROAD WIDENING TO BE COMPLETED PER THE AFRICA ROAD LEFT TURN LANE PLAN AND ARE SHOWN FOR CONCEPT PURPOSES ONLY

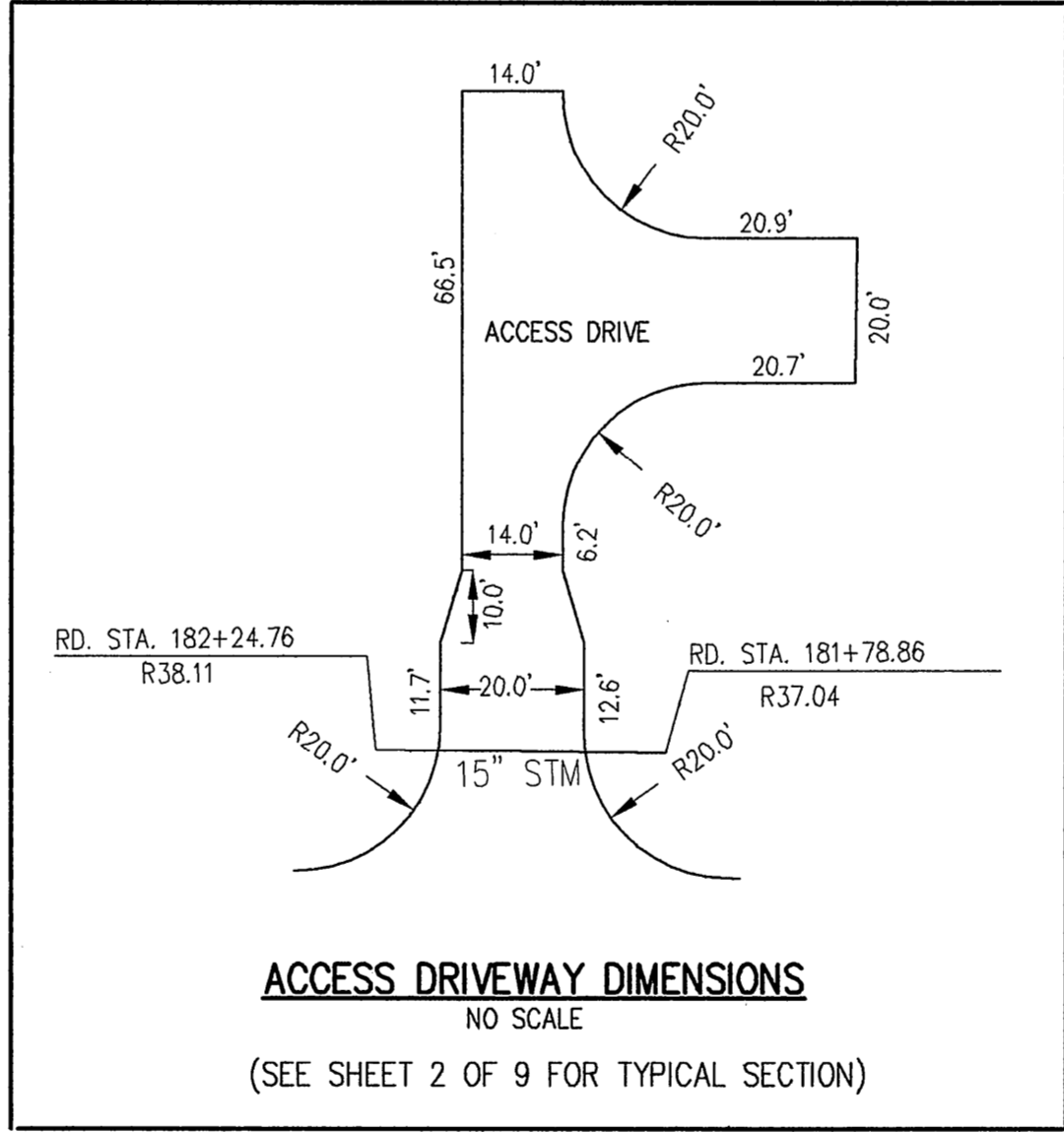
**NOTE:**  
ACCESS DRIVE TO MATCH PROPOSED EP OF AFRICA ROAD. SEE AFRICA ROAD LEFT TURN LANE IMPROVEMENT PLAN FOR MORE DETAILS

**NOTE:**  
AFRICA ROAD DITCH GRADING AND ROAD WIDENING TO BE COMPLETED PER THE AFRICA ROAD LEFT TURN LANE PLAN AND ARE SHOWN FOR CONCEPT PURPOSES ONLY



**SUPERELEVATED TYPICAL SECTION FOR AFRICA ROAD WIDENING**

- ① SAWCUT AND REMOVE EXISTING PAVING AND AGGREGATE @ EDGELINE
- ② SEAL JOINT USING A HOT APPLIED CRACK JOINT SEALER ODOT 705.04 (ASTM D3405). APPLY @ 0.33#/LF
- ③ JOINT SEALER, ITEM 705, OR EQUIVALENT (SEAL VERTICAL FACE OF EXISTING PAVING SECTION)
- ④ SUBGRADE COMPACTION, ITEM 203
- ⑤ 1 1/2" HOT MIXED, HOT LAID ASPHALT CONCRETE, ITEM 404
- ⑥ 1 1/2" HOT MIXED, HOT LAID ASPHALT CONCRETE, ITEM 404 (OR ITEM 402)
- ⑦ 3" BITUMINOUS AGGREGATE BASE, ITEM 301
- ⑧ 3" BITUMINOUS AGGREGATE BASE, ITEM 301
- ⑨ 6" CRUSHED AGGREGATE BASE, ITEM 304
- ⑩ 4" PIPE UNDERDRAIN
- ⑪ NO. 8 OR NO. 57 AGGREGATE
- ⑫ 8" AGGREGATE BERM, ITEM 304
- ⑬ BITUMINOUS PRIME COAT, ITEM 408, 702.02, RC-250, MC-30, MC-70 OR MC-250 (APPLIED AT 0.40 GAL. PER SQ. YD.)
- ⑭ SEAL COAT, ITEM 409, 702.02, RC-250, RC-800, MC-800, MC-3000, 702.03, CBAE-800 OR 702.04, RS-1, RS-2, CRS-1, CRS-2 (USING 0.30 GAL. BITUMINOUS MATERIAL PER SQ. YD.) AND .008 CU. YD. COVER AGGREGATE PER SQ. YD.
- ⑮ TACK COAT, ITEM 407, (0.0075 GAL./S.Y.)
- ⑯ 1" LEVELING COURSE, ITEM 402

