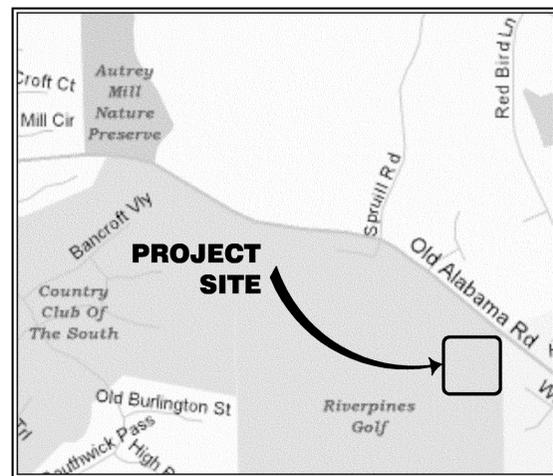


FULTON COUNTY DEPARTMENT OF PUBLIC WORKS NORTH FULTON PUMP STATION UPGRADES OLD ALABAMA PUMP STATION

LAND LOTS 177 & 178, DISTRICT 1, SECTION 1
FULTON COUNTY, GEORGIA

CONSTRUCTION DOCUMENTS
SEPTEMBER 15, 2006



VICINITY MAP

SCALE: 1" = 900'



9-15-06

**PRIME
ENGINEERING
INCORPORATED®**
PROJECT NUMBER 06-2015-005

R:\2015-005 North Fulton Pump Station Upgrades\dwg\Old Alabama\G001-2015-005-0A.dwg Thu, 09/21/06 10:06 AM

1	2	3	4	5	6	7	8	9	10	11	12	13	14
---	---	---	---	---	---	---	---	---	----	----	----	----	----

PROJECT DIRECTORY

1. PROJECT: NORTH FULTON PUMP STATION UPGRADES
 OLD ALABAMA PUMP STATION
 LAND LOTS 177 & 178, 1ST DISTRICT 1ST SECTION
 FULTON COUNTY, GEORGIA

2. SITE ADDRESS: 4775 OLD ALABAMA ROAD
 ALPHARETTA, GEORGIA 30022

3. OWNER: FULTON COUNTY DEPARTMENT OF PUBLIC WORKS
 WATER SERVICES DIVISION
 CONTACT: MR. SIMEON SOLOMERO, JR
 141 PRYOR STREET, S.W., SUITE 6001
 ATLANTA, GA 30303
 PHONE: 404-730-7418

4. CIVIL ENGINEER: PRIME ENGINEERING, INC.
 CONTACT: MR. ANDY SEDDON, P.E.
 1888 EMERY STREET NW, SUITE 300
 ATLANTA, GEORGIA 30318
 PHONE: 404-425-7100

5. MECHANICAL ENGINEER: PRIME ENGINEERING, INC.
 CONTACT: MR. BRYAN WEBB, P.E.
 PHONE: 404-425-7100

6. ELECTRICAL ENGINEER: RAY GROUP CONSULTING ENGINEERS, INC.
 CONTACT: MR. ASHIM K. RAY, P.E.
 1827 POWERS FERRY ROAD
 BUILDING 21, SUITE 200
 ATLANTA, GEORGIA 30339
 PHONE: 770-953-1443

7. SURVEYOR: PRIME SURVEYING, INC.
 CONTACT: MR. JOHN BLOUNT, R.L.S.
 PHONE: 404-425-7100

FULTON COUNTY NOTES

- ALL WASTEWATER PIPE CONSTRUCTION MUST CONFORM TO FULTON COUNTY'S STANDARDS AND SPECIFICATIONS.
- ALL WASTEWATER EASEMENTS MUST BE DRESSED AND GRASSED TO CONTROL EROSION IN ACCORDANCE WITH EASEMENT PLATS PRIOR TO ACCEPTANCE. TREES SHALL NOT BE PLANTED IN THE PERMANENT EASEMENT AREA.
- NEOPRENE COUPLINGS WITH STAINLESS STEEL BANDS AND SHEAR RINGS ARE REQUIRED FOR JOINING DIFFERENT TYPES OF SANITARY SEWER PIPES.
- LOW PRESSURE AIR TESTING REQUIRED FOR ALL WASTEWATER PIPE SYSTEMS. THIS TEST MUST MEET ALL REQUIREMENTS AS OUTLINED IN ASTM C-828-80 OR CURRENT REVISION.
- COMPACTION OF THE BACK FILL OF ALL TRENCHES SHALL BE COMPACTED TO THE DENSITY OF 95% OF THE THEORETICAL MAXIMUM DENSITY (STANDARD PROCTOR). BACKFILL MATERIAL SHALL BE FREE FROM ROOTS, STUMPS, OR OTHER FOREIGN DEBRIS, AND SHALL BE PLACED AT OR NEAR OPTIMUM MOISTURE. CORRECTION OF ANY TRENCH SETTLEMENT WITHIN A YEAR FROM THE DATE OF APPROVAL WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- CONTRACTOR TO FIELD VERIFY LOCATION AND INVERT ELEVATIONS OF WASTEWATER PIPE FOR CONNECTION TO EXISTING WASTEWATER SYSTEMS.
- EIGHT (8") INCH OR LARGER PIPE LINES SHOULD BE TV INSPECTED. A VHS TAPE AND WRITTEN INSPECTION LOG, CERTIFIED BY A GEORGIA REGISTERED ENGINEER, SHALL BE PROVIDED TO THE PROJECT ENGINEERING SECTION OF PUBLIC WORKS AT THE TIME OF FINAL ACCEPTANCE.

FLOW RANGE HISTORY

DATE	MAX. AVERAGE DAILY FLOW
OCTOBER 2005	2,551 MGD
NOVEMBER 2005	2,756 MGD
DECEMBER 2005	3,236 MGD
JANUARY 2005	3,458 MGD
FEBRUARY 2005	6,199 MGD
MARCH 2005	3,474 MGD
APRIL 2005	3,252 MGD
MAY 2005	5,026 MGD
JUNE 2005	2,980 MGD

DRAWING INDEX

DRAWING NUMBER	DRAWING TITLE
0 09/15/06	T-001 COVER
0 09/15/06	G-001 GENERAL INFORMATION
0 09/15/06	C-001 CIVIL LEGEND
0 09/15/06	C-201 DEMOLITION AND EROSION CONTROL PLAN
0 09/15/06	C-202 STAKING AND GRADING PLAN
0 09/15/06	C-401 CIVIL DETAILS
0 09/15/06	C-402 CIVIL DETAILS
0 09/15/06	M-001 MECHANICAL LEGEND
0 09/15/06	M-201 MECHANICAL PLAN
0 09/15/06	E-001 ELECTRICAL & INSTRUMENTATION LEGEND
0 09/15/06	E-201 ELECTRICAL & INSTRUMENTATION PLAN
0 09/15/06	E-202 ELECTRICAL & INSTRUMENTATION PLAN
0 09/15/06	E-401 ELECTRICAL & INSTRUMENTATION DETAILS
0 09/15/06	E-402 ELECTRICAL & INSTRUMENTATION DETAILS
0 09/15/06	E-403 ELECTRICAL & INSTRUMENTATION DETAILS
0 09/15/06	E-404 ELECTRICAL & INSTRUMENTATION DETAILS
0 09/15/06	E-405 ELECTRICAL & INSTRUMENTATION DETAILS

LEGEND

INDICATES SHEET INCLUDED IN THIS ISSUE

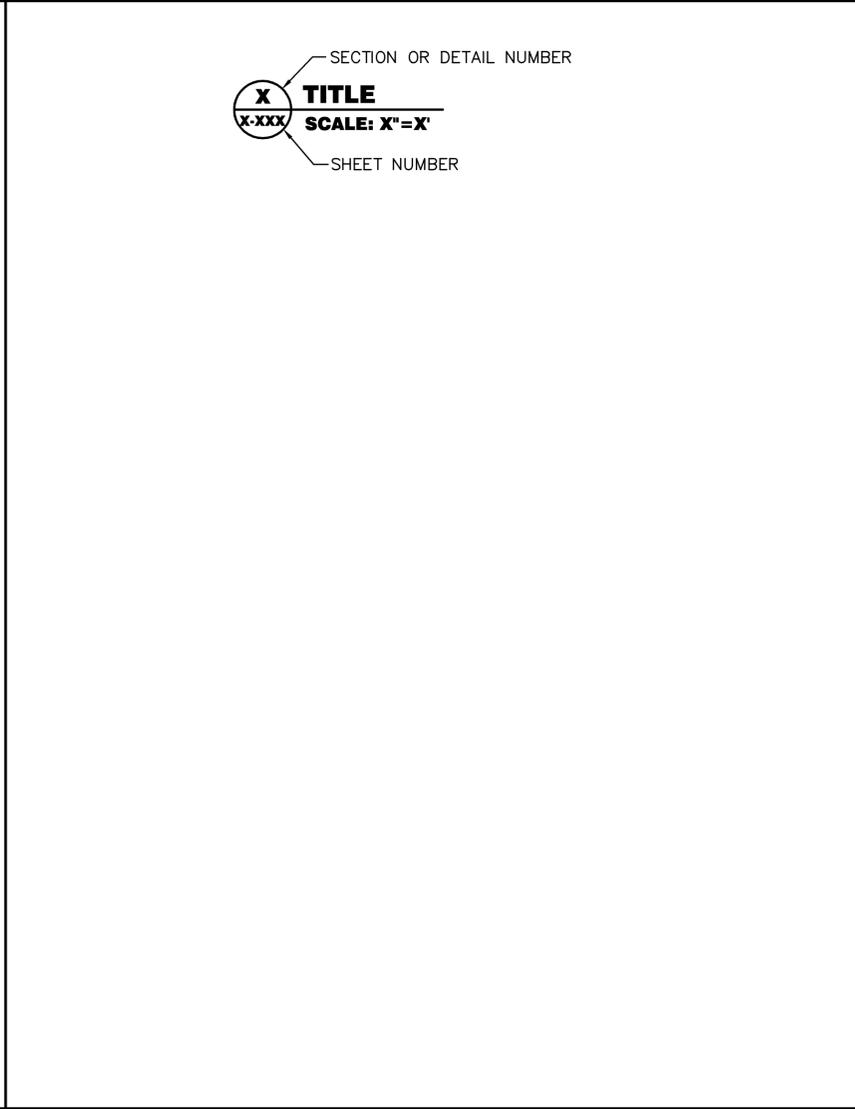
REVISION NUMBER

LATEST ISSUE

GENERAL NOTES

- EXISTING DATA: THE EXISTING INFORMATION PROVIDED IN THESE DRAWINGS WAS OBTAINED BY PRIME ENGINEERING, INC. DURING SITE VISITS ON MAY 16, 2006 AND JULY 11, 2006. EXISTING DRAWINGS BY PARSONS ENGINEERING SCIENCE, INC. DATED MARCH 2002 WERE ALSO USED TO SUPPLEMENT THE FIELD INFORMATION.
- CONTRACTOR IS RESPONSIBLE DURING BID PHASE FOR VERIFYING ALL EXISTING CONDITIONS, DIMENSIONS, ACCESS LIMITATIONS, AND SITE RESTRICTIONS THAT AFFECT THIS SCOPE OF WORK. CONTRACTOR IS RESPONSIBLE FOR PROVIDING LABOR, MATERIAL, AND EQUIPMENT PROVISIONS AS REQUIRED AND (IN BASE BID AND ANY ALTERNATIVES) TO PERFORM SCOPE OF WORK BASED ON THESE EXISTING SITE CONDITIONS.
- ALL CONNECTIONS TO EXISTING SYSTEMS AND WORK ON ACTIVE SYSTEMS MUST BE SCHEDULED A MINIMUM OF 24 HOURS IN ADVANCE WITH FULTON COUNTY.
- NO SYSTEMS SHALL BE RETURNED TO ACTIVE SERVICE WITHOUT WRITTEN APPROVAL FROM FULTON COUNTY.
- UNLESS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS, NO PIPE SHALL BE CUT THAT SHALL REMAIN IN SERVICE. REMOVAL OF OLD FITTINGS WILL BE ACCOMPLISHED FROM JOINT TO JOINT WITH GASKET REPLACEMENT AND NUTS AND BOLTS AT THESE LOCATIONS.
- CONTRACTOR SHALL PROVIDE DETAILED SHOP DRAWINGS FOR SUBMERSIBLE WASTEWATER PUMP, ELECTRIC JIB CRANE, COMBUSTIBLE GAS DETECTOR, VARIABLE FREQUENCY DRIVE, AND DIESEL GENERATOR.
- REMOVE ALL ABANDONED MECHANICAL AND ELECTRICAL EQUIPMENT PROPERLY. PROPERLY DISPOSE OF ALL REMOVED EQUIPMENT AND/OR DEBRIS.
- BYPASS PUMPING, AS REQUIRED DURING CONSTRUCTION, SHALL BE COORDINATED WITH THE OWNER. AT ALL TIMES THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE PUMP STATION WET WELL LEVEL BELOW THE ALARM SET POINT.
- RATED CAPACITY OF EXISTING PUMP STATION IS 3.6 MGD.

DETAIL ID



PRIME ENGINEERING
INCORPORATED

1888 EMERY STREET, N.W., SUITE 300
ATLANTA, GEORGIA 30318
404-425-7100

PROJECT: NORTH FULTON PUMP STATION UPGRADES - OLD ALABAMA PUMP STATION
 PREPARED FOR: FULTON COUNTY DEPARTMENT OF PUBLIC WORKS

REVISONS	NO.	DATE	DESCRIPTION
	0	9/15/2006	CONSTRUCTION DOCUMENTS

SEAL

DATE: 9-15-06

© 2006 PRIME ENGINEERING, INC. Scales, as stated hereon, are valid on the original drawing; the dimensions of which are 24 by 36 inches. These scales, noted hereon, are hereby changed by the ratio of the overall sheet dimensions of the print to corresponding dimensions of the original drawing. This drawing is the property of PRIME ENGINEERING, INCORPORATED and is not to be reproduced or copied in whole or in part. It is only to be used for the project and site specifically identified herein and is not to be used on any other project. It is to be returned upon request.

DRAWING TITLE

GENERAL INFORMATION

07TIBNPPUMP8K-DB

DRAWING DATE	09/15/06	DRAWN BY	ESD	DESIGNED BY	AJS	CHECKED BY	RBW
DRAWING SCALE		NOT TO SCALE		PROJECT NUMBER		06-2015-005	
DRAWING NUMBER		G-001					

NOT ISSUED FOR CONSTRUCTION

R:\2015-005 North Fulton Pump Station Upgrades\dwg\Old Alabama\2015-005-0A.dwg Wed, 09/20/2016 1:23 PM

CIVIL LEGEND

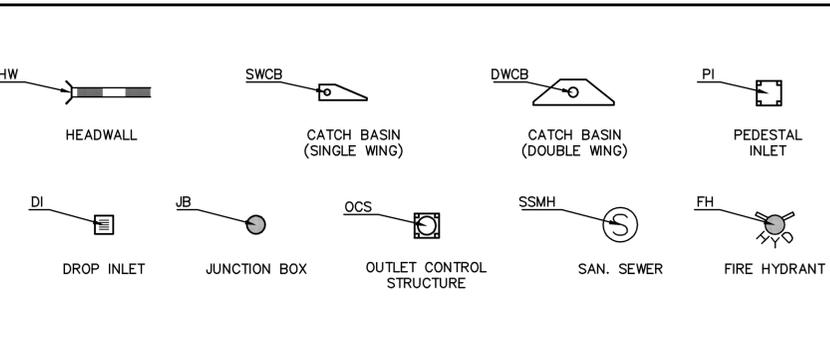
ABBREVIATIONS

CIVIL NOTES

	EXISTING	PROPOSED
ASPHALT PAVEMENT		
BENCHMARK		N/A
BOLLARD		
BUILDING		
CENTERLINE		
CONCRETE		
CONSTRUCTION LIMITS	N/A	
CONTOUR, INTERMEDIATE		
CONTOUR, MAIN		
CONTROL POINTS		N/A
CREEK CENTERLINE		
DEMOLITION (STRUCTURES)	N/A	
DEMOLITION (UTILITIES)	N/A	
EASEMENT		
GROUT		
GUARD RAIL		
HANDICAP SYMBOL		
IRON ROD FOUND		N/A
PAVEMENT ARROW		
PROPERTY LINE		
RETAINING WALL		
SIGN, ONE POLE		
SLOPE ARROW		
TREE LINE		
TREES		
WATER LINE		
FIRE MAIN		
FIRE HYDRANT		
WATER METER		
45° BEND (L)		
45° BEND (R)		
WYE		
CROSS		
90° BEND		
PLUG		
REDUCER		
TEE		
THRUST BLOCK		
VALVE		
VALVE (POST INDICATOR)		
MONITORING WELL		
SIAMESE CONNECTION		

A	ARC LENGTH	M	MOTOR ACTUATOR
AC	ACRE	MAX	MAXIMUM
AE	AIR ELIMINATOR	MH	MANHOLE
AGGR	AGGREGATE	MIN	MINIMUM
ASPH	ASPHALT	MON	MONUMENT
B/F	BELOW FLOOR	N/A	NOT APPLICABLE
BE	BOTTOM ELEVATION	NIC	NOT IN CONTRACT
BFV	BUTTERFLY VALVE	NPT	NATIONAL PIPE THREAD
BITUM	BITUMINOUS	NTS	NOT TO SCALE
BLDG	BUILDING	OC	ON CENTER
BOP	BOTTOM OF PIPE	OD	OUTSIDE DIAMETER
C	CHORD LENGTH	OTS	ON THIS SHEET
CL	CENTERLINE	PL	PROPERTY LINE
CB	CATCH BASIN	PC	POINT OF CURVE
CF	CUBIC FEET	PG	PRESSURE GAUGE
CMP	CORRUGATED METAL PIPE	PI	POINT OF INTERSECTION
COL	COLUMN	PIV	POST INDICATOR VALVE
CO	CLEAN OUT	PP	POWER POLE
CONC	CONCRETE	PPVC	PERFORATED PVC PIPE
COND	CONDUIT	PRV	PRESSURE RELIEF/REDUCING VALVE
CONN	CONNECTION/CONNECT	PRESS	PRESSURE
CT	CLAY TREATER	PRV	PRESSURE RELIEF VALVE
CV	VERTICAL COALESCER	PT	PAINT
DI	DROP INLET	PT	POINT OF TANGENCY
DIA, Ø	DIAMETER	PTB	POWER TERMINAL BOX
DIP	DUCTILE IRON PIPE	PV	PLUG VALVE
DISCH	DISCHARGE	PVC	POLYVINYL CHLORIDE (PIPE)
DWG	DRAWING	PVI	POINT OF VERTICAL INTERSECTION
EF	EACH FACE	PVMT	PAVEMENT
ELEV	ELEVATION	PVT	POINT OF VERTICAL TANGENCY
ELEC	ELECTRICAL	R	RADIUS
EO	ELECTRICAL CABLE (OVERHEAD)	R/W	RIGHT OF WAY
EOP	EDGE OF PAVEMENT	RCP	REINFORCED CONCRETE PIPE
EU	ELECTRICAL CABLE (UNDERGROUND)	RED	REDUCER
EW	EACH WAY	REINF	REINFORCEMENT
EXIST	EXISTING	REQ'D	REQUIRED
F	FUEL	RFWN	RAISED FACE WELDING NECK
F/S	FILTER SEPARATOR	S/W	SIDEWALK
FF	FINISH FLOOR	SAN	SANITARY SEWER (GRAVITY)
FH	FIRE HYDRANT	SANF	SANITARY SEWER FORCE MAIN
FLG	FLANGE	SB	TRAFFIC SIGNAL BOX
FM	SANITARY SEWER FORCE MAIN	SG	SWITCH GAUGE
FW	FIRE WATER	SHT	SHEET
FD.	FLOOR DRAIN	SP	TRAFFIC SIGNAL POLE
G	NATURAL GAS	SRC	SPRING RETURN CONTROL
GI	GALVANIZED IRON	SS	SANITARY SEWER
GM	GATE METER	SSMH	SANITARY SEWER MANHOLE
GPM	GALLONS PER MINUTE	ST	STORM SEWER MANHOLE
GV	GATE VALVE	STA	STATION
HDCP	HANDICAP	TD	TRENCH DRAIN
HORZ	HORIZONTAL	TE	TOP ELEVATION
HP	HIGH POINT	TF	TOP OF FOOTING ELEVATION
HW	HEADWALL	TG	TOP OF GRATE ELEVATION
ID	INSIDE DIAMETER	TW	TOP OF WALL ELEVATION
INV	INVERT ELEVATION	TYP	TYPICAL
IPF	IRON PIN FOUND	U/P	UNDER PAVEMENT
IPS	IRON PIN SET	UND	UNDERDRAIN
JB	JUNCTION BOX	VC	VERTICAL CURVE
LF	LINEAR FEET	VCP	VITRIFIED CLAY PIPE
LP	LIGHT POLE	VERT	VERTICAL
		W	DOMESTIC WATER
		W/	WITH
		WM	WATER METER

