

This section describes the assessment of the effectiveness of the proposed direct technical remedies.

6.1 ASSESSING THE EFFECTIVENESS OF DIRECT TECHNICAL REMEDIES

A total of 11 flyovers were shortlisted as presented below. The effectiveness of different direct technical remedies have been assessed. The concerned flyovers and nearby at-grade roads were divided up into road segments. A road layout defines the road width, surface type, traffic conditions and the height and location of roadside noise barriers. The segmentation process was carried out in accordance with the CRTN procedures and the noise models were built using the *HFANoise* traffic noise model which fully implements CRTN procedures and methodologies. Traffic noise impacts were assessed against the $L_{10, \text{peak hour}}$ 70 dB(A) limit.

Elevation of the flyovers and concerned NSRs have been determined by reference to 1:5000 survey maps and site survey. All other site-specific conditions such as angle of view, road gradient, nearby dominant at-grade road and features that could add noise screening were included in the modelling process. The effectiveness of direct technical remedies such as 3m noise barriers, 5m cantilevered barrier, semi-enclosure and full enclosure has been assessed using the traffic noise model. For the purpose of this assessment, the horizontal length of the direct technical remedies was determined by assuming the proposed direct technical remedies need to provide noise screening for a minimum angle of view of 135° measured from each NSR. Extent of the proposed direct technical remedies are shown in *Figure 6.1a* to *6.1j*. Details of the exact direct technical remedies configurations and arrangements will be considered during the following Stage 2 study.

6.2 PREDICTED NOISE LEVELS

Unmitigated and mitigated noise levels for the representative NSRs at each concerned flyovers have been predicted for the first floor (4.2m above ground), mid level and top floor level (based on 2.8m per floor level). The predicted noise levels with and without direct technical remedies are presented in *Annex D*.

- H26 IEC - from Oil Street to Tin Chui Street;
- H34 IEC - near Heng Fa Chuen;
- H41 Ap Lei Chau Bridge;
- K2 Kwai Chung Road - near Mei Foo Sun Chuen;
- K4 West Kowloon Corridor - between Willow Street & Tong Mi Road (near Nam Cheong Estate);
- K53 Kwun Tong Bypass - near Laguna City;
- K56 Tseung Kwan O Road - near Tsui Ping South Estate;
- NT25 Sha Tin Road - near City One Shatin;
- NT62 Tsuen Wan Road - near Clague Garden Estate;
- NT69 Kwai Chung Road - near Kwai Fong Estate; and
- NT71 Tsing Tsuen Road - near Riviera Gardens.

Graphical presentation of the findings of this Study in the form of photographs and sketches are shown in *Figure 6.1k* to *6.1u* to provide an illustration of the

surrounding environment of the flyovers and the corresponding recommended remedial measures.



FIGURE 6.1a - DIRECT TECHNICAL REMEDIES PROPOSED ON FLYOVER H26 - IEC
(PROVIDENT CENTRE)

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FIGURE 6.1b - DIRECT TECHNICAL REMEDIES PROPOSED ON FLYOVER H34 - IEC (HENG FA CHUEN)

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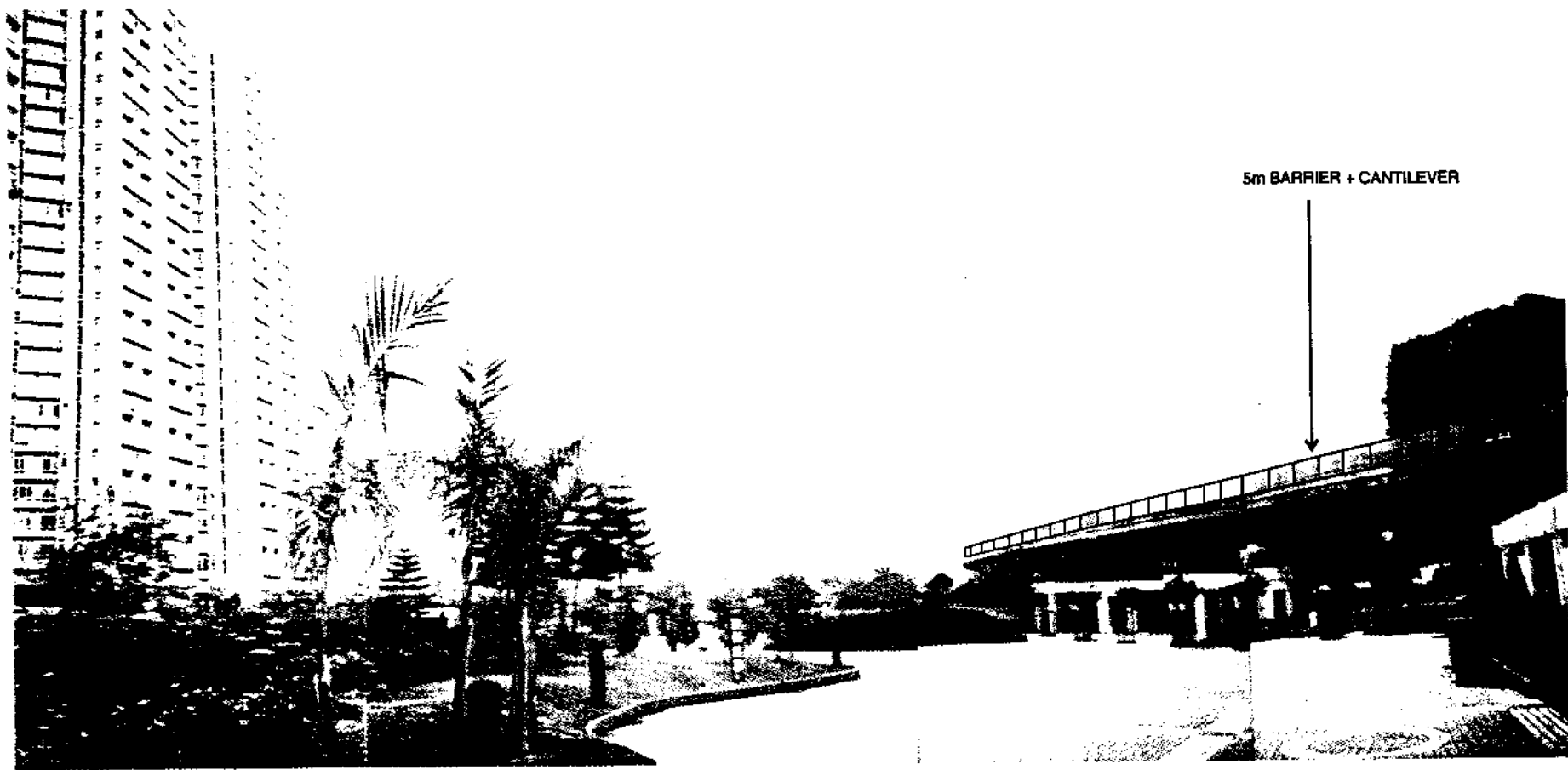
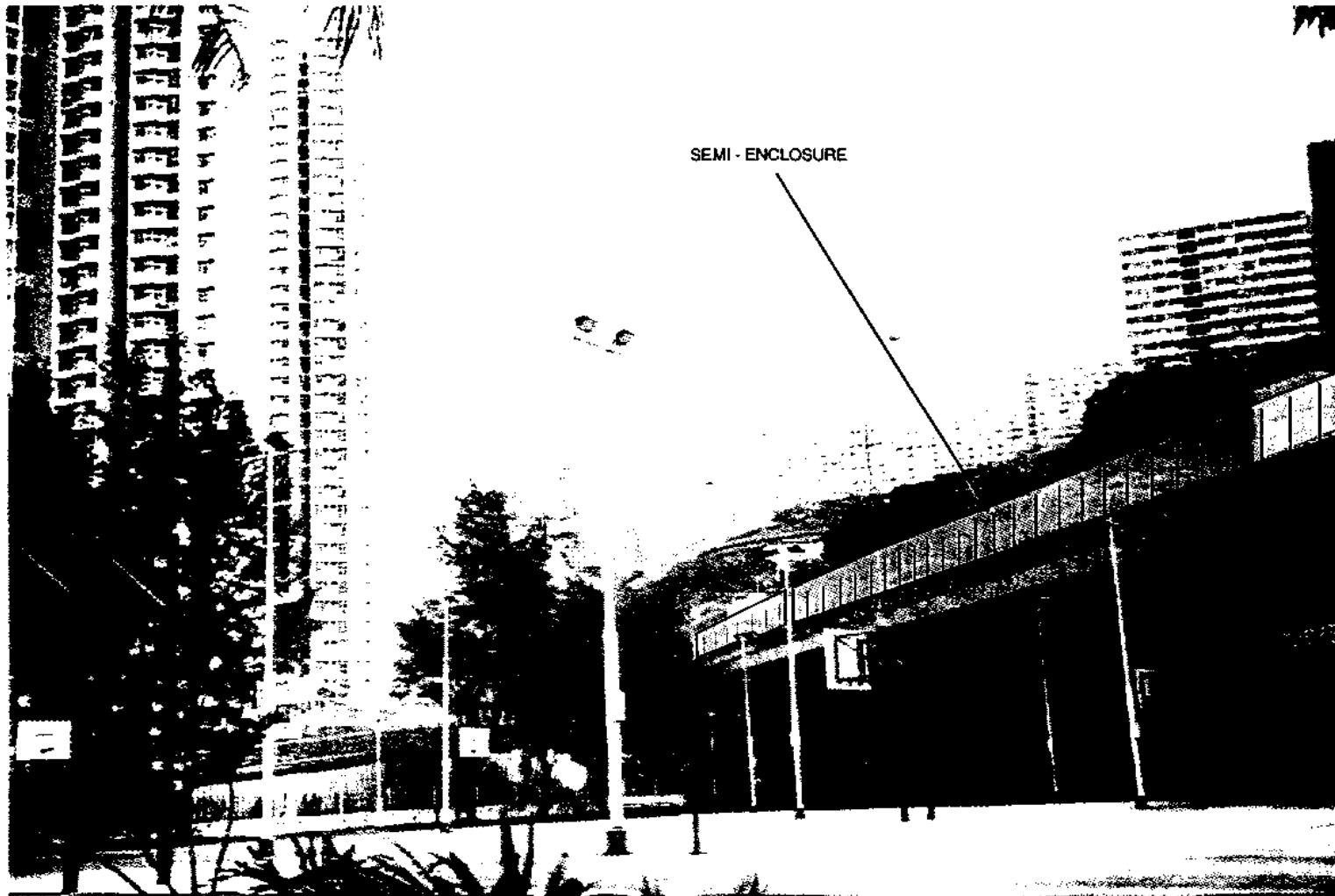


