

ANNEX A - SECTIONS 1/9 TO 9/9 OF CHANNEL CORRIDOR SURVEY, EASTERN MDC

Environmental Resources Management



Channel Corriror Survey Symbols

Vegetation Lleu Leucaena leucocephala **Tree Belt** Acacia confusa Acon **Border Road** Cequ Casuarina equisetifolia **Bridge Road** Eichhornia crassipes Ecra **Photographic** Mpar Musa paradisiaca **Direction** Hibiscus tiliaceus Htil Quantitative **Survey Site** Maze Melia azedarach Sseb Sapium sebiferum Aleb Albizia lebbeck Mangifera indica Mind Rcom Ricinus communis

ERM-Hong Kong, Ltd



CHANNEL CORRIDOR SURVEY RECORD SHEET 1 of 9	
Channel: Eastern MDC, San Tin	Date of survey: 20 & 28 / 05 / 1997
Surveyor(s): CIF, KHK, YML, JK	Weather conditions: Sunny, 30°C
Photographic record: P 3	Aerial photos: CNI 6699

Notes: Good access at inter-section between Castle Peak Road and San Sham Road.

SPECIAL AND TYPICAL FEATURES OF CHANNEL CORRIDOR, MARGINAL VEGETATION AND BANK ZONE HABITATS

Channel: Concrete lined (previous works project), little vegetation on aquatic and marginal zone, stream non-flowing, water odorous and appeared highly polluted.

Vegetation: Panicum sp. Lantana camara, Solanum nigrum, Trema orientalis, Bidens pilosa, Ricinus communis

ADJACENT LAND USE

Open container storage to West. Construction works - Site office (East side) and Polder Village Protection Scheme (West side)l.

NOTES ON INSECTS, BIRDS, MAMMALS AND FEATURES OF SPECIAL INTEREST

Tree Sparrow and Crested Myna (carrying nesting material, which indicates an active usage of natural or artificial local nesting sites) were recorded.

DRAINAGE CHANNEL CHARACTERISTICS

Top Span: 28.6m

Proposed maintenance road on either side of trapezoidal channel: 5.5m (including verges).

Total width:39.6m~130ft

POTENTIAL ECOLOGICAL IMPACTS

Due to condition of channel there are no potential impacts.

PROPOSED MITIGATION/SUGGESTIONS FOR HABITAT IMPROVEMENTS

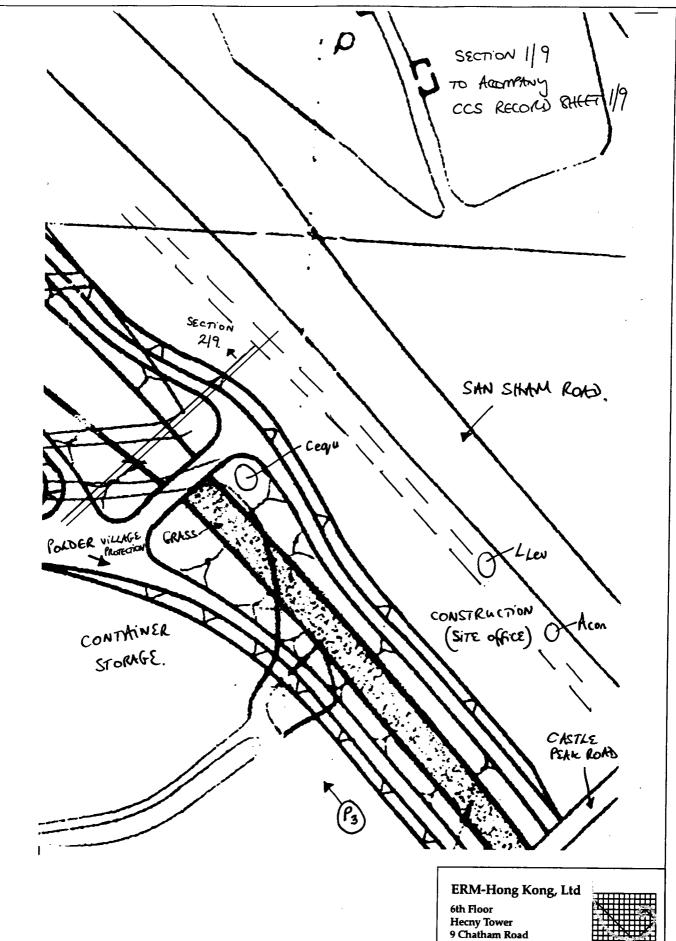
- 1. Retain existing aquatic zone vegetation as a foundation for further growth and to act as a biological pollution filter.
- 2.Undertake suitable hydroseeding with native species and of beneficial use to wildlife along channel embankments.