STRUCTURAL LAYOUT POINTS



- STANDARD EROSION & SEDIMENT CONTROL GENERAL NOTES:**
- UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE GEORGIA
 - THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RAINFALL EVENT. ANY NECESSARY REPAIRS TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES AND CLEANUP OF SEDIMENTATION ARE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE MADE IMMEDIATELY. EROSION AND SEDIMENT CONTROL MANUAL.
 - THE CONTRACTOR SHALL LIMIT SITE ACCESS BY CONSTRUCTION VEHICLES TO ENTRANCES PROTECTED BY A STONE CONSTRUCTION ENTRANCE OR AN APPROVED COMPARABLE CONTROL MEASURE. SEDIMENT SHALL BE REMOVED FROM PAVED AREAS ON A DAILY BASIS.
 - STOCK PILES OF SOIL AND OTHER ERODIBLE MATERIALS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION FOR STOCKPILES ON SITE AS WELL AS FOR MATERIALS TRANSPORTED FROM THE PROJECT SITE.
 - THE CONTRACTOR SHALL MONITOR AND TAKE PRECAUTIONS TO CONTROL DUST INCLUDING (BUT NOT LIMITED TO) USE OF WATER, MULCH, OR CHEMICAL DUST ADHESIVES AND CONTROL OF CONSTRUCTION SITE TRAFFIC.
 - EFFLUENT FROM DE-WATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND CHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT ADJACENT PROPERTIES, WETLANDS, WATERWAYS OR THE STORM DRAINAGE SYSTEM.
 - THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF ANY ADDITIONAL CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED NECESSARY BY THE PLAN APPROVING AUTHORITY.
 - TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ARE NOT TO BE REMOVED UNTIL ALL DISTURBED AREAS ARE STABILIZED. AFTER STABILIZATION IS COMPLETE, ALL MEASURES SHALL BE REMOVED WITHIN 30 DAYS. TRAPPED SEDIMENT SHALL BE SPREAD AND SEEDED.
 - WHEN THE SITE IS STABILIZED AND AT THE DIRECTION OF THE COUNTY ENGINEER, THE DEVELOPER IS TO REMOVE THE SEDIMENT BASINS AND STABILIZE THE DISTURBED AREAS.
 - PERMANENT GRASSING TO BE COMPLETED WITHIN TWO WEEKS OF COMPLETION OF SITE GRADING.
 - MATTING TO BE PLACED ON ALL SLOPES GREATER THAN 2.5H:1V. AND GREATER THAN 10 FEET IN HEIGHT.
 - THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND-DISTURBING ACTIVITIES.
 - EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.
 - ANY AREA THAT IS LEFT FOR 14 DAYS MUST BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.
 - STRIPPING OF VEGETATION, REGRADING AND OTHER DEVELOPMENT ACTIVITIES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO MINIMIZE EROSION.
 - CUT AND FILL OPERATIONS MUST BE KEPT TO A MINIMUM.
 - DEVELOPMENT PLANS MUST CONFORM TO TOPOGRAPHY AND SOIL TYPE, SO AS TO CREATE THE LOWEST PRACTICABLE EROSION POTENTIAL.
 - WHENEVER FEASIBLE, NATURAL VEGETATION SHALL BE RETAINED, PROTECTED AND SUPPLEMENTED.
 - DISTURBED SOIL SHALL BE STABILIZED AS QUICKLY AS PRACTICABLE.
 - TEMPORARY VEGETATION OR MULCHING SHALL BE EMPLOYED TO PROTECT EXPOSED CRITICAL AREAS DURING DEVELOPMENT.
 - PERMANENT VEGETATION AND STRUCTURAL EROSION CONTROL MEASURES MUST BE INSTALLED AS SOON AS PRACTICABLE.
 - SEDIMENT IN RUNOFF WATER MUST BE TRAPPED BY THE USE OF DEBRIS BASINS, SEDIMENT BASINS, SILT TRAPS OR SIMILAR MEASURES UNTIL THE DISTURBED AREA IS STABILIZED.
 - ADEQUATE PROVISIONS MUST BE PROVIDED TO MINIMIZE DAMAGE FROM SURFACE WATER TO THE CUT FACE OF EXCAVATIONS OR THE SLOPING SURFACES OF FILLS.
 - CUTS AND FILLS MAY NOT ENDANGER ADJOINING PROPERTY.
 - FILLS MAY NOT ENCR OACH UPON NATURAL WATERCOURSES OR CONSTRUCTED CHANNELS IN A MANNER SO AS TO ADVERSELY AFFECT OTHER PROPERTY OWNERS.
 - GRADING EQUIPMENT MUST CROSS FLOWING STREAMS BY THE MEANS OF BRIDGES OR CULVERTS, EXCEPT WHEN SUCH METHODS ARE NOT FEASIBLE, PROVIDED, IN ANY CASE, THAT SUCH CROSSINGS MUST BE KEPT TO A MINIMUM.
 - IF REQUIRED, OBTAIN STATE VARIANCE. OBTAINS NP OR IP (FEDERAL).
 - THE DISTURBED AREA AND DURATION OF EXPOSURE TO EROSION ELEMENTS SHALL BE KEPT TO A PRACTICABLE MINIMUM.
 - LAND DISTURBING ACTIVITY PLANS FOR EROSION AND SEDIMENTATION CONTROL SHALL INCLUDE PROVISIONS FOR CONTROL OR TREATMENT OF ANY SOURCE OF SEDIMENTS AND ADEQUATE SEDIMENTATION CONTROL FACILITIES TO RETAIN SEDIMENTS ON SITE OR PRECLUDE SEDIMENTATION OF ADJACENT WATERS.

PRIME ENGINEERING
INCORPORATED®
1888 EMERY STREET, N.W., SUITE 300
ATLANTA, GEORGIA 30318
404.425.7100

PROJECT:
NORTH FULTON PUMP STATION UPGRADES - OLD ALABAMA PUMP STATION
PREPARED FOR:
FULTON COUNTY DEPARTMENT OF PUBLIC WORKS

NO.	DATE	DESCRIPTION
0	9/15/2006	CONSTRUCTION DOCUMENTS



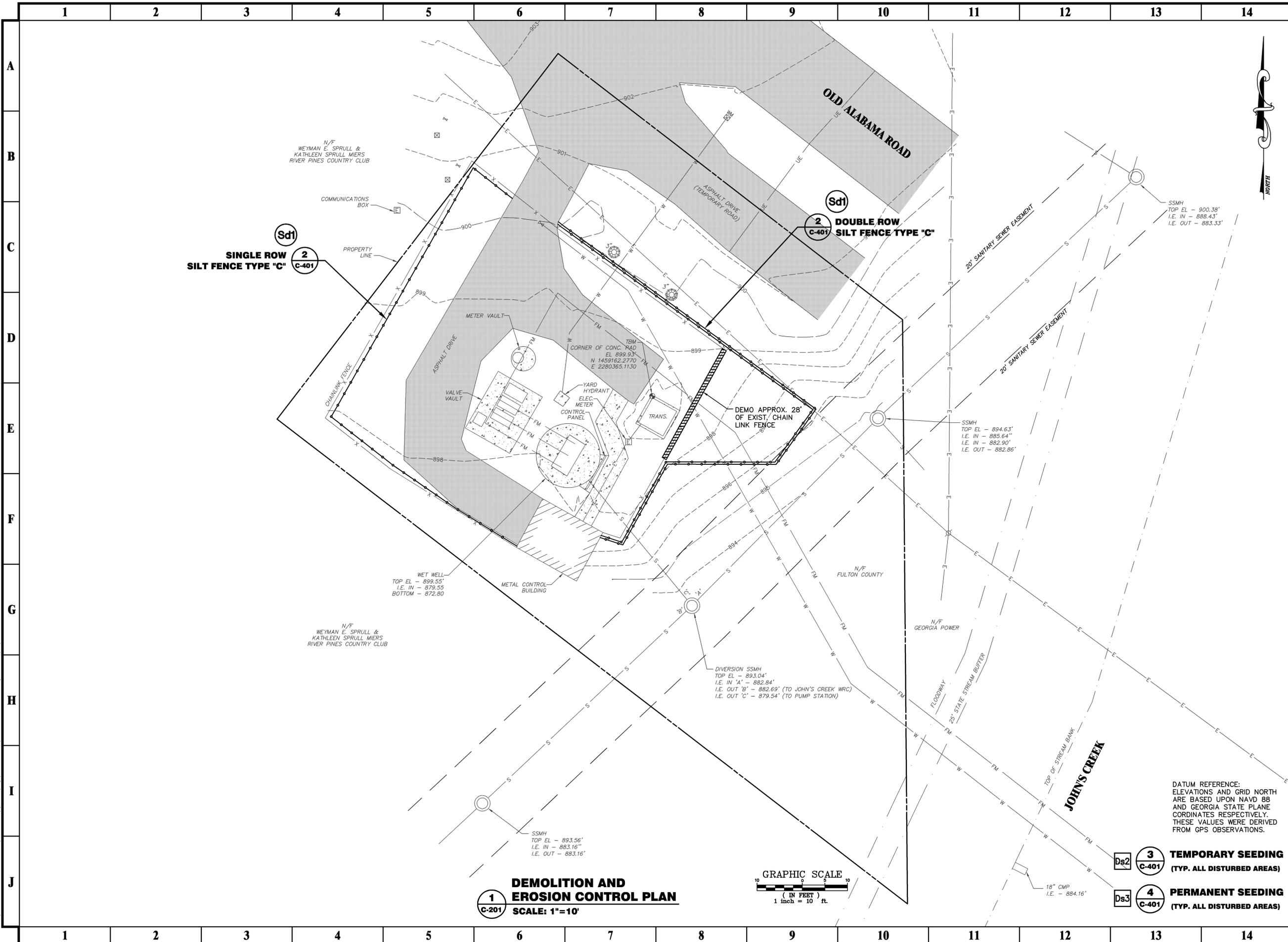
© 2006 PRIME ENGINEERING, INC. Scales, as stated hereon, are valid on the original drawing; the dimensions of which are 24 by 36 inches. These scales, noted hereon, are hereby changed by the ratio of the overall sheet dimensions of the print to corresponding dimensions of the original drawing. This drawing is the property of PRIME ENGINEERING, INCORPORATED and is not to be reproduced or copied in whole or in part. It is only to be used for the project and site specifically identified herein and is not to be used on any other project. It is to be returned upon request.

DRAWING TITLE
CIVIL LEGEND
07TTFNFUMPSK-DE

DRAWING DATE	09/15/06
DRAWN BY	ESD
DESIGNED BY	AJS
CHECKED BY	RBW
PROJECT NUMBER	06-2015-005
DRAWING NUMBER	C-001

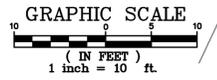
NOT ISSUED FOR CONSTRUCTION

R:\2015-005 North Fulton Pump Station Upgrades\dwg\Old Alabama\2015-005-0A.dwg Thu, 09/21/06 11:57 AM



1
C-201

DEMOLITION AND EROSION CONTROL PLAN
SCALE: 1"=10'



- 3**
C-401 **TEMPORARY SEEDING**
(TYP. ALL DISTURBED AREAS)
- 4**
C-401 **PERMANENT SEEDING**
(TYP. ALL DISTURBED AREAS)

DATUM REFERENCE:
ELEVATIONS AND GRID NORTH
ARE BASED UPON NAVD 88
AND GEORGIA STATE PLANE
COORDINATES RESPECTIVELY.
THESE VALUES WERE DERIVED
FROM GPS OBSERVATIONS.

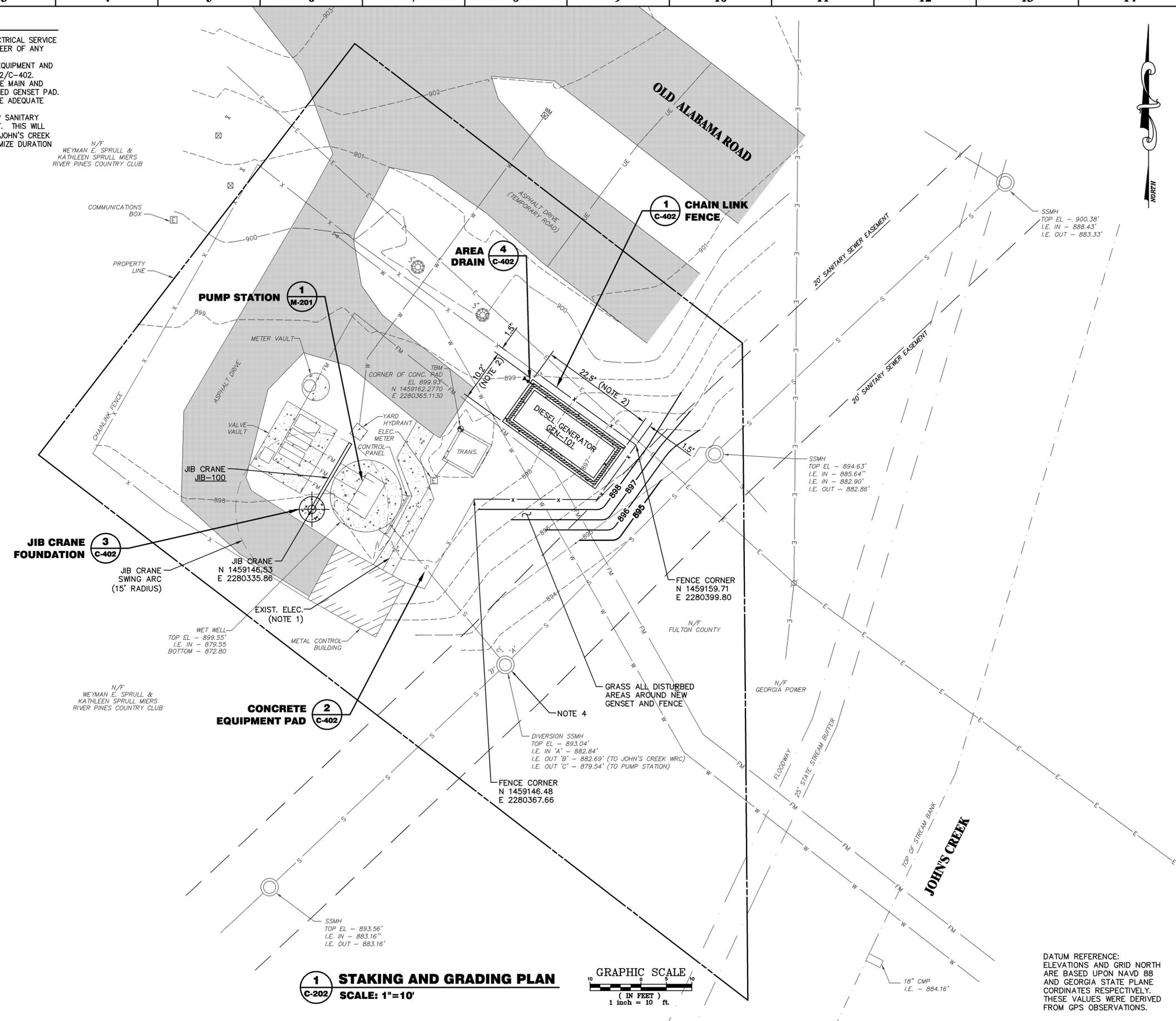
PRIME ENGINEERING <small>INCORPORATED</small>		<small>1888 EMERY STREET, N.W., SUITE 300 ATLANTA, GEORGIA 30318 404-425-7100</small>	
PROJECT: NORTH FULTON PUMP STATION UPGRADES - OLD ALABAMA PUMP STATION PREPARED FOR: FULTON COUNTY DEPARTMENT OF PUBLIC WORKS			
REVISIONS	NO.	DATE	DESCRIPTION
0	9/15/2006	CONSTRUCTION DOCUMENTS	
SEAL			
DRAWING TITLE		DATE: 9-15-06	
DEMOLITION AND EROSION CONTROL PLAN		<small>07TTFNFPUMFSK-DB</small>	
DRAWING DATE	DRAWN BY	DESIGNED BY	CHECKED BY
09/15/06	ESD	AJS	RBW
DRAWING SCALE	PROJECT NUMBER	DRAWING NUMBER	
1" = 10'	06-2015-005	C-201	
NOT ISSUED FOR CONSTRUCTION			

R:\2015-005 North Fulton Pump Station Upgrades\dwg\Old Alabama\2015-005-0A.dwg Thu, 09/21/08 12:03 PM

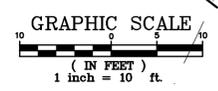
NOTES:

- CONTRACTOR TO VERIFY LOCATION OF EXISTING BURIED ELECTRICAL SERVICE PRIOR TO BEGINNING WORK. CONTRACTOR TO NOTIFY ENGINEER OF ANY DISCREPANCIES.
- COORDINATE SIZE OF GENSET PAD WITH ACTUAL SUPPLIED EQUIPMENT AND MAINTAIN MINIMUM OVERHANG TO COORDINATE WITH DETAIL 2/C-402.
- CONTRACTOR TO VERIFY EXACT LOCATION OF EXISTING FORCE MAIN AND WATER MAIN AND VERIFY NO CONFLICT EXISTS WITH PROPOSED GENSET PAD. ADJUST LOCATION OF GENSET PAD AS REQUIRED TO PROVIDE ADEQUATE CLEARANCES.
- CONTRACTOR TO PROVIDE TEMPORARY PLUG IN 36-INCH DIP SANITARY SEWER PIPE LEADING TO WET WELL DURING PUMP SHUT-OFF. THIS WILL REDIRECT FLOW THROUGH EXISTING DIVERSION MANHOLE TO JOHN'S CREEK WASTEWATER RECLAMATION FACILITY. CONTRACTOR TO MINIMIZE DURATION OF DIVERTED FLOW.

