

PORTLAND WATER DISTRICT

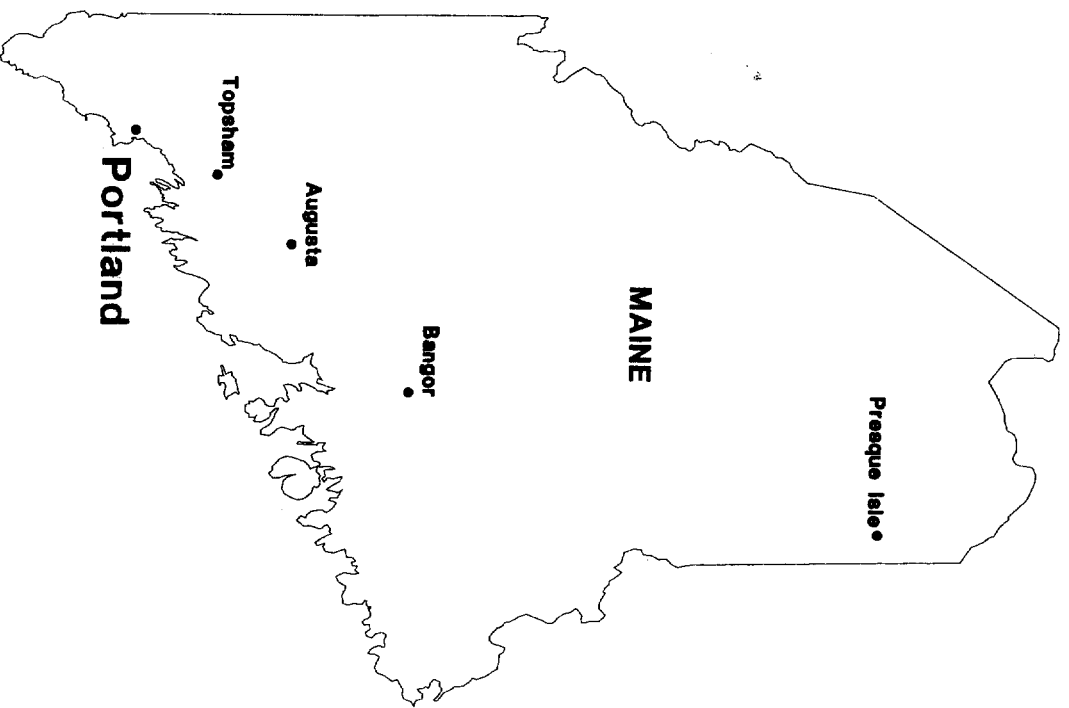
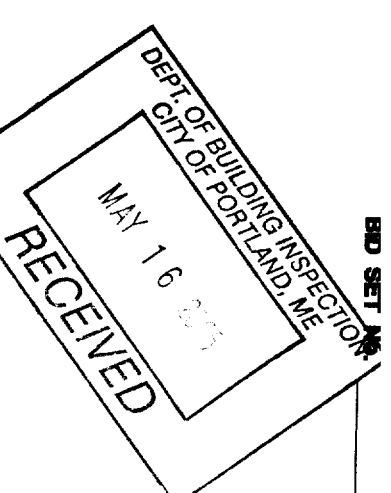
PORTLAND, MAINE

CONTRACT DRAWINGS FOR

EAST END WWTF DISINFECTION AND DECHLORINATION SYSTEMS UPGRADE

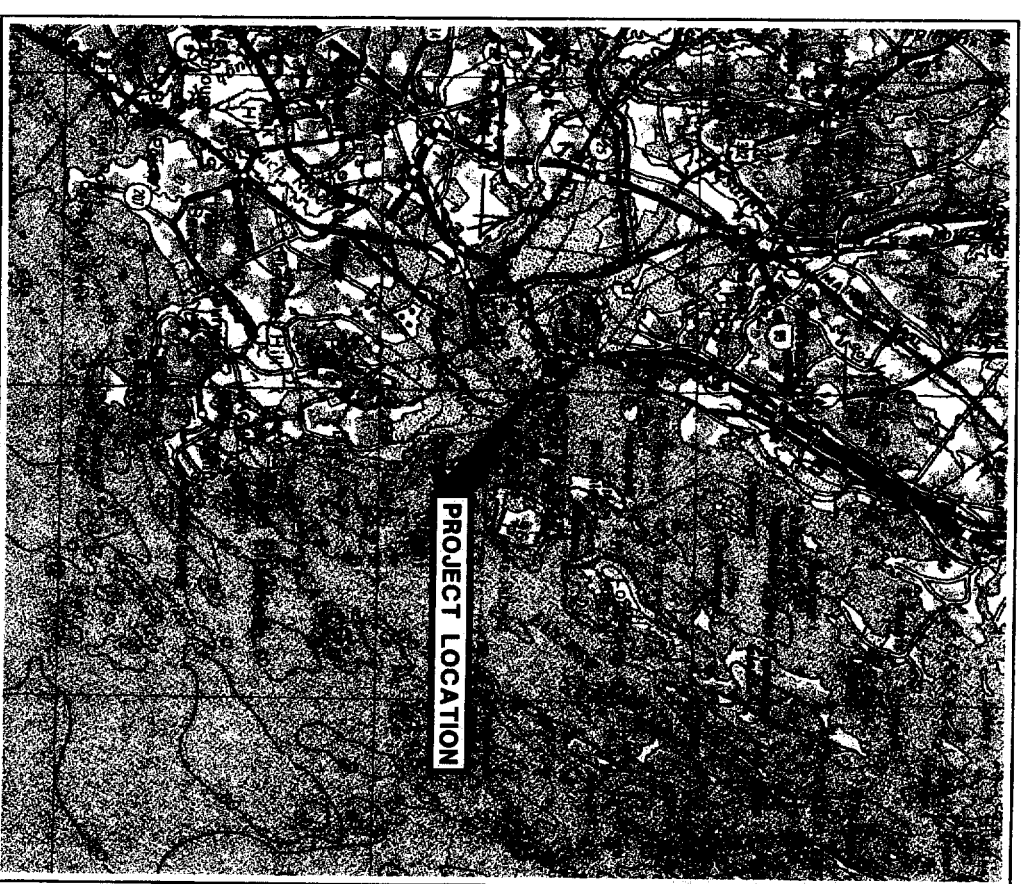
FEBRUARY 2005

SRF NO. 230123-09



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OSC ON PLAN
1"=10' 00" ±

FOR REVIEW 12-15-04
FOR BIDDING 2-18-05

GENERAL CIVIL NOTES:

1. THE LOCATIONS OF UNDERGROUND UTILITIES AND STRUCTURES, AS SHOWN ON THE DRAWINGS, ARE APPROXIMATE AND MAY NOT BE COMPLETE. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE BASED ON PREVIOUS CONSTRUCTION DESIGN PLANS, WHICH ARE AVAILABLE FOR INSPECTION AT THE ENGINEER'S OFFICE. NO GUARANTEE IS MADE THAT UTILITIES OR STRUCTURES WILL BE ENCOUNTERED WHERE SHOWN, OR THAT ALL UNDERGROUND UTILITIES AND STRUCTURES ARE SHOWN. ALL LOCATIONS AND SIZES OF EXISTING UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD WITH TEST PITS PRIOR TO BEGINNING CONSTRUCTION.
2. UNLESS OTHERWISE NOTED, THERE IS NO KNOWN ASBESTOS WITHIN THE AREA OF WORK. IF THE PRESENCE OF ASBESTOS IS DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ENGINEER IMMEDIATELY. DISPOSAL OF ASBESTOS SHALL BE IN ACCORDANCE WITH STATE OF MAINE REGULATIONS.
3. ALL PIPE LINES SHALL SLOPE UNIFORMLY BETWEEN ELEVATIONS INDICATED ON THE DRAWINGS. NO CRESTS IN PIPING WILL BE PERMITTED. PROVIDE ALL BENDS (HORIZONTAL AND VERTICAL) AS REQUIRED TO MEET THE GRADES AND ALIGNMENT INDICATED ON THE DRAWINGS.
4. ALL BURIED CONNECTIONS TO STRUCTURES, SHALL HAVE SLEEVE TYPE FLEXIBLE CONNECTIONS APPROXIMATELY 4 FEET FROM THE STRUCTURES. ALL SLEEVE TYPE COUPLINGS ON PRESSURE LINES SHALL BE RESTRAINED (SOUL SLEEVE). REFER TO SPECIFICATION SECTION 1508B.
5. NEW PENETRATIONS THROUGH EXISTING STRUCTURE WALLS SHALL BE BY CORING MACHINE AND "LINK-SEAL" TYPE SEALS, UNLESS OTHERWISE INDICATED. OPENINGS TO BE COMPATIBLE WITH REQUIRED PIPING AND STANDARD LINK SEAL SIZES. SEE DRAWING PR-9 FOR DETAILS.
6. REFER TO SPECIFICATION SECTION 02200 FOR PIPE AND STRUCTURE BEDDING AND BACKFILL REQUIREMENTS.
7. COMPACTION TESTS WILL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION SECTION 02200. ANY SETTLEMENT OCCURRING WITHIN ONE YEAR OF FINAL COMPLETION OF THE WORK, SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST.
8. ALL AREAS THAT ARE EXCAVATED, FILLED, OR OTHERWISE DISTURBED BY THE CONTRACTOR SHALL BE LOADED, GRADED, LINES, FERTILIZED, SEEDED AND MULCHED THE TOP 4 INCHES OF SOIL SHALL BE LOAM. REFER TO SPECIFICATIONS SECTION 02485.
9. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
10. REFER TO SECTION 01050 OF THE SPECIFICATIONS FOR INFORMATION REGARDING COORDINATION WITH OTHERS, INCLUDING RESPONSIBILITIES AND RELATED COSTS.
11. WHERE NEW PIPING IS TO BE CONNECTED TO EXISTING PIPING, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ADAPTERS, FITTINGS, AND ADDITIONAL PIPE AS REQUIRED TO COMPLETE THE CONNECTION. CONTRACTOR SHALL VERIFY LOCATION, ELEVATION, ORIENTATION AND MATERIAL OF CONSTRUCTION.
12. ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION ARE TO REMAIN IN SERVICE UNLESS OTHERWISE NOTED.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL DEMOLITION MATERIALS IN ACCORDANCE WITH SPECIFICATION SECTION 02090.
14. ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO ANY TRENCH EXCAVATION SHALL BE PROTECTED AND FIRMLY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. DAMAGE TO ANY SUCH STRUCTURES CAUSED BY OR RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ALL UTILITIES REQUIRING REPAIR, RELOCATION OR ADJUSTMENT AS A RESULT OF THE PROJECT SHALL BE COORDINATED THROUGH THE OWNER.
15. REFER TO SPECIFICATION SECTION 01010, WHICH CONTAINS INFORMATION ON CONSTRAINTS OF CONSTRUCTION SEQUENCING.
16. ALL PIPING, EQUIPMENT AND MATERIALS TO BE DEMOLISHED AND/OR REMOVED FROM SERVICE SHALL BE COORDINATED WITH THE OWNER AND ENGINEER BEFORE COMMENCING THAT WORK. EXISTING PIPES AND CONDUIT DESIGNATED AS "ABANDONED" MAY BE REMOVED IF THE CONTRACTOR SO CHOOSES. IF "ABANDONED" PIPE CONFLICTS WITH PROPOSED YARD PIPING, THEN A PORTION OF THE ABANDONED PIPE SHALL BE REMOVED AND THE NEW ENDS OF ABANDONED PIPE CAPPED, OR PLUGGED WITH CONCRETE.
17. SEVERING OF EXISTING UTILITIES FOR ABANDONMENT, OR REMOVAL OF A SEGMENT FROM SERVICE, SHALL BE PERFORMED IN SUCH A MANNER AS TO ALLOW THE REMAINING ACTIVE SEGMENT TO CONTINUE IN ITS INTENDED SERVICE. CAP ACTIVE SEGMENTS WITH APPROPRIATE FITTINGS, JOINT RESTRAINT, ETC. TO ENSURE THEIR INTEGRITY. PLUG ENDS OF ABANDONED PIPE SEGMENTS WITH CONCRETE UNLESS SPECIAL CIRCUMSTANCES DICTATE PLUGGING ABANDONED PIPES WITH BOND FLANGES, RESTRAINED MECHANICAL JOINT PLUGS, ETC. AS APPROPRIATE.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND DISPOSING OF ALL DEMOLISHED PIPING, EQUIPMENT AND MATERIALS. DISPOSAL SHALL BE IN ACCORDANCE WITH ALL STATE AND LOCAL REGULATIONS. THE OWNER RESERVES THE RIGHT TO RETAIN ANY SUCH PIPING, EQUIPMENT AND MATERIALS DESIGNATED FOR DEMOLITION FOR HIS USE. SUCH MATERIALS TO BE RETAINED SHALL BE PROPERLY STORED IN AN ON-SITE LOCATION, COORDINATE LOCATION AND MATERIALS TO BE SALVAGED WITH THE OWNER/ENGINEER.
19. THE CONTRACTOR SHALL KEEP A RECORD OF DEMOLITION AS PART OF THE PROJECT RECORD DOCUMENTS IN ACCORDANCE WITH SPECIFICATION SECTION 01720.
20. THE CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO ENSURE THAT ALL PROCESS FLOWS ARE MAINTAINED DURING CONSTRUCTION. GRANTS OR PUMPED BYPASSES AND OTHER MEANS OF MAINTAINING FLOW SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE ENGINEER SHALL REVIEW AND APPROVE ALL BYPASSES WITH THE OWNER AND ENGINEER.
21. THE LOCATION AND LIMITS OF ALL ON-SITE WORK AND STORAGE AREAS SHALL BE REVIEWED/COORDINATED WITH AND ACCEPTABLE TO THE OWNER AND ENGINEER. THE CONTRACTOR SHALL LIMIT HIS ACTIVITIES TO THESE AREAS.
22. WRITTEN DIMENSIONS SHALL PREVAIL. DO NOT SCALE DISTANCES FROM THE DRAWINGS. REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER.
23. ALL ELEVATIONS ARE BASED ON USGS MEAN SEA LEVEL DATUM = 1929 NGD.
24. CONTRACTOR TO NOTE THAT "SCANNED" IMAGES HAVE BEEN USED IN THE DRAWINGS. CONTRACTOR TO VERIFY EXISTING CONDITIONS. REFER TO PROCESS GENERAL NOTE NO. 1, THIS DRAWING.
25. CONTRACTOR SHALL PROVIDE TWO CHEMICAL MANHOLES FOR INSTALLATION OF TUBING AND FUTURE ACCESS. MANHOLES SHALL BE LOCATED APPROXIMATELY 100' APART. FIELD LOCATE CHEMICAL MANHOLES WITH PRIOR REVIEW AND APPROVAL OF THE ENGINEER. CONTRACTOR TO NOTE CHEMICAL MANHOLE NO. 1 IS NOT SHOWN ON THIS DWG.
26. CONTRACTOR SHALL REMOVE AND REPLACE, OR REPAIR ALL CURBS, SIDEWALK, PAVEMENT AND OTHER ITEMS DAMAGED BY HIS CONSTRUCTION ACTIVITIES TO AT LEAST THEIR ORIGINAL CONDITION AND TO THE SATISFACTION OF THE OWNER AND ENGINEER.

EROSION AND SEDIMENTATION CONTROL NOTES

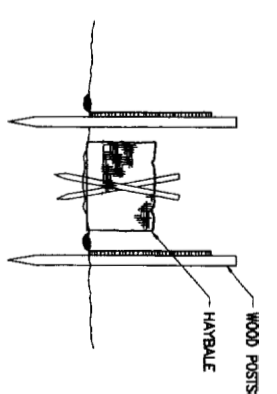
- THIS PLAN HAS BEEN DEVELOPED AS A STRATEGY TO CONTROL SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION. THIS PLAN IS BASED ON THE STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION IN DEVELOPING AREAS AS CONTAINED IN THE "MAINE EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES", MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION DATED MARCH 2003.
1. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE DONE IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES", MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, DATED MARCH 2003.
 2. THOSE AREAS UNDERGOING ACTUAL CONSTRUCTION WILL BE MAINTAINED IN AN UNVEGETATED OR UNVEGETATED CONDITION FOR THE MINIMUM TIME REQUIRED. IN GENERAL AREAS TO BE VEGETATED SHALL BE PERMANENTLY STABILIZED WITHIN 15 DAYS OF FINAL GRADING AND TEMPORARILY STABILIZED WITHIN 30 DAYS OF INITIAL DISTURBANCE OF THE SOIL.
 3. SEDIMENT BARRIERS (SILT FENCE, STONE CHECK DAMS, ETC.) SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF UNGRADED DRAINAGE AREAS.
 4. INSTALL SILT FENCE AT TOP OF SLOPES TO FILTER SILT FROM RUNOFF. SEE SILT FENCE DETAIL FOR PROPER INSTALLATION. SILT FENCE WILL REMAIN IN PLACE PER NOTE #8.
 5. ALL EROSION CONTROL STRUCTURES WILL BE INSPECTED, REPLACED AND/OR REPAIRED EVERY 7 DAYS AND IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT OR WHEN NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION OR DECOMPRESSION. SEDIMENT DEPOSITS MUST BE REMOVED WHEN THEY SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UP-SLOPE ARE PERMANENTLY STABILIZED.
 6. NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL (2 TO 1), UNLESS STABILIZED WITH RIPRAP OR OTHER STRUCTURAL MEANS.
 7. IF FINAL SEEDING AND SOODING IS NOT EXPECTED PRIOR TO THE ANTICIPATED DATE OF THE FIRST KILLING FROST, USE TEMPORARY ANNUAL REGRESS SEEDING AND MULCHING ON ROUGH GRADED SUBSOIL TO PROTECT THE SITE AND DELAY PERMANENT LOAMING, FINE GRADING, AND SEEDING OR SOODING UNTIL SPRING.
 8. WHEN FEASIBLE, TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINISH GRADED SHALL BE COMPLETED PRIOR TO OCTOBER 1.
 9. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO THE SITE AND REGRADED ONTO OPEN AREAS. POST SEEDING SEDIMENT, IF ANY, WILL BE DISPOSED OF IN AN ACCEPTABLE MANNER.
 10. REVEGETATION MEASURES WILL COMMENCE UPON COMPLETION OF CONSTRUCTION EXCEPT AS NOTED ABOVE. ALL DISTURBED AREAS NOT OTHERWISE STABILIZED WILL BE GRADED, SMOOTHED, AND REVEGETATED.
 11. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE IS STABILIZED.
 12. WETLANDS AND SURFACE WATERS (EXCEPTING THOSE WHICH ARE TO BE FILLED IN ACCORDANCE WITH STATE AND FEDERAL REGULATIONS) WILL BE PROTECTED WITH SILT FENCE INSTALLED AT THE EDGE OF THE WETLAND OR THE BOUNDARY OF WETLAND DISTURBANCE.

EROSION CONTROL - WINTER CONSTRUCTION

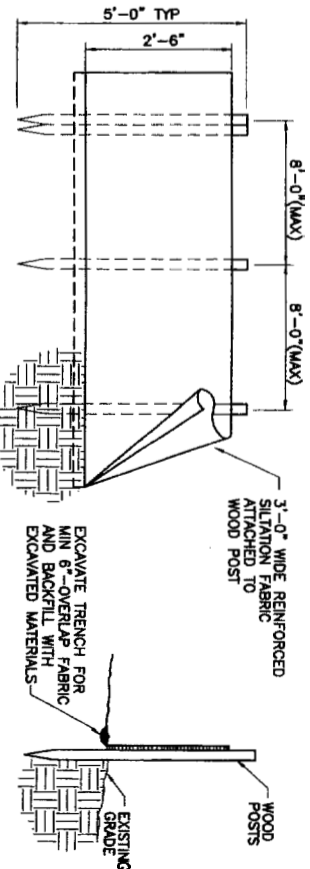
1. WINTER CONSTRUCTION PERIOD DEFINED: NOVEMBER 1 THROUGH APRIL 15
2. WINTER EXCAVATION AND EARTHWORK SHALL BE DONE SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.
3. EXPOSED AREA SHOULD BE LIMITED SUCH THAT THE AREA CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT.
4. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED SUCH THAT NO LARGER AREA OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION AS LISTED IN ITEM 2 ABOVE.
5. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW AT A RATE OF 100 LB. PER 1,000 SQUARE FEET (WITH OR WITHOUT SEEDING) OR DORMANT, SEED, MULCHED AND ADEQUATELY ANCHORED BY AN APPROVED ANCHORING TECHNIQUE. IN ALL CASES, MULCH SHALL BE APPLIED SUCH THAT SOIL SURFACE IS NOT VISIBLE THROUGH THE MULCH.
6. BETWEEN THE DATES OF OCTOBER 15 AND APRIL 15, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE-FREEZING TEMPERATURES, THE SLOPES SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1ST AND IF THE EXPOSED AREA HAS BEEN LOADED, FINAL GRADED AND IS SMOOTH, THEN THE AREA MUST BE STABILIZED WITH MULCH. IF CONSTRUCTION CONTINUES DURING FREEZING WEATHER, ALL EXPOSED AREAS SHALL BE GRADED BEFORE FREEZING AND THE SURFACE TEMPORARILY PROTECTED FROM EROSION BY THE APPLICATION OF MULCH. SLOPES SHALL NOT BE LEFT EXPOSED OVER THE WINTER OR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS TREATED IN THE ABOVE MANNER. UNTIL SUCH TIME AS WEATHER CONDITIONS ALLOW THE DITCHES TO BE FINISHED WITH THE PERMANENT SURFACE TREATMENT, EROSION SHALL BE CONTROLLED BY THE INSTALLATION OF BALES OF HAY OR STONE CHECK DAMS IN ACCORDANCE WITH THE STANDARD DETAILS.
7. THE APPLICATION OF MULCH TO FINE GRADED AREAS WILL BE STABILIZED AS FOLLOWS:
 - A) BETWEEN THE DATES OF NOVEMBER 1ST AND APRIL 15TH ALL MULCH SHALL BE ANCHORED BY EITHER PEG LINE, MULCH NETTING, ASPHALT TACK OR WOOD CELLULOSE FIBER.
 - B) MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 3% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8%.
 - C) MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 15%. AFTER OCTOBER 1ST, THE SAME APPLIES FOR ALL SLOPES GREATER THAN 8%.
8. AFTER NOVEMBER 1ST THE CONTRACTOR SHALL APPLY MULCH AND ANCHORING ON AT LEAST ONE DAY.
9. DURING WINTER CONSTRUCTION PERIODS ALL SNOW SHALL BE REMOVED FROM AREAS TO BE WORKED ON PRIOR TO PLACEMENT.

CIVIL ABBREVIATIONS:

DEC	DECI-METER
DIA	DRAWING
DMG	DRAWING
EL	ELEVATION
FD	FLOOR DRAIN
HYD	HYDRANT
HYP	SODIUM HYPOCHLORITE
INV	INVERT
LP	LOW POINT
MAX	MAXIMUM
MIN	MINIMUM
OD	OUTSIDE DIAMETER
OC	ON CENTER
PE	POLYETHYLENE PIPE
PVC	POLYVINYL CHLORIDE PIPE
RAS-HYP	RETURN ACTIVATED SLUDGE-HYPPOCHLORITE TYPICAL



COMBINATION SILT FENCE AND HAY BALE BARRIER

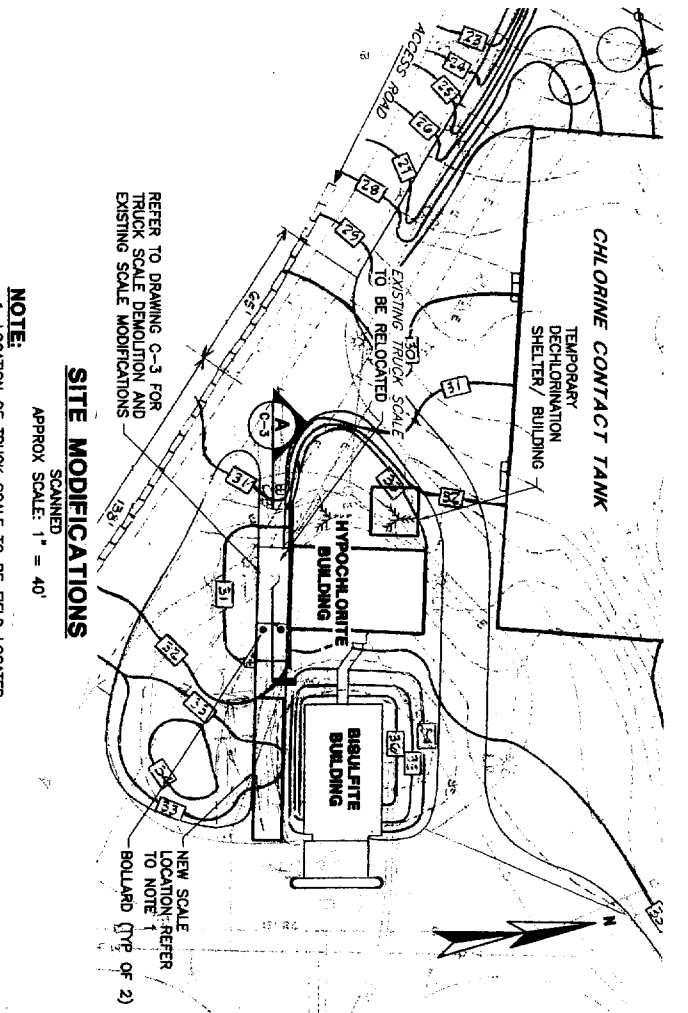
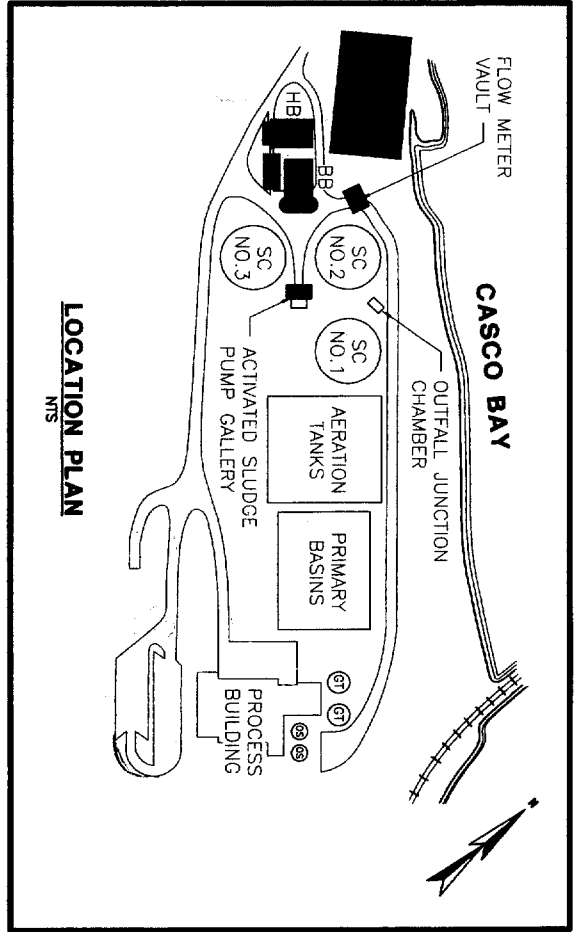
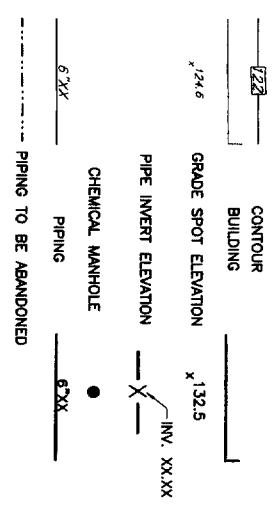


SILT FENCE INSTALLATION DETAIL

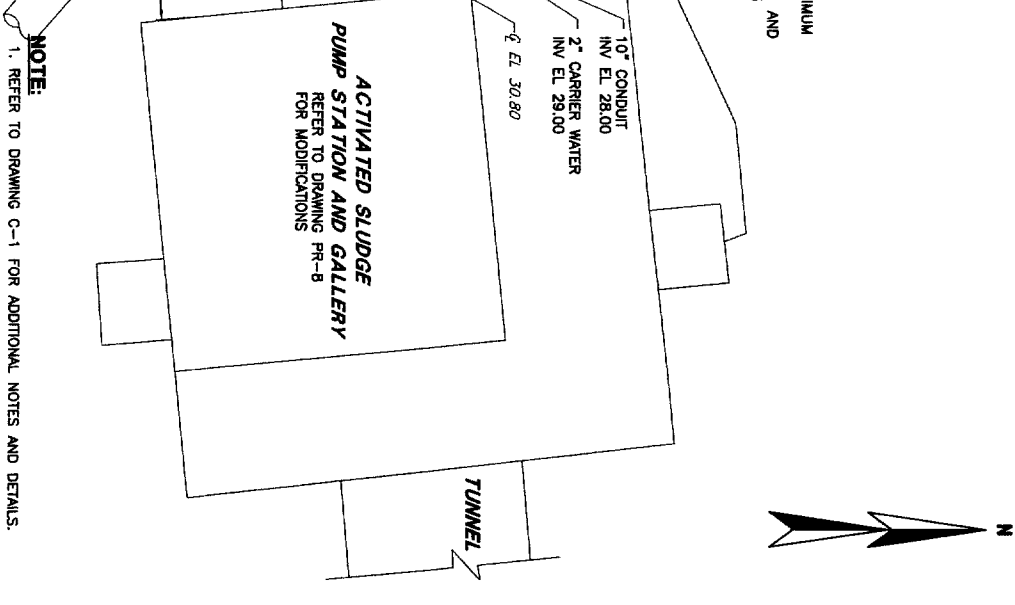
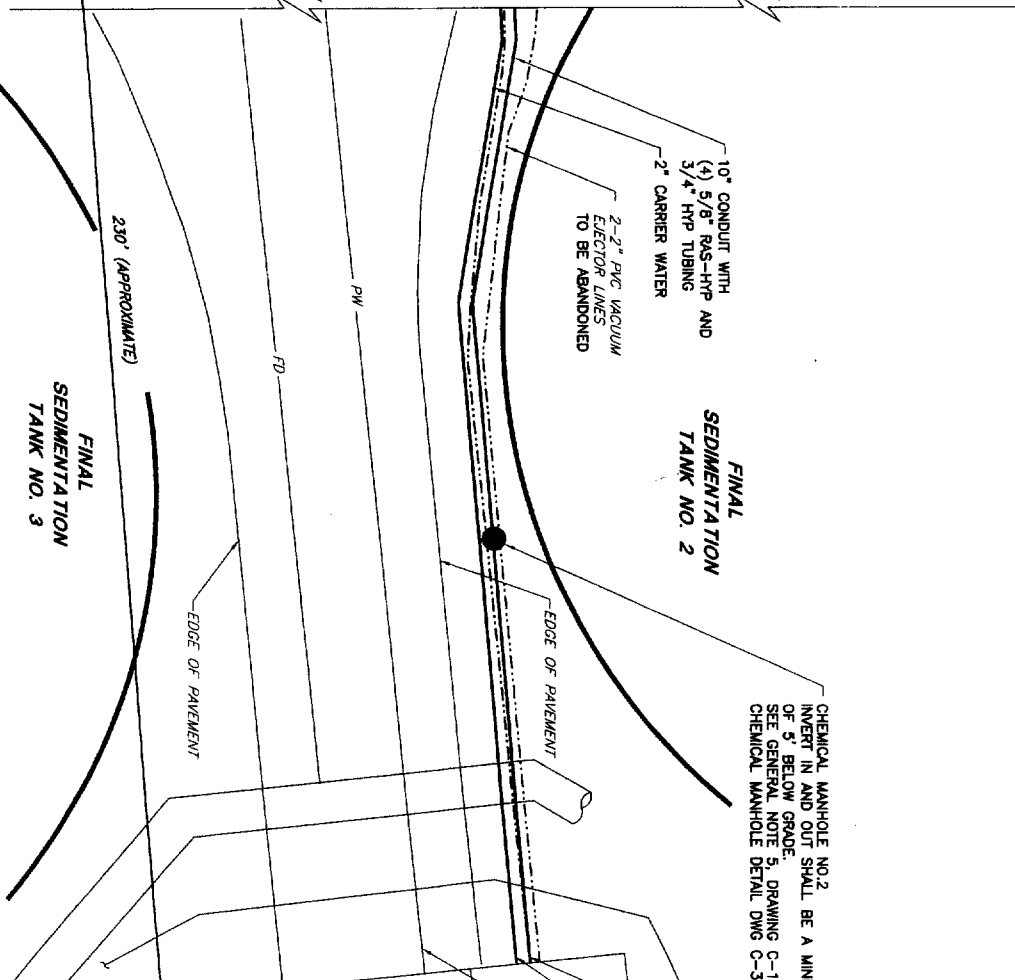
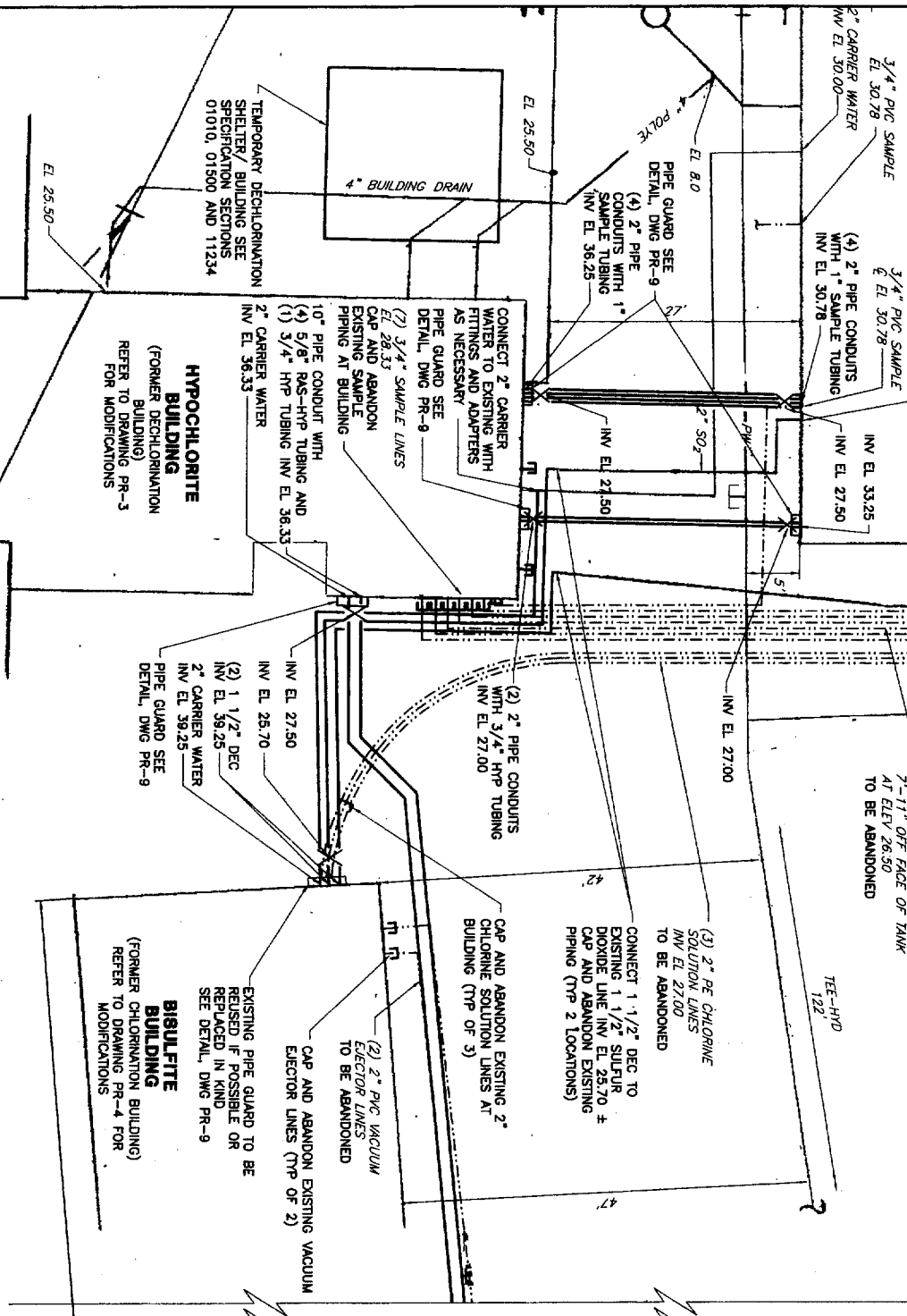


NO	REVISIONS	APP'D	DATE

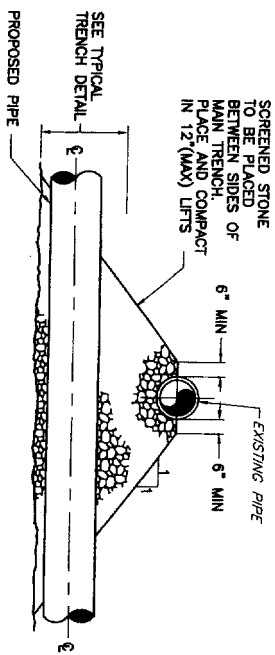
CIVIL LEGEND



CHLORINE CONTACT TANK

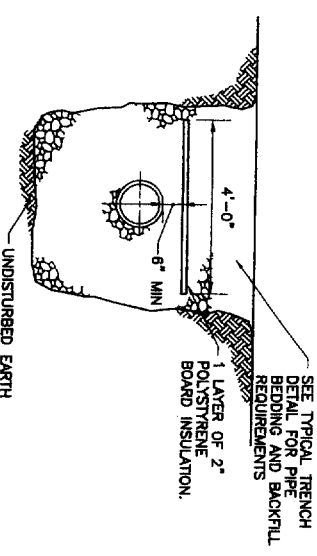


NO.	REVISIONS	APP'D	M.E.	PROGRESS PRINTS
1				ISSUED FOR REVIEW 12-15-04
2				ISSUED FOR BIDDING 2-18-05



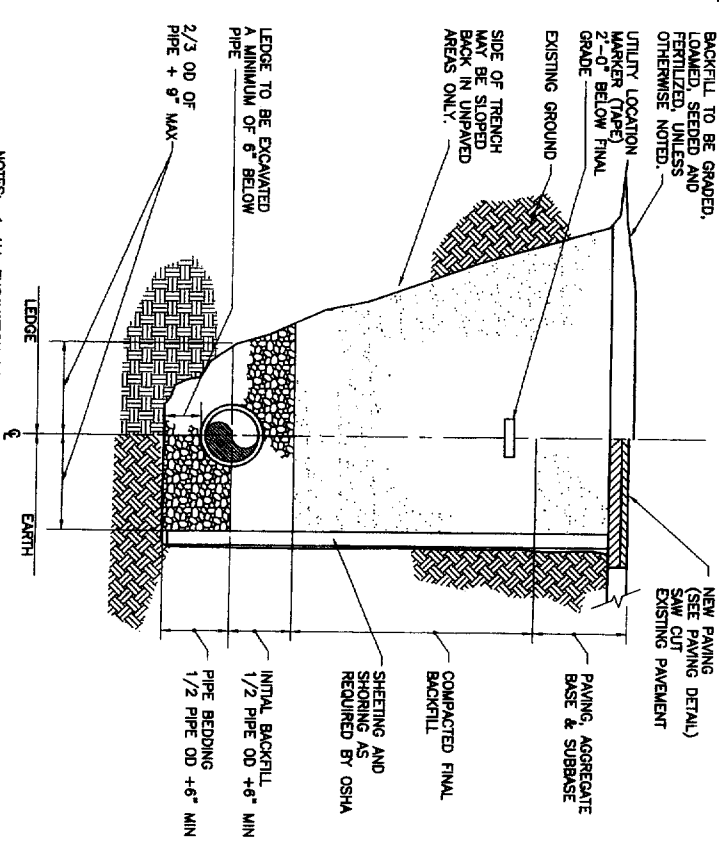
NOTE: JOINTS ON EACH PIPE TO BE AS FAR FROM INTERSECTION AS POSSIBLE

PIPE CROSSING DETAIL



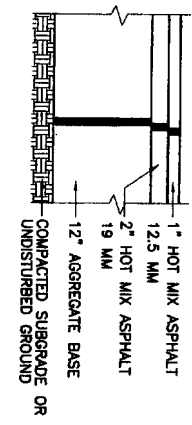
NOTE: TRENCH PIPE INSULATION TO BE USED WHERE DEPTH OF COVER IS LESS THAN 5 FEET OR AS DIRECTED BY THE ENGINEER.

TRENCH PIPE INSULATION DETAIL

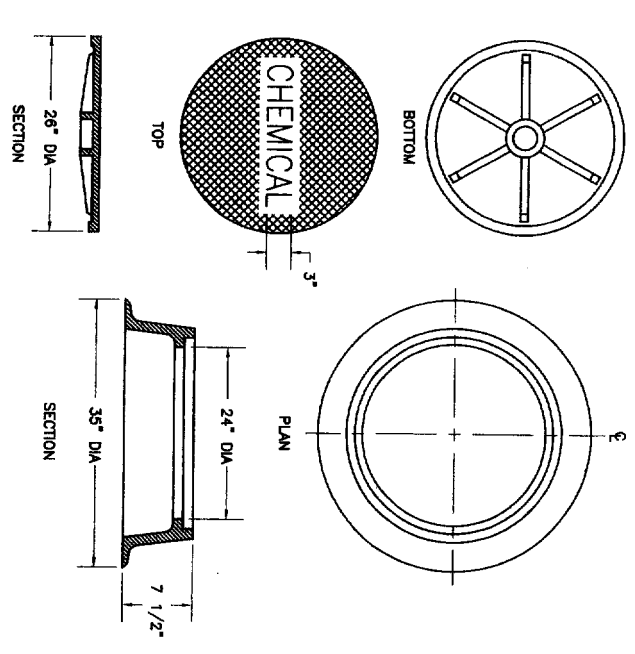


NOTES: 1. ALL EXCAVATION MUST MEET OSHA STANDARDS
2. INSTALL 3 FOOT LONG IMPERVIOUS MATERIAL DAM IN BEDDING/INITIAL BACKFILL MATERIAL EVERY 100 TO PREVENT TRENCH GROUND WATER FROM BEING CHANNELLED ALONG BEDDING/INITIAL BACKFILL.
3. SEE SPECIFICATIONS FOR BEDDING AND BACKFILL REQUIREMENTS.

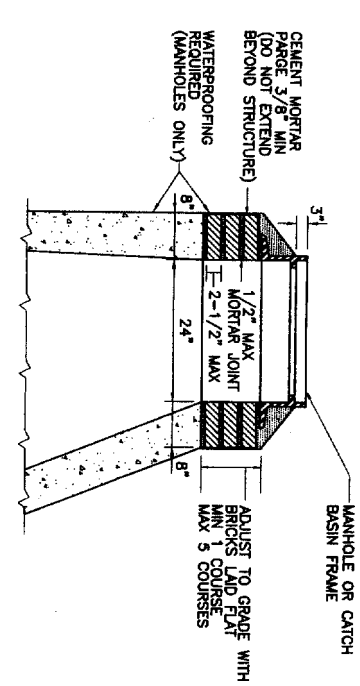
PIPE TRENCH DETAIL



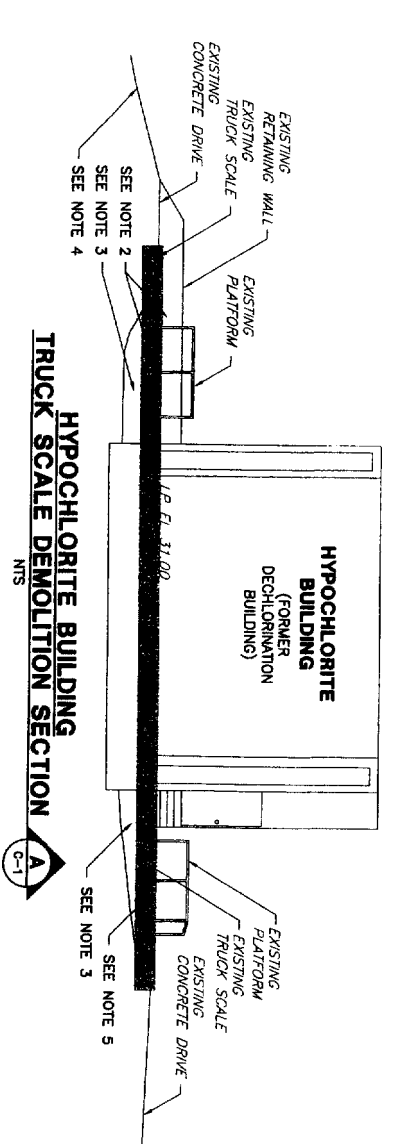
DRIVEWAY PAVEMENT



MANHOLE COVER AND FRAME



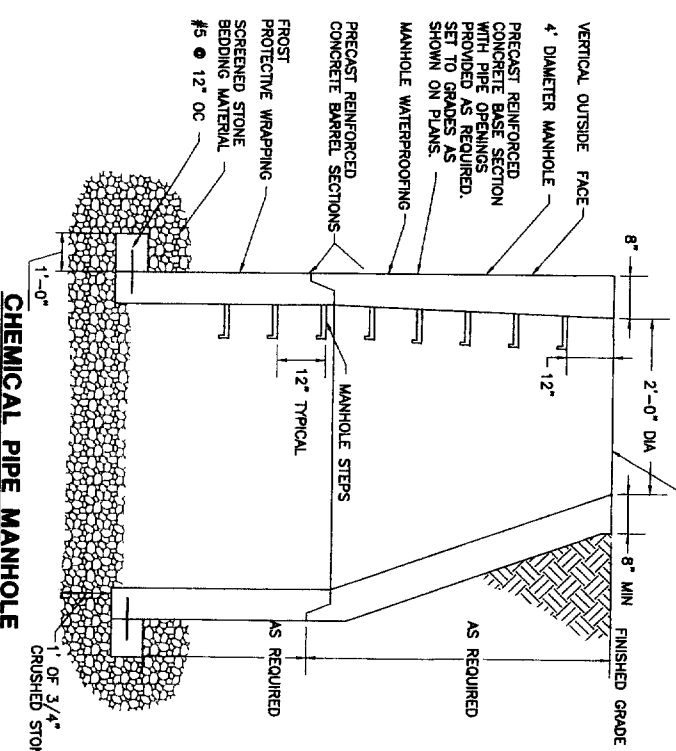
MANHOLE FRAME INSTALLATION



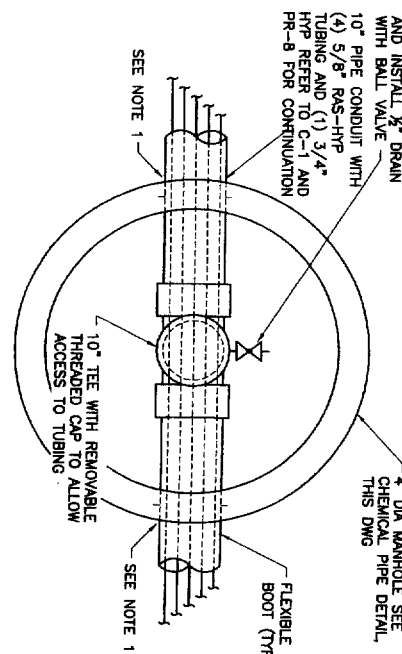
TRUCK SCALE DEMOLITION SECTION

MODIFICATION NOTES

1. CONTRACTOR SHALL REFER TO GENERAL CIVIL NOTES FOR ADDITIONAL REQUIREMENTS.
2. EXISTING TRUCK SCALE AND APPURTENANCES SHALL BE REMOVED IN ITS ENTIRETY, INCLUDING BUT NOT LIMITED TO PLATFORMS, GRATING, RAILINGS, ELECTRICAL CONDUIT, WIRE AND SYSTEM CONTROL PANEL.
3. EXISTING GROUND BELOW SCALE SHALL BE FILLED WITH SELECT FILL TO MATCH EXISTING GRADES AND LOAM AND SEEDED. ALLOW FOR POSITIVE DRAINAGE AWAY FROM THE BUILDING.
4. EXISTING CONCRETE DRIVEWAY SHALL BE REMOVED AND REPLACED WITH TOP-SOIL AND SEEDED TO MATCH EXISTING GRADES AND ALLOW FOR POSITIVE DRAINAGE.
5. AFTER REMOVAL OF TRUCK SCALE, AREA SHALL BE FILLED WITH SELECT FILL, GRADED AND PAVED TO MATCH EXISTING DRIVE. PROVIDE 4" CONCRETE WALK AS NEEDED TO MATCH EXISTING STEPS. SEE PAVEMENT DETAIL THIS DRAWING.



CHEMICAL PIPE MANHOLE GENERAL SECTION



CHEMICAL PIPE MANHOLE NO. 1 AND NO. 2



NO.	REVISIONS
1	

ABBREVIATIONS:

ALUM(AL)	ALUMINUM
AB	ANCHOR BOLT
∠	ANGLE
ARCH	ARCHITECT
●	AT
BM	BEAM
BOT	BOTTOM OF CONCRETE
BOC	CROSS BRACING
CB	CENTER
CIR	CENTERLINE
CL	CLEAR
COL	COLUMN
CONC	CONCRETE
CONC	CONCRETE MASONRY UNIT
CONT	CONTINUOUS
CUT	CONTROL JOINT
DET	DETAIL
DIA	DIAMETER
EF	EACH FACE
EW	EACH WAY
ELEV (EL)	ELEVATION (HEIGHT)
EQ	EQUAL
EXP	EXPANSION
EXT	EXTERIOR
FT	FLOOR DRAIN
FD	FLOOR DRAIN
GALV	GALVANIZED
GA	GALVANIZE
H	HIGH POINT
HP	HORIZONTAL
HOZ(HOR)	HORIZONTAL
INS	INSIDE DIMETER
INSUL	INSULATION
IT	INSULATION
JOINT	JOINT
LONG	LONG
LP	LOW POINT
MFR	MANUFACTURER
MFR	MASONRY
MAX	MAXIMUM
MIN	MINIMUM
MO	MODULAR OPENING
MTD	MOUNTED
MTG	MOUNTING
N	NOT TO SCALE
NOS	NUMBER
NO	NUMBER
OC	ON CENTER
OPNG	OPENING
OF	OUTSIDE DIAMETER
OF	OUTSIDE FACE
PERM	PERMANENT
P	PLATE
FOUND	FOUNDATION
PR	PROCESS
PROJ	PROJECTION
REIN	REINFORCING
REIN	REINFORCING
REIN	REINFORCING
SCHED(SCH)	SCHEDULE
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SL	SLOPE
SP	SPECIFICATION
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
SYM	SYMMETRICAL
THK	THICKNESS
T & B	TOP & BOTTOM
TOC	TOP OF CONCRETE
TOM	TOP OF MASONRY
TOM	TOP OF MASONRY
TOP	TOP OF PLANK/PYLADE
TYP	TYPICAL
UNLESS	UNLESS OTHERWISE NOTED
WATERSTOP	WATERSTOP
W/W	WELDED WIRE FABRIC
W/W	WELDED WIRE FABRIC
W/O	WITHOUT
WD	WOOD

STRUCTURAL NOTES:

- REINFORCED CONCRETE SHALL CONFORM TO THE FOLLOWING:
 - ACI 318 / 318R-02 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY
 - ACI 308 / 308R-01 CODE REQUIREMENTS FOR ENVIRONMENTAL CONCRETE STRUCTURES AND COMMENTARY
- MINIMUM CONCRETE STRENGTH AT 28 DAYS:
 - STRUCTURAL CONCRETE: 4,000 PSI
 - CONCRETE FILL: 3,000 PSI
 - GRADE 60 DEFORMED BARS: 60,000 PSI
- REINFORCING STEEL SHALL BE NEW BILLET STEEL CONFORMING TO ASTM SPECIFICATION A615 STANDARD PRACTICE.
- REINFORCING STEEL SHALL HAVE THE FOLLOWING CLEAR CONCRETE COVER UNLESS OTHERWISE NOTED:
 - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3-IN.
 - DIAMETER: 2-IN.
 - EACH FACE: 2-IN.
 - EACH WAY: 2-IN.
 - ELEVATION (HEIGHT): 2-IN.
- EXPANSION JOINTS SHALL HAVE A CLASS B TOP BAR TENSION LAP SPICE UNLESS OTHERWISE NOTED. SPICED BARS SHALL HAVE THE FOLLOWING MINIMUM SPICE LENGTHS UNLESS OTHERWISE NOTED:
 - #4 - 1'-8"
 - #5 - 2'-0"
 - #6 - 2'-5"
 - #8 - 4'-0"
 - #9 - 5'-0"
 - #10 - 6'-0"
- CONSTRUCTION JOINTS SHALL NOT BE PLACED AT LOCATIONS OTHER THAN SHOWN ON THE DRAWINGS UNLESS REVIEWED AND NO EXCEPTIONS TAKEN BY THE ENGINEER.
- SIZE AND LOCATION OF EQUIPMENT PADS AND ANCHOR BOLTS SHALL BE AS REQUIRED BY THE EQUIPMENT MANUFACTURER.
- ALL EXPOSED CORNERS AND EDGES OF CONCRETE TO HAVE 3/4" MINIMUM CHAMFER UNLESS OTHERWISE NOTED.
- REINFORCING BARS SHALL EXTEND 12 BAR DIAMETERS BUT NOT LESS THAN 12" BEYOND BEND UNLESS OTHERWISE NOTED.
- CUT NO BARS AND OMIT NO BARS BECAUSE OF SLEEVE OR DUCT OPENINGS IN SLABS OR WALLS. BARS MAY BE MOVED ASIDE WITHOUT CHANGING THE DISTANCE FROM FACE OF CONCRETE. GENERALLY, NOT MORE THAN 1/2 BAR SPACING. FIELD BENDING OF REINFORCING STEEL IS NOT ALLOWED.
- FIELD BENDING OF REINFORCING STEEL IS NOT ALLOWED.
- PROVIDE A MINIMUM 4" THICK REINFORCED CONCRETE PAD BELOW ALL EQUIPMENT, PIPE SUPPORTS, STANCHIONS, CONTROL PANELS, TANKS, ETC. UNLESS OTHERWISE NOTED.

MASONRY:

1. f'm = 1350 PSI - INSPECTED
2. MORTAR SHALL BE ASTM C270 TYPE S WITH 28 DAY COMPRESSIVE STRENGTH OF 1800 PSI
3. GROUT SHALL BE ASTM C930 TYPE N-1 WITH A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI
4. GROUT SHALL BE ASTM C478 FINE GROUT WITH MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2000 PSI
5. VERTICAL AND HORIZONTAL DEFORMED REINFORCEMENT SHALL BE ASTM A615 GRADE 60.
6. GROUT SOLID CMU AT EXPANSION ANCHOR LOCATIONS.

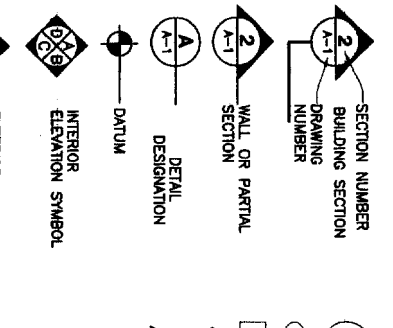
METALS:

1. STRUCTURAL STEEL SHALL BE ASTM A36.
2. STEEL UNITS SHALL BE ASTM A36 GALVANIZED.
3. ANCHOR BOLTS SHALL BE ASTM A307.
4. STEEL BOLTS SHALL BE ASTM A325 N UNLESS OTHERWISE NOTED.
5. ALUMINUM MEMBERS SHALL BE ASTM B308-84 ALLOY 6061-T8 UNLESS OTHERWISE NOTED.
6. STAINLESS STEEL FASTENERS SHALL CONFORM TO ASTM F593 AND ASTM F954.

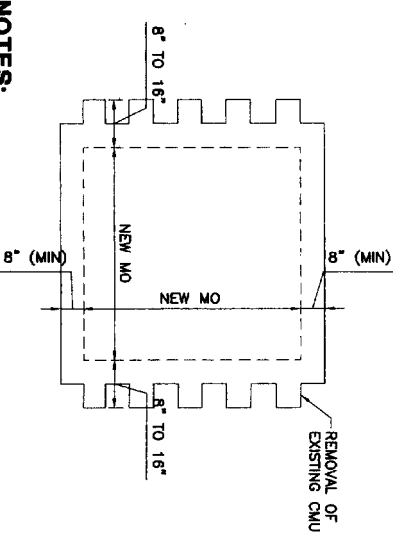
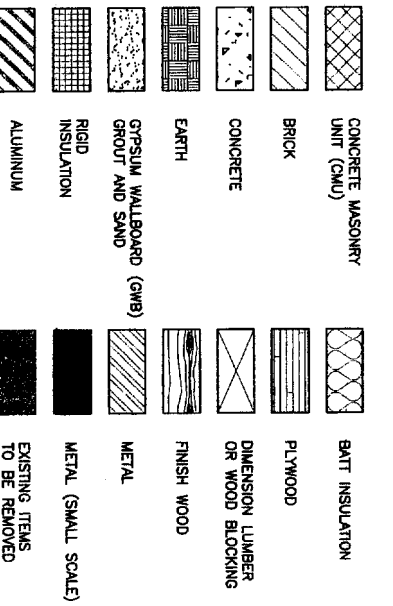
GENERAL NOTES:

- DETAILS AND SECTIONS SHOWN FOR REMOVING OR MODIFYING ARE BASED ON EXISTING CONTRACT DRAWINGS. IF CONDITIONS DIFFER FROM THOSE AS SHOWN ON CONTRACT DRAWINGS, CONTRACTOR SHALL NOTIFY ENGINEER.
- THE TREATMENT FACILITY WILL REMAIN IN OPERATION DURING THE CONSTRUCTION OF THE PROJECT. THE CONTRACTOR SHALL COORDINATE THE DEMOLITION AND CONSTRUCTION WITH THE OWNER'S REQUIREMENTS TO MAINTAIN PLANT OPERATION.
- ALL ITEMS TO BE DEMOLISHED SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE INDICATED. THE OWNER RESERVES THE RIGHT TO RETAIN ANY EQUIPMENT OR MATERIALS. THE CONTRACTOR WILL STORE ON SITE AND PROTECT SUCH ITEMS IN A MANNER ACCEPTABLE TO THE OWNER AND THE ENGINEER.
- USE OF HEAVY DUTY PNEUMATIC HAMMERS ARE NOT PERMITTED TO REMOVE THE EXISTING STRUCTURE UNLESS OTHERWISE PERMITTED. LINE DRILLING, SAW CUTTING OR CORE DRILLING SHALL BE REQUIRED IN CUTTING EXISTING STRUCTURE. CONTRACTOR SHALL USE CAUTION NOT TO DAMAGE EXISTING CONCRETE WALLS AND SLABS TO REMAIN.
- CORING SHALL BE PERFORMED WITH AN APPROVED NON-IMPACT ROTARY TOOL WITH DIAMOND CORE DRILLS. SIZE OF HOLES SHALL BE SUITABLE FOR PIPE CONDUIT, SLEEVES OR MECHANICAL SEALS TO BE INSTALLED. ALL EQUIPMENT SHALL CONFORM TO OSHA STANDARDS. PROTECT ALL EXISTING EQUIPMENT, UTILITIES AND CRITICAL AREAS AGAINST WATER OR OTHER DAMAGE CAUSED BY THE DRILLING OPERATION.
- PROVIDE ALL TEMPORARY BRACING REQUIRED AND SUPPORT ALL ITEMS AND EQUIPMENT MOUNTED TO THE WALL WHICH ARE DESIGNATED TO BE REMOVED. REINSTALL ALL ITEMS AFTER THE NEW WALLS ARE COMPLETED.
- REMOVE, REINSTALL OR REPLACE ALL MISCELLANEOUS ITEMS MOUNTED TO THE WALLS DESIGNATED TO BE REMOVED OR RENOVATED.
- PROTECT ALL EXISTING ITEMS AND EQUIPMENT ADJACENT TO THE WORK AREA. ALL EXISTING ITEMS, EQUIPMENT AND MATERIALS DAMAGED OR EFFECTED AS A RESULT OF THE CONTRACTOR'S ACTIVITIES SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
- PATCH, REPAIR AND RETINISH ALL EXISTING SURFACES AFFECTED BY THE WORK, TO THE SATISFACTION OF THE ENGINEER.
- ALL WALL AND/OR FLOOR PENETRATIONS REMAINING AFTER THE REMOVAL OF PIPING, CONDUIT OR ANCHOR BOLTS ARE TO BE PATCHED AND FINISHED FLUSH TO MATCH EXISTING SURFACES.
- ALL INTERIOR AND EXTERIOR MASONRY WALLS SHALL HAVE HORIZONTAL JOINT REINFORCING AT 1'-4" OC.
- NEW MASONRY ADJUTING EXISTING MASONRY AND CONCRETE SHALL BE ANCHORED WITH CORROGATED WALL TIES @ 1'-4" OC. SIMILAR DETAIL F ON DRAWING S-4.
- ALL MASONRY OPENINGS (MO'S) AND ROUGH OPENINGS (RO) ARE NOMINAL. COORDINATE ALL MASONRY OPENINGS AND ROUGH OPENINGS WITH THE ITEMS AND EQUIPMENT TO BE INSTALLED.
- PROVIDE MASONRY OPENINGS FOR THE DUCTWORK PENETRATING THE CMU WALLS. REFER TO THE MECHANICAL DRAWINGS AND COORDINATE WITH THE OTHER DISCIPLINES.
- COORDINATE WITH ALL OTHER DRAWINGS, DISCIPLINES AND TRADES FOR THE LOCATION OF PIPE STEEPS AND ITEMS BUILT INTO OR ANCHORED TO THE CMU WALLS.
- GROUT THE CMU SOLID AT AREAS WHERE ANCHORS ARE TO BE INSTALLED. CHECK ALL DRAWINGS AND COORDINATE WITH ALL DISCIPLINES FOR ITEMS ANCHORED TO THE CMU WALLS.
- EXPANSION ANCHORS ARE TO HAVE A MINIMUM OF 4" EMBEDMENT UNLESS INDICATED OTHERWISE.
- USE A PIPE SLEEVE AT ALL WALL PENETRATIONS IN THE MASONRY AND CONCRETE WALLS. REFER TO PROCESS DRAWINGS FOR THE TYPICAL PIPE SLEEVE DETAILS.
- THE FOLLOWING AREAS ARE TO BE TREATED AS FIRE RATED ASSEMBLIES:
 - HYPOCHLORITE BUILDING:
 - CHEMICAL FEED ROOM C102, 2 HR FIRE RESISTANT
 - STORAGE ROOM C101, 2 HR FIRE RESISTANT
 - THE CHEMICAL FEED ROOM C102 AND STORAGE ROOM C101 ARE A BOCV/1999 H-4 USE GROUP CLASSIFICATION AND SHALL HAVE A SPRINKLER SYSTEM.
- BLISULTE BUILDING:
 - SPARE ROOM D104, 1 HR FIRE RESISTANT
- FIRE RATED ASSEMBLIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH:
 - CEILINGS - UL G901 AND L536
 - WALLS - UL U469
- MASONRY WALLS SHALL COMPLY WITH UL U905 AND U906. CEILINGS SHALL COMPLY WITH ASES F UL J984 AND L536.
- SEAL ALL PENETRATIONS THROUGH FIRE WALLS AND CEILINGS WITH THE REQUIRED BLOCKING, FIRESTOPPING AND FIRE RATED SEALANT. SEE SPECIFICATION SECTION 07270 - FIRESTOPPING.
- ALL MISCELLANEOUS METALS AND STEEL ITEMS (SUCH AS DOOR FRAMES) IN CONTACT WITH CONCRETE OR MASONRY SHALL RECEIVE AN EPOXY PRIMER APPLIED TO THE SURFACES IN CONTACT. TREAT GALVANIZED SURFACES AS PER MANUFACTURERS RECOMMENDATIONS FOR APPLICATION OF AN EPOXY PRIMER.
- SEE PROCESS, MECHANICAL AND ELECTRICAL DRAWINGS FOR PIPE SLEEVES, CONDUITS OR OTHER ITEMS TO BE EMBEDDED OR PASSED THROUGH THE CONCRETE.

SYMBOLS LEGEND



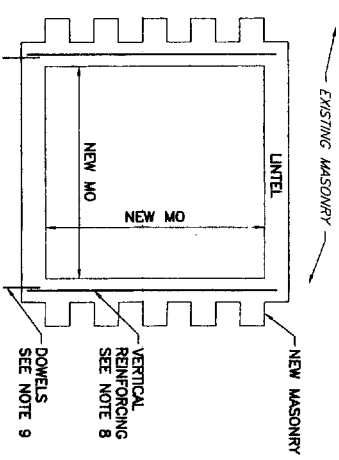
MATERIALS LEGEND



NOTES:

- THIS DETAIL APPLIES TO ALL NEW OPENINGS 18" OR GREATER IN WIDTH.
- BRACE THE EXISTING WALL AND PROTECT THE STRUCTURE FROM DAMAGE.
- REMOVE EXISTING MASONRY TO ALLOW NEW CMU TO BE "TOOTHED IN".
- REMOVE EXISTING MASONRY AT THE HEAD OF THE NEW OPENING AS REQUIRED FOR THE INSTALLATION OF THE NEW UNTEL.
- FOR ADJACENT CONCRETE REMOVAL, SEE THE STRUCTURAL DRAWINGS.

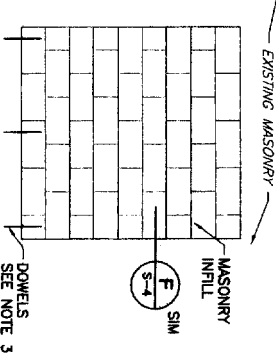
TYPICAL DEMOLITION FOR OPENING IN EXISTING MASONRY WALL



NOTES:

- THIS DETAIL APPLIES TO ALL NEW OPENINGS 18" OR GREATER IN WIDTH.
- PROVIDE A NEW FINISHED MASONRY OPENING APPROPRIATE FOR THE ITEM TO BE INSTALLED IN THE OPENING.
- NEW MASONRY SHALL MATCH THE EXISTING.
- PROVIDE A UNTEL AT ALL OPENINGS.
- PROVIDE #5 BAR VERTICAL REINFORCING SHOWN AT ALL EXTERIOR WALLS. ALL LOAD BEARING WALLS AND AT ALL DOORWAYS.
- PROVIDE #5 DOWELS, 12" LONG AT NEW OPENINGS THAT EXTEND TO THE FINISHED FLOOR OR TOP OF CONCRETE, SUCH AS DOORS.