FIGURE 6.1c - DIRECT TECHNICAL REMEDIES PROPOSED ON FLYOVER K53 - KWUN TONG BYPASS (LAGUNA CITY)

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SEMI - ENCLOSURE

FIGURE 6.1d - DIRECT TECHNICAL REMEDIES PROPOSED ON FLYOVER K56 - TSEUNG KWAN O ROAD (TSUI PING ESTATE (SOUTH))

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FIGURE 6.1e - DIRECT TECHNICAL REMEDIES PROPOSED ON FLYOVER NT62 - TSUEN WAN ROAD

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FIGURE 6.1f - DIRECT TECHNICAL REMEDIES PROPOSED ON FLYOVER NT69 - KWAI CHUNG ROAD - KWAI FONG

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FIGURE 6.1g - DIRECT TECHNICAL REMEDIES PROPOSED ON FLYOVER K2 - KWAI CHUNG ROAD (MEI FOO SUN CHUEN)

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FIGURE 6.1h - DIRECT TECHNICAL REMEDIES PROPOSED ON FLYOVER K4 - WEST KOWLOON CORRIDOR

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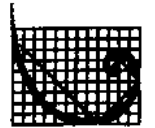




FIGURE 6.1i - DIRECT TECHNICAL REMEDIES PROPOSED ON FLYOVER NT 71 - TSING TSUEN ROAD

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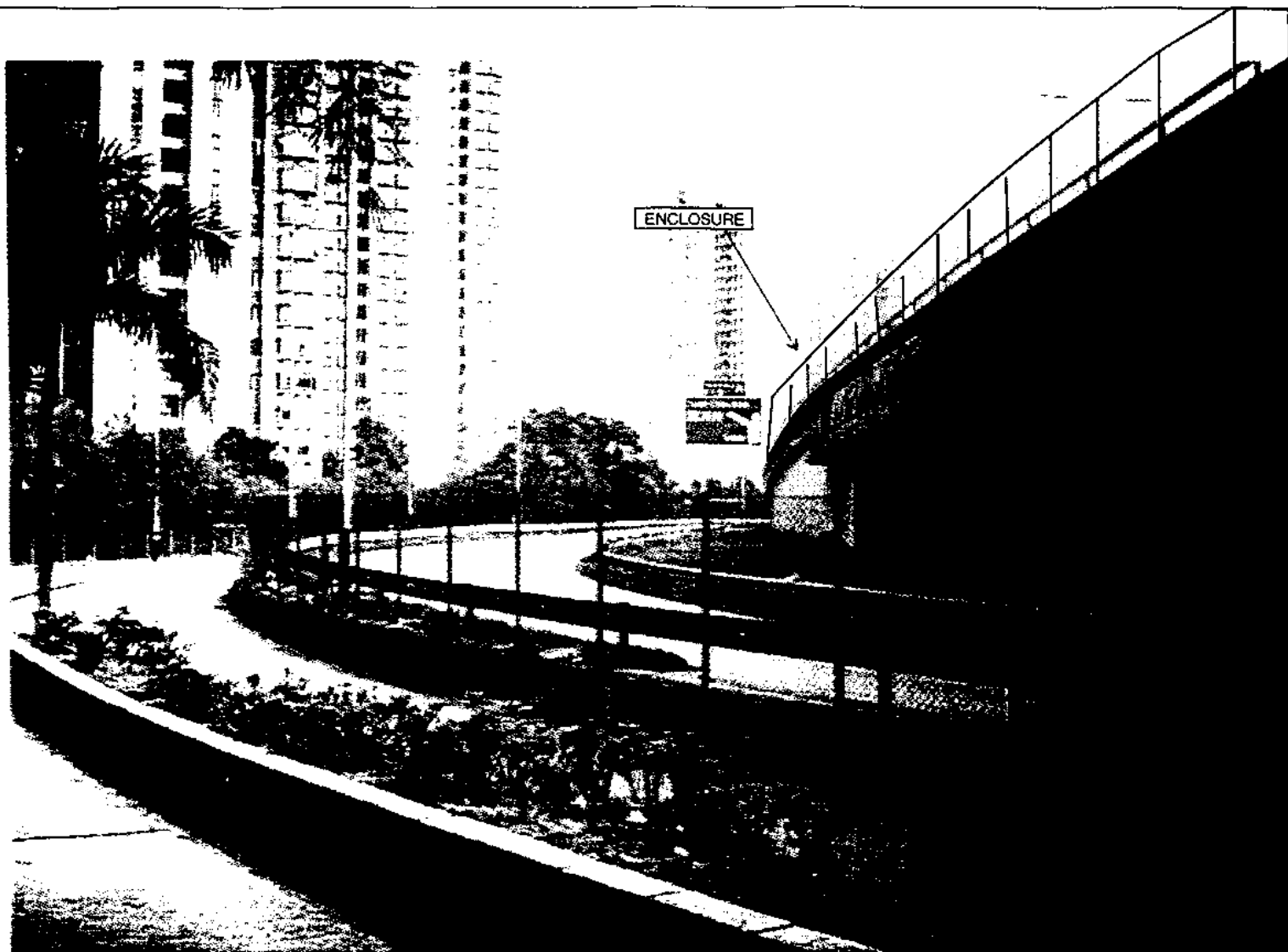
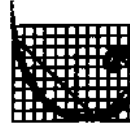
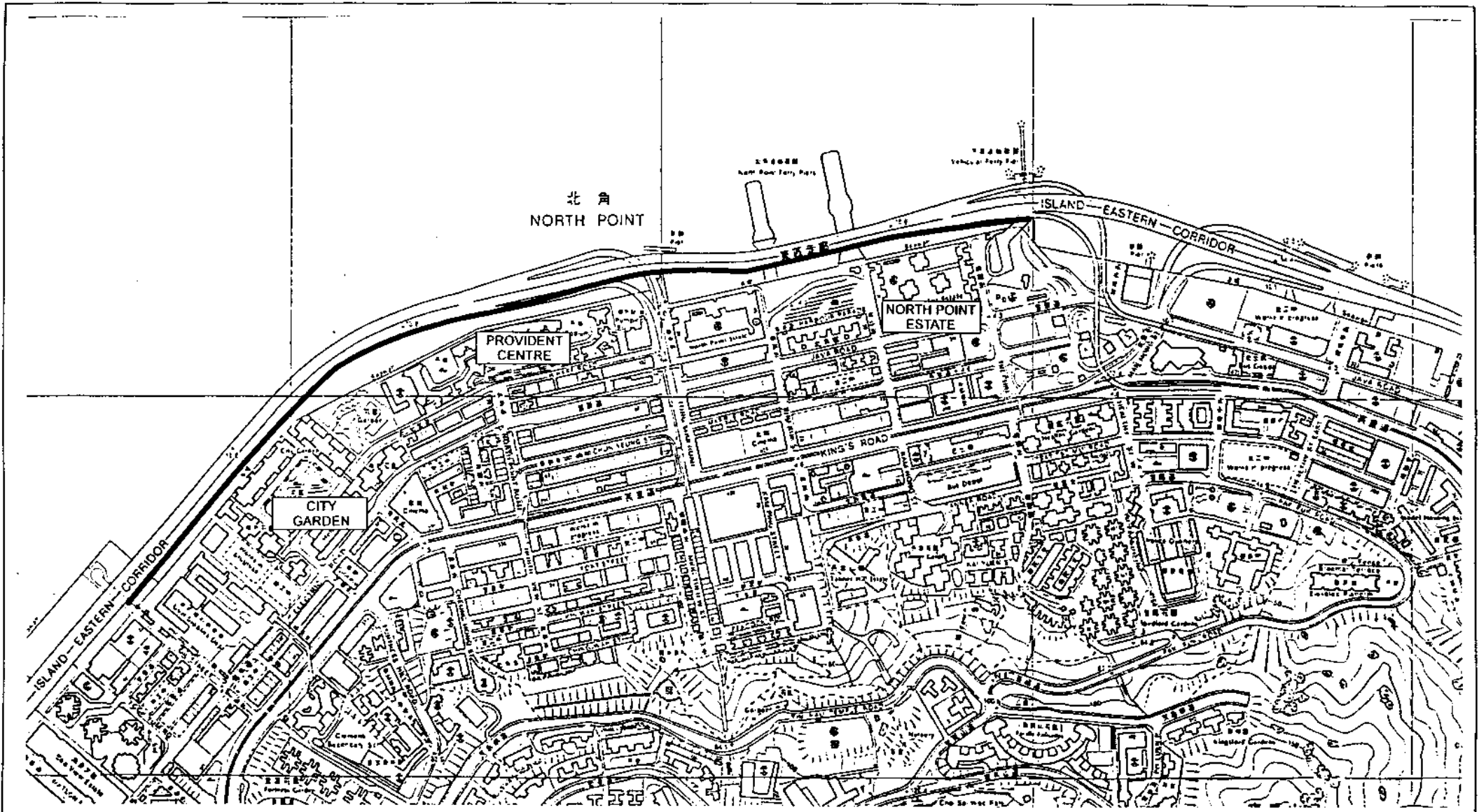


FIGURE 6.1j - DIRECT TECHNICAL REMEDIES PROPOSED ON FLYOVER NT25 - SHA TIN ROAD

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北角
NORTH POINT

ISLAND—EASTERN—CORRIDOR

NORTH POINT ESTATE

PROVIDENT CENTRE

CITY GARDEN

KING'S ROAD

KEY

— EXTENT OF DIRECT TECHNICAL REMEDIES REQUIRE

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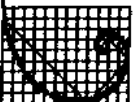
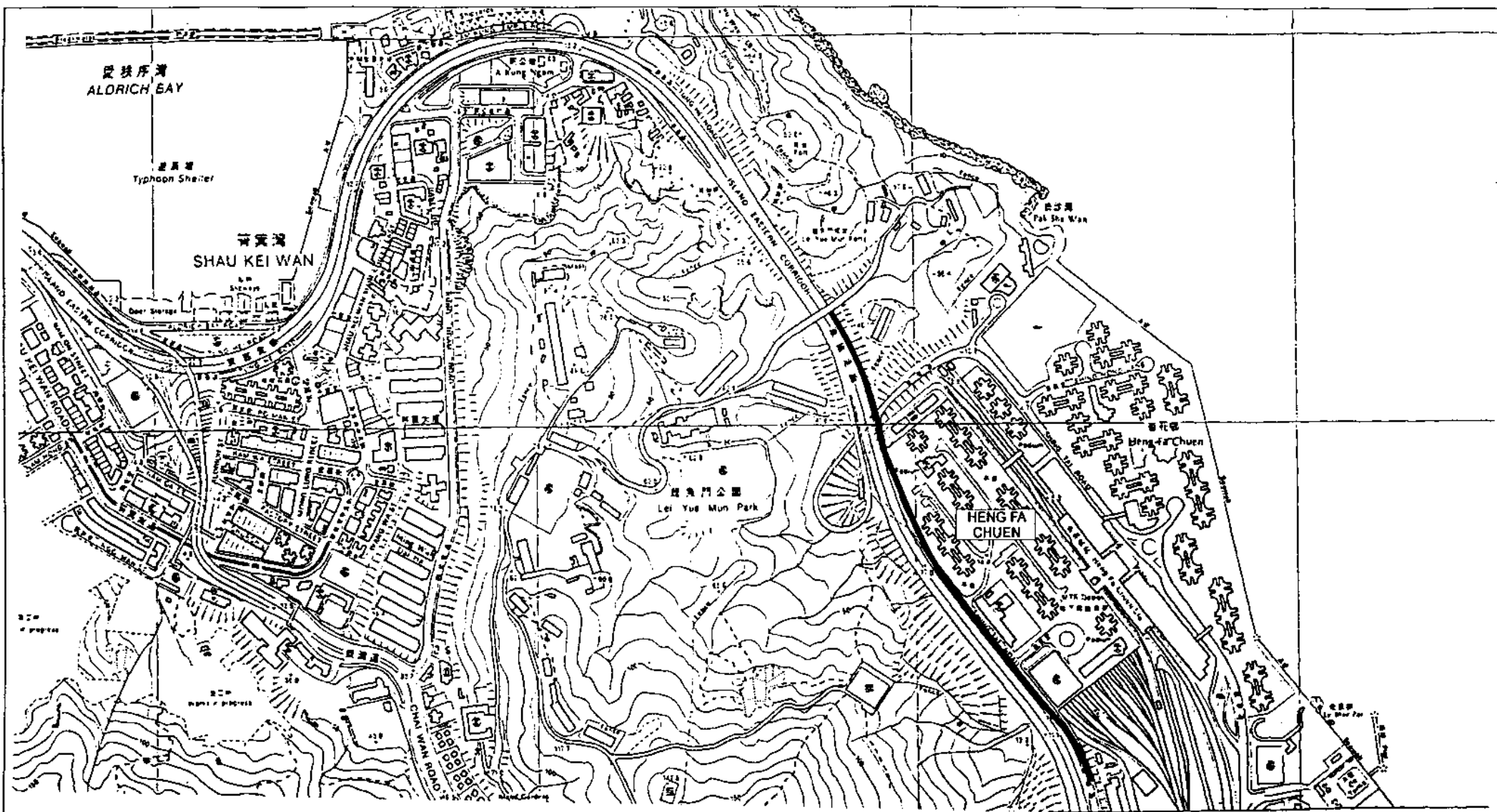



