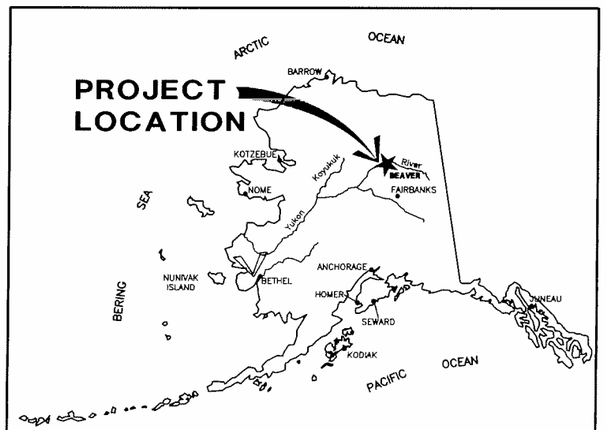
VILLAGE OF BEAVER
SANITATION IMPROVEMENTS

HAUL GARAGE

APRIL 2005

In Cooperation with the State of Alaska
Department of Environmental Conservation
VILLAGE SAFE WATER PROGRAM
U.S. Department of Agriculture, Rural
Economic and Community Development



Location Map

Project Number (Consultant) 9966 (VSW) _____
VSW Project Engineer ROGER BURLEIGH
Contractor _____
Final Design (Date) _____
ADEC Approval (Date) _____
Construction Period (From) _____ (To) _____
As-Builts (Date) _____

CRW
ENGINEERING GROUP, LLC
3940 Arctic Blvd. Suite 300-Anchorage, Alaska 99503
PHONE: (907) 562-3252-FAX: (907) 561-2273

STATE OF ALASKA 49TH
MICHAEL G. LEGUINECHE
CE 11006
4-13-05
REGISTERED PROFESSIONAL ENGINEER

Consultant

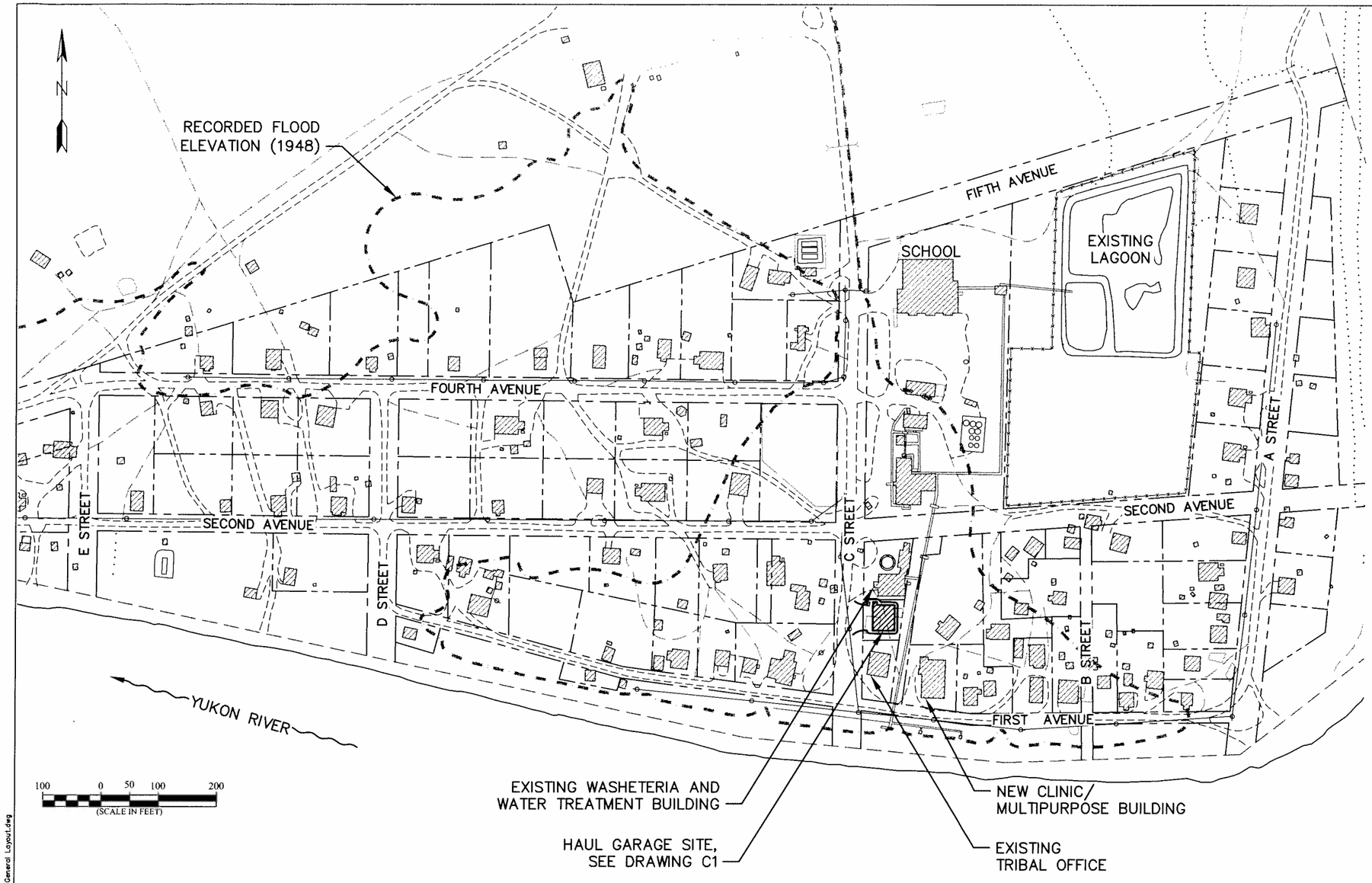
Status:
ISSUED FOR CONSTRUCTION

Date:
APRIL 2005

Project Status

SHEET INDEX

File: J:\Jobsdata\9966 Beaver\CADD\Drawings\Amendment 4 (Haul System)\Garage2\G1 Cover.dwg



LEGEND

SYMBOL PROPOSED (P)	SYMBOL EXISTING (E)	PLAN LEGEND
		RIGHT OF WAY
		PROPERTY LINE
		EDGE OF GRAVEL ROAD
		TRAIL
		CULVERT
		UTILITY POLE
		YARD LIGHT
		TREE OR BRUSH LINE
		FENCE
		OVERHEAD UTILITIES
		OVERHEAD ELECTRIC LINE
		OVERHEAD TELEPHONE
		SANITARY SEWER FORCE MAIN
		CUT LIMIT
		FILL LIMIT
		BOLLARD
		BLM ALUMINUM CAPPED REBAR

SHEET LEGEND

- A / XX — Alphabetic reference for section view; Sheet where section view is located
- 1 / XX — Numeric reference for detail view; Sheet where detail view is located
- View title: Title — A / XX (or 1) — Reference for section or detail view; Sheet where section or detail view was first referenced

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE DONE IN A WORKMANLIKE MANNER, TO INDUSTRY STANDARDS AND IN CONFORMANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A CLEAN SET OF DRAWINGS SHOWING AS-BUILT INFORMATION. DRAWINGS SHALL BE KEPT CURRENT IN RED PENCIL ON A DAILY BASIS IN A NEAT, LEGIBLE FASHION. AS-BUILT DRAWINGS AND MANUFACTURER'S LITERATURE FROM INSTALLED EQUIPMENT SHALL BE GIVEN TO THE ENGINEER UPON COMPLETION OF THE WORK.
3. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY CUSTOMERS 72 HOURS IN ADVANCE OF ANY WATER OR SEWER SERVICE INTERRUPTIONS.
4. COORDINATE ALL WORK WITH THE BEAVER TRIBAL COUNCIL.
5. VERIFY LOCATIONS AND ELEVATIONS PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR TO VERIFY NVERTS OF ALL DRAINS TO ASSURE POSITIVE FLOW TO SUMP.
6. UTILIZE EXCAVATED FILL TO THE MAXIMUM EXTENT POSSIBLE FOR COMMON FILL. STRUCTURAL GRAVEL FILL AND ADDITIONAL COMMON FILL MATERIALS SHALL BE OBTAINED FROM LOCAL SOURCES.
7. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE RETURNED TO PRE-CONSTRUCTION CONDITION OR BETTER. CONSTRUCTION DEBRIS WILL BE REMOVED FROM THE PROJECT AREA AND DISPOSED OF AS DIRECTED BY THE ENGINEER.

VILLAGE SAFE WATER

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BEAVER SANITATION IMPROVEMENTS

HAUL GARAGE

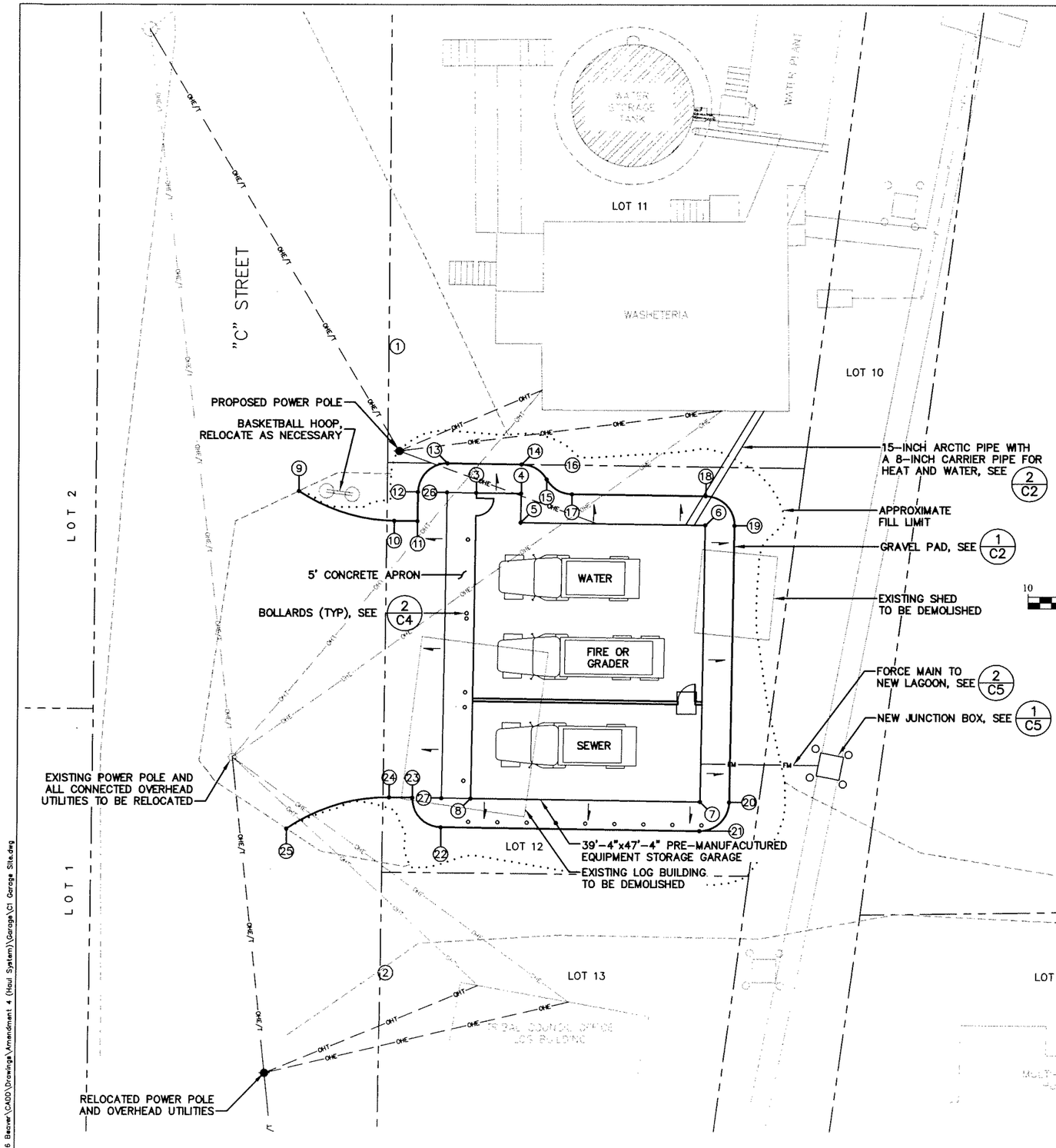
VICINITY MAP, NOTES & LEGEND

REVISION	BY	DATE

Project No. 9966
Date APRIL 2005
Designed MJL
Drawn MJL
Approved DSY

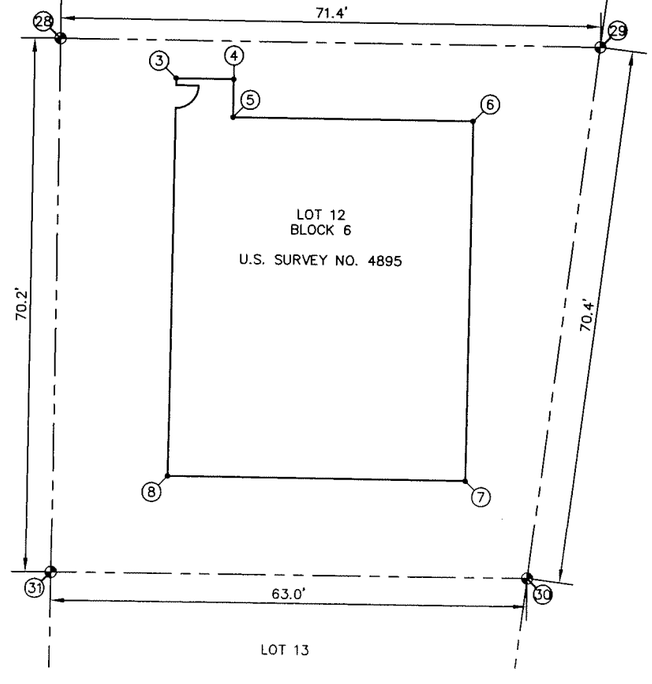
Sheet No. G2
SHEET 2 OF 2

File: J:\Jobsdata\9966 Beaver\CADD\Drawings\Amendment 4 (Haul System)\Garage\G2 General Layout.dwg



SITE PLAN

POINT SUMMARY				
POINT	NORTHING	EASTING	ELEVATION	REMARKS
1	913.70	915.99	100.23'	30' RADIUS
2	806.37	914.51	99.55'	30' RADIUS
3	888.51	929.64	102.00'	BLDG CORNER
4	888.40	937.31	102.00'	BLDG CORNER/5' RADIUS
5	883.40	937.24	102.00'	BLDG CORNER/5' RADIUS
6	882.97	968.90	102.00'	BLDG CORNER/5' RADIUS
7	835.64	968.25	102.00'	BLDG CORNER/5' RADIUS
8	836.18	928.92	102.00'	BLDG CORNER/5' RADIUS
9	888.81	899.23	100.66'	
10	883.70	915.57	101.63'	
11	883.65	919.57	101.85'	
12	888.65	919.64	101.85'	
13	893.58	924.71	101.85'	
14	893.40	937.38	101.85'	
15	890.84	941.67	101.85'	
16	893.28	946.04	100.31'	5' RADIUS
17	888.28	945.97	101.85'	
18	887.97	968.97	101.85'	
19	882.90	973.90	101.85'	
20	835.57	973.25	101.85'	
21	830.64	968.19	101.85'	
22	831.25	923.86	101.85'	
23	836.32	918.93	101.85'	
24	836.37	914.93	101.57'	
25	831.01	897.40	100.30'	
26	888.58	924.64	101.90'	APRON CORNER/5' RADIUS
27	836.25	923.93	101.90'	APRON CORNER/5' RADIUS
28	893.71	914.39	100.37'	ALUMUMINUM CAPPED REBAR
29	892.74	985.76	99.84'	ALUMUMINUM CAPPED REBAR
30	822.89	976.68	99.28'	ALUMUMINUM CAPPED REBAR
31	823.55	913.73	99.50'	ALUMUMINUM CAPPED REBAR



SURVEY CONTROL

VILLAGE SAFE WATER

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BEAVER SANITATION IMPROVEMENTS
HAUL GARAGE
SITE PLAN & SURVEY CONTROL

REVISION	BY	DATE

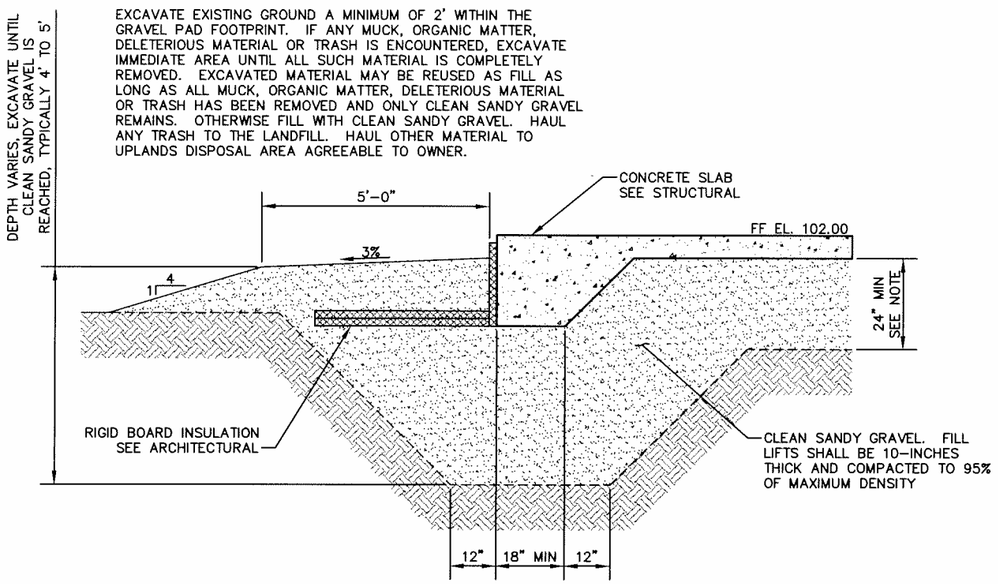
Project No. 9966
Date APRIL 2005
Designed MJL
Drawn MJL
Approved DSY

Sheet No. C1
SHEET 1 OF 5

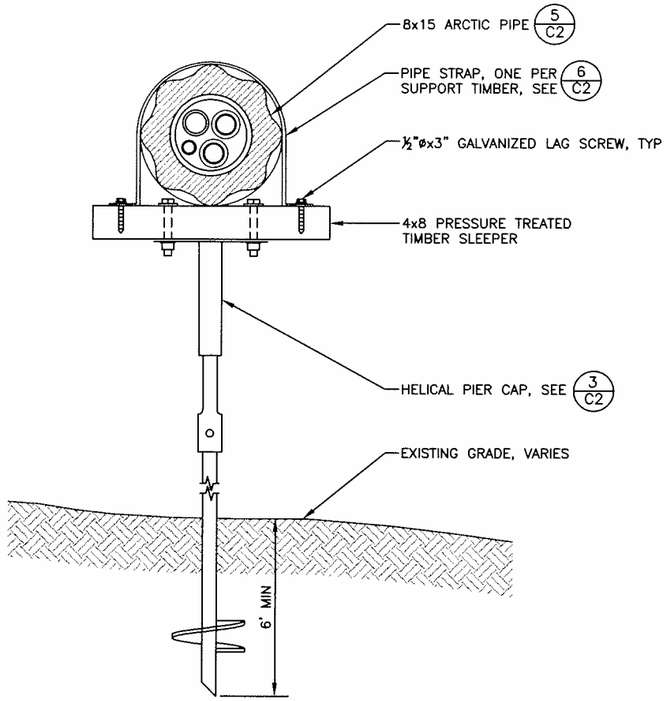
File: J:\Jobdata\9966 Beaver\CADD\Drawings\Amendment 4 (Haul System)\Garage\C1 Garage Site.dwg

NOTE:

EXCAVATE EXISTING GROUND A MINIMUM OF 2' WITHIN THE GRAVEL PAD FOOTPRINT. IF ANY MUCK, ORGANIC MATTER, DELETERIOUS MATERIAL OR TRASH IS ENCOUNTERED, EXCAVATE IMMEDIATE AREA UNTIL ALL SUCH MATERIAL IS COMPLETELY REMOVED. EXCAVATED MATERIAL MAY BE REUSED AS FILL AS LONG AS ALL MUCK, ORGANIC MATTER, DELETERIOUS MATERIAL OR TRASH HAS BEEN REMOVED AND ONLY CLEAN SANDY GRAVEL REMAINS. OTHERWISE FILL WITH CLEAN SANDY GRAVEL. HAUL ANY TRASH TO THE LANDFILL. HAUL OTHER MATERIAL TO UPLANDS DISPOSAL AREA AGREEABLE TO OWNER.



1/C1 **FOUNDATION DETAIL**
NTS



2/C1 **HELICAL PIER SUPPORT DETAIL**
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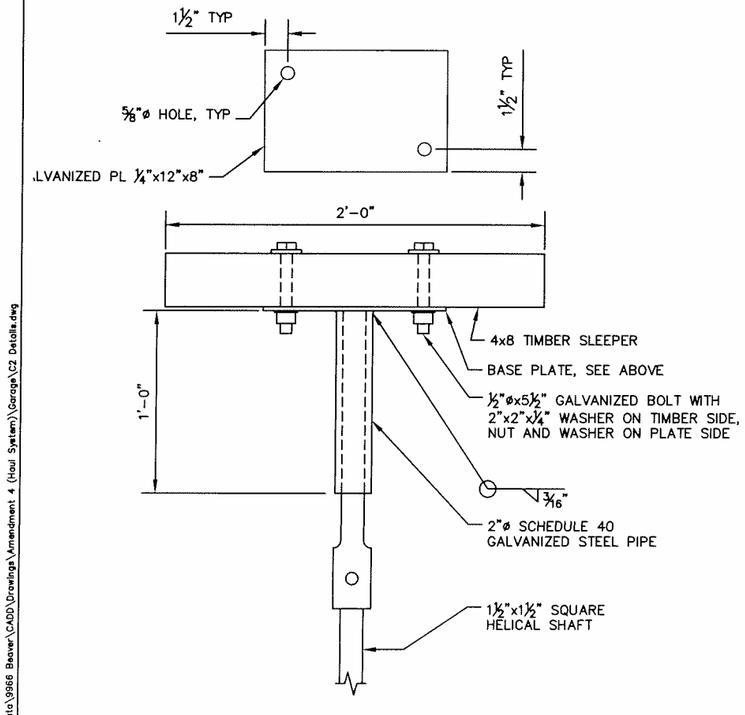

3/C2 **HELICAL PIER CAP DETAIL**
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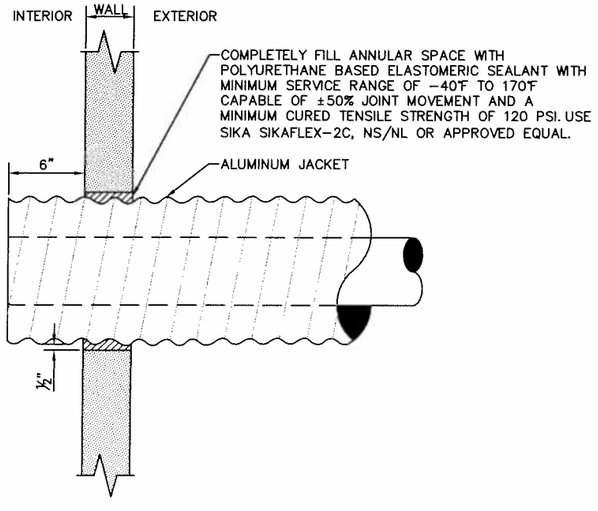
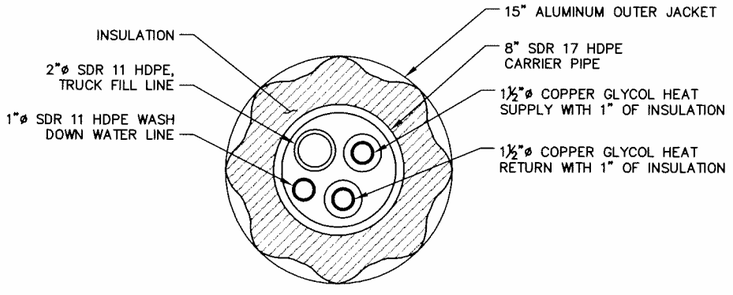


4/– **WALL PENETRATION DETAIL**
NTS



5/C2 **ARCTIC PIPE DETAIL**
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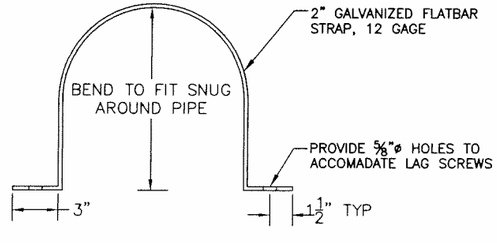

6/C2 **PIPE STRAP DETAIL**
NTS

VILLAGE SAFE WATER

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BEAVER SANITATION IMPROVEMENTS
HAUL GARAGE
FOUNDATION & ARCTIC PIPE DETAILS

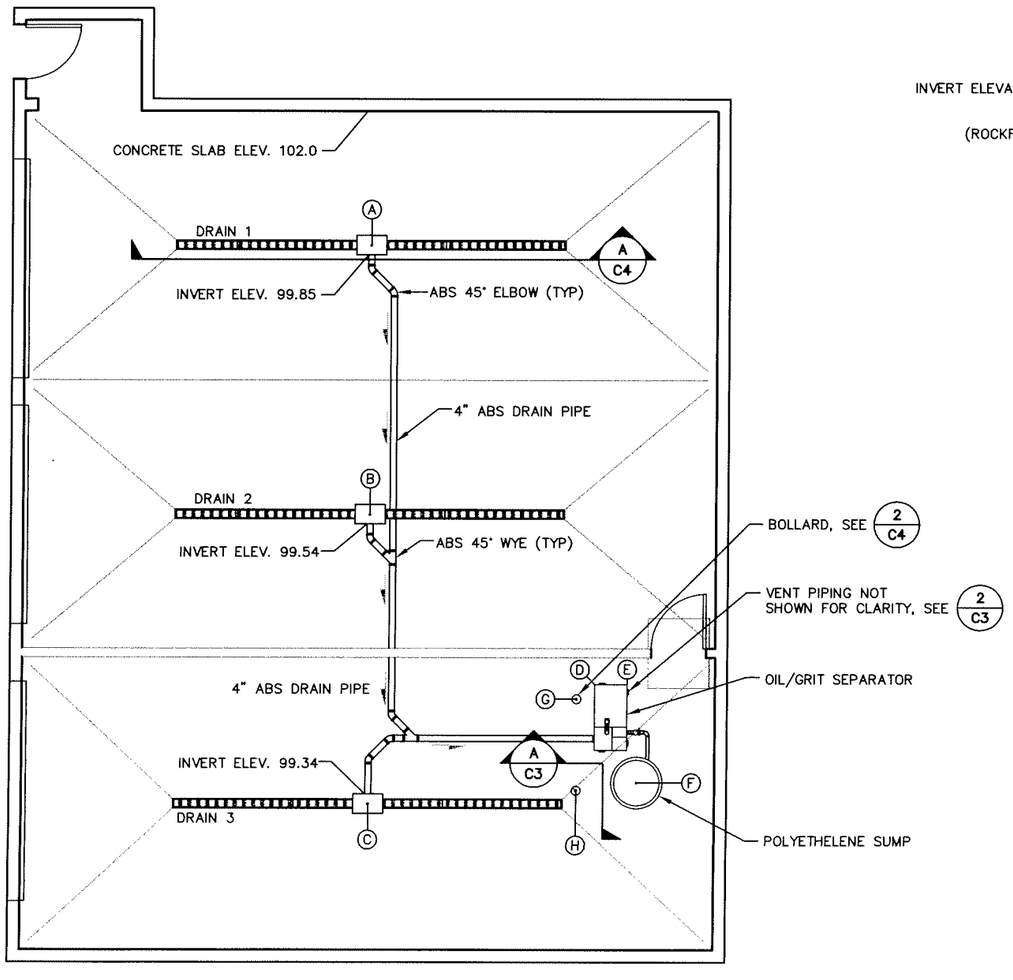
BY	DATE	REVISION

Project No. 9966
Date APRIL 2005
Designed M.J.L.
Drawn M.J.L.
Approved D.S.Y.

Sheet No. C2
SHEET 2 OF 5

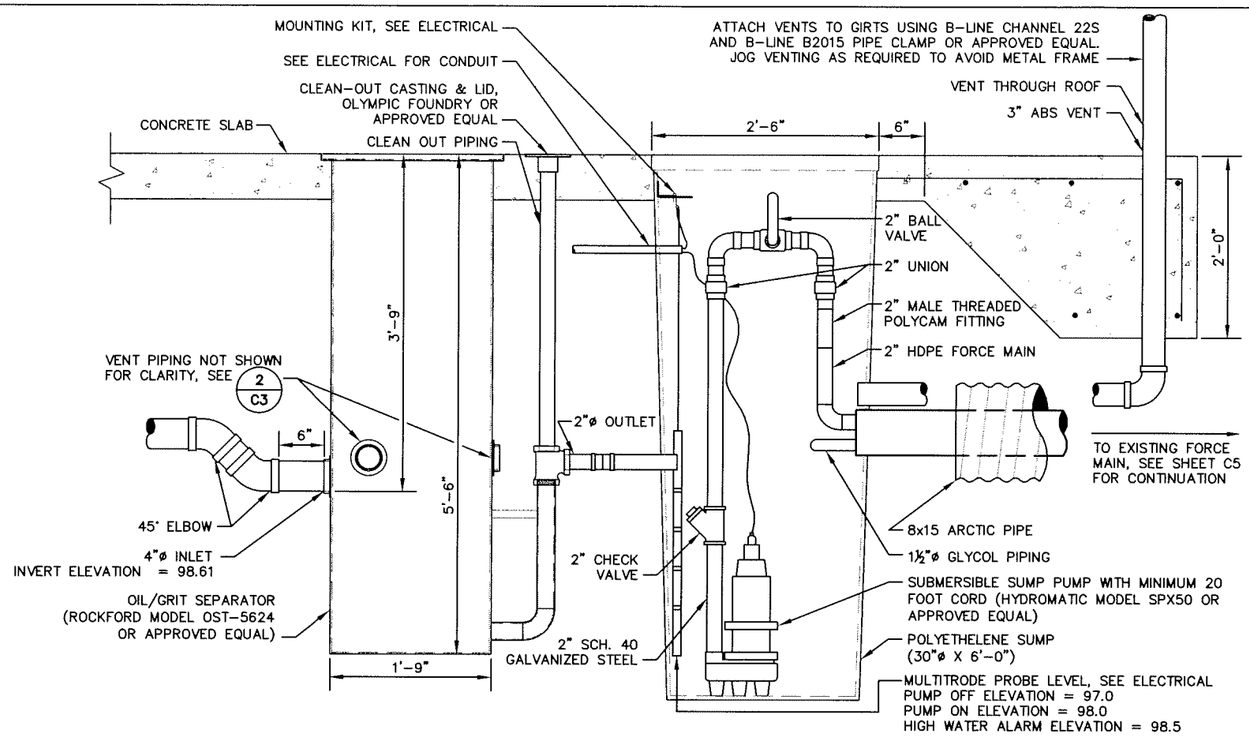
File: J:\Jobdata\9966 Beaver\CADD\Drawings\Amendment 4 (Haul System)\Garage\C2 Details.dwg

POINT SUMMARY			
POINT	NORTHING	EASTING	REMARKS
A	875.20	949.13	CENTER OF CATCH BASIN A
B	860.45	948.93	CENTER OF CATCH BASIN B
C	844.58	948.71	CENTER OF CATCH BASIN C
D	850.94	961.22	NW CORNER OF SEPARATOR
E	850.92	962.99	NE CORNER OF SEPARATOR
F	845.54	963.47	CENTER OF SUMP
G	850.16	960.21	
H	845.16	960.14	



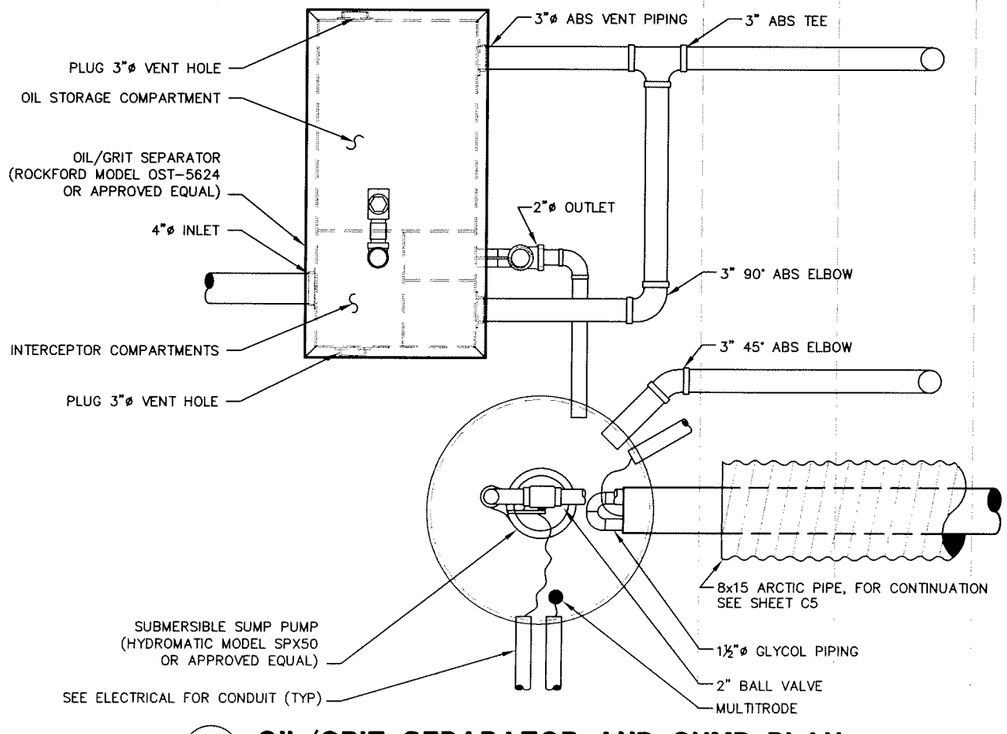
1/— FLOOR DRAIN PLAN

SCALE: 1/4" = 1'-0" (FULL SIZE)



A/C3 OIL/GRIT SEPARATOR AND SUMP SECTION

SCALE: NTS



2/C3 OIL/GRIT SEPARATOR AND SUMP PLAN

SCALE: NTS

VILLAGE SAFE WATER

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BEAVER SANITATION IMPROVEMENTS

