

PRESSURE SEWER SYSTEM SPECIFICATIONS
 FOR
 BARTON STATE HIGHWAY GARAGE

Vitrans Standard Specifications for Construction

All Materials and installations to be in conformance with Vitrans Standard Specifications for Construction, 2001 except the items listed below. Installation shall be executed in an workman like manner:

Materials

Force Mains: Shall be 1/2" diameter Heavy Duty Polyethylene pipe, rated 200 psi.

Force Main Joints & Fittings: Shall be pressure rated at or above the Force Main pipe specified. 30 degree angle bends are not to be used without written permission of the Engineer. Joints are to be secured with stainless steel bands.

Check Valves: Shall be installed at the Municipal Force Main Connection as indicated on the detail. Install check valve to resist flow from town force main when town force main is charged. Shall be 1/2" "Y" pattern bronze check valve, rated 200 psi.

Gravity Sewer: Shall be 4 inch diameter SDR 35 PVC pipe with push on joints. Gravity Sewer shall be installed with invert elevations as indicated on the plans and shall have a minimum slope of 2.00%.

Gravity Sewer Joints & Fittings: Joints shall be assembled such that bell ends of the pipe are facing up slope and spigot ends are correspondingly facing down slope.

Utility Conduit: Electric service shall be installed in conduit as indicated on the plans or a minimum diameter SCH 40 PVC electric conduit. Conduit shall be installed in trench with bedding and shall be installed with marker tape installed 6" directly above the top of the conduit. Conduit shall be terminated as indicated on the plans and shall be capped with an acceptable manufactured cap. Conduit shall be installed w/ wire included. All wire to conform to NEC and State and Local codes. Conduit shall be penetration sealed at pump chamber to prohibit any gases from exiting pump chamber via conduit.

Pump Chamber: The pump chamber shall be watertight, pre-cast concrete manhole with booted pipe connections.

Doghouse Manhole: Manhole design specifications shall conform to latest Vitrans Specifications for "Precast Concrete Manhole". Concrete shall meet Class "B" requirements. Manhole shall be designed for H-20 loading. Doghouse base, utility riser and shall be installed with marker tape installed 6" directly above the top of the conduit. Manhole to have 30" steel frame and cover with the word "SEWER" cast into top side of steel cover.

Pump Chamber Appurtenances: A double rail pump lift system with brass/bronze castings, top guide rail bracket, wall stand-off brackets, and rail foot. Rails to be 1" stainless steel. System to be for 1 1/2" discharge/disconnect. Provide stainless steel lifting chains. Rail system to be Goulds Pump Simplex System, Campbell Manufacturing Disconnect System, or approved equal. A gas venting system configured such that it is camouflaged from plain view; See Detail. A check valve shall be installed as per the Pump Chamber Detail. A gate valve with an extended stem actuator shall be installed for valve operation from the manhole access. A stationary plumbing connection for "quick disconnect" remote disengagement of the pump from the pump chamber plumbing shall be used with the rail lift system.

Grinder Pumps: Pump shall be submersible, waste water type or grinder pump with a minimum capacity of 20 gallons per minute against a total head of 55 feet. Motor housing shall be of cast iron construction with stainless steel rotor shaft. All external fasteners shall be of steel. Cutting elements shall be hardened stainless steel. The pump motor shall be a minimum 2 HP, single phase, 230 volt, 60 Hz. Pump shall be ABS "Piranha" Model 08, Flygt Model M 3068-216 Grinder, or approved equal.

Control Panel: Shall be a Simplex NEMA 4X panel. Panel to be single phase, 60 Hz, 230 volt. Panel to include the through door mounted H-0-A switch and run light. Control panel shall be equipped with a visual and audible alarm for high water and low water. Switches shall be mercury activated float type. One switch for each function shall be installed: pump on, pump off, high water alarm, low water alarm. Control panel also to include cycle counter. Panel shall be Goulds Pumps "A" Series Electrical Control Panel, Ohio Electrical Control, Inc., Cougar Series Control Panel, or approved equal.