FIGURE 6.1k - CONCEPTUAL ARRANGMENT OF NOISE MITIGATION MEASURES - H26 IEC (OIL ST TO TIN CHIU ST)

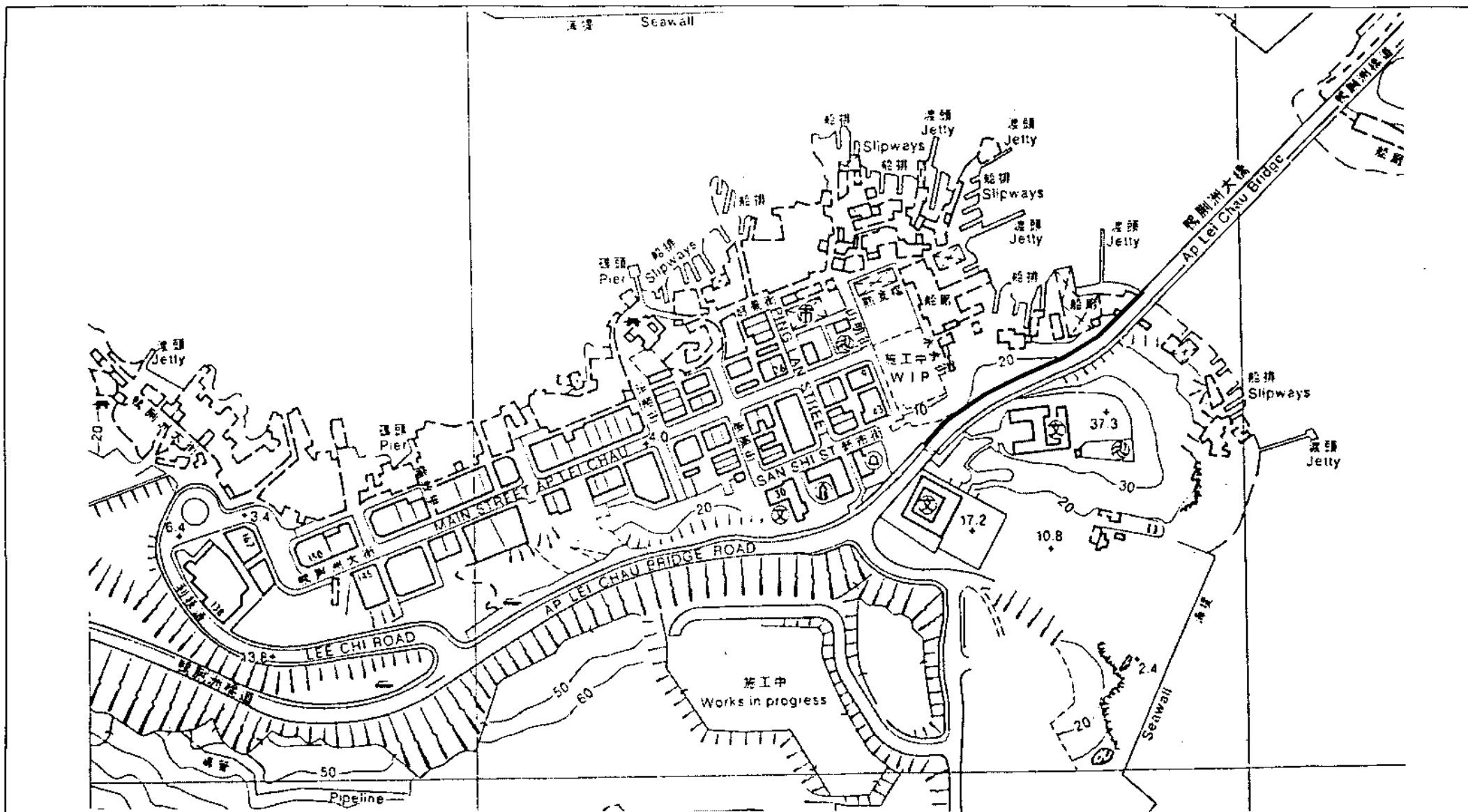


KEY
 ——— EXTENT OF DIRECT TECHNICAL REMEDIES REQUIRE

FIGURE 6.11 - CONCEPTUAL ARRANGMENT OF NOISE MITIGATION MEASURES - H34 IEC (HENG FA CHUEN)

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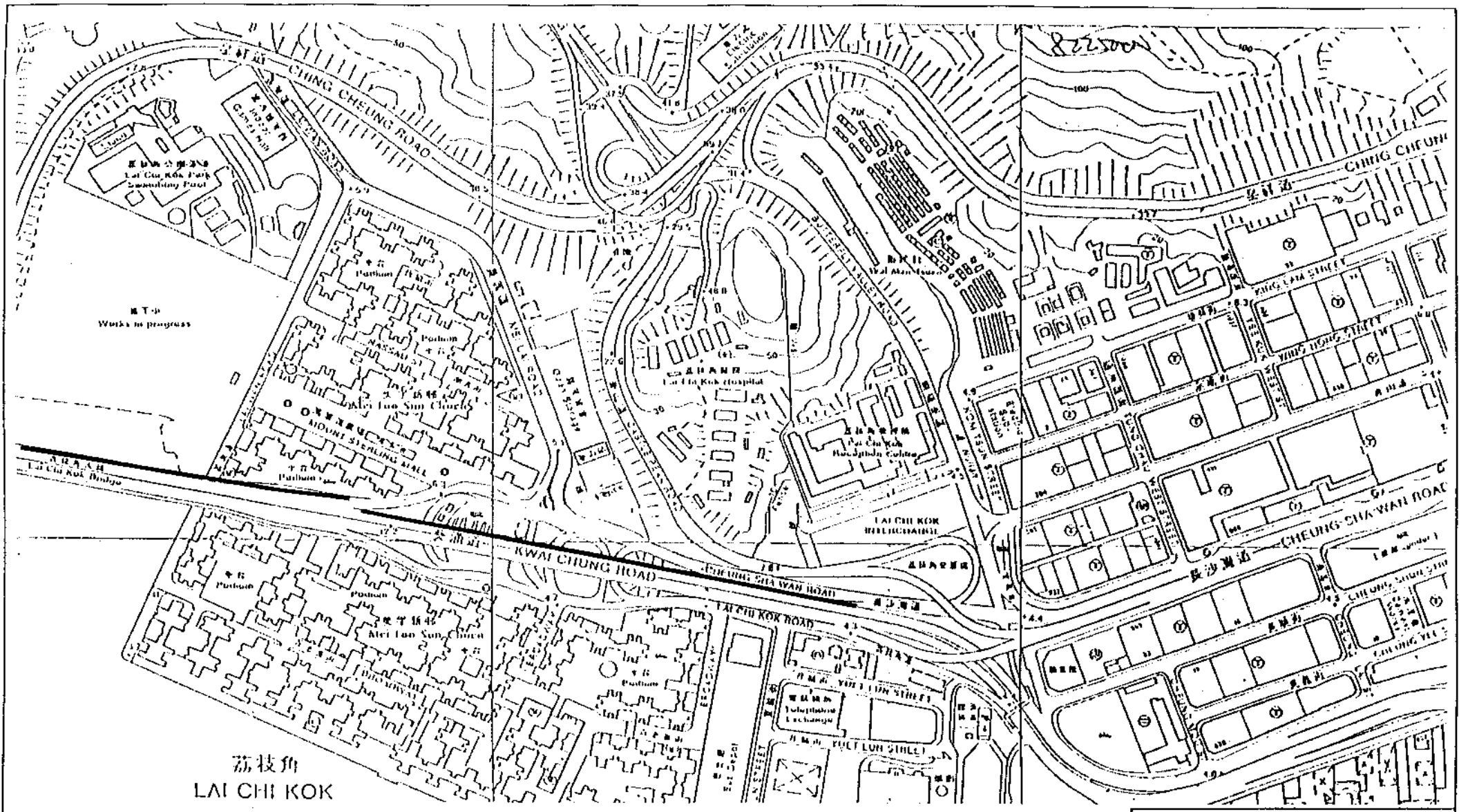
KEY
 — EXTENT OF DIRECT TECHNICAL REMEDIES REQUIRE