HAUL GARAGE

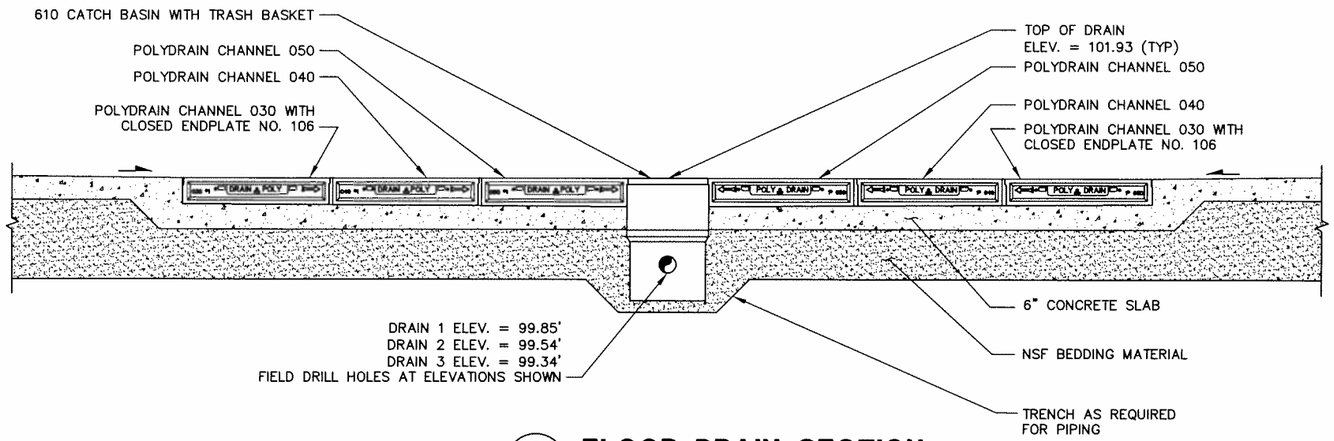
FLOOR DRAIN, OIL/GRIT SEPARATOR & SUMP DETAILS

REVISION	BY	DATE

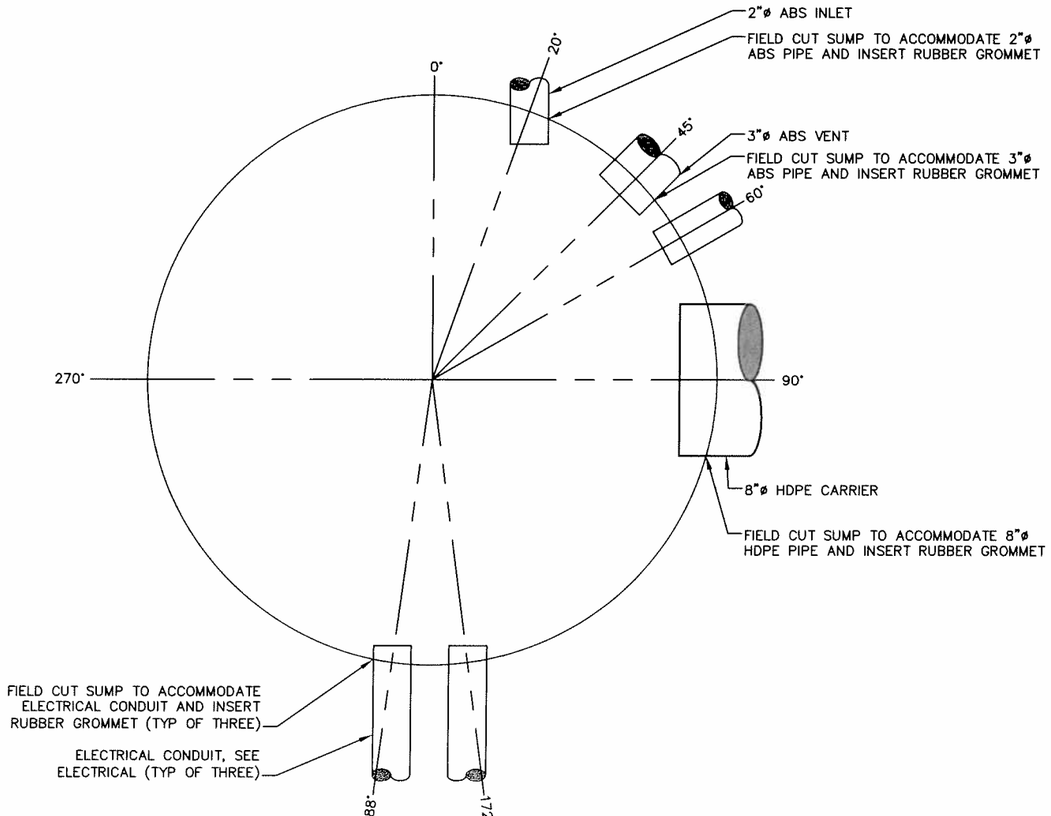
Project No. 9966
Date APRIL 2005
Designed MJL
Drawn JCH
Approved DSY

Sheet No. C3
SHEET 3 OF 5

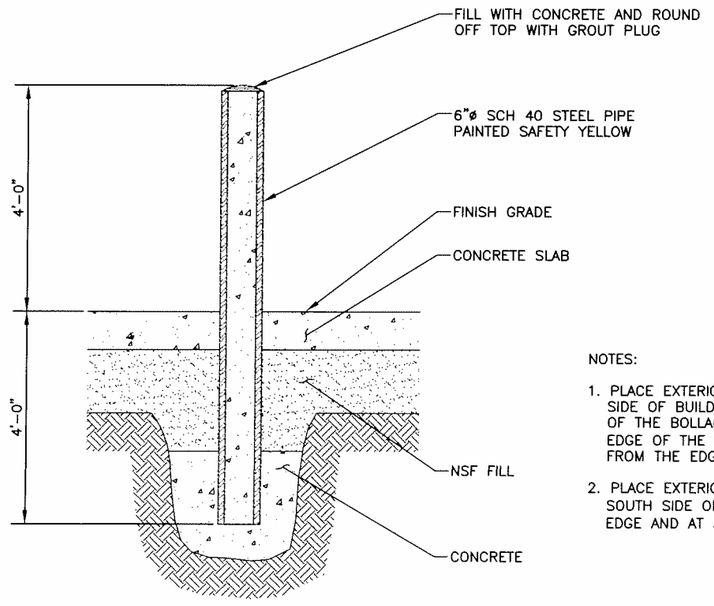
File: J:\Jobdata\9966 Beaver\CADD\Drawings\Amendment 4 (Haul System)\Garage\C4-C5 Drain-Sump Details.dwg



A/C3 **FLOOR DRAIN SECTION**
SCALE: NTS



1/— **SUMP PENETRATION PLAN**
SCALE: NTS



NOTES:

1. PLACE EXTERIOR BOLLARDS ALONG WEST SIDE OF BUILDING SUCH THAT THE EDGE OF THE BOLLARD IS ALIGNED WITH THE EDGE OF THE GARAGE DOOR AND 1'-6" FROM THE EDGE OF FOUNDATION.
2. PLACE EXTERIOR BOLLARDS ALONG SOUTH SIDE OF BUILDING 4' FROM THE EDGE AND AT 5' O.C.

2/C1 **BOLLARD DETAIL**
SCALE: NTS

File: J:\Jobsdata\9966 Beaver\CADD\Drawings\Amendment 4 (Haul System)\Garage\C3-C4 Drain Detail.dwg

VILLAGE SAFE WATER

STATE OF ALASKA — MICHAEL J. LOUNSBURY — REGISTERED PROFESSIONAL ENGINEER — 11006 — 9-30-06

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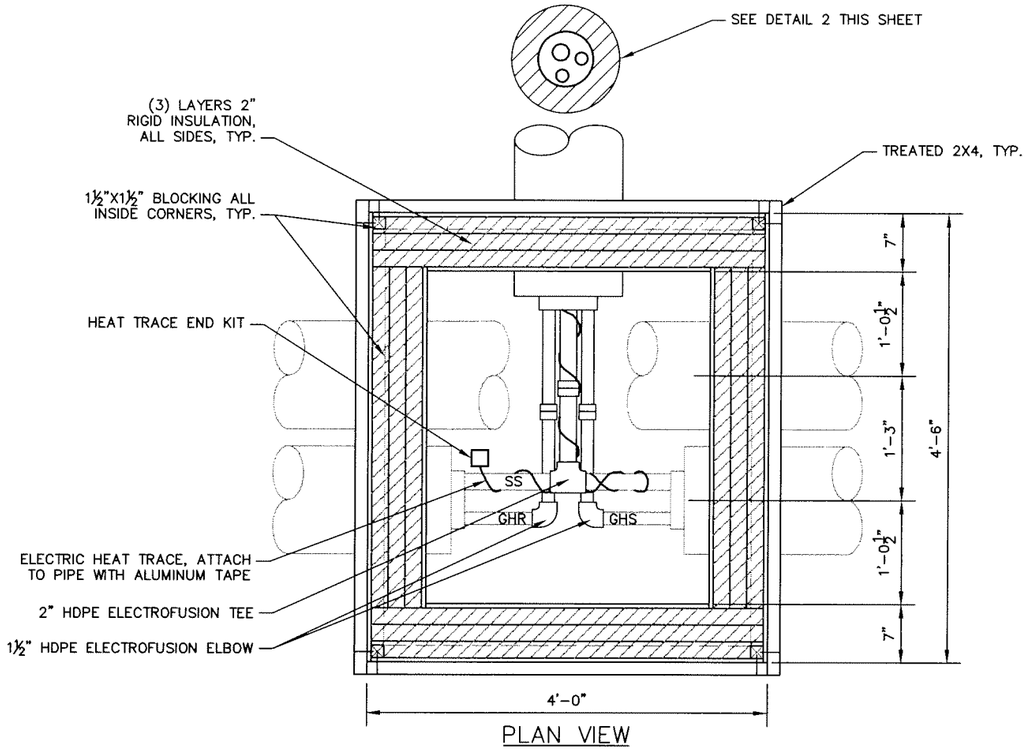
BEAVER SANITATION IMPROVEMENTS
HAUL GARAGE
FLOOR DRAIN, SUMP & BOLLARD DETAILS

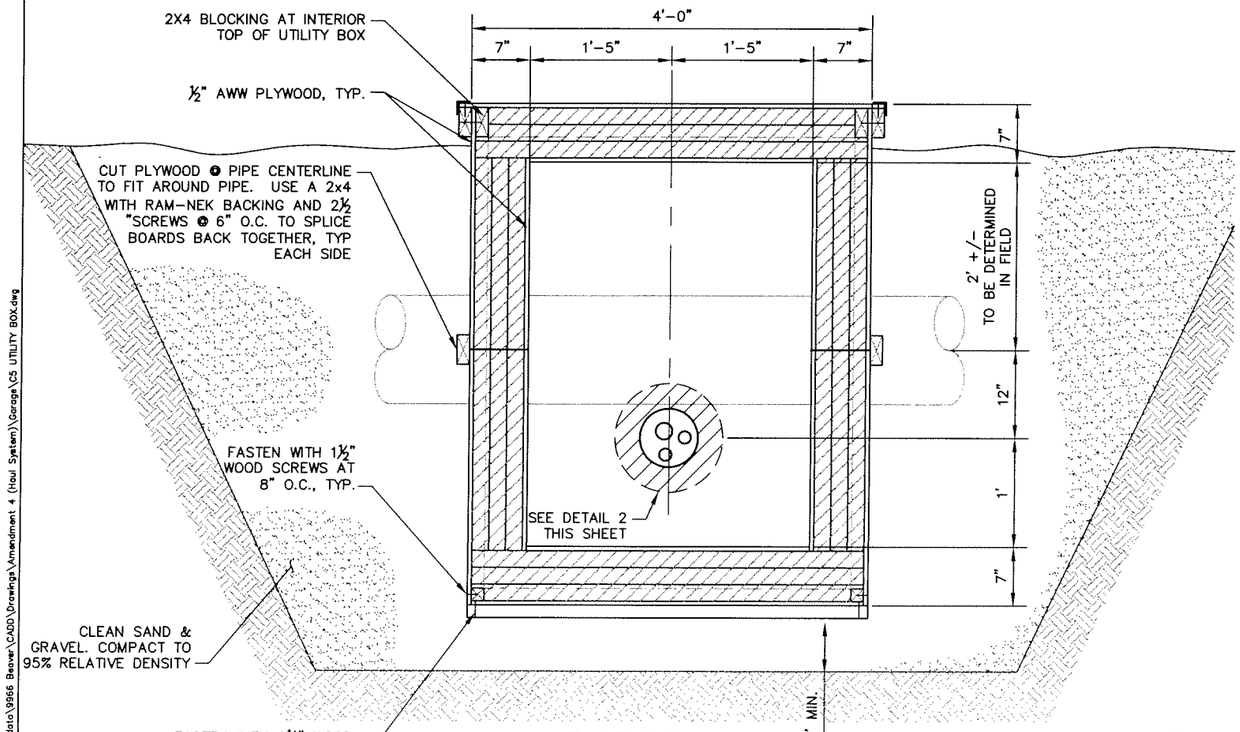
REVISION	BY	DATE

Project No. 9966
Date APRIL 2005
Designed MJL
Drawn JCH
Approved DSY

Sheet No. C4
SHEET 4 OF 5



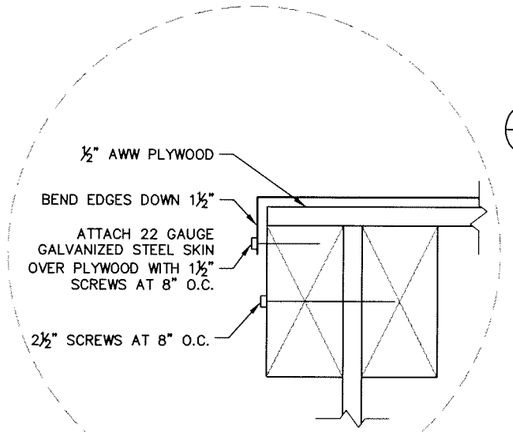
PLAN VIEW

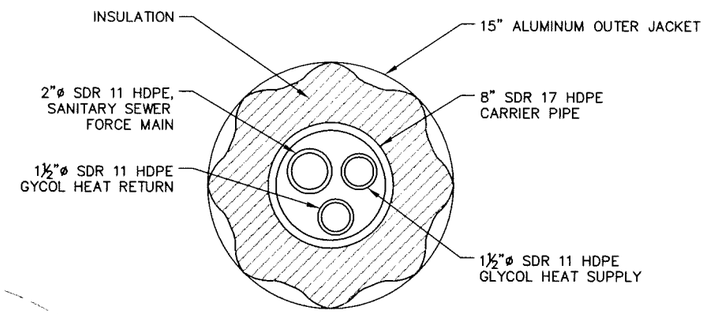


EAST ELEVATION

1/C1 UTILITY BOX

SCALE: NTS



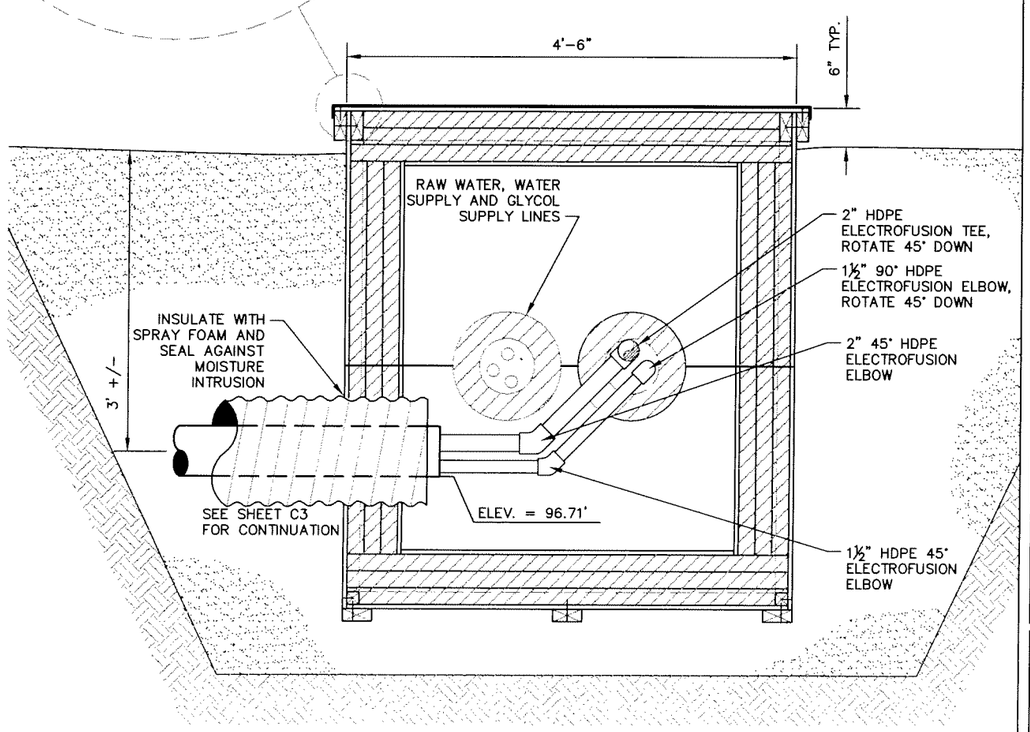


2/C1 ARCTIC PIPE SECTION

SCALE: NTS

NOTES:

1. LOCATE EXISTING SEWER LINE AND AFFIRM IT IS SEWER AND NOT WATER.
2. COORDINATE TAP IN GLYCOL LINES WITH THE WATER TREATMENT PLANT OPERATOR.
3. DRAIN & STORE GLYCOL FOR REUSE IN SYSTEM.
4. REMOVE ALL AIR FROM GLYCOL LOOPS.



SOUTH ELEVATION

VILLAGE SAFE WATER

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BEAVER SANITATION IMPROVEMENTS
HAUL GARAGE
UTILITY JUNCTION BOX

REVISION	BY	DATE

Project No. 9966
Date APRIL 2005
Designed MJL
Drawn JTK
Approved DSY

Sheet No. C5
SHEET 5 OF 5

File: J:\Jobdata\9966 Beaver\CADD\Drawings\Amendment 4 (Haul System)\Garage\C5 UTILITY BOX.dwg

GENERAL INSTALLATION PROCEDURE

HANDLING INSTRUCTIONS:

1.0 ARRIVAL ON SITE

1.1 API PANELS ARE CAREFULLY BUNDLED AND WRAPPED TO PREVENT DAMAGE DURING SHIPPING. THE TRANSPORTATION COMPANY IS RESPONSIBLE FOR DELIVERING THESE COMPONENTS UNDAMAGED.

1.2 WHEN SHIPMENT IS RECEIVED, CHECK EACH ITEM AGAINST THE PROPER SHIPPING DOCUMENT FOR QUANTITY, LENGTH, TRANSIT DAMAGE, ETC. IF A SHORTAGE OR DAMAGE IS FOUND, MAKE SURE A NOTATION OF IT IS MADE ON THE BILL OF LADING AND SIGNED BY THE DRIVER. IT IS YOUR RESPONSIBILITY TO MAKE ANY DAMAGE CLAIM.

1.3 API PANELS WILL GENERALLY ARRIVE IN LARGE WRAPPED BUNDLES ON FLAT BED TRAILERS. CONSEQUENTLY THE BUNDLES SHOULD BE UNLOADED BY MECHANICAL MEANS.

2.0 FORK LIFTS

2.1 ALL BUNDLES OF PANELS ARE REINFORCED AT SPECIFIED LIFTING POINTS TO PREVENT DAMAGE WHILE LIFTING. CAREFULLY PICK UP BUNDLES ONE AT A TIME WITH FORK LIFTS INSIDE THE MARKED BORDERS. THESE LIFTING BORDERS ARE CLEARLY MARKED IN RED ON THE BUNDLES (SEE FIG. 9). ON THE LONGER BUNDLES TWO OR MORE LIFTING POINTS MAY BE SPECIFIED, THEREFORE REQUIRING THE USE OF MORE THAN ONE LIFTING DEVICE (SEE FIG.10). EXTREME CARE SHOULD BE TAKEN TO AVOID BUMPING AND JOSTLING THE PANELS WHEN LIFTING AND MANEUVERING.

2.2 BUNDLES ARE LESS THAN 48" WIDE. OVER ENGAGEMENT OF FORKS WILL CAUSE DAMAGE TO MATERIALS POSITIONED ON THE OPPOSITE SIDE OF THE BUNDLE BEING LIFTED.

2.3 DO NOT LIFT OR UNLOAD MORE THAN ONE BUNDLE AT A TIME.

3.0 SLINGS

3.1 CRANE LIFTING OF THE "INDIVIDUAL" BUNDLES SHOULD BE BY NYLON SLINGS OR SIMILAR LOCATED AT A MINIMUM OF TWO POINTS ALONG THE LENGTH OF THE BUNDLE. MULTIPLE LIFTING POINTS MAY BE REQUIRED WHEN LIFTING BY CRANE. SUITABLY STIFF INSERTS SHOULD BE LOCATED AT THE TOP AND BOTTOM OF THE BUNDLES AT THE SLING POSITIONS TO PROTECT THE EDGES OF THE UPPER AND LOWER PANELS. IF PACKS ARE LONGER THAN 15 FEET IT IS SUGGESTED THAT A PROPERLY DESIGNED AND FABRICATED LIFTING BEAM IS USED. EXTREME CARE SHOULD BE TAKEN TO AVOID BUMPING AND SNATCHING OF THE BUNDLES WHEN LIFTING.

4.0 UNLOADING BY HAND

4.1 WARNING: PROTECTIVE GLOVES AND EYE PROTECTION MUST BE WORN AT ALL TIMES.

4.2 WARNING: TO PREVENT JOINT DAMAGE, NEVER LIFT THE PANEL FROM THE FLAT POSITION BY THE SIDE JOINT.

4.3 ON SMALL PROJECTS UNLOADING OF THE PANELS MAY BE CARRIED OUT BY HAND. AS THE PANELS ARE DECORATIVELY FINISHED SPECIAL CARE SHOULD BE TAKEN WHEN HANDLING.

4.4 WHEN HANDLING A PANEL, CARE MUST BE TAKEN TO PREVENT THEM FROM FLEXING. FLEXING RUPTURES A PANEL'S CORE AND PERMANENTLY DISTORTS ITS FACE.

4.5 IT IS RECOMMENDED THAT WHENEVER A PANEL IS HANDLED, PICKED UP, MOVED OR CARRIED – IT SHOULD BE TURNED ON EDGE FIRST. UNDER NO CIRCUMSTANCES SHOULD A PANEL BE HANDLED WHILE FLAT.

4.6 ONCE A PANEL HAS BEEN TURNED ON EDGE, IT SHOULD BE COMPLETELY LIFTED FROM THE BOTTOM BY A PERSON AT EACH END. ALWAYS LIFT PANELS WHEN REMOVING FROM BUNDLE, NEVER DRAG. NEVER LIFT THE PANELS BY THE TOP SHEET IN ISOLATION.

STORAGE INSTRUCTIONS:

5.0 SITE STORAGE

5.1 IMPORTANT: INSPECT BUNDLES CAREFULLY, ANY VISIBLE DAMAGE SHOULD BE NOTED ON CARRIERS FREIGHT BILL. DAMAGE CLAIMS SHOULD BE FILED DIRECTLY WITH THE CARRIER. CONTACT API FOR FURTHER ASSISTANCE

5.2 IF THE PANELS ARE TO BE USED IMMEDIATELY, THE BUNDLES SHOULD BE PLACED AT PRE–PLANNED STRATEGIC LOCATIONS AROUND THE PERIMETER OF THE BUILDING, AS CLOSE AS POSSIBLE TO THE PLANNED WORK AREAS. CONSULT THE PANEL LAYOUT DRAWINGS TO DETERMINE THESE LOCATIONS. AS FAR AS PRACTICAL THE BUNDLES SHOULD BE PLACED TO AVOID LATER SITE MANEUVERING OR UNDUE MANHANDLING.

5.3 STORE BUNDLES ON DRY, LEVEL, FIRM, AND CLEAN GROUND USING THE 3" FACTORY PROVIDED FOAM STICKERS UNDER THE PANELS. DO NOT SUBSTITUTE WITH WOOD STICKERS.

5.4 ELEVATE ONE END OF PACKAGE AND DO NOT STORE FOR LONGER THAN (90) DAYS. MOISTURE BETWEEN PANELS CAN CAUSE CORROSION. DO NOT STORE OR HANDLE PANELS IN A HORIZONTAL FLAT POSITION.

5.5 BUNDLES SHOULD BE FIRMLY TIED OR WEIGHTED DOWN WHEN BROKEN OPEN FOR USE.

5.6 BUNDLES SHOULD BE SLIT OPEN AS SHOWN (SEE FIG. 2) TO ALLOW FOR VENTILATION AND CONDENSATION DRAINAGE.

5.7 IDEALLY THE BUNDLES SHOULD BE STORED UNDER A TEMPORARY SHELTER WITH THE PLASTIC REMOVED FROM THE TOP AND SIDES OF THE BUNDLE.

5.8 IF SHELTER IS NOT AVAILABLE, OUR PANELS ARE PACKAGED WITH PLASTIC STRETCH WRAP AND EXPANDED POLYSTYRENE BOARD. IT IS HOWEVER, A REQUIREMENT THAT ADDITIONAL WATERPROOF PROTECTION BE PROVIDED TO PROTECT THE PANELS FROM WET WEATHER CONDITIONS BOTH IN TRANSIT AND AT THE JOBSITE. STANDING WATER ON STORED AND OR BUNDLED SKIDS MAY CAUSE DAMAGE TO THE PANEL FINISH AND IS NOT ACCEPTABLE. FURTHER PRECAUTIONS SHOULD BE TAKEN WITH GRANITSTONE FINISHED PANELS TO INSURE THAT THEY REMAIN DRY AT ALL TIMES PRIOR TO INSTALLATION.

6.0 AUXILIARY ITEMS AND ACCESSORIES

6.1 DUE CARE SHOULD BE AFFORDED TO THE UNLOADING AND STORAGE OF SMALL ITEMS, i.e. FLASHINGS, FASTENERS, SEALANTS, ETC., THAT ARRIVE ON SITE FOR INCLUSION IN THE WORK.

6.2 COVER ALL PALLET CRATES OR BOXES TO PROTECT MATERIALS FROM WEATHER BUT ALLOW FOR VENTILATION TO PREVENT CONDENSATION.

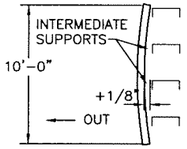
STRUCTURAL FRAMING:

7.0 STRUCTURAL SUPPORTING STEEL - WALL PANEL FLATNESS

7.1 THE FACE OF ALL STRUCTURAL MEMBERS TO WHICH THE PANEL IS ATTACHED MUST BE IN THE SAME VERTICAL PLANE, FLAT AND FREE OF OBSTRUCTIONS SUCH AS WELD MARKS, BOLTS, OR RIVET HEADS. INSTALLATION OF THE PANELS SHOULD PROCEED ONLY AFTER ALIGNMENT OF STRUCTURAL MEMBERS MEETS THE TOLERANCES ESTABLISHED IN THE CONTRACT DOCUMENTS.

7.2 SUPPORT OF PANELS MUST EXTEND TO THE OUTER EXTREMITIES OF ELEVATIONS AND ACROSS FACE OF COLUMNS TO WHICH PANELS ARE APPLIED.

7.3 SUPPORT STEEL INSTALLATION:



FOR QUALITY PANEL INSTALLATION THE PANEL CONTRACTOR SHALL EXAMINE THE ALIGNMENT OF THE STRUCTURAL STEEL BEFORE INSTALLATION OF THE WALL PANELS. THE STEEL SHALL BE ALIGNED TO THE TOLERANCES ESTABLISHED IN THE AISC CODE OF STANDARD PRACTICE, SECTION 7, AND THE SUPPLEMENT MODIFICATION CONTROL SECTION 7.11.3, ADJUSTABLE ITEMS. THE MAXIMUM DEVIATION OF STEEL ALIGNMENT SHOULD BE LIMITED TO ±3/16" FROM THE CONTROL WITH A 1/8" MAXIMUM CHANGE IN DEVIATION FOR ANY MEMBER OF ANY 10'–0" RUN OF PANEL.

7.4 ANY VARIANCES FROM THESE TOLERANCES CAN AFFECT BOTH PERFORMANCE AND ESTHETICS AND MUST BE REPORTED TO THE ARCHITECT AND GENERAL CONTRACTOR AND CORRECTED BY THE GENERAL CONTRACTOR OR ACCEPTED, IN WRITING BY THE ARCHITECT BEFORE WALL PANEL INSTALLATION PROCEEDS.

8.0 VERTICAL LOADING OF PANELS

8.1 TO PREVENT THE PANELS FROM TAKING VERTICAL LOADS, ATTACHMENTS TO RIGID SUPPORTS (WAINSCOT, SLAB, ETC.) MUST BE PROVIDED WITH A MEANS OF ALLOWING FOR VERTICAL MOVEMENT.

AP200/AP300 WALL PANEL INSTALLATION

9.0 INSTRUCTIONS FOR REMOVING PROTECTIVE FILM

9.1 IMPORTANT NOTE: IF PANELS WILL NOT BE INSTALLED WITHIN 30 DAYS TIME, THE BUNDLES SHOULD BE UNSTACKED AND PROTECTIVE FILM REMOVED. CAREFULLY RESTACK THE BUNDLES AND PROTECT FROM THE ELEMENTS.

9.2 ALL PANELS AND ACCESSORIES COVERED WITH A STRIPPABLE FILM REQUIRE THE FOLLOWING PRECAUTIONS BE TAKEN:

IT IS RECOMMENDED TO REMOVE FILM BEFORE INSTALLATION.

LOOSEN FILM ALONG MALE EDGE AND PEEL FILM OFF AND DOWN AT APPROXIMATELY 45° ANGLE FOR BOTH SIDES OF PANEL. (SEE FIG. 3)

DO NOT LEAVE PANEL COVERED WITH FILM EXPOSED TO SUNLIGHT FOR TIME PERIODS EXCEEDING ONE MONTH.

FAILURE TO REMOVE PROTECTIVE FILM IN A TIMELY MANNER WILL RESULT IN DIFFICULTY OF REMOVAL ALONG WITH ADHESIVE RESIDUE ON THE PANELS. CLEANING WILL BE REQUIRED BY THE INSTALLATION CONTRACTOR.

IF SURFACE REMAINS STICKY AFTER FILM REMOVAL, CLEAN PANEL BEFORE INSTALLATION. A RAG SOAKED IN 409, SFR CLEANER OR EQUAL IS RECOMMENDED TO REMOVE FILM ADHESIVE. FOLLOW WITH A CLEAR WATER RINSE. PROVIDE ADEQUATE EYE, SKIN PROTECTION AND VENTILATION. AVOID AREAS WITH OPEN FLAMES AND SPARKS.

10.0 PANEL CUTTING PROCEDURES

10.1 NOTE: PANELS MAY BE CUT PRIOR TO INSTALLATION OR IN THE FINAL INSTALLED POSITION. WHEN CUTTING ACROSS PANEL JOINTS IT IS PREFERABLE TO CUT THE PANELS BEFORE INSTALLING THEM.

10.2 CAUTION: POLYURETHANE DUST CAN PRESENT POTENTIAL HEALTH FIRE AND EXPLOSION HAZARDS UNDER CERTAIN CONDITIONS. PERSONNEL WORKING WITH OR AROUND EQUIPMENT (PARTICULARLY POWER SAWS) WHICH GENERATE POLYURETHANE DUST SHOULD WEAR RESPIRATORY AND EYE PROTECTION DEVICES. APPROPRIATE GROUNDED DUST COLLECTION DEVICES SHOULD BE USED.

10.3 IF FIELD CUTTING IS REQUIRED, USE EXTREME CARE TO AVOID DELAMINATION. DO NOT USE A CUTTING DISK, TORCH, OR OTHER HIGH HEAT PRODUCING METHODS FOR CUTTING. HOT FILINGS MAY DAMAGE THE PAINTED SURFACE OF THE PANEL. CARBIDE TIP BLADES SHOULD BE AVOIDED AS THEY MAY DELAMINATE THE FACING SKINS.

10.4 API RECOMMENDS THE USE OF A KETT SAW MODEL NUMBER KS–25AM METAL CUTTING SAW. A POWER SHEAR, RECIPROCATING SAW, BAND SAW, OR POWER NIBBLER MAY ALSO BE USED. CUTTING SHOULD BE DONE ONE METAL SKIN AT A TIME.

10.5 PROCEDURES FOR FULL DEPTH CUTS:

1). MEASURE THE DISTANCE OR AREA TO CUT AND MARK A LINE ON THE PANEL FACE.

2). APPLY MASKING TAPE ADJACENT TO AREA TO BE CUT TO PROTECT THE PANEL SURFACE.

3). RECHECK MEASUREMENTS AND PROCEED WITH CUTTING OPERATION.

4). SWEEP OR CLEAN OFF ANY METAL FRAGMENTS LEFT ON PANEL AFTER CUTTING OPERATION.

5). FLIP PANEL OVER AND REPEAT STEPS 1–4.

6). CUT FOAM IN BETWEEN METAL SHEETS USING A SHARP FOAM KNIFE, OR A RECIPROCATING SAW WITH BLADE TO MATCH THE FOAM THICKNESS.

7). FILE OR SAND OFF ANY BURRS OR ROUGH SPOTS ON THE METAL AFTER CUTTING. THE PANEL IS NOW READY TO BE PLACED.

10.6 AFTER DRILLING OR CUTTING PANELS, ALWAYS REMOVE METAL CHIPS THAT HAVE FALLEN ON THE FLASHINGS OR PANELS TO PRECLUDE LATER DAMAGE.

11.0 THERMAL BREAKS

11.1 WHEN CUTTING THERMAL BREAKS FOR COLD STORAGE APPLICATIONS, A HORIZONTAL SAW CUT OF 7/8" IS NECESSARY TO AVOID FREEZING. CONSULT A.P.I. REPRESENTATIVE OR FACTORY FOR THERMAL BREAK DETAILS.

12.0 CAULKING PLACEMENT

12.1 APPLY CAULKING TO PANEL EDGES TO PROVIDE A VAPOR AND AIR INFILTRATION BARRIER WHEN PANELS ARE ENGAGED, CAULKING IS BEST APPLIED WHILE PANELS ARE LYING FLAT. (SEE FIG. 1 FOR CAULKING PLACEMENT LOCATION). CAULK SHOULD BE PROVIDED AROUND PANEL OPENINGS AND GIRTS WHERE PANEL ENDS OCCUR TO DEVELOP A VAPOR AND AIR INFILTRATION SEAL. THE BEADS OF CAULK ON THE STRUCTURAL SUPPORTS MUST BE MARRIED TO THE BEADS OF CAULK IN THE INTERIOR SIDE OF THE PANEL JOINT, (INDUST./COMMER.) OR EXTERIOR SIDE OF PANEL JOINT, (COLD STORAGE). APPLY BEADS OF CAULK IMMEDIATELY PRIOR TO ENGAGING PANELS. FIELD APPLY BEAD OF CAULK IN EXTERIOR SIDE OF JOINT WHEN PANEL TERMINATES OVER WINDOWS, DOORS, OR OTHER OPENINGS.

13.0 CORNER INSTALLATION

13.1 PANELS ARE USUALLY INSTALLED FROM LEFT TO RIGHT WHEN VIEWED FROM THE EXTERIOR. STARTER PANEL SHOULD BE FIELD CUT AS SHOWN, (SEE FIG. 4).

13.2 NOTE: AP200 AND AP300 PANELS MAY BE RUN FROM THE RIGHT TO LEFT SIMPLY BY TURNING THE PANEL OVER. REMEMBER THE FEMALE EDGE OF THE WALL PANEL IS ALWAYS THE LEADING EDGE FOR THESE PANELS WHEN USING THE HIDDEN FASTENERS.