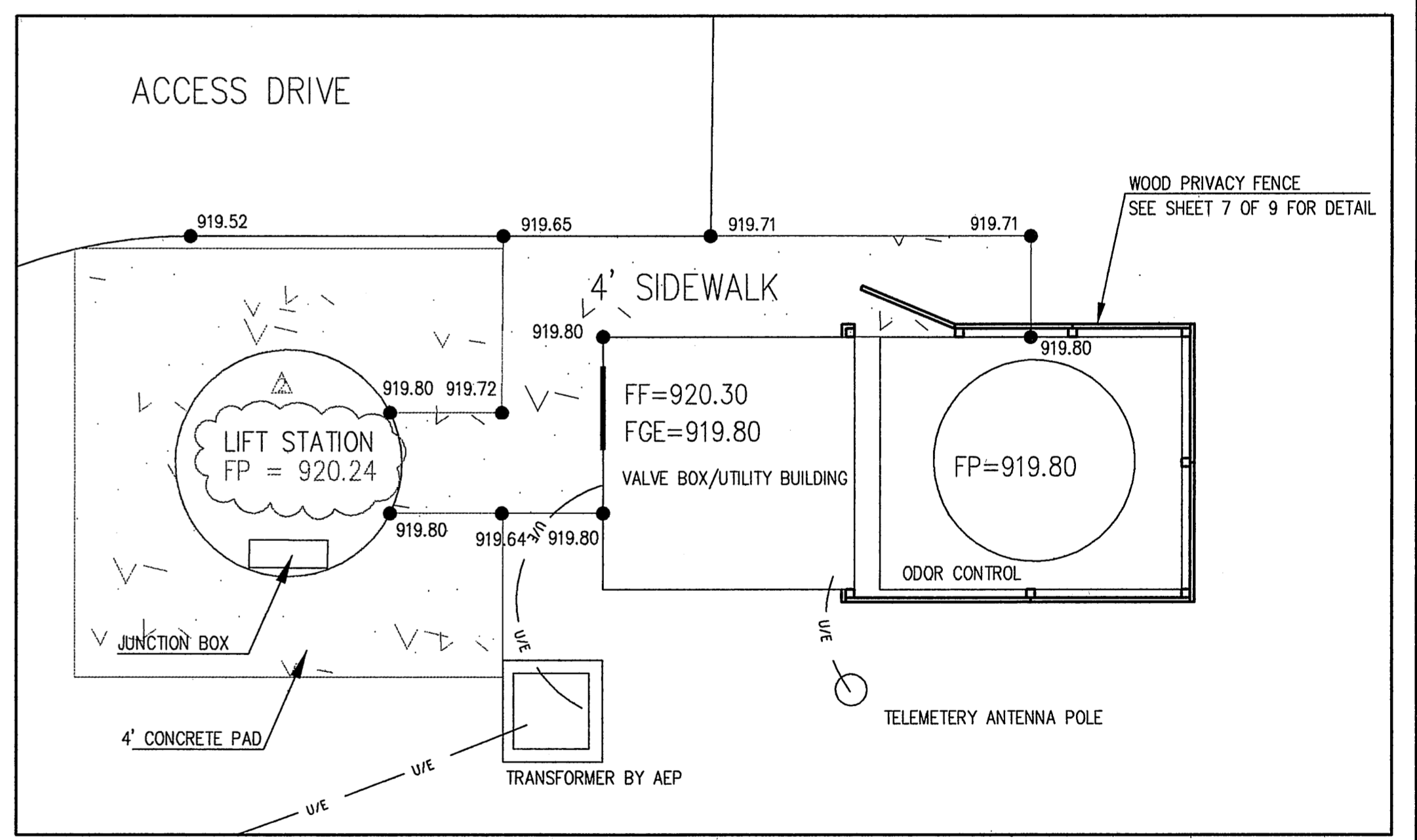


**ACCESS DRIVEWAY DIMENSIONS**  
NO SCALE  
(SEE SHEET 2 OF 9 FOR TYPICAL SECTION)

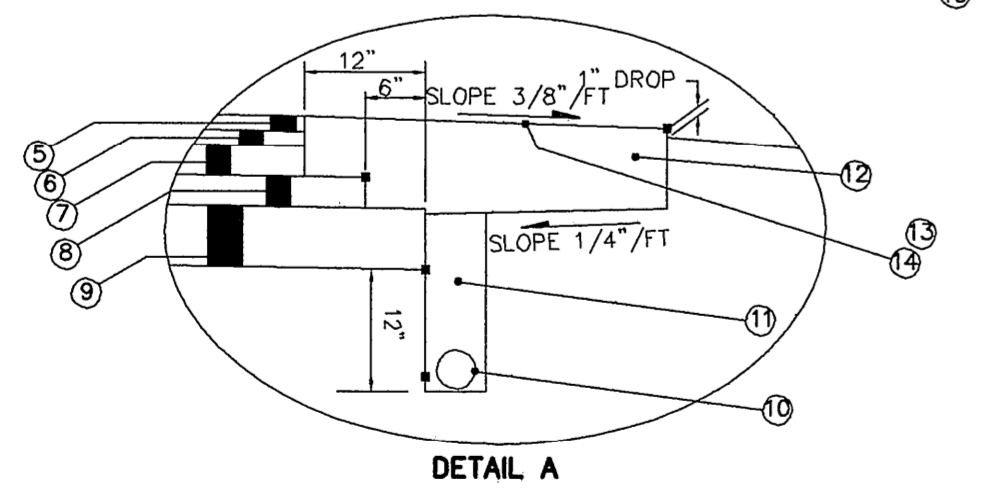
**ACCESS DRIVEWAY CULVERT**

ACRE	Tc (MIN)	Q50 (Cfs)	SLOPE	SIZE	LENGTH	INV. IN	INV. OUT
3.1	20	7.04	0.40%	15"	46'	916.14	915.95

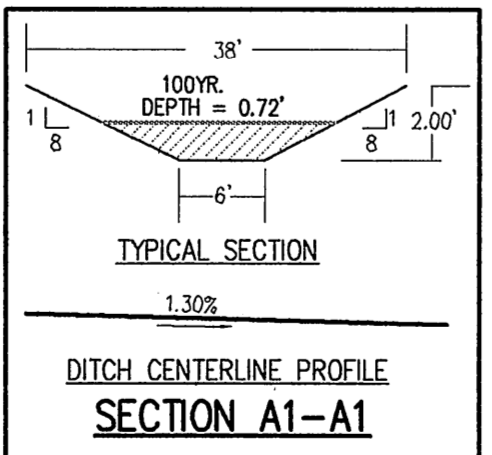
**NOTE:**  
DRIVEWAY PIPE SIZE IS BASED ON THE 50 YR. INTENSITY STORM, A RUNOFF COEFFICIENT (C) OF 0.45 WAS USED FOR DESIGN



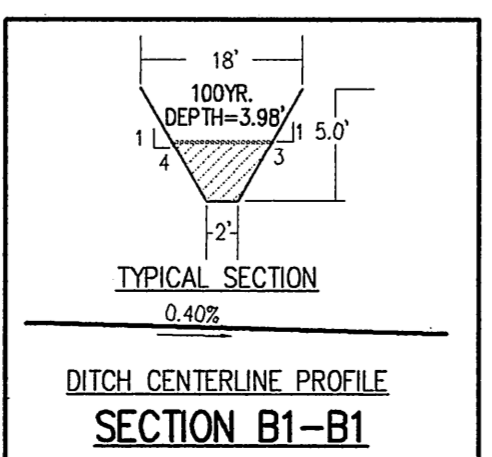
**LIFT STATION LAYOUT**  
NO SCALE



**DETAIL A**

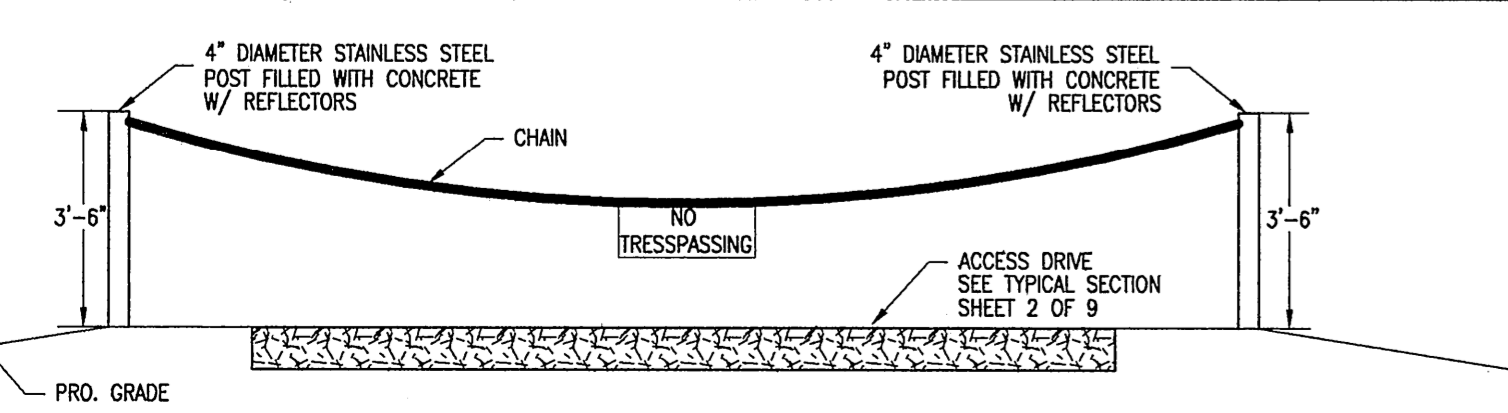


**TYPICAL SECTION**  
DITCH CENTERLINE PROFILE SECTION A1-A1



**TYPICAL SECTION**  
DITCH CENTERLINE PROFILE SECTION B1-B1

- LEGEND**
- POWER POLE
  - SAN SANITARY
  - SANITARY MANHOLE
  - ② SANITARY STRUCTURE NUM
  - ② EDGE OF PAVEMENT
  - FGE FINISH GRADE ELEVATION
  - FP FINISH PAD
  - TREE-LINE
  - █ COMPACTED GRANULAR BACKFILL
  - ▨ CASING PIPE
  - 921- PROPOSED CONTOURS
  - 921- EXISTING CONTOURS
  - ✱✱ SILT FENCE



**ACCESS DRIVEWAY GATE**  
NO SCALE

NO.	REVISION DATA	DATE	BY	APP'D
1	REVISE GRADING DUE TO LOWERING WET WELL	4/26/08	SAK	

**FLOYD BROWNE ASSOCIATES, FBA INC.**

\* Contact Office  
Dayton, Ohio  
937.431.1004

\* Delaware, Ohio  
740.363.6792

Marion, Ohio  
740.383.2187

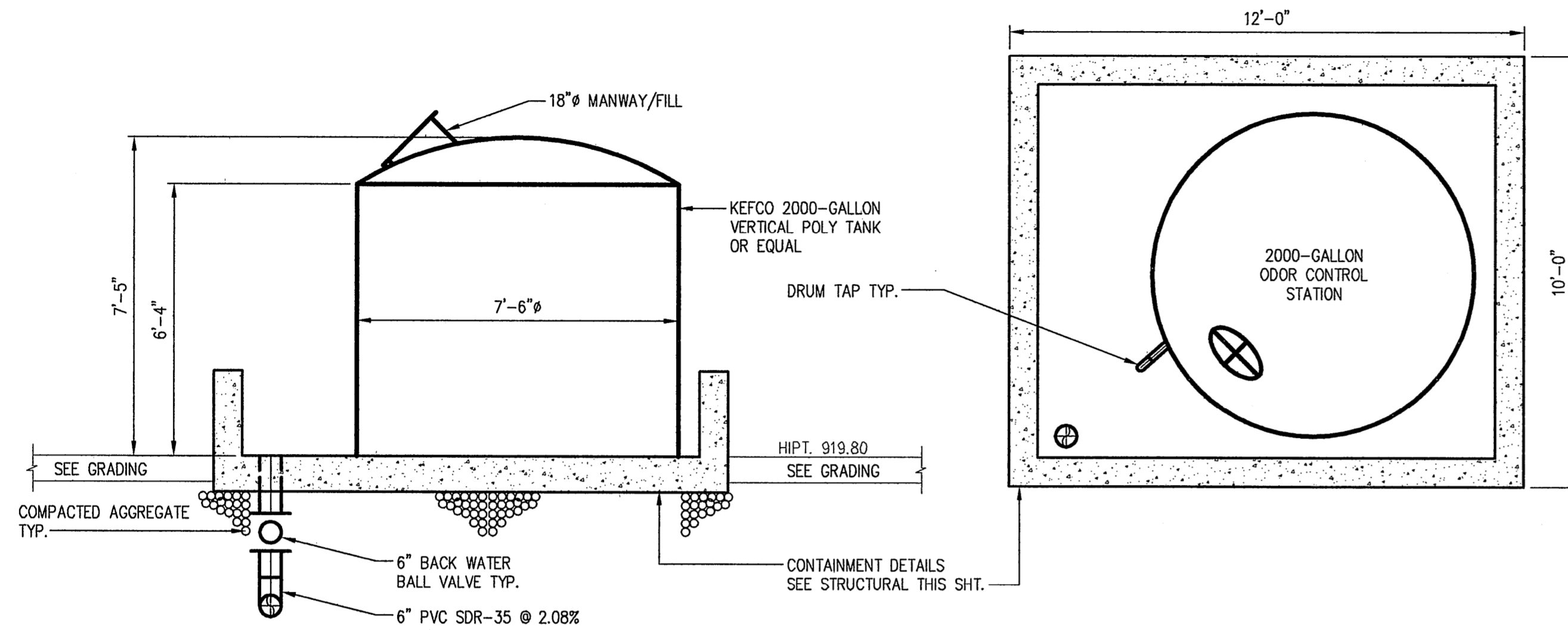
DATE AUGUST 13, 2004  
JOB NO. 03-290-08

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APPROVED

**CHARLIE VINCE**  
**LIFT STATION RELOCATION**  
**SUMMERWOOD**

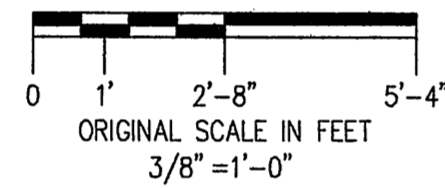
**GRADING/ EROSION CONTROL**



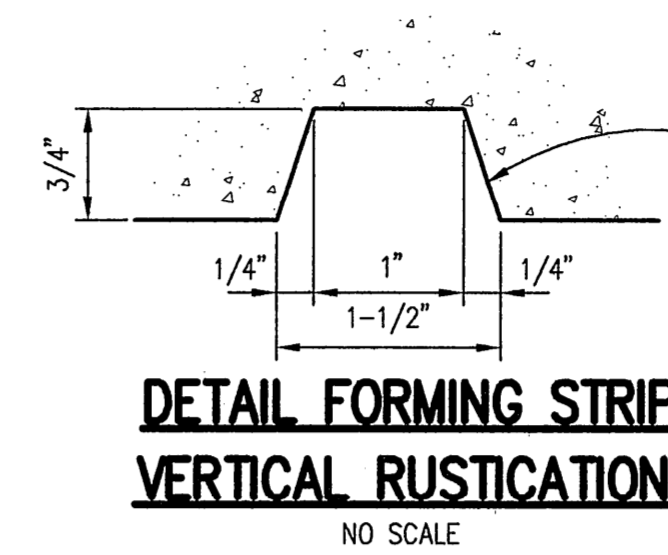
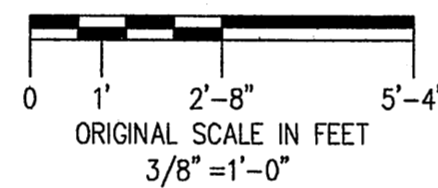