N/F
WEYMAN E. SPRULL &
KATHLEEN SPRULL MIERS
RIVER PINES COUNTRY CLUB



1 STAKING AND GRADING PLAN
C-202 SCALE: 1"=10'



DATUM REFERENCE:
ELEVATIONS AND GRID NORTH
ARE BASED UPON NAVD 88
AND GEORGIA STATE PLANE
COORDINATES RESPECTIVELY.
THESE VALUES WERE DERIVED
FROM GPS OBSERVATIONS.

PRIME ENGINEERING
INCORPORATED

1888 EMERY STREET, N.W., SUITE 302
ATLANTA, GEORGIA 30318
404-425-7100

PROJECT:
NORTH FULTON PUMP STATION UPGRADES - OLD ALABAMA PUMP STATION

PREPARED FOR:
FULTON COUNTY DEPARTMENT OF PUBLIC WORKS

NO.	DATE	DESCRIPTION
0	9/15/2006	CONSTRUCTION DOCUMENTS

SEAL

DATE: 9-15-06

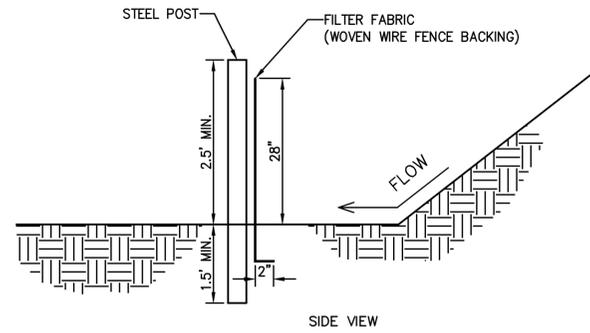
© 2006 PRIME ENGINEERING, INC. Scales, as stated hereon, are valid on the original drawing; the dimensions of which are 24 by 36 inches. These scales, noted hereon, are hereby changed by the ratio of the overall sheet dimensions of the print to corresponding dimensions of the original drawing. This drawing is the property of PRIME ENGINEERING, INCORPORATED and is not to be reproduced or copied in whole or in part. It is only to be used for the project and is not to be used on any other project. It is to be returned upon request.

DRAWING TITLE
STAKING AND GRADING PLAN

OTTBENPUMP/PSK-DB

DRAWING DATE	09/15/06	DRAWN BY	ESD
DRAWING SCALE	1" = 10'	DESIGNED BY	AJS
PROJECT NUMBER	06-2015-005	CHECKED BY	RBW
DRAWING NUMBER	C-202		

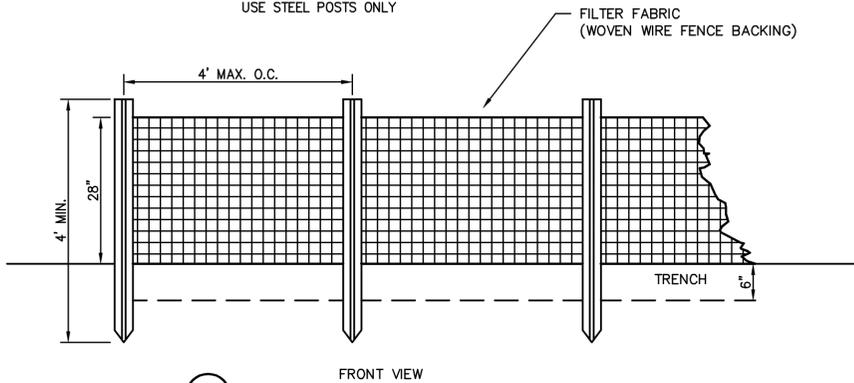
NOT ISSUED FOR CONSTRUCTION



GRADE (%)	HORIZONTAL SPACING (FT)
< 2	100
2 to 5	75
5 to 10	50
10 to 20	25
> 20*	15

*IN AREAS WHERE THE SLOPE IS GREATER THAN 20%, A FLAT AREA LENGTH OF 10 FEET BETWEEN THE TOE OF THE SLOPE TO THE FENCE SHOULD BE PROVIDED.

NOTES:
USE 36" D.O.T. APPROVED FABRIC
USE STEEL POSTS ONLY

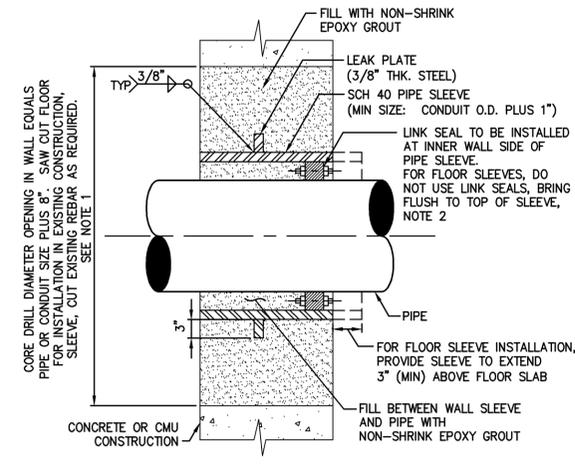


Sd1

2 SILT FENCE TYPE "C"
NOT TO SCALE

EROSION CONTROL LEGEND					
CODE	PRACTICE	DETAIL	CODE	PRACTICE	DETAIL
Ds1	DISTURBED AREA STABILIZATION (MULCH)	STRAW OR HAY 6-10" DEPTH	Sd1	SILT FENCE	2/C-401
Ds2	TEMPORARY SEEDING	4/C-401			
Ds3	PERMANENT SEEDING	5/C-401			

1 EROSION CONTROL LEGEND
NOT TO SCALE



NOTES:
1. PIPE SLEEVES TO BE CAST IN PLACE WITH NEW WALLS OR SLABS AS APPLICABLE. CORE DRILL FOR EXISTING CONSTRUCTION ONLY.

5 PIPE OR CONDUIT PENETRATION DETAIL
NOT TO SCALE

TEMPORARY SEEDING Ds2						
EROSION CONTROL SEEDING NOTES						
CONTRACTOR TO PROTECT ALL DISTURBED AREAS BY TEMPORARY RESEEDING UNTIL PERMANENT GROUND COVER IS ESTABLISHED. (MAXIMUM OF 2 WEEKS AFTER DISTURBANCE).						
AREA	DATES	SPECIES	SEEDING RATES	FERTILIZER	LIME	MAINTENANCE
FLAT TO ROLLING TERRAIN WITH SLOPES LESS THAN 3:1	8/15-4/15	ANNUAL RYE GRASS	40#/AC 0.9#/1000 SF	12#/AC (10-10-10)	45#	7# (10-10-10)
	4/15-8/15	PEARL MILLET	50#/AC 1.1#/1000 SF	35#/AC (6-12-12)	45#	10# (10-10-10)
EMBANKMENTS WITH SLOPES 3:1 OR STEEPER	3/1-7/31	WEeping LOVE GRASS	4#/AC 0.1#/1000 SF	12#/AC (10-10-10)	45#	7# (10-10-10)
	3/1-2/29	TALL FESCUE	70#/AC 1.6#/1000 SF	35#/AC (6-12-12)	45#	10# (10-10-10)

NOTE: ALL GRASSING SHALL MATCH SPECIES OF EXISTING LOT/PARCEL

3 TEMPORARY SEEDING
NOT TO SCALE

PERMANENT SEEDING Ds3						
EROSION CONTROL SEEDING NOTES						
AREA	DATES	SPECIES	SEEDING RATES	FERTILIZER	LIME	MAINTENANCE
FLAT TO ROLLING TERRAIN WITH SLOPES LESS THAN 3:1	2/15-8/14	COMMON BERMUDA (HULLED SEED)	10#/AC 0.2#/1000 SF	35#/AC (6-12-12)	45#	10# (10-10-10)
	2/15-8/14	COMMON BERMUDA (UNHULLED SEED)	10#/AC 0.2#/1000 SF	35#/AC (6-12-12)	45#	10# (10-10-10)
	8/15-2/14	COMMON BERMUDA (UNHULLED SEED)	10#/AC 0.2#/1000 SF	12#/AC (10-10-10)	45#	10# (10-10-10)
	8/15-2/4	TALL FESCUE	50#/AC 1.1#/1000 SF	35#/AC (6-12-12)	45#	10# (10-10-10)
EMBANKMENTS WITH SLOPES 3:1 OR STEEPER	3/1-7/31	WEeping LOVE GRASS	4#/AC 0.1#/1000 SF	35#/AC 6-12-12)	45#	10# (10-10-10)
	3/1-7/31	LESPEDEZA SERICEA (SCARIFIED)	60#/AC 1.4#/1000 SF	35#/AC (6-12-12)	45#	10# (10-10-10)
	8/1-2/29	LESPEDEZA SERICEA (UNSCARIFIED)	75#/AC 1.7#/1000 SF	35#/AC (6-12-12)	45#	01# (10-10-10)
	8/1-2/29	TALL FESCUE	50#/AC 1.1#/1000 SF	35#/AC (6-12-12)	45#	10# (10-10-10)

NOTE: ALL GRASSING SHALL MATCH SPECIES OF EXISTING LOT/PARCEL

4 PERMANENT SEEDING
NOT TO SCALE

PRIME ENGINEERING
INCORPORATED
1888 EMERY STREET, N.W., SUITE 300
ATLANTA, GEORGIA 30318
404.425.7100

PROJECT:
NORTH FULTON PUMP STATION UPGRADES - OLD ALABAMA PUMP STATION
PREPARED FOR:
FULTON COUNTY DEPARTMENT OF PUBLIC WORKS

REVISIONS	NO.	DATE	DESCRIPTION
	0	9/15/2006	CONSTRUCTION DOCUMENTS

SEAL

© 2006 PRIME ENGINEERING, INC. Scales, as stated hereon, are valid on the original drawing; the dimensions of which are 24 by 36 inches. These scales, noted hereon, are hereby changed by the ratio of the overall sheet dimensions of the print to corresponding dimensions of the original drawing. This drawing is the property of PRIME ENGINEERING, INCORPORATED and is not to be reproduced or copied in whole or in part. It is only to be used for the project and is not to be used on any other project. It is to be returned upon request.

DRAWING TITLE
CIVIL DETAILS
07TTFNFUPMSEK-DB

DRAWING DATE	09/15/06	DRAWN BY	ESD
DRAWING SCALE	NOT TO SCALE	DESIGNED BY	AJS
PROJECT NUMBER	06-2015-005	CHECKED BY	RBW
DRAWING NUMBER	C-401		

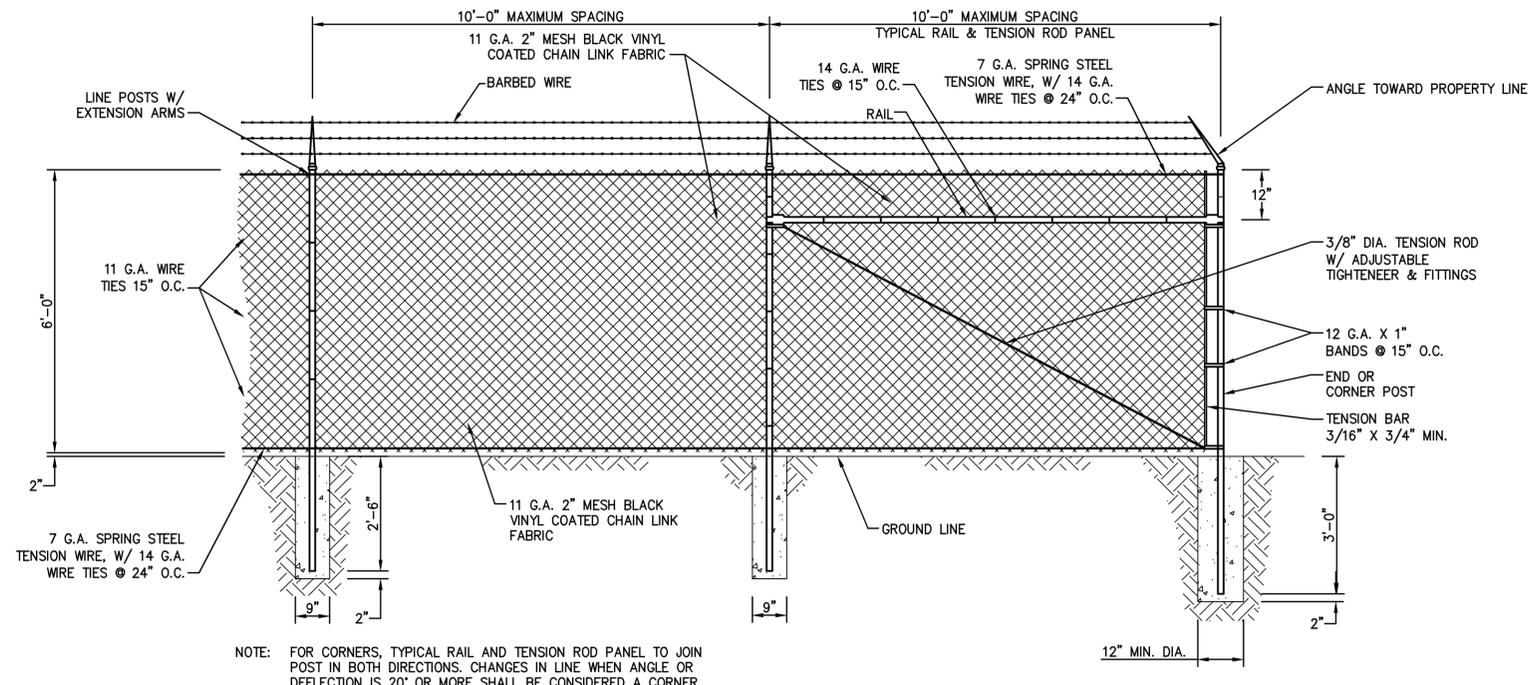
NOT ISSUED FOR CONSTRUCTION

R:\2015-005 North Fulton Pump Station Upgrades\dwg\Old Alabama\C401-2015-005-0A.dwg Wed, 09/20/06 1:17 PM

R:\2015-005 North Fulton Pump Station Upgrades\dwg\Old Alabama\C402-2015-005-0A.dwg Thu, 09/21/08 12:08 PM

1 2 3 4 5 6 7 8 9 10 11 12 13 14

A
B
C
D
E
F
G
H
I
J

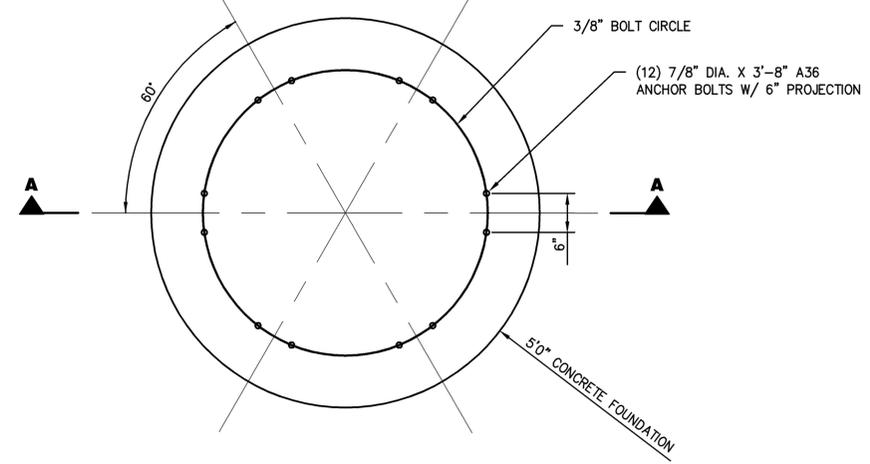


NOTE: FOR CORNERS, TYPICAL RAIL AND TENSION ROD PANEL TO JOIN POST IN BOTH DIRECTIONS. CHANGES IN LINE WHEN ANGLE OR DEFLECTION IS 20° OR MORE SHALL BE CONSIDERED A CORNER.

1 CHAIN LINK FENCE
C-402 NOT TO SCALE

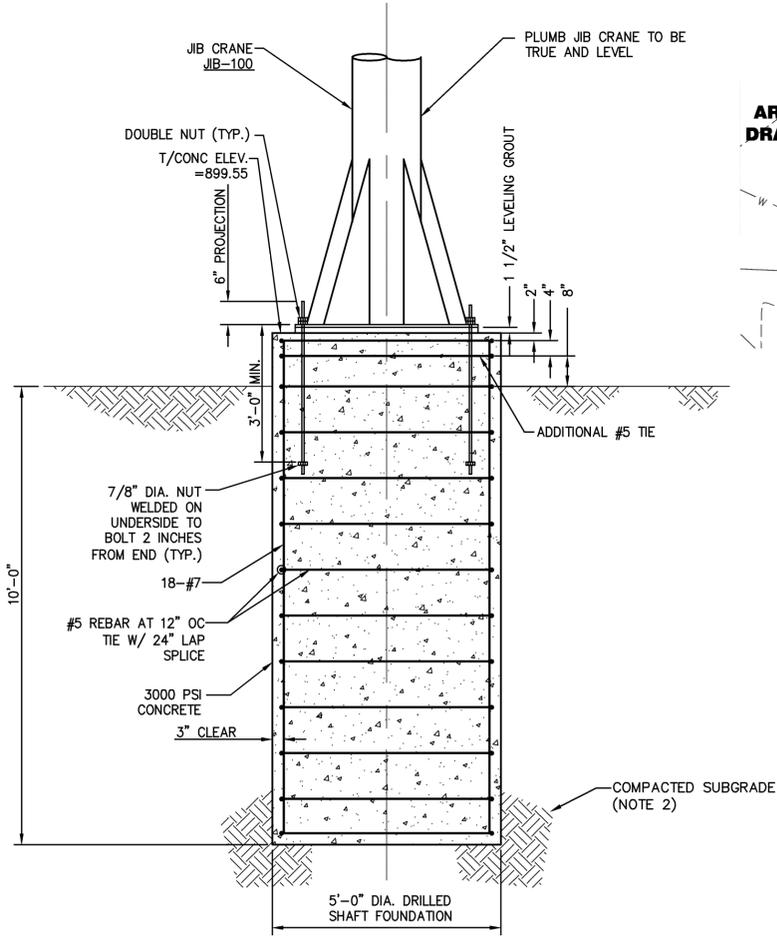
NOTES:

1. CONTRACTOR TO COORDINATE ANCHOR BOLT REQUIREMENTS AND BOLT PATTERN WITH SELECTED EQUIPMENT PRIOR TO CONSTRUCTION.
2. FOUNDATION DESIGN BASED ON MINIMUM SOIL BEARING CAPACITY OF 2,000 PSF AND A LATERAL LOAD CAPACITY OF 1,000 PSF.

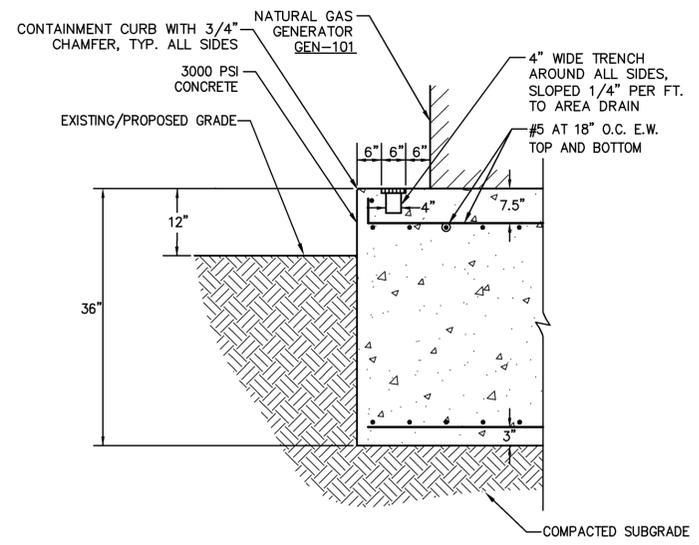


PLAN

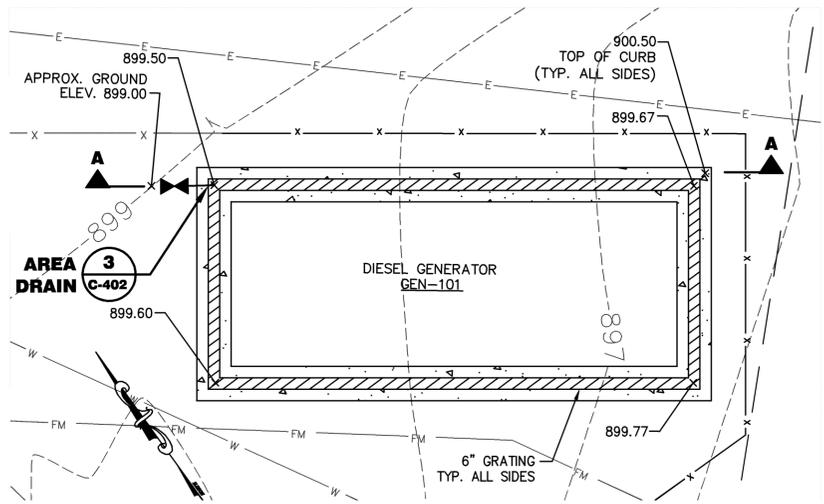
3 JIB CRANE FOUNDATION
C-402 NOT TO SCALE



SECTION A-A

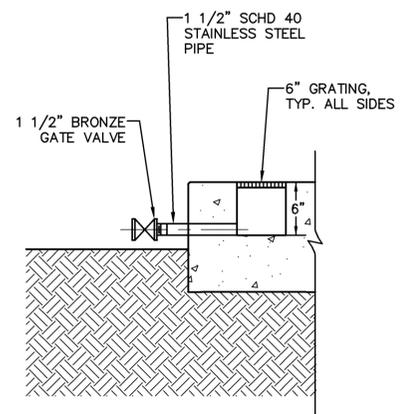


SECTION A-A



PLAN

2 CONCRETE EQUIPMENT PAD
C-402 NOT TO SCALE



4 AREA DRAIN
C-402 NOT TO SCALE

PRIME ENGINEERING
INCORPORATED

1888 EMERY STREET, N.W., SUITE 302
ATLANTA, GEORGIA 30318
404-423-7100

PROJECT: **NORTH FULTON PUMP STATION UPGRADES - OLD ALABAMA PUMP STATION**
PREPARED FOR: **FULTON COUNTY DEPARTMENT OF PUBLIC WORKS**

NO.	DATE	DESCRIPTION
0	9/15/2008	CONSTRUCTION DOCUMENTS

SEAL: DATE: 9-15-08

© 2006 PRIME ENGINEERING, INC. Scales, as stated hereon, are valid on the original drawing; the dimensions of which are 24 by 36 inches. These scales, noted hereon, are hereby changed by the ratio of the overall sheet dimensions of the print to corresponding dimensions of the original drawing. This drawing is the property of PRIME ENGINEERING, INCORPORATED and is not to be reproduced or copied in whole or in part. It is only to be used for the project and site specifically identified herein and is not to be used on any other project. It is to be returned upon request.

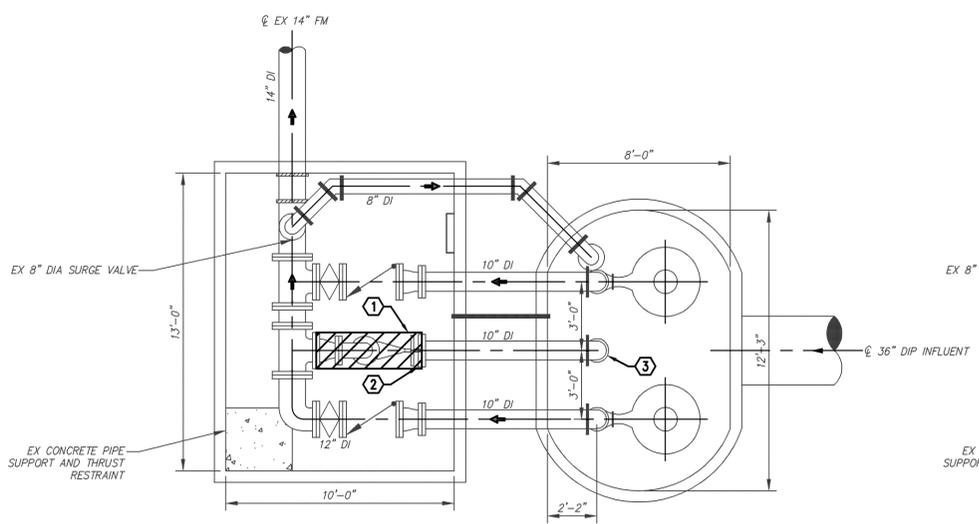
DRAWING TITLE: **CIVIL DETAILS**
07IBENPUMPSK-DB

DRAWING DATE	09/15/06
DRAWN BY	ESD
DESIGNED BY	AJS
CHECKED BY	RBW
DRAWING NUMBER	C-402
PROJECT NUMBER	06-2015-005
DRAWING SCALE	NOT TO SCALE
NOT ISSUED FOR CONSTRUCTION	

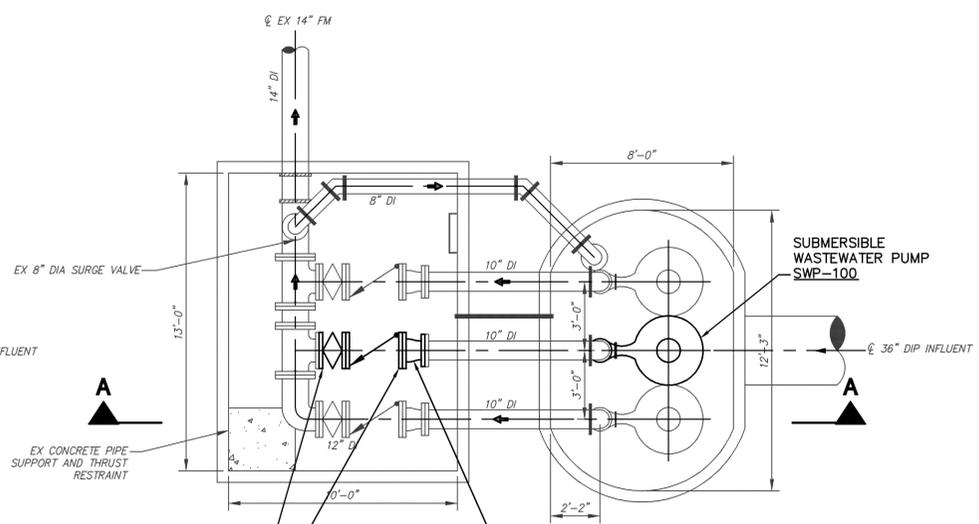
R:\2015-005 North Fulton Pump Station Upgrades\dwg\Old Alabama\M201-2015-005-0A.dwg Thu, 09/21/06 12:18 PM

1 2 3 4 5 6 7 8 9 10 11 12 13 14

A
B
C
D
E
F
G
H
I
J



DEMOLITION PLAN

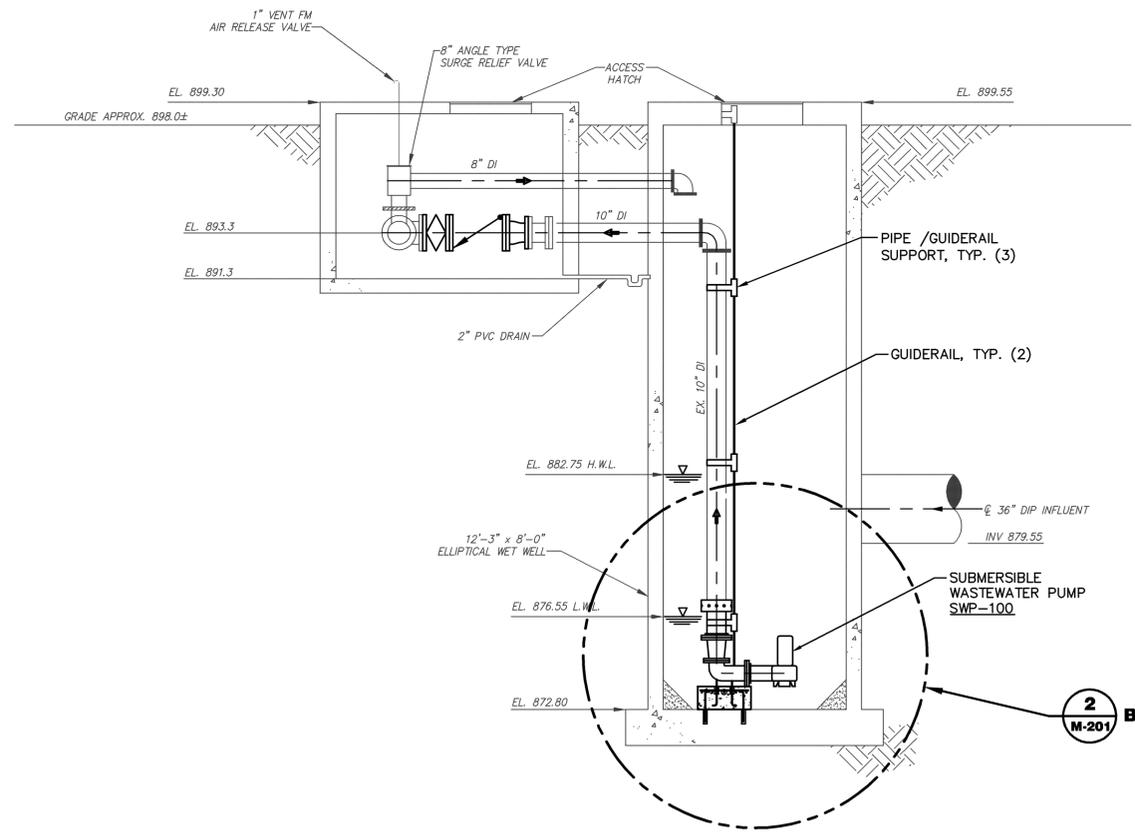


PLAN

- NOTES:**
1. FIELD CONFIRM ALL DIMENSIONS AND CONDITIONS BEFORE BEGINNING WORK.
 2. CONTRACTOR TO COORDINATE NEW PIPING TAKE-OUT DIMENSIONS TO PROVIDE 12" CLEARANCE BETWEEN PUMP AND WET WELL BOTTOM.
 3. CONTRACTOR RESPONSIBLE FOR INTERCEPTING ALL WASTEWATER FLOWS DURING CONSTRUCTION. SEE FLOW RANGE TABLE ON SHEET G-001 FOR APPROXIMATE BYPASS PUMPING REQUIREMENTS.
 4. SUBMERSIBLE WASTEWATER PUMP SWP-100 SHALL BE FLYGT MODEL C-3231. PUMP DUTY POINT IS 2,250 GPM @ 200 FT TDH.

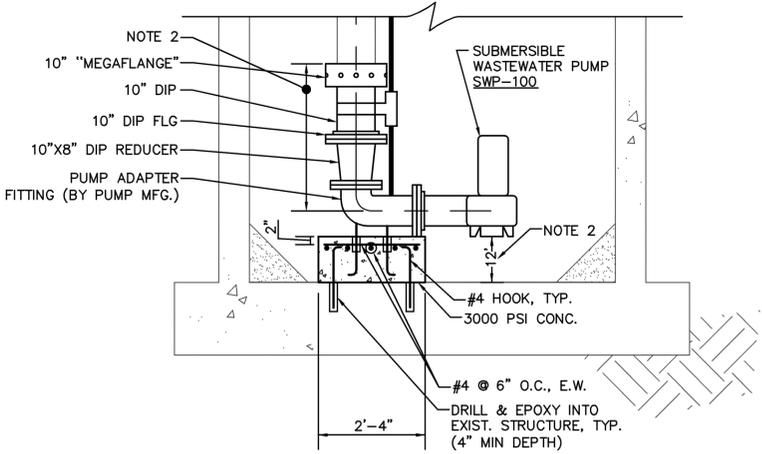
KEY NOTES: (THIS SHEET ONLY)

- 1 REMOVE EXISTING GATE VALVE AND ASSOCIATED PIPING AS INDICATED.
- 2 REMOVE EXISTING 10" BLIND FLANGE.
- 3 REMOVE EXISTING 10" X 6" DIP FLG REDUCER AND BOTTOM PUMP ADAPTER FITTING (IF EXISTING).

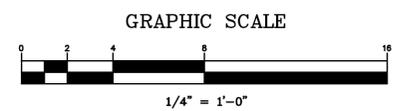
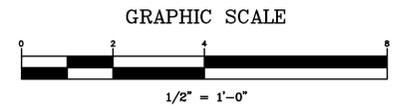


SECTION A-A

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



2 BLOW-UP DETAIL
SCALE: 1/2" = 1'-0"



PRIME ENGINEERING
INCORPORATED

1888 EMERY STREET, N.W., SUITE 300
ATLANTA, GEORGIA 30318
404-423-7100

PROJECT:
NORTH FULTON PUMP STATION UPGRADES - OLD ALABAMA PUMP STATION
PREPARED FOR:
FULTON COUNTY DEPARTMENT OF PUBLIC WORKS

NO.	DATE	DESCRIPTION
0	9/15/2006	CONSTRUCTION DOCUMENTS



© 2006 PRIME ENGINEERING, INC. Scales, as stated herein, are valid on the original drawing; the dimensions of which are 24 by 36 inches. These scales, noted herein, are hereby changed by the ratio of the overall sheet dimensions of the print to corresponding dimensions of the original drawing. This drawing is the property of PRIME ENGINEERING, INCORPORATED and is not to be reproduced or copied in whole or in part. It is only to be used for the project and is not to be used on any other project. If it is to be returned upon request.

DRAWING TITLE
MECHANICAL PLAN
07TTFPUMPSK-DB

DRAWING DATE	09/15/06	DRAWN BY	ESD
DRAWING SCALE	AS SHOWN	DESIGNED BY	AJS
PROJECT NUMBER	06-2015-005	CHECKED BY	RBW
DRAWING NUMBER	M-201	NOT ISSUED FOR CONSTRUCTION	

ELECTRICAL & INSTRUMENTATION LEGEND

GENERAL LINEWORK SYMBOLS

- NEW FACILITIES
- EXISTING FACILITIES TO REMAIN
- EXISTING FACILITIES TO BE REMOVED
- EQUIPMENT OR PACKAGE BOUNDARY

CIRCUIT AND RACEWAY SYMBOLS

- RACEWAY IDENTIFIER—SEE RACEWAY SCHEDULE, REF. 1
- RACEWAY OR WIRING SYSTEM ABOVE FLOOR LEVEL BELOW CEILING, EXPOSED UON.
- RACEWAY OR WIRING SYSTEM ABOVE FLOOR LEVEL CONCEALED IN WALL OR ABOVE CEILING UON.
- RACEWAY OR WIRING SYSTEM IN OR UNDER FLOOR, OR CONCEALED IN OR BEHIND STRUCTURE OR EQUIPMENT
- RACEWAY OR WIRING SYSTEM TURNED TOWARD THE VIEWER (UP ON PLAN DRAWINGS)
- RACEWAY OR WIRING SYSTEM TURNED AWAY FROM THE VIEWER (DOWN ON PLAN DRAWINGS)
- RACEWAY OR WIRING SYSTEM CHANGE IN ELEVATION OR DISTANCE FROM VIEWER
- CONDUIT STUB AND CAP
- DUCT BANK, REINFORCED CONCRETE UON. DUCT BANK IDENTIFIER—SEE DUCT BANK SCHEDULE, REF. 6. EXAMPLE: DUCT BANK 123
- MANHOLE (MH) OR HANDHOLE (HH)
- JUNCTION BOX WITH OPTIONAL IDENTIFIER.
- PULL BOX WITH OPTIONAL IDENTIFIER
- HOME RUN — SEE PANELBOARD SCHEDULE FOR CIRCUIT INFORMATION. EXAMPLE: HOME TO PANELBOARD PBD A, CIRCUITS 1, 3, AND 5

- LIGHTING, RECEPTACLE, AND MISCELLANEOUS BRANCH CIRCUITING NOT SPECIFIED IN RACEWAY SCHEDULE. RUNS WITHOUT HATCH LINES SHALL CONTAIN TWO WIRES OF MINIMUM SIZE REQUIRED BY THE SPECS FOR THAT SYSTEM UNLESS OTHERWISE NOTED. OTHER CONDUCTOR QUANTITY SPECIFIED WITH HATCH LINES:
- NEUTRAL CONDUCTOR, IF USED—HALF STROKE PHASE CONDUCTORS, AS APPLICABLE—FULL STROKE
- EQUIPMENT GROUNDING CONDUCTOR ALWAYS REQUIRED. FOR MINIMUM SIZE PERMITTED REFER TO NEC TABLE 250-95.
- CONDUIT FILL PER NEC OR MINIMUM SIZE OF 3/4 INCH EXPOSED, 1 INCH ALL OTHER INSTALLATIONS, EXCEPT FLEX — 3/4 INCH.