TYPICAL NEW OPENING IN EXISTING MASONRY WALL



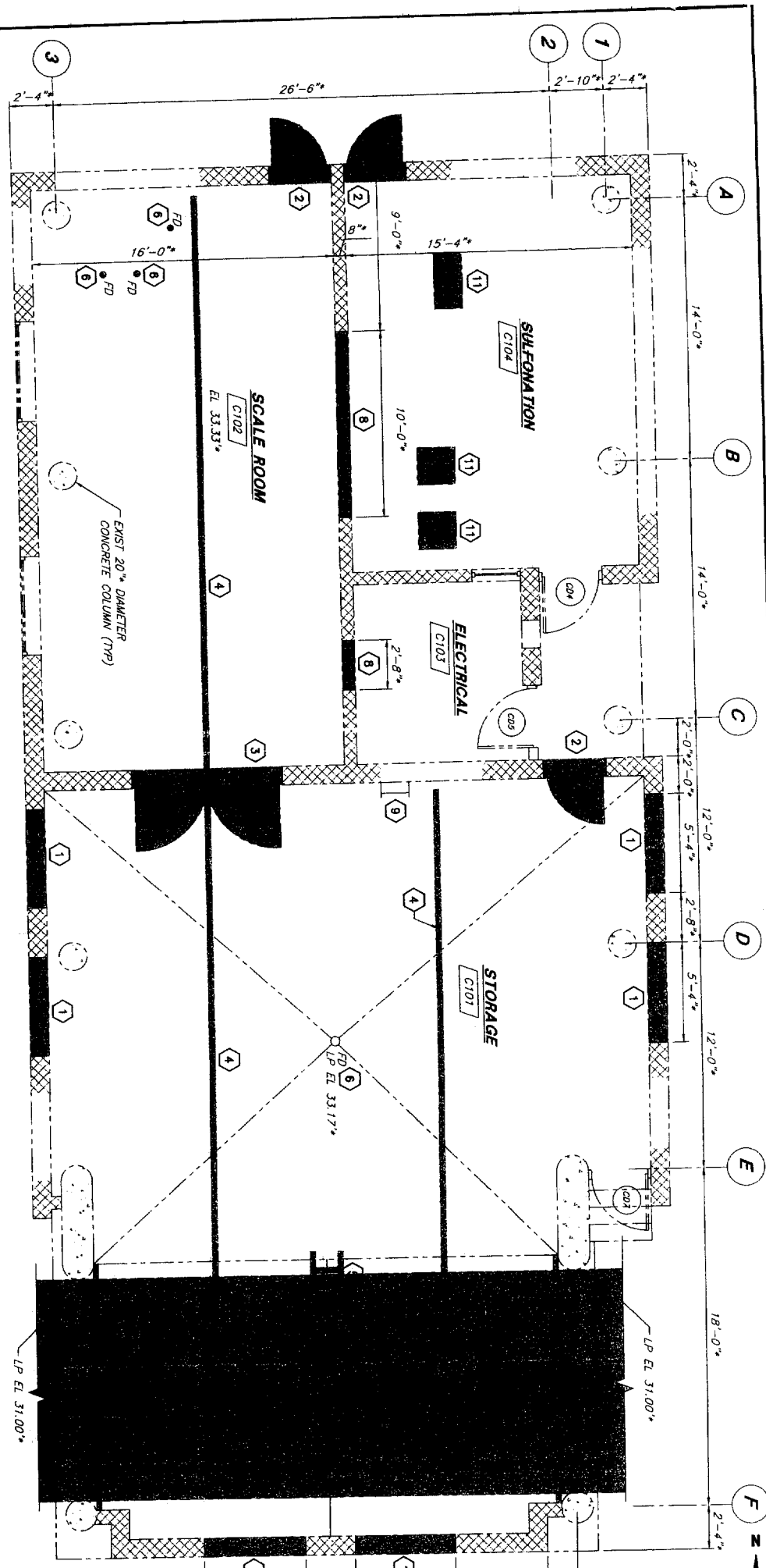
NOTES:

- NEW MASONRY SHALL MATCH THE EXISTING.
- PROVIDE HORIZONTAL JOINT REINFORCING, INCLUDING CAVITY WALL REINFORCING, AT 1'-4" OC AS REQUIRED.
- PROVIDE #5 DOWELS 12" LONG @ 2'-8" OC. (MIN OF 2) AT ALL L.L.L.



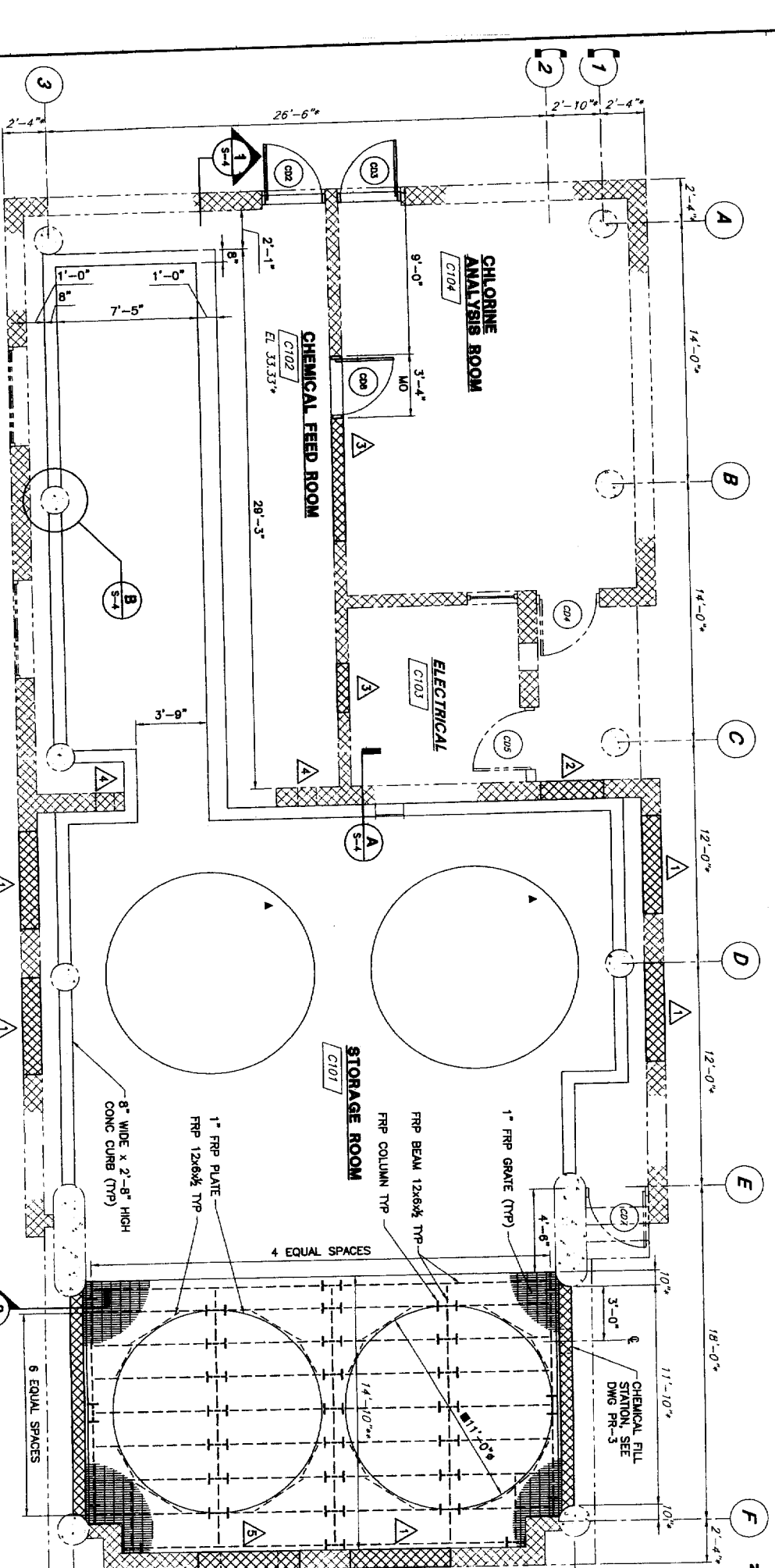
DRAWN BY RAO
CHECKED BY WJF/PFB
DATE 2-18-05
APPROVED BY WJF/PFB

REVISIONS	APP'D	DATE	PROGRESS PRINTS
			ISSUED FOR REVIEW: 12-15-04
			ISSUED FOR BIDDING: 2-18-05



HYPCHLORITE BUILDING - DEMOLITION PLAN
(FORMER DECHLORINATION BUILDING)
SCALE: 1/4" = 1'-0"

- NOTES:**
- * INDICATES DIMENSIONS TAKEN FROM RECORD DRAWINGS FOR PORTLAND WATER DISTRICT WASTEWATER TREATMENT PLANT, NEW CHLORINATION/DECHLORINATION FACILITY, MARCH 1992 BY CAMP DRESSER AND MCKEE INC. CONSULTING ENGINEERS. GENERAL CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
 - INDICATES GENERAL CONTRACTOR SHALL COORDINATE EXACT DIMENSION WITH EQUIPMENT.
 - PLATFORM DESIGN LIVE LOAD PLATE AND FRAMING BENEATH TANK SHALL BE DESIGNED TO SUPPORT 800 PSF. REMAINING GRATING AND FRAMING SHALL BE DESIGNED TO SUPPORT 50 PSF.
 - REFER TO DRAWING S-1 FOR GENERAL NOTES.
 - REFER TO DRAWING S-5 FOR DOOR AND ROOM FINISH MODIFICATIONS.
- DEMOLITION NOTES:**
- REMOVE EXISTING LOUVER AND FRAME.
 - REMOVE EXISTING DOOR, FRAME, TRANSOM AND HARDWARE.
 - REMOVE EXISTING MONORAIL DOOR AND FRAME.
 - REMOVE EXISTING MONORAIL HOIST, TROLLEY, TRACK AND SUPPORTS AND FRAME AND ALL ASSOCIATED HARDWARE.
 - REMOVE EXISTING LADDER.
 - PLUG EXISTING FLOOR DRAIN.
 - REMOVE EXISTING TRUCK SCALE AND ASSOCIATED HARDWARE.
 - REMOVE EXISTING WINDOW AND FRAME.
 - MODIFY LADDER TO CLEAR NEW CONTAINMENT CURB.
 - REMOVE EXISTING ROLLUP DOOR AND FRAME. OWNER WILL RETAIN.
 - REMOVE EXISTING CONCRETE PAD.



- MODIFICATION NOTES:**
- INFILL AT EXISTING LOUVER OPENING WITH 12" SPLIT FACED CMU TO MATCH EXISTING.
 - INFILL AT EXISTING DOORWAY WITH 12" SPLIT FACED CMU TO MATCH EXISTING.
 - INFILL AT EXISTING WINDOWS WITH 8" CMU TO MATCH EXISTING.
 - INFILL AT EXISTING OPENING FOR NEW HVAC DUCT WORK WITH 12" CMU TO MATCH EXISTING.
 - INFILL AT EXISTING LOUVER OPENING WITH 12" SPLIT FACE CMU. PROVIDE NEW 3'-0" SQUARE LOUVERS AND DAMPER. LOCATE TOP OF LOUVER AT EL. 42.00'.