**ODOR CONTROL STATION**

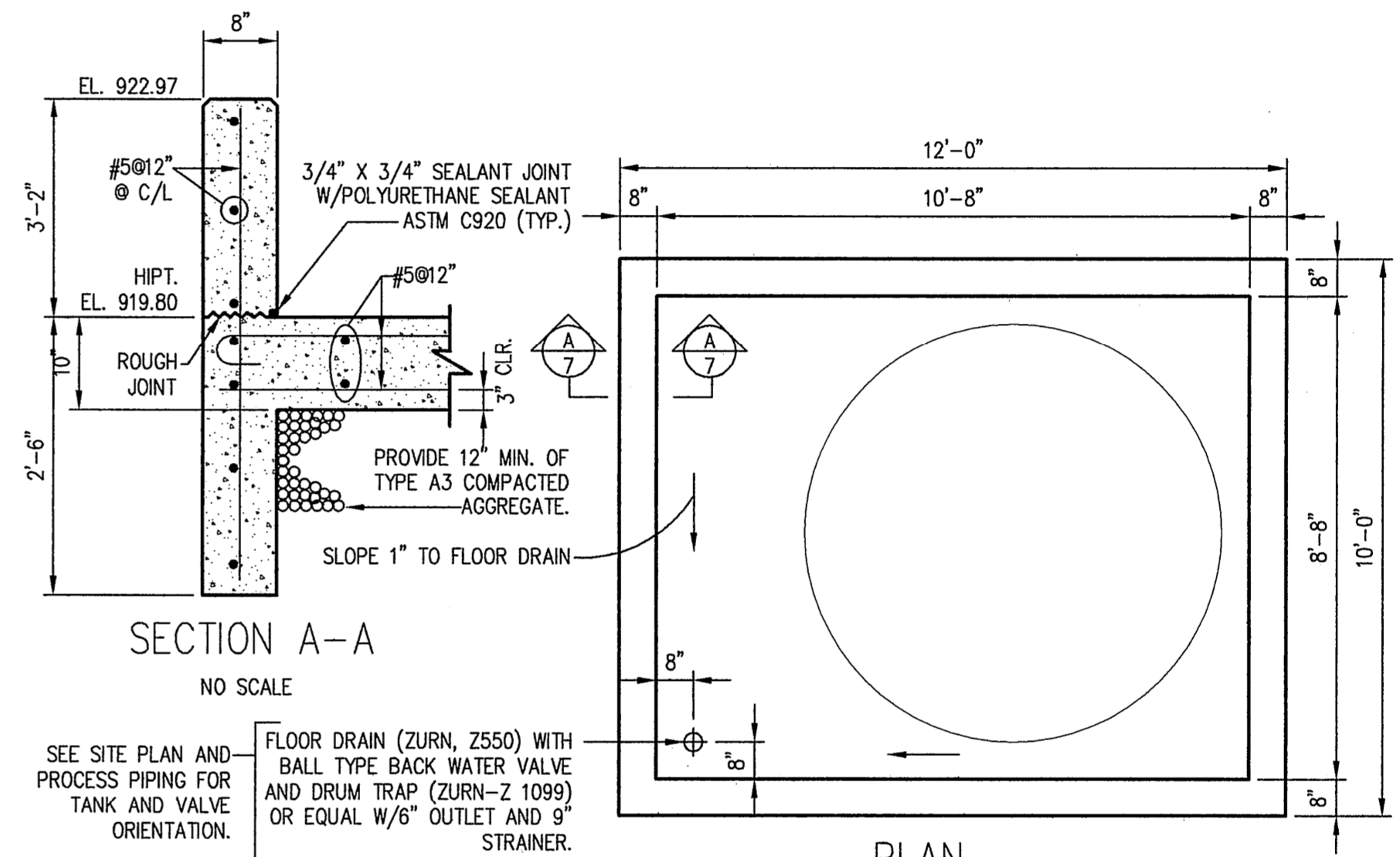
**ELEVATION**



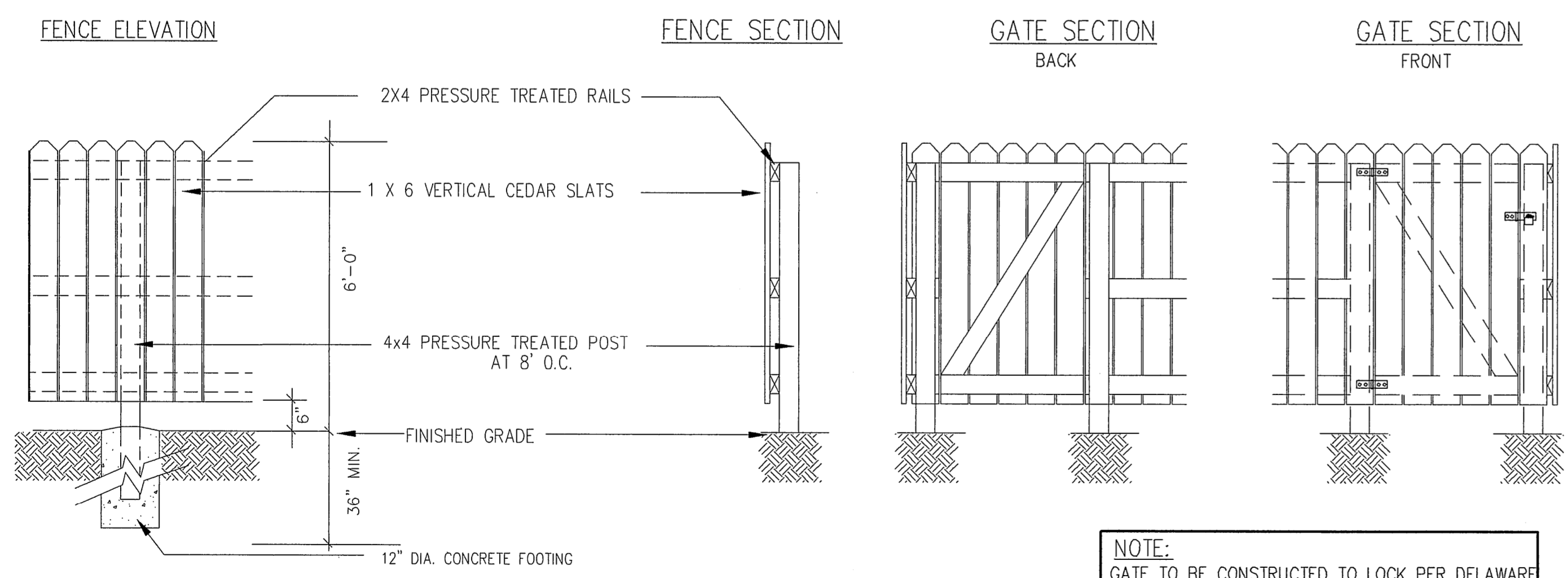
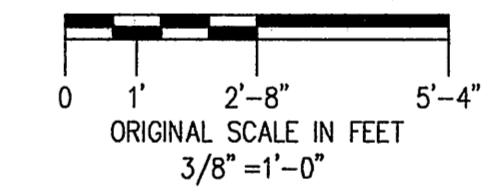
**TOP PLAN**



PROVIDE VERTICAL RUSTICATION STRIPS @ 2'-8"± C/C AT EXTERIOR FACES OF EXPOSED CONCRETE, EXTEND FROM 6 INCHES BELOW FINISH GRADE TO TOP OF CONCRETE WALL. DO NOT PUT STRIPS ON EXTERIOR FACE OF WALL FACING UTILITY BLDG.



**PLAN CONTAINMENT WALL DETAIL**



**NOTE:**  
GATE TO BE CONSTRUCTED TO LOCK PER DELAWARE COUNTY SANITARY ENGINEERS SPECIFICATIONS

ALL HARDWARE TO BE GALVANIZED- ALL SURFACES TO BE STAINED WITH SEMI TRANSPARENT STAIN

NO.	REVISION DATA	DATE	BY	APP'D

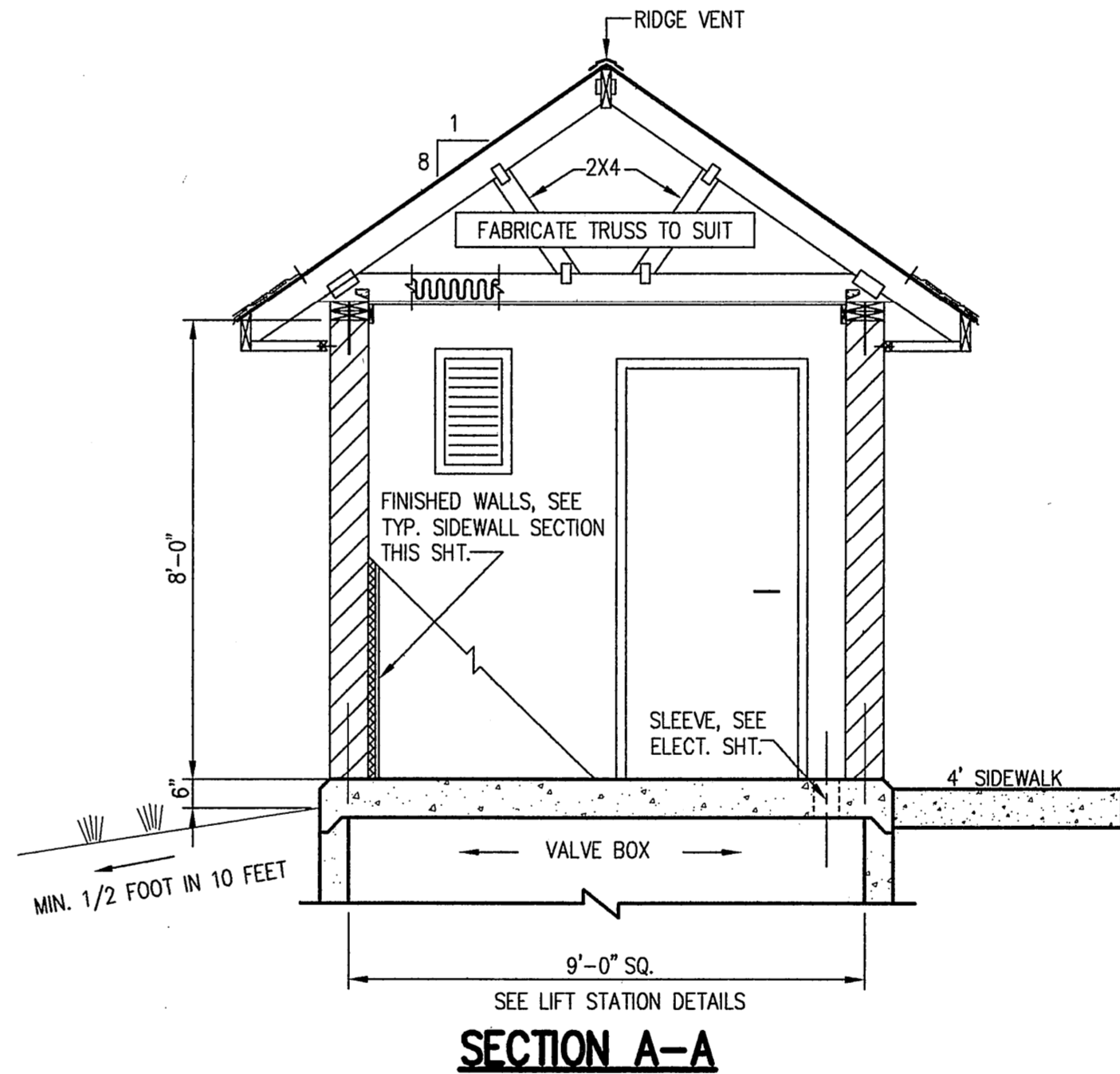