FIGURE 6.1m - CONCEPTUAL ARRANGMENT OF NOISE MITIGATION MEASURES - H41 AP LEI CHAU BRIDGE

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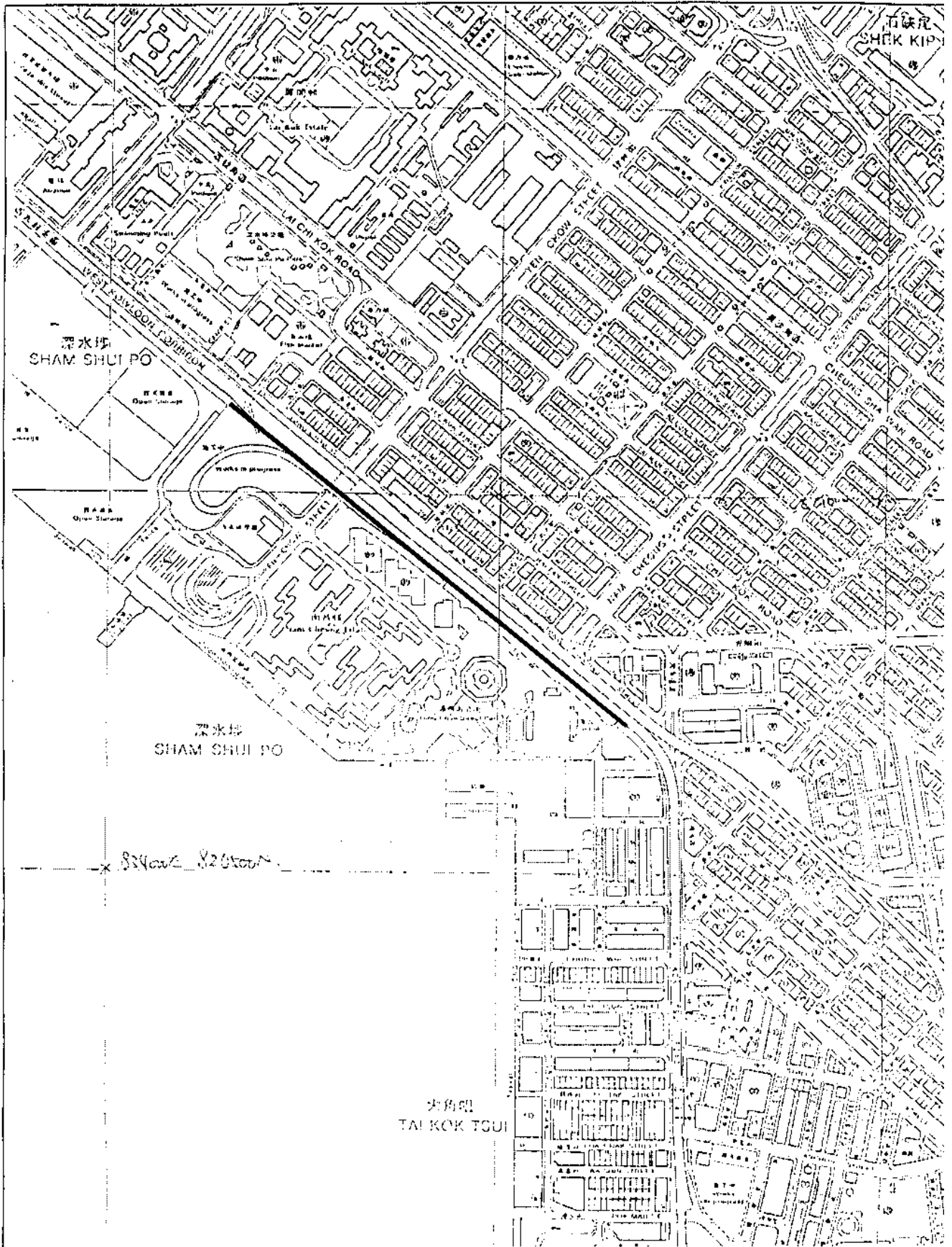
荔枝角
LAI CHI KOK

KEY
 ——— EXTENT OF DIRECT TECHNICAL REMEDIES REQUIRE

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FIGURE 6.1n - CONCEPTUAL ARRANGMENT OF NOISE MITIGATION MEASURES - K2 (KWAI CHUNG ROAD)



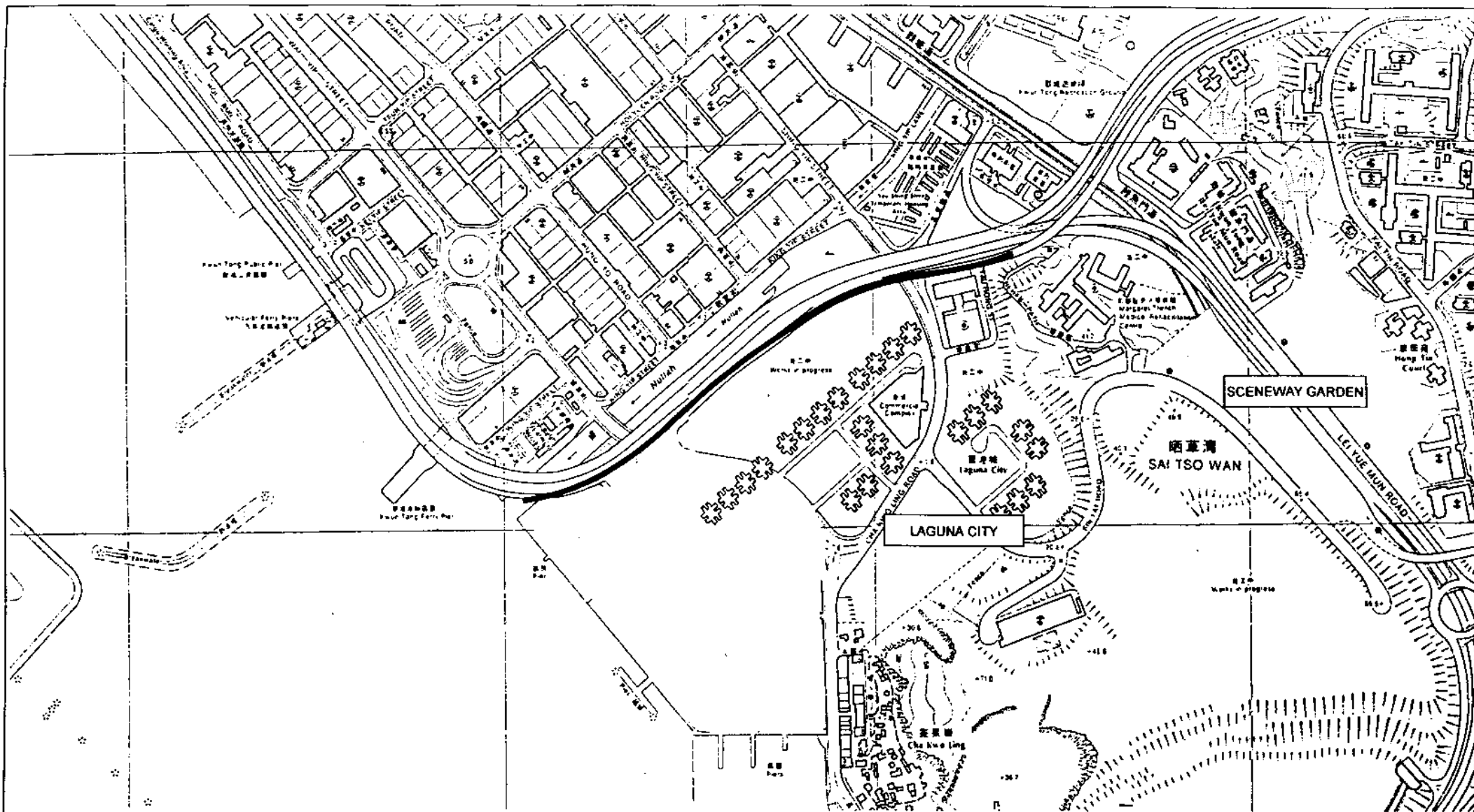
KEY
 ——— EXTENT OF DIRECT TECHNICAL REMEDIES REQUIRE

FIGURE 6.10 - CONCEPTUAL ARRANGMENT OF NOISE MITIGATION MEASURES - K4 (WEST KOWLOON CORRIDOR)

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KEY
 ——— EXTENT OF DIRECT TECHNICAL REMEDIES REQUIRE

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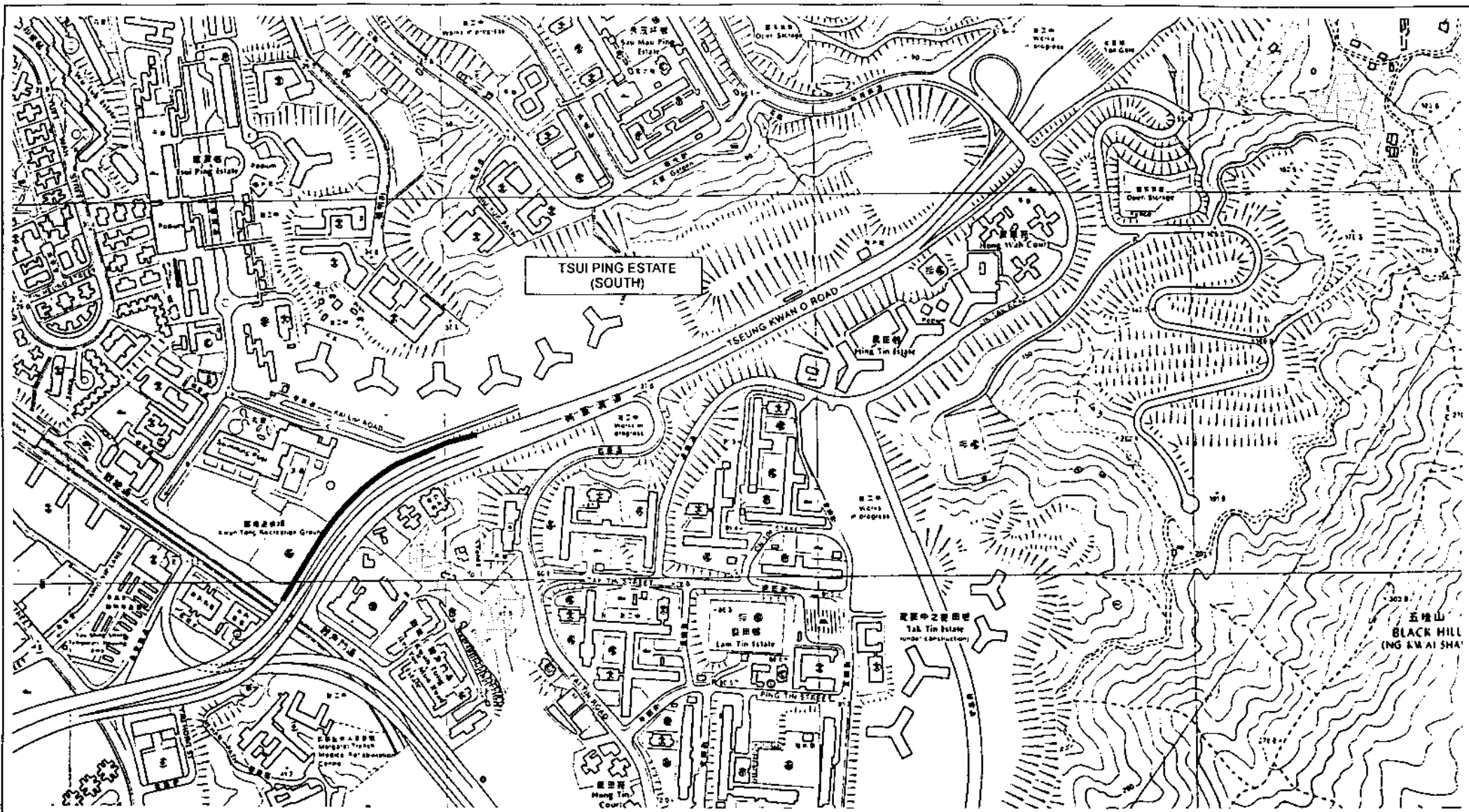


FIGURE 6.1p - CONCEPTUAL ARRANGMENT OF NOISE MITIGATION MEASURES - K53 KWUN TONG BYPASS

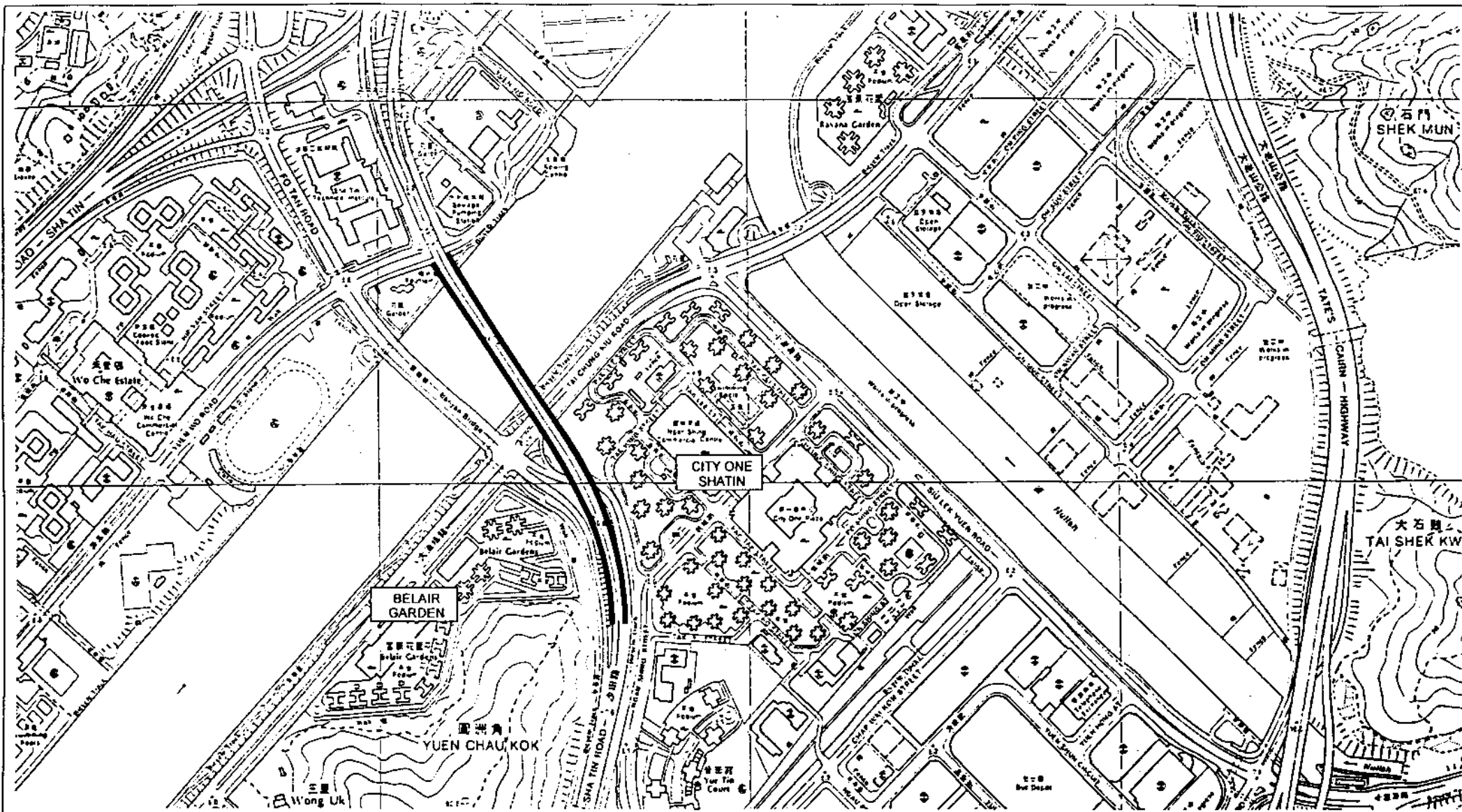


KEY
 ——— EXTENT OF DIRECT TECHNICAL REMEDIES REQUIRE

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FIGURE 6.1q - CONCEPTUAL ARRANGMENT OF NOISE MITIGATION MEASURES - K56 TSEUNG KWAN O ROAD



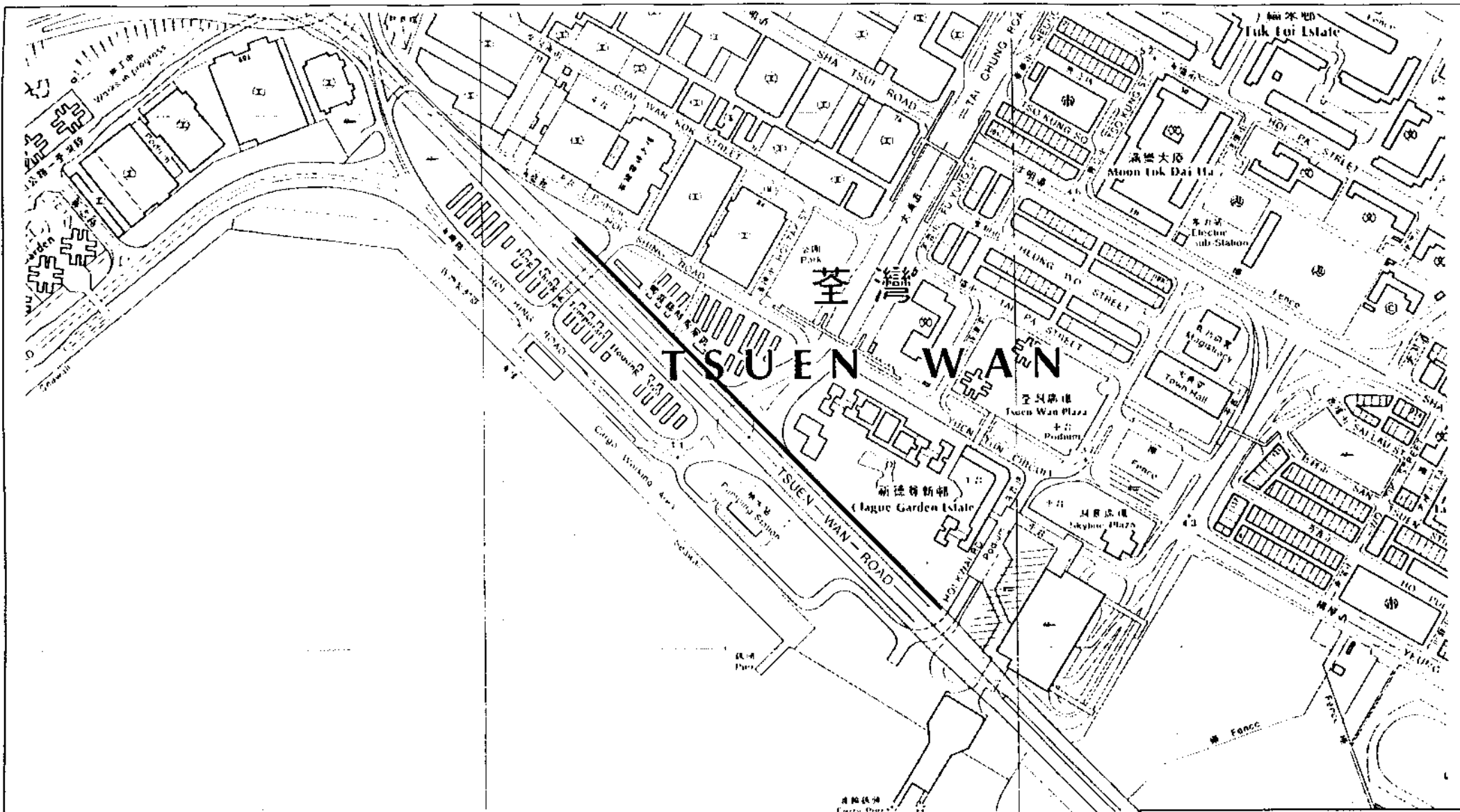
KEY
 ——— EXTENT OF DIRECT TECHNICAL REMEDIES REQUIRE

FIGURE 6.1r - CONCEPTUAL ARRANGMENT OF NOISE MITIGATION MEASURES - NT25 SHA TIN ROAD

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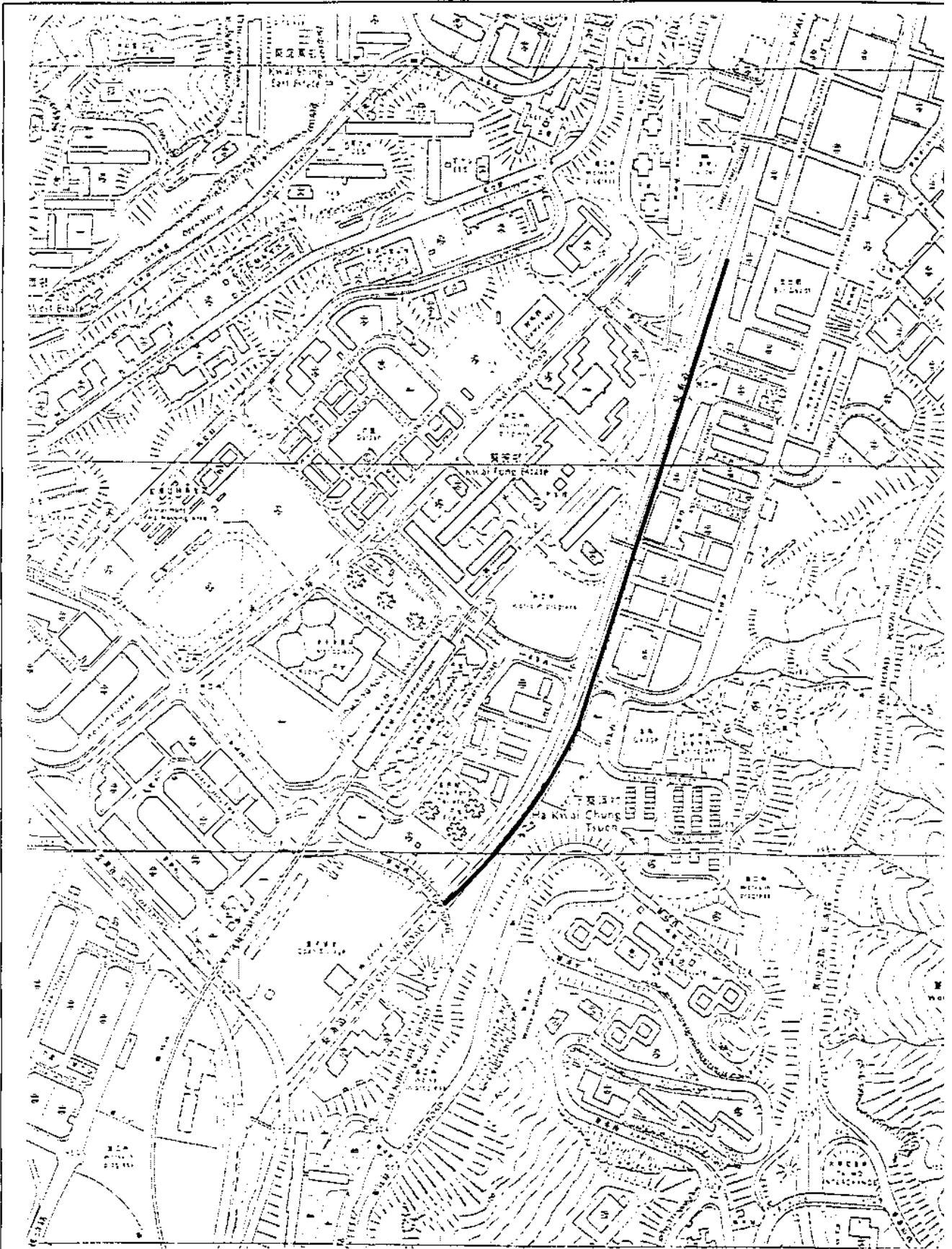
KEY
 ——— EXTENT OF DIRECT TECHNICAL REMEDIES REQUIRE

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FIGURE 6.1s - CONCEPTUAL ARRANGMENT OF NOISE MITIGATION MEASURES - NT62 (TSUEN WAN ROAD)



KEY

— EXTENT OF DIRECT TECHNICAL REMEDIES REQUIRE

FIGURE 6.1t - CONCEPTUAL ARRANGMENT OF NOISE MITIGATION MEASURES - NT69 (KWAI CHUNG ROAD)

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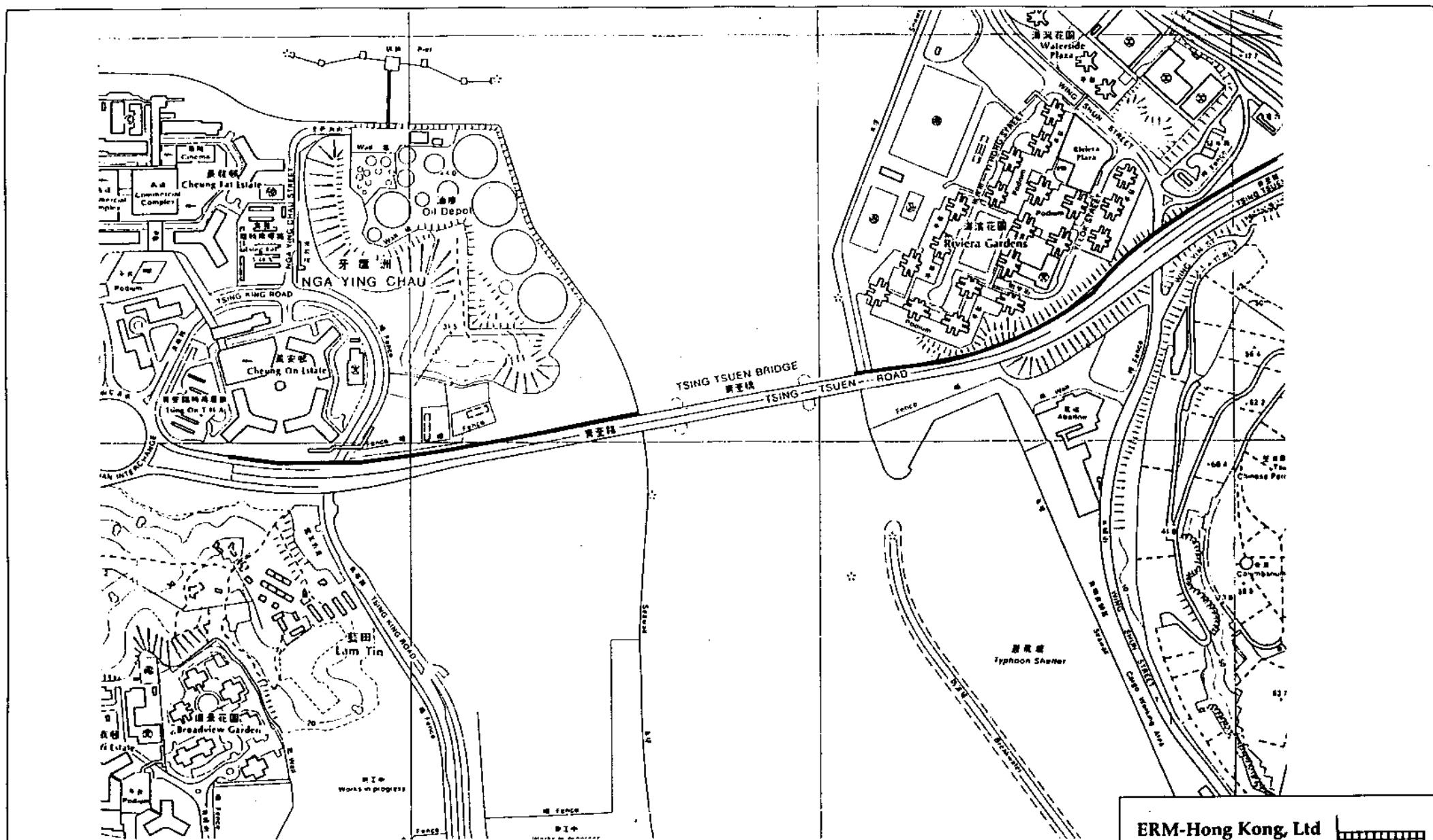


FIGURE 6.1u - CONCEPTUAL ARRANGEMENT OF NOISE MITIGATION MEASURES - NT 71 TSING TSUEN ROAD

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