GROUNDING SYMBOLS

- GROUND ROD, 3/4" x 10'-0", COPPERCLAD (UNLESS OTHERWISE NOTED)
- GROUND ROD AND WELL
- GROUND CONNECTION, BOLTED TYPE
- GROUND CONNECTION, COMPRESSION TYPE
- GROUNDING CONDUCTOR

LIGHTING SYMBOLS

- NOTE: LIGHTING FIXTURE SHAPES AND SCALE ARE REPRESENTED WHERE POSSIBLE. THE EXAMPLES SHOWN BELOW ARE TYPICAL APPLICATIONS.
- 16'-6" CEILING HEIGHT
101 ROOM NUMBER (ARCH DWGS)
PUMP ROOM OPTIONAL ROOM TITLE
 - 2 FIXTURE TYPE IDENTIFIER. TYPE APPLIES TO ALL FIXTURES OF THE SAME SHAPE WITHIN A ROOM OR AN AREA UNLESS OTHERWISE NOTED. REFER TO LIGHTSPEC, REF. 5
 - 2/40 NUMBER OF SIMILAR FIXTURE
 - 8'6" PENDANT MOUNTING HEIGHT, FLOOR TO BOTTOM OF FIXTURE, OR AHAP
 - NUMBER OF LAMPS/LAMP WATTAGE
 - FIXTURE TYPE
- FLUORESCENT FIXTURES:
- RECESSED IN CEILING. J-BOX, FLEX, AND CONNECTION SHOWN.
 - FLOODLIGHT (AIMED AS INDICATED)
 - FLUORESCENT STRIPLIGHT. J-BOX SHOWN.
 - FIXTURE ON UNSWITCHED CIRCUIT (NIGHT LIGHT etc.) "n" = NON-SWITCHED CIRCUIT
- INCANDESCENT/HID FIXTURES:
- RECESSED OR SURFACE
 - POLE OR STANCHION MOUNTED
 - WALL MOUNTED
 - DIRECTIONAL LIGHT
 - POLE-MOUNTED AREA LIGHT. ONE POLE AND TWO FIXTURES SHOWN. OPTIONAL POLE NUMBER SHOWN. EXAMPLE: POLE NUMBER 14. EMERGENCY LIGHTING UNIT, SELF-CONTAINED
- EXIT LIGHTS. DARK QUADRANTS INDICATE FACES ILLUMINATED:
- SURFACE ON CEILING
 - WALL MOUNTED, AT +8'0 UON
 - WITH DIRECTIONAL ARROWS
- LIGHTING CONTROL:
- 3a LTG CIRCUIT IDENTIFIER: WHEN SHOWN ADJACENT TO FIXTURE IDENTIFIES CIRCUIT NUMBER AND SWITCH. eg. CIRCUIT 3, CONTROLLED BY SWITCH a. "n" = NON-SWITCHED CIRCUIT

DISTRIBUTION EQUIPMENT SYMBOLS

- GENERAL: APPROXIMATE SHAPE AND SCALE REPRESENTED WHERE POSSIBLE, HOWEVER EXACT SIZE AND NUMBER OF SECTIONS IS ESTIMATED
- FLOOR-STANDING DISTRIBUTION ASSEMBLY, SUCH AS A SWITCHBOARD, TRANSFORMER, OR MOTOR CONTROL CENTER
 - EQUIPMENT NUMBER (EXAMPLE)
 - WALL-MOUNTED DISTRIBUTION ASSEMBLY, SUCH AS PANELBOARD, MOTOR STARTER PANEL, OR TERMINAL CABINET
 - EQUIPMENT NUMBER (EXAMPLE)

WIRING DEVICE SYMBOLS

- GENERAL: UNLESS OTHERWISE NOTED, ALL SWITCHES ARE WALL MOUNTED AT 4'-0"
- SINGLE POLE SWITCH. 20 AMP UNLESS OTHERWISE NOTED.
 - GANGED SWITCHES—IN COMMON BOX, WITH COMMON WALL PLATE
 - SWITCH SUPERScript MODIFIER. LOWER CASE LETTER. INDICATES CIRCUIT CONTROLLED—a,b,c,etc. MAY BE COMBINED WITH CIRCUIT NUMBER. EXAMPLE: 1a, 4b, etc.
 - SWITCH SUBSCRIPT MODIFIER. UPPER CASE LETTER OR NUMBER:
 - 2 = DOUBLE POLE
 - 3 = THREE WAY
 - 4 = FOUR WAY
 - K = KEY OPERATED
 - MC = MOMENTARY CONTACT, THREE POSITION
 - MS = MANUAL (MOTOR) STARTER OR SWITCH
 - R = RHEOSTAT (DIMMER, SPEED CONTROL)
- GENERAL: UNLESS OTHERWISE NOTED, ALL RECEPTACLES ARE 125 VOLT, SINGLE PHASE, STRAIGHT BLADE, NON-LOCKING, GROUNDING STYLE, MOUNTED AT +1'-6".
- DUPLEX RECEPTACLE, 2 POLE, 3 WIRE
 - RECEPTACLE MODIFIERS:
 - F = FLOOR MOUNTED
 - H = HAZARDOUS AREA, EXPLOSION PROOF
 - WP = OUTDOOR, WEATHER PROOF
 - SPECIAL OUTLET OR JACK FOR DO PROBE
 - RECESSED FLOOR RECEPTACLE—ANY RECEPTACLE INSIDE A SQUARE. eg DUPLEX
 - SURFACE FLOOR RECEPTACLE—ANY RECEPTACLE INSIDE A TRIANGLE. eg DUPLEX
 - GANGED RECEPTACLES—IN COMMON BOX, WITH COMMON WALL PLATE. eg DUPLEX
 - WELDING RECEPTACLE, 60A, 600V AC, 4 WIRE

MOTOR AND EQUIPMENT SYMBOLS

- MOTOR CONNECTION
- MOTOR STARTER, INDIVIDUAL—NOT LOCATED IN AN MCC OR SIMILAR GROUP ASSEMBLY
- COMBINATION MOTOR STARTER—NOT LOCATED IN AN MCC OR SIMILAR GROUP ASSEMBLY
- DISCONNECT, NON-FUSED. PROVISION FOR CLASS R FUSES. UNLESS OTHERWISE NOTED, DISCONNECT SWITCHES ARE HEAVY DUTY, SINGLE THROW, WITH NEMA 4X ENCLOSURE. MOUNT AT 4'-8" TO CENTER UON.
- FIELD INSTRUMENT CONNECTION
- HAND STATION. CONFIGURATION ACCORDING TO CONTROL DIAGRAMS.

TELEPHONE SYSTEM SYMBOLS

- GENERAL: UNLESS OTHERWISE NOTED, TELEPHONE OUTLETS ARE MOUNTED AT +1'-2", MATCHING RECEPTACLE HEIGHT.
- EXTERNAL LINE OR PLANT PHONE SYSTEM OUTLET
 - MODIFIERS:
 - A = ATTENDANT'S CONSOLE
 - F = FUTURE INSTRUMENT
 - J = JACK, PLUG-IN TYPE
 - W = WALL INSTRUMENT. +5'-0"
 - CONDUIT, SIZED AS NOTED
 - MODIFIERS: T = TELEPHONE

GENERAL ABBREVIATIONS

- | | | | |
|--------|--------------------------------------------|--------|----------------------------------------|
| AR | ALARM RELAY | M | MOTOR CONTACTOR |
| AS | AMMETER SELECTOR SWITCH | mA | MILLIAMPERE |
| A, AMP | AMP(S), AMPERE(S) | MAX | MAXIMUM |
| AC | ALTERNATING CURRENT | MCC | MOTOR CONTROL CENTER |
| AFF | ABOVE FINISHED FLOOR | MCP | MOTOR CONTROL PANEL/MOTOR CIRCUIT |
| AHAP | AS HIGH AS POSSIBLE | MECH | MECHANICAL PROTECTOR |
| AIC | AMPS INTERRUPTING CAPACITY, SYMM. | MFR | MANUFACTURE(R) |
| AL | ALUMINUM | MH | MANHOLE |
| AT | AMPERE TRIP | MIC | MICROPHONE |
| AF | AMPERE FRAME | MIN | MINIMUM |
| AUTO | AUTOMATIC | MISC | MISCELLANEOUS |
| AUX | AUXILIARY | mM | MILLIMETER |
| AWG | AMERICAN WIRE GAUGE | mV | MILLIVOLT |
| BC | BARE COPPER CONDUCTOR | MCM | MILLI CIRCULAR MILLS |
| BKR | BREAKER | MFR | MOTOR PROTECTION RELAY |
| | | MTR | MOTOR |
| C | CONDUCTOR/CONTACTOR | N/A | NOT APPLICABLE |
| CAP | CAPACITOR | NC | NORMALLY CLOSED |
| CB | CIRCUIT BREAKER | NEUT,N | NEUTRAL |
| CKT | CIRCUIT | NIC | NOT IN CONTRACT |
| CLG | CEILING | NO. | NUMBER |
| CR | CONTROL RELAY | NOM | NOMINAL |
| CND | CONDUIT | NP | NAMEPLATE |
| CONC | CONCRETE | NTS | NOT TO SCALE |
| CONT | CONTROL | | |
| CPT | CONTROL POWER TRANSFORMER | OC | ON CENTER |
| CT | CURRENT TRANSFORMER | OD | OUTSIDE DIAMETER |
| CU | COPPER | OH | OVERHEAD |
| | | OL'S | OVERLOADS |
| D | DIAMETER | OT | OILTIGHT |
| DB | DUCT BANK | | |
| DC | DIRECT CURRENT | P | POLE |
| DET | DETAIL | PA | PUBLIC ADDRESS |
| DIAG | DIAGRAM | PB | PUSHBUTTON, PULLBOX |
| DS | DISCONNECT SWITCH | PF | POWER FACTOR |
| DWG | DRAWING | PH | PHASE |
| | | PLC | PROGRAMMABLE LOGIC CONTROLLER |
| EA | EACH | PNL | PANEL |
| EL | ELEVATION | PP | POWER PANEL |
| ELEC | ELECTRIC(AL) | PR | PAIR |
| EMER | EMERGENCY | PRI | PRIMARY |
| ENCL | ENCLOSURE/ENCLOSED | PT | POTENTIAL TRANSFORMER |
| EP | EXPLOSIONPROOF | PVC | POLYVINYL CHLORIDE |
| EQPT | EQUIPMENT | PWR | POWER |
| EX | EXISTING | | |
| FDR | FEEDER | RCPT | RECEPTACLE |
| FLA | FULL LOAD AMPS | REF | REFERENCE |
| FR | FORWARD/REVERSE | REQD | REQUIRED |
| FS | FLOW SWITCH | RMS | ROOT MEAN SQUARE |
| FU | FUSE | RTD | RESISTANCE TEMPERATURE DETECTOR |
| FUT | FUTURE | | |
| FVNR | FULL VOLTAGE NON-REVERSING | SCH | SCHEDULE |
| FVR | FULL VOLTAGE REVERSING | SEC | SECONDARY |
| | | SEL | SELECTOR |
| GALV | GALVANIZED | SPDT | SINGLE POLE DOUBLE THROW |
| GEN | GENERATOR | SPEC | SPECIFICATION |
| GFI | GROUND FAULT INTERRUPTER | SPKR | SPEAKER |
| GRD | GROUND | SS | SPEED SWITCH |
| GRS | GALVANIZED RIGID STEEL | SUB | SUBSTATION |
| H | HIGH | SW | SWITCH |
| HGT | HEIGHT | SYMM | SYMMETRICAL |
| HH | HANDHOLE | SYS | SYSTEM |
| HID | HIGH INTENSITY DISCHARGE | SYS | SOLENOID OPERATED VALVE |
| HP | HORSEPOWER | SPB | SIGNAL PULL BOX |
| HS | HAND SWITCH | | |
| HVAC | HEATING, VENTILATION, AND AIR CONDITIONING | TB | TERMINAL BOX |
| HZ | HERTZ (CYCLES PER SECOND) | TEL | TELEPHONE |
| HOA | HAND/OFF/AUTO | TEMP | TEMPERATURE |
| HMH | HIGH VOLTAGE MANHOLE | TFR | TRANSFORMER |
| ICOM | INTERCOM HANDSET | TH | THERMOSTAT |
| ID | INSIDE DIAMETER | TSH | TEMPERATURE SWITCH HIGH |
| IMC | INDIVIDUAL MOTOR CONTROLLER | TV | TELEVISION |
| INTLK | INTERLOCK | TYP | TYPICAL |
| INST | INSTANTANEOUS INSTRUMENT | TR | TIMING RELAY |
| INSTR | INSTRUMENT | TR | UNDERGROUND |
| I/O | INPUT-OUTPUT | U/G | UNLESS OTHERWISE NOTED |
| JB | JUNCTION BOX | UON | |
| KV | KILOVOLT | | |
| KVA | KILOVOLT-AMPERE | V | VOLT |
| KVAR | KILOVOLT-AMPERE REACTIVE | VA | VOLTAMPERE |
| KW | KILOWATT | VAR | VOLTAMPERE REACTIVE |
| KWH | KILOWATT-HOUR | VFD | VARIABLE FREQUENCY DRIVE |
| | | VS | VOLTMETER SELECTOR SWITCH |
| L-O-R | LOCAL-OFF-REMOTE | W | WATT, WIRE, WIDE |
| L | LONG | W/ | WITH |
| LC | LIGHTING CONTACTOR | W/O | WITHOUT |
| LCS | LOCAL CONTROL STATION | WP | WEATHERPROOF |
| LP | LEGEND PLATE | WSH | OVERLOAD TORQUE SWITCH |
| LOS | LOCK-OUT STOP | WSH | SHEAR PIN LIMIT SWITCH |
| LSL | LEVEL SWITCH LOW | | |
| LTG | LIGHTING | XS | MISCELLANEOUS (VIBRATION, ETC.) SWITCH |
| LV | LOW VOLTAGE | ZS | POSITION (LIMIT) SWITCH |
| LSH | LEVEL SWITCH HIGH | | |

PRIME ENGINEERING
INCORPORATED

1888 EMERY STREET, N.W., SUITE 300
ATLANTA, GEORGIA 30318
404-425-7100

PROJECT:
NORTH FULTON PUMP STATION UPGRADES - OLD ALABAMA PUMP STATION

PREPARED FOR:
FULTON COUNTY DEPARTMENT OF PUBLIC WORKS

NO.	DATE	DESCRIPTION
0	9/15/2006	CONSTRUCTION DOCUMENTS

SEAL

ASHIM K. RAY
PROFESSIONAL ENGINEER
No. 13677
STATE OF GEORGIA

DATE: 9-15-2006

© 2006 PRIME ENGINEERING, INC. Scales, as stated hereon, are valid on the original drawing; the dimensions of which are 24 by 36 inches. These scales, noted hereon, are hereby changed by the ratio of the overall sheet dimensions of the print to corresponding dimensions of the original drawing. This drawing is the property of PRIME ENGINEERING, INCORPORATED and is not to be reproduced or copied in whole or in part. It is only to be used for the project and site specifically identified herein and is not to be used on any other project. It is to be returned upon request.

ELECTRICAL & INSTRUMENTATION LEGEND

07ITBENPUMPSK-DB

DRAWING DATE	09/15/06	DRAWN BY	CDR
DRAWING SCALE	NOT TO SCALE	DESIGNED BY	CDR
PROJECT NUMBER	06-2015-005	CHECKED BY	AKR
DRAWING NUMBER	E-001		

NOT ISSUED FOR CONSTRUCTION

GROUP

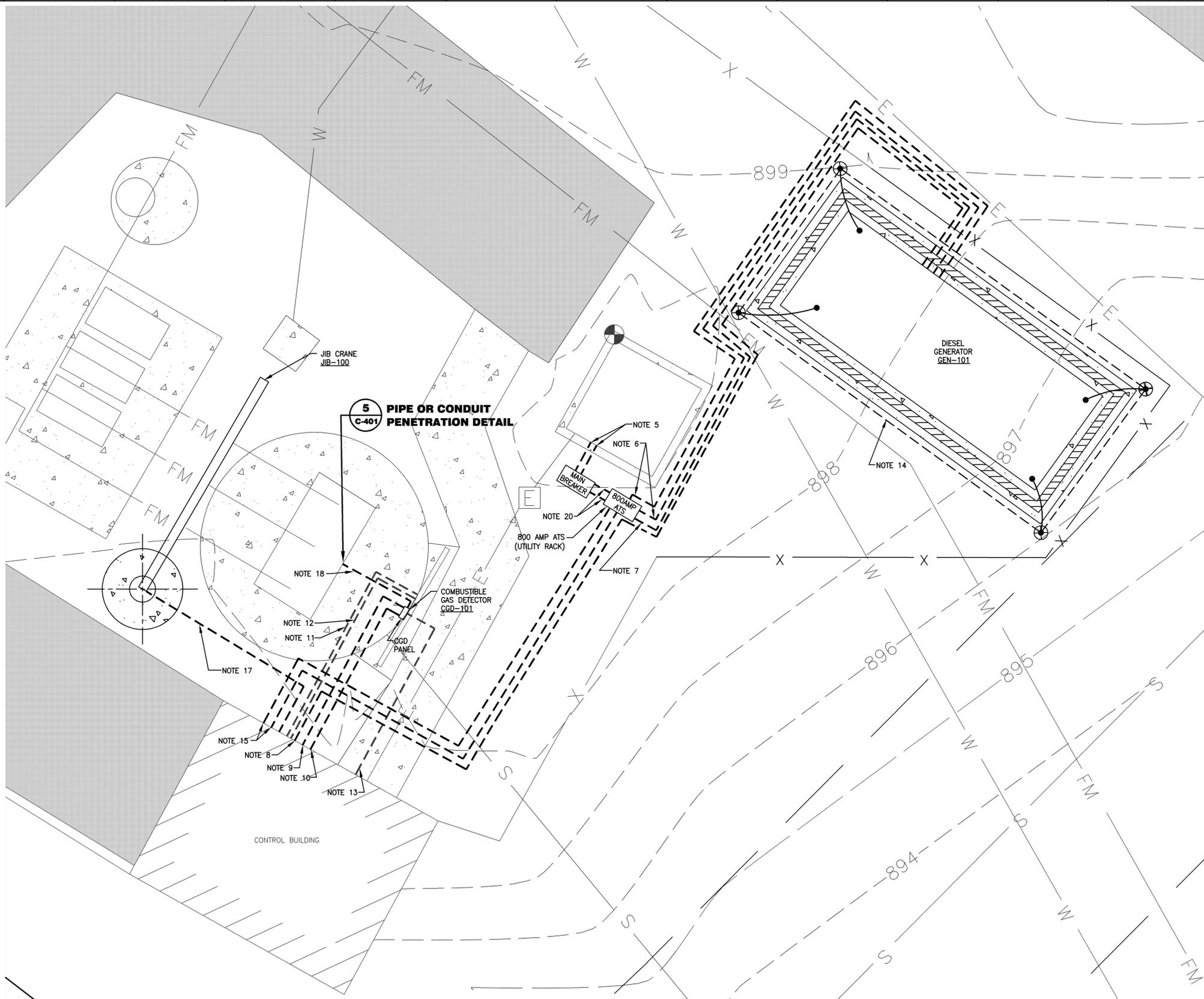
Ray Group Consulting Engineers, Inc.
1827 Powers Ferry Road
Building 20, Suite 100
Atlanta, Georgia 30339
Tel. (770) 953-1443
Fax. (770) 953-9533

R:\2015-005 North Fulton Pump Station Upgrades\dwg\Old Alabama\2015-005-0A.dwg Wed, 09/20/06 1:18 PM

R:\2015-005 North Fulton Pump Station Upgrades\dwg\Old Alabama\E201-2015-005-0A.dwg Thu, 09/21/06 12:26 PM

NOTES:

- ALL EXPOSED CONDUIT SHALL BE RIGID GALVANIZED STEEL, MINIMUM OF 3/4". ALL BURIED CONDUIT SHALL BE PVC COATED RIGID, MINIMUM OF 1".
- ALL FITTINGS SHALL BE CAST WITH THREADED HUBS. ALL CONNECTIONS SHALL BE COMPRESSION TYPE.
- THE ELECTRICAL INSTALLATION SHALL COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ALL STATE AND LOCAL CODES, AND SHALL CONFORM TO THE REQUIREMENTS OF THE LOCAL UTILITY COMPANY PROVIDING SERVICE. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND/OR INSPECTIONS AS REQUIRED BY FULTON COUNTY.
- ALL WIRING SHALL BE STRANDED COPPER CONDUCTOR WITH 600 VOLT TYPE THWN-2 INSULATION.
- RUN TWO (2) 3" PVC COATED GRS CONDUIT WITH 3 - 500kcmil & 1 #1/0 GND FROM MAIN CIRCUIT BREAKER TO THE TRANSFORMER.
- RUN TWO (2) 3" CONDUIT WITH 3 - 500kcmil & 1 #1/0 GND FROM ATS TO DIESEL GENERATOR GEN-101.
- RUN ONE (1) 1" CONDUIT WITH 6 - #14 FROM ATS TO DIESEL GENERATOR GEN-101.
- RUN ONE (1) 1" CONDUIT WITH 3 - #12 WITH #12 GND FROM DIESEL GENERATOR GEN-101 TO EXISTING LOADCENTER LOCATED INSIDE CONTROL BUILDING.
- RUN ONE (1) 3/4" CONDUIT WITH 2 - #12 & #12 GND FROM COMBUSTIBLE GAS DETECTOR CGD-101 TO EXISTING LOADCENTER.
- RUN ONE (1) 3/4" CONDUIT WITH 2 - #14 CABLE FROM COMBUSTIBLE GAS DETECTOR CGD-101 TO EXISTING CONTROL PANEL.
- RUN 6 - #14 & 1-3 CONDUCTOR SHIELDED CABLE FROM NEW NEMA 4X PULL BOX MOUNTED ON THE EXISTING PANEL RACK TO NEW VARIABLE FREQUENCY DRIVE VFD-100 LOCATED INSIDE OF CONTROL BUILDING, IN EXISTING 1" CONDUIT.
- RUN 3 - 500kcmil & 1 #3 GND FROM NEW NEMA 4X PULL BOX MOUNTED ON THE EXISTING PANEL RACK TO NEW VARIABLE FREQUENCY DRIVE VFD-100 LOCATED INSIDE OF CONTROL BUILDING, IN EXISTING 3" CONDUIT.
- CONTRACTOR SHALL UTILIZE EXISTING SPARE 3" CONDUIT THAT HAS BEEN RUN FOR THE NEW SUBMERSIBLE WASTEWATER PUMP SWD-100 POWER. THIS SHALL BE TIED INTO THE NEW NEMA 4X PULL BOX TO BE MOUNTED ON THE EXISTING PANEL RACK.
- PROVIDE GROUND GRID AS SHOWN. GROUND GRID SHALL BE MADE FROM 2/0 BARE COPPER WIRE.
- RUN TWO (2) 3" CONDUIT BETWEEN ATS AND THE EXISTING SWITCHBOARD W/3 - 500kcmil & 1 #1/0 GND AS SHOWN IN SINGLE LINE DIAGRAM.
- CONDUIT ROUTING IS DIAGRAMATIC. CONTRACTOR SHALL FIELD ROUTE THE CONDUITS. COORDINATE WITH FIELD PIPING.
- RUN 1" C AND 3 #12, 1 #12 GND CABLE FOR NEW JIB CRANE JIB-100.
- RUN 1" C TO WET WELL FROM NEW COMBUSTIBLE GAS DETECTOR CGD-101 FOR THE CGD PROBE.
- ELECTRICAL CONDUIT RUNS ARE SHOWN AS SCHEMATIC. CONTRACTOR SHALL RUN ALL CONDUITS WITHIN THE LIMITS OF THE PUMP STATION.
- RUN TWO (2) 3" PVC COATED GRS CONDUIT WITH 3 - 500kcmil & 1 #1/0 GND FROM MAIN CIRCUIT BREAKER TO ATS.



1
E-201
ELECTRICAL & INSTRUMENTATION PLAN
SCALE: NOT TO SCALE

GROUP
Ray Group Consulting Engineers, Inc.
1827 Powers Ferry Road
Building 20, Suite 100
Atlanta, Georgia 30339
Tel. (770) 953-1443
Fax. (770) 953-9533

PRIME ENGINEERING
INCORPORATED
1888 EMERY STREET, N.W., SUITE 300
ATLANTA, GEORGIA 30318
404-425-7100

PROJECT:
NORTH FULTON PUMP STATION UPGRADES - OLD ALABAMA PUMP STATION
PREPARED FOR:
FULTON COUNTY DEPARTMENT OF PUBLIC WORKS

NO.	DATE	DESCRIPTION
0	9/15/2006	CONSTRUCTION DOCUMENTS



© 2006 PRIME ENGINEERING, INC. Scales, as stated hereon, are valid on the original drawing; the dimensions of which are 24 by 36 inches. These scales, noted hereon, are hereby changed by the ratio of the overall sheet dimensions of the print to corresponding dimensions of the original drawing. This drawing is the property of PRIME ENGINEERING, INCORPORATED and is not to be reproduced or copied in whole or in part. It is only to be used for the project and is not to be used on any other project. It is to be returned upon request.

DRAWING TITLE
ELECTRICAL & INSTRUMENTATION SITE PLAN
0711ENFPUMPSE-DE

DRAWING DATE	09/15/06	DRAWN BY	CDR
DRAWING SCALE	NOT TO SCALE	DESIGNED BY	CDR
PROJECT NUMBER	06-2015-005	CHECKED BY	AKR
DRAWING NUMBER	E-201	NOT ISSUED FOR CONSTRUCTION	

R:\2015-005 North Fulton Pump Station Upgrades\dwg\Old Alabama\E202-2015-005-OA.dwg Wed, 09/20/06 1:19 PM

EXISTING INSTRUMENTATION & CONTROL SYSTEM REQUIRMENTS:

THE PUMP CONTROL PANEL (PCP) HAS BEEN DESIGNED TO OPERATE, MONITOR AND CONTROL UP TO THREE VARIABLE FREQUENCY DRIVES (THIS INCLUDES THE NEW VARIABLE FREQUENCY DRIVE VFD-100 BEING INSTALLED). THE PUMP STARTS AND STOPS ACCORDING TO THE DESIRED WET WELL LEVEL SETPOINTS AS MONITORED BY A HYDROSTATIC LEVEL TRANSMITTER. THE CONTROL IS DESIGNED SUCH THAT THE PUMP STATION EFFLUENT FLOW, AS MEASURED BY A MAGNETIC FLOW METER, MATCHES THE FLOW SETPOINT AS ENTERED BY AN OPERATOR EITHER REMOTELY VIA TELEPHONE MODEM OR LOCALLY ON THE OPERATOR INTERFACE INCLUDED WITH THIS PANEL.

THE PUMP CONTROL PANEL INCLUDES AN OPERATOR INTERFACE, WITH PASSWORD PROTECTION, SUCH AS ALLEN-BRADLEY MODEL 550 LCD TOUCHSCREEN. THE OPERATOR INTERFACE ALLOWS STATION CONTROL AND MONITORING PARAMETERS TO BE VIEWED AND ADJUSTED AS WELL AS INDICATED ALARM AND STATUS OF THE SYSTEM. A BACK-UP FLOAT SWITCH CONTROL SYSTEM IS INCLUDED FOR INDEPENDENT CONTROL OF THE PUMPS IN THE EVENT OF A LEVEL TRANSMITTER FAILURE OR A PLC FAILURE. THE FLOATS ARE MONITORED BY THE PLC. SHOULD THE LEVEL TRANSMITTER FAIL THE PUMPS CONTINUE TO OPERATE IN A NORMAL FASHION; THE START AND STOP MEANS WILL BE THE FLOATS. SHOULD THE PLC FAIL THE VFDS RUN AT DEFAULT SETTINGS IF CALLED TO RUN BY THE FLOATS.

THE LEVEL TRANSMITTER IS MONITORED BY THE PLC WITH THE LEVEL DISPLAYED ON THE OPERATOR INTERFACE. SHOULD THE TRANSMITTER FAIL AN ALARM IS INDICATED ON THE PUMP CONTROL PANEL. PUMPS START AND STOP BASED ON WET WELL ELEVATIONS (ADJUSTABLE FROM THE OPERATOR INTERFACE) AND THE LEAD, LAG, SEQUENCE SELECTED. PUMP ALTERNATE EVERY 24 HOURS. THE PLC USES PID LOOP FUNCTIONALITY TO CONTROL THE SPEED OF THE VARIABLE FREQUENCY DRIVES.

IF THE PLC FAIL AN ALARM IS INDICATED ON THE CONTROL PANEL AND THE BACK-UP FLOATS SWITCHES RESUME THE LEAD-LAG PUMP OPERATION. INTRINSIC SAFETY BARRIER ARE REQUIRED FOR EACH FLOAT.

IF AN ALARM OCCURS, A COMMON ALARM LIGHT IS INDICATED ON THE CONTROL PANEL. THE SPECIFIC ALARM SHALL BE DISPLAYED ON THE OPERATOR INTERFACE AND AT THE CAULEY CREEK FACITY VIA PHONE MODEM.

THE PUMP SEQUENCE IS LEAD/LAG/STANDBY AND INCLUDED IN THE PLC LOGIC.

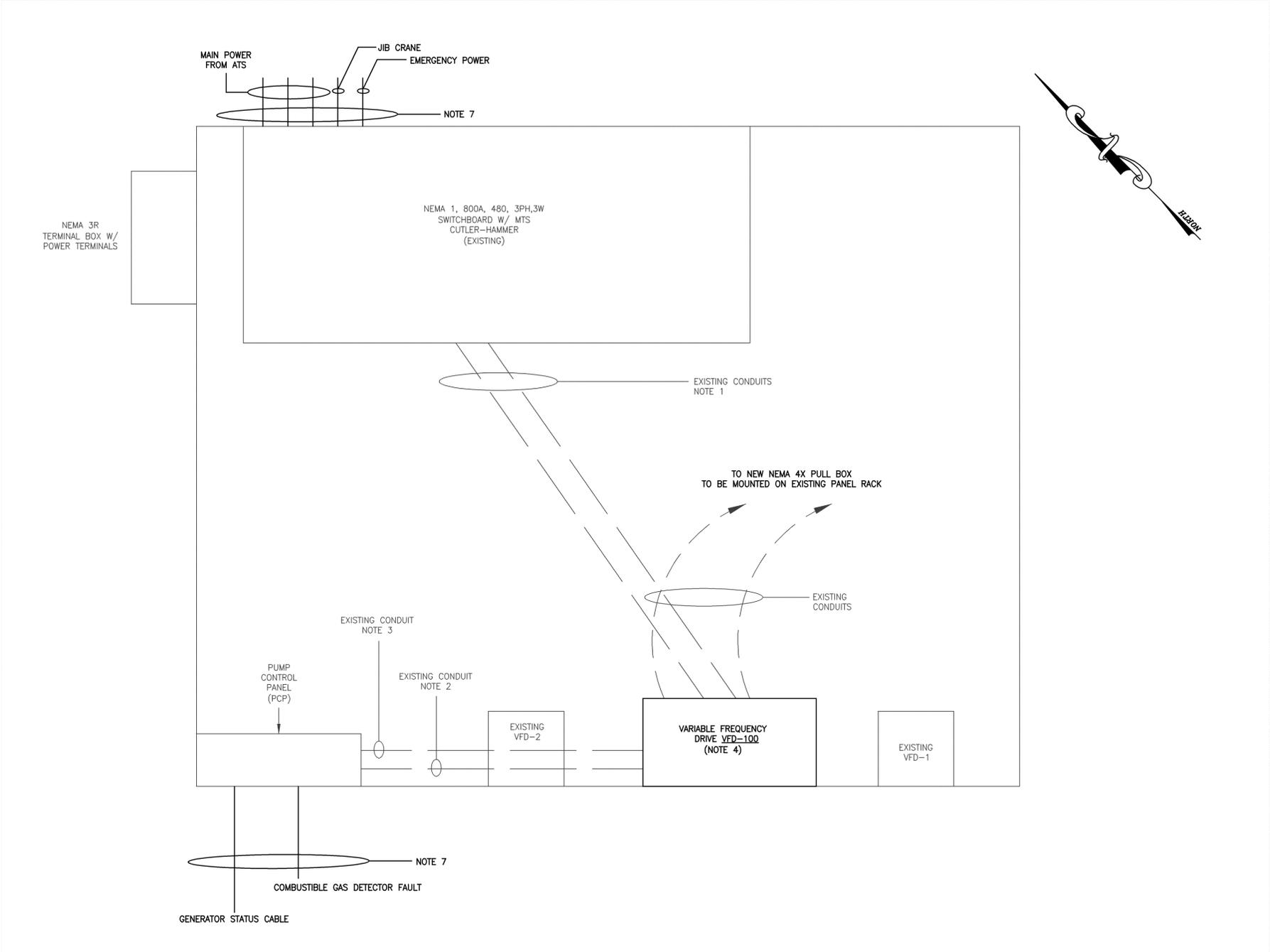
NEW INSTRUMENTATION & CONTROL SYSTEM REQUIRMENTS:

THE PROGRAMMING SHALL BE CHANGED TO INCLUDE THE NEW SUBMERSIBLE WASTEWATER PUMP SWP-100. AT ANY GIVEN TIME, WEATHER IN NORMAL POWER MODE OR GENERATOR MODE, ONLY TWO PUMPS WILL RUN. PROVISIONS SHALL BE MADE TO START THE NEXT AVAILABLE PUMP.

NEW VARIABLE FREQUENCY DRIVE VFD-100 IS TO BE NEMA 12 VENTILATED AND FILTERED.

NOTES:

- USE EXISTING 3" CONDUIT TO RUN 3 - 500kcmil & 1 #3 GND FROM EXISTING SWITCHBOARD TO NEW VARIABLE FREQUENCY DRIVE VFD-100.
- USE EXISTING 3/4" CONDUIT TO RUN 8 - #14 FROM NEW VARIABLE FREQUENCY DRIVE VFD-100 TO EXISTING CONTROL PANEL.
- USE EXISTING 3/4" CONDUIT TO RUN 1 - #16 TWISTED PAIR SHIELDED CABLE FROM NEW VARIABLE FREQUENCY DRIVE VFD-100 TO EXISTING CONTROL PANEL.
- NEW VARIABLE FREQUENCY DRIVE VFD-100 SHALL BE ALLEN-BRADLEY POWER FLEX 700 SERIES NEMA 12 WITH 3-5% LINE REACTOR.
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDUITS TO MAKE SURE THEY WILL WORK FOR THE NEW PUMP. IF NOT PROVIDE NEW CONDUITS.
- CONDUITS TO THE CONTROL BUILDING SHALL RUN UNDER GROUND TO THE BUILDING, STUB-UP OUTSIDE, RUN ALONG THE WALL OUTSIDE, AND PENETRATE THE BUILDING ABOVE RESPECTIVE EQUIPMENTS. CONTRACTOR SHALL CAULK ALL PENETRATIONS INTO CONTROL BUILDING TO HELP KEEP BUILDING WEATHERPROOF.
- SEE DRAWING E-402 FOR CONDUIT SIZING.



1 ELECTRICAL CONTROL ROOM PLAN
E-202 SCALE: NOT TO SCALE

PRIME ENGINEERING
INCORPORATED
1888 EMERY STREET, N.W., SUITE 300
ATLANTA, GEORGIA 30318
404-425-7100

PROJECT:
NORTH FULTON PUMP STATION UPGRADES - OLD ALABAMA PUMP STATION
PREPARED FOR:
FULTON COUNTY DEPARTMENT OF PUBLIC WORKS

REVISIONS	NO.	DATE	DESCRIPTION
	0	9/15/2006	CONSTRUCTION DOCUMENTS

SEAL

 DATE: 9-15-2006

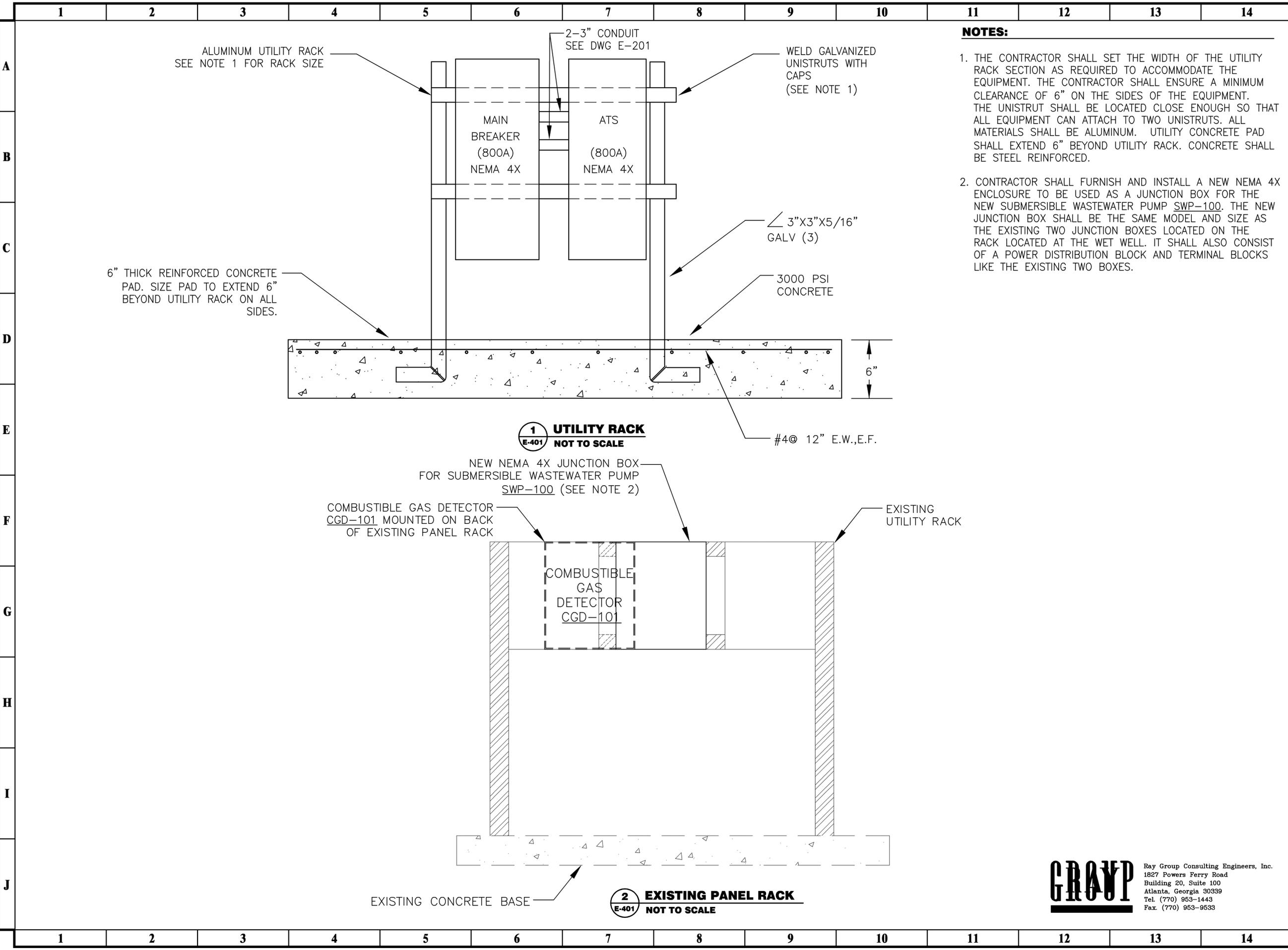
© 2006 PRIME ENGINEERING, INC. Scales, as stated hereon, are valid on the original drawing; the dimensions of which are 24 by 36 inches. These scales, noted hereon, are hereby changed by the ratio of the overall sheet dimensions of the print to corresponding dimensions of the original drawing. This drawing is the property of PRIME ENGINEERING, INCORPORATED and is not to be reproduced or copied in whole or in part. It is only to be used for the project and is not to be used on any other project. It is to be returned upon request.

DRAWING TITLE
ELECTRICAL & INSTRUMENTATION PLAN
0711ENFPUN1P5K:DB

DRAWING DATE	09/15/06	DRAWN BY	CDR
DRAWING SCALE	NOT TO SCALE	DESIGNED BY	CDR
PROJECT NUMBER	06-2015-005	CHECKED BY	AKR
DRAWING NUMBER	E-202	NOT ISSUED FOR CONSTRUCTION	

GROUP
Ray Group Consulting Engineers, Inc.
1827 Powers Ferry Road
Building 20, Suite 100
Atlanta, Georgia 30339
Tel. (770) 953-1443
Fax. (770) 953-9533

R:\2015-005 North Fulton Pump Station Upgrades\dwg\Old Alabama\E401-2015-005-0A.dwg Thu, 09/21/06 12:31 PM



NOTES:

1. THE CONTRACTOR SHALL SET THE WIDTH OF THE UTILITY RACK SECTION AS REQUIRED TO ACCOMMODATE THE EQUIPMENT. THE CONTRACTOR SHALL ENSURE A MINIMUM CLEARANCE OF 6" ON THE SIDES OF THE EQUIPMENT. THE UNISTRUT SHALL BE LOCATED CLOSE ENOUGH SO THAT ALL EQUIPMENT CAN ATTACH TO TWO UNISTRUTS. ALL MATERIALS SHALL BE ALUMINUM. UTILITY CONCRETE PAD SHALL EXTEND 6" BEYOND UTILITY RACK. CONCRETE SHALL BE STEEL REINFORCED.
2. CONTRACTOR SHALL FURNISH AND INSTALL A NEW NEMA 4X ENCLOSURE TO BE USED AS A JUNCTION BOX FOR THE NEW SUBMERSIBLE WASTEWATER PUMP SWP-100. THE NEW JUNCTION BOX SHALL BE THE SAME MODEL AND SIZE AS THE EXISTING TWO JUNCTION BOXES LOCATED ON THE RACK LOCATED AT THE WET WELL. IT SHALL ALSO CONSIST OF A POWER DISTRIBUTION BLOCK AND TERMINAL BLOCKS LIKE THE EXISTING TWO BOXES.

1 UTILITY RACK
E-401 NOT TO SCALE

2 EXISTING PANEL RACK
E-401 NOT TO SCALE

PRIME ENGINEERING
INCORPORATED

1888 EMERY STREET, N.W., SUITE 300
ATLANTA, GEORGIA 30318
404-425-7100

PROJECT:
NORTH FULTON PUMP STATION UPGRADES - OLD ALABAMA PUMP STATION
PREPARED FOR:
FULTON COUNTY DEPARTMENT OF PUBLIC WORKS

REVISIONS	NO.	DATE	DESCRIPTION
	0	9/15/2006	CONSTRUCTION DOCUMENTS

SEAL

DATE: 9-15-2006

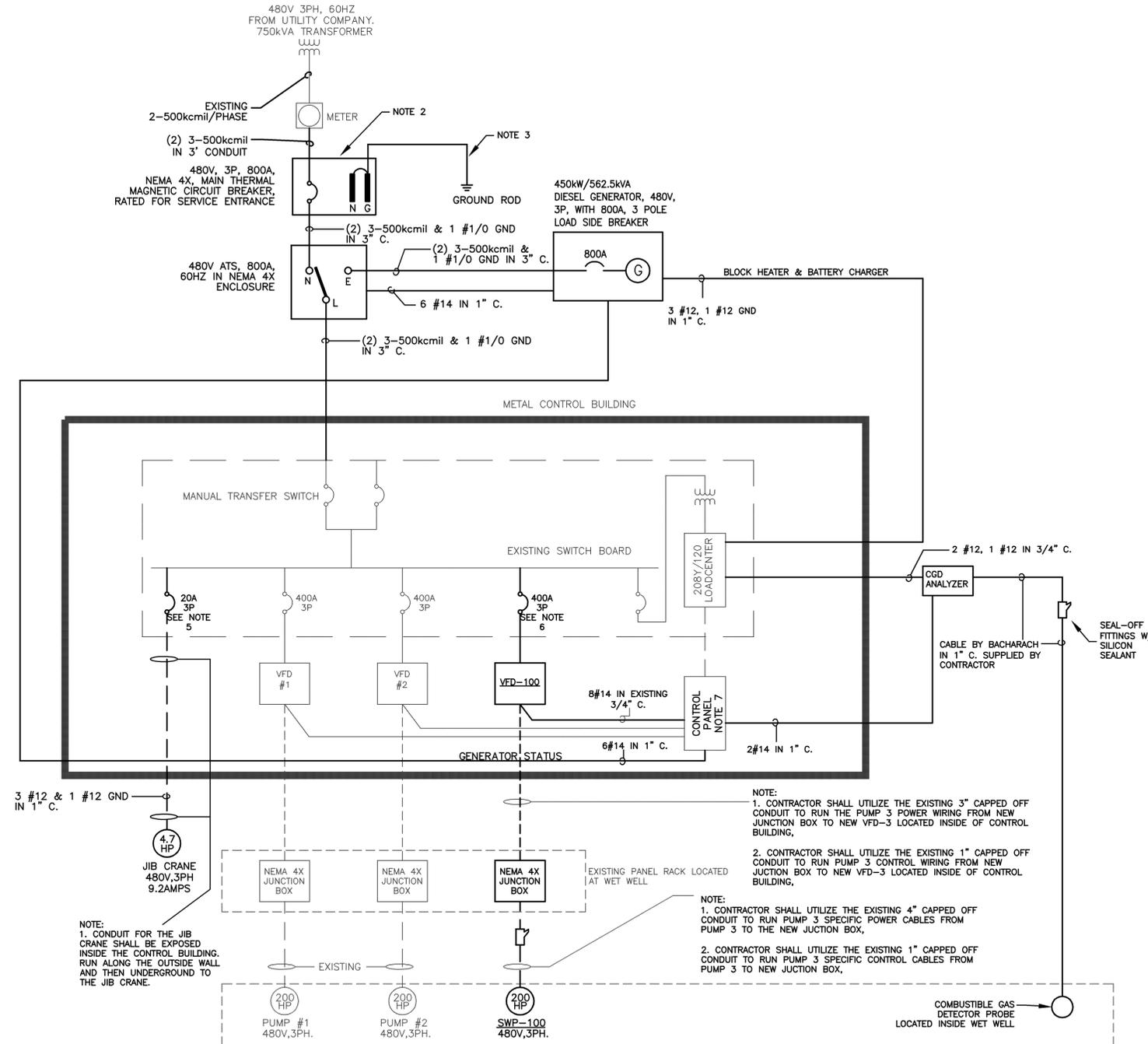
© 2006 PRIME ENGINEERING, INC. Scales, as stated hereon, are valid on the original drawing; the dimensions of which are 24 by 36 inches. These scales, noted hereon, are hereby changed by the ratio of the overall sheet dimensions of the print to corresponding dimensions of the original drawing. This drawing is the property of PRIME ENGINEERING, INCORPORATED and is not to be reproduced or copied in whole or in part. It is only to be used for the project and site specifically identified herein and is not to be used on any other project. It is to be returned upon request.

DRAWING TITLE
ELECTRICAL & INSTRUMENTATION DETAILS
07IBENPUMP/PSK/DB

DRAWING DATE	09/15/06	DRAWN BY	CDR
DRAWING SCALE	NOT TO SCALE	DESIGNED BY	CDR
PROJECT NUMBER	06-2015-005	CHECKED BY	AKR
DRAWING NUMBER	E-401	NOT ISSUED FOR CONSTRUCTION	

GRUPP Ray Group Consulting Engineers, Inc.
1827 Powers Ferry Road
Building 20, Suite 100
Atlanta, Georgia 30339
Tel. (770) 953-1443
Fax. (770) 953-9533

R:\2015-005 North Fulton Pump Station Upgrades\dwg\Old Alabama\E-402-2015-005-0A.dwg Wed, 09/20/2016 1:20 PM



2 SINGLE LINE DIAGRAM
E-402 NOT TO SCALE

NOTES:

- THE SERVICE TO THE PUMP STATION IS EXISTING AND SHALL BE REUSED.
 - THE CONTRACTOR SHALL PROVIDE AND PERMANENTLY INSTALL ON THE MAIN BREAKER A RED ON WHITE PHENOLIC WARNING TAG WITH MINIMUM 1/2" HIGH LETTERS:
- WARNING**
480/277V, 3Ø, 4W

LOCK OUT ALL POWER WHILE WORKING ON ANY EQUIPMENT TO AVOID ELECTRICAL SHOCK OR EQUIPMENT ACTIVATION
--- DO NOT SWITCH UNDER LOAD ---
- GROUND ROD SHALL BE 3/4" X 10' COPPER-CLAD STEEL ROD. SEE DRAWING E-201.
 - PROVIDE A 20AMP, 1P CIRCUIT BREAKER FROM THE LOADCENTER TO THE OGD ANALYZER. PROVIDE 1" C, 2#14 CABLE BETWEEN OGD ANALYZER & THE EXISTING CONTROL PANEL FOR COMBUSTIBLE HIGH ALARM.
 - CONTRACTOR SHALL FURNISH AND INSTALL NEW 20AMP, 480V, 3PHASE CIRCUIT BREAKER INSIDE OF EXISTING SWITCHBOARD LOCATED INSIDE OF CONTROL BUILDING FOR NEW JIB CRANE JIB-100. BREAKER SHALL MATCH EXISTING MANUFACTURER.
 - CONTRACTOR SHALL FURNISH AND INSTALL NEW 400AMP, 480V, 3 PHASE CIRCUIT BREAKER INSIDE OF EXISTING SWITCHBOARD LOCATED INSIDE OF CONTROL BUILDING FOR NEW SUBMERSIBLE WASTEWATER PUMP SWP-100. BREAKER SHALL MATCH THE EXISTING MANUFACTURER.
 - PROGRAM THE TELEPHONE LINE TO SEND OUT GENERATOR STATUS TO CAULY CREEK WATER RECLAMATION FACILITY.
 - PROVIDE AND INSTALL MAIN 800 AMP SERVICE ENTRANCE RATED BREAKER, 480V, 3P, NEMA 4X.

PRIME ENGINEERING
INCORPORATED

1888 EMERY STREET, N.W., SUITE 300
ATLANTA, GEORGIA 30318
404-425-7100

PROJECT:
NORTH FULTON PUMP STATION UPGRADES - OLD ALABAMA PUMP STATION
PREPARED FOR:
FULTON COUNTY DEPARTMENT OF PUBLIC WORKS

REVISIONS	NO.	DATE	DESCRIPTION
	0	9/15/2006	CONSTRUCTION DOCUMENTS



© 2006 PRIME ENGINEERING, INC. Scales, as stated hereon, are valid on the original drawing; the dimensions of which are 24 by 36 inches. These scales, noted hereon, are hereby changed by the ratio of the overall sheet dimensions of the print to corresponding dimensions of the original drawing. This drawing is the property of PRIME ENGINEERING, INCORPORATED and is not to be reproduced or copied in whole or in part. It is only to be used for the project and site specifically identified herein and is not to be used on any other project. If it is to be returned upon request.

DRAWING TITLE
ELECTRICAL & INSTRUMENTATION DETAILS
0 TITENFUMPSK-DB

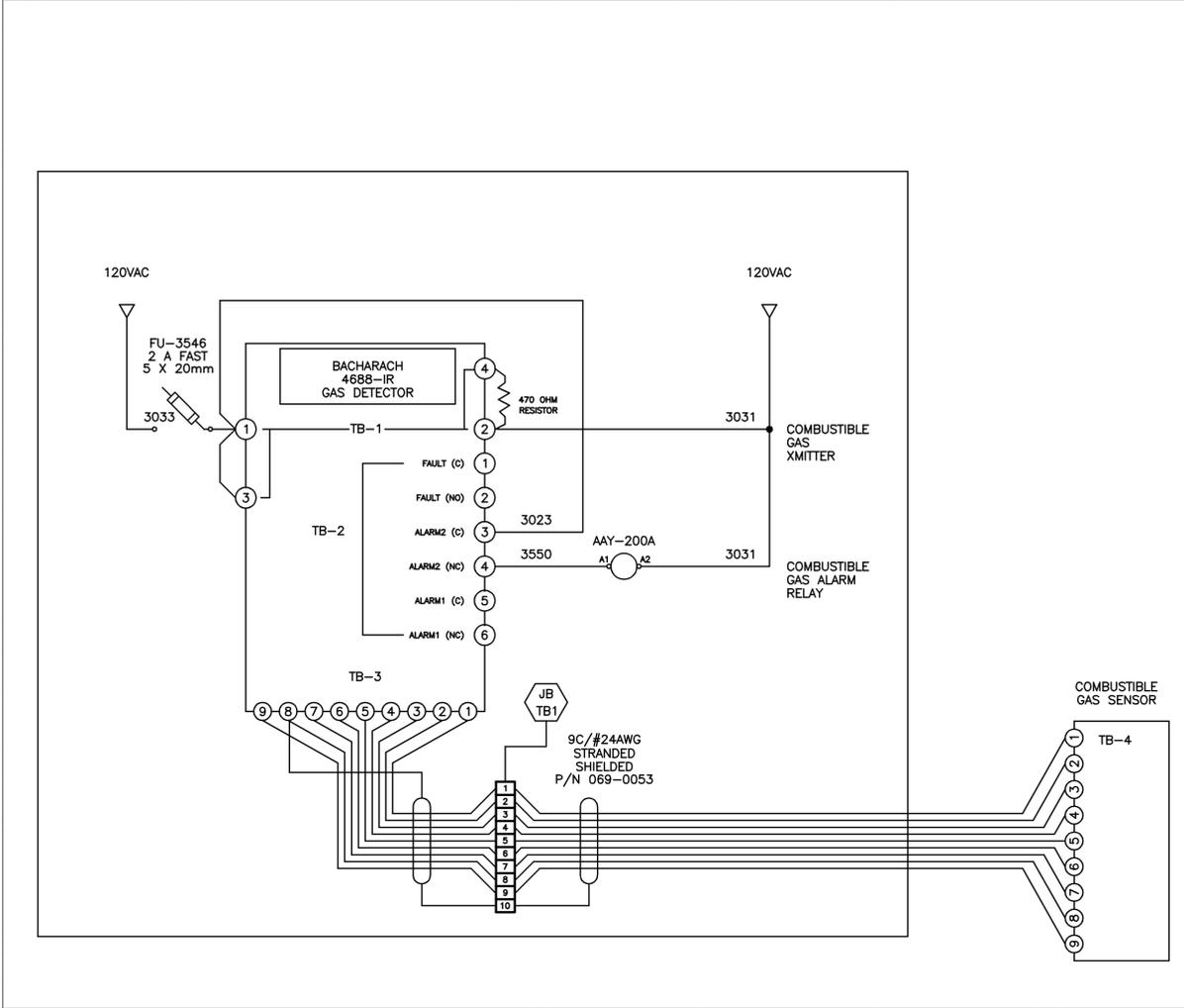
DRAWING DATE	09/15/06
DRAWING SCALE	NOT TO SCALE
PROJECT NUMBER	06-2015-005
DRAWING NUMBER	E-402
DRAWN BY	CDR
DESIGNED BY	CDR
CHECKED BY	AKR
NOT ISSUED FOR CONSTRUCTION	

GRUPP Ray Group Consulting Engineers, Inc.
1827 Powers Ferry Road
Building 20, Suite 100
Atlanta, Georgia 30339
Tel. (770) 953-1443
Fax. (770) 953-9533

R:\2015-005 North Fulton Pump Station Upgrades\dwg\Old Alabama\E-403-2015-005-0A.dwg Thu, 09/21/06 12:30 PM

1 2 3 4 5 6 7 8 9 10 11 12 13 14

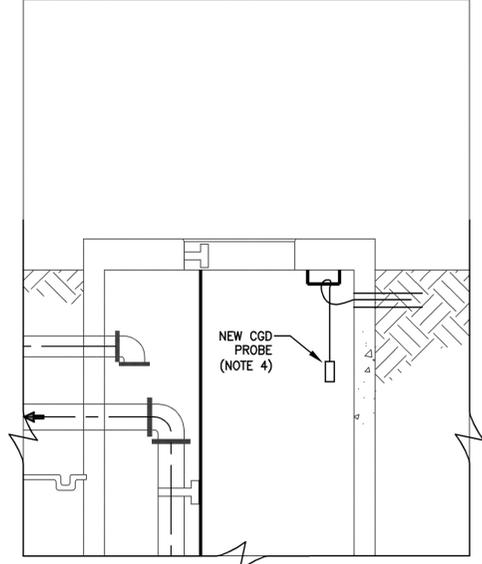
A
B
C
D
E
F
G
H
I
J



NOTES:

1. COMBUSTIBLE GAS DETECTOR CGD-101 SHALL BE SCOTT/BACHARACH STAND-ALONE INDUSTRIAL MONITOR MODEL 46 SERIES OR EQUAL.
2. DRAWING SHOWN ABOVE IS A GENERIC DRAWING, REFER TO USER'S MANUAL TO HOOK UP THE 120VAC TO THE ALARM SYSTEM.
3. PROVIDE A DRY CONTACT FOR HIGH COMBUSTIBLE GAS FOR CUSTOMER USE.
4. CORE DRILL THE WET WELL FOR CGD PROBE. RUN 1" CONDUIT.

1 **GENERIC CGD SCHEMATIC**
E-403 NOT TO SCALE



2 **CGD PROBE DETAIL**
E-403 NOT TO SCALE



Ray Group Consulting Engineers, Inc.
1827 Powers Ferry Road
Building 20, Suite 100
Atlanta, Georgia 30339
Tel. (770) 953-1443
Fax. (770) 953-9533

PRIME ENGINEERING
INCORPORATED
1888 EMERY STREET, N.W., SUITE 300
ATLANTA, GEORGIA 30318
404-425-7100

PROJECT:
NORTH FULTON PUMP STATION UPGRADES - OLD ALABAMA PUMP STATION
PREPARED FOR:
FULTON COUNTY DEPARTMENT OF PUBLIC WORKS

REVISIONS	NO.	DATE	DESCRIPTION
	0	9/15/2006	CONSTRUCTION DOCUMENTS

SEAL

DATE: 9-15-2006

© 2006 PRIME ENGINEERING, INC. Scales, as stated hereon, are valid on the original drawing; the dimensions of which are 24 by 36 inches. These scales, noted hereon, are hereby changed by the ratio of the overall sheet dimensions of the print to corresponding dimensions of the original drawing. This drawing is the property of PRIME ENGINEERING, INCORPORATED and is not to be reproduced or copied in whole or in part. It is only to be used for the project and is not to be used on any other project. It is to be returned upon request.

DRAWING TITLE
ELECTRICAL & INSTRUMENTATION DETAILS
07ITENFUTMPSK-DB

DRAWING DATE	09/15/06	DRAWN BY	CDR
DRAWING SCALE	NOT TO SCALE	DESIGNED BY	CDR
PROJECT NUMBER	06-2015-005	CHECKED BY	AKR
DRAWING NUMBER	E-403	NOT ISSUED FOR CONSTRUCTION	

1 2 3 4 5 6 7 8 9 10 11 12 13 14

R:\2015-005 North Fulton Pump Station Upgrades\dwg\04-2015-005-0A.dwg Wed, 09/20/06 1:20 PM

NOTES:

- CONTRACTOR SHALL FURNISH AND INSTALL A COMPLETE DIESEL GENERATOR SET INCLUDING: GENERATOR, GENERATOR 660 GALLON FUEL TANK (OPTION C205), AUTOMATIC TRANSFER SWITCH, LIGHTNING ARRESTOR, GENERATOR GROUNDING, AND GENERATOR PAD. GENERATOR SHALL INCLUDE LEVEL 2 SOUND ATTENUATING ENCLOSURE (OPTION F202) AND A 800A LOAD SIDE BREAKER. GENERATOR SHALL BE CUMMINS MODEL 450DFEJ OR EQUAL.
- PROVIDE GENERATOR RUN STATUS, GENERATOR FAIL STATUS, AND ATS IN NORMAL POSITION STATUS TO THE EXISTING CONTROL PANEL.
- PROVIDE 3#12, 1#12 GND IN 1" CONDUIT BETWEEN GENERATOR BLOCK HEATER & BATTERY CHARGER TO THE EXISTING 208/120V LOADCENTER. SEE DWG E-402.

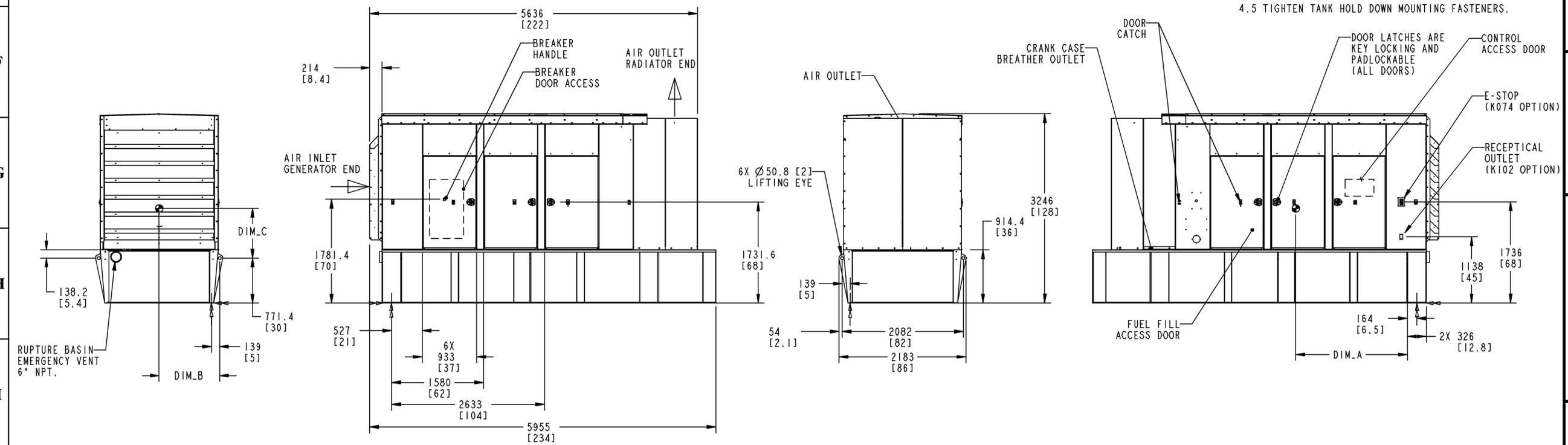
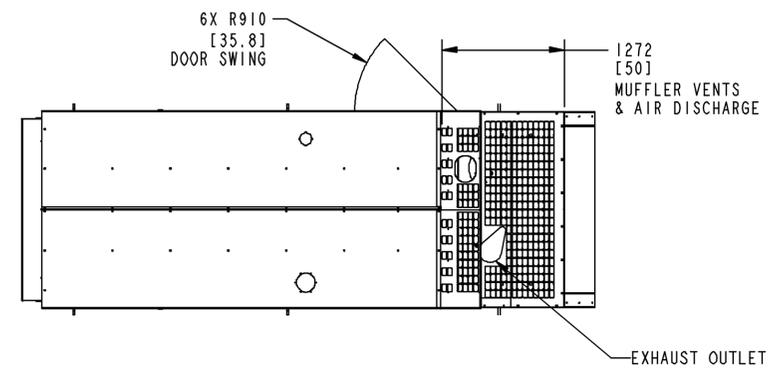
TABULATION		
TANK/LIFT BASE FEATURE CODE	TANK CAPACITY	TANK WEIGHT DRY KG (LBS)
C209	1700	1965 (4331)

TABULATION					
MODEL	KW	CG_DIM "A"	CG_DIM "B"	CG_DIM "C"	WEIGHT KG (LBS)
DFEJ	450	2118 [83.4]	1041 [41]	681 [26.8]	8214 (18109)

***WEIGHT & CG'S ARE SHOWN WITH HIGHEST GALLON FUEL TANK, F202 ENCLOSURE, AND STANDARD WET GENSET. ADDITION OF OTHER FEATURES MAY CHANGE THE WEIGHT. FOR F205 ENCLOSURE(ALUMINUM) REDUCE WEIGHT BY 490 (1090)

NOTES:

- DIMENSIONS SHOWN IN [] ARE INCHES.
 - FOUNDATION REFERENCE POINT (---). SEE FOUNDATION DRAWING FOR DETAILS.
 - FOR FEATURE CODE L116 (FLORIDA TANKS) ADD 105.6 [4.16"] TO DIMS D-J
 - SUBBASE FUEL TANK MOUNTING. THE TANK SHOULD BE MOUNTED SUCH THAT AN AIR SPACE IS PROVIDED BETWEEN THE BOTTOM OF THE TANK AND THE FOUNDATION UNDERNEATH. VIBRATION MOUNTING PADS P/N 0402-0202 MAY BE USED TO PROVIDE AN AIR SPACE.
- EXCESSIVE TWISTING OF THE FUEL TANK, WHEN FASTENING IT TO A FOUNDATION, MAY RESULT IN STRUCTURAL FAILURE OF THE TANK. TO INSURE THE INSTALLATION DOES NOT EXCESSIVELY TWIST THE FUEL TANK, THE FOLLOWING PROCEDURE MUST BE OBSERVED:
- REFER TO ONAN APPLICATION MANUAL T030 FOR GENERAL GENSET/TANK MOUNTING GUIDELINES.
 - AFTER PLACING SET ON FOUNDATION, VERIFY ALL MOUNTING PADS CONTACT FOUNDATION.
 - THERE ARE 8 SHIMS (.0747 INCH THK) ATTACHED TO EACH FUEL TANK. THESE ARE INTENDED TO FILL ANY GAP BETWEEN THE MOUNTING PADS AND FOUNDATION. IF MORE SHIMS ARE REQUIRED OBTAIN ADDITIONAL P/N 0232-3552-02 FUEL TANK SHIMS.
 - INSERT THE MAXIMUM HEIGHT STACK OF SHIMS THAT WILL SLIDE INTO THE GAP.
 - TIGHTEN TANK HOLD DOWN MOUNTING FASTENERS.



1 DIESEL GENERATOR
E-404 NOT TO SCALE

GRAPP Ray Group Consulting Engineers, Inc.
1827 Powers Ferry Road
Building 20, Suite 100
Atlanta, Georgia 30339
Tel. (770) 953-1443
Fax. (770) 953-9533

PRIME ENGINEERING
INCORPORATED
1888 EMERY STREET, N.W., SUITE 300
ATLANTA, GEORGIA 30318
404-425-7100

PROJECT:
NORTH FULTON PUMP STATION UPGRADES - OLD ALABAMA PUMP STATION
PREPARED FOR:
FULTON COUNTY DEPARTMENT OF PUBLIC WORKS

REVISIONS	NO.	DATE	DESCRIPTION
	0	9/15/2006	CONSTRUCTION DOCUMENTS



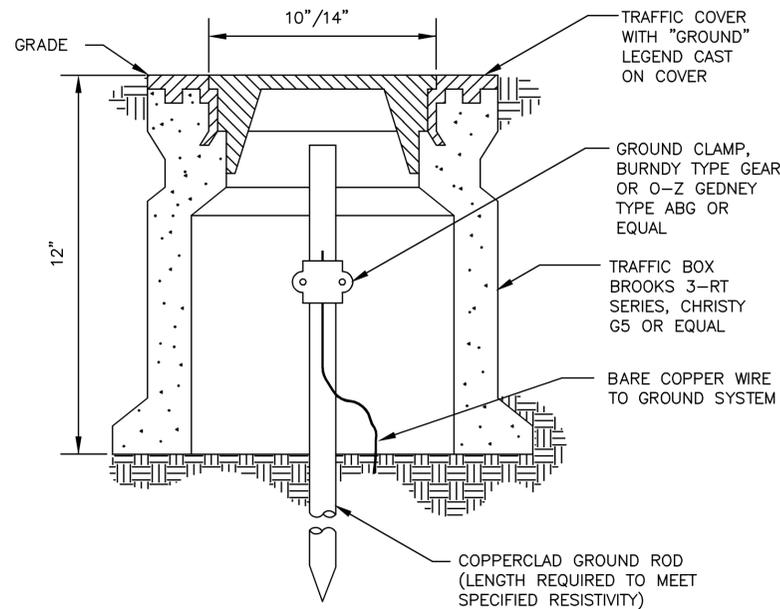
© 2006 PRIME ENGINEERING, INC. Scales, as stated hereon, are valid on the original drawing; the dimensions of which are 24 by 36 inches. These scales, noted hereon, are hereby changed by the ratio of the overall sheet dimensions of the print to corresponding dimensions of the original drawing. This drawing is the property of PRIME ENGINEERING, INCORPORATED and is not to be reproduced or copied in whole or in part. It is only to be used for the project and site specifically identified herein and is not to be used on any other project. It is to be returned upon request.

ELECTRICAL & INSTRUMENTATION DETAILS
07TIENPUMP/PSK/DB

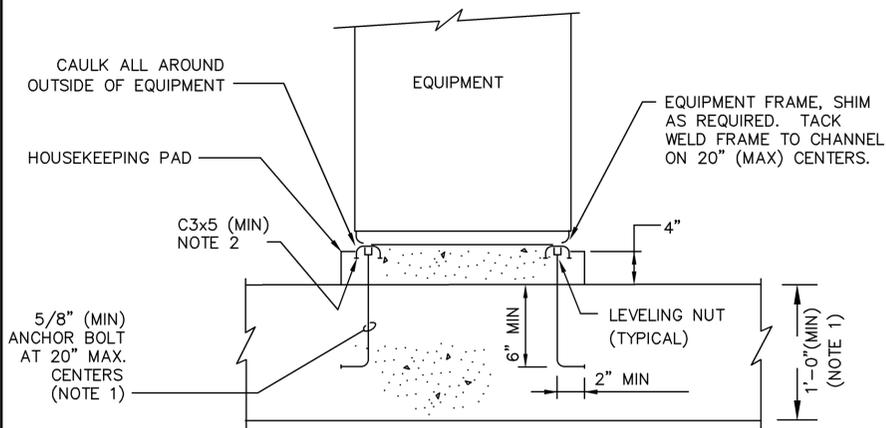
DRAWING DATE	09/15/06	DRAWN BY	CDR
DRAWING SCALE	NOT TO SCALE	DESIGNED BY	CDR
PROJECT NUMBER	06-2015-005	CHECKED BY	AKR
DRAWING NUMBER	E-404		

NOT ISSUED FOR CONSTRUCTION

ELECTRICAL & INSTRUMENTATION DETAILS



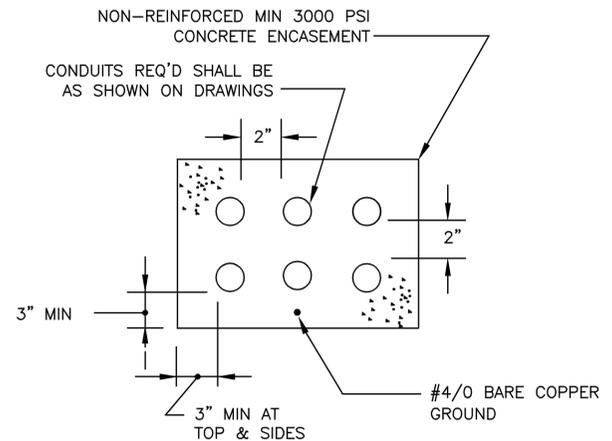
1 GROUND WELL AND ROD
E-002 NOT TO SCALE



- NOTES:
- IF SLAB IS LESS THAN 12" THICK, ANCHOR BOLTS SHALL EXTEND THROUGH SLAB AND BE BACKED UP WITH 4" X 3/16" (MIN) SQUARE WASHERS.
 - CHANNELS SHALL BE LEVELED AT TIME CONCRETE IS CAST.

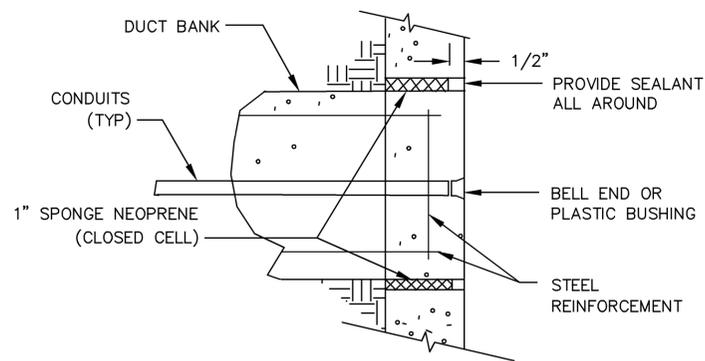
TYPICAL FLOOR MOUNTING FOR MOTOR CONTROL CENTERS, CONTROL PANELS, SWITCHGEAR

2 TYPICAL FLOOR MOUNTING
E-002 NOT TO SCALE

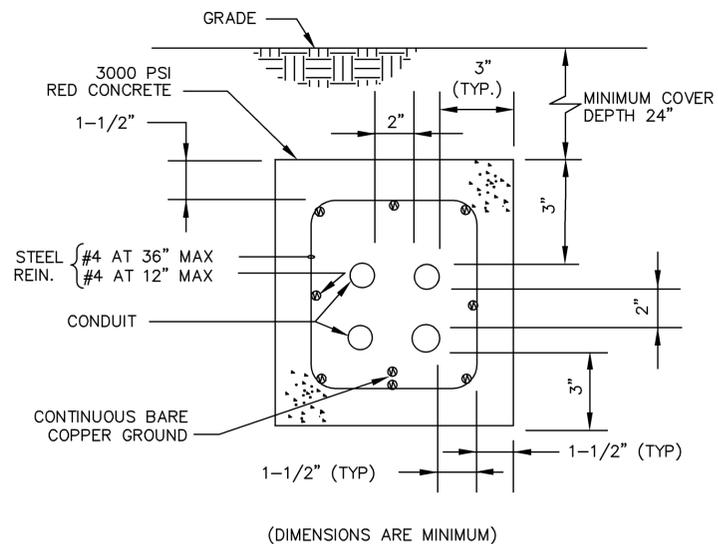


NON-REINFORCED DUCT BANK SECTION FOR OUTDOOR LIGHTING

3 NON-REINFORCED DUCT BANK SECTION
E-002 NOT TO SCALE



4 DUCT BANK AT STRUCTURES
E-002 NOT TO SCALE



(DIMENSIONS ARE MINIMUM)

5 REINFORCED DUCT BANK SECTION
E-002 NOT TO SCALE

PRIME ENGINEERING
INCORPORATED

1888 EMERY STREET, N.W., SUITE 300
ATLANTA, GEORGIA 30318
404-425-7100

PROJECT:
NORTH FULTON PUMP STATION UPGRADES - OLD ALABAMA PUMP STATION
PREPARED FOR:
FULTON COUNTY DEPARTMENT OF PUBLIC WORKS

REVISIONS	NO.	DATE	DESCRIPTION
	0	9/15/2006	CONSTRUCTION DOCUMENTS

SEAL

DATE: 9-15-2006

© 2006 PRIME ENGINEERING, INC. Scales, as stated hereon, are valid on the original drawing; the dimensions of which are 24 by 36 inches. These scales, noted hereon, are hereby changed by the ratio of the overall sheet dimensions of the print to corresponding dimensions of the property of PRIME ENGINEERING, INCORPORATED and is not to be reproduced or copied in whole or in part. It is only to be used for the project and is not to be used on any other project. It is to be returned upon request.

DRAWING TITLE
ELECTRICAL & INSTRUMENTATION DETAILS
07TTFNFPUMPSK-DB

DRAWING DATE	09/15/06
DRAWN BY	CDR
DESIGNED BY	CDR
CHECKED BY	AKR
PROJECT NUMBER	06-2015-005
DRAWING NUMBER	E-405

NOT ISSUED FOR CONSTRUCTION

GROUP Ray Group Consulting Engineers, Inc.
1827 Powers Ferry Road
Building 20, Suite 100
Atlanta, Georgia 30339
Tel. (770) 953-1443
Fax. (770) 953-9533

R:\2015-005 North Fulton Pump Station Upgrades\dwg\Old Alabama\E405-2015-005-0A.dwg Wed, 09/20/06 1:20 PM