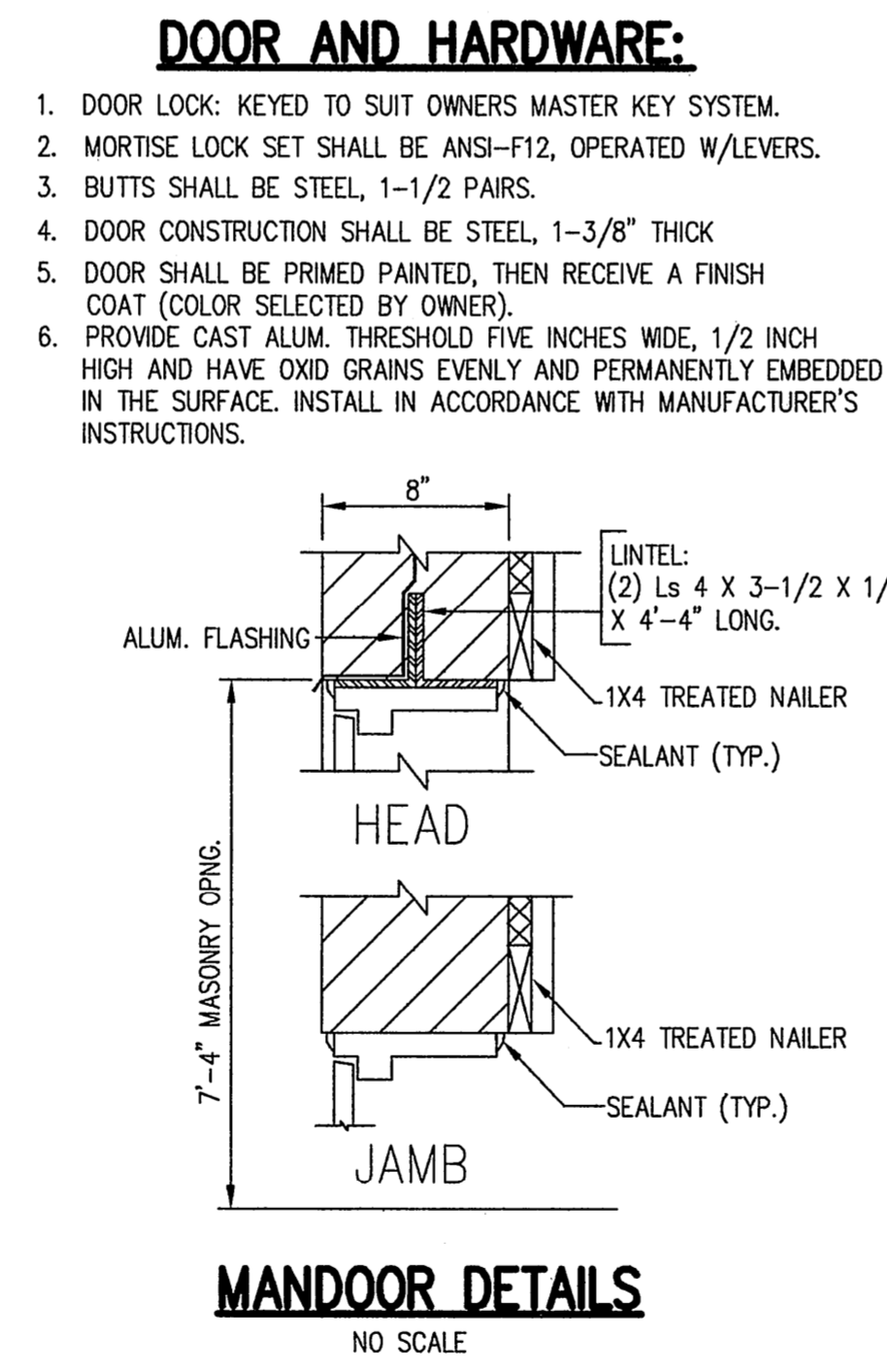
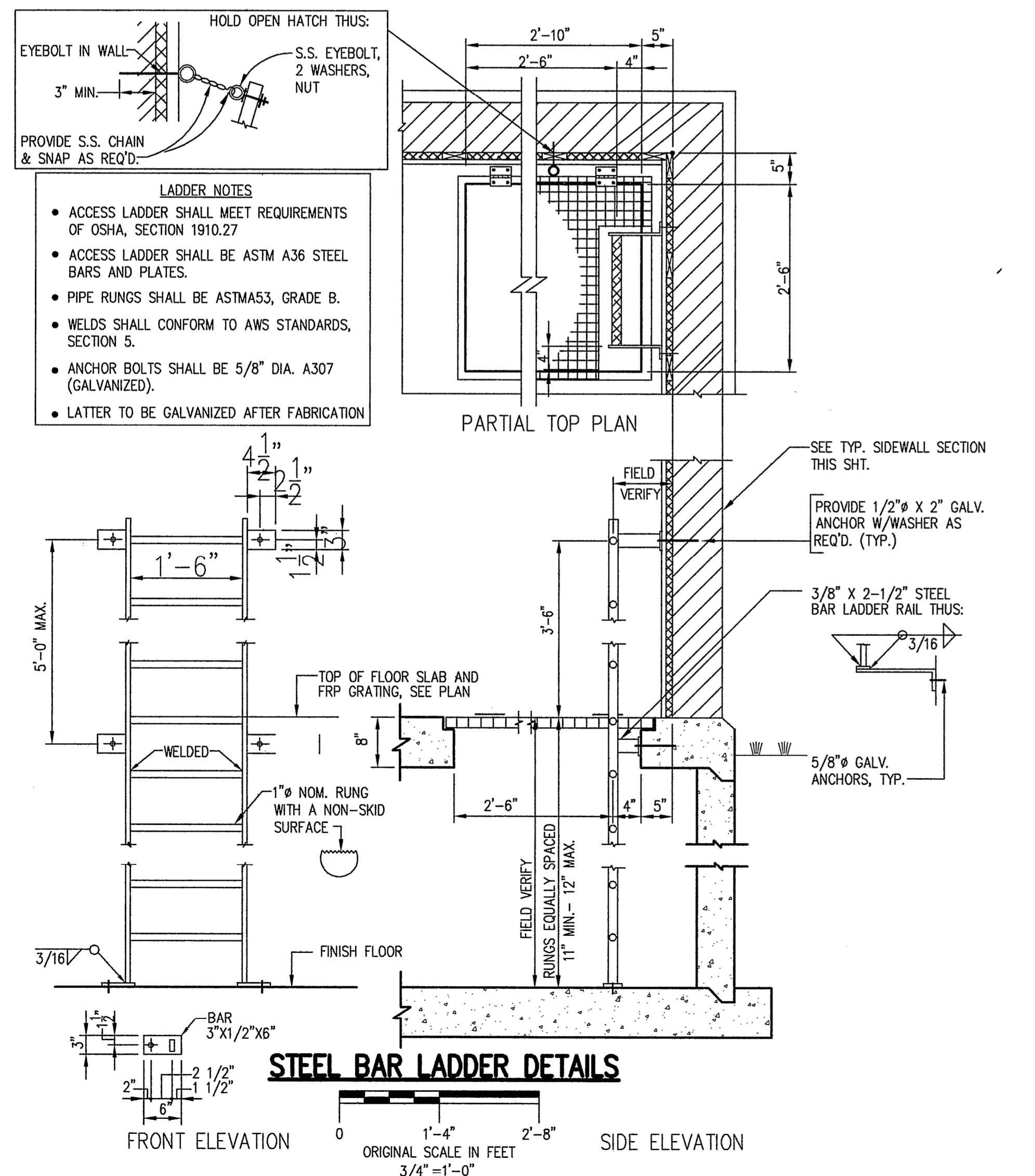
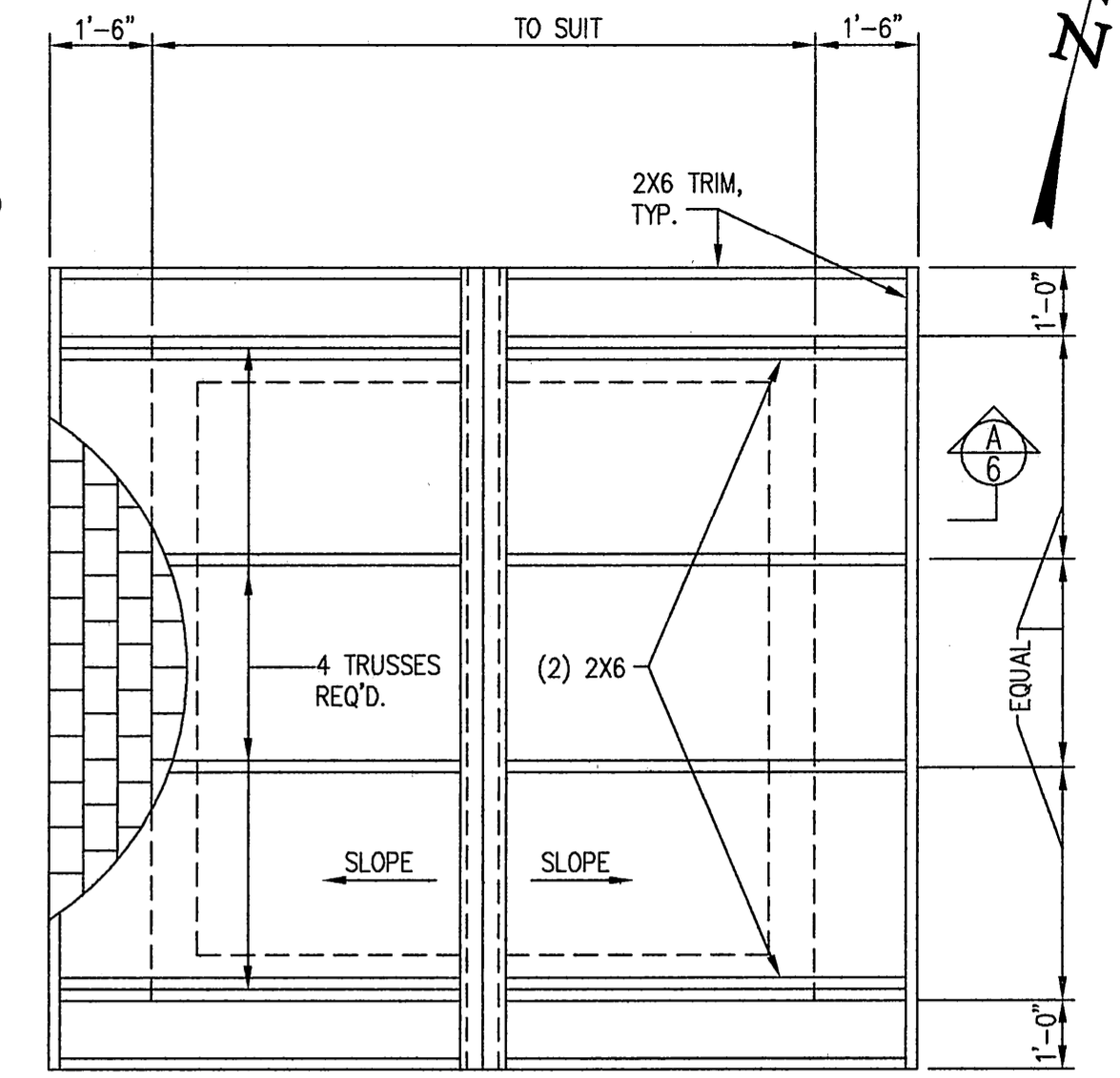
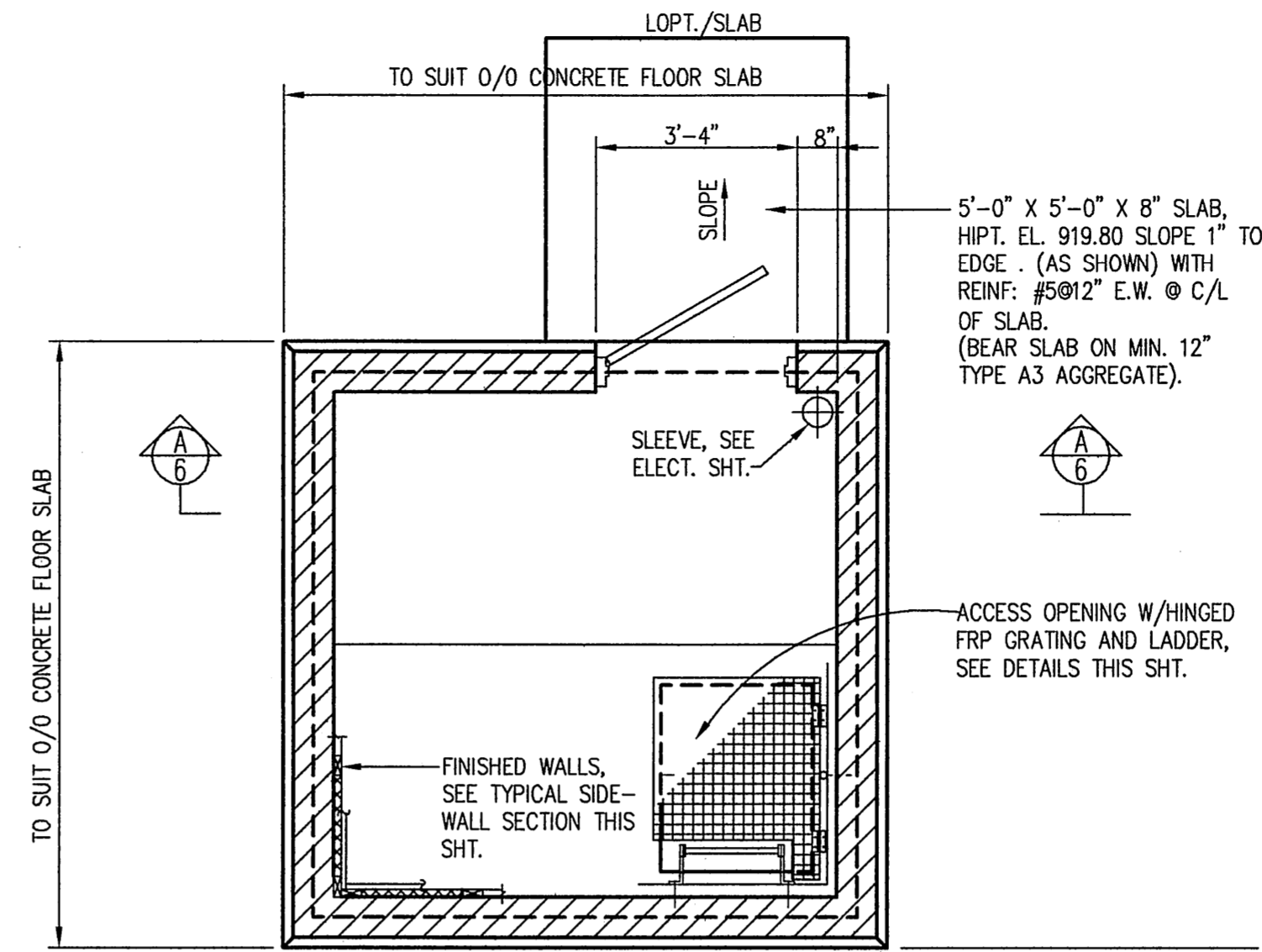
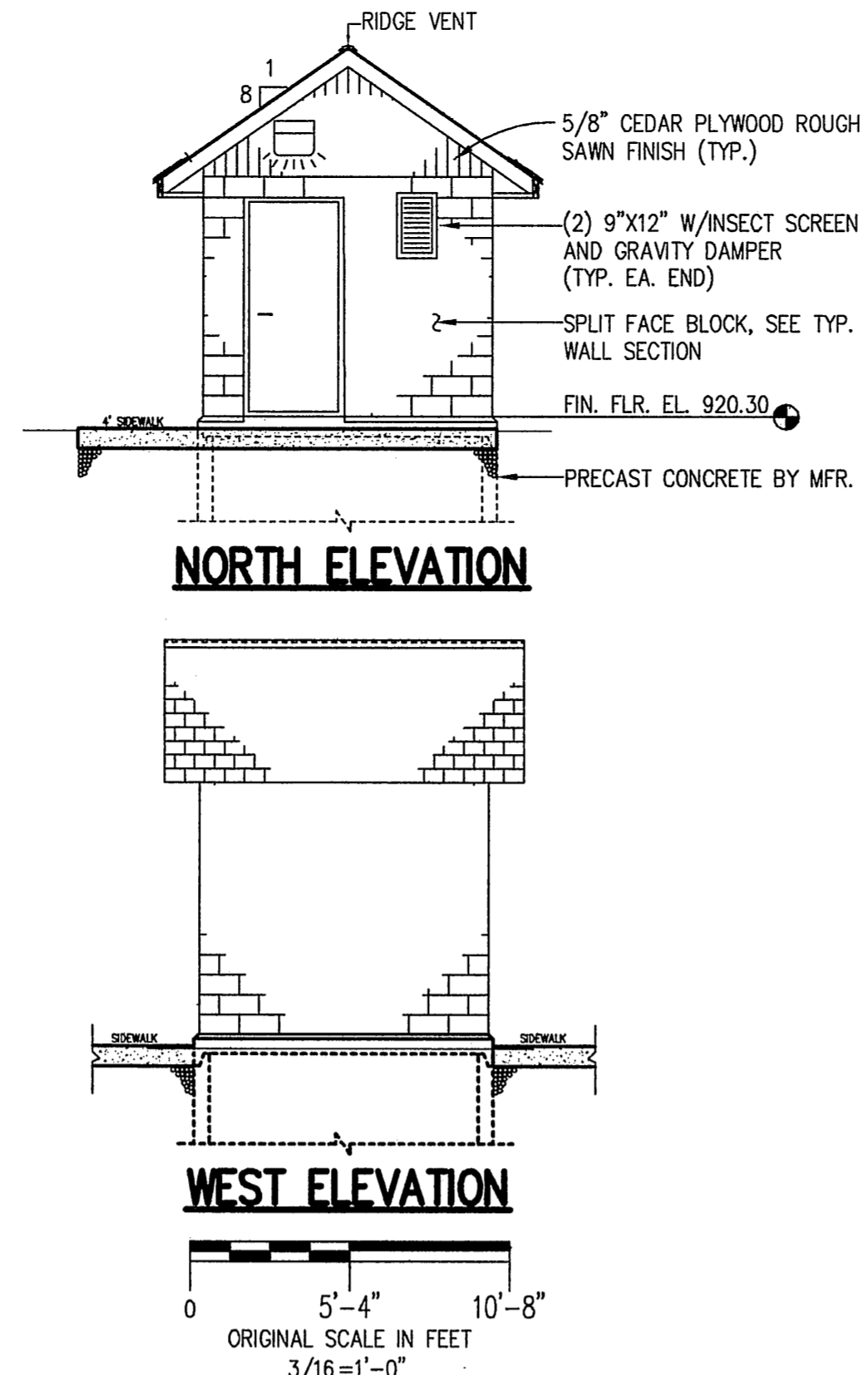
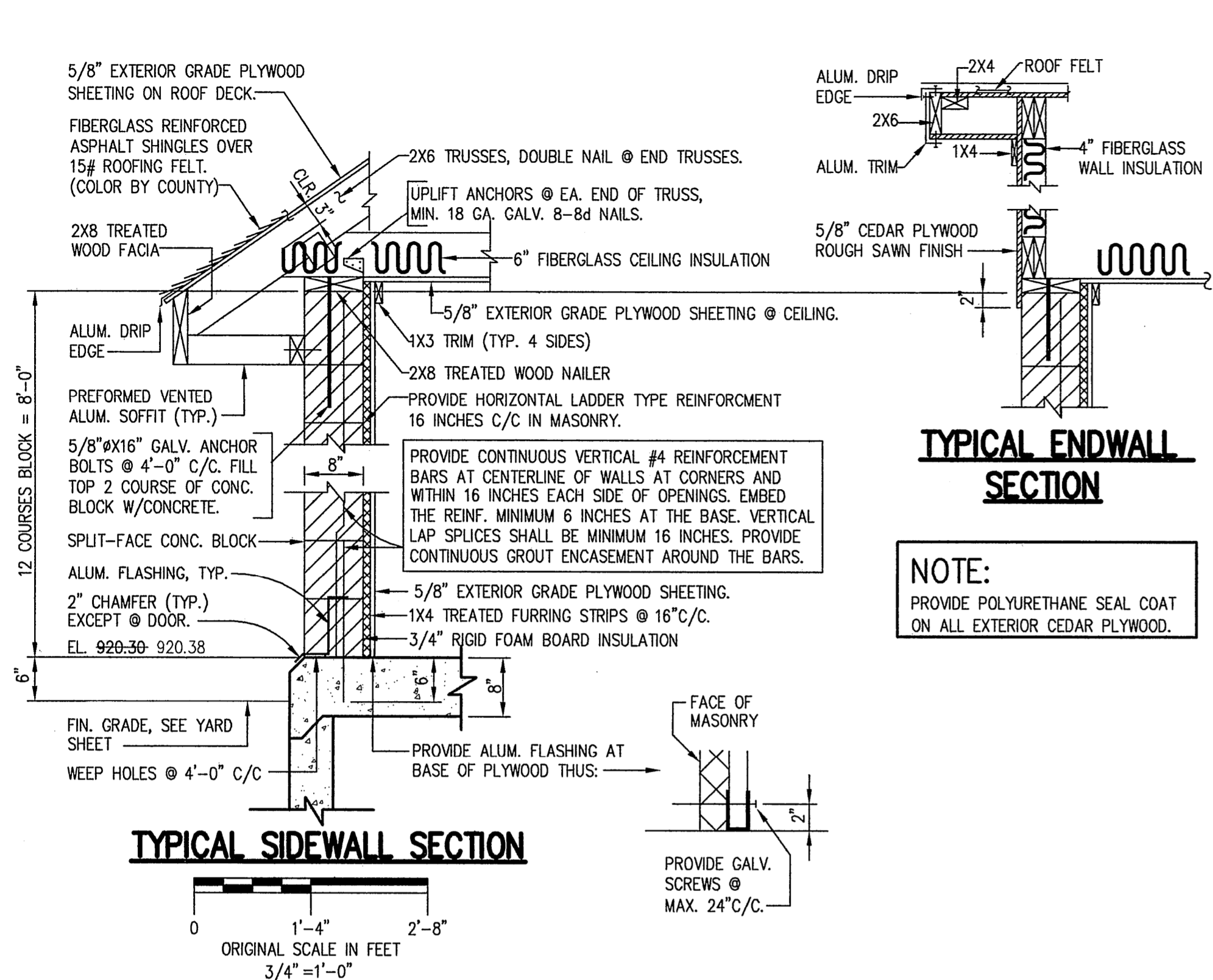
**FLOYD BROWNE ASSOCIATES, FBA INC.**

\* Contact Office  
Dayton, Ohio 937.431.1004  
Delaware, Ohio 740.363.6792  
\* Marion, Ohio 740.383.2187

DATE AUGUST 13, 2004 CADD FILE LIFTSTA-REV2  
JOB NO. 03-290-08 APPROVED

**CHARLIE VINCE**  
**LIFT STATION RELOCATION**  
**SUMMERWOOD**

**ODOR CONTROL STATION DETAILS**



2002 OBC. PLUS REVISIONS		DESIGN LOADS	
USE GROUP.....F2	TYPE OF CONSTRUCTION..... III B	SOIL BEARING CAPACITY.....2000 PSF	WIND LOADS:
BUILDING AREA.....100 S.F.	OCCUPANT LOAD:	FLOOR LIVE LOADS.....100 PSF	BASIC WIND SPEED.....90 MPH
MAXIMUM OF 1 OCCUPANTS		ROOF LIVE LOAD.....20 PSF	WIND IMPORTANCE FACTOR.....1.0
		SNOW LOADS:	WIND EXPOSURE CLASSIFICATION....."C"
		GROUND SNOW LOAD.....20 PSF	EARTHQUAKE DESIGN DATA:
		SLOPING ROOF SNOW LOAD.....11.2 PSF	SEISMIC USE GROUP II ; I <sub>e</sub> = 1.25
		SNOW EXPOSURE FACTOR.....1.0	S <sub>ds</sub> = 6.73 ; S <sub>d1</sub> = 3.94
		SNOW LOAD IMPORTANCE FACTOR.....1.0	SITE CLASS D
		SNOW THERMAL FACTOR.....1.0	BASIC S-FORCE-RESISTING SYSTEM(S) : 1H
			DESIGN BASE SHEAR: 2.1 gk
			ANAL PROC ASCE 7-98 (SEC. 9.5.3)

"AS-BUILT CERTIFICATION"  
 ELEVATION OF BUILDING SLAB ONLY  
 AS-BUILT pertains to field elevations of public utilities. For example: top of castings and flow lines, and does not include any field checks of overlaid grading.  
 AS-BUILT ELEVATIONS FIELD CHECKED AND AMENDED.  
 By: *William R. Winter* Date: 1/24/06  
 William R. Winter, Registered Surveyor No. 6767

NO.	REVISION DATA	DATE	BY	APP'D

**FLOYD BROWNE ASSOCIATES**  
 FBA INC.  
 \* Contact Office  
 Dayton, Ohio 937.431.1004  
 Delaware, Ohio 740.363.6792  
 \* Marion, Ohio 740.363.2187  
 DATE AUGUST 13, 2004 CADD FILE UTIL-BLDG-REV2  
 JOB NO. 03-290-08 APPROVED

**CHARLIE VINCE**  
 LIFT STATION RELOCATION  
 SUMMERWOOD  
 UTILITY BUILDING  
 PLANS - SECTION - ELEVATIONS - DETAILS

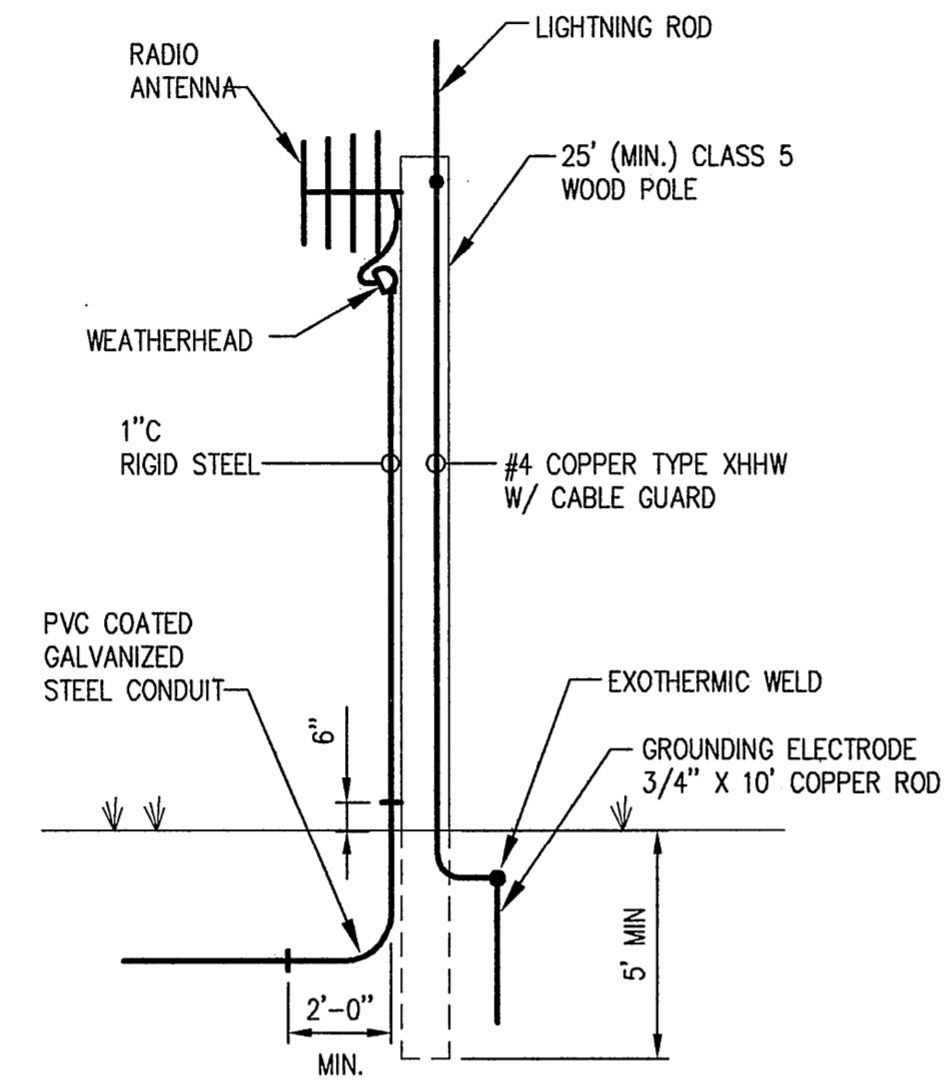


PROJECT: SUMMERWOOD LIFT STATION									
BUILDING:		MINI POWER ZONE		120 / 240 1 Ph		3 W WITH GND			
Circuit No.	BKR Size	Circuit	L1 Load	L2 Load	Circuit No.	BKR Size	Circuit	L1 Load	L2 Load
1	20	INTERIOR LGTS & EXH FAN	390	500	2	20	TELEMETRY		
3	20	RECTPS			4	20	ATC VENTILATOR		
5	20	BIOX SYSTEM	500	200	6	20	OUTDOOR LIGHTS		
7	20	BIOX SYS HEAT TAPE		1000	8	20	SPARE		
9	20	SPARE			10	20	SPARE		
ADD 25% OF LARGEST MOTOR			0	0					
LOAD L1			1390	1590					
LOAD L2			3210	3210					
<b>TOTAL LOAD</b>				<b>4.8 KVA</b>					
DRAWING LOADS				<b>4.8</b>					

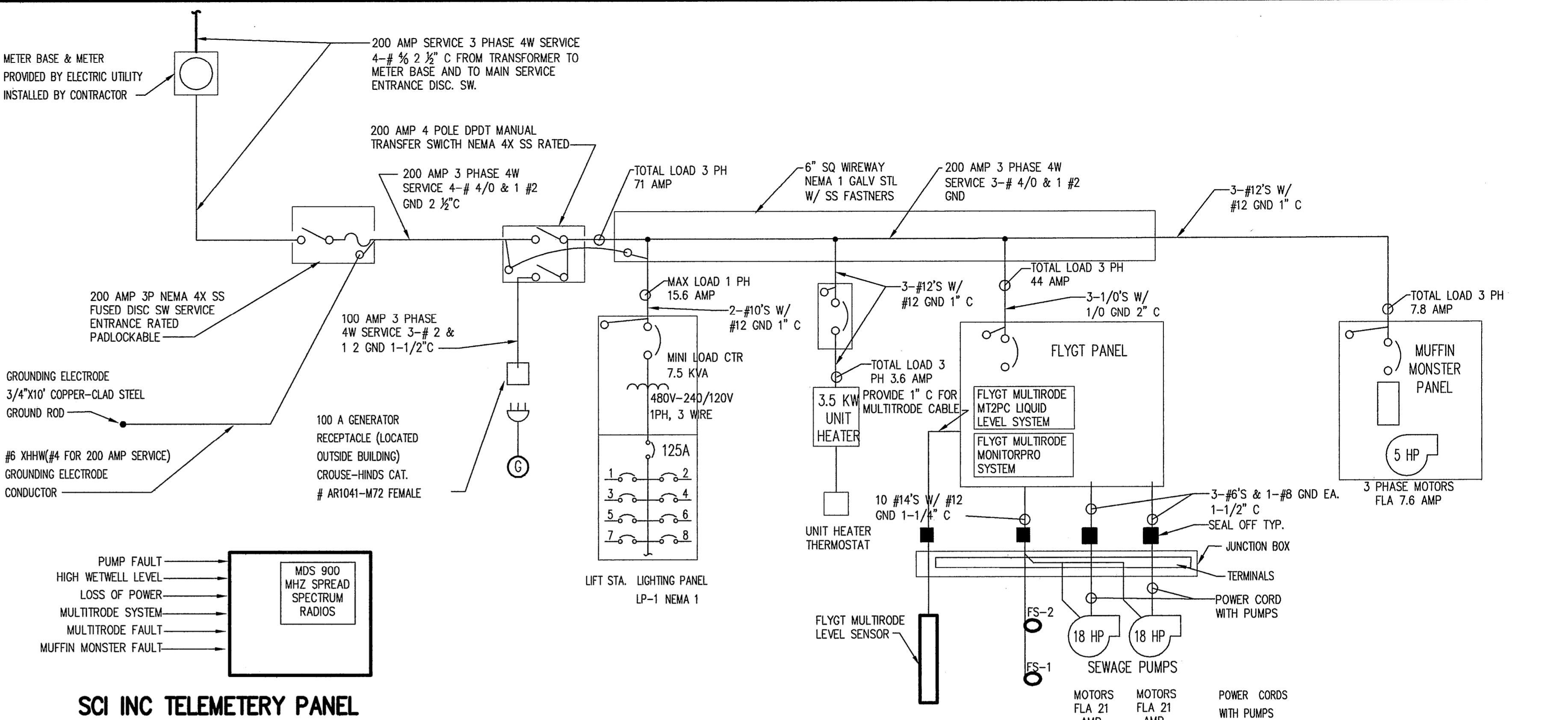
**ELECTRICAL NOTES**

- CONDUITS TO BE GALV. RIGID STEEL (GRS) OR ALUMINUM. CONDUITS ENTERING THE GROUND TO BE PVC COATED RGS TO 24" BELOW GRADE. BURIED CONDUITS TO BE SCHD 80 PVC. ALL CONDUITS ATTACHED TO BUILDING STRUCTURE TO BE SECURED W/ WALL ANCHORS AND W/ 1/4" SPACERS. CONDUITS TO BE CUT SQ.
- JUNCTION BOXES TO BE RATED NEMA 4X SS. HINGED WITH BACKPANEL FOR TERMINALS. ALL EXTERIOR BOXES TO HAVE PENETRATIONS FROM THE BOTTOM. JUNCTION BOXES TO BE MOUNTED USING SS CHANNEL STRUT AND SS FASTENERS. BOXES SHALL BE MOUNTED A MIN OF 42" FROM THE BOTTOM ABOVE THE FINISHED SLAB LEVEL OR FINISHED GRADE. INSTALL CORROSION INHIBITORS IN THE JUNCTION BOX. ALL TERMINAL S TO BE ALLAN BRADLEY TYPE 1492 W3 OR CAM SERIES, MOTOR TERMINALS TO BE 1492 W16 OR CD2 SERIES. TERMINALS TO BE DIN RAIL MOUNTED.
- WIRE AND CABLE - ALL BUILDING WIRE #6 AWG AND LARGER TO BE XHHW STRANDED COPPER. WIRE #6 AND SMALLER TO BE THW, OT THHN/THW STRANDED COPPER. SERVICE ENTRANCE CABLE/WIRE TO BE TYPE SE OR USE XHHW STRANDED COPPER. USE SPLIT-BOLT CONNECTIONS FOR CONDUCTOR SPLICES #6AWG AND LARGER. TAPE CONNECTION TO 150% OF INSULATION RATING OF CONDUCTOR. USE SOLDERLESS PRESSURE CONNECTORS W/ INSULATED COVERING FOR CONDUCTOR TAPES. SPLICES ON #8 AWG AND SMALLER. SPLICES IN THE LIFT STATION WET WELL ARE NOT PERMITTED. PUMP CABLES WITH NICK AND CUTS WILL BE REPLACED CABLES WILL NOT BE REPAIRED.
- GROUNDING - VERIFY THAT FINAL BACKFILL AND COMPACTION HAS BEEN COMPLETED BEFORE DRIVING ROD ELECTRODES. INSTALL PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. INSTALL ROD ELECTRODES AT LOCATIONS INDICATED. INSTALL ADDITIONAL ROD ELECTRODES AS REQUIRED TO ACHIEVE SPECIFIED RESISTANCE TO GROUND. PROVIDE BONDING TO MEET REGULATORY REQUIREMENTS. EQUIPMENT GROUNDING CONDUCTOR: PROVIDE SEPARATE, INSULATED CONDUCTOR WITHIN EACH FEEDER AND BRANCH CIRCUIT RACEWAY. TERMINATE EACH END ON SUITABLE LUG, BUS, OR BUSHING. INSPECT GROUNDING AND BONDING SYSTEM CONDUCTORS AND CONNECTIONS FOR TIGHTNESS AND PROPER INSTALLATION
- UTILITY SERVICE POWER - AMERICAN ELECTRIC POWER, TELEPHONE: 800-672-2231 PERFORM WORK IN ACCORDANCE WITH UTILITY COMPANY WRITTEN REQUIREMENTS. PRE-INSTALLATION MEETING COORDINATION AND MEETINGS: PRE-INSTALLATION MEETING. CONVENUE FOUR WEEKS PRIOR TO COMMENCING WORK. REVIEW SERVICE ENTRANCE REQUIREMENTS AND DETAILS WITH UTILITY COMPANY REPRESENTATIVES. METERING TRANSFORMER CABINETS. SHEET METAL CABINET WITH HINGED DOOR, CONFORMING TO UTILITY COMPANY REQUIREMENTS, WITH PROVISIONS FOR LOCKING AND SEALING. METER BASE WILL BE FURNISHED BY UTILITY COMPANY. ARRANGE WITH UTILITY COMPANY'S TO OBTAIN PERMANENT ELECTRIC TO THE PROJECT. INSTALL TRANSFORMER PAD, METERING TRANSFORMER CABINETS, AND METER BASE AS REQUIRED BY UTILITY COMPANY. CONTRACTOR SHALL PROVIDE SERVICE ENTRANCE GROUND
- RADIO TELEMETRY SYSTEM SHALL INCLUDE ALL EQUIPMENT NECESSARY TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM WHICH WILL INTEGRATE INTO THE DELAWARE COUNTIES EXISTING TELEMETRY SYSTEM.
- PLASTIC LAMINATED COPIES OF ALL ELECTRICAL PANELS SHALL BE PLACED IN THE ASSOCIATED ELECTRICAL PANEL. JUNCTION BOXES TO SHOW TERMINAL NO'S, WIRE NO'S, DEVICES. PUMP CONTROL PANELS TO INCLUDE LADDER DIAGRAMS OF PUMP CONTROLS WITH WIRE NO'S, TERMINALS, PART NO'S ETC.
- PUMP CONTROL PANEL - SHALL BE MANUFACTURED BY FLYGT AND INCLUDE FLYGT MULTITRODE TWO PUMP LEVEL CONTROL, MT2PC AND MONITORPRO SYSTEMS. INCLUDE ALL TRANSIENT SUPPRESSORS, INTRINSICALLY SAFE BARRIERS, SUPPORT BRACKETS, CABLE, CURRENT SENSORS AND OTHER DEVICES AS ARE REQUIRED FOR A COMPLETE SYSTEM. PROVIDE A TWO FLOAT BYPASS USING NON-MERCURY FLOAT SWITCHES TO OPERATE A PUMP ON A HIGH LEVEL CONDITION ABOVE THE HIGH LEVEL ALARM SETPOINT AND SHUT THE PUMP OFF ON A LOW LEVEL BELOW THE LOW LEVEL OFF SETPOINT. PROVIDE A TIMER THAT WILL SHUT OFF THE PUMP OPERATING ON THE TWO FLOAT BY-PASS CONTROL AFTER A SET TIME PERIOD. ALL CONTROL DEVICES AND PUMP STARTERS ARE TO BE ALLEN BRADLEY. THE PUMP STARTERS ARE TO BE "SMC-FLEX" 54 AMP WITH MCP BREAKERS. PROVIDE ISOLATED CONTACT OUTPUTS FOR PANEL FAILURES, HIGH LEVEL, PUMP FAILURES. PROVIDE ALL RELAYS AND DEVICES FOR PUMP MOISTURE, THERMAL AND SEAL FAILURE SENSING AND ALARMS. ALL PUMP CONTROLS TO BE MOUNTED ON A HINGED STAINLESS STEEL INNER PANEL OF THE CONTROL PANEL THERE SHALL BE AN INNER PANEL MOUNTED MAIN FUSED POWER DISCONNECT SWITCH TO BE MECHANICALLY INTERLOCKED SO THAT THE INNER PANEL CAN NOT BE OPENED UNLESS THE MAIN POWER DISCONNECT IS TURNED OFF. DISCONNECT OPERATOR TO HAVE A MANUAL OVERRIDE OF THE INTERLOCK FOR SERVICE PERSONEL USE. THE PUMP CONTROLS TO HAVE A HAND OFF AUTOMATIC SELECTOR SWITCH FOR EACH PUMP. IN HAND THE PUMP WILL OPERATE CONTINUOUSLY, IN AUTO, THE PUMP WILL OPERATE FROM THE LEVEL CONTROL SYSTEM. IN OFF THE PUMP WILL BE INOPERATIVE. PROVIDE LED PILOT INDICATORS FOR EACH PUMP. PROVIDE ELAPSE TIME METERS FOR EACH PUMP. THE PANEL SHALL HAVE INNER PANEL MOUNTED MANUAL OVERLOAD RESETS, SEAL FAILURE AND MOISTURE ALARM INDICATORS FOR EACH PUMP, FAILURE RELAY RESETS. CONTRACTOR TO SUBMIT CONTROL PANEL SHOP DRAWING TO DELAWARE CO. FOR APPROVAL.

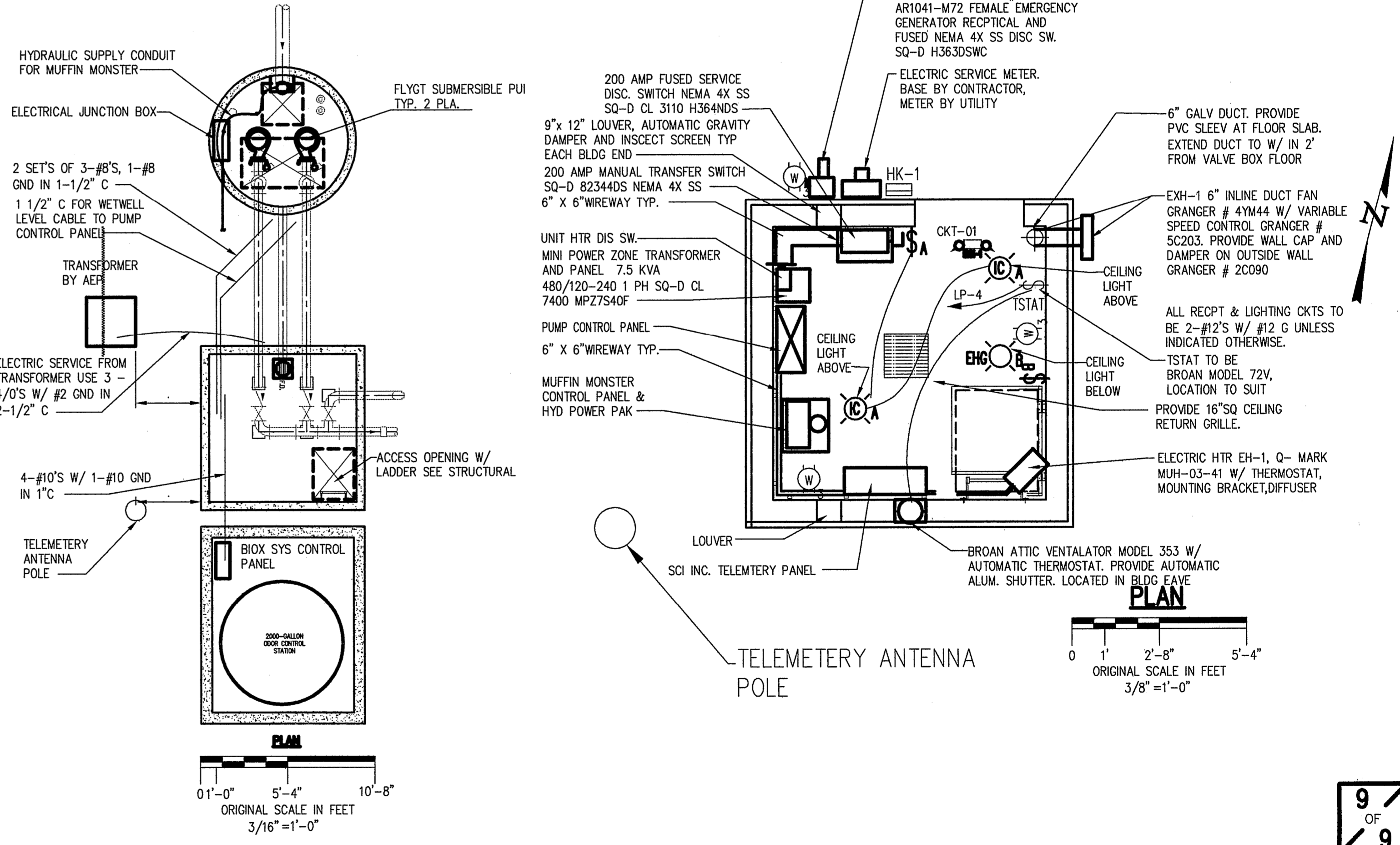
- IC GENERAL INCANDESCENT CEILING FIXTURE. W/ 100 W LAMPS EA 120VOLT STONCO, GRANGER # 2V565 OR EQUAL
- HK-1 OUTDOOR WALLPAK, UL LISTED FOR WET LOCATIONS GASKETED, 120V HPS LAMP, TAMPER PROFF W/ POLYCARBONITE SHIELD. 150 WATT HPS MOUNT AT EYE HEIGHT. PROVIDE PHOTOCELL CONTROL. COOPER LUXMARK HPWL-150MT, GRANGER STOCK NO. 4V268 OR HOLOPHANE WL3K EQUAL. PROVIDE BULBS AND SPARES
- EMX-1 COMBINATION EXIT & EMERGENCY LIGHT COOPER SURE LITES MODEL CCX70RWHDD, GRANGER # 4WL63 OR LITHONIA QUANTUM LHQMSW3(R or G)120/277 GRANGER # 4PH(19 or 20)
- EHG INDUSTRIAL LIGHT FIXTURE MODEL XHD05 H120-V2 CLASS 1, DIV 1, EXPLOSION-PROOF, 100-WATT, METAL HI-LIGHT W/ CLEAR HIGH IMPACT LENS



**RADIO ANTENNA POLE CONDUIT & GROUNDING DETAILS**  
DETAIL EL-1  
NO SCALE



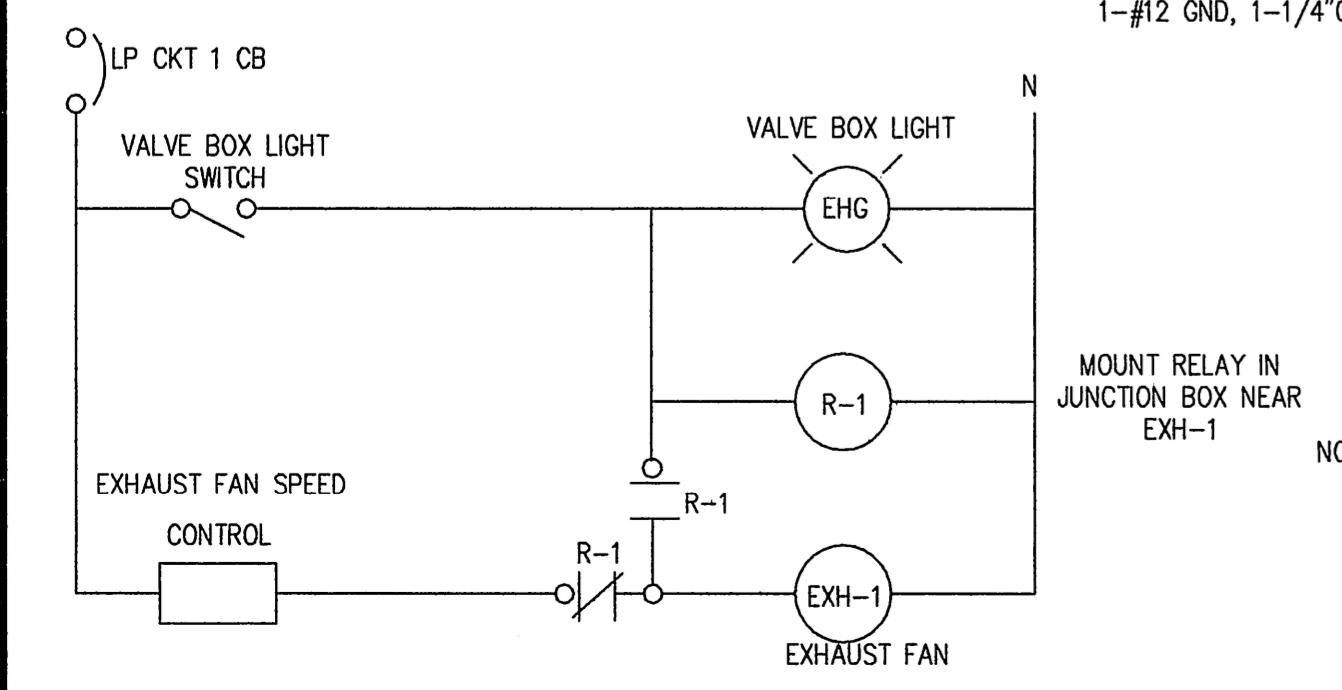
**SCI INC TELEMETRY PANEL**



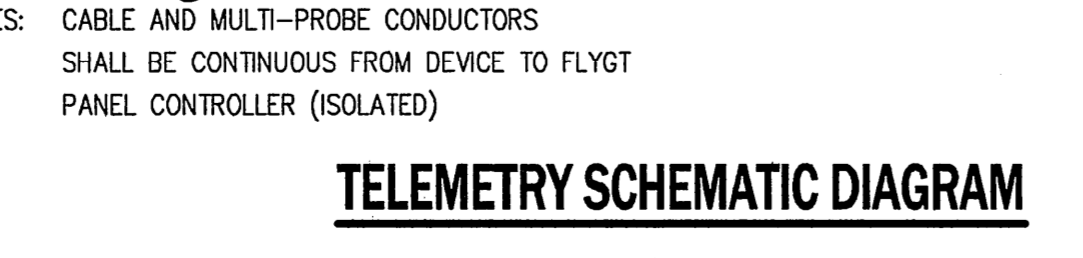
NO.	REVISION DATA	DATE	BY	APP'D

**FLOYD BROWNE ASSOCIATES, FBA INC.**  
 \* Contact Office  
 Dayton, Ohio 937.431.1004  
 Delaware, Ohio 740.383.6792  
 \* Marion, Ohio 740.383.2187  
 DATE: JUNE 2004  
 CADD FILE ELEC DWG REV 8/11/04 3 PH  
 JOB NO. 03-290-05  
 APPROVED

**CHARLIE VINCE**  
**LIFT STATION RELOCATION SUMMERWOOD**  
**LIFT STATION ELECTRICAL PLAN - SCHEMATIC**



**VALVE BOX LIGHT AND EXHAUST FAN CKT.**



**TELEMETRY SCHEMATIC DIAGRAM**