RESIDUAL ECOLOGICAL IMPACTS

After habitat improvement no residual impacts are expected. Residual Impact: Minimal

KEY ISSUES / SUMMARY

Section 1/9 is assessed as being of minimal ecological importance.



9 Chatham Road Tsimshatsui, Kowloon Hong Kong



CHANNEL CORRIDOR SURVEY RECORD SHEET 2 of 9	
Channel: Eastern MDC, San Tin.	Date of survey: 20 & 28 / 05 / 1997
Surveyor(s): CIF, KHK, YML, JK	Weather conditions: Sunny, 30°C
Photographic record: P 4	Aerial photos: CNI 6699

Notes: Good access via San Sham Road and border road. Wooden foot bridge across existing channel.

SPECIAL AND TYPICAL FEATURES OF CHANNEL CORRIDOR, MARGINAL VEGETATION AND BANK ZONE HABITATS

Fish ponds and open storage on West bank, vegetation and border road on East bank.

Aquatic zone: polluted water, dense stands of *Eichhornia crassipes* Bank zone: *Ricinus communis, Leucaena leucocephala, Panicum* spp.

Pond bunds: grassy.

ADJACENT LAND USE

Concrete lined channel with grassy banks on NE side.

Active fish ponds surrounded by open storage for containers.

NOTES ON INSECTS, BIRDS, MAMMALS AND FEATURES OF SPECIAL INTEREST

Little Egret, House swift, Barn Swallow, Plain Prinia, Yellow bellied Prinia, Common Tailorbird, Crested Myna (carrying nesting material) recorded foraging on the edge of aquatic habitats.

DRAINAGE CHANNEL CHARACTERISTICS

Top Span: 28.6m

Proposed maintenance road on either side of trapezoidal channel: 5.5m, (including verge).

Total width:39.6m~130ft

POTENTIAL ECOLOGICAL IMPACTS

- 1.Loss of stream channel aquatic vegetation and marginal zone flora.
- 2. Permanent loss of adjacent fish ponds.

PROPOSED MITIGATION/SUGGESTIONS FOR HABITAT IMPROVEMENTS

- 1.Undertake suitable hydroseeding with native species and of beneficial use to wildlife along channel embankments.
- 2. Create compensatory wetland and scrub habitats.

RESIDUAL ECOLOGICAL IMPACTS

After habitat improvement no residual impacts are expected. Residual Impact: Minimal

KEY ISSUES / SUMMARY

Section 2/9 is assessed as being of minimal ecological importance.



PHOTO #3, SECTION 1/9

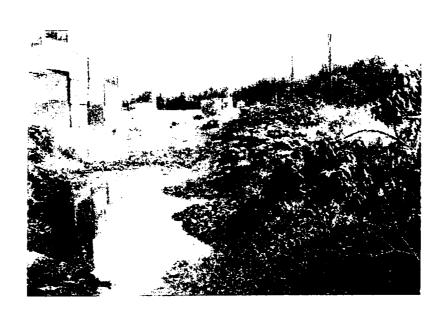
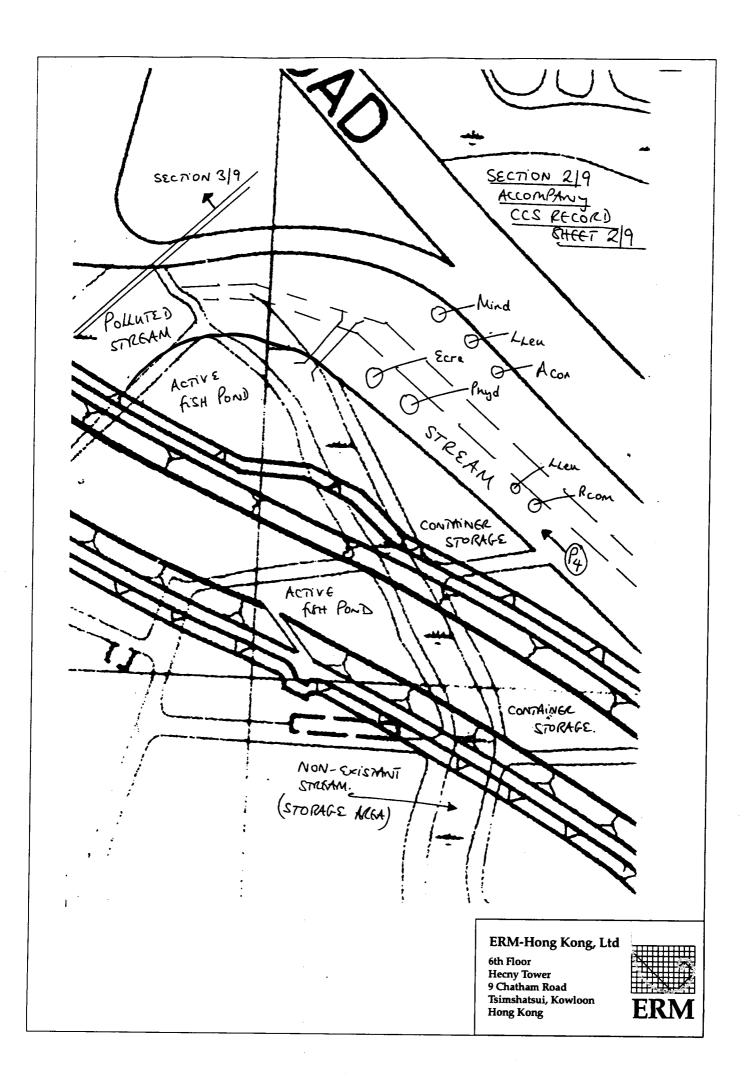


PHOTO #4, SECTION 2/9

ERM-Hong Kong, Ltd





CHANNEL CORRIDOR SURVEY RECORD SHEET 3 of 9	
Channel: Eastern MDC, San Tin.	Date of survey: 20 & 28 / 05 / 1997
Surveyor(s): CIF, KHK, YML, JK	Weather conditions: Sunny, 30°C
Photographic record: P 5	Aerial photos: CNI 6736

Notes: Access via footbridge across channel from border Road.

Cross section of stream channel profile.

SPECIAL AND TYPICAL FEATURES OF CHANNEL CORRIDOR, MARGINAL VEGETATION AND BANK ZONE HABITATS

Pond bunds: vegetation included Albizia lebbeck, Musa paradisiaca, Panicum maximum,

Melia azedarach, Commelina nudiflora.

Stream channel: water was black, non flowing, and highly polluted. Soft muddy banks.

Aquatic zone: isolated patches of Eichhornia crassipes.

Bank Zone: Panicum spp., Polygonum hydropiper, Ricinus communis, Phragmites communis.

ADJACENT LAND USE

Border road on NE side. Active fish ponds on SW side

NOTES ON INSECTS, BIRDS, MAMMALS AND FEATURES OF SPECIAL INTEREST

Yellow Bittern, Feral Pigeon, Common Kingfisher, Barn Swallow, Plain Prinia, Rufous-backed Shrike,

Crested Myna and Tree Sparrow recorded foraging near to aquatic habitats.

Un identified burrows on pond bunds, probably belonging to rodents.

DRAINAGE CHANNEL CHARACTERISTICS

Top Span: 28.6m

Proposed maintenance road on either side of trapezoidal channel: 5.5m (including verges).

Total width:39.6m~130ft

POTENTIAL ECOLOGICAL IMPACTS

- 1.Loss of stream channel aquatic vegetation.
- 2.Loss of active fish pond.
- 3. Habitat loss for insects, birds, and mammals.

PROPOSED MITIGATION / SUGGESTIONS FOR HABITAT IMPROVEMENTS

1. Undertake suitable hydroseeding with native species of beneficial use to wildlife along channel embankments

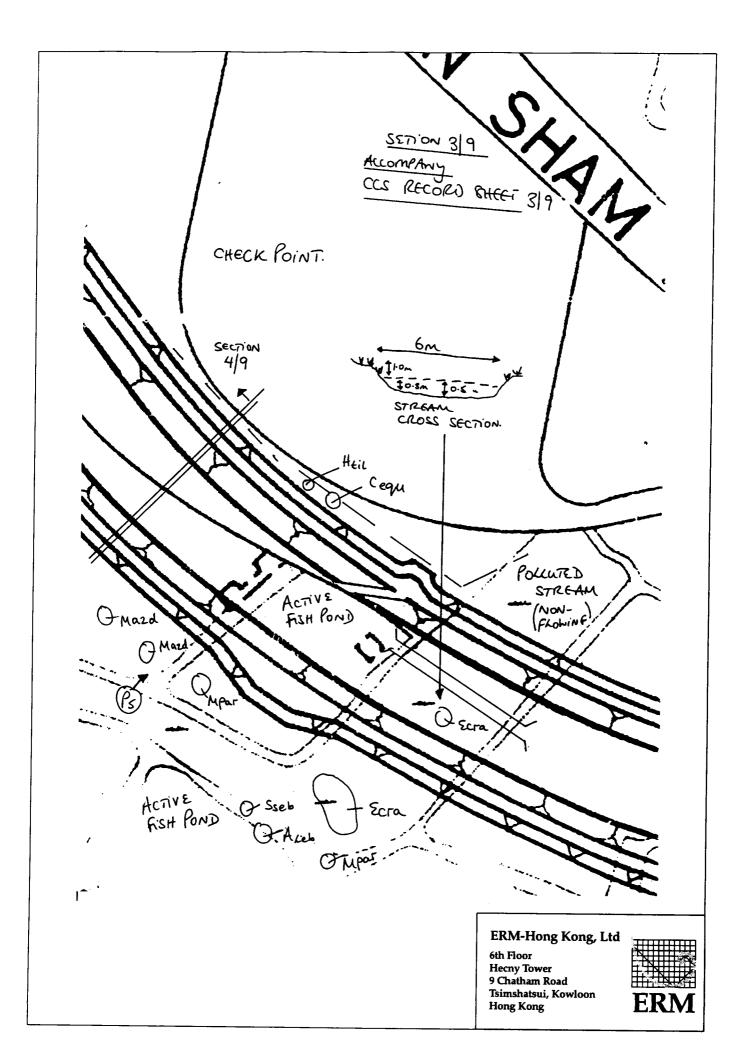
2. Create compensatory habitat such as wetland and scrubland.

RESIDUAL ECOLOGICAL IMPACTS

After habitat improvement no residual impacts are expected. Residual Impact: Minimal

KEY ISSUES / SUMMARY

Section 3/9 is assessed as being of moderate ecological importance.



CHANNEL CORRIDOR SURVEY RECORD SHEET 4 OF 9		
Channel: Eastern MDC, San Tin	Date of survey: 20 & 28 / 05 / 1997	
Surveyor(s): CIF, KHK, YML, JK	Weather conditions: Sunny 30∘C	
Photographic record: P 6	Aerial photos: CNI 6736	

Notes: Access via grassy pond bunds. <u>Site 1</u> Quantitative Survey

SPECIAL AND TYPICAL FEATURES OF CHANNEL CORRIDOR, MARGINAL VEGETATION AND BANK ZONE HABITATS

Tree belt: Casuarina equisetifolia, Hibiscus tiliaceus.

Dried channel: dense stand of Eichhornia crassipes, Panicum maximum along marginal zone.

Pond bunds: pond bund vegetation included Albizia lebbeck, Melia azedarach, Lantana camara, Digitaria sp.and fruit trees (Citrus maximum, Psidium guajava, Musa paradisiaca, Amygdalus persica).

ADJACENT LAND USE

Infilled fish pond, parking area and border road on NE side.

Active fish ponds and Chicken farm, on SW and West side.

NOTES ON INSECTS, BIRDS, MAMMALS AND FEATURES OF SPECIAL INTEREST

Spotted Dove, Common Kingfisher, Barn Swallow, Magpie Robin, Plain Prinia, Black-necked Starling, Crested Myna, Tree Sparrow and White-Breasted Waterhen recorded foraging in aquatic habitats.

DRAINAGE CHANNEL CHARACTERISTICS

Top Span: 28.6m

Proposed maintenance road on either side of trapezoidal channel: 5.5m (including verges).

Total width:39.6m~130ft

POTENTIAL ECOLOGICAL IMPACTS

- 1.Loss of active fish pond and permanent partial loss of adjacent fish ponds.
- 2. Disturbance to exotic woodland belt and scrubland from construction activities.
- 3. Loss of marsh and seasonal flooding due to MDC containment.
- 4. Habitat loss for foraging birds.

PROPOSED MITIGATION / SUGGESTIONS FOR HABITAT IMPROVEMENTS

- 1. Undertake suitable hydroseeding with native species of beneficial use to wildlife along embankments.
- 2. Create compensatory habitat such as wetland and woodland.
- 3. Fish ponds reinstated to pre-project standard.
- 4. Retain and protect all existing trees along border road.

RESIDUAL ECOLOGICAL IMPACTS

After habitat improvement no residual impacts are expected. Residual Impact: Minimal

KEY ISSUES / SUMMARY

Section 4/9 is assessed as being of moderate ecological importance.



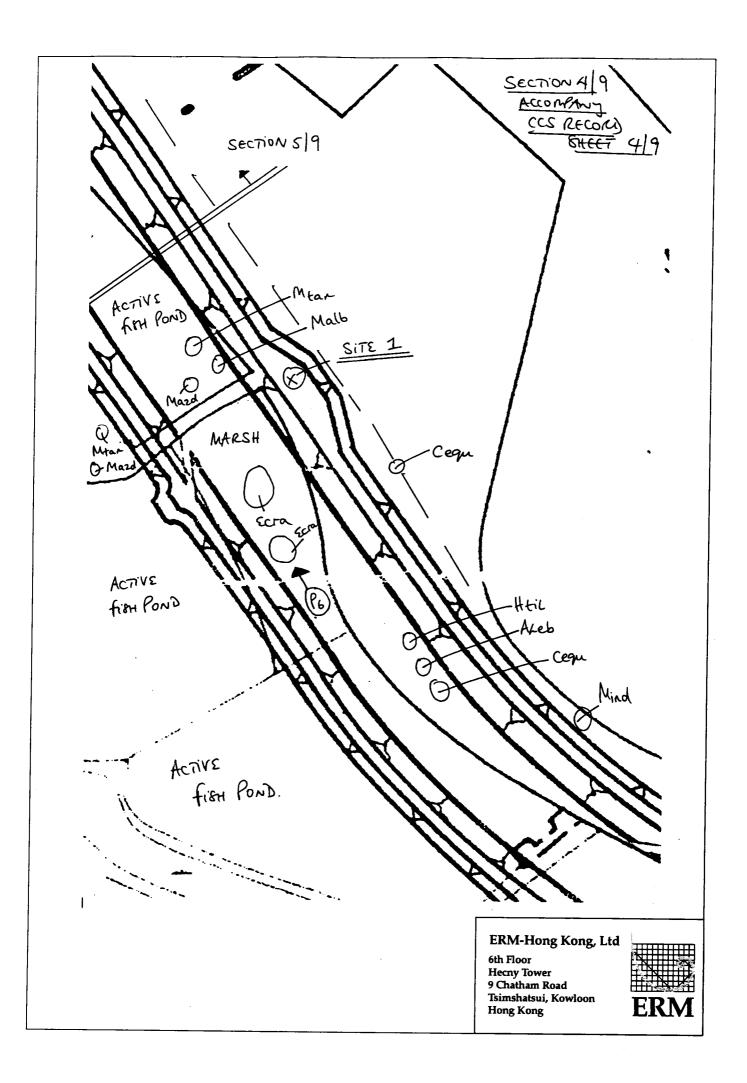
PHOTO #5, SECTION 3/9



PHOTO #6, SECTION 4/9

ERM-Hong Kong, Ltd





CHANNEL CORRIDOR SURVEY RECORD SHEET 5 of 9	
Channel: Eastern MDC, San Tin.	Date of survey: 20 & 28 / 05 / 1997
Surveyor(s): CIF, KHK, YML, JK	Weather conditions: Sunny, 30°C
Photographic record: P 7	Aerial photos: CNI 6736

Notes: Access via border road

SPECIAL AND TYPICAL FEATURES OF CHANNEL CORRIDOR, MARGINAL VEGETATION AND BANK ZONE HABITATS

Tree belt: Casuarina equisetifolia, Hibiscus tiliaceus.

Marsh: Phragmites communis, Panicum repens, Sapium sebiferum with standing black and odorous water.

Pond bunds: vegetation included, Melia azedarach, Musa paradisiaca, Macaranga tanarius, Panicum maximum.

ADJACENT LAND USE

Border road to East. Fish ponds on West.

NOTES ON INSECTS, BIRDS, MAMMALS, REPTILES AND FEATURES OF SPECIAL INTEREST

Chinese Pond Heron, Little Egret, Spotted Dove, Barn Swallow, Plain Prinia (carrying nesting material), Yellow-bellied Prinia recorded foraging and roosting along aquatic and woodland habitats.

Unidentified dead snake on border road.

DRAINAGE CHANNEL CHARACTERISTICS

Top Span: 44m

Proposed maintenance road on either side of trapezoidal channel: 5.5m (including verges).

Total width:55m~180ft

POTENTIAL ECOLOGICAL IMPACTS

- 1. Loss of active fish ponds and permanent partial loss of adjacent fish ponds
- 2. Disturbance to exotic woodland belt and scrubland from construction activities
- 3. Loss of marsh and seasonal flooding due to MDC containment.
- 4. Habitat loss for insects, birds mammals reptiles and amphibians.

PROPOSED MITIGATION / SUGGESTIONS FOR HABITAT IMPROVEMENTS

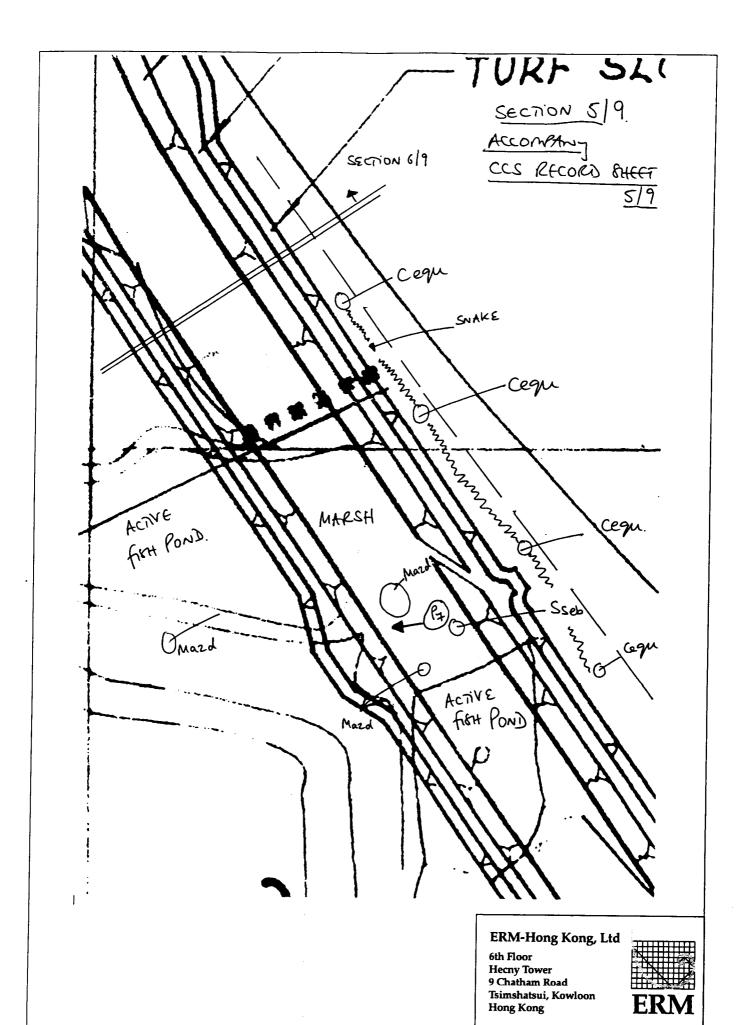
- 1. Undertake suitable hydroseeding with native species of beneficial use to wildlife along both channel embankments.
- 2. Create compensatory habitat such as wetland and woodland.
- 3. Fish ponds reinstated to pre-project condition.
- 4. Retain and protect all existing trees along border road.

RESIDUAL ECOLOGICAL IMPACTS

After habitat improvement no residual impacts are expected. Residual Impact: Minimal

KEY ISSUES / SUMMARY

Section 5/9 is assessed as being of moderate ecological importance.



CHANNEL CORRIDOR SURVEY RECORD SHEET 6 of 9	
Channel: Eastern MDC,San Tin	Date of survey: 20 & 28 / 05 / 1997
Surveyor(s): CIