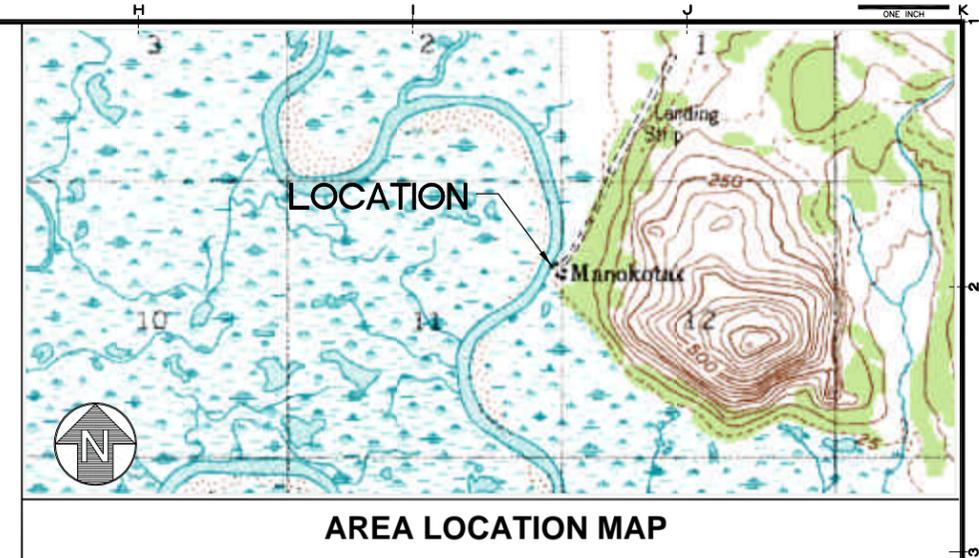




# MANOKOTAK RURAL POWER SYSTEM UPGRADE

MANOKOTAK, ALASKA

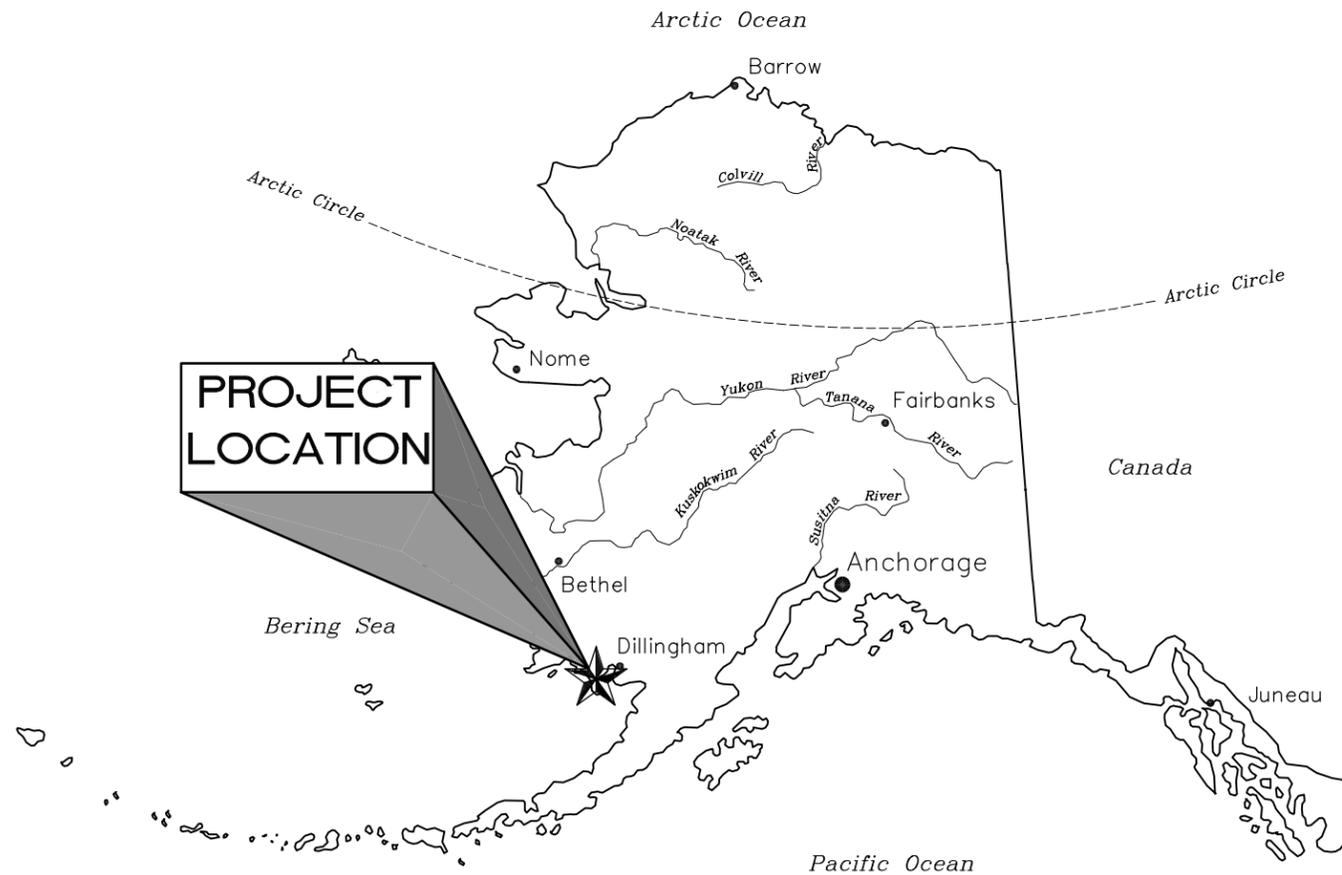
## REVISED 95% DRAWINGS



AREA LOCATION MAP

### DRAWINGS INDEX

- G-0 COVER SHEET AND DRAWING INDEX
- G-1 ABBREVIATIONS, LEGEND AND SPECIFICATIONS
  
- C-1 PROJECT LAYOUT PLAN AND SURVEY CONTROL
- C-2 DEMOLITION PLAN
- C-3 SITE PLAN
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- A-1 FLOOR PLAN WALL TYPES, CODE ANALYSIS, MISC. DETAILS
- A-2 ELEVATIONS, FLASHING DETAILS
- A-3 ELEVATIONS, STAIR DETAILS
- A-4 BUILDING SECTION, DETAILS
- A-5 BUILDING SECTION
- A-6 INTERIOR FINISH SCHEDULE, INTERIOR ELEVATIONS, REFLECTED CEILING PLAN
- A-7 DOOR SCHEDULE, WINDOW SCHEDULE, DOOR DETAILS, MISC. DETAILS
  
- S-1 PILE PLAN, FOUNDATION PLAN, PILE DETAIL, NOTES
- S-2 FRAMING PLAN, STRUCTURAL NOTES
- S-3 ROOF FRAMING, SHEAR WALL SCHEDULE, SHEAR WALL DETAIL
- S-4 DETAILS



LOCATION MAP

REVISIONS	MARK	DATE	DESCRIPTION
1			
2			
3			
4			
5			

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MANOKOTAK RURAL POWER SYSTEM UPGRADE FOR:

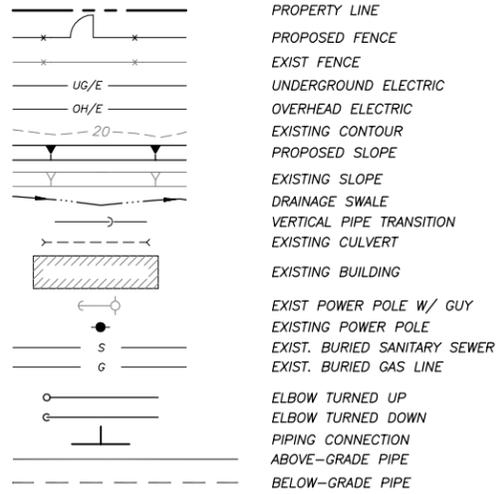
MANOKOTAK, ALASKA

SHEET TITLE	
COVER SHEET AND DRAWING INDEX	
SHEET	
G-0	
DRAWN BY:	CHECKED BY:
KK	LMH
DATE:	SCALE:
07/15/04	NONE
JOB NUMBER:	
04-005	

# ABBREVIATIONS

A	AMPS
ADEC	ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
API	AMERICAN PETROLEUM INSTITUTE
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS
AWS	AMERICAN WELDING SOCIETY
BGL	BELOW GROUND POWER LINE
BTM	BOTTOM
C	CENTER LINE
CLR	CLEAR
DIA, Ø	DIAMETER
EG	EXISTING GRADE
EPA	ENVIRONMENTAL PROTECTION AGENCY
EXIST	EXISTING
FG	FINISH GRADE
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FPT	FEMALE PIPE THREAD
FT	FEET
GA	GAUGE
GALV	GALVANIZED
GRC	GALVANIZED RIGID CONDUIT
HP	HORSEPOWER
IAW	IN ACCORDANCE WITH
IBC	INTERNATIONAL BUILDING CODE
IFC	INTERNATIONAL FIRE CODE
L	ANGLE IRON
LB	POUND
LF	LINEAR FEET
MAX	MAXIMUM
MECH	MECHANICAL
MIL	MILLIMETER = 0.03937 INCH
MIN	MINIMUM
MPT	MALE PIPE THREAD
N.C.	NORMALLY CLOSED
NFS	NON-FROST SUSCEPTIBLE
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OHL	OVERHEAD POWER LINE
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OZ	OUNCE
PL	STEEL PLATE
PRV	PRESSURE RELIEF VALVE
PSF	POUND PER SQUARE FOOT
PSI	POUND PER SQUARE INCH
PSIG	POUND PER SQUARE INCH GAUGE
PT	PRESSURE TREATED
SCH	SCHEDULE
SIM	SIMILAR
SS	STAINLESS STEEL
SSPC	STEEL STRUCTURES PAINTING COUNCIL
STD	STANDARD
STL	STEEL
SW	SOCKET WELD
SY	SQUARE YARD
TS	TUBE STEEL
TYP	TYPICAL
UL	UNDERWRITERS LABORATORY
W/	WITH
WP	WORKING PRESSURE

# LEGEND



# SPECIFICATIONS

## GENERAL

1. THE CONSTRUCTOR SHALL VERIFY SITE CONDITIONS, DIMENSIONS, AND DETAILS PRIOR TO THE START OF CONSTRUCTION. IF ANY DISCREPANCIES AND/OR UNKNOWN CONDITIONS WHICH AFFECT THE PROJECT ARE FOUND, THE CONSTRUCTOR SHALL NOTIFY THE ENGINEER. THE CONSTRUCTOR WILL BE REQUIRED TO PROVIDE MINOR LAYOUT CHANGES IN THE FIELD, SUBJECT TO APPROVAL BY THE ENGINEER.
2. NOT ALL UTILITIES MAY BE SHOWN ON THE PLANS. CONSTRUCTOR SHALL FIELD VERIFY EXISTING UTILITIES BEFORE CONSTRUCTION. CONSTRUCTOR SHALL PROTECT UTILITIES AT ALL TIMES DURING CONSTRUCTION, AND REPAIR ALL DAMAGES IN ACCORDANCE WITH THE RESPECTIVE UTILITY COMPANIES REQUIREMENTS.
3. THE CONSTRUCTOR SHALL PROVIDE AND MAINTAIN ALL SIGNS, BARRICADES AND WARNING LIGHTS AND OTHER PROTECTIVE DEVICES NECESSARY FOR SAFETY.
4. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH U.S. ENVIRONMENTAL PROTECTION AGENCY, ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION AND STATE AND FEDERAL OCCUPATIONAL HEALTH AND SAFETY REGULATIONS.
5. ALL WORK SHALL COMPLY WITH ASME B31.4-2002. ALL WORK SHALL COMPLY WITH THE INTERNATIONAL FIRE CODE, AS AMENDED AND ADOPTED BY THE STATE OF ALASKA, INTERNATIONAL BUILDING CODE, AND THE INTERNATIONAL MECHANICAL CODE.
6. THE CONSTRUCTOR SHALL BE RESPONSIBLE FOR COORDINATING WORK WITH OTHER CONTRACTORS, HIS SUBCONTRACTORS, THE OWNER, AND STATE AND FEDERAL AUTHORITIES.
7. THE PURPOSE OF SPECIFYING A NAME BRAND PRODUCT, OR EQUAL, IS TO ESTABLISH THE LEVEL OF QUALITY OF MATERIALS AND EQUIPMENT REQUIRED AND IS NOT A PRODUCT ENDORSEMENT. SUBMIT SUBSTITUTIONS IN WRITING FOR REVIEW AND APPROVAL.
8. THE CONSTRUCTOR SHALL SCHEDULE AND COORDINATE HIS DEMOLITION AND NEW CONSTRUCTION ACTIVITIES SUCH THAT A COMPLETE AND OPERABLE BULK FUEL STORAGE AND TRANSFER SYSTEM IS MAINTAINED AT ALL TIMES.
9. U.S. ARMY CORPS OF ENGINEERS, ALASKA COMMUNITIES FLOOD HAZARD DATA 2000 INDICATES NO KNOWN FLOODING IN MANOKOTAK.
10. INSTALL FIRE EXTINGUISHERS WHERE SHOWN ON DRAWINGS. FIRE EXTINGUISHERS SHALL HAVE A MINIMUM RATING OF 3-A: 40-B:C.
11. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS AND SUBMITTALS TWO WEEKS PRIOR TO PROCUREMENT. PLEASE CONTACT ENGINEER AT (907) 277-2120.

## FOUNDATIONS AND EARTHWORK

1. FOUNDATIONS ARE BASED ON GEOTECHNICAL RECOMMENDATIONS FROM DUANE MILLER AND ASSOCIATES IN A REPORT DATED MAY 15, 2003 AND A GEOTECHNICAL MEMORANDUM FROM LORIE DILLEY OF HATTENBURG DILLEY & LINNELL DATED JUNE 23, 2004. CONTRACTOR SHALL COMPLY WITH THE HDL MEMO.
2. NFS MATERIAL: SHALL BE INORGANIC SAND AND GRAVEL WITH LESS THAN 6% BY WEIGHT, BASED ON THE MINUS 3/4 INCH PORTION, PASSING THE No. 200 SIEVE.
3. COMPACTION: PLACE ALL FILL IN 8" LIFTS AND COMPACT FILL MATERIAL AS SHOWN ON THE DRAWINGS. MAXIMUM DENSITY DETERMINED BY ASTM D-1557 (MODIFIED PROCTOR).
4. NON-WOVEN GEOTEXTILE: NON-WOVEN, BLACK, FUEL RESISTANT, GEOTEXTILE FABRIC. INSTALL WITH 3" MINIMUM OVERLAP AT ALL JOINTS. AMOCO NO. 4516, OR APPROVED EQUAL.
5. RIGID INSULATION: EXPANDED POLYSTYRENE BOARDS MEASURING 2'x2'x8", 40 PSI COMPRESSIVE STRENGTH AT 5% DEFORMATION, INSTALL IN TWO LAYERS WITH STAGGERED JOINTS (1' MINIMUM JOINT OVERLAP). INSULFOAM, OR APPROVED EQUAL.
6. WATERPROOFING MEMBRANE: SELF-ADHESIVE RUBBERIZED ASPHALT/POLYETHYLENE WATERPROOFING MEMBRANE, WHICH MEETS OR EXCEEDS PHYSICAL PROPERTIES OF BITUTHENE 3000, OR BITUTHENE LOW TEMPERATURE. USE LOW TEMPERATURE WHEN INSTALLING IN AMBIENT TEMPERATURES LESS THAN 40° F

## WOOD

1. ALL METAL TO WOOD OR WOOD TO WOOD CONNECTIONS SHALL BE STANDARD OR AS DETAILED ON THE DRAWINGS USING HOT DIPPED GALVANIZED A307

BOLTS. ALL BOLTS AND LAG SCREW HEADS IN CONTACT WITH WOOD SHALL HAVE PLATES OR WASHERS. ALL FASTENERS USED FOR TREATED MATERIAL SHALL BE GALVANIZED.

2. PRESSURE TREATED TIMBERS: HEMFIR NO. 2, OR BETTER, WITH PRESSURE TREATMENT IN ACCORDANCE WITH AWP A STD LP-22 (0.60 MIN. RETENTION) FOR GROUND CONTACT. FIELD TREAT CUT ENDS IN ACCORDANCE WITH AWP A STD. M4.

## DESIGN SERVICE CONDITIONS

1. ALL FUEL SYSTEM COMPONENTS SHALL BE LISTED AND LABELED, AND SHALL BE RATED FOR THE FOLLOWING SERVICE CONDITIONS:
  - FLUID: DIESEL FUEL AND AUTOMOTIVE GASOLINE WITH ADDITIVES
  - OPERATING TEMPERATURE RANGE: -50° F TO + 100° F
  - DESIGN WORKING PRESSURE: 150 PSIG (MIN.) WORKING PRESSURE AT -50° F

## PIPING AND FITTINGS

1. DESIGN, CONSTRUCTION, INSPECTION AND TESTING OF ALL PRESSURE PIPING SHALL COMPLY WITH ASME B31.4-2002, "LIQUID TRANSPORTATION SYSTEMS FOR LIQUID HYDROCARBONS AND OTHER LIQUIDS." AND WITH API STANDARD 1104 (19TH ED.) "WELDING OF PIPELINES AND RELATED FACILITIES."
2. ALL PIPING FLANGES AND FITTINGS SHALL BE SCHEDULE 80, SEAMLESS, FORGED STEEL, ASTM A106B.
3. ELBOWS, TEES, AND REDUCERS SHALL BE SCHEDULE 80, SEAMLESS, ASTM A234, GRADE WPB, SCHEDULE AND BORE SHALL MATCH ADJACENT PIPING. ELBOWS SHALL BE LONG RADIUS.
4. WELD FITTINGS: PROVIDE BUTT WELD FITTINGS FOR ALL PIPING 2" DIAMETER AND LARGER AND SOCKET WELD FITTINGS FOR ALL PIPING 1 1/2" DIAMETER AND SMALLER. PROVIDE ASTM A234 SEAMLESS DOMESTIC BUTT WELD CARBON STEEL FITTINGS, AND ASTM A105 DOMESTIC FORGED STEEL FLANGES, ANSI 150 LBS. RAISED FACE, BORE AND SCHEDULE TO MATCH PIPE. ASTM A105 SOCKET WELD FITTINGS, CLASS 3000 MINIMUM.
5. FLANGES SHALL BE ANSI CLASS 150 LBS., ASTM A350-LF2.
6. GASKETS SHALL BE SPIRAL WOUND FUEL RESISTANT AND RATED FOR -50° F SERVICE.
7. FLANGE NUTS AND STUDS SHALL BE A320, L7, PLATED, CASE HARDENED, CORROSION RESISTANT.
8. PIPE AND FITTINGS SHALL BE FULL PENETRATION BUTT WELDED. THREADED FITTINGS ARE NOT ALLOWED EXCEPT WHERE SHOWN ON THE DRAWINGS OR REQUIRED FOR CONNECTION TO EQUIPMENT.
9. PROVIDE FLANGED CONNECTIONS OR UNIONS TO ALLOW REMOVAL OF INDIVIDUAL COMPONENTS.
10. WELDING PROCEDURES SHALL INCLUDE CHARPY NOTCHED BAR IMPACT TESTING OF WELDS AND HEAT AFFECTED ZONES IN ACCORDANCE WITH ASTM A106B. ACCEPTANCE REQUIREMENTS SHALL BE THE SAME AS THE PIPE BEING WELDED.
11. CONSTRUCTOR SHALL PROVIDE 100% VISUAL INSPECTION OF ALL WELD JOINTS. SUBMIT INSPECTION RECORDS TO THE ENGINEER.
12. CONSTRUCTOR SHALL PERFORM A ONE HOUR AIR OR HYDRO TEST AT 110 PSI. AIR TESTING IS HAZARDOUS IN NATURE AS AIR IS COMPRESSIBLE AND MAY BE RELEASED EXPLOSIVELY SHOULD THE PIPELINE RUPTURE. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING LIFE AND PROPERTY DURING TESTING. SHOULD HYDRO TESTING BE USED ALL WATER MUST BE REMOVED FROM THE PIPING AFTER TESTING. REPAIR ALL LEAKS AND RETEST AS NECESSARY.
13. PROVIDE PIPING SUPPORTS AS SHOWN ON THE DRAWINGS AND AS REQUIRED TO ADEQUATELY SUPPORT PIPING. PROVIDE UNISTRUT P1000, P5000 AND PIPE CLAMPS AND GRINNEL FIGURE 262 PIPE STRAPS, OR APPROVED EQUAL.
14. LABEL ALL PIPING WITH FLUID CONTENTS, AT 150' INTERVALS.
15. ALL UNDERGROUND PIPE COATING SHALL BE U.V. RESISTANT YELLOW HDPE COATING OVER RUBBER/ASPHALT UNDERCOATING EXTRUDED OVER STEEL SHOT OR GRIT BLAST CLEANED PIPE EXTERIOR IN ACCORDANCE WITH NACE STANDARD RPO 185-85. OREGON SANDBLASTING OR EQUAL PROVIDE HEAT SHRINK SLEEVES AT ALL JOINTS. RAYCHEM WPC 60 OR EQUAL. PROVIDE HEAT SHRINKABLE PIPE WRAP TAPE AT ALL BELOW WELD FITTINGS, RAYCHEM FLEXCLAD, OR EQUAL, AFTER FITTING CLOSURES ARE INSTALLED, JEEP TEST 100% OF BURIED PIPELINE COATING AT 5000 VOLTS AND REPAIR ANY COATING FLAWS.
16. INSTALL DIELECTRIC FLANGE SETS BETWEEN ABOVE AND BELOW GRADE SECTIONS OF PIPE. GROUND ALL ABOVE GRADE PIPE SECTIONS.

## MECHANICAL EQUIPMENT

1. PRESSURE RELIEF VALVE: FLANGED, CARBON STEEL BODY PRESSURE RELIEF VALVE SET AT 75 PSI. HYDRO-SEAL MODEL NO. 30FL1CV-00, OR APPROVED EQUAL.
2. FLEX FITTINGS: ANSI CLASS 150 LBS., SS ANNULAR CORRUGATED INNER CORE WITH STAINLESS STEEL BRAIDED COVER, FIXED FLANGED END BY FLOATING FLANGED END UNLESS SHOWN OTHERWISE. METRAFLEX METRA-MINI, OR APPROVED EQUAL. FLEX CONNECTORS SHALL BE PRESSURE TESTED BY THE MANUFACTURER TO 110 PSI FOR ONE HOUR AND DELIVERED WITH PRESSURE TEST CERTIFICATE.

## PAINTING

1. ALL ABOVEGROUND PIPING AND STRUCTURAL STEEL NOT SHOWN AS GALVANIZED SHALL BE PAINTED, UNLESS OTHERWISE NOTED. PAINTING SHALL CONSIST OF TWO COATS OF DEVOE BAR RUST 233H (4-6 MILS DFT), AND TOP COATED WITH DEVOE DEVTHANE 389 (2-3 MILS DFT), OR APPROVED EQUAL. COATINGS AND SURFACE PREPARATIONS SHALL BE SAND BLASTED TO SSPC-SP-10 (NEAR WHITE BLAST). PROVIDE ONE GALLON OF TOUCH-UP PAINT PER TANK. SEAL WELD ALL WELDED JOINTS TO ALLOW CONTINUOUS COATING APPLICATION. COLOR SHALL BE OFF-WHITE, EXCEPT WHERE NOTED OTHERWISE.

## FENCING

1. CHAIN LINK FENCE: PROVIDE A COMPLETE FENCING SYSTEM WITH BARBED WIRE AND GATES AS SHOWN ON PLANS. MATERIALS FOR THE FENCE SHALL CONFORM TO THE MOST CURRENT REVISION OF THE MUNICIPALITY OF ANCHORAGE, ALASKA STANDARD SPECIFICATIONS, FOR CHAIN LINK FENCE. PROVIDE ALL POST AND GATE PIPE DIAMETERS SUITABLE FOR 8-FOOT HIGH FENCE REGARDLESS OF ACTUAL FENCE HEIGHT. CHAIN LINK MESH SHALL BE 2-INCH x 2-INCH.

REVISIONS	MARK	DATE	DESCRIPTION
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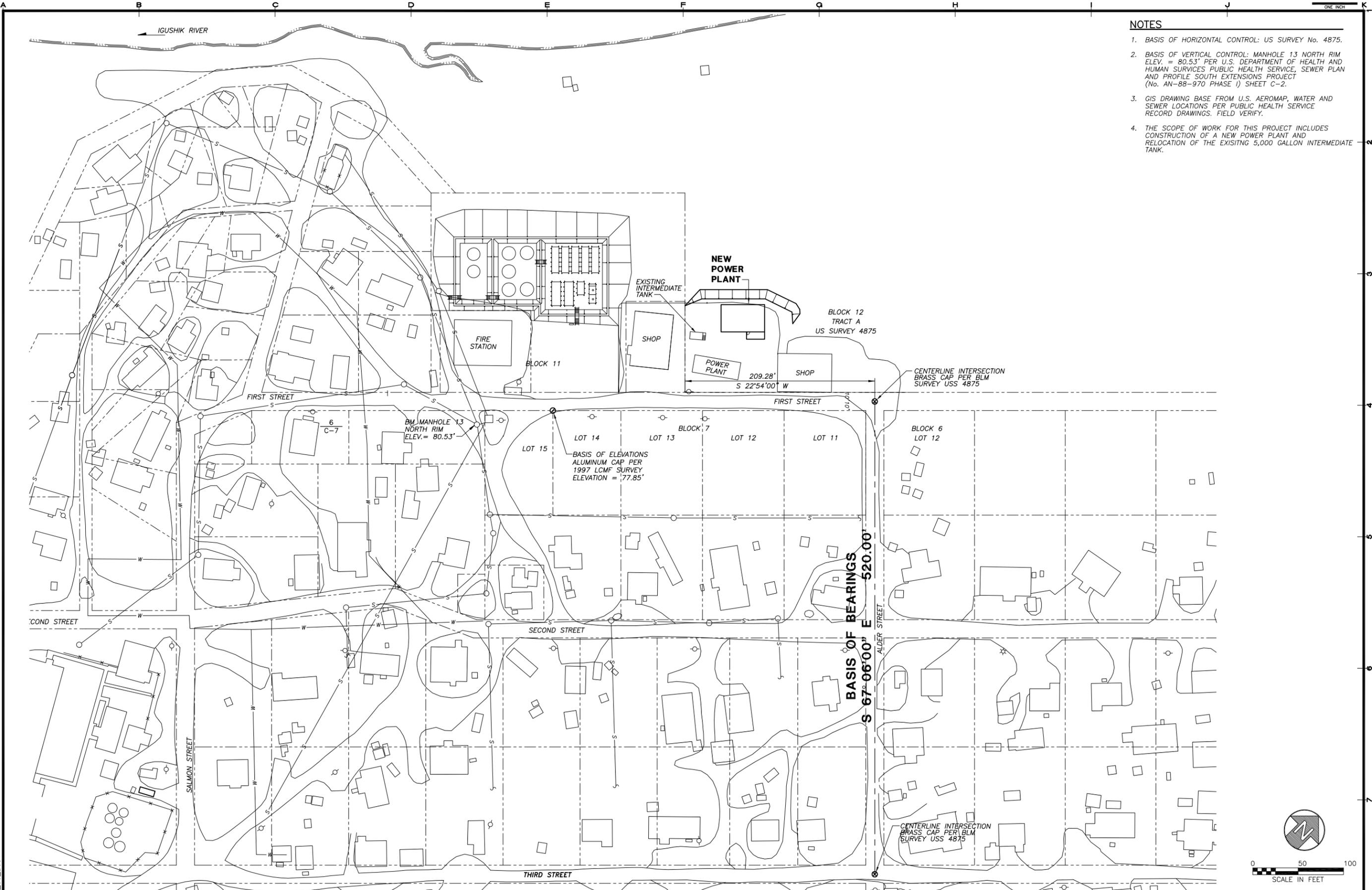
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MANOKOTAK RURAL POWER SYSTEM UPGRADE FOR:  
**AIDEA/AEA**  
MANOKOTAK, ALASKA

SHEET TITLE	
ABBREVIATIONS, LEGEND, AND SPECIFICATIONS	
SHEET	
G-1	
DRAWN BY: KK	CHECKED BY: LMH
DATE: 07/15/04	SCALE: NONE
JOB NUMBER: 04-005	

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LAYOUT: G-1  
XREF: 04005\_00\_B001

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 LAYOUT: Layout1  
 VIEW: CO-1\_F\_D0800, CO-1\_H\_L5000, CO-1\_L\_X7700  
 XREF: 04005\_00\_1B01



- NOTES**
1. BASIS OF HORIZONTAL CONTROL: US SURVEY No. 4875.
  2. BASIS OF VERTICAL CONTROL: MANHOLE 13 NORTH RIM ELEV. = 80.53' PER U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES PUBLIC HEALTH SERVICE, SEWER PLAN AND PROFILE SOUTH EXTENSIONS PROJECT (No. AN-88-970 PHASE 1) SHEET C-2.
  3. GIS DRAWING BASE FROM U.S. AEROMAP, WATER AND SEWER LOCATIONS PER PUBLIC HEALTH SERVICE RECORD DRAWINGS. FIELD VERIFY.
  4. THE SCOPE OF WORK FOR THIS PROJECT INCLUDES CONSTRUCTION OF A NEW POWER PLANT AND RELOCATION OF THE EXISTING 5,000 GALLON INTERMEDIATE TANK.

REVISIONS	MARK	DATE	DESCRIPTION
1			
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**1 PROJECT LAYOUT PLAN**  
 C-1 SCALE: 1" = 50'

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**AIDEA/AEA**  
 MANOKOTAK, ALASKA

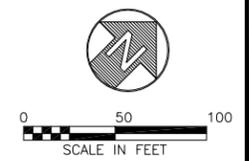
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**PROJECT LAYOUT  
 PLAN AND SURVEY  
 CONTROL**

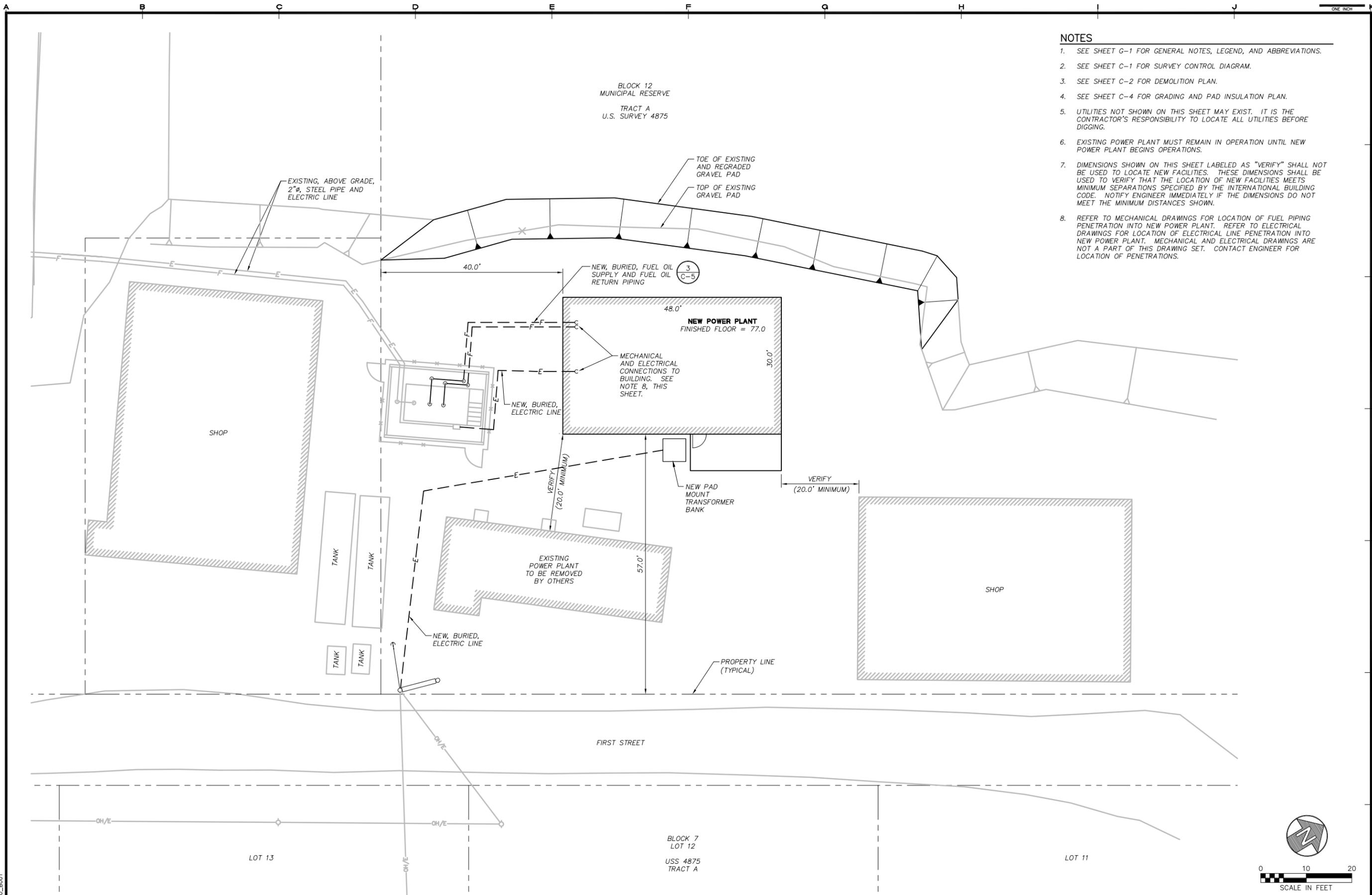
SHEET  
**C-1**

DRAWN BY: **KK** CHECKED BY: **LMH**

DATE: **07/15/04** SCALE: **AS NOTED**

JOB NUMBER: **04-005**





- NOTES**
- SEE SHEET C-1 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
  - SEE SHEET C-1 FOR SURVEY CONTROL DIAGRAM.
  - SEE SHEET C-2 FOR DEMOLITION PLAN.
  - SEE SHEET C-4 FOR GRADING AND PAD INSULATION PLAN.
  - UTILITIES NOT SHOWN ON THIS SHEET MAY EXIST. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES BEFORE DIGGING.
  - EXISTING POWER PLANT MUST REMAIN IN OPERATION UNTIL NEW POWER PLANT BEGINS OPERATIONS.
  - DIMENSIONS SHOWN ON THIS SHEET LABELED AS "VERIFY" SHALL NOT BE USED TO LOCATE NEW FACILITIES. THESE DIMENSIONS SHALL BE USED TO VERIFY THAT THE LOCATION OF NEW FACILITIES MEETS MINIMUM SEPARATIONS SPECIFIED BY THE INTERNATIONAL BUILDING CODE. NOTIFY ENGINEER IMMEDIATELY IF THE DIMENSIONS DO NOT MEET THE MINIMUM DISTANCES SHOWN.
  - REFER TO MECHANICAL DRAWINGS FOR LOCATION OF FUEL PIPING PENETRATION INTO NEW POWER PLANT. REFER TO ELECTRICAL DRAWINGS FOR LOCATION OF ELECTRICAL LINE PENETRATION INTO NEW POWER PLANT. MECHANICAL AND ELECTRICAL DRAWINGS ARE NOT A PART OF THIS DRAWING SET. CONTACT ENGINEER FOR LOCATION OF PENETRATIONS.

REVISIONS	MARK	DATE	DESCRIPTION
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MANOKOTAK RURAL POWER SYSTEM UPGRADE FOR:

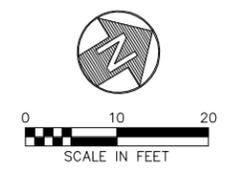
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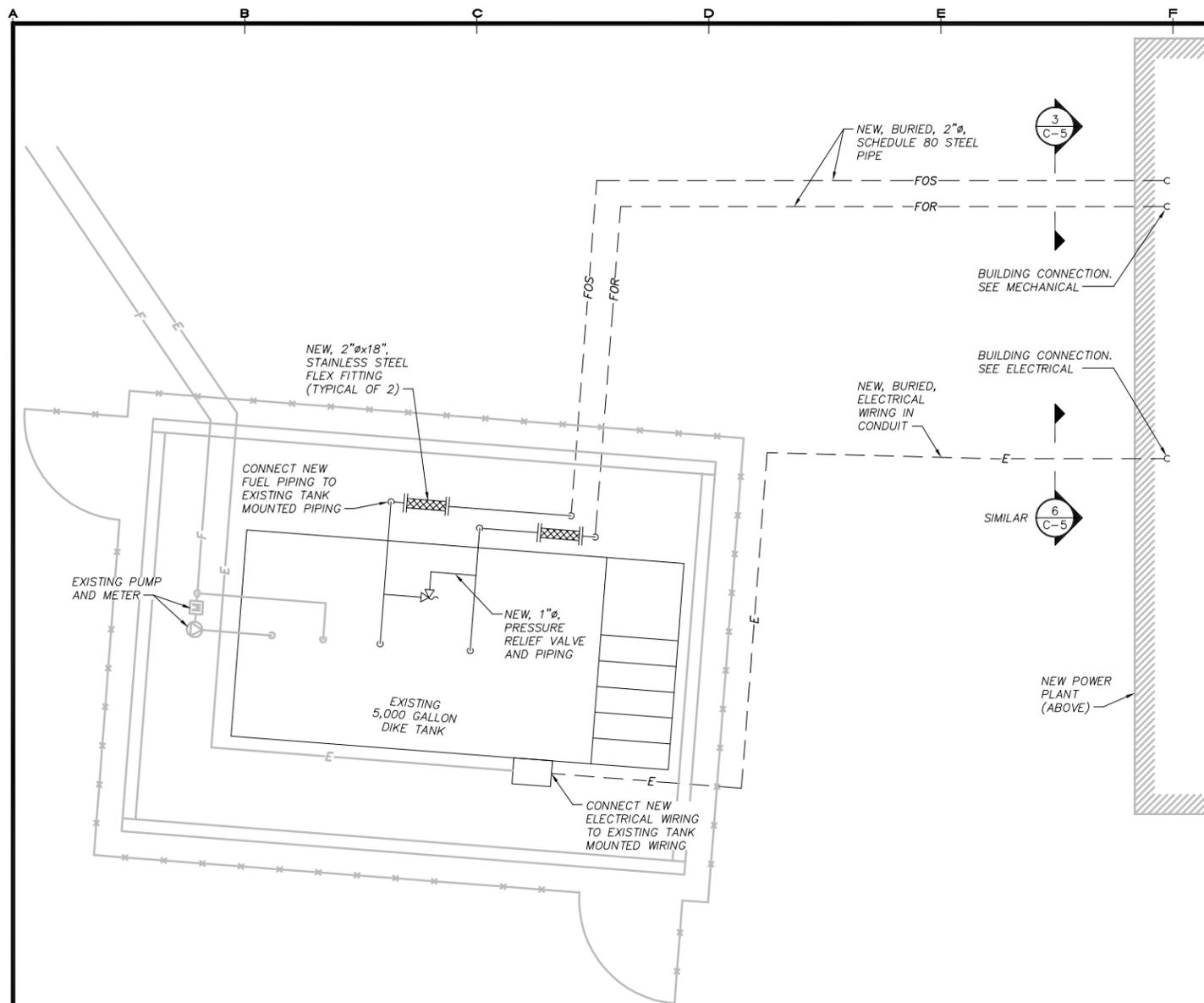
MANOKOTAK, ALASKA

SHEET TITLE <b>SITE PLAN</b>	
SHEET <b>C-3</b>	
DRAWN BY: <b>KK</b>	CHECKED BY: <b>LMH</b>
DATE: <b>07/15/04</b>	SCALE: <b>AS NOTED</b>
JOB NUMBER: <b>04-005</b>	

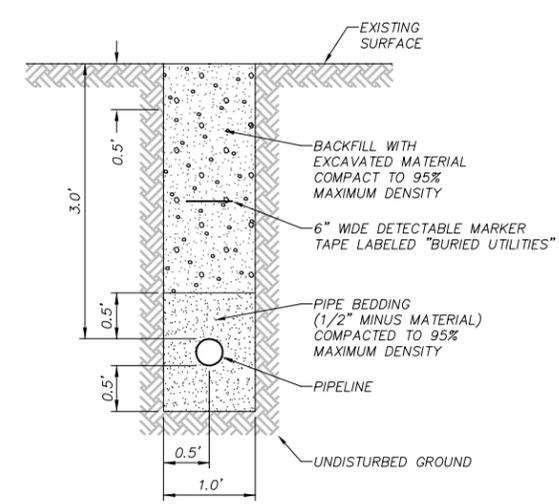
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 LAYOUT: Site Plan  
 XREF: 04005\_00\_B001

**1**  
C-3  
**SITE PLAN**  
SCALE: 1" = 10'

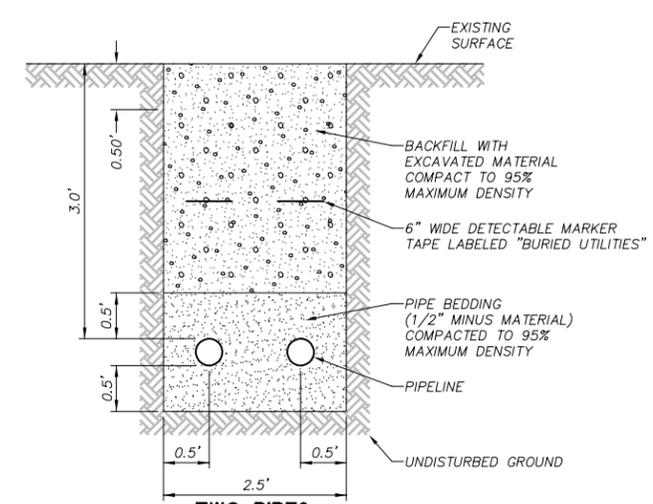




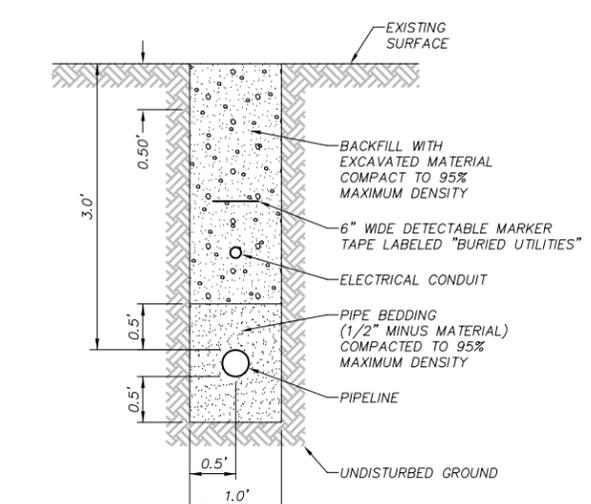
**1 PIPING PLAN**  
C-5 SCALE: 1" = 3'



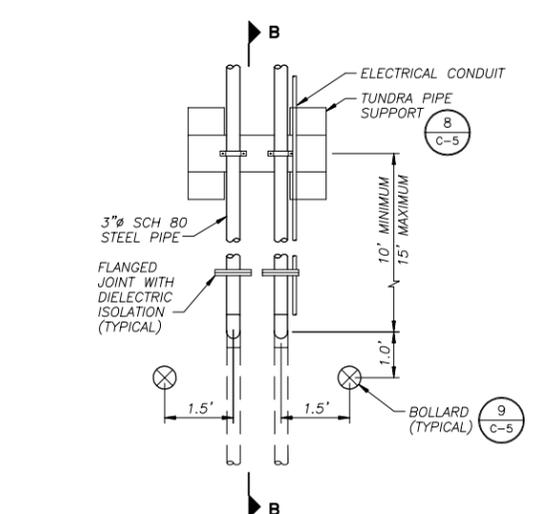
**2 TRENCH SECTION**  
C-5 SCALE: 1" = 1'



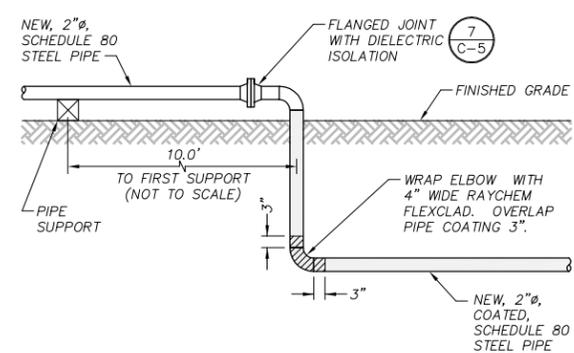
**3 TRENCH SECTION**  
C-5 SCALE: 1" = 1'



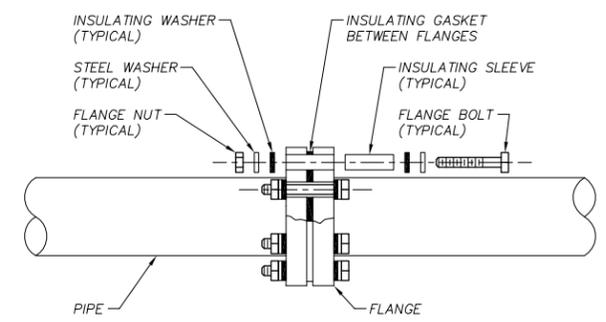
**6 ONE PIPE AND ELECTRICAL CONDUIT TRENCH SECTION**  
C-5 SCALE: 1" = 1'



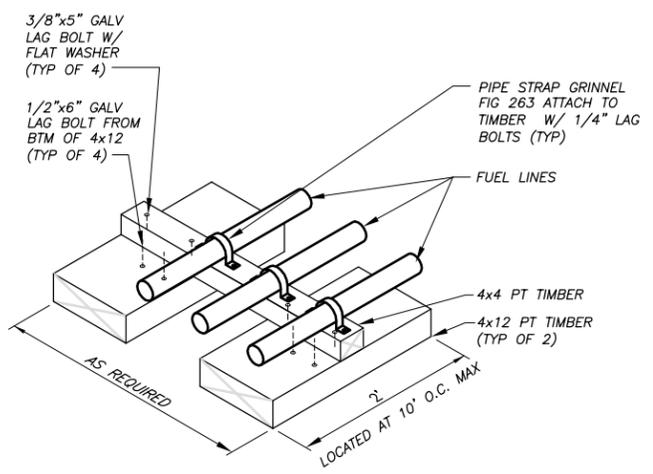
**4 PIPE TRANSITION PLAN**  
C-5 SCALE: 1" = 2'



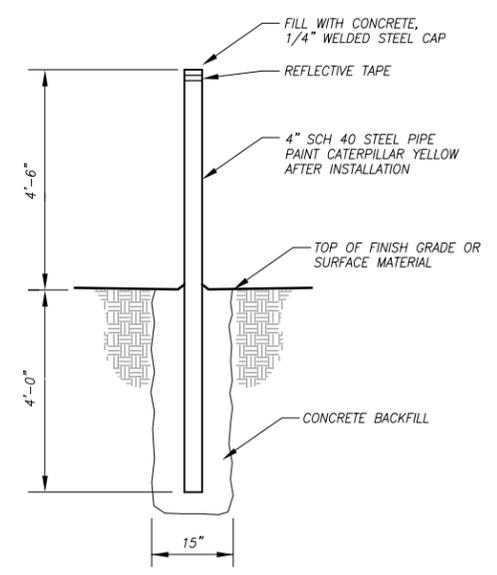
**5 PIPE TRANSITION DETAIL**  
C-5 SCALE: 1" = 2'



**7 DIELECTRIC FITTING**  
C-5 SCALE: 1" = 1'



**8 PIPE SUPPORT**  
C-5 SCALE: 1" = 1'



**9 BOLLARD DETAIL**  
C-5 SCALE: NONE

REVISIONS	MARK	DATE	DESCRIPTION
1			
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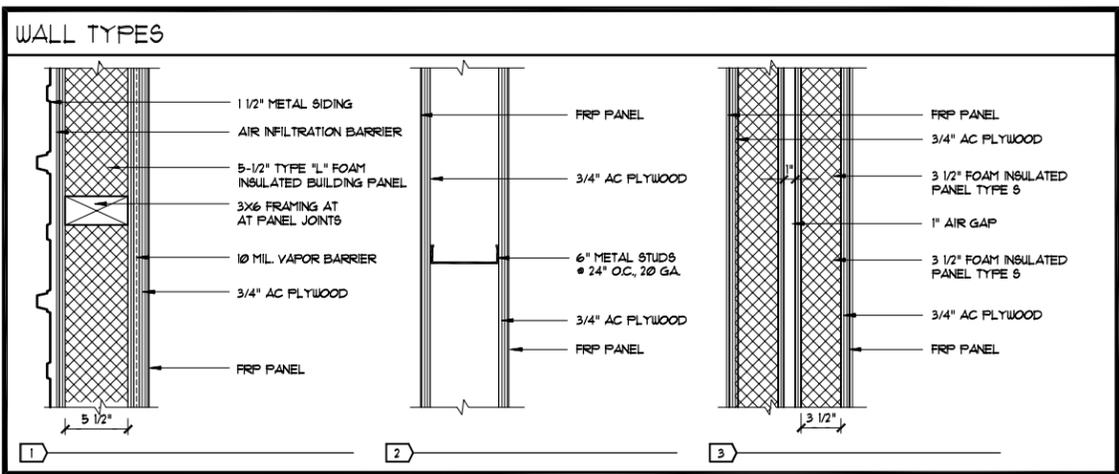
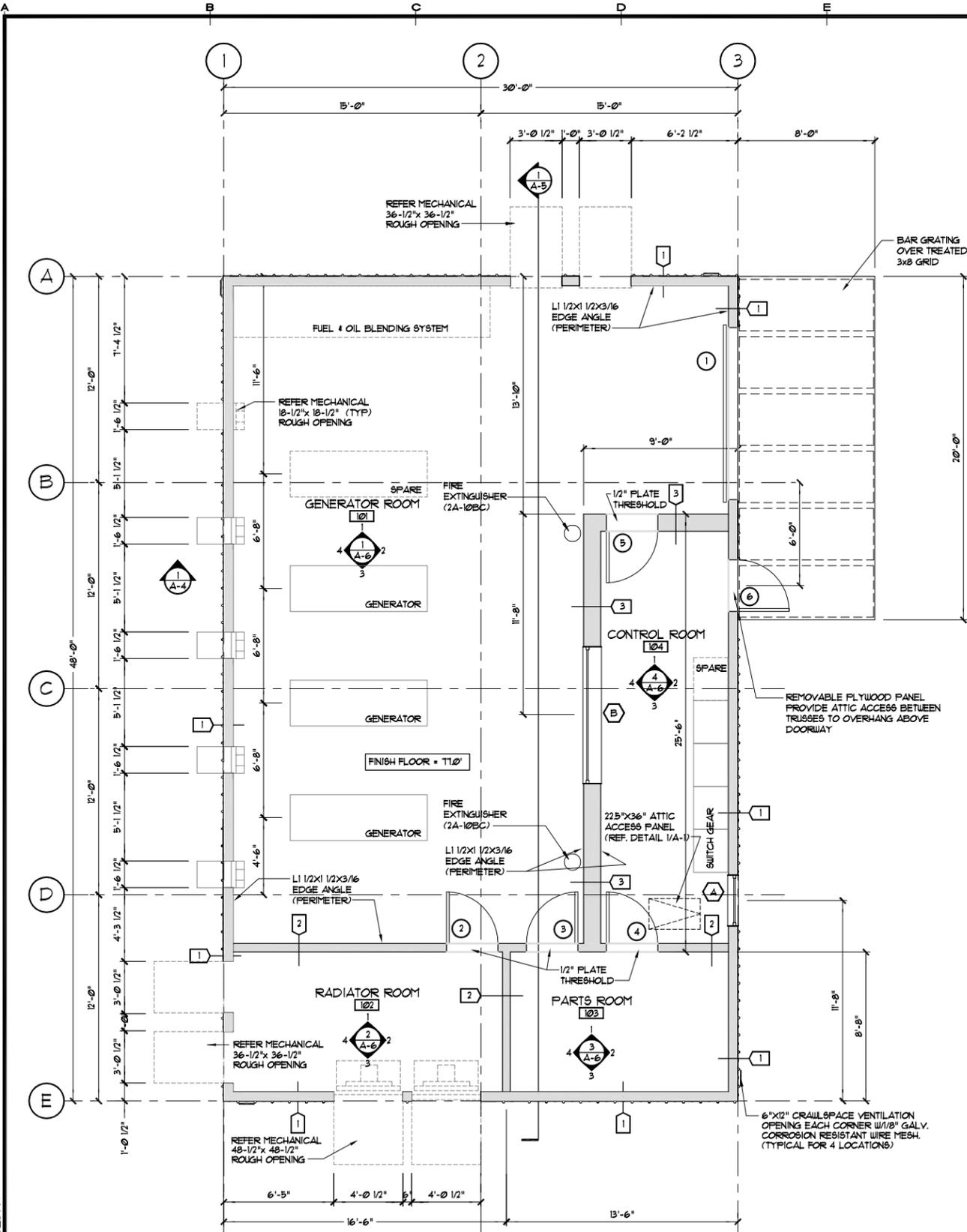
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MANOKOTAK RURAL POWER SYSTEM UPGRADE FOR:  
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SHEET TITLE <b>PIPING PLAN AND DETAILS</b>	
SHEET <b>C-5</b>	
DRAWN BY: <b>KK</b>	CHECKED BY: <b>LMH</b>
DATE: <b>07/15/04</b>	SCALE: <b>AS NOTED</b>
JOB NUMBER: <b>04-005</b>	

H:\jobs\04-005 Manokotak Powerhouse Design\CAD\DRAWINGS\04005\_01\_C05\_1=40\_07/15/04 at 12:35 by rfh  
LAYOUT: Layout\_1  
XREF: 04005\_00\_B001

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 LAYOUT: LAYOUT  
 XREF: 04005-XFRAMING\_04005\_00\_B001



**CODE ANALYSIS**

REFERENCE: INTERNATIONAL BUILDING CODE 2000 EDITION (IBC-2000)

OCCUPANCY CLASSIFICATION:  
 GROUP F-1: FACTORY INDUSTRIAL MODERATE HAZARD - ELECTRICAL POWER HOUSE (REF: IBC-2000, SEC. 306.2)  
 GROUP U: (2) 12,000 GALLON FUEL STORAGE TANKS (REF: IBC-2000, SEC. 312)

TYPE OF CONSTRUCTION:  
 TYPE V-B (NON-RATED) (REF: IBC-2000, TABLE 601)  
 (REF: IBC-2000, SEC. 602.5)

BUILDING HEIGHTS AND AREAS (REF: IBC-2000, TABLE 503):  

GROUP F-1:	ALLOWED	40'-0"	1 STORY	8,500 S.F.
	PROVIDED	23'-6"	1 STORY	1,440 S.F.
GROUP U:	ALLOWED	40'-0"	1 STORY	5,500 S.F.
	PROVIDED	(2) 12,000 GALLON FUEL STORAGE TANKS		

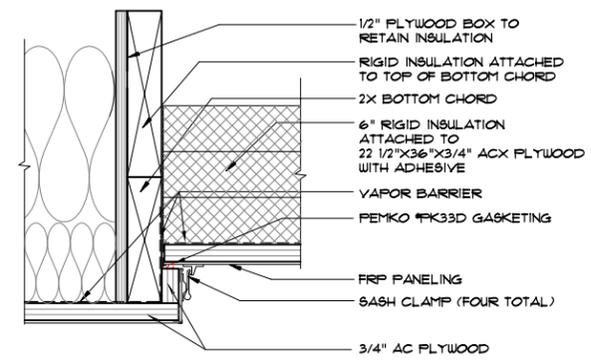
LOCATION ON PROPERTY (REF: IBC-2000, TABLE 503):  
 ASSUMED PROPERTY LINE LOCATED 10.5' NORTH OF GROUP F-1 & 10.5' SOUTH OF GROUP U.  
 GROUP F-1: NORTH: 10.5' EAST: 10' SOUTH: 35.5' WEST: 330'  
 GROUP U: NORTH: 706' EAST: 10' SOUTH: 10.5' WEST: 330'

FIRE RESISTANCE RATING REQUIREMENTS (REF: IBC-2000, TABLE 601):  
 STRUCTURAL FRAME: 0 HR  
 BEARING WALLS - EXTERIOR & INTERIOR: 0 HR  
 NONBEARING WALLS:  
 EXTERIOR - ≥10 <30: 0 HR  
 INTERIOR: 0 HR  
 FLOOR CONSTRUCTION: 0 HR  
 ROOF CONSTRUCTION: 0 HR

FIRE PROTECTION SYSTEM (REF: IBC-2000, SEC. 903.2.3):  
 FIRE PROTECTION NOT REQUIRED AS THE LISTED CONDITIONS DO NOT APPLY.

OCCUPANT LOAD (REF: IBC-2000, TABLE 1003.2.2.2):  
 OCCUPANT LOAD FACTORS:  
 INDUSTRIAL USE = 100 S.F./PERSON = 247 S.F./100 S.F. PER OCCUPANT = 2.5 OCCUPANTS  
 MECHANICAL/STORAGE = 300 S.F./PERSON = 1,193 S.F./300 S.F. PER OCCUPANT = 4.0 OCCUPANTS  
 TOTAL OCCUPANT LOAD = 7 OCCUPANTS

MEANS OF EGRESS - TRAVEL DISTANCE (REF: IBC-2000, TABLE 1005.2.2):  
 REQUIRED: 75'  
 PROVIDED: 65'



REVISIONS

MARK	DATE	DESCRIPTION
1		
2		
3		
4		
5		

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SHEET TITLE: FLOOR PLAN WALL TYPES CODE ANALYSIS MISC. DETAILS

SHEET: A-1

DRAWN BY: SDF CHECKED BY: DGT  
 DATE: 07/15/04 SCALE: AS NOTED  
 JOB NUMBER: 04-005