Retire Existing Septic Tank: The Highway facility shall have an interrupted sanitary disposal capabilities at all times. Tank retirement shall include: pumping out tank, puncturing a hole in the floor of the existing septic tank, plunging the effluent pipe and inlet with concrete or other suitable means, filling the tank with sand, and crushing the existing concrete cover. Care shall be exercised to ensure that no air voids are left in or near the existing tank including the existing pipes.

Rigid Styrofoam Insulation: Shall be 2 inch thick "Blue Board" with tongue and groove edges manufactured by Dow Industries or equivalent..

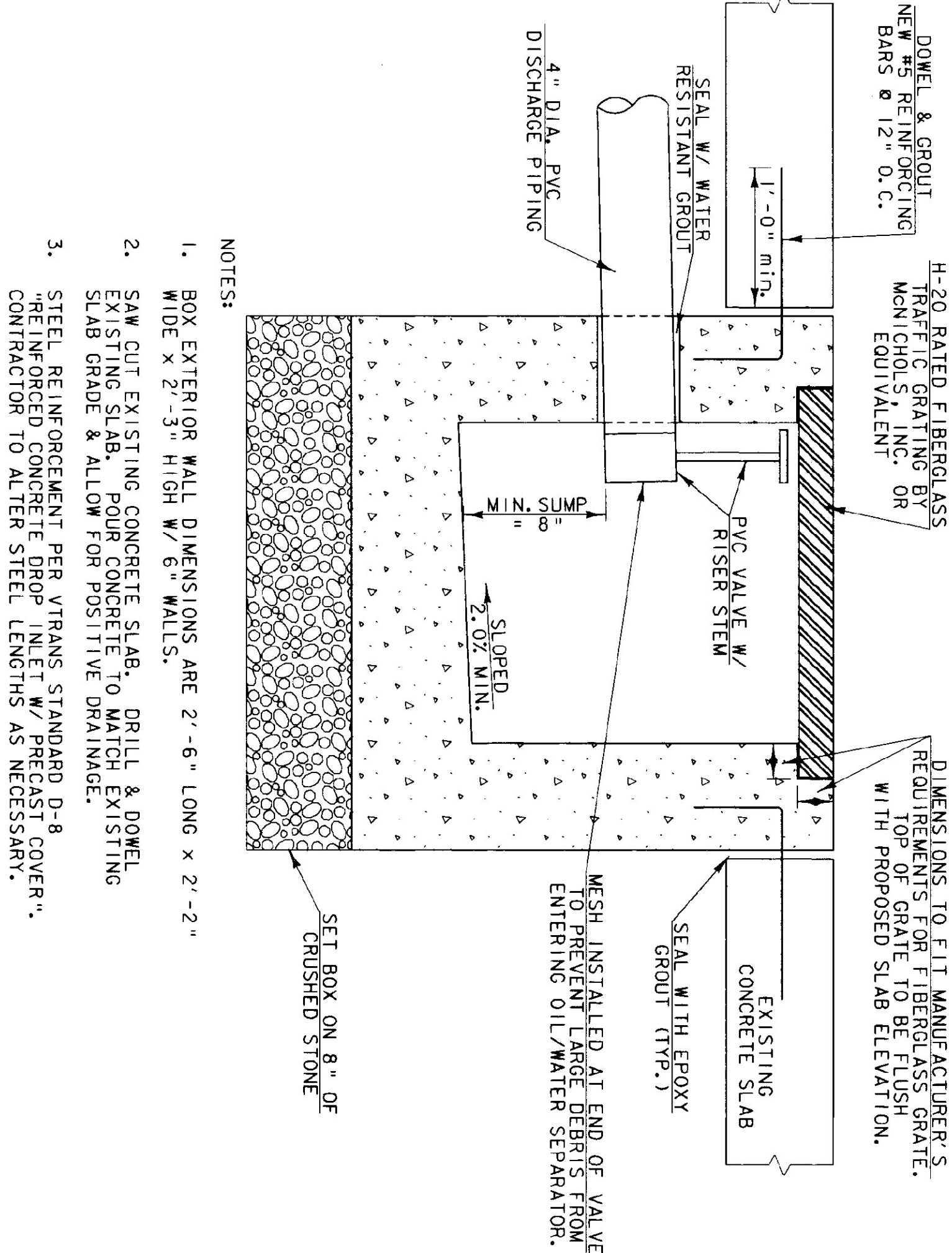
Cast-in-Place Grit Chamber: Grit chamber shall be cast into existing concrete slab. Saw cut existing slab and dome and grout reinforcing steel as indicated on the detail. Existing concrete positioned drainage into new grit chamber.

Capping of Existing Pipes: Existing sewer and drainage pipes to be abandoned shall be capped with concrete or other suitable means.

Testing

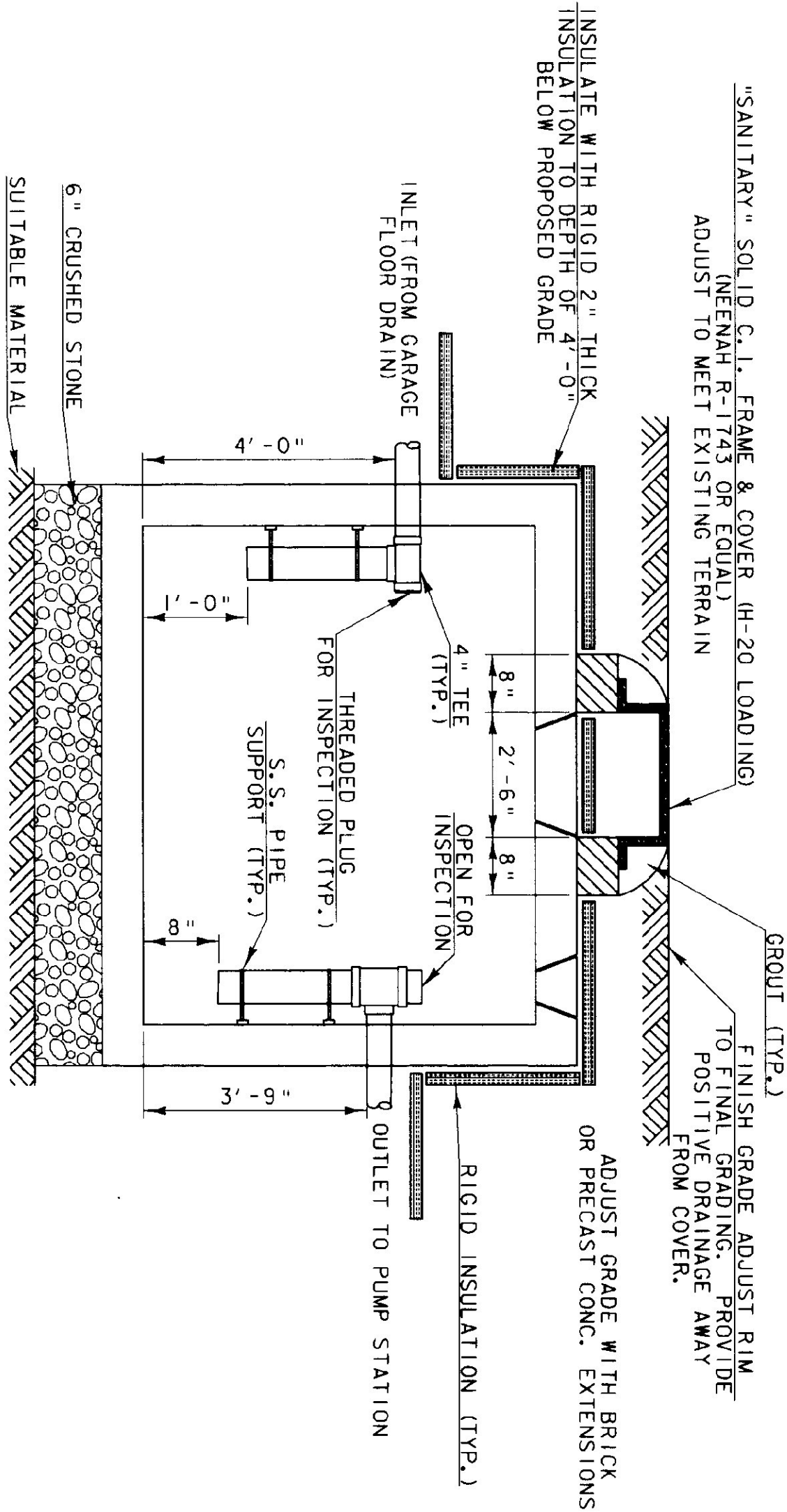
Once the entire sewer system has been installed it shall be pressure tested by the Contractor. The gravity and Force Main shall be tested in accordance with E.P.A. Small Scale Wastewater Treatment and Disposal Rules, 1936, Chapter 1, Appendix 1-A, Section 1-A-02 and Section 1-A-04 respectively.

ALL DETAILS NOT TO SCALE



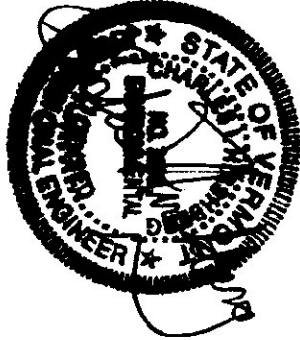
CAST-IN-PLACE FLOOR DRAIN & GRIT COLLECTION CHAMBER

- NOTES:
1. BOX EXTERIOR WALL DIMENSIONS ARE 2'-6\"
 2. SAW CUT EXISTING CONCRETE SLAB, DRILL & DOWEL EXISTING SLAB, POUR CONCRETE TO MATCH EXISTING SLAB GRADE & ALLOW FOR POSITIVE DRAINAGE.
 3. STEEL REINFORCEMENT PER VITRANS STANDARD D-8 \"REINFORCED CONCRETE DROP INLET W/ PRECAST COVER\", CONTRACTOR TO ALTER STEEL LENGTHS AS NECESSARY.



- NOTES:
1. THE OIL SEPARATOR CHAMBER SHALL BE A 1000 GALLON SEPTIC TANK WITH 30\"
 2. THE EXTERIOR OF THE BOX SHALL RECEIVE TWO COATS OF ASPHALTIC SEAL COATING AT THE FACTORY.
 3. JOINTS BETWEEN THE CONCRETE SECTIONS SHALL BE SEALED BY BUTYL-MASTIC (ASHITO W-198).
 4. INTERIOR PIPING SHALL BE RESTRAINED WITH STAINLESS STEEL VERTICAL PIPE SUPPORTS.
 5. THE OIL SEPARATOR CHAMBER SHALL BE FILLED WITH WATER AND SUBJECTED TO A 24 HOUR HYDROSTATIC LEAKAGE TEST. IT IS NO LEAKAGE WILL BE ALLOWED DURING THE TEST PERIOD.
 6. THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE A WATERIGHT STRUCTURE.
 7. INTERIOR PIPING SHALL BE PVC SCH 40. FITTINGS SHALL BE SOLVENT WELD TYPE.

OIL SEPARATOR



PROJECT NAME:	BARTON STATE HIGHWAY GARAGE
PROJECT NUMBER:	01-0120
FILE NAME:	01-0120det1.dgn
PROJECT LEADER:	CJH
DESIGNED BY:	JMS
CHECKED BY:	JMS
OLD REFERENCE NO.:	01-0120
PLOT DATE:	03/12/2002
DRAWN BY:	PGJ
SHEET	5 OF 5