TNZ S/5P NOTES: 1987

NOTES ON CONCRETE WEIGH PIT STANDARD

These notes are for the guidance of supervising officers and must not be included in the contract documents.

1. SCOPE

These notes cover the requirements for the construction of approaches and the concrete single axle weigh pit for use with Telub scales model 10T and 1203 on state highways, see drawings:

0/189/1/8004/1	State Highway Single Axle Weigh Pit Layout and Construction Details
0/189/1/7004/1	State Highway Single Axle Weigh Pit Swing Arm Barrier Details

2. CONCRETE SUBBASE AND PAVEMENT AREA

2.1 General Design

The concrete weigh pit subbase and approach exit and waiting area pavement layers shall be designed in accordance with TNZ S/4. The concrete slab shall be 150mm thick. The design loading shall not be less than 2×10^4 EDA.

Where modified materials are to be incorporated in the pavement the design shall conform with RRU Technical Recommendations TR2, TR5 and TR7, whichever is appropriate.

The design CBR is defined in section 2.2 of these notes.

The provision of a seal cost shall be subject to the approval of the District Highways Engineer.

2.2 Bearing Strength

Bearing strength determinations shall consist of sets of three CBR tests on samples randomly selected from the subgrade. The tests shall consist of soaked CBRs carried out according to NZS 4402 Part 2P: 1981 Test 18(A).

The design CBR (Cd) shall be determined as follows:

$Cd = c - (1.3 \times S)$

where c = mean CBR, S = standard deviation

2.3 Construction

All construction, pavement layers and surfacings shall be in accordance with the relevant TNZ specifications.

3. CONCRETE

3.1 General

All concrete shall be in accordance with NZS 3109: 1980 with a minimum compressive strength of 20MPa at 28 days.

Construction joints shall be provided only where shown on the drawings.

PVC blinding is used between subbase and in situ concrete and all joints in PVC shall be sealed to prevent grout leakage.

All visible surfaces shall have a smooth finish in accordance with class U2 of NZS 3114: 1980.

3.2 Reinforcing Steel

All reinforcement shall be welded reinforcing fabric mesh type 665 in grade 485 steel.

At construction joints every second bar crossing the joint shall be terminated 50mm each side of the joint.

3.3 Tolerances

The tolerances shown in the specification and drawings must be achieved to ensure that the facility complies with the Ministry of Transport requirements for weighing heavy vehicles.

3.4 Gradients

The maximum gradient allowable on weigh pit approach, exit and waiting area to be ±3% unless otherwise approved by the District Highways Engineer.

The concrete ramps, aprons and weigh pit recess shall be level in the longitudinal direction.

3.5 Crossfall

The crossfall shall be 2% to ensure adequate surface runoff.

4. DRAINAGE

It is essential to keep the subbase layer as free of water as possible.

A drainage system around the perimeter of the weigh pit site may be required to control local runoff.

Subsoil drainage is required between the weigh pit site and the adjacent roadway to intercept subbase or subgrade water which may percolate through to the weigh pit subbase.

Between the weigh pit site and the adjacent roadway a dished channel shall be constructed to take surface runoff from the roadway and weigh pit area.

The subsoil drainage system and the dished channel shall drain to common sumps. Piped culverts shall be used from the sumps to the overall drainage system used.

Alternative sump and drainage channel details may be used if approved by the District Highways Engineer.

5. SWING ARM BARRIER

A removable swing arm barrier shall be provided to stop traffic from running over the weigh pit recess when not in use. A lock shall be provided.