13.3 PLACE BOTTOM END OF PANEL ON BASE AND TILT TO VERTICAL POSITION. LONGER PANELS MAY REQUIRE THE USE OF A ROPE OR HOIST. A PANEL LIFTING DEVICE AND PANEL PUSHERS ARE AVAILABLE FROM THE FACTORY.

13.4 USE #14x____" TYPE _____ FASTENER FOR ATTACHING THROUGH THE PANEL TO STEEL FRAMING AT OPENINGS AND CORNERS OF WALL. DRILL HOLE STRAIGHT USING PROPER SIZE LISTED BELOW. DO NOT OVER TIGHTEN SCREW AND DIMPLE THE PANEL SURFACE. INSTALL SCREW IN WALL PANEL SO THAT PANEL FLASHING WILL COVER SCREW FROM VIEW. PANEL MAY ALSO BE BACK FASTENED WITH FAB–LOKS AT OPENINGS AND CORNERS.

MATERIAL	FASTENER	DRILL
14 GA.	SEE FIG. 6	# 8 DRILL
12 GA. – 11 GA.	SEE FIG. 6	# 7 DRILL
3/16" TO 3/8"	SEE FIG. 6	# 1 DRILL
3/8" TO 1/2"	SEE FIG. 6	

13.5 AFTER DRILLING OR CUTTING PANELS, ALWAYS REMOVE METAL CHIPS THAT HAVE FALLEN ON THE FLASHINGS OR PANELS TO PRECLUDE LATER DAMAGE.

13.6 POSITION STARTER PANEL IN PLACE AND THROUGH FASTEN TO THE STEEL STRUCTURE WITH #14x____" TYPE _____ SCREW AT EACH GIRT LINE. FASTEN THE #14 SCREWS CLOSE ENOUGH TO EDGE OF THE PANEL SO THEY ARE COVERED WITH THE OUTSIDE CORNER TRIM. POSITION THE END OR OTHER STARTER PANEL IN PLACE AND THROUGH FASTEN TO THE STEEL STRUCTURE. CAULK AND FASTEN THE OUTSIDE CORNER TRIM TO THE WALL PANELS WITH COLOR CODED SCREWS OR POP RIVETS AT 12" O.C. (SEE FIG. 5) TO COMPLETE THE CORNER INSTALLATION. IF INSTALLING THE OPTIONAL INSIDE CORNER TRIM FASTEN AT 12" O.C. WITH TEK SCREWS OR POP RIVETS BETWEEN GIRTS.

14.0 ALTERNATIVE CORNER FABRICATION

14.1 API WALL PANELS MAY BE CUT AND BENT TO PRODUCE A CORNER PANEL THAT USES NO EXTERIOR TRIM. FIRST FIELD CUT AND NOTCH THE PANEL (SEE FIG. 7), ALLOW APPROXIMATELY 1/4" OF FOAM TO REMAIN. NEXT BEND THE PANEL 90° AND FASTEN THE INSIDE PANEL TRIM 12" O.C. (SEE FIG 8). A CONTINUOUS BEAD OF CAULK SHOULD BE PLACED BETWEEN DISSIMILAR METALS.

NOTE: IF ANY VOIDS EXIST AFTER BENDING OF THE PANEL THEY SHOULD BE FIELD FOAMED.

15.0 WALL PANEL INSULATION

15.1 PLACE BOTTOM END OF PANEL ON BASE AND TILT TO VERTICAL POSITION. LONGER PANELS MAY REQUIRE THE USE OF A ROPE OR HOIST. A PANEL LIFTING DEVICE AND PANEL PUSHERS ARE AVAILABLE FROM THE FACTORY.

15.2 SLIDE PANEL FIRMLY INTO GROOVE OF THE PRECEDING PANEL USING FIRM GRADUAL PRESSURE TO DRAW PANELS TOGETHER. DO NOT POUND INTO PLACE. DO NOT USE LOCALIZED FORCES WHICH MAY DAMAGE PANELS. PLUMB AND SQUARE EACH PANEL BEFORE INSTALLING FASTENERS. PRIOR TO INSTALLING, PANELS MAY NEED TO BE SHADED TO PREVENT EXCESSIVE THERMAL BOW WHICH MAY HINDER PANEL ENGAGEMENT.

15.3 AP200/AP300 WALL PANEL IS ATTACHED TO STRUCTURAL SUPPORT WITH A HIDDEN FASTENER CLIP AND A #14 TYPE _____ FASTENER. IF PRE DRILLING IS REQUIRED USE THE DRILL BIT SIZES LISTED IN SECTION 13.4.

15.4 TO INSTALL FASTENER, PRE DRILL USING THE CORRECT DRILL SIZE FROM ABOVE (IF REQ'D). INSERT FASTENER THROUGH CLIP AND TIGHTEN DOWN UNTIL ASSEMBLY IS SNUG. PANEL TO BE FASTENED AT EVERY SUPPORT. FASTENER REQUIREMENTS ARE BASED ON GIVEN DESIGN LOADS. CONSULT A.P.I. REPRESENTATIVE OR FACTORY FOR ALLOWABLE PANEL AND FASTENER REQUIREMENTS. USE A 600 RPM ELECTRIC SCREW GUN TO DRIVE FASTENERS. DO NOT USE IMPACT TOOLS. DO NOT OVER TIGHTEN.

15.5 TRIM SHOWN IN ARCHITECTURAL DETAILS SHOULD BE USED WHERE PANELS TERMINATE SUCH AS AT HEAD, SILL, BASE, OR BUTT CONDITIONS, ETC. COVER EXPOSED EDGES AS SOON AS POSSIBLE.

15.6 TO PREVENT GALVANIC ACTION, ISOLATE ALUMINUM TRIM SURFACES FROM SURFACE OF PANEL SUPPORT STEEL USING ONE OF THE FOLLOWING METHODS:

1) AN APPROVED SEALANT OR SEALANT TAPE.
2) A NONABSORPTIVE GASKET.
3) A DUCT TAPE OR EQUIVALENT TYPE TAPE.
4) PAINT THE INCOMPATIBLE METAL WITH A COATING OF HEAVY BODIED BITUMINOUS PAINT.

15.7 GAS BUBBLES ON FOAM PANELS ARE AN INDUSTRY–WIDE, SPORADIC PROBLEM. IF THEY OCCUR ON THIS PROJECT, THEY CAN EASILY BE REPAIRED BY DRILLING A 1/16" DIAMETER BY 1 3/4" DEEP HOLE NEAR THE CENTER OF THE GAS BUBBLE IN THE EXTERIOR SKIN TO ALLOW THE TRAPPED GAS TO BE RELEASED. THE REPAIR IS COMPLETED BY APPLYING A SMALL AMOUNT OF TOUCH UP PAINT TO THE RAW EDGE OF THE DRILL HOLE. GAS BUBBLES SHOULD BE REPAIRED AS SOON AS POSSIBLE SINCE THEY WILL CONTINUE TO ENLARGE UNTIL CORRECTED.

16.0 TOUCH UP PAINT

16.1 ERECTOR TO TOUCH UP ALL EXPOSED FIELD CUT EDGES WITH TOUCH UP PAINT.

17.0 CLEANING AND MAINTENANCE OF PANELS

17.1 PROPER INSTALLATION AND MAINTENANCE ARE EXTREMELY IMPORTANT IN OBTAINING THE VERY BEST SERVICE AND APPEARANCE FROM PRE–PAINTED METAL PANELS.

17.2 ALL DIRT, OIL, GREASE, FINGERPRINTS OR OTHER CONTAMINANTS SHOULD BE REMOVED AFTER INSTALLATION TO ASSURE PROPER SERVICE LIFE OF THE PAINT FILM.

17.3 DO NOT INSTALL PANELS SO THEY ARE IN CONTACT WITH SOIL, OR ALLOW SOIL TO BE PUSHED AGAINST INSTALLED PANELS DURING FINAL GRADING.

18.0 REMOVING OXIDATION AND TOUGH STAINS

18.1 WARNING: STRONG SOLVENT AND ABRASIVE CLEANERS SHOULD BE AVOIDED.

18.2 THE RECOMMENDED METHOD, IF THE STAINS ARE NOT TOO SEVERE, IS TO USE A HOUSEHOLD CLEANER RECOMMENDED FOR USE ON PORCELAIN SINKS AND BATHTUBS. THIS SHOULD BE FOLLOWED WITH A THOROUGH RINSING. WIRE BRUSHING OR ANY ABRASIVE MATERIAL MAY DAMAGE THE PAINTED SURFACE AND SHOULD NOT BE USED.

19.0 CLEANING THE PAINTED SURFACE

19.1 DIRT PICKUP MAY CAUSE APPARENT DISCOLORATION OF THE PAINT WHEN IT HAS BEEN EXPOSED TO DIRT LADEN ATMOSPHERES FOR LONG PERIODS OF TIME. SLIGHT CHALKING MAY CAUSE SOME CHANGE IN APPEARANCE IN AREAS OF STRONG SUNLIGHT. A GOOD CLEANING WILL OFTEN RESTORE THE APPEARANCE OF THESE BUILDINGS.

19.2 IN MANY CASES SIMPLY WASHING THE BUILDING WITH PLAIN WATER USING PRESSURE SPRAYS WILL BE ADEQUATE. IN AREAS OF HEAVY DIRT DEPOSITS, A SOLUTION OF WATER AND DETERGENT (1/3 CUP TIDE PER GALLON OF WATER) MAY BE USED. USE A RAG, SPONGE, OR SOFT BRISTLE BRUSH TO CLEAN. A CLEAR WATER RINSE SHOULD FOLLOW.

19.3 MILDEW MAY OCCUR IN AREAS SUBJECTED TO HIGH HUMIDITY. TO REMOVE MILDEW USE THE FOLLOWING SOLUTION FOLLOWED WITH A CLEAR WATER RINSE. USE 1/3 CUP DETERGENT (TIDE), 2/3 CUP TRI–SODIUM PHOSPHATE (SOILEX), 1 QUART SODIUM HYPOCHLORITE 5% SOLUTION (CHLOROX), 3 QUARTS WATER.

19.4 CAULKING COMPOUNDS, OIL, GREASE, TARS, WAX AND SIMILAR SUBSTANCES CAN BE REMOVED BY WIPING WITH A CLOTH SOAKED WITH MINERAL SPIRITS. WIPE ONLY CONTAMINATED AREAS AND FOLLOW WITH DETERGENT CLEANING AND THOROUGH RINSING.

SEE SHEET A2 FOR FIGURES

VILLAGE SAFE WATER

STATE OF ALASKA — JAKE J. EGUENCHE — 11006 — REGISTERED PROFESSIONAL ENGINEER — 4-30-06

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BEAVER SANITATION IMPROVEMENTS
HAUL GARAGE
AP200 API WALL PANEL
GENERAL INSTALLATION PROCEDURE

REVISION	BY	DATE

Project No. 9966
Date APRIL 2005
Designed M.J.L.
Drawn M.J.L.
Approved DSY

Sheet No. A1
SHEET 1 OF 8

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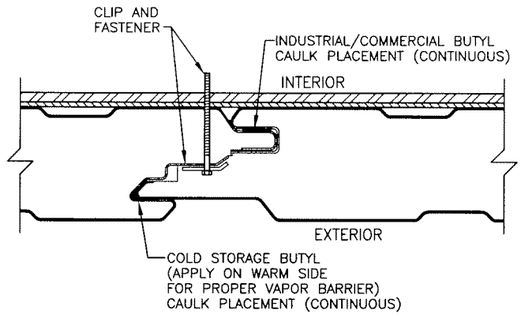


FIGURE 1

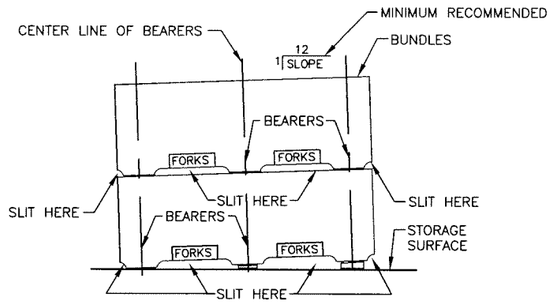


FIGURE 2

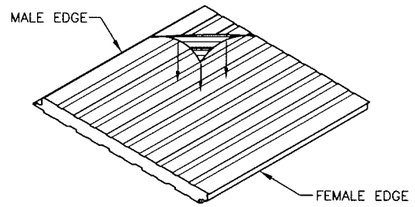


FIGURE 3

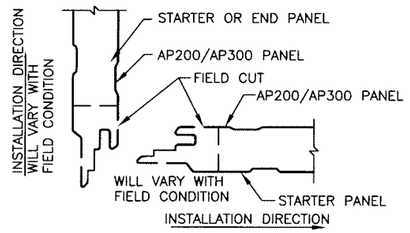
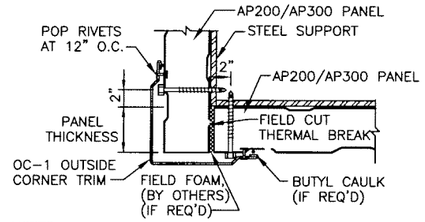
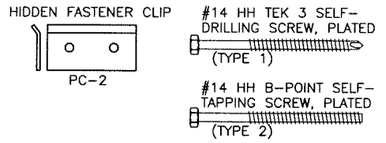


FIGURE 4



NOTES;
1) TO RUN PANELS IN BOTH DIRECTIONS FROM CORNER, CUT THE MALE EDGES OF BOTH STARTER PANELS AS SHOWN.
2) CORNER PANELS MUST BE THROUGH FASTENED WITH #14 TYPE _ SCREWS OR BACK FASTENED WITH FAB-LOKS.

FIGURE 5



PANEL THICKNESS	TYPE 1 LENGTHS	TYPE 2 LENGTHS
2"	2"	2"
2 1/2"	3"	3"
3"	3"	3"
4"	4"	4"
5"	5"	5"
6"	6"	6"

NOTE: THROUGH FASTENERS SHALL HAVE SEALING WASHER HEADS

FIGURE 6

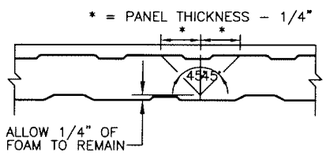
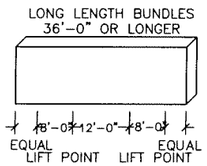


FIGURE 7

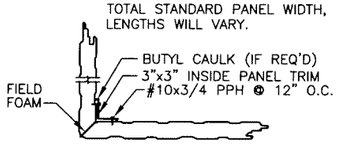


BE CAREFUL WHEN UNLOADING OR MOVING BUNDLES 36'-0" OR LONGER THAT YOU DO NOT POSITION A LIFTING POINT AT THE CENTER OF THE BUNDLE. THIS WILL CAUSE PANEL DAMAGE.

USE TWO FORKLIFTS OR CRANE STRAPS TO LIFT BUNDLES AT THE 8'-0" LIFT POINT SECTIONS. LIFT POINT SECTIONS ARE BOUNDARY MARKED IN RED KEEP FORKS OR STRAPS WITHIN THE MARKS.

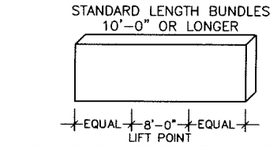
FIGURE 10

NOTE:
DIMENSIONS "A" + "B" MUST TOTAL STANDARD PANEL WIDTH, LENGTHS WILL VARY.



OUTSIDE CORNER

FIGURE 8



USE ONE FORKLIFT TO LIFT BUNDLES AT THE 8'-0" LIFT POINT SECTION. LIFT POINT SECTION IS BOUNDARY MARKED IN RED - KEEP FORKS WITHIN THE MARKS.

FIGURE 9

SEE SHEET A1 FOR SPECIFICATIONS

VILLAGE SAFE WATER

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BEAVER SANITATION IMPROVEMENTS
HAUL GARAGE
AP 200 API WALL PANEL
GENERAL INSTALLATION DETAILS

REVISION	BY	DATE

Project No. 9966
Date APRIL 2005
Designed M.J.L.
Drawn M.J.L.
Approved DSY

Sheet No. A2
SHEET 2 OF 8

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GENERAL INSTALLATION PROCEDURE

1.0-6.0

REFER TO SHEET A-1 FOR GENERAL HANDLING AND STORAGE INSTRUCTIONS.

7.0 STRUCTURAL SUPPORTING STEEL

7.1 FOR QUALITY PANEL INSTALLATION THE PANEL CONTRACTOR SHALL EXAMINE THE ALIGNMENT OF THE STRUCTURAL STEEL BEFORE INSTALLATION OF THE ROOF PANELS. THE STEEL SHALL BE ALIGNED TO THE TOLERANCES ESTABLISHED IN THE AISC CODE OF STANDARD PRACTICE, SECTION 7, AND THE SUPPLEMENT MODIFICATION CONTROL SECTION 7.11.3, ADJUSTABLE ITEMS. THE MAXIMUM DEVIATION OF STEEL ALIGNMENT SHOULD BE LIMITED TO (-0 +1/2") FROM THE CONTROL WITH A 1/8" MAXIMUM CHANGE IN DEVIATION FOR ANY MEMBER OF ANY 10'-0" RUN OF PANEL.

7.2 ANY VARIANCES FROM THESE TOLERANCES CAN AFFECT BOTH PERFORMANCE AND ESTHETICS AND MUST BE REPORTED TO THE ARCHITECT AND GENERAL CONTRACTOR AND CORRECTED BY THE GENERAL CONTRACTOR OR ACCEPTED, IN WRITING, BY THE ARCHITECT BEFORE ROOF PANEL INSTALLATION PROCEEDS.

AP900 ROOF PANEL INSTALLATION

8.0 INSTRUCTIONS FOR REMOVING PROTECTIVE FILM

8.1 IMPORTANT NOTE: IF PANELS WILL NOT BE INSTALLED WITHIN 30 DAYS TIME, THE BUNDLES SHOULD BE UNSTACKED AND PROTECTIVE FILM REMOVED. CAREFULLY RESTACK THE BUNDLES AND PROTECT FROM THE ELEMENTS.

8.2 ALL PANELS AND ACCESSORIES COVERED WITH A STRIPPABLE FILM REQUIRE THE FOLLOWING PRECAUTIONS BE TAKEN:

IT IS RECOMMENDED TO REMOVE FILM BEFORE INSTALLATION.

LOOSEN FILM ALONG MALE EDGE AND PEEL FILM OFF AND DOWN AT APPROXIMATELY 45° ANGLE FOR BOTH SIDES OF PANEL. (SEE FIG. 2).

DO NOT LEAVE PANEL COVERED WITH FILM EXPOSED TO SUNLIGHT FOR TIME PERIODS EXCEEDING 24 HOURS.

FAILURE TO REMOVE PROTECTIVE FILM IN A TIMELY MANNER WILL RESULT IN DIFFICULTY OF REMOVAL ALONG WITH ADHESIVE RESIDUE ON THE PANELS. CLEANING WILL BE REQUIRED BY THE INSTALLATION CONTRACTOR.

IF SURFACE REMAINS STICKY AFTER FILM REMOVAL, CLEAN PANEL BEFORE INSTALLATION LATION. A RAG SOAKED IN 409, SFR CLEANER OR EQUAL IS RECOMMENDED TO REMOVE FILM ADHESIVE. FOLLOW WITH A CLEAR WATER RINSE. PROVIDE ADEQUATE EYE, SKIN PROTECTION AND VENTILATION. AVOID AREAS WITH OPEN FLAMES AND SPARKS.

9.0 PANEL CUTTING PROCEDURES

9.1 CAUTION: POLYURETHANE DUST CAN PRESENT POTENTIAL HEALTH FIRE AND EXPLOSION HAZARDS UNDER CERTAIN CONDITIONS. PERSONNEL WORKING WITH OR AROUND EQUIPMENT (PARTICULARLY POWER SAWS) WHICH GENERATE POLYURETHANE DUST SHOULD WEAR RESPIRATORY AND EYE PROTECTION DEVICES. APPROPRIATE GROUNDED DUST COLLECTION DEVICES SHOULD BE USED.

9.2 NOTE: PANELS MAY BE CUT PRIOR TO INSTALLATION OR IN THE FINAL INSTALLED POSITION. THE STARTER AND END PANELS SHOULD PREFERABLY BE CUT WHILE ON THE GROUND. WHEN CUTTING ACROSS PANEL JOINTS IT IS PREFERABLE TO CUT THE PANELS BEFORE INSTALLING THEM. SPECIAL CARE SHOULD BE USED IN LIFTING CUT PANELS ONTO THE ROOF.

9.3 IF FIELD CUTTING IS REQUIRED, USE EXTREME CARE TO AVOID DELAMINATION. DO NOT USE A CUTTING DISK, TORCH, OR OTHER HIGH HEAT PRODUCING METHODS FOR CUTTING. HOT FILINGS MAY DAMAGE THE PAINTED SURFACE OF THE PANEL.

9.4 API RECOMMENDS THE USE OF A POWER CIRCULAR SAW WITH FINE TOOTH CARBIDE TIP BLADES. A POWER SHEAR/NIBBLER, RECIPROCATING SAW, OR BAND SAW MAY ALSO BE USED. CUTTING SHOULD BE DONE ONE METAL SKIN AT A TIME.

9.5 PROCEDURES FOR FULL DEPTH CUTS:

1). MEASURE THE DISTANCE OR AREA TO CUT AND MARK A LINE ON THE PANEL FACE.
2). APPLY MASKING TAPE ADJACENT TO AREA TO BE CUT TO PROTECT THE PANEL SURFACE.
3). RECHECK MEASUREMENTS AND PROCEED WITH CUTTING OPERATION.
4). SWEEP OR CLEAN OFF ANY METAL FRAGMENTS LEFT ON PANEL AFTER CUTTING OPERATION. IF THE FRAGMENTS ARE IMBEDDED THEY SHOULD BE DISLODGED BY MECHANICALLY BRUSHING WITH A STIFF FIBER BRUSH.
5). TURN PANEL OVER AND REPEAT STEPS 1-4.
6). CUT FOAM BETWEEN METAL SHEETS USING A SHARP FOAM KNIFE, OR A RECIPROCATING SAW WITH BLADE TO MATCH THE FOAM THICKNESS.
7). FILE OR SAND OFF ANY BURRS OR ROUGH SPOTS ON THE METAL AFTER CUTTING. THE PANEL IS NOW READY TO BE PLACED.

9.6 AFTER DRILLING OR CUTTING PANELS, ALWAYS REMOVE METAL CHIPS THAT HAVE FALLEN ON THE FLASHINGS OR PANELS TO PRECLUDE LATER DAMAGE.

10.0 ROOF PANEL INSTALLATION SEQUENCE

10.1 AP900 ROOF PANELS MUST BE INSTALLED IN A SPECIFIC SEQUENCE. THIS ENSURES THE CORRECT LAPPING OF THE SIDE AND END LAPS. REFER TO FIG. 3 FOR THE CORRECT INSTALLATION SEQUENCE. THE PANEL NUMBERS CORRESPOND TO THEIR ORDER OF INSTALLATION.

10.2 IMPORTANT NOTE: AS "EACH" PANEL IS INSTALLED ALL MAIN FASTENING AND SIDE LAP FASTENING SHOULD BE CARRIED OUT. THIS IS ESPECIALLY IMPORTANT ON AP900 ROOF PANELS AND WILL ENSURE THAT UNNECESSARY BACK TRAFFICKING OVER THE ROOF IS AVOIDED.

11.0 INSTALLATION STEPS

11.1 AS EACH INDIVIDUAL PANEL IS REMOVED FROM THE PACK, THE MALE AND FEMALE EDGES SHOULD BE VISUALLY EXAMINED AND ANY SLIGHT OVER SPILL OF INSULATION SHOULD BE CAREFULLY REMOVED.

11.2 THE FIRST AP900 PANEL TO BE INSTALLED SHOULD HAVE THE EDGE CUT BACK AS SHOWN IN FIG. 4. MAKE SURE THE OVERLAPPING EDGE IS CUT, THIS WILL ENSURE THE NATURAL OVERLAPPING OF THE NEXT PANEL.

11.3 THE EDGE OF THE ROOF PANEL SHOULD BE LAID FLUSH WITH THE FACE OF THE WALL PANEL AS SHOWN IN FIG. 5. IT IS IMPORTANT THAT THE FIRST TIER OF PANELS ARE LAID TRUE TO LINE, PROPERLY LINED WITH A STRING TO ENSURE A TRUE AND NEAT RUN.

11.4 THE STARTER PANEL SHOULD BE THROUGH OR EXPANSION FASTENED AT THE PANEL EDGE AS SHOWN IN FIG. 5. THE PANEL SHOULD BE FASTENED AT EACH PURLIN (EXCEPT UPPER MOST PURLIN) PRIOR TO INSTALLATION OF THE NEXT PANEL SEE FIG. 14

11.5 BUTYL SEALANT OR A 1/8"x1/2" WIDE STRIP OF BUTYL TAPE SHOULD BE PLACED ON THE RIB OF THE STARTER PANEL TO BE OVERLAPPED AS SHOWN IN FIG. 4.

11.6 ONCE THE CAULKING HAS BEEN PLACED, THE OVERLAPPING PANEL SHOULD BE PLACED AS SOON AS POSSIBLE. THE PANEL SHOULD BE POSITIONED AND ROTATED. IN PLACE AS SHOWN IN FIG. 5.

11.7 SQUARE EACH PANEL BEFORE INSTALLING FASTENERS. PRIOR TO INSTALLING, PANELS MAY NEED TO BE SHADED TO PREVENT EXCESSIVE THERMAL BOW WHICH MAY HINDER PANEL ENGAGEMENT.

11.8 THE PANEL SHOULD BE FASTENED THROUGH THE OVERLAPPING RIB FIRST. DEPENDING ON WHICH TYPE OF CAPS YOU USE, PLASTIC COLOR CAPS OR FIG. 6 OR FIG. 7 PAINTED BATTEN CAPS, DETERMINES WHICH TYPE OF SADDLE CLIP YOU USE. USE THE PAINTED SADDLE CLIP FOR EXPOSED FASTENERS AND USE THE AP-8 BATTEN SADDLE CLIP FOR HIDDEN FASTENERS.

11.9 IF PREDRILLING IS REQUIRED USE THE DRILL BIT SIZES LISTED BELOW.

MATERIAL	FASTENER	DRILL
18 GA. - 16 GA.	SEE FIG. 12	5/32" PILOT
14 GA.	SEE FIG. 12	3/16" PILOT
12 GA. - 11 GA.	SEE FIG. 12	# 3 DRILL
3/16" TO 3/8"	SEE FIG. 12	# 1 DRILL
3/8" & HEAVIER	SEE FIG. 12	.231" PILOT

11.10 TO INSTALL FASTENER, PREDRILL USING THE CORRECT DRILL SIZE FROM ABOVE. PRIOR TO PLACING SADDLE CLIP, A BEAD OF BUTYL CAULK SHOULD BE PLACED INTO THE PILOT HOLE. SET THE SADDLE CLIP IN PLACE AND INSERT THE FASTENER THROUGH THE CLIP AND TIGHTEN DOWN UNTIL ASSEMBLY IS SNUG. PANEL TO BE FASTENED AT EVERY SUPPORT. FASTENER REQUIREMENTS ARE BASED ON DESIGN LOADS AND MORE THAN TWO MAY BE REQUIRED. CONSULT A.P.I. REPRESENTATIVE OR FACTORY FOR ALLOWABLE PANEL & FASTENER DESIGN LOADS. USE A 600 RPM ELECTRIC SCREW GUN TO DRIVE FASTENERS. DO NOT USE IMPACT TOOLS. DO NOT OVER TIGHTEN.

11.11 THE FASTENING PATTERN TO USE WILL DEPEND ON THE PANEL THICKNESS, SPAN, AND DESIGN LOADS. CONSULT YOUR A.P.I. REPRESENTATIVE OR THE FACTORY FOR THE CORRECT PATTERN AND SCREW SIZES. SEE PATTERN #2 OR PATTERN #3 IN FIG. 9 AND FIG. 10. IF PATTERN #2 IS USED, ALWAYS PUT THE SECOND FASTENER NEXT TO THE OVERLAPPING RIB.

11.12 AFTER THE MAIN FASTENERS ARE IN PLACE THE OVERLAPPING RIB SHOULD BE FASTENED DOWN WITH #14x7/8" LAP SCREWS, FINISHED TO MATCH PANEL, AS SHOWN IN FIG. 8.

11.13 AFTER DRILLING OR CUTTING PANELS, ALWAYS REMOVE METAL CHIPS AND FOAM DUST THAT HAS FALLEN ON FLASHINGS OR PANELS.

11.14 IF THE ROOF SYSTEM CONSIST OF ONE ROW OF PANELS, THEN PROCEED TO THE NEXT PANEL AND REPEAT STEPS 12.5 THRU 12.13 UNTIL THE ROOF IS COMPLETE. IF THE ROOF SLOPE CONSIST OF MORE THAN ONE ROW OF PANELS DO NOT FASTEN THE PANELS TO THE STEEL SUPPORTS AT THE END LAP AND REFER TO SECTION 13.0 AP900 ROOF PANEL END LAP FASTENING.

11.15 AFTER ALL PANELS ARE INSTALLED, FASTEN THE EAVE, RAKE AND PEAK TRIM RESPECTIVELY. THE TRIM SHOULD BE FASTENED AS SHOWN IN THE ARCHITECTURAL DETAILS.

12.0 AP900 ROOF PANEL END LAP FASTENING

12.1 WHEN THE ROOF SLOPE CONTAINS MORE THAN ONE ROW OF PANELS THE FOLLOWING STEPS SHOULD BE OBSERVED IN THE FASTENING OF THE PANEL END LAP.

12.2 FOLLOWING THE PANEL INSTALLATION SEQUENCE AS OUTLINE IN SECTION 11.0 THE LOWER PANELS SHOULD BE INSTALLED FIRST. INSTALL THE PANEL FASTENERS AS DESCRIBED IN SECTION 12.0 EXCEPT FOR FASTENERS AT THE END LAP SUPPORT.

12.3 PRIOR TO PLACING THE UPPER ROW OF PANELS THE END LAPS OF THE LOWER PANELS MUST ALSO BE CAULKED. FIG. 14 SHOWS THE RECOMMENDED CAULKING PLACEMENT LOCATION. THE CAULKING ON THE END LAP SHOULD BE MARRIED TO THE CAULKING IN THE PANEL SIDE OVERLAP. PLACE CAULKING IMMEDIATELY PRIOR TO UPPER PANEL INSTALLATION.

12.4 NOTES:

1). ALL SURFACES TO BE CAULKED MUST BE CLEAN AND DRY.
2). APPLY END LAP SEAL TO PANEL SURFACE TO BE LAPPED.
3). SEALANT STRIPS SHOULD OVERLAP ONE ANOTHER SIDE BY SIDE BUT NOT LESS THAN 1".

12.5 IF THE API RIDGE CAP DETAIL IS TO BE USED THEN PLACE THE INSIDE RIDGE CAP AND CAULKING BEAD AS SHOWN IN FIG. 11. THE CAULKING BEAD SHOULD BE MARRIED TO THE BEAD IN THE OVERLAPPING RIB AS THE PANELS ARE SET.

12.6 API PANELS THAT INCORPORATE END LAPS WILL ARRIVE AT THE JOB SITE WITH THE FOAM AND BOTTOM SKIN IN PLACE. THE BOTTOM SKIN OF THE UPPER PANEL WILL HAVE A FACTORY SAW CUT 4 1/2" TO 6" UP FROM THE END OF PANEL, (SEE FIG. 13). REMOVE THE 4 1/2" TO 6" INCHES OF METAL AND FOAM AT THE END OF THE PANEL. CAREFULLY REMOVE ANY FOAM THAT REMAINS ON THE METAL SKIN TO INSURE A POSITIVE AIR AND WATER INFILTRATION SEAL.

12.7 AFTER PLACING THE CAULK AND THE UPPER PANEL IS PREPPED, SET THE UPPER PANEL IN PLACE. INSTALL THE MAIN #14 SCREWS WITH SADDLE CLIPS ON ALL SUPPORTS AS SHOWN IN FIG. 15. IF THE RIDGE SUPPORT DOES NOT FALL UNDER THE PEAK TRIM THEN FASTEN THE PANEL USING THE #14 SCREW AND SADDLE CLIP AS USED ON THE INTERMEDIATE RIBS. SEE SECTION 12.0 & FIG. 11 FOR FURTHER CLARIFICATION.

12.8 ONCE THE UPPER PANEL IS IN PLACE AND FASTENED DOWN, FASTEN THE END LAP DOWN USING THE #14x7/8" LAP SCREW. THE SCREWS SHOULD BE PLACED IN THE LOCATIONS SHOWN IN FIG. 15. THE SCREW SHOULD BE PLACED APPROXIMATELY 1" FROM THE END OF THE UPPER PANEL TOP SKIN SO THAT IT PENETRATES THE CAULKING AND ACHIEVES FULL COMPRESSION OF THE SKINS AT THE LAST ROW OF CAULKING.

12.9 REMOVE ALL METAL CHIPS AND FILINGS FROM THE DRILLING OF PILOT HOLES AND FASTENING OF THE PANELS IMMEDIATELY AFTER INSTALLATION. THESE FILINGS WILL RUST AND SPOIL THE PANEL SURFACE.

12.10 PROCEED TO THE NEXT PANEL AND REPEAT STEPS 13.2 THRU 13.9.

12.11 AFTER ALL PANELS ARE INSTALLED FASTEN THE EAVE, RAKE AND PEAK TRIM RESPECTIVELY. THE TRIM SHOULD BE FASTENED AS SHOWN IN THE ARCHITECTURAL DETAILS.

13.0 PEAK TRIM INSTALLATION STEPS

13.1 THROUGH FASTEN THE ROOF PANELS AT THE RIDGE AS SHOWN IN FIG. 11. IF THE FASTENERS DO NOT FALL UNDER THE PEAK TRIM THEN USE THE #14 TYPE _ SCREW AND SADDLE CLIP AND FASTEN SIMILAR TO THE INTERMEDIATE RIBS AT THREE FASTENERS PER PANEL.

13.2 TEMPORARILY SET THE PEAK TRIM IN PLACE TO DETERMINE THE LOCATION OF THE CAULKING AND CLOSURE STRIPS. RUN A LINE OR SNAP A CHALK LINE ALONG THE LENGTH OF THE PEAK TRIM FOR PROPER PLACEMENT OF THE CAULKING AND CLOSURE STRIPS.

13.3 APPLY BUTYL CAULKING OR TAPE INTO THE PANEL PROFILE AS SHOWN IN FIG. 11 IN PREPARATION FOR THE CLOSURE STRIP. ALL SURFACES TO RECEIVE CAULK SHOULD BE CLEAN AND DRY.

13.4 SEAT THE CLOSURE STRIP FIRMLY INTO THE CAULK TO INSURE A CONTINUOUS SEAL. IF ANY VOIDS EXIST ADD ADDITIONAL CAULK AND RESEAT THE CLOSURE CORRECTLY.

13.5 PLACE A BEAD OF CAULK OR SEALANT TAPE ON THE CLOSURE STRIP AND PLACE THE PEAK TRIM AS SHOWN IN FIG. 11. FASTEN THE PEAK TRIM AT EACH HIGH RIB WITH A #14x7/8" LAP SCREW. AT THE END OF THE PEAK TRIM PLACE TWO BEADS OF THE CAULK OR TAPE 2" FROM THE END AND OVERLAP THE NEXT PEAK TRIM APPROXIMATELY 4". FASTEN THE OVERLAPS DOWN WITH #14x7/8" LAP SCREWS AS REQUIRED.

13.6 IMMEDIATELY REMOVE ANY METAL CHIPS OR FILINGS LEFT FROM THE SCREWS OR SHEET METAL FABRICATION AS THEY MAY RUST AND SPOIL THE PANEL SURFACE.

14.0 OPTIONAL BATTEN CAP INSTALLATION

14.1 AN OPTIONAL BATTEN CAP IS AVAILABLE ON THE AP900 ROOF PANEL TO CONCEAL THE THROUGH FASTENERS WHEN REQUIRED. THE BATTEN CAP SHOULD BE INSTALLED USING THE FOLLOWING STEPS.

14.2 THE ROOF PANELS SHOULD BE INSTALLED FOLLOWING THE INSTRUCTIONS OF SECTION 12.0. AN AP-8 BATTEN SADDLE CLIP SHOULD BE USED IN LIEU OF THE STANDARD SADDLE CLIP. SEE FIG 12 FOR THE AP-8 BATTEN SADDLE CLIP ALL ROOF FLASHINGS AND TRIM SHOULD ALSO BE INSTALLED PRIOR TO BATTEN CAP INSTALLATION. NOTE: AN ADDITIONAL AP-8 BATTEN SADDLE CLIP MUST BE INSTALLED BETWEEN PURLINS AT A MAXIMUM 36" O.C. AND FASTENED WITH #14x7/8" LAP SCREWS IN LIEU OF THROUGH FASTENERS.

14.3 PRIOR TO PLACING THE AP-8 BATTEN SADDLE CLIP, A BEAD OF BUTYL CAULK SHOULD BE PLACED INTO THE PILOT HOLE. SET THE AP-8 BATTEN SADDLE CLIP IN PLACE AND INSERT THE #14 SCREW AND TIGHTEN UNTIL ASSEMBLY IS SNUG. SEE FIG. 7 FOR A DETAIL OF THE ENTIRE ASSEMBLY.

14.4 THE PANEL IS NOW READY TO ACCEPT THE BATTEN CAPS. IT IS RECOMMENDED THAT ALL PANELS BE INSTALLED PRIOR TO BATTEN CAP INSTALLATION TO PREVENT ANY POSSIBLE DAMAGE TO THE CAPS FROM ROOF TRAFFIC ON THE ROOF. INSTALL THE FIRST CAP ONTO THE LOWER PANEL ON THE ROOF. THE CAP SHOULD BE PUSHED DOWN FIRMLY OVER EACH AP-8 BATTEN SADDLE CLIP UNTIL IT IS SEATED CORRECTLY AS SHOWN IN FIG. 7. THE END OF THE CAP SHOULD BE INSTALLED FLUSH WITH THE LOWER END OF THE PANEL.

14.5 FOR PANEL LENGTHS GREATER THAN 20 FT., THE UPPER BATTEN CAPS SHOULD NOW BE INSTALLED. FIELD CUT BATTEN CAPS FROM THE STANDARD LENGTH PIECES AS REQUIRED. PUSH THE CAP FIRMLY DOWN OVER EACH AP-8 SADDLE CLIP UNTIL IT IS SEATED CORRECTLY. SEE FIG 7 FOR PROPER ALIGNMENT OF THE BATTEN CAPS.

14.6 THE TOP BATTEN CAP SHOULD BE CUT TO THE CORRECT LENGTH AND SET FLUSH WITH THE EDGE OF THE PANEL AS SHOWN IN FIG. 11.

14.7 DO NOT WALK OR STEP ON ANY TRIM MEMBER OR BATTEN CAPS. THIS WILL RESULT IN DAMAGE THAT WILL EFFECT BOTH PERFORMANCE AND APPEARANCE.

15.0 MISCELLANEOUS INFORMATION

15.1 TO PREVENT GALVANIC ACTION, ISOLATE ANY ALUMINUM TRIM SURFACES FROM SURFACE OF PANEL SUPPORT STEEL USING ONE OF THE FOLLOWING METHODS:

1). AN APPROVED SEALANT OR SEALANT TAPE.
2). A NONABSORBENT GASKET.
3). A DUCT TAPE OR EQUIVALENT TYPE TAPE.
4). PAINT THE INCOMPATIBLE METAL WITH A COATING OF HEAVY BODIED BITUMINOUS PAINT.

15.2 GAS BUBBLES ON FOAM PANELS ARE AN INDUSTRY-WIDE, SPORADIC PROBLEM. IF THEY OCCUR ON THIS PROJECT, THEY CAN EASILY BE REPAIRED BY DRILLING A 1/16" DIAMETER BY 1 3/4" DEEP HOLE NEAR THE CENTER OF THE GAS BUBBLE IN THE EXTERIOR SKIN TO ALLOW THE TRAPPED GAS TO BE RELEASED. THE REPAIR IS COMPLETED BY APPLYING A SMALL AMOUNT OF TOUCH-UP PAINT TO THE RAW EDGE OF THE DRILL HOLE. GAS BUBBLES SHOULD BE REPAIRED AS SOON AS POSSIBLE SINCE THEY WILL CONTINUE TO ENLARGE UNTIL CORRECTED.

16.0 TOUCH-UP PAINT

16.1 ERECTOR MUST TOUCH UP ALL EXPOSED FIELD AND FACTORY CUT EDGES WITH TOUCH-UP PAINT.

17.0 CLEANING AND MAINTENANCE OF PANELS

17.1 PROPER INSTALLATION AND MAINTENANCE ARE EXTREMELY IMPORTANT IN OBTAINING THE VERY BEST SERVICE AND APPEARANCE FROM PRE-PAINTED METAL PANELS.

17.2 ALL DIRT, OIL, GREASE, FINGERPRINTS OR OTHER CONTAMINANTS SHOULD BE REMOVED AFTER INSTALLATION TO ASSURE PROPER SERVICE LIFE OF THE PAINT FILM.

17.3 WARNING: STRONG SOLVENT AND ABRASIVE CLEANERS SHOULD BE AVOIDED.

17.4 THE RECOMMENDED METHOD, IF THE STAINS ARE NOT TOO SEVERE, IS TO USE A HOUSEHOLD CLEANER RECOMMENDED FOR USE ON PORCELAIN SINKS AND BATHTUBS. THIS SHOULD BE FOLLOWED WITH A THOROUGH RINSING. WIRE BRUSHING OR ANY ABRASIVE MATERIAL MAY DAMAGE THE PAINTED SURFACE AND SHOULD NOT BE USED.

17.5 DIRT PICKUP MAY CAUSE APPARENT DISCOLORATION OF THE PAINT WHEN IT HAS BEEN EXPOSED TO DIRT LADEN ATMOSPHERES FOR LONG PERIODS OF TIME. SLIGHT CHALKING MAY CAUSE SOME CHANGE IN APPEARANCE IN AREAS OF STRONG SUNLIGHT. A GOOD CLEANING WILL OFTEN RESTORE THE APPEARANCE OF THESE BUILDINGS.

17.6 IN MANY CASES SIMPLY WASHING THE BUILDING WITH PLAIN WATER USING PRESSURE SPRAYS WILL BE ADEQUATE. IN AREAS OF HEAVY DIRT DEPOSITS, A SOLUTION OF WATER AND DETERGENT (1/3 CUP OF TIDE PER GALLON OF WATER) MAY BE USED. USE A RAG, SPONGE, OR SOFT BRISTLE BRUSH TO CLEAN. A CLEAR WATER RINSE SHOULD FOLLOW.

17.7 MILDEW MAY OCCUR IN AREAS SUBJECTED TO HIGH HUMIDITY. TO REMOVE MILDEW USE THE FOLLOWING SOLUTION FOLLOWED WITH A CLEAR WATER RINSE: USE 1/3 CUP DETERGENT (TIDE), 2/3 CUP TRI-SODIUM PHOSPHATE (SOILEX), 1 QUART SODIUM HYPOCHLORITE 5% SOLUTION (CHLOROX), 3 QUARTS WATER.

17.8 CAULKING COMPOUNDS, OIL, GREASE, TARS, WAX AND SIMILAR SUBSTANCES CAN BE REMOVED BY WIPING WITH A CLOTH SOAKED WITH MINERAL SPIRITS. WIPE ONLY CONTAMINATED AREAS AND FOLLOW WITH DETERGENT CLEANING AND THOROUGH RINSING.

SEE SHEET A4 FOR FIGURES

VILLAGE SAFE WATER

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BEAVER SANITATION IMPROVEMENTS

HAUL GARAGE

AP 900 API ROOF PANEL
GENERAL INSTALLATION PROCEDURE

REVISION	BY	DATE

Project No. 9966
Date APRIL 2005
Designed MJL
Drawn MJL
Approved DSY

Sheet No. A3
SHEET 3 OF 8

File: J:\Jobdata\9966 Beaver\CADD\Drawings\Amendment 4 (Haul System)\Garage\A1-4 General Procedures.dwg

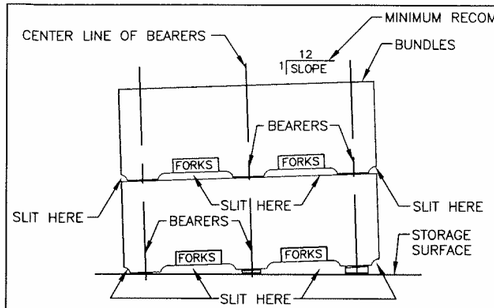
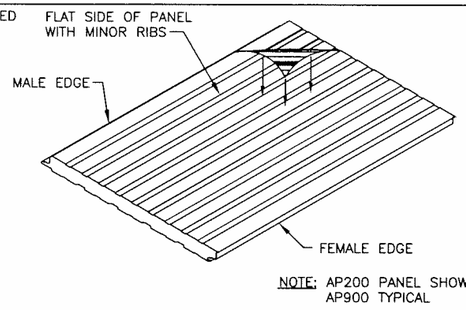


FIGURE 1



NOTE: AP200 PANEL SHOWN
AP900 TYPICAL

FIGURE 2

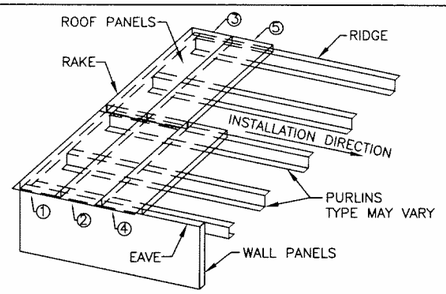


FIGURE 3

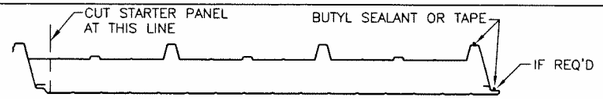


FIGURE 4

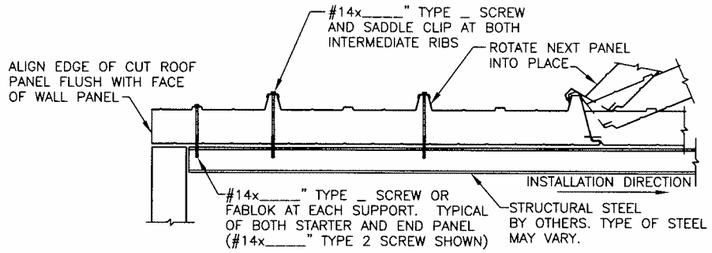


FIGURE 5

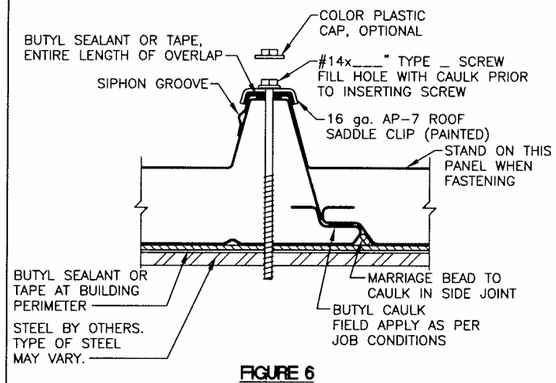


FIGURE 6

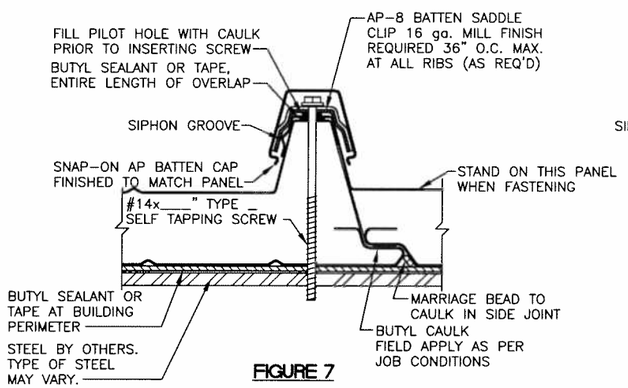


FIGURE 7

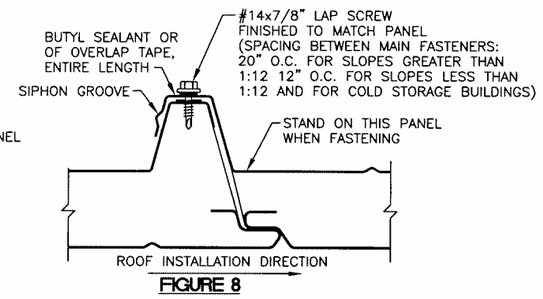
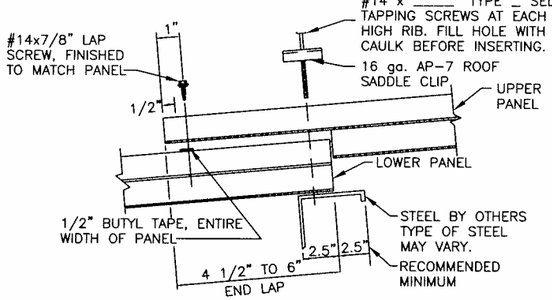


FIGURE 8



NOTE:
CONTRACTOR TO FIELD REMOVE FOAM FROM ENDLAP. EXTRA CARE SHOULD BE TAKEN TO REMOVE FOAM CLEANLY FROM METAL DIRECTLY OVER BUTYL TAPE.

FIGURE 14

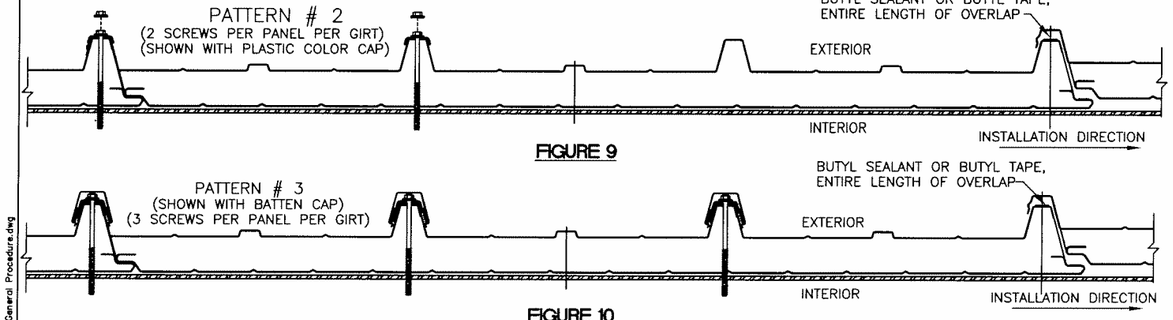
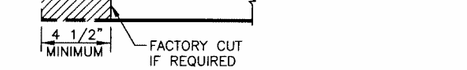
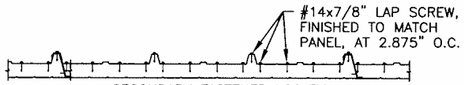


FIGURE 9

FIGURE 10





SECONDARY FASTENER LOCATION DETAIL
NOTE: SCREWS AT END LAP ONLY

FIGURE 13

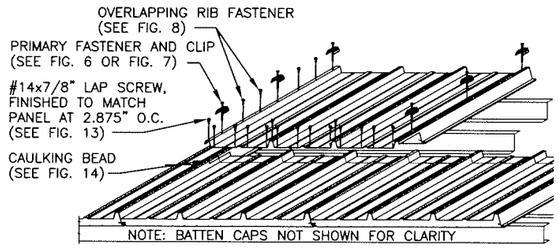
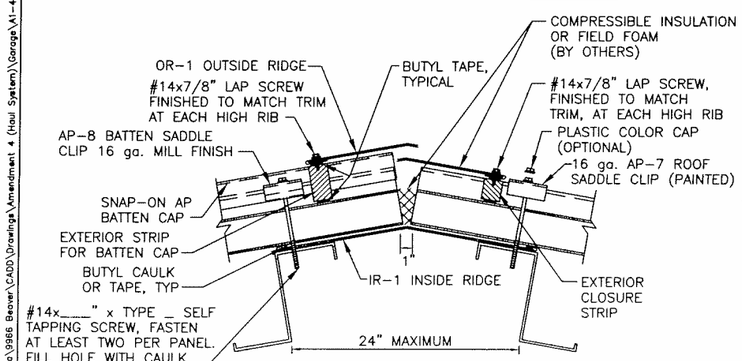


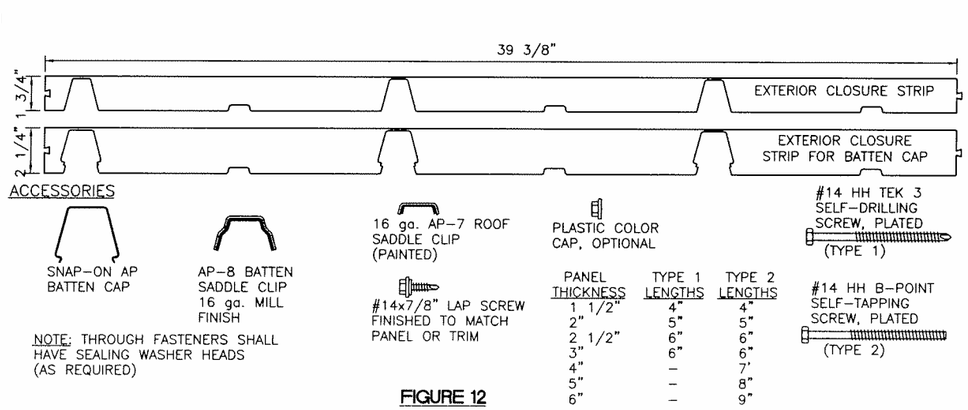
FIGURE 15

SEE SHEET A3 FOR SPECIFICATIONS



RIDGE LAYOUT WITH BATTEN CAP OR PLASTIC COLOR CAP

FIGURE 11



NOTE: THROUGH FASTENERS SHALL HAVE SEALING WASHER HEADS (AS REQUIRED)

PANEL THICKNESS	TYPE 1 LENGTHS	TYPE 2 LENGTHS
1 1/2"	4"	4"
2"	5"	5"
2 1/2"	6"	6"
3"	6"	6"
4"	–	7"
5"	–	8"
6"	–	9"

FIGURE 12

IMPORTANT INFORMATION

A. PLEASE READ ALL INFORMATION, RELATING TO YOUR PROJECT, BEFORE RECEIVING MATERIALS AT JOBSITE AND BEFORE STARTING ANY INSTALLATION PROCEDURES.

B. DETAILS IN THE CONSTRUCTION OR SHOP DRAWINGS TAKE PRECEDENCE OVER ANY SIMILAR DETAILS SHOWN ON THIS SHEET.

C. FASTENING SYSTEMS SHOWN ARE FOR GENERAL INFORMATION ONLY. THEY DO NOT CONSTITUTE FITNESS FOR END USE. CONTRACTOR MUST VERIFY THAT THE FASTENING SYSTEM AND LOAD DATA USED HAS BEEN APPROVED BY ARCHITECT OR ENGINEER OF RECORD AND IS IN ACCORDANCE WITH ALL LOCAL CODES AND CONDITIONS.

D. GOOD CONSTRUCTION PRACTICES SAFETY PROCEDURES TOGETHER WITH THE INFORMATION CONTAINED ON THIS SHEET AND THE CONSTRUCTION DRAWINGS ARE INTENDED TO PRODUCE A HIGH QUALITY INSTALLATION, AT THE LOWEST COST AND QUICKEST COMPLETION TIME.

E. THE FOLLOWING INFORMATION CONTAINED ON THIS SHEET IS INTENDED TO PROVIDE AN UNDERSTANDING OF API. AP200 & AP300 WALL PANEL SYSTEMS AND ITS USE WITH STEEL STRUCTURES. API INDUSTRIES INC. PRESENTS THIS INFORMATION IN GOOD FAITH BUT CAN NOT BE HELD RESPONSIBLE FOR THE MANNER IN WHICH IT IS USED.

F. API EXPLICITLY EXCLUDES RESPONSIBILITY FOR MISINTERPRETATION OF THIS INFORMATION, CODE INTERPRETATION OR PRINTING ERRORS.

G. DO NOT EXTRAPOLATE OR ATTEMPT TO GO BEYOND THE PARAMETERS OF THE INFORMATION OFFERED. SHOULD YOU HAVE ANY DOUBTS OR QUESTIONS CONCERNING THIS INFORMATION OR ITS USE DO NOT PRECEDE WITH ANY INSTALLATION STEPS. CONTACT YOUR LOCAL API REPRESENTATIVE IMMEDIATELY.

H. DUE TO API'S COMMITMENT TO EXCELLENCE IN QUALITY AND DESIGN PERFORMANCE THIS INFORMATION MAY BE AMENDED AN IMPROVED WITHOUT PRIOR NOTICE.

VILLAGE SAFE WATER

STATE OF ALASKA — 49TH — REGISTERED PROFESSIONAL ENGINEER — MIKE J. GUNICHEV — CE 11006 — 4-28-05

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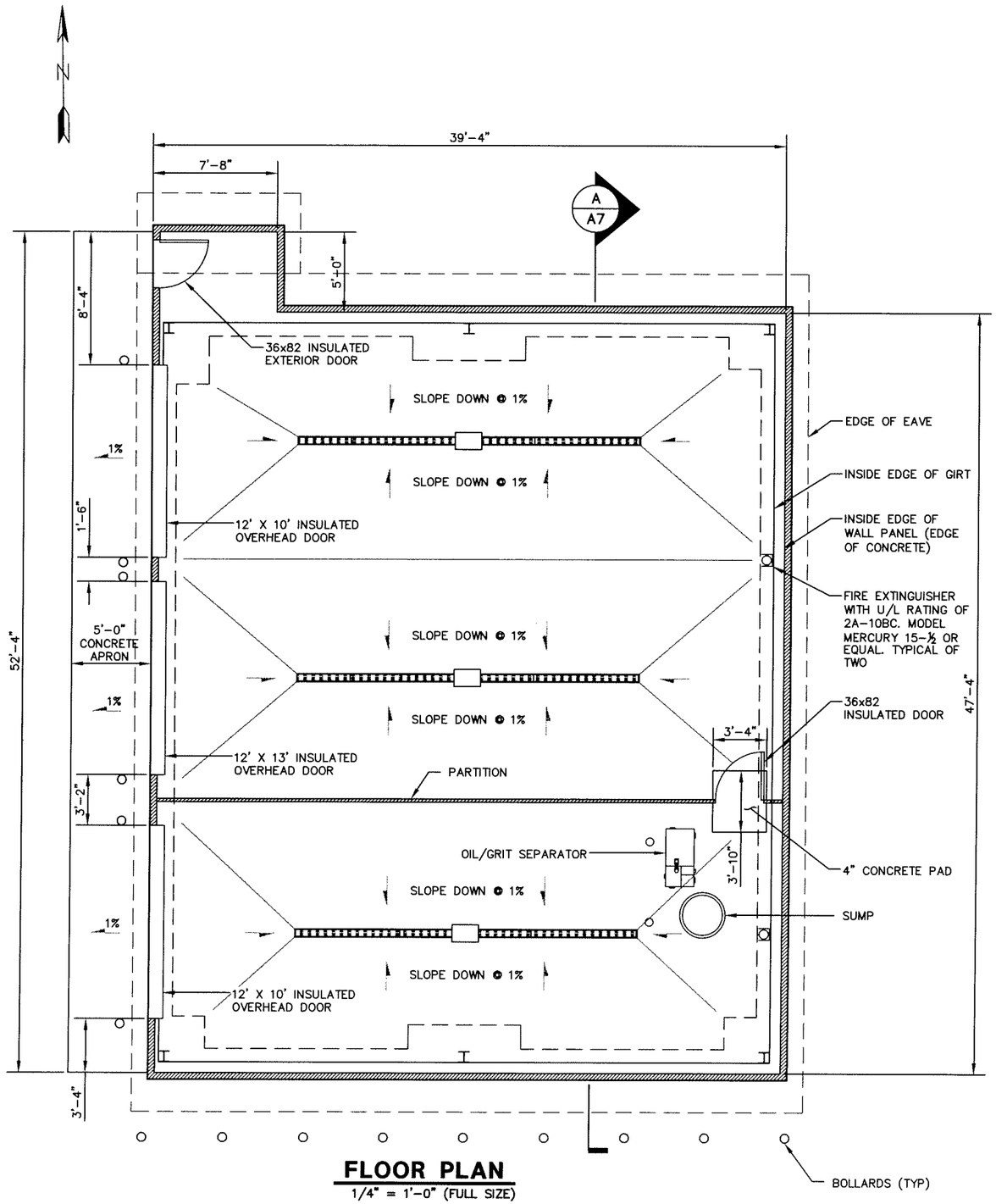
BEAVER SANITATION IMPROVEMENTS
HAUL GARAGE
AP 900 API ROOF PANEL
GENERAL INSTALLATION DETAILS

REVISION	BY	DATE

Project No. 9966
Date APRIL 2005
Designed MJL
Drawn MJL
Approved OSY

Sheet No. A4
SHEET 4 OF 8

File: J:\Jobsdata\9966 Beaver\CADD\Drawings\Amendment 4 (Haul System)\Garage\A1-4 General Procedure.dwg



FLOOR PLAN
1/4" = 1'-0" (FULL SIZE)

NOTES:

GENERAL NOTES:

1. COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES.
2. UNLESS OTHERWISE NOTED, PLAN DIMENSIONS ARE TO FACE OF CONCRETE AND FACE OF JAMBS.
3. DO NOT SCALE DRAWINGS: USE WRITTEN DIMENSIONS.
4. WHERE DOOR IS NOT LOCATED BY DIMENSION, LOCATE DOOR OPENING 6 INCHES FROM FACE OF WALL.
5. VERIFY SIZE AND LOCATION OF, AND PROVIDE ALL OPENINGS THROUGH FLOORS AND WALLS, ACCESS DOORS, FURRING, CURBS, ANCHORS AND INSERTS. PROVIDE ALL BASES AND BLOCKING REQUIRED FOR INSTALLATION OR MOUNTING OF ACCESSORIES, MECHANICAL, ELECTRICAL AND OTHER EQUIPMENT.
6. REFER TO STRUCTURAL, MECHANICAL, ELECTRICAL FOR ADDITIONAL NOTES AND INFORMATION.
7. REFER TO SHEET P1 FOR INFORMATION ON TRUCK FILL PIPING.
8. FOR WALL PANELS, USE THE TEK 3 SELF-DRILLING SCREW (TYPE 1) WITH LENGTHS AS INDICATED IN FIGURE 6 ON SHEET A2.
9. FOR ROOF PANELS, USE THE B-POINT SELF-TAPPING SCREW (TYPE 2) WITH LENGTHS AS INDICATED IN FIGURE 12 ON SHEET A4.
10. REFER TO FIGURE 6 ON SHEET A4 FOR APPROPRIATE SADDLE CLIP DETAIL.
11. WALL PANELS SHALL BE CONTINUOUS WITH NO HORIZONTAL SEAMS.
12. ROOF PANELS SHALL BE CONTINUOUS FROM RIDGE TO EAVE.

VILLAGE SAFE WATER

STATE OF ALASKA
49th
BRUCE J. LEBLANC
CRW ENGINEERING GROUP, LLC
REGISTERED PROFESSIONAL ENGINEER

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BEAVER SANITATION IMPROVEMENTS

HAUL GARAGE

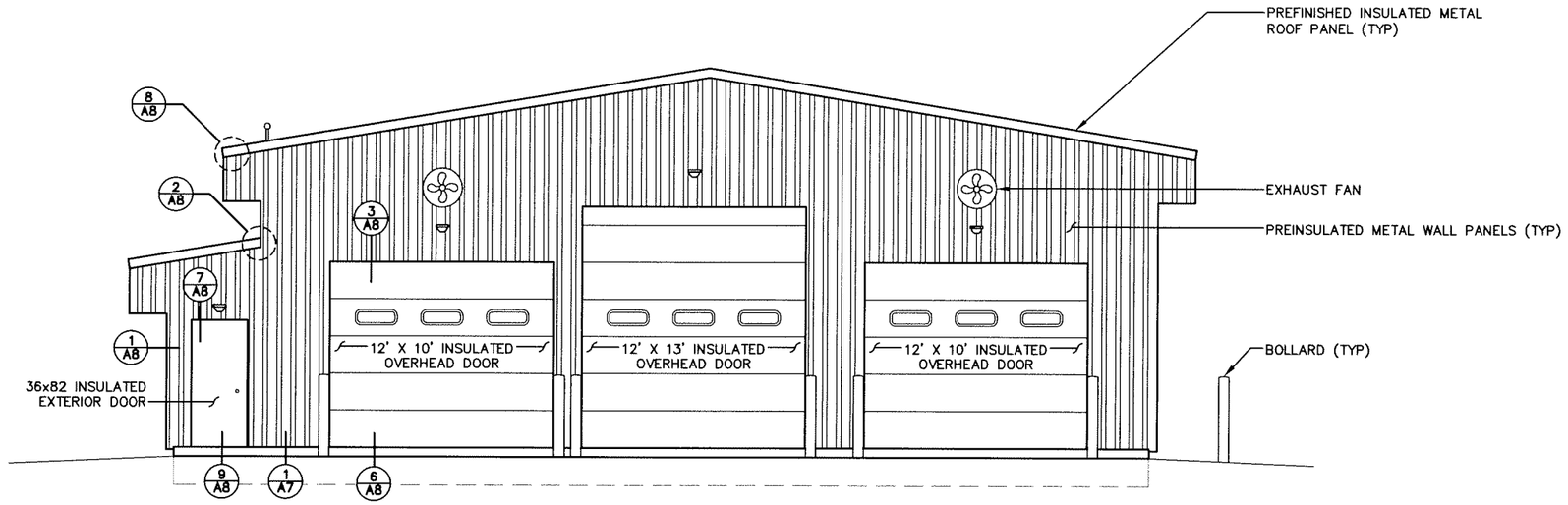
HAUL GARAGE
BUILDING FLOOR PLAN

REVISION	BY	DATE

Project No. 9966
Date APRIL 2005
Designed MJL
Drawn MJL
Approved DSY

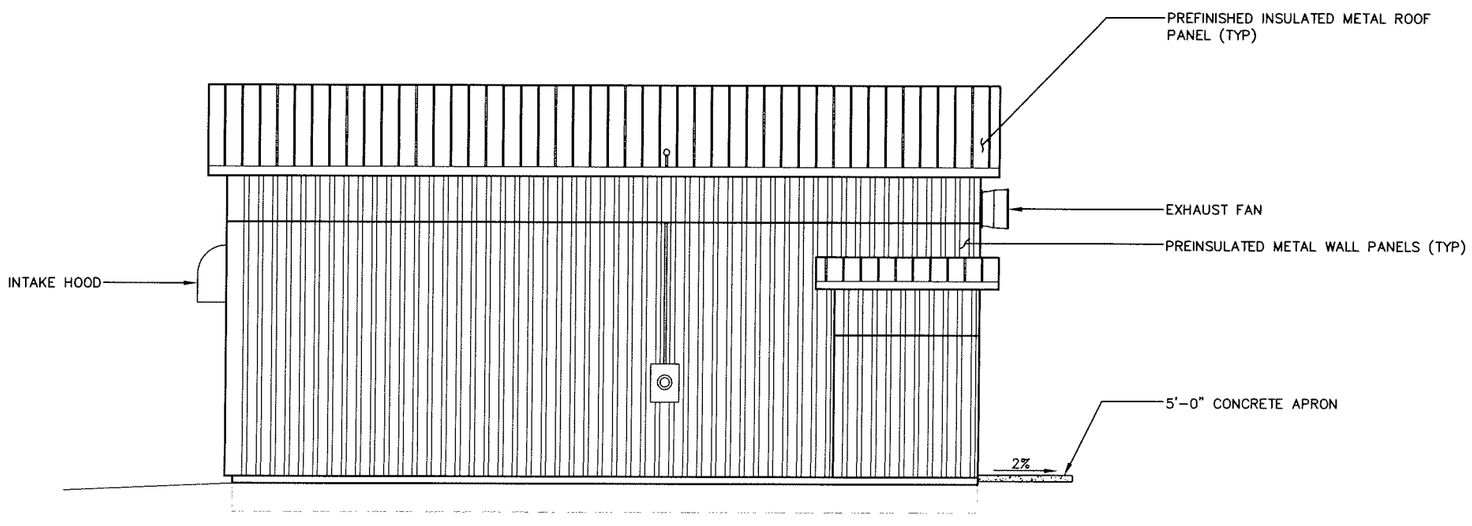
Sheet No. A5
SHEET 5 OF 8

File: J:\Jobdata\9966 Beaver\CADD\Drawings\Amendment 4 (Haul System)\Garage\A5-A8 Architectural.dwg



WEST ELEVATION

1/4" = 1'-0" (FULL SIZE)



NORTH ELEVATION

1/4" = 1'-0" (FULL SIZE)

VILLAGE SAFE WATER

STATE OF ALASKA — JAMES J. EGUNEICHE — 11006 — REGISTERED PROFESSIONAL ENGINEER

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BEAVER SANITATION IMPROVEMENTS

HAUL GARAGE

HAUL GARAGE BUILDING ELEVATIONS

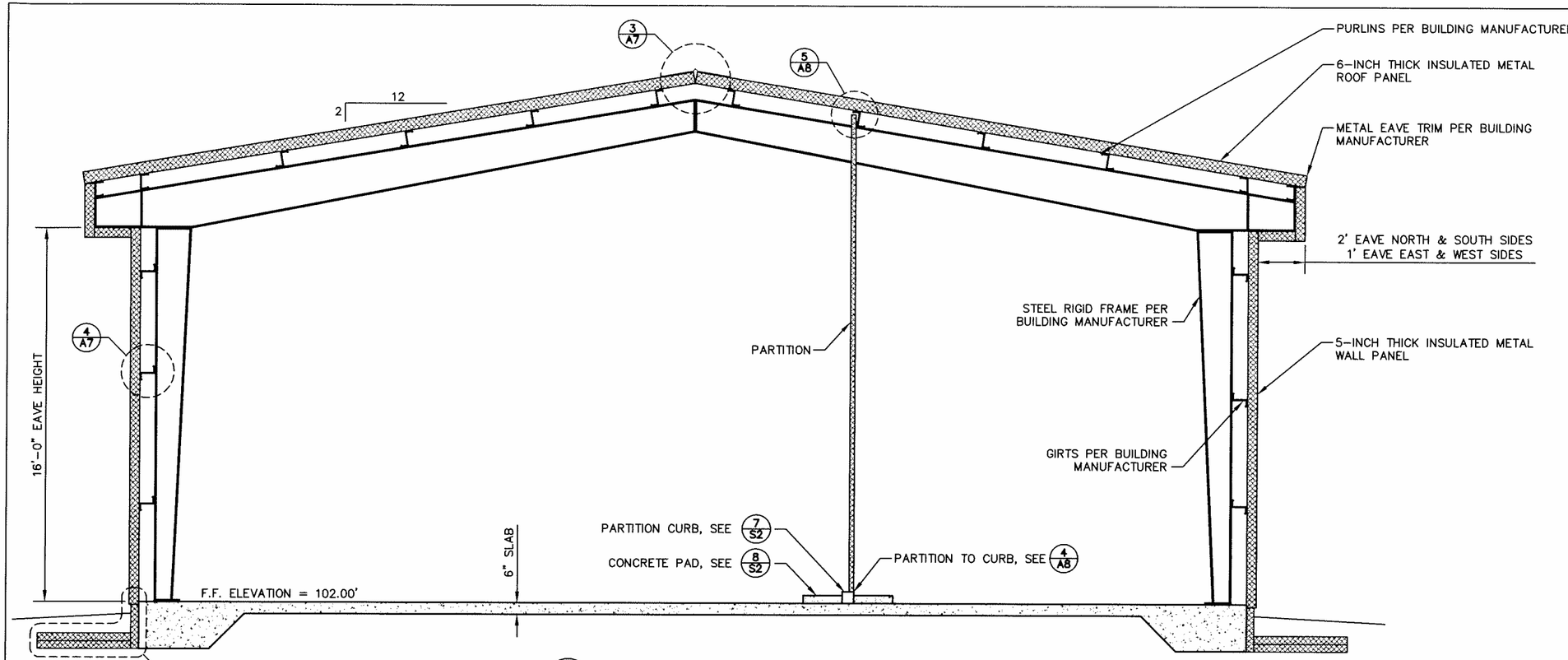
REVISION	BY	DATE

Project No. 9966
Date APRIL 2005
Designed MJL
Drawn M.M.
Approved DSY

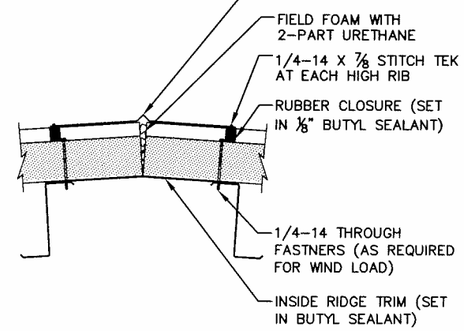
Sheet No. A6

SHEET 6 OF 8

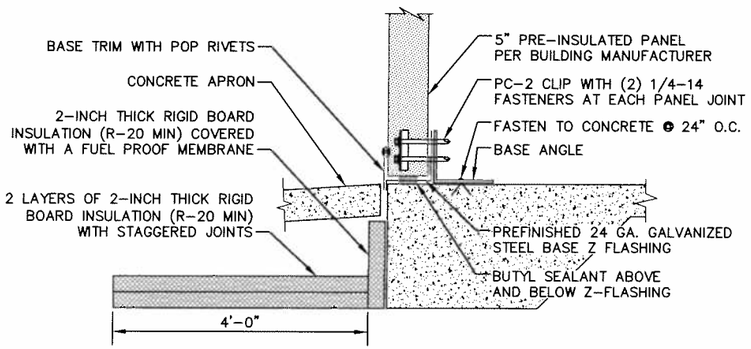
File: J:\Jobsdata\9966 Beaver\CADD\Drawings\Amendment 4 (Haul System)\Garage\A5-A8 Architectural.dwg



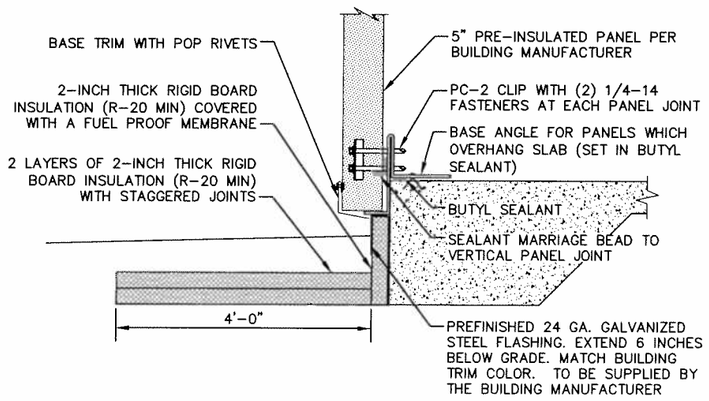
A/A5 **BUILDING SECTION**
SCALE: 1/4" = 1' (FULL SIZE)



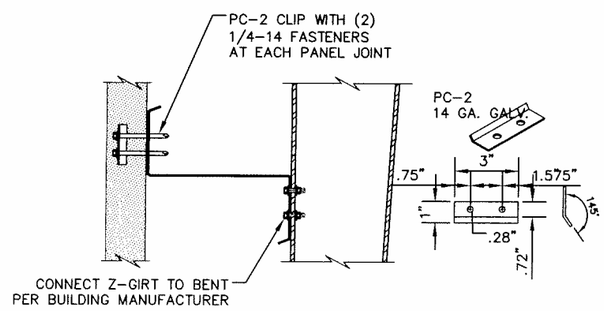
3/A7 **RIDGE CAP DETAIL**
SCALE: NTS



1/A6 **FRONT OF BUILDING WALL TO FOUNDATION DETAIL**
SCALE: NTS



2/A7 **SIDE AND REAR OF BUILDING WALL TO FOUNDATION DETAIL**
SCALE: NTS



4/A7 **WALL PANEL CONNECTION**
SCALE: NTS

VILLAGE SAFE WATER

STATE OF ALASKA — MIKE J. GUNICHEFF — 11006 — REGISTERED PROFESSIONAL ENGINEER — 49TH — 9-21-05

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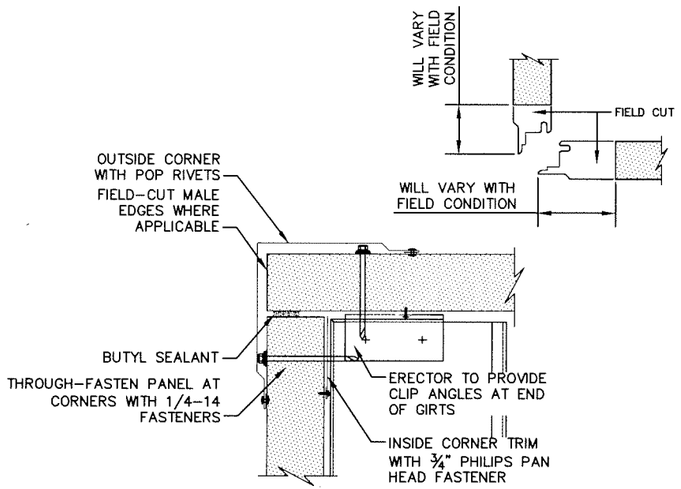
BEAVER SANITATION IMPROVEMENTS
HAUL GARAGE
HAUL GARAGE
BUILDING SECTION & DETAILS

REVISION	BY	DATE

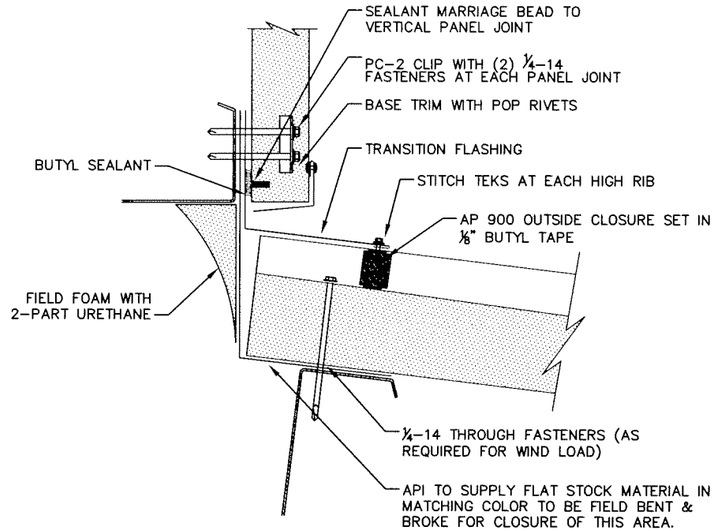
Project No. 9966
Date APRIL 2005
Designed MJL
Drawn MJL
Approved DSY

Sheet No. A7
SHEET 7 OF 8

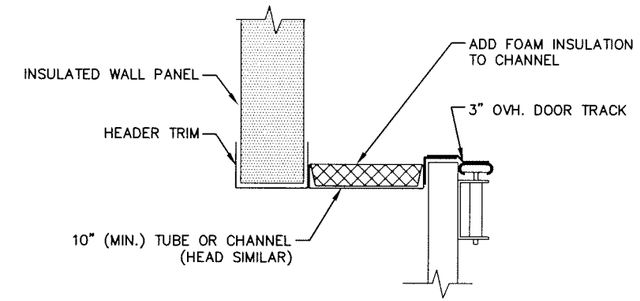
File: J:\Jobsdata\9966 Beaver\CADD\Drawings\Amendment 4 (Haul System)\Garage\A5-A8 Architectural.dwg



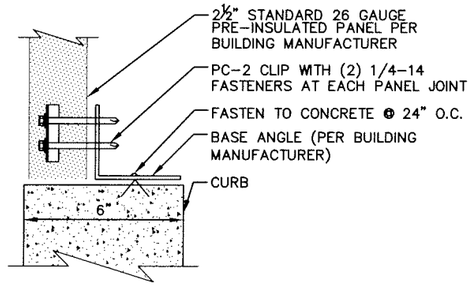
1 / A6 **OUTSIDE CORNER DETAIL**
SCALE: NTS



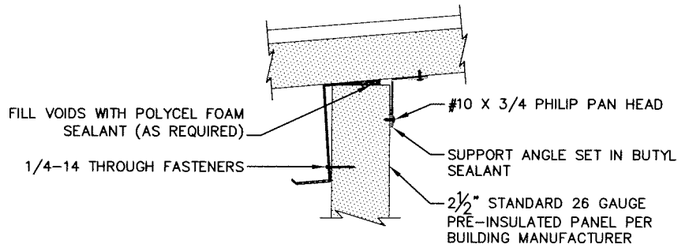
2 / A6 **WALL TO FOYER ROOF TRANSITION**
SCALE: NTS



3 / A6 **OVERHEAD DOOR FRAMING DETAIL**
SCALE: NTS



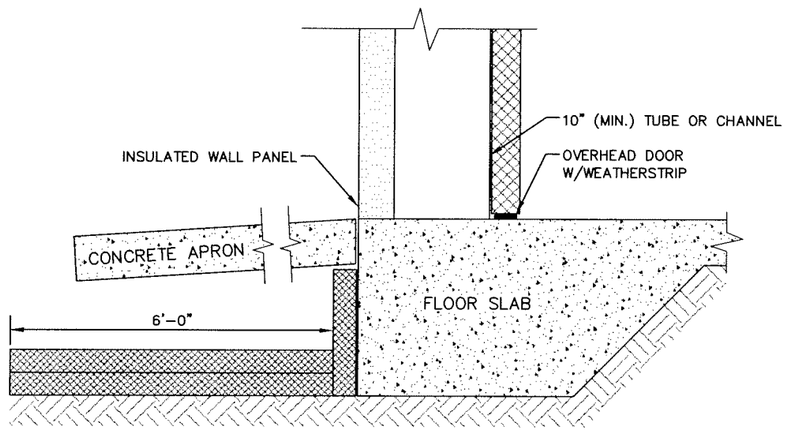
4 / A7 **PARTITION TO CURB DETAIL**
SCALE: NTS



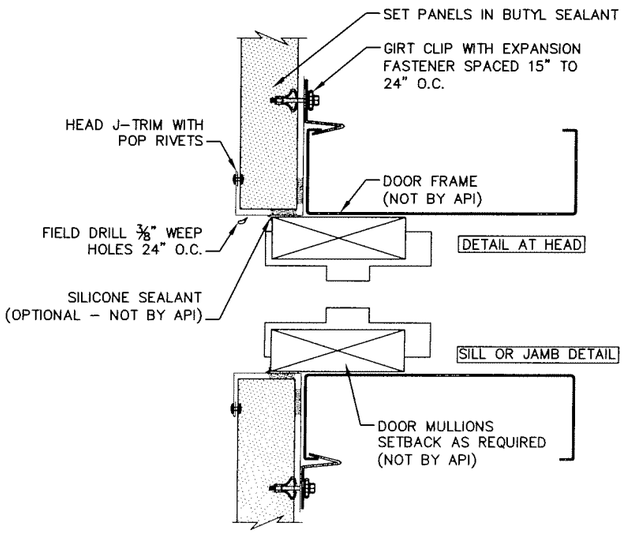
(PARALLEL TO PURLIN)

NOTE: ACTUAL CONDITION MAY VARY DEPENDING UPON LOCATION OF PURLINS.

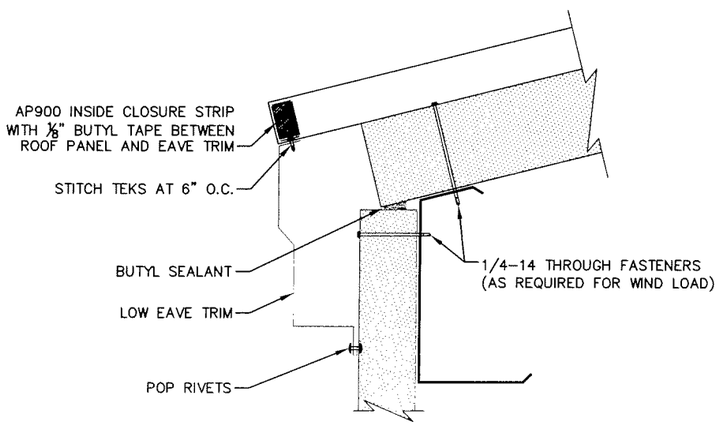
5 / A7 **PARTITION TO ROOF DETAIL**
SCALE: NTS



6 / A6 **OVERHEAD DOOR THRESHOLD DETAIL**
SCALE: NTS



7 / A6 **FRAMED OPENING DETAIL**
SCALE: NTS



8 / A6 **EAVE DETAIL**
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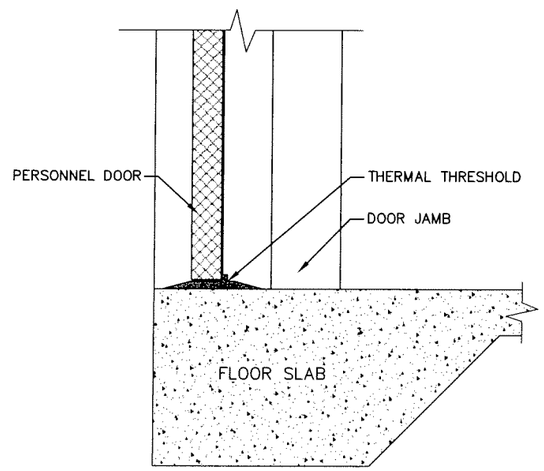

9 / A6 **PERSONNEL DOOR THRESHOLD DETAIL**
SCALE: NTS

VILLAGE SAFE WATER

STATE OF ALASKA — REGISTERED PROFESSIONAL ENGINEER — CLARKE L. GUMENICK — CE 11006 — 4/30/07

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BEAVER SANITATION IMPROVEMENTS
HAUL GARAGE
HAUL GARAGE BUILDING DETAILS

REVISION	BY	DATE

Project No. 9966
Date APRIL 2005
Designed MJL
Drawn MJL
Approved DSY

Sheet No. A8
SHEET 8 OF 8

File: J:\Jobsdata\9966 Beaver\CADD\Drawings\Amendment 4 (Haul System)\Garage\A5-A8 Architectural.dwg

GENERAL STRUCTURAL NOTES

THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS AMONG THE DRAWINGS BEFORE STARTING ANY WORK OR FABRICATION. ANY DISCREPANCIES FOUND AMONG THE DRAWINGS, SITE CONDITIONS, SPECIFICATIONS AND THESE NOTES SHALL BE REPORTED TO THE CONTRACTING OFFICER AT ONCE.

ALL CONSTRUCTION SHALL COMPLY WITH THE 2000 INTERNATIONAL BUILDING CODE.

STRUCTURAL DESIGN DATA

DESIGN CODE: 2000 INTERNATIONAL BUILDING CODE

SLAB ON GRADE LIVE LOAD: 100 PSF

SNOW: 46 PSF BASIC, 70/0 PSF UNBALANCED, 70 PSF EAVE OVERHANG.

WIND LOADS: 3-SECOND GUST DESIGN WIND SPEED = 90 MPH, EXPOSURE C, Iw = 1.0

SEISMIC CRITERIA: S_{DS}= 0.61, S_{D1} = 0.28, SITE CLASS D, SEISMIC USE GROUP I, SEISMIC DESIGN CATEGORY D.

FOUNDATIONS

ALL ORGANIC, FROZEN, OR OTHER UNSUITABLE MATERIALS SHALL BE REMOVED FROM SUB-GRADE AND REPLACED WITH COMPACTED GRANULAR NON-FROST SUSCEPTIBLE (NFS) FILL. ALL FOOTINGS SHALL BE FOUNDED UPON UNDISTURBED, NATURAL SUB-GRADE OR COMPACTED NFS BACKFILL WITH A MINIMUM ALLOWABLE BEARING CAPACITY OF 3,000 PSF.

STRUCTURAL CONCRETE NOTES

CAST-IN-PLACE CONCRETE SHALL HAVE MINIMUM 28 DAY COMPRESSIVE STRENGTH:

SLABS AND FOOTINGS: 3000 PSI 0.45 W/C MAX

PORTLAND CEMENT SHALL BE TYPE I OR III, AND CONFORM TO ASTM C 150. MAXIMUM AGGREGATE SIZE SHALL BE 1 INCH. ALL AGGREGATE SHALL BE NORMAL WEIGHT MATERIAL CONFORMING TO ASTM C 33. WATER SHALL MEET ASTM C94, SECTION 4.1.3. FINE AGGREGATE SHALL BE FREE OF MATERIAL WITH DELETERIOUS REACTIVITY TO ALKALI IN CEMENT.

ALL CONCRETE SHALL CONTAIN A WATER REDUCING ADMIXTURE MEETING ASTM C 494, TYPE A AND NOT MORE THAN 0.1 PERCENT CHLORIDE IONS.

ALL CONCRETE SHALL CONTAIN AN AIR-ENTRAINING ADMIXTURE COMPLYING WITH ASTM C 260. ENTRAINED AIR CONTENT SHALL BE 5% TO 7%.

COLD WEATHER CONCRETE SHALL CONFORM TO ACI 306. CALCIUM CHLORIDE SHALL NOT BE USED.

ALL REINFORCING BARS SHALL MEET ASTM A 615, GRADE 60. ALL CONCRETE REINFORCING SHALL BE DETAILED, FABRICATED, LABELED, SUPPORTED AND SPACED IN FORMS AND SECURED IN PLACE IN ACCORDANCE WITH THE LATEST EDITIONS OF ACI 318 AND ACI 315.

THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT FOR CAST-IN-PLACE CONCRETE:

A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3-INCHES

B. ALL OTHER CONCRETE: 1-1/2 INCHES

DOWELS SHALL MATCH SIZE AND LOCATION OF MAIN REINFORCING.

CHECKED SHOP DRAWINGS SHOWING REINFORCING DETAILS, INCLUDING STEEL SIZES, SPACING AND PLACEMENT SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION.

STRUCTURAL STEEL

MATERIALS:

CHANNELS, ANGLES, & PLATES	ASTM A 36
WELDED HEADED STUDS	AWS D1.1, TYPE B AND ASTM A 108, GRADE 1015 OR 1020
THREADED RODS	ASTM A 36
NON-SHRINK GROUT	ASTM C 1107
WELD FILLER METAL	
MINIMUM TENSILE STRENGTH	70 KSI
MINIMUM YIELD STRENGTH	58 KSI
CVN TOUGHNESS	20 FT-LBS @ 0 F AND 40 FT-LBS @ 50 F
ELONGATION	22% MINIMUM
GALVANIZING	ASTM A 385

STRUCTURAL ABBREVIATIONS

&	And
@	At
℄	Center Line
AB	Anchor Bolt
AGGR	Aggregate
ALT	Alternate
APPROX	Approximate
ARCH	Architectural, Architect
ASTM	American Society for Testing and Materials
AWW	All Weather Wood
BLDG	Building
BOT	Bottom
BTWN	Between
CLR	Clear
COL	Column
CONC	Concrete
CONN	Connection
CONT	Continuous
COORD	Coordinate
CTR	Center
DICA	Drilled-in-Concrete Anchor
DIM	Dimension
EA	Each
EF	Each Face
ELEV	Elevation
EQ	Equal
ES	Each Side
EW	Each Way
FDN	Foundation
FF	Finished Floor
FOC	Face of Concrete
FT or '	Foot or Feet
FTG	Footing
GALV	Galvanized
GR	Grade
HDG	Hot-Dip Galvanized
HOR	Horizontal
IBC	International Building Code
IN OR "	Inch
INSUL	Insulation
INTMD	Intermediate.
JT	Joint
KSI	Kips per Square Inch
L	Long, Length, Angle
LL	Live Load
LOC	Location
LONG	Longitudinal
MAX	Maximum
MECH	Mechanical
MFR	Manufacturer
MIN	Minimum
MISC	Miscellaneous
MPH	Miles Per Hour
NFS	Non-Frost Susceptible
OC	On Center
OH	Over Head
PL	Plate
PSF	Pounds Per Square Foot
PRE FAB	Pre Fabricated
PSI	Pounds Per Square Inch
REINF	Reinforced
REQ'D	Required
SIM	Similar
SOG	Slab on Grade
STD	Standard
T&B	Top & Bottom
TO	Top of
TOC	Top Of Concrete
TYP	Typical
UNO	Unless Noted Otherwise
VERT	Vertical
W/	With
W	Wide flange, Wide, Width
W/c	Water Content

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VILLAGE SAFE WATER

STATE OF ALASKA 49TH
KENNETH D ANDERSEN
REGISTERED PROFESSIONAL ENGINEER
No. CE 6068
04/15/05

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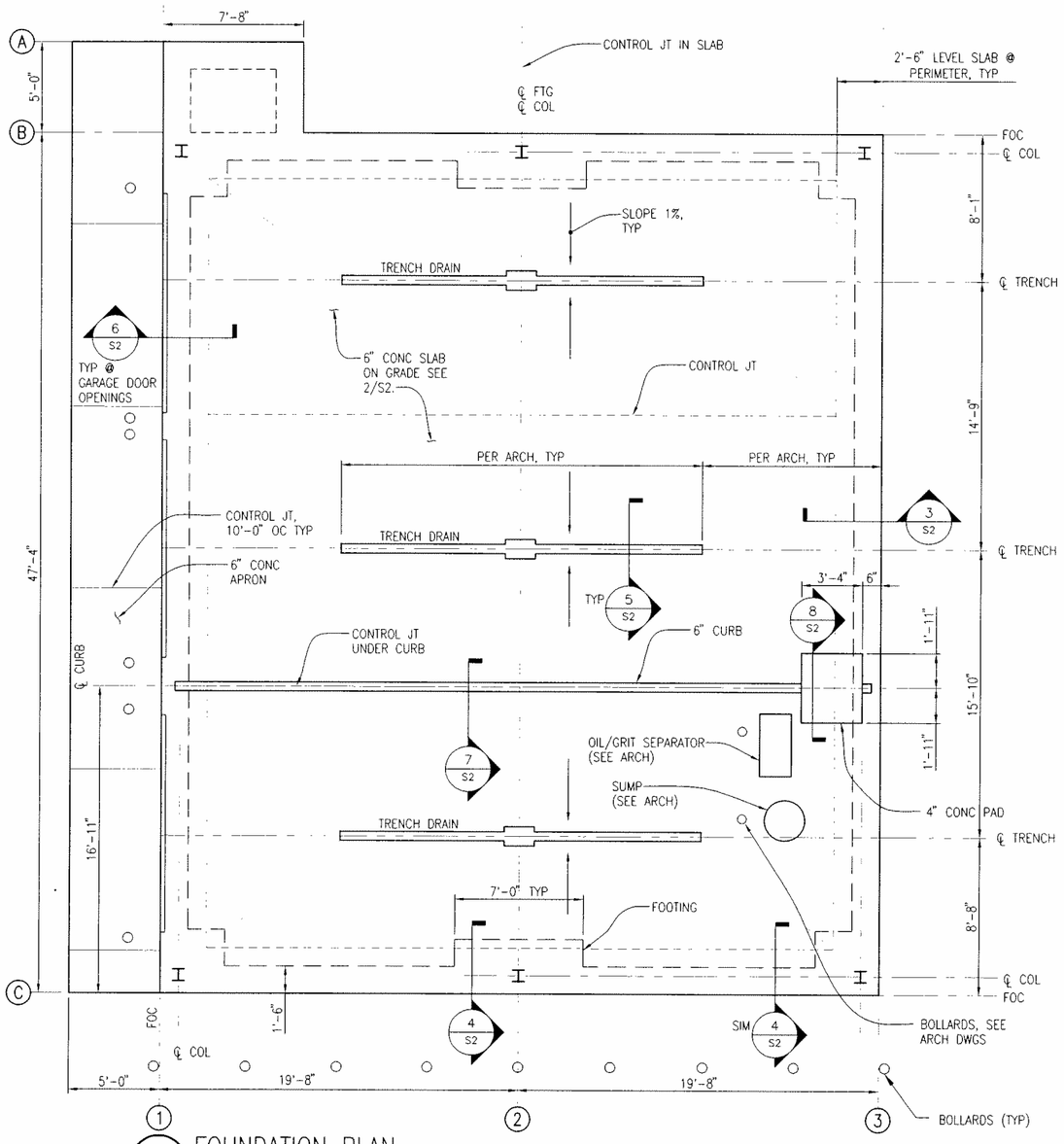
BEAVER SANITATION IMPROVEMENTS
HAUL GARAGE
HAUL GARAGE
GENERAL STRUCTURAL NOTES

REVISION	BY	DATE

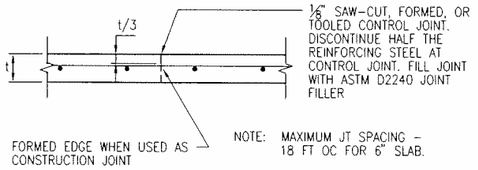
Project No. 9966
Date APRIL 2005
Designed AF
Drawn CSB
Approved KA

Sheet No. S1
SHEET 1 OF 3

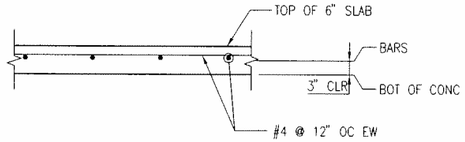
File: 04023-S1-GenNotes.dwg



1 FOUNDATION PLAN
SCALE 1/4" = 1'-0"

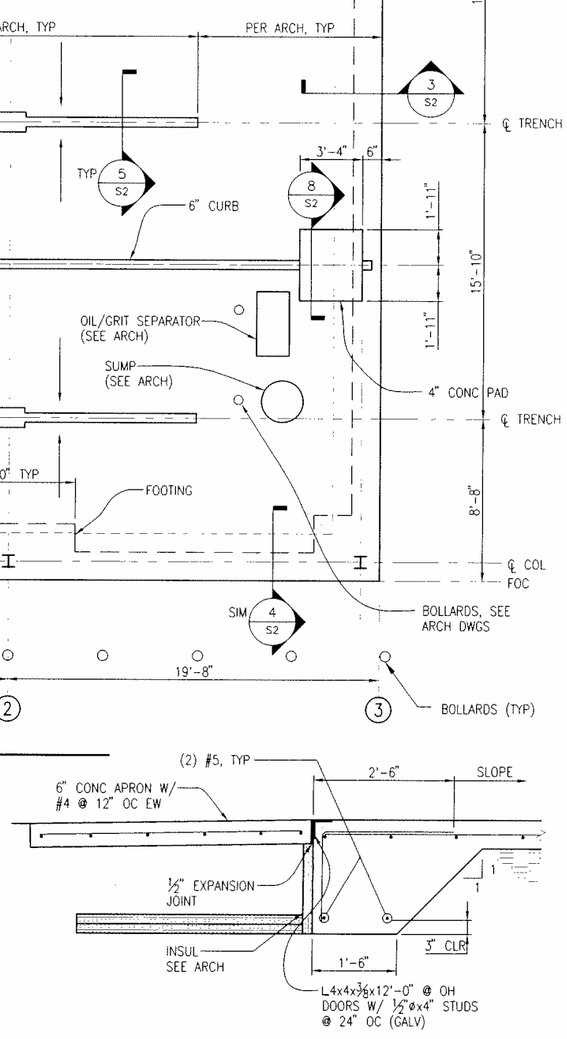


TYPICAL CRACK CONTROL JOINT

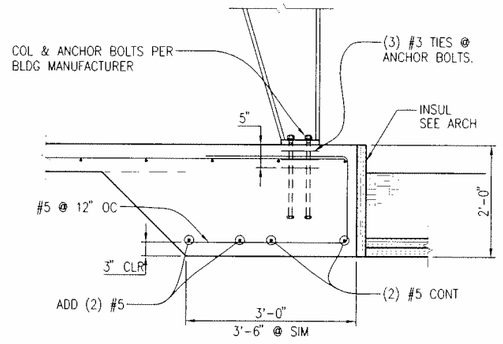


TYPICAL SLAB ON GRADE

2 S2 TYP. SLAB ON GRADE DETAILS
SCALE 3/4" = 1'-0"

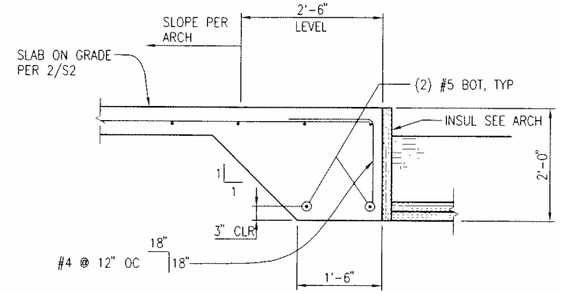


6 S2 GARAGE DOOR OPENINGS
SCALE 3/4" = 1'-0"



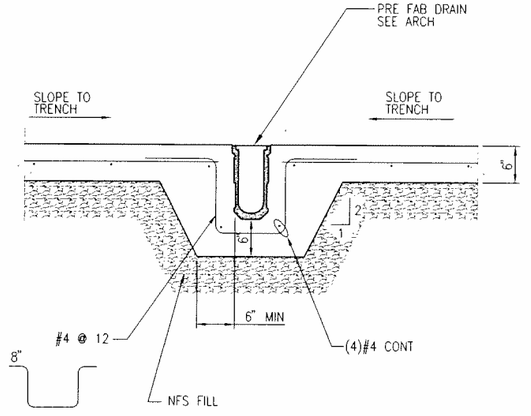
NOTE:
FOR DETAILS NOT SPECIFIED SEE 3/S2

4 S2 FOOTING @ COLUMN
SCALE 3/4" = 1'-0"

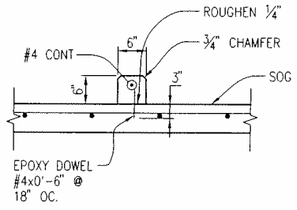


3 S2 THICKENED SLAB
SCALE 3/4" = 1'-0"

NOTE
SIDEWALL OF TRENCH AND HANDHOLES IS 6" MIN. THICKNESS

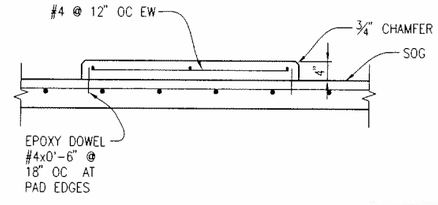


5 S2 SECTION @ TRENCH
SCALE 1" = 1'-0"



NOTE:
PARTITION WALL NOT SHOWN.

7 S2 PARTITION WALL CURB
SCALE 3/4" = 1'-0"



8 S2 CONC PAD
SCALE 3/4" = 1'-0"

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VILLAGE SAFE WATER

STATE OF ALASKA 49TH KENNETH D. ANDERSEN REGISTERED PROFESSIONAL ENGINEER

04/15/05

CRW ENGINEERING GROUP, LLC
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ANCHORAGE, ALASKA 99503
PHONE: (907) 562-3252
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BEAVER SANITATION IMPROVEMENTS

HAUL GARAGE

HAUL GARAGE
FOUNDATION PLAN & DETAILS

REVISION	BY	DATE

Project No. 9966
Date APRIL 2005
Designed AF
Drawn CSB
Approved KA

Sheet No. S2

SHEET 2 OF 3

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 All concrete work shall comply with ACI 301.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Design Mixtures: For each concrete mixture.

C. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, bent bar diagrams, bar arrangement, splices and laps, and supports for concrete reinforcement.

D. Field quality-control test and inspection reports.

1.3 QUALITY ASSURANCE

A. Testing Agency Qualifications: An independent agency, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated, as documented according to ASTM E 548.

1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-01 or an equivalent certification program.

B. Concrete Testing Service: Engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.

PART 2 - PRODUCTS NOT NOTED IN GENERAL NOTES

2.1 FORM-FACING MATERIALS

A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces.

B. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

2.2 REINFORCEMENT ACCESSORIES

A. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete.

2.3 CONCRETE MIXING

A. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Mix concrete materials in appropriate drum-type batch machine mixer.

1. For mixer capacity of 1 cu. yd. or smaller, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released.

2. For mixer capacity larger than 1 cu. yd., increase mixing time by 15 seconds for each additional 1 cu. yd.

PART 3 - EXECUTION

3.1 FORMWORK

A. Design, erect, shore, brace, and maintain formwork, according to ACI 301.

B. Clean forms and adjacent surfaces to receive concrete. Remove debris before placing concrete.

C. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

D. Accurately position, support, and secure reinforcement against displacement. Do not tack weld crossing reinforcing bars.

E. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

3.2 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.

B. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.

C. Deposit concrete continuously in one layer that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. Deposit concrete to avoid segregation.

D. Cold-Weather Placement: Comply with ACI 306.1 Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.

3.3 FINISHING FLOORS AND SLABS

E. General: Comply with ACI 302.1R recommendations for operations for concrete surfaces. Do not wet concrete surfaces.

F. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.

1. Apply a trowel finish to all wearing surfaces.

2. Finish surfaces to the following tolerances, according to ASTM E 1155 (ASTM E 1155M):

3. Finish and measure surface so gap at any point between concrete surface and an unleveled, freestanding, 10-foot- (3.05-m-) long straightedge resting on 2 high spots and placed anywhere on the surface does not exceed 3/16 inch (4.8 mm).

G. Apply Dayton Chemical J13 and J17 hardener/sealer or approved substitute, per the Manufacturer's recommendations.

3.4 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.

3.5 CONCRETE SURFACE REPAIRS

A. Defective Concrete: Repair and patch defective areas when approved by Engineer. Remove and replace concrete that cannot be repaired and patched to Engineer's approval.

B. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains that cannot be removed by cleaning.

1. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Engineer.

3.6 FIELD QUALITY CONTROL

A. Testing and Inspecting: Engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.

B. Inspections:

1. Steel reinforcement placement.
2. Verification of use of required design mixture.
3. Concrete placement, including conveying and depositing.
4. Curing procedures and maintenance of curing temperature.

C. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:

1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture.
2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F and below and when 80 deg F and above, and one test for each composite sample.
5. Compression Test Specimens: ASTM C 31/C 31M.

a. Cast and laboratory cure two sets of two standard cylinder specimens for each composite sample.

6. Compressive-Strength Tests: ASTM C 39/C 39M; test one set of two laboratory-cured specimens at 7 days and one set of two specimens at 28 days.
7. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.
8. Test results shall be reported in writing to Engineer, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
9. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Engineer. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by Engineer.
10. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
11. Correct deficiencies in the Work that test reports and inspections indicate dos not comply with the Contract Documents.

D. Measure the concrete surface according to ASTM 1155 within 24 hours of finishing.

METAL BUILDING SYSTEMS

PART 1 - EXECUTION

1.1 EXAMINATION

A. Before erection proceeds, survey elevations and locations of concrete surfaces and locations of embedments to receive structural framing, for compliance with requirements and building system tolerances.

1. Engage land surveyor to perform surveying.

1.2 ERECTION OF STRUCTURAL FRAMING

A. Erect metal building system according to manufacturer's written erection instructions and erection drawings.

B. Do not field cut, drill, or alter structural members without written approval from metal building system manufacturer's professional engineer.

C. Maintain structural stability of frame during erection.

D. Align and adjust structural framing before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with framing. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.

1. Primary and Secondary Framing and End Walls: Erect framing true to line, level, plumb, rigid, and secure.

E. Bracing: Install bracing in roof and sidewalls where indicated on erection drawings.

F. Erection Tolerances: Maintain erection tolerances of structural framing within AISC's "Code of Standard Practice for Steel Buildings and Bridges."

1.3 METAL PANEL INSTALLATION, GENERAL

A. Examination: Examine primary and secondary framing to verify that structural panel support members and anchorages have been installed within alignment tolerances required by manufacturer.

B. General: Anchor metal panels and other components of the Work securely in place, with provisions for thermal and structural movement. Field cutting of metal panels by torch is not permitted unless approved in writing by manufacturer.

C. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by permanent separation as recommended by metal panel manufacturer.

D. Joint Sealers: Install gaskets, joint fillers, and sealants where indicated and where required for weatherproof performance of metal panel assemblies. Provide types of gaskets, fillers, and sealants indicated or, if not indicated, types recommended by metal panel manufacturer.

1. Seal metal panel end laps with double beads of tape or sealant, full width of panel. Seal side joints where recommended by metal panel manufacturer.

2. Prepare joints and apply sealants to comply with requirements in Division 7 Section "Joint Sealants."

1.4 METAL ROOF PANEL INSTALLATION

A. General: Provide metal roof panels of full length from eave to ridge, unless otherwise indicated or restricted by shipping limitations.

1.5 METAL WALL PANEL INSTALLATION

B. General: Install metal wall panels in orientation, sizes, and locations indicated on Drawings. Install panels perpendicular to girts, extending full height of building, unless otherwise indicated. Anchor metal wall panels and other components of the Work securely in place, with provisions for thermal and structural movement.

C. Installation Tolerances: Shim and align metal wall panels within installed tolerance of 1/4 inch in 20 feet (6 mm in 6 m), nonaccumulative, on level, plumb, and location lines as indicated and within 1/8-inch (3-mm) offset of adjoining faces and of alignment of matching profiles.

1.6 DOOR AND FRAME INSTALLATION

A. General: Install doors and frames plumb, rigid, properly aligned, and securely fastened in place according to manufacturer's written instructions.

1. At fire-rated openings, install frames according to, and doors with clearances specified in, NFPA 80.

1.7 ACCESSORY INSTALLATION

A. General: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.

1.8 FIELD QUALITY CONTROL

B. Testing Agency: Owner will engage a qualified testing and inspecting agency to perform the following tests and inspections and to submit reports.

C. Tests and Inspections:

1. High-Strength, Field-Bolted Connections.
2. Welded Connections: In accordance with AWS D1.1

D. Correct deficiencies in Work that test reports and inspections indicate do not comply with the Contract Documents.

1.9 ADJUSTING

A. Doors: After completing installation, test and adjust doors to operate easily, free of warp, twist, or distortion.

B. Door Hardware: Adjust and check each operating item of door hardware and each door to ensure proper operation and function of every unit. Replace units that cannot be adjusted to operate as intended.

1. Door Closers: Adjust door closers to compensate for final operation of heating and ventilating equipment. Adjust sweep period so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches (76 mm) from the latch, measured to the leading edge of the door.

1.10 CLEANING AND PROTECTION

A. Repair damaged galvanized coatings on galvanized items with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.

B. Touchup Painting: After erection, promptly clean, prepare, and prime or reprime field connections, rust spots, and abraded surfaces of prime-painted structural framing and accessories.

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VILLAGE SAFE WATER

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KENNETH D ANDERSEN
No. CE 6065
REGISTERED PROFESSIONAL ENGINEER
5/5/06

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BEAVER SANITATION IMPROVEMENTS

HAUL GARAGE

HAUL GARAGE
SHEET SPECIFICATIONS

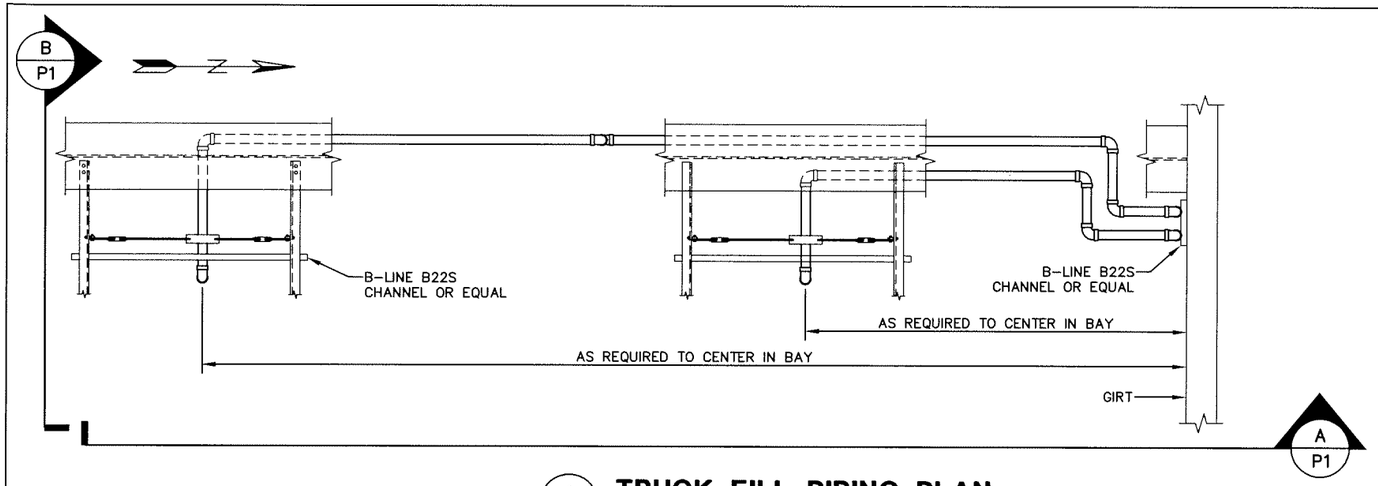
REVISION	BY	DATE

Project No. 9966
Date APRIL 2005
Designed AF
Drawn CSB
Approved KA

Sheet No. S3

SHEET 3 OF 3

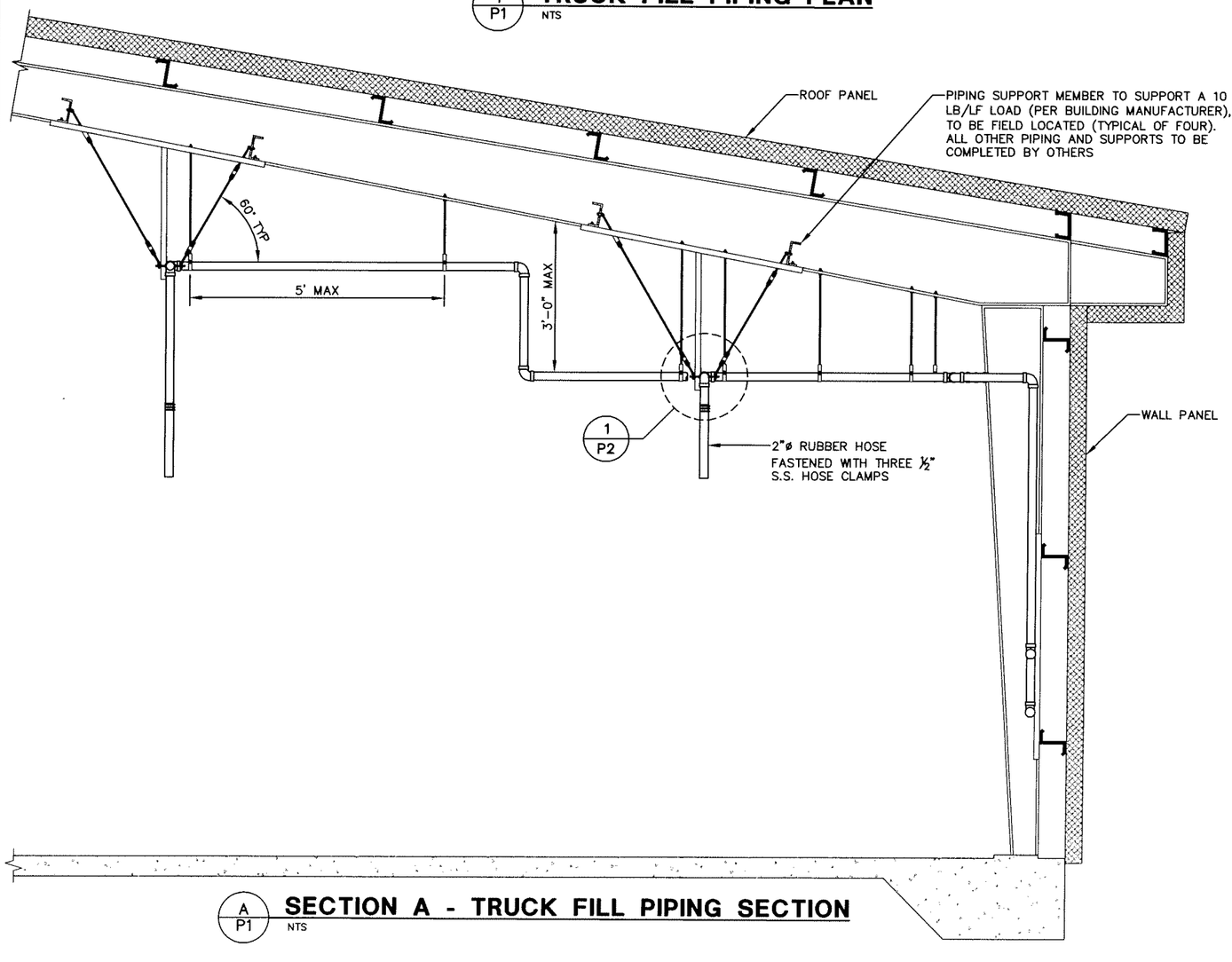
File: 04023-S3-Sheet Specs.dwg



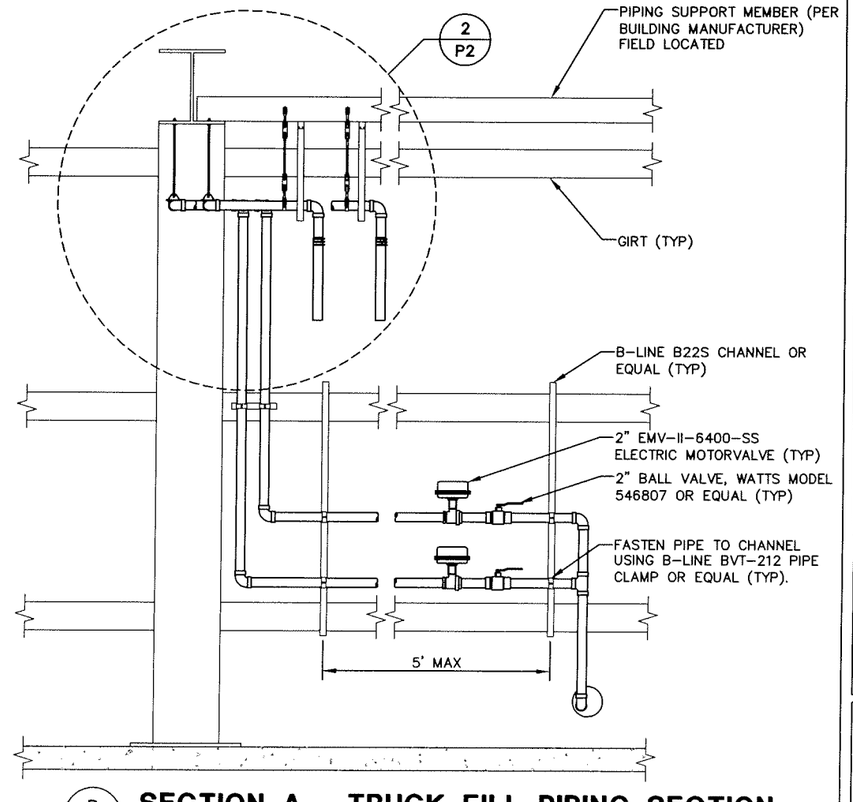
1/P1 TRUCK FILL PIPING PLAN
NTS

NOTES:

1. ALL WATER FILL PIPING SHALL BE TYPE L HARD COPPER PIPE.
2. ANY COPPER PIPING COMING INTO CONTACT WITH DISSIMILAR METAL SHALL BE SEPARATED USING A SHIELD.



A/P1 SECTION A - TRUCK FILL PIPING SECTION
NTS



B/P1 SECTION A - TRUCK FILL PIPING SECTION
NTS

VILLAGE SAFE WATER

STATE OF ALASKA — JAMIE J. LEGOMICHE — 11006 — REGISTERED PROFESSIONAL ENGINEER — 4-21-05

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BEAVER SANITATION IMPROVEMENTS

HAUL GARAGE

TRUCK FILL PIPING PLAN AND ELEVATIONS

REVISION	BY	DATE

Project No.	9966
Date	APRIL 2005
Designed	MJL
Drawn	MJL
Approved	DSY

Sheet No. P1

SHEET 1 OF 2

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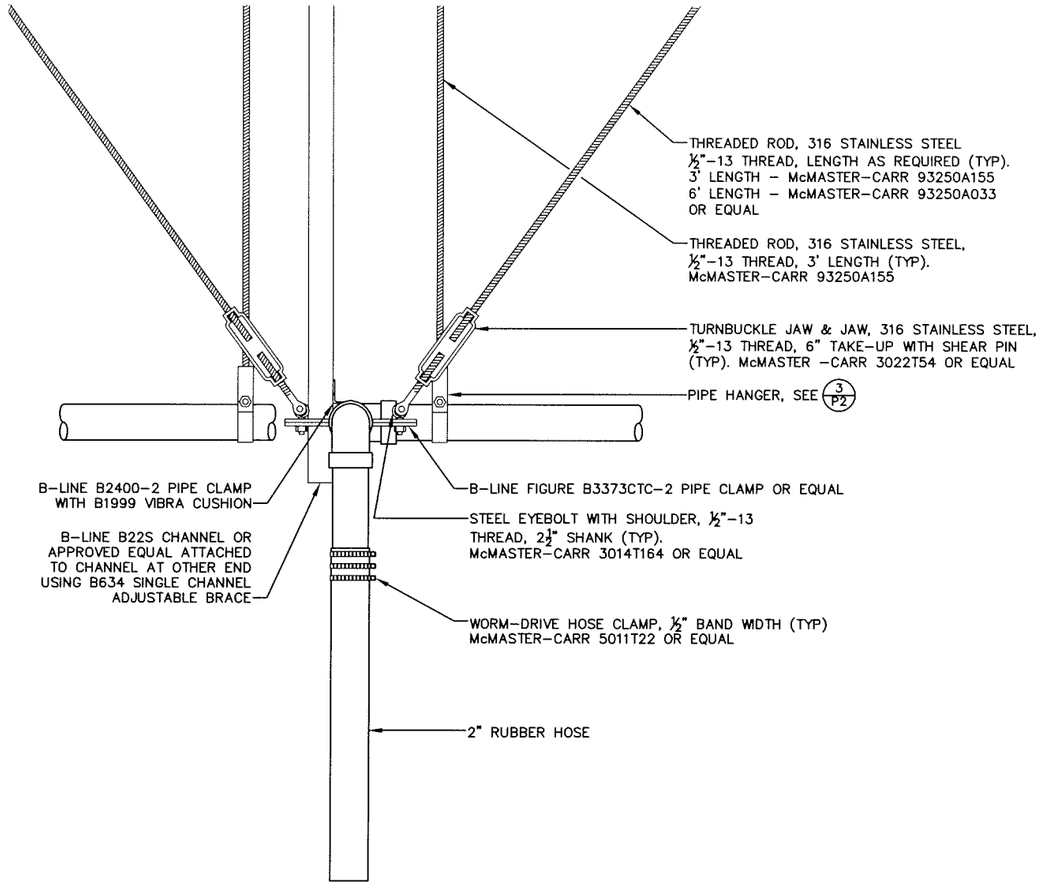
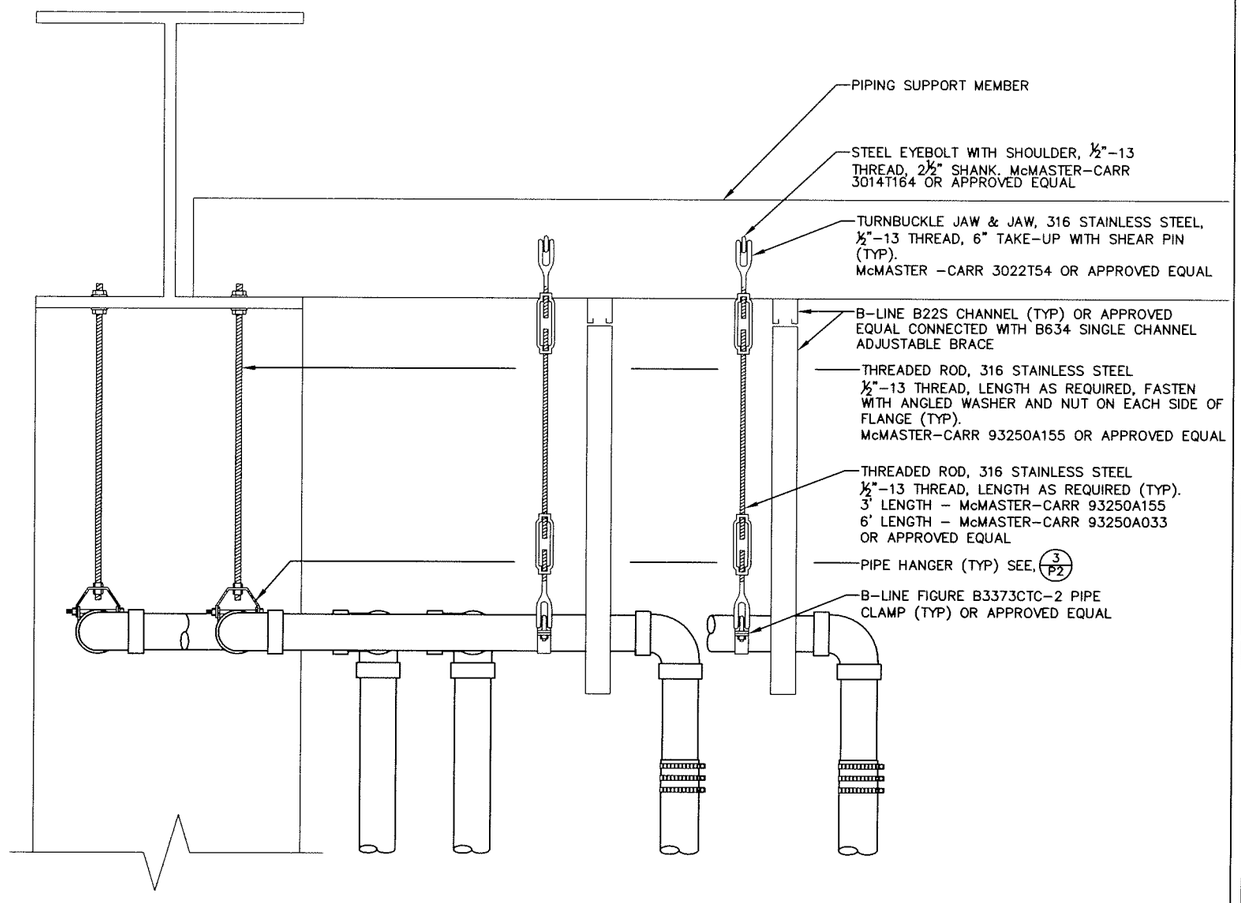
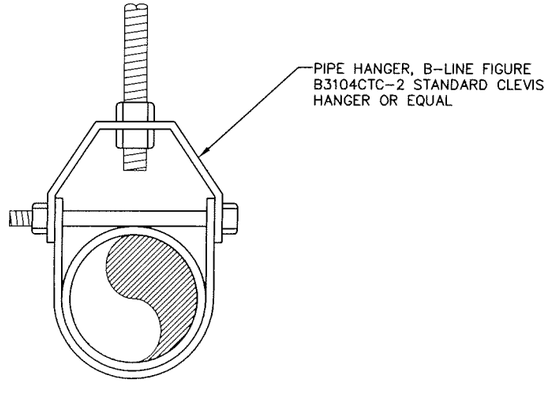


1/P1 **FILL LINE DETAIL - FRONT VIEW**
NTS



2/P1 **FILL LINE DETAIL - SIDE VIEW**
NTS



3/P2 **PIPE HANGER DETAIL**
NTS

File: J:\Jobsdata\9966 Beaver\CADD\Drawings\Amendment 4 (Haul System)\Garage\P1-P2 PIPING.dwg

VILLAGE SAFE WATER

STATE OF ALASKA
49TH
MICHAEL J. LANDFIELD
REGISTERED PROFESSIONAL ENGINEER
CERTIFICATE NO. 11006
4-13-05

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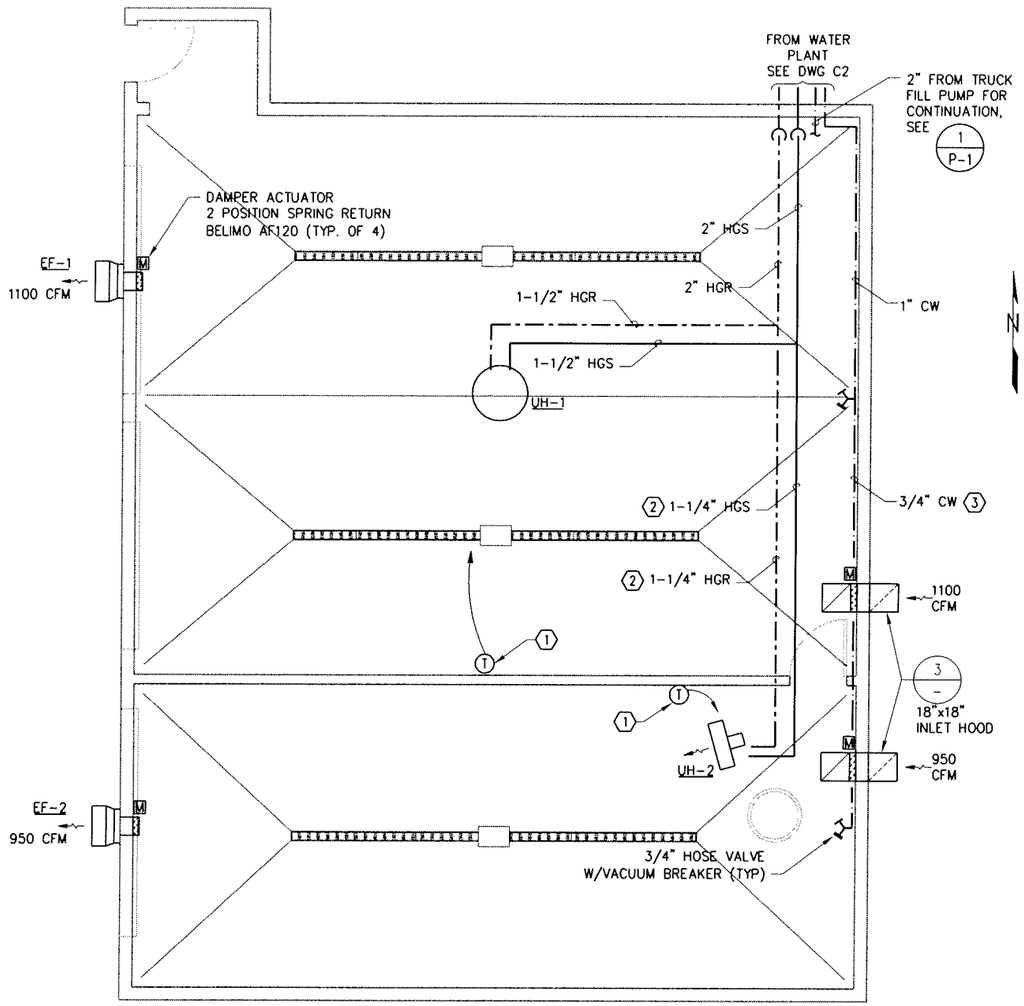
BEAVER SANITATION IMPROVEMENTS
HAUL GARAGE
TRUCK FILL PIPING DETAILS

REVISION	BY	DATE

Project No. 9966
Date APRIL 2005
Designed MJL
Drawn MJL
Approved DSY

Sheet No. P2
SHEET 2 OF 2



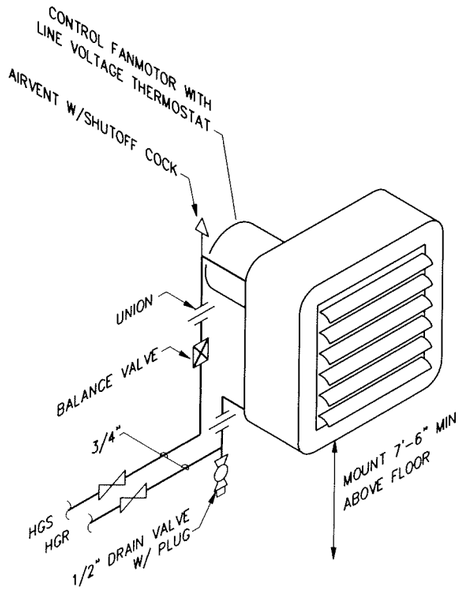
HEATING & VENTILATION PLAN
SCALE: 1/4" = 1'-0"

EXHAUST FAN SCHEDULE						
TAG NO.	SERVICE	CAPACITY CFM	S.P. IN H20	MOTOR	ELECTRICAL	MANUFACTURER/MODEL/NOTES
EF-1	WATER TRUCK ROOM	1100	0.26	1/2 HP	120V/1P	PENN WALL FUMEX MODEL WFX13Q W/ MOTORIZED DAMPER
EF-2	SEWAGE TRUCK ROOM	950	0.26	1/3 HP	120V/1P	PENN WALL FUMEX MODEL WFX13Q W/ MOTORIZED DAMPER

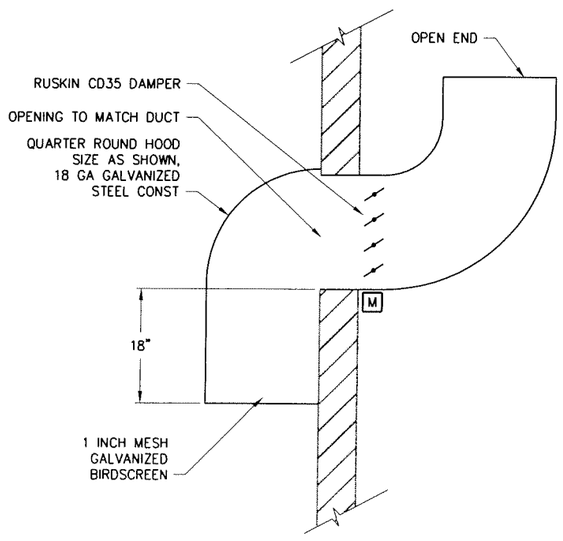
UNIT HEATER SCHEDULE								
TAG NO.	SERVICE	CAPACITY BTUH	FLOW GPM	EWT (50% PG)	CFM	MOTOR	ELECTRICAL	MANUFACTURER/MODEL/NOTES
UH-1	WATER TRUCK ROOM	212,600	22.2	200	5460	1/2 HP	120V/1P	MODINE V-279
UH-2	SEWAGE TRUCK ROOM	130,900	13.6	200	3240	1/3 HP	120V/1P	MODINE HC-165

NOTES

1. LINE VOLTAGE THERMOSTAT – HONEYWELL T451A2007 OR EQUAL RATED 8A@120V FULL LOAD, 48A@120V LOCKED ROTOR.
2. HEATING PIPING – TYPE L COPPER W/ SWEAT FITTINGS. MAKE JOINTS W/ LEAD-FREE SOLDER. INSULATE HEATING PIPING W/ 1" THICKNESS FIBERGLASS ASJ INSULATION.
3. WATER PIPING – TYPE L COPPER W/ SWEAT FITTINGS. MAKE JOINTS W/ LEAD-FREE SOLDER. INSULATE WATER PIPING W/ 1/2" THICKNESS FIBERGLASS ASJ INSULATION.



2 / – UNIT HEATER PIPING
SCALE: NONE



3 / – INLET HOOD DETAIL
SCALE: NONE

VILLAGE SAFE WATER

STATE OF ALASKA
Kevin L. Hansen
No. ME-5641
REGISTERED PROFESSIONAL ENGINEER
11/19/04

EDC, INC.
213 W. FIREWEED LANE
ANCHORAGE, AK 99503
(907) 276-7933

VILLAGE OF BEAVER
SANITATION IMPROVEMENTS
HAUL GARAGE
MECHANICAL
HEAT & VENT FLOOR PLAN

REVISION	BY	DATE

Project No. CRWB/VR
Date APRIL 2005
Designed KLH
Drawn LS
Approved –

Sheet No. M1
SHEET M1 OF 1

BOILER SCHEDULE

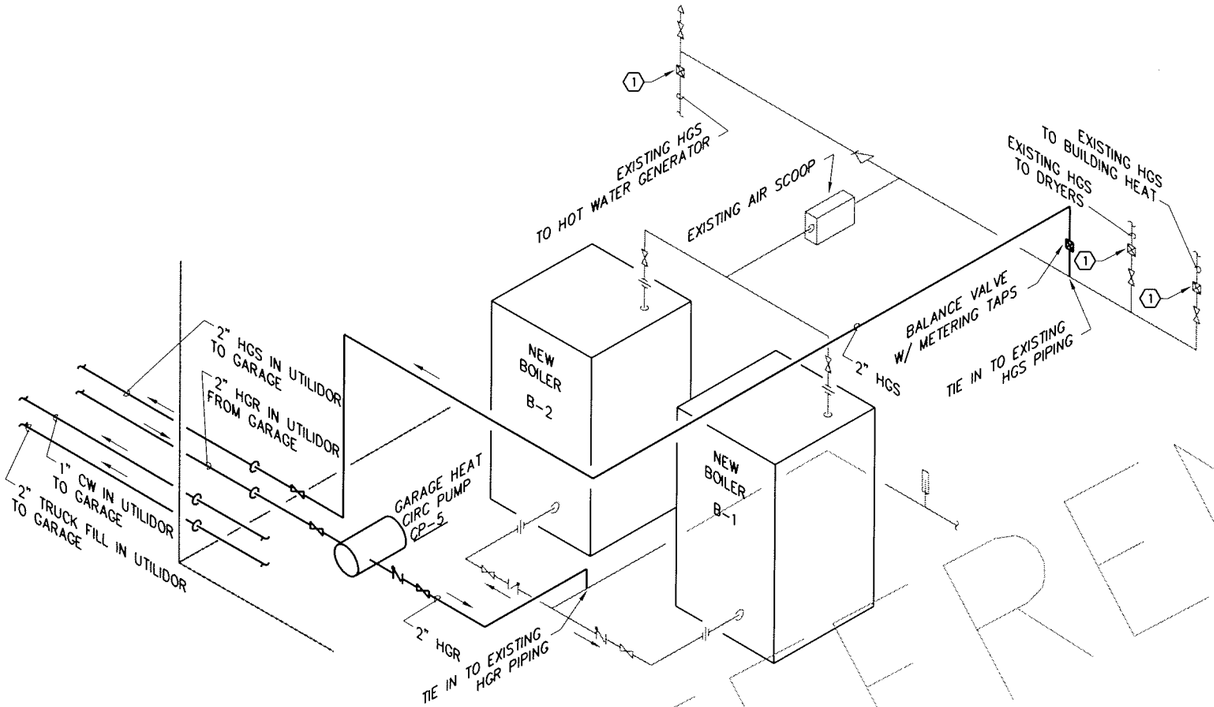
TAG NO.	SERVICE	CAPACITY NET, BTUH	FUEL RATE GPH	OPERATING TEMP	BURNER MOTOR	ELECTRICAL	MANUFACTURER/MODEL/NOTES
B-1	BUILDING & PROCESS HEATING	562	5.6	200	1/2 HP	120V/1P	BURNHAM V-905-AWO
B-2	BUILDING & PROCESS HEATING	562	5.6	200	1/2 HP	120V/1P	BURNHAM V-905-AWO

CIRCULATING PUMP SCHEDULE

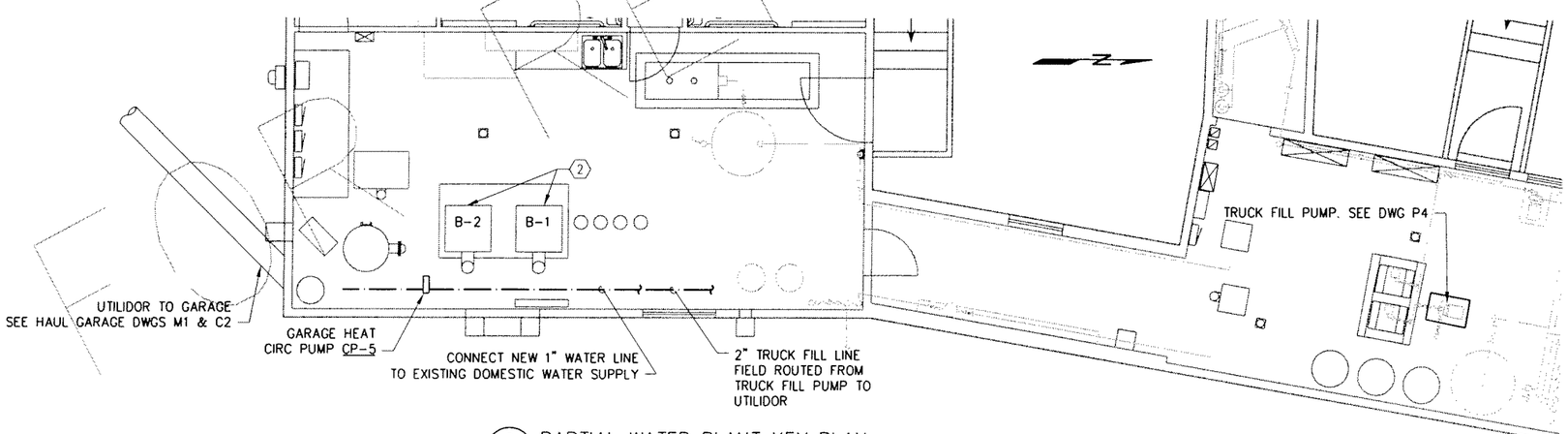
TAG NO.	SERVICE	FLOW GPM	HEAD FT	MOTOR	ELECTRICAL	MANUFACTURER/MODEL/NOTES
CP-5	GARAGE HEATING	36	16.5	1/2	120V/1P	GRUNDFOS UPS32-80, SPEED 3

NOTES

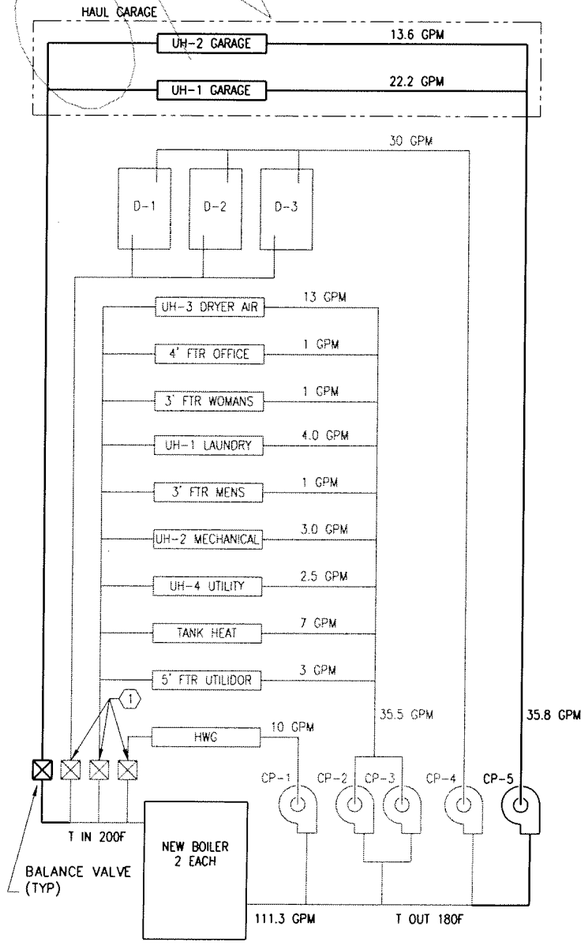
1. NOTE EXISTING FLOW BEFORE MODIFICATIONS. RESET TO SAME FLOW AFTER COMPLETION.
2. REPLACE EXISTING BOILERS. IF EXISTING FLUES ARE AT LEAST 8", CONNECT TO EXISTING. IF NOT, INSTALL NEW 8" OIL-RATED DOUBLE WALL PRE-FABRICATED CHIMNEYS THROUGH ROOF W/ FLASHING AND CAP. FOR BOILER TIE-IN PIPING SEE 1/-



1/- BOILER TIE-IN PIPING SCHEMATIC
SCALE: NONE



2/- PARTIAL WATER PLANT KEY PLAN
SCALE: NONE



NOTE: DARK LINES REPRESENT NEW WORK. LIGHT LINES REPRESENT EXISTING PIPING AND EQUIPMENT

3/- HYDRONIC SYSTEM SCHEMATIC
SCALE: NONE

VILLAGE SAFE WATER

STATE OF ALASKA — 14911 — REGISTERED PROFESSIONAL ENGINEER — Kent L. Hansen — No. ME-5841

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ANCHORAGE, AK 99503
(907) 276-7933

CITY OF BEAVER, ALASKA
Water & Sewer System Improvements

MECHANICAL
PIPING SCHEMATICS

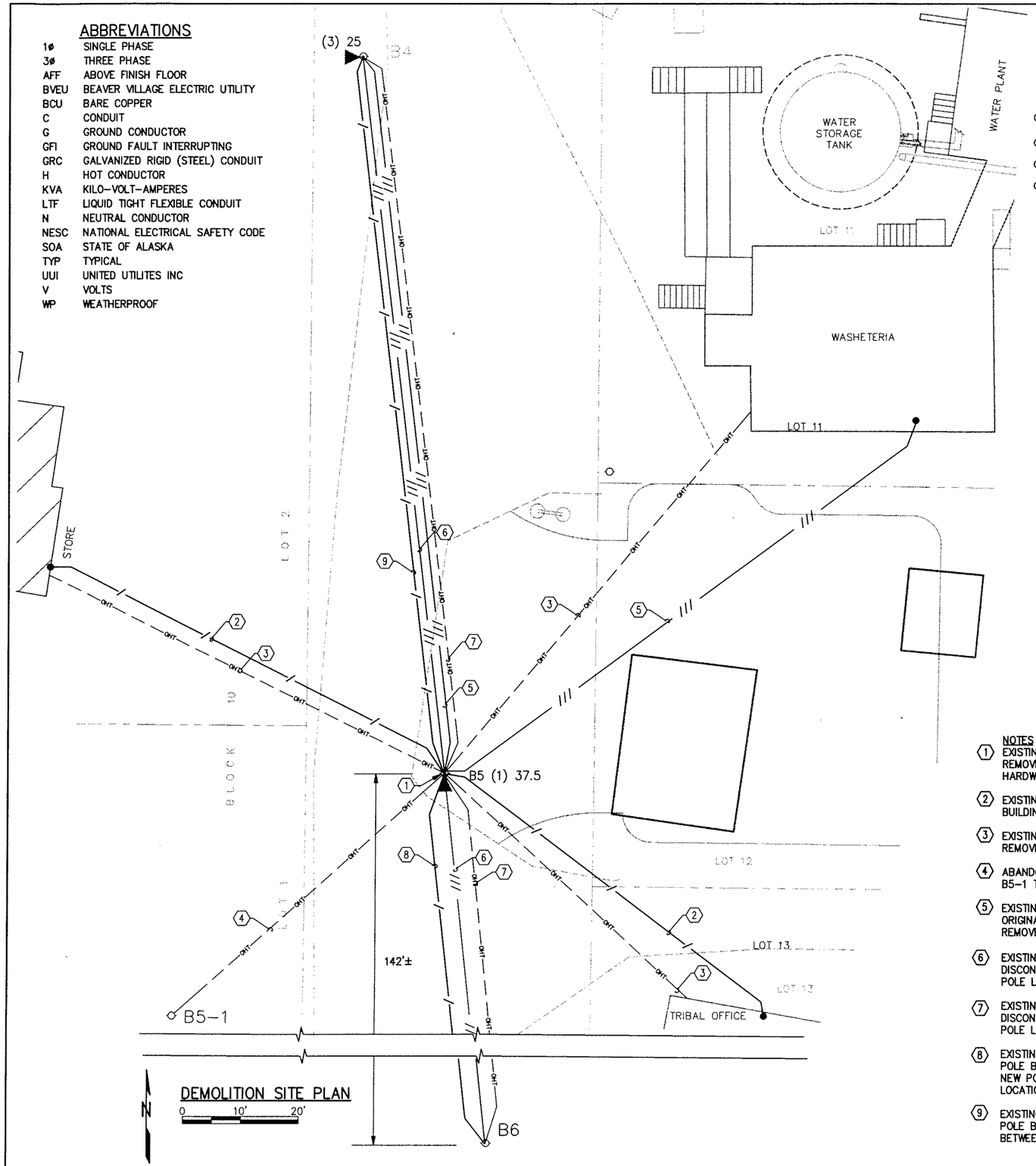
REVISION	BY	DATE
ISSUED FOR CONSTRUCTION	EDC	10/02
ADDED PUMP	EDC	8/04

Project No. CRWBVR
Date JUNE 2004
Designed KLH
Drawn LCS
Approved -

Sheet No. M1
SHEET ____ OF ____

ABBREVIATIONS

1ø	SINGLE PHASE
3ø	THREE PHASE
AFF	ABOVE FINISH FLOOR
BVEU	BEAVER VILLAGE ELECTRIC UTILITY
BCU	BARE COPPER
C	CONDUIT
G	GROUND CONDUCTOR
GFI	GROUND FAULT INTERRUPTING
GRC	GALVANIZED RIGID (STEEL) CONDUIT
H	HOT CONDUCTOR
KVA	KILO-VOLT-AMPERES
LTF	LIQUID TIGHT FLEXIBLE CONDUIT
N	NEUTRAL CONDUCTOR
NESC	NATIONAL ELECTRICAL SAFETY CODE
SOA	STATE OF ALASKA
TYP	TYPICAL
UUI	UNITED UTILITES INC
V	VOLTS
WP	WEATHERPROOF



LEGEND

- KILOWATT-HOUR METER
- EXPOSED CONDUIT, GRC UNLESS OTHERWISE SHOWN
- BURIED CONDUIT
- OVERHEAD 3ø PRIMARY
- OVERHEAD 3ø SECONDARY
- OVERHEAD 1ø SECONDARY
- OHT — OVERHEAD TELEPHONE
- MOLDED CASE CIRCUIT BREAKER, X=AMPERE RATING, Y=NO. OF POLES
- X-Y,Z — HOMERUN TO PANEL "X", CIRCUITS NO. Y AND Z, CONDUITS NOT OTHERWISE DEFINED ARE 3/4"C WITH 3#12.
- LIQUID-TIGHT FLEXIBLE CONDUIT
- PANELBOARD
- SEAL-OFF FITTING FOR HAZARDOUS AREAS
- J — JUNCTION BOX OR FITTING
- $ — SINGLE POLE SWITCH. BRYANT #4901
- 120V DUPLEX RECEPTACLE, NEMA CONFIGURATION 5 – 20R. BRYANT #5262
- GFI — 120V DUPLEX GROUND FAULT INTERRUPT RECEPTACLE, NEMA CONFIGURATION 5 – 20R. BRYANT #GFR52FT
- M — MOTORIZED DAMPER
- # — NEW POLE MOUNTED TRANSFORMER. # = QUANTITY & kVA RATING
- # — EXISTING POLE MOUNTED TRANSFORMER.
- UTILITY POLE

NOTES

1. EXISTING POWER POLE B5 & TRANSFORMER TO BE REMOVED. POLE, CROSS ARM, FUSED CUTOUT & HARDWARE MAY BE RE-USED AS APPROPRIATE.
2. EXISTING SINGLE PHASE SECONDARY SERVICE DROP TO BUILDING TO BE REMOVED.
3. EXISTING TELEPHONE SERVICE DROP TO BUILDING TO BE REMOVED BY UUI.
4. ABANDONED TELEPHONE LINE BETWEEN POLES B5 & B5-1 TO BE REMOVED BY UUI.
5. EXISTING 3-PHASE SECONDARY SERVICE DROP ORIGINATING AT POLE B4 TO WASHETERIA TO BE REMOVED.
6. EXISTING 3-PHASE PRIMARY W/OFFSET NEUTRAL TO BE DISCONNECTED AT POLE B5 & RECONNECTED AT NEW POLE LOCATION. SEE DWG E2.
7. EXISTING TELEPHONE TRUNK CABLE TO BE DISCONNECTED AT POLE B5 & RECONNECTED AT NEW POLE LOCATION BY UUI.
8. EXISTING SECONDARY SERVICE LINE ORIGINATING AT POLE B5. DISCONNECT, SHORTEN & RECONNECT LINE AT NEW POLE-MOUNTED TRANSFORMER AT NEW POLE LOCATION. SEE DWG E2.
9. EXISTING SECONDARY SERVICE LINE ORIGINATING AT POLE B5. DISCONNECT & REMOVE SEGMENT OF THE LINE BETWEEN POLES B5 & B4.

GENERAL SPECIFICATIONS

ALL WIRING SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST ADOPTED VERSION OF THE NATIONAL ELECTRICAL CODE (NFPA 70) BY OR UNDER THE SUPERVISION OF SOA LICENSED JOURNEYMEN ELECTRICIANS.

ALL OVERHEAD POWER LINE ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST VERSION OF THE NESC BY OR UNDER THE SUPERVISION OF SOA LICENSED JOURNEYMAN LINEMEN & ADMINISTRATOR.

ALL WIRING SHALL BE IN METALLIC CONDUIT IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

ALL EXTERIOR OR INTERIOR WIRING BELOW 36" SHALL BE GALVANIZED RIGID METAL CONDUIT.

ALL REMAINING INTERIOR WIRING SHALL BE IN EMT OR LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT.

CONDUIT SUPPORT SHALL BE PROVIDED WITH 2-HOLE STRAPS (INTERIOR AND EXTERIOR). PINCH TYPE (CADDY) CLAMPS ARE APPROVED FOR USE ON EMT OR GRC ON INTERIOR WALLS AND CEILING ONLY.

CONDUCTORS FOR USE ON THIS PROJECT SHALL BE STRANDED COPPER WITH THWN-2 INSULATION FOR INTERIOR AND XHHW-2 INSULATION FOR EXTERIOR. COLOR CODE AS FOLLOWS:
120/240V WIRING- PHASE A=BLACK, PHASE B=RED, NEUTRAL=WHITE, GROUND=GREEN OR BARE COPPER.

CONTROL WIRING- ANY COLOR OTHER THAN RED, BLACK, BLUE GREEN OR WHITE AS ALLOWED UNDER U/L AND NFPA 79.

UNLESS OTHERWISE NOTED, ALL WIRING SHOWN SHALL CONSIST OF 1/2"C, 3#12. ONE OF THE #12 IS A GREEN (OR BARE) GROUND.

FITTINGS – ALL NON-HUB CONDUIT TERMINATIONS SHALL BE BUSHED EITHER WITH NON-METALLIC BUSHINGS ON THREADED CONDUITS OR INSULATED THROAT CONNECTORS ON EMT AND BOTH TYPES OF FLEXIBLE CONDUITS. EMT COUPLINGS AND CONNECTORS SHALL BE COMPRESSION TYPE – NO SETSCREW TYPE ALLOWED.

BOXES SHALL BE PROVIDED IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:
INTERIOR WITH GRC: TYPE FS OR FD DEVICE BOXES, CAST BOXES WITH BLANK COVERS.
INTERIOR WITH EMT: PRESSED STEEL WITH APPROPRIATE GALVANIZED DEVICE COVER.
EXTERIOR: NEMA 4 WITH GASKETED COVER.

ALL DEVICES SHALL BE SERVED FROM ABOVE UNLESS SPECIFICALLY SHOWN OTHERWISE ON THE DRAWINGS.

ALL COMPONENTS FURNISHED FOR THIS PROJECT SHALL BE LISTED OR LABELED BY AN AGENCY ACCEPTABLE TO THE STATE OF ALASKA DEPARTMENT OF LABOR MECHANICAL INSPECTIONS DIVISION. U/L (UNDERWRITERS LABORATORIES) ETL (EDISON TEST LAB) FM (FACTORY MUTUAL) ARE ACCEPTABLE. NOTE THAT NRTL APPROVAL IS REQUIRED FOR CSA LABELS.

INSTALLATION OF CONTROLS AND CALIBRATION SHALL BE PERFORMED IN ACCORDANCE WITH THE MANUFACTURERS REQUIREMENTS. PROVIDE COPIES OF ALL CUT SHEETS AND DOCUMENTATION RECEIVED DURING SHIPPING TO OWNERS REPRESENTATIVE UPON COMPLETION.

COORDINATE INSTALLATION WITH OTHER TRADES PRIOR TO ROUGH-IN. MAINTAIN CLEARSPACE AT ALL COMPONENTS THAT MAY REQUIRE ADJUSTING OR TROUBLE SHOOTING WHILE ENERGIZED.

IDENTIFICATION

MARK ALL CONDUITS ENTERING OR LEAVING PANELBOARDS WITH INEDIBLE BLACK MARKER WITH THE CIRCUIT NUMBERS OF THE CIRCUITS CONTAINED INSIDE. MARK CIRCUIT NUMBERS ON ALL JUNCTION BOX COVERS. ALL CONTROL CONDUCTORS TO CONTROL PANELS, INSTRUMENTS, STARTERS, etc., SHALL BE IDENTIFIED WITH A UNIQUE NUMBERING SYSTEM.

TESTING

TEST ALL CONDUCTORS PRIOR TO TERMINATION WITH A 500VDC MEGOHMETER. REPLACE ALL CONDUCTORS EXHIBITING LESS THAN 10 MEGOHM IMPEDANCE. REPEAT TEST.

MATERIALS

GENERAL COMPONENTS SHALL BE AS CALLED OUT ON THE PLANS AND LEGEND. PROVIDE AS SPECIFIED AND SHOWN. MANUFACTURER AND PART NUMBER DESIGNATIONS INDICATE THE MINIMUM PERFORMANCE AND QUALITY REQUIRED ON THIS PROJECT.

SUBMITTALS

SUBMIT FOR APPROVAL MANUFACTURER'S CATALOG DATA ON ALL ELECTRICAL MATERIAL INTENDED FOR USE ON THIS PROJECT. SUBMITTALS SHALL CLEARLY IDENTIFY THE MODEL, PROPERTIES, OPTIONAL ACCESSORIES, ETC. OF THE COMPONENT BEING PROVIDED. INCLUDE SHOP DRAWINGS OF LIFT STATION CONTROL PANEL SHOWING PANEL LAYOUT (EXTERIOR AND INTERIOR), WIRING SCHEMATIC, COMPONENT LIST AND DATA SHEETS ON ALL COMPONENTS.

UTILITY COORDINATION

CLOSE COORDINATION WITH LOCAL POWER (BVEU) AND TELEPHONE (UUI) UTILITIES WILL BE REQUIRED DURING THE RELOCATION OF THE UTILITY POLE AND OVERHEAD LINES. ALLOW UTILITIES ENOUGH TIME TO ACCOMPLISH THEIR WORK.

RECORD DRAWING CERTIFICATE
THESE DRAWINGS REFLECT RECORDED INFORMATION OBTAINED DURING CONSTRUCTION. INFORMATION PROVIDED HEREIN IS ACCURATE TO THE BEST OF MY KNOWLEDGE.
NAME _____ DATE _____

VILLAGE SAFE WATER

STATE OF ALASKA — 9338 — John H. Freeman — REGISTERED ELECTRICAL ENGINEER

7/14/05

EDC, INC.
213 W. FIREWEED LANE
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(907) 276-7933

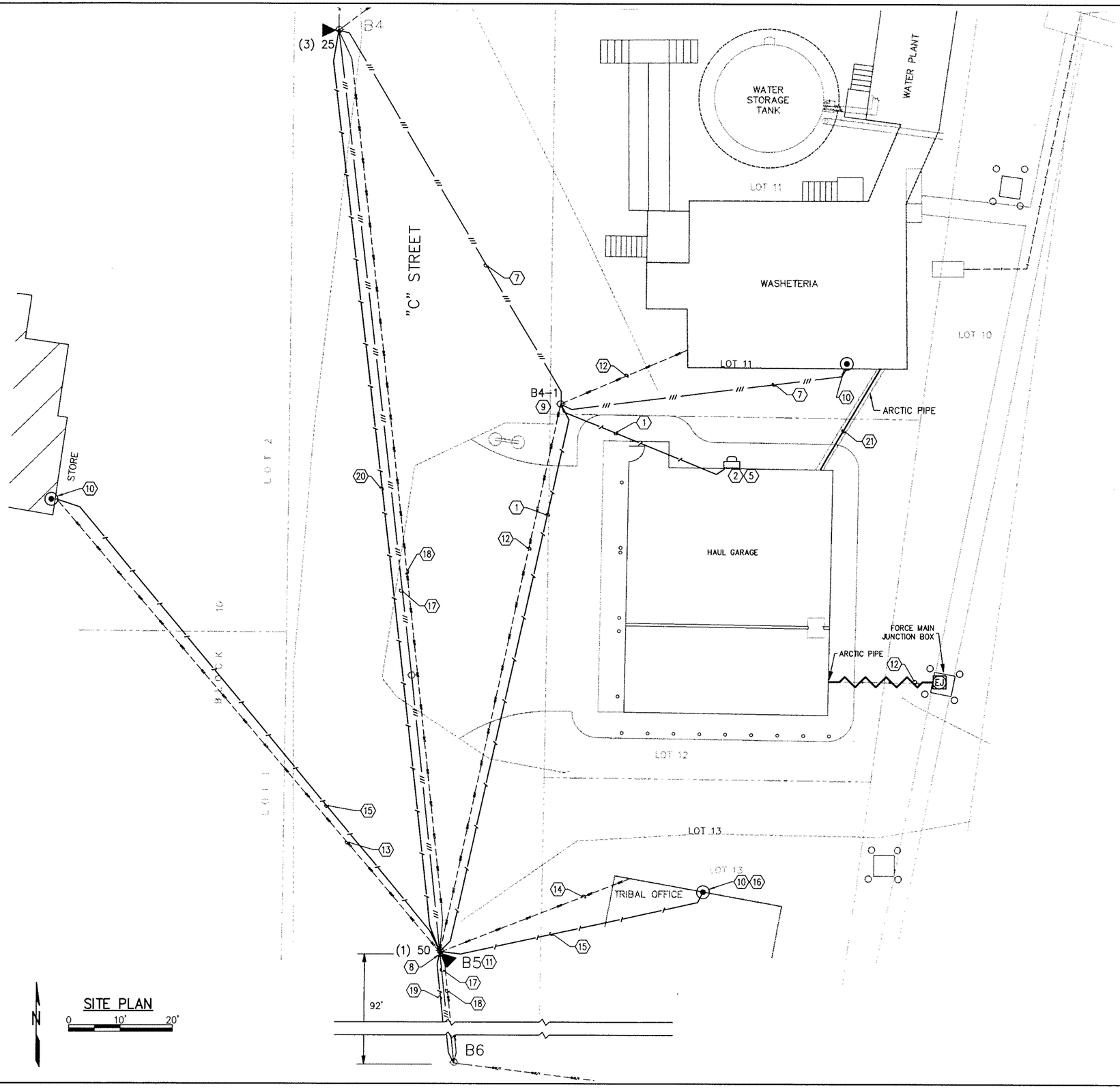
VILLAGE OF BEAVER
SANITATION IMPROVEMENTS
HAUL GARAGE

ELECTRICAL DEMOLITION PLAN
LEGEND, ABBREVIATIONS & SPECS

BY	DATE	REVISION

Project No. CRWSVR
Date APRIL 2005
Designed JHF
Drawn AYN
Approved -

Sheet No. E1
SHEET 1 OF 7

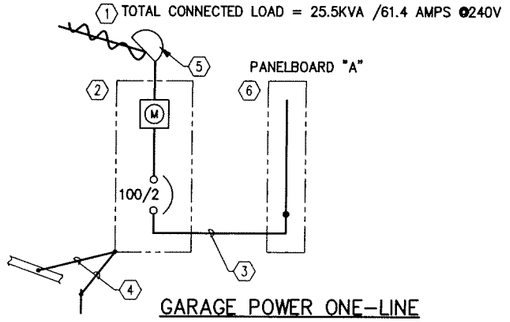


NOTES

1. 1ø, 3 WIRE, 120/240V, #4 XLP TRIPLEX OVERHEAD SERVICE DROP TO HAUL GARAGE, SOUTHWIRE SHRIMP/VIP TYPE. CONNECT TO NEW 50kVA TRANSFORMER ON POLE B5. SEE DETAIL ON E7.
2. 100A, 120/240V, METER MAIN COMBO MILBANK #U3424-RL-100.
3. 1 1/2"C, 3#2 (2H,N), 1#8 (G)
4. #6 BCu BONDED TO THE METER MAIN, THE BLDG STEEL AND A 5/8"x 8' COPPER CLAD GROUND ROD.
5. 2"GRC RISER W/ WEATHERHEAD, 3#2 (2H,N). LEAVE 18" MINIMUM PIGTAIL FOR CONNECTION TO SERVICE DROP.
6. 225A PANELBOARD 'A', 30 SPACE, 1ø, 120/240V MLO, NEMA 12 ENCLOSURE. SQUARE 'D' #NQOD30L225CU.
7. 3ø, 4-WIRE, 120/208V, #3/0 XLP, QUADRUPLEX, OVERHEAD SERVICE DROP TO RE-SERVE WASHETERIA. SOUTHWIRE TROTTER/VIP TYPE. CONNECT TO EXISTING TRANSFORMER BANK ON POLE B4. SEE DETAIL ON E7.
8. APPROXIMATE NEW LOCATION OF UTILITY POLE B5. FIELD VERIFY EXACT LOCATION. SEE DETAIL ON E7.
9. NEW 35', CLASS 5 UTILITY POLE BY UUI. SEE DETAIL ON E7.
10. CONNECT NEW SERVICE DROP TO PIGTAILS AT EXISTING WEATHERHEAD.
11. NEW 50kVA, 7.2kV:120/240V SINGLE BUSHING, GROUNDED WYE, MINERAL OIL FILLED, POLE MOUNTED TRANSFORMER. COOPER POWER SYSTEMS OR EQUAL. SEE DETAIL ON E7. PROVIDE W/BUS CONNECTORS, PRESSURE RELIEF VALVE, (2) 2 1/2% ABOVE & BELOW TAPS & EXTERNAL TAP CHANGER.
12. TELEPHONE SERVICE DROP TO RE-SERVE WASHETERIA BY UUI.
13. TELEPHONE SERVICE DROP TO RE-SERVE STORE BY UUI.
14. TELEPHONE SERVICE DROP BY UUI TO RE-SERVE TRIBAL COUNCIL OFFICE.
15. 1ø, 3-WIRE, 120/240V TRIPLEX SERVICE DROP TO RE-SERVE BUILDING. CONDUCTOR SIZE TO MATCH WHAT WAS REMOVED. CONNECT TO NEW 50kVA TRANSFORMER ON POLE B5. SEE DETAIL ON E7.
16. RAISE EXISTING WEATHERHEAD & EXTEND SERVICE RISER CONDUCTORS AS NECESSARY TO MAINTAIN A MINIMUM OF 3' CLEARANCE OF THE SERVICE DROP CONDUCTORS ABOVE THE BUILDING ROOF.
17. EXISTING OVERHEAD 3ø PRIMARY W/OFFSET NEUTRAL LINES TO BE RE-TIED TO POLE B5. PROVIDE ARMOR RODS AT INSULATOR TIE POINTS.
18. EXISTING TELEPHONE TRUNK CABLE TO BE RE-TIED TO POLE B5 BY UUI.
19. EXISTING 1ø SECONDARY SERVICE LINE. RE-CONNECT TO NEW 50kVA TRANSFORMER ON POLE B5. SEE DETAIL ON E7.
20. PROVIDE NEW SECONDARY SERVICE LINE BETWEEN POLES B5 & B4. CONNECT TO NEW TRANSFORMER ON POLE B5 AND SPLICE TO POLE B4'S EXISTING SECONDARY CIRCUIT THAT WAS DISCONNECTED DURING RE-LOCATION OF POLE B5. SIZE NEW LINE TO MATCH PREVIOUS LINE REMOVED.
21. CONTROL CIRCUIT. SEE SHEET E3, NOTE 5.
22. HEAT TRACE. SEE SHEET E3, NOTES 17 & 26.

GENERAL NOTES

ALL WORK SHALL CONFORM TO THE LATEST EDITION OF THE RURAL ELECTRIFICATION ADMINISTRATION (REA) STANDARDS FOR 12.5/7.2kV LINE CONSTRUCTION.



GARAGE POWER ONE-LINE

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NAME _____ DATE _____

VILLAGE SAFE WATER

STATE OF ALASKA — 9-5-05 — John J. Fenton — LIC. 8266 — REGISTERED PROFESSIONAL ENGINEER

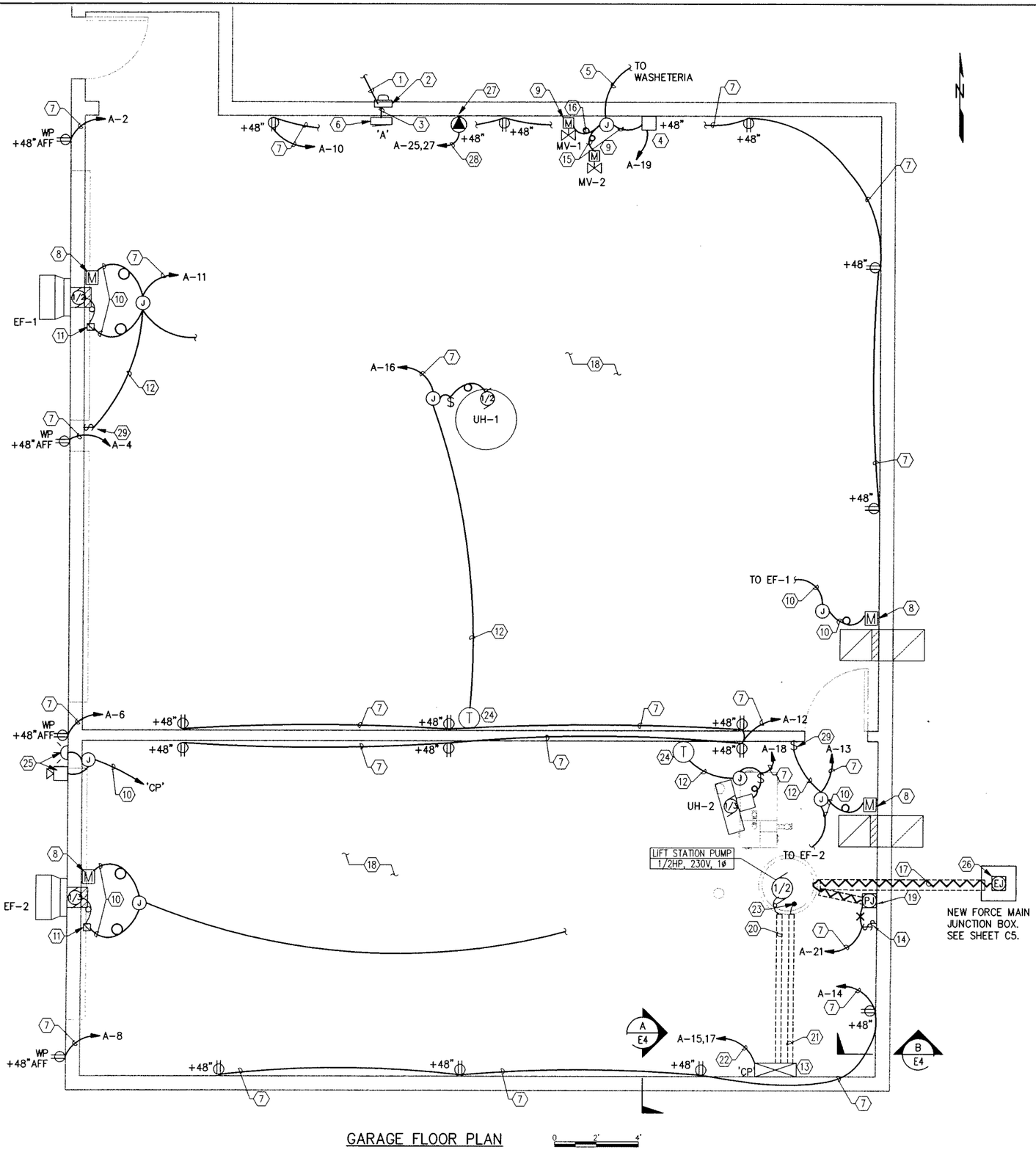
EDC, INC.
213 W. FIREWEED LANE
ANCHORAGE, AK 99503
(907) 276-7933

VILLAGE OF BEAVER
SANITATION IMPROVEMENTS
HAUL GARAGE
ELECTRICAL
SITE PLAN & POWER ONE-LINE

BY	DATE	REVISION

Project No. ORMBVR
Date APRIL 2005
Designed JHF
Drawn AYN
Approved —

Sheet No. E2
SHEET 2 OF 7



GARAGE FLOOR PLAN

0 2' 4'

NOTES

1. SERVICE DROP, 1ø, 120/240V. SEE SHEET E2.
2. METER MAIN COMBO. SEE SHEET E2.
3. SEE SHEET E2, NOTE 3.
4. TRUCK FILL OPERATOR CONTROL STATION, NEMA 4, SQUARE D, TYPE KY2 W/(2) 'ON/OFF' SELECTOR SWITCHES, SQUARE D, TYPE KS11B. SEE SCHEMATIC SHEET E4.
5. 1/2"C, 3#12 (2 SIG,G). ROUTE ON SUPPORTS FOR ARCTIC PIPE TO THE TRUCK FILL PUMP MOTOR STARTER IN THE WASHETERIA. SEE SHEET E3 OF THE WATER & SEWER IMPROVEMENTS DWGS.
6. PANELBOARD 'A'. SEE SCHEDULE ON THIS SHEET.
7. 1/2"C, 3#12 (H,N,G)
8. MOTORIZED DAMPER TO OPERATE IN CONJUNCTION W/ EXHAUST FAN. EXHAUST FAN IS MANUALLY CONTROLLED. SEE M1 FOR DETAILS.
9. TRUCK FILL MOTORIZED VALVE. SEE DETAIL 'B', SHEET P1 AND SCHEMATIC ON E4.
10. 1/2"C, 3#12 (SWITCHLEG,N,G).
11. 120V, SINGLE POLE, MANUAL MOTOR STARTER. SQUARE D #FG5. MOUNT NEAR FAN.
12. 1/2"C, 3#12 (H,SWITCHLEG,G).
13. LIFT STATION CONTROL PANEL 'CP'. SEE SHEET E6 FOR DETAILS.
14. 120V, 20A, ILLUMINATED WALL SWITCH, BRYANT CAT #4901-PLR120. PROVIDE WITH "HEAT TRACE" PLACARD.
15. 1/2"C, 6#12 (4 SIG,N,G)
16. 3/4"C, 8#12 (6 SIG,N,G)
17. 120V, 10W/FT, CLASS 1, DIV 1 RATED, SELF-LIMITING HEAT TRACE IN ARCTIC PIPE BETWEEN GARAGE LIFT STATION & NEW FORCE MAIN JUNCTION BOX. NELSON #LT10-JT-D1.
18. A CLASS 1, DIVISION 2 HAZARDOUS LOCATION EXISTS WITH THE ENTIRE GARAGE FROM THE FLOOR TO 18" ABOVE THE FLOOR. A CLASS 1, DIVISION 1 LOCATION EXISTS WITHIN THE LIFT STATION SUMP. ALL WIRING SHALL BE ROUTED ABOVE THESE AREAS WHERE POSSIBLE. WHEN NOT POSSIBLE, IT SHALL MEET REQUIREMENTS OF THE NEC ARTICLES 501 & 504.
19. HEAT TRACE CLASS 1, DIV. 1 POWER CONNECTION KIT, NELSON #HASK-P.
20. 2"C, W/ CLASS 1, DIVISION 1 RATED PUMP POWER & CONTROL CORDS
21. 2"C, W/LEVEL PROBE CABLE.
22. 1/2"C, 4#12 (2H,N,G).
23. LEVEL PROBE, SEE COMPONENT SCHEDULE ON E6.
24. LINE VOLTAGE THERMOSTAT. SEE M1.
25. ALARM HORN AND STROBE. WALL MOUNT ABOVE DOOR. SEE COMPONENT SCHEDULE ON E6.
26. HEAT TRACE, CLASS 1, DIV 1 END KIT, NELSON # HASK-E.
27. 240V, 50A, NEMA 6-50, 3 WIRE RECEPTACLE, BRYANT #9650-FR.
28. 3/4" C, 2#8 (2H) & 1 #10 (G).
29. SWITCH FOR CONTROL OF EXHAUST FAN. PROVIDE W/ 'EXHAUST FAN' PLACARD.

PANEL SCHEDULE

PANEL NAME:		PANEL 'A'	240/120V			1ø, 3 Wire	100A MAINS	
LOCATION:		TRUCK FILL BAY	MLO			SURF/NEMA 12	10,000 AIC	
POLE	AMP TRIP	LOAD DESCRIPTION	POLE kVA	A ø	B ø	POLE kVA	LOAD DESCRIPTION	AMP TRIP	POLE
1	20/1	NORTHBAY LIGHTS	1.0	2.5		1.5	OUTSIDE RECEPTACLE	20/1 *	2
3	20/1	NORTHBAY LIGHTS	1.0		2.5	1.5	OUTSIDE RECEPTACLE	20/1 *	4
5	20/1	SOUTHBAY LIGHTS	0.6	2.1		1.5	OUTSIDE RECEPTACLE	20/1 *	6
7	20/1	SOUTHBAY LIGHTS	0.6		2.1	1.5	OUTSIDE RECEPTACLE	20/1 *	8
9	20/1	OUTSIDE LIGHTS	0.5	1.6		1.1	RCPTS NORTH/EAST WALLS	20/1 *	10
11	20/1	EXHAUST FAN, EF-1	1.1		2.2	1.1	RECEPTS DIVIDER WALL	20/1 *	12
13	15/1	EXHAUST FAN, EF-2	0.8	1.5		0.7	RECEPTS SOUTH WALL	20/1 *	14
15	15/2	LIFT STATION	0.6		1.7	1.1	UNIT HEATER, UH-1	20/1	16
17			0.6	1.4		0.8	UNIT HEATER, UH-2	15/1	18
19	10/1	TRUCK FILL CONTROLS	0.1		0.1		SPARE	20/1	20
21	15/1*	HEAT TRACE	0.2	0.2					22
23	20/1	SPARE			0.0				24
25	50/2	50A RECEPTACLE	3.8	3.8					26
27			3.8		3.8				28
29				0.0					30
				13.1	12.4				

* INDICATES 30 mA, CLASS B, GFCI TYPE CIRCUIT BREAKER

TOTAL kVA = 25.5
AMPS = 61.4

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NAME _____ DATE _____

VILLAGE SAFE WATER

STATE OF ALASKA — REGISTERED PROFESSIONAL ENGINEER — John M. Foreman — CE 8288

EDC, INC.
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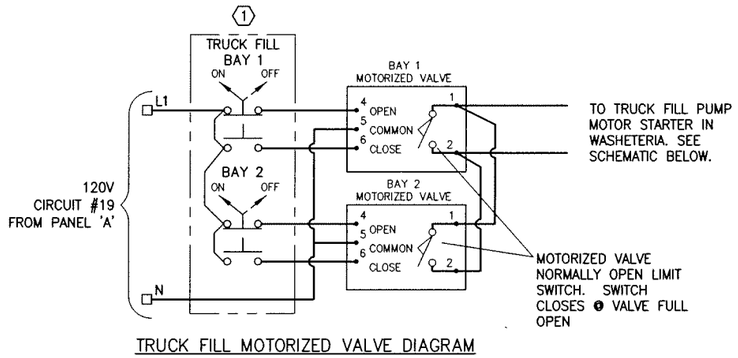
VILLAGE OF BEAVER
SANITATION IMPROVEMENTS
HAUL GARAGE

GARAGE ELECTRICAL FLOOR PLAN AND PANELBOARD CHEDULE

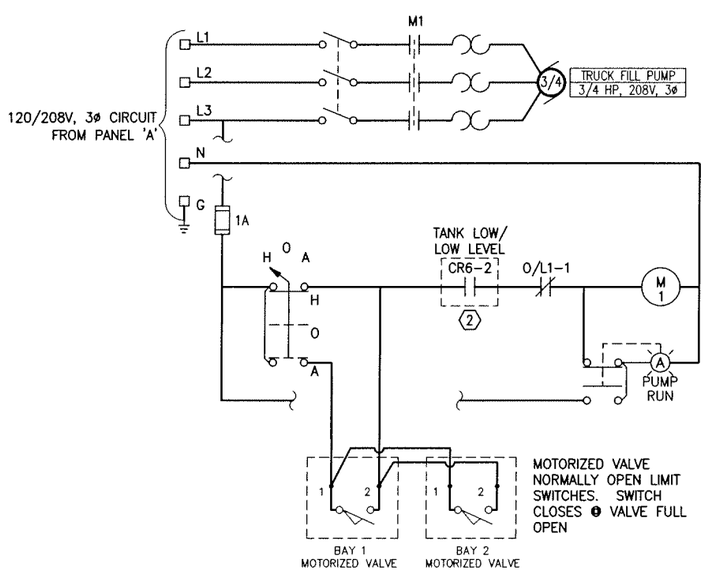
REVISION	BY	DATE

Project No. CRWSVR
Date APRIL 2005
Designed JMF
Drawn AYN
Approved —

Sheet No. E3
SHEET 3 OF 7



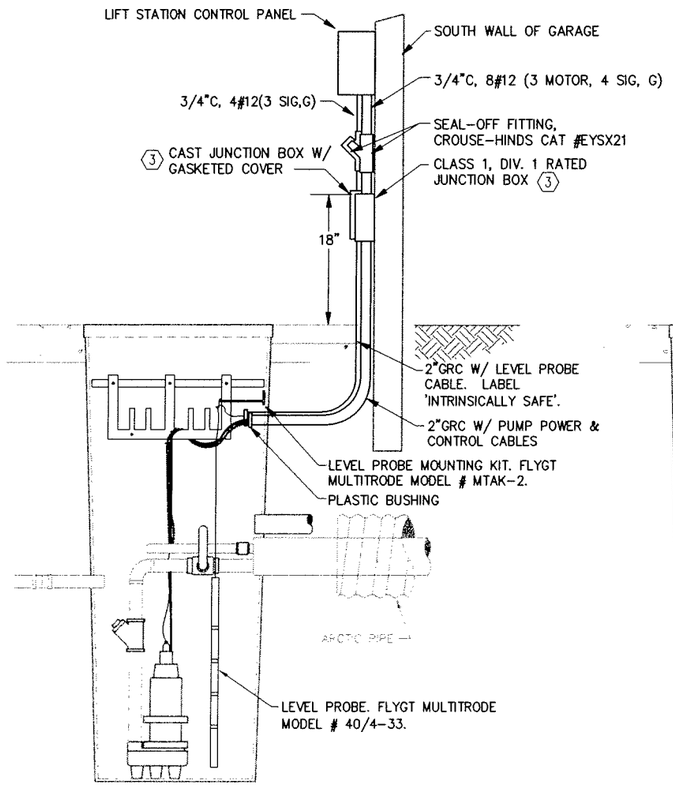
TRUCK FILL MOTORIZED VALVE DIAGRAM



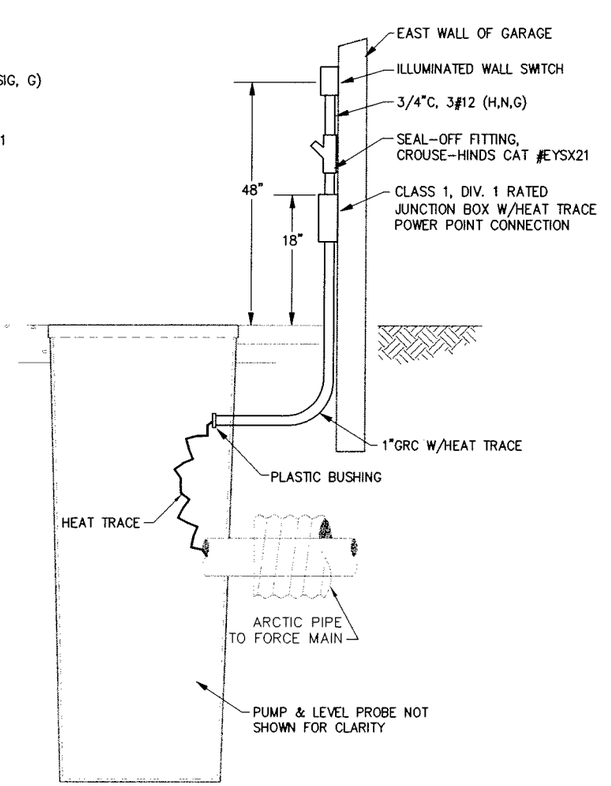
TRUCK FILL PUMP MOTOR STARTER
ELEMENTARY DIAGRAM

NOTES

1. TRUCK FILL OPERATOR CONTROL STATION.
2. CONTACT LOCATED IN THE TANK CONTROL PANEL 'TP' IN THE WATER TREATMENT PLANT. SEE SCHEMATIC ON SHEET E5 OF THE WATER & SEWER SYSTEM IMPROVEMENTS DWGS.
3. PROVIDE JUNCTION BOX WITH TERMINAL STRIP FOR SPLICING PUMP (LEVEL PROBE) CABLE TO THE PUMP (LEVEL PROBE) CIRCUIT CONDUCTORS ORIGINATING IN THE CONTROL PANEL. THE INTENT IS TO ALLOW REMOVAL OF THE PUMP (LEVEL PROBE) WITHOUT CUTTING THE CABLE OR REMOVING THE SEAL-OFF FITTING.



A E3 SUMP AND PROBE ELEVATION
SCALE: 1" = 1'-0"



B E3 SUMP/HEAT RACE ELEVATION
SCALE: 1" = 1'-0"

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NAME _____ DATE _____

VILLAGE SAFE WATER

EDC, INC.
213 W. FIREWEED LANE
ANCHORAGE, AK 99503
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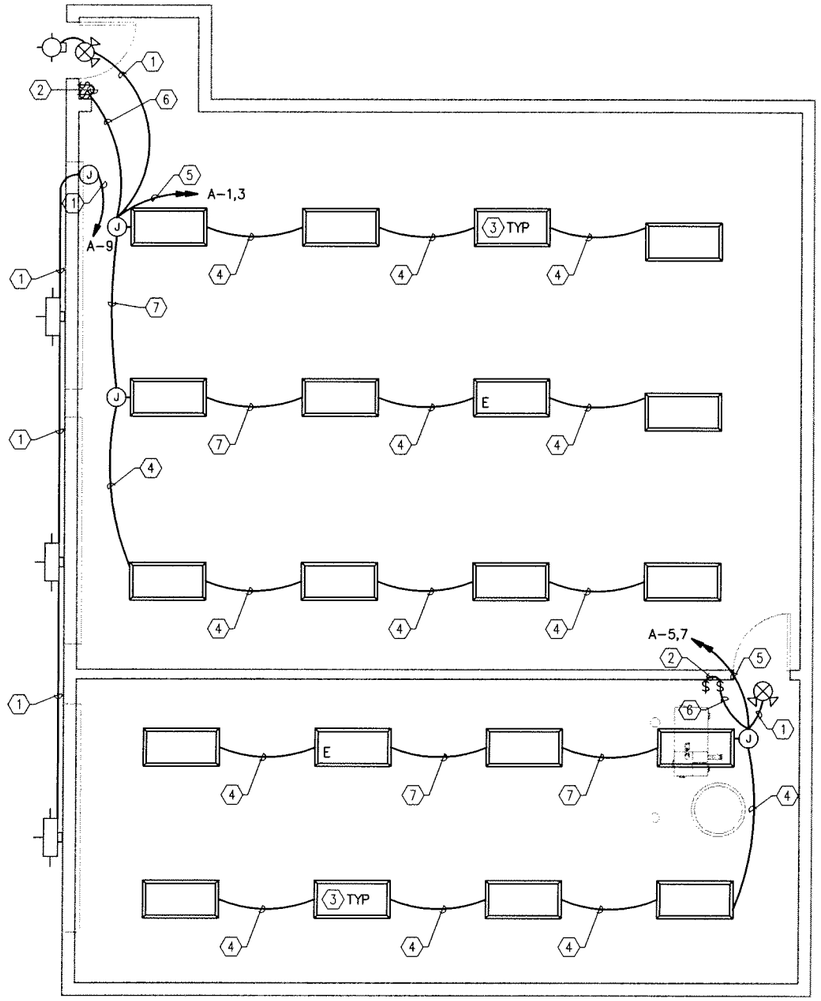
VILLAGE OF BEAVER
SANITATION IMPROVEMENTS
HAUL GARAGE
WIRING DIAGRAMS AND SUMP PUMP DETAILS

REVISION	BY	DATE

Project No. CEW&VR
Date APRIL 2005
Designed HF
Drawn AYN
Approved —

Sheet No. E4
SHEET 4 OF 7



LIGHTING PLAN

0 4' 8'

NOTES

1. 1/2"C, 3#12 (H,N,G)
2. 1/2"C, 3#12 (H,SWITCHLEG,G)
3. WIRE FIXTURE BALLASTS ON SEPARATE LIGHTING CIRCUITS FOR MULTI-LEVEL LIGHTING.
4. 1/2"C, 5#12 (2 SWITCHLEGS,2N,G)
5. 1/2"C, 5#12 (2H,2N,G)
6. 1/2"C, 5#12 (2H,2 SWITCHLEGS,G)
7. 1/2"C, 6#12 (H,2 SWITCHLEGS,2N,G)

FIXTURE SCHEDULE

SYMBOL	LAMP SIZE	MOUNTING	TYPE
	4-32W FLUOR	CHAIN HUNG @14'AFF	120V, FLUORESCENT, 4-LAMP, INDUSTRIAL, 4 FT. LITHONIA #AFST 432120 ES. FIXTURES WITH AN 'E' DESIGNATION SHALL BE PROVIDED WITH AN EMERGENCY BALLAST.
	LED	WALL MOUNT ABOVE DOOR	EMERGENCY LIGHT / EXIT SIGN, SINGLE FACE. LITHONIA #LHQM S W 1 R 120 N
	1-100W HPS	WALL MOUNT +14' AFF	HPS WALL PAK, -70° BALLAST, COPPER FREE HOUSING, UL WET LOCATION, PHOTO CONTROL KIT, 120V. HOLOPHANE WL3K100HP-12-BK-WL2K-PR12-LAMP
	1-70W HPS	WALL MOUNT +8' AFF	HPS WALL PAK, -70° BALLAST, COPPER FREE HOUSING, UL WET LOCATION, PHOTO CONTROL KIT, 120V. HOLOPHANE WL3K70HP-12-BK-WL2K-PR12-LAMP
	2-32W FLUOR	SURFACE CEILING	120V, FLUORESCENT, 2-LAMP, INDUSTRIAL, 4 FT, DAMP LOCATION FIXTURE. LITHONIA #DM232 120

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NAME _____ DATE _____

VILLAGE SAFE WATER

STATE OF ALASKA * JAMES H. FISHER * 9491 * REGISTERED PROFESSIONAL ENGINEER

EDC, INC.
213 W. FIREWEED LANE
ANCHORAGE, AK 99503
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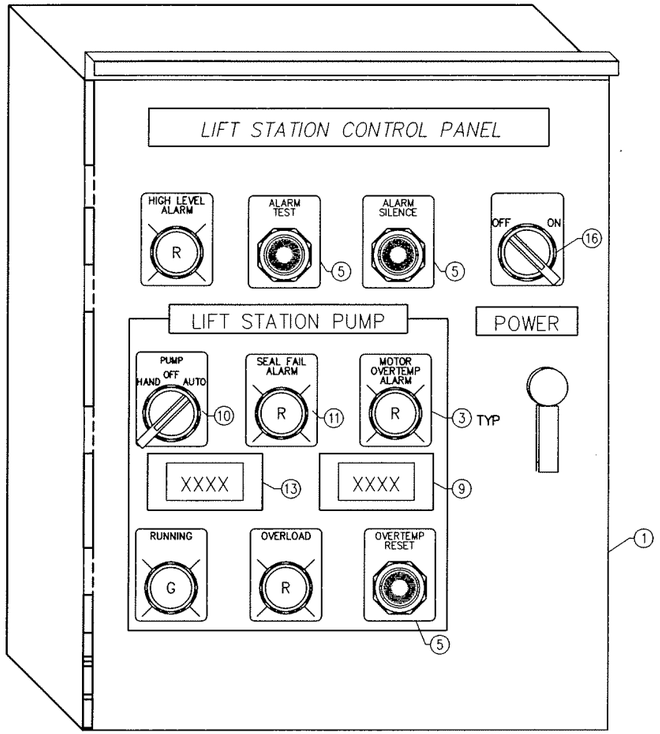
VILLAGE OF BEAVER
SANITATION IMPROVEMENTS
HAUL GARAGE
ELECTRICAL
LIGHTING PLAN

REVISION	BY	DATE

Project No. CRWB.VR
Date APRIL 2005
Designed JHF
Drawn AYN
Approved —

Sheet No. E5
SHEET 5 OF 7

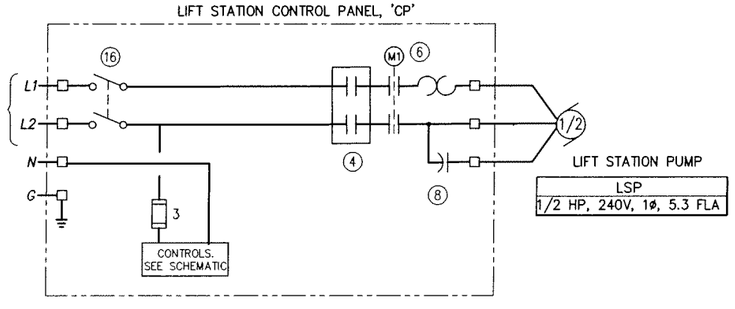


1 PANEL LAYOUT
SCALE: NONE

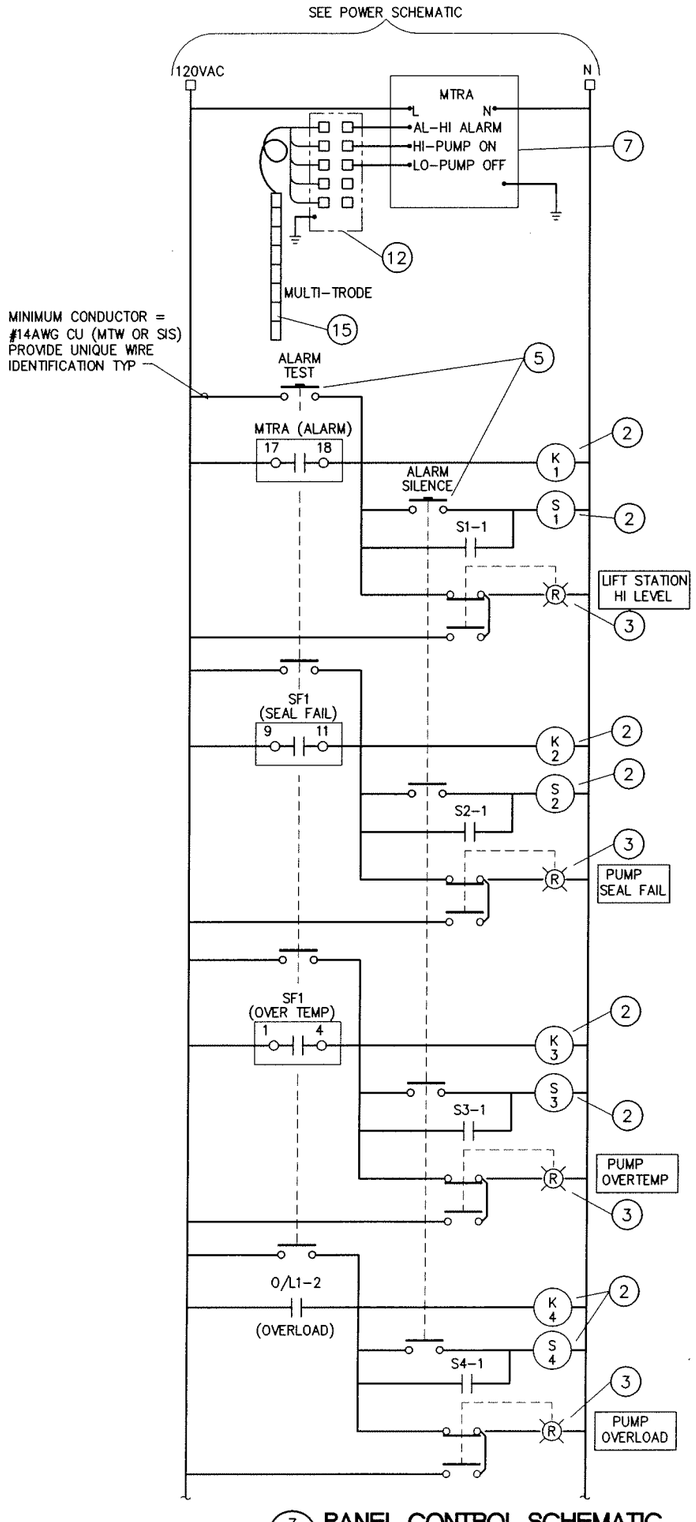
FUNCTIONAL NARRATIVE

THE LIFT STATION PUMP CAN BE OPERATED IN EITHER AUTO OR HAND MODE. IN AUTO MODE, THE PUMP IS CONTROLLED BY THE LEVEL PROBE. WHEN THE LEVEL IN THE LIFT STATION REACHES THE 'PUMP START' LEVEL, THE PUMP WILL RUN UNTIL THE LEVEL DROPS TO THE 'PUMP STOP' LEVEL. IF THE PUMP FAILS TO START AND THE LEVEL IN THE LIFT STATION CONTINUES TO RISE, THE 'HIGH ALARM' LEVEL WILL BE REACHED. THE 'HIGH LEVEL' ALARM WILL CAUSE THE EXTERIOR ALARM HORN AND STROBE TO ENERGIZE. THE HORN AND STROBE CAN BE SILENCED BY ACKNOWLEDGING THE ALARM, BUT THE HIGH LEVEL ALARM PILOT LIGHT ON THE PANEL WILL REMAIN ON UNTIL THE HIGH LEVEL CONDITION IS CLEARED.

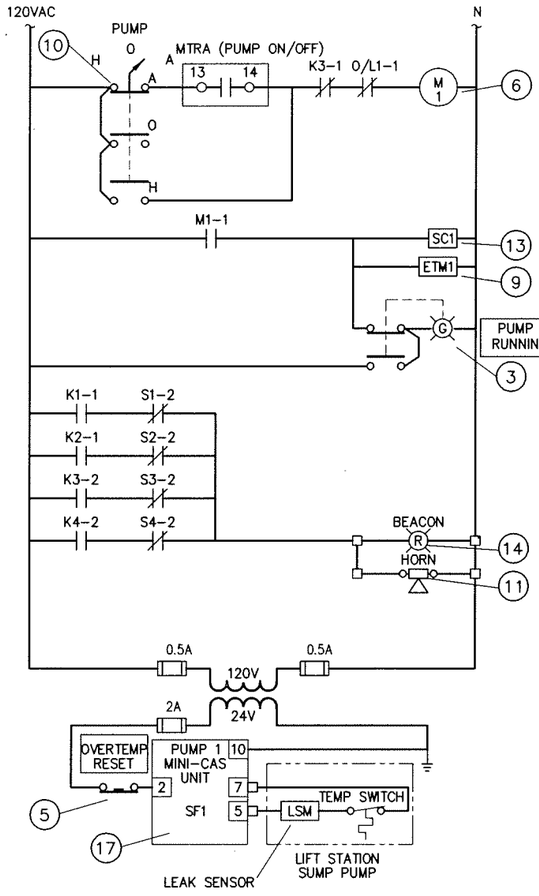
IN HAND MODE, THE PUMP WILL RUN CONTINUOUSLY UNLESS AN OVERTEMPERATURE OR OVERLOAD CONDITION OCCURS.



2 PANEL POWER SCHEMATIC
SCALE: NONE



3 PANEL CONTROL SCHEMATIC
SCALE: NONE



#	COMPONENT SCHEDULE
1	NEMA 4X, STAINLESS STEEL ENCLOSURE W/ HINGED LOCKABLE DOOR AND REMOVABLE BACKPLATE FOR MOUNTING COMPONENTS. SIZE AS REQUIRED. HOFFMAN OR EQUAL.
2	120V RELAY, 3PDT, 11-PIN OCTAL SOCKET MOUNT W/ PILOT LIGHT. SQUARE D TYPE KP13P1HV20
3	PILOT LIGHT, PUSH TO TEST, 120V, LED, NEMA 4X, LENS TINT AS SHOWN SQUARE D TYPE SKT, CLASS 9001
4	240VAC, SINGLE PHASE PUMP PROTECTOR, SYMCOM PUMPSAVER MODEL #233
5	N.O. (OR N.C. AS SHOWN) PUSHBUTTON, 120V, 10A, NEMA 4X, SQUARE D, TYPE SKR1, CLASS 9001 - CONTACT BLOCKS AS REQUIRED
6	240V, TWO-POLE, SINGLE PHASE, SIZE 0, STARTER, SQUARE D TYPE #SB01VO2S
7	LEVEL RELAY W/ ALARM (FLYGT #MTRA-3)
8	RUN/START CAPACITOR AS REQUIRED BY PUMP MANUFACTURER, HYDROMATIC.
9	ELAPSED TIME METER, 0-99999.9 HR, 120VAC VEEDER-ROOT #79536-201
10	3-POSITION SELECTOR SWITCH 120V, NEMA 4X, SQUARE D, CLASS 9001, TYPE SKS42BH2
11	ALARM HORN; 120V, WEATHERPROOF, FEDERAL F350WB 120
12	INTRINSICALLY SAFE BARRIER (FLYGT #MTISB-5)
13	CYCLE COUNTER, PANEL MOUNT, RESETTABLE, 120V VEEDER-ROOT #743885-211
14	ALARM LIGHT, 120V, FEDERAL ELECTRA FLASH #141 W/ RED LEXAN DOME
15	MULTITRODE LIQUID LEVEL SENSOR (FLYGT #4014-33)
16	DOOR MOUNTED DISCONNECT SWITCH, 240VAC, 20A, TWO-POLE W/ PADLOCK PROVISION, SQUARE D VARIO #VBF0
17	FLYGT MINI-CAS SUPERVISION RELAY #140-407113.

RECORD DRAWING CERTIFICATE
THESE DRAWINGS REFLECT RECORDED INFORMATION OBTAINED DURING CONSTRUCTION. INFORMATION PROVIDED HEREIN IS ACCURATE TO THE BEST OF MY KNOWLEDGE.
NAME _____ DATE _____

VILLAGE SAFE WATER

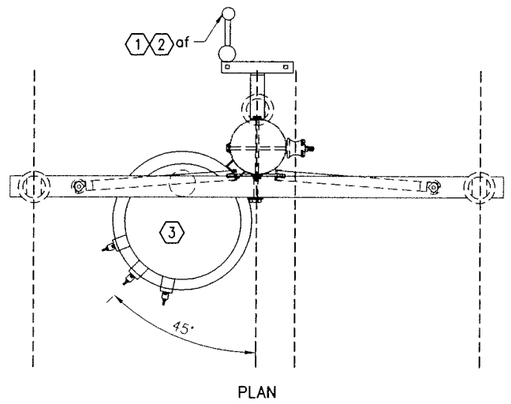
EDC, INC.
213 W. FIREWEED LANE
ANCHORAGE, AK 99503
(907) 276-7933

VILLAGE OF BEAVER
SANITATION IMPROVEMENTS
HAUL GARAGE
CONTROL SYSTEMS
LIFT STATION CONTROLS

REVISION	BY	DATE

Project No. CRWBVR
Date APRIL 2005
Designed JHF
Drawn AYN
Approved —

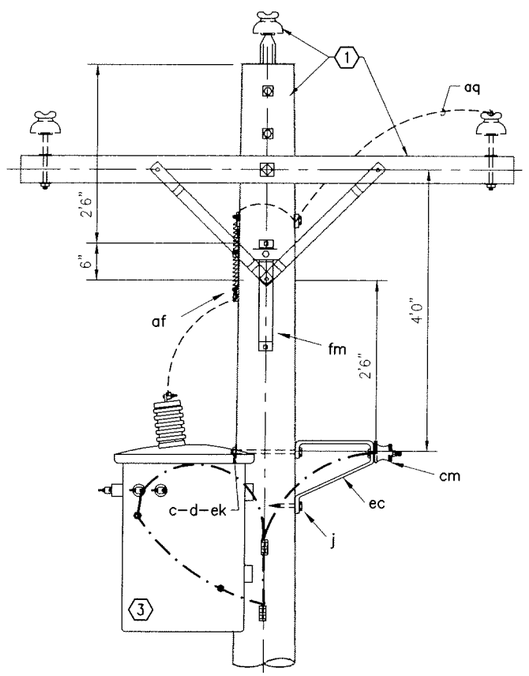
Sheet No. E6
SHEET 6 OF 7

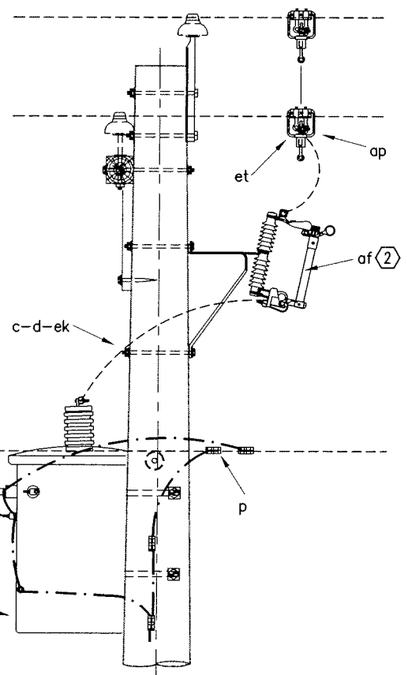


PLAN

NOTES:

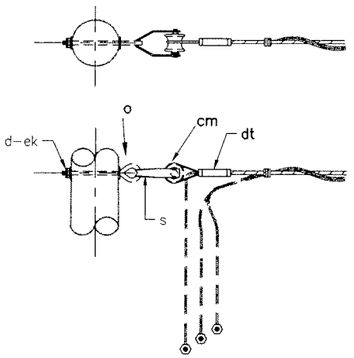
1. POLE, CROSSARM, FUSED CUTOUT, INSULATORS & HARDWARE IS EXISTING. REUSE AS APPROPRIATE.
2. PROVIDE FUSE CUTOUT W/A NEW 10A RATED FUSE LINK.
3. NEW 50kVA TRANSFORMER.





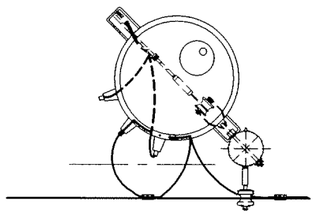
ITEM	QTY	MATERIAL
c	4	Bolt, machine, 5/8" x required length
d	4	Washer, curved, 2 1/4"
p		Connectors, as required
cm	1	Spool insulator
af	1	Cutout, 100 amp., 15 KV
an	1	Transformer, single phase conventional (separate)
ap	1	Clamp, hotline
aq		Jumpers, as required
bu	2	Connectors, transformer case ground
ek		Locknuts, as required
et	1	Clamp, stirrup, hotline (separate)
ec	1	Bracket, offset, neutral
fm	1	Bracket, 2 position switch
j	2	Screw, lag, 1/2" x 4"

SINGLE PHASE TRANSFORMER INSTALLATION ON 3 - PHASE TANGENT G39 - POLE B5 DETAIL

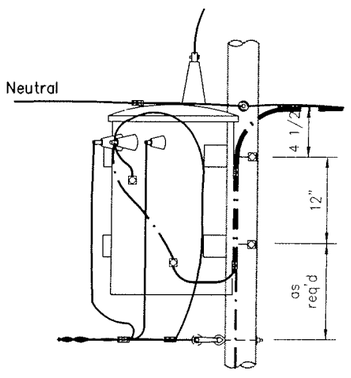


SECONDARY SERVICE ASSEMBLIES DETAIL

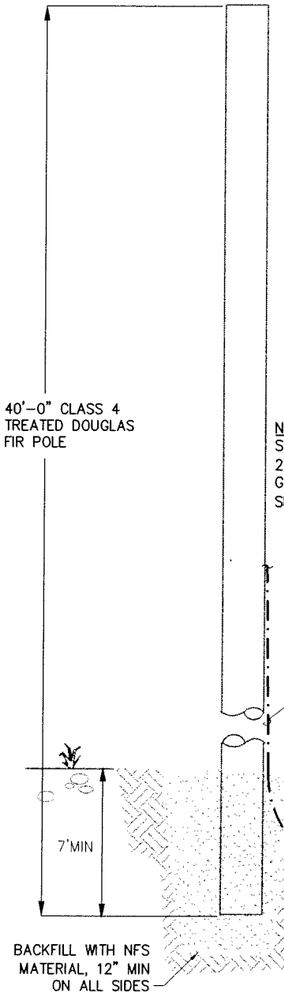
ITEM	MATERIAL	K11C
d	Washer, curved, 2 1/4"	1
o	Bolt, eye, 5/8" x required length	1
p	Connector, as required	
s	Clevis, secondary, swinging	1
cm	Insulator, spool type	1
dt	Wedge clamp	1
ek	Locknut, as required	



PLAN



PRIMARY DEADEND SERVICE TAKE-OFF BELOW TRANSFORMER



NOTE
STAPLE GROUND WIRE EVERY 2' EXCEPT WITHIN 8' ABOVE GROUND WHERE STAPLES SHALL BE 6" APART.

POLE INSTALLATION DETAIL

GENERAL NOTES

MATERIAL ITEM LETTER DESIGNATION IS IN ACCORDANCE WITH RURAL UTILITIES SERVICE (RUS) LIST OF APPROVED MATERIALS.

RECORD DRAWING CERTIFICATE
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NAME _____ DATE _____

VILLAGE SAFE WATER

STATE OF ALASKA
John M. Fredrickson
LIC. #236
REGISTERED PROFESSIONAL ENGINEER

EDC, INC.
213 W. FIREWEED LANE
ANCHORAGE, AK 99503
(907) 276-7933

VILLAGE OF BEAVER
SANITATION IMPROVEMENTS
HAUL GARAGE
ELECTRICAL
MEDIUM VOLTAGE DETAILS

REVISION	BY	DATE

Project No. CRWEUR
Date APRIL 2005
Designed JMF
Drawn ATN
Approved

Sheet No. E7
SHEET 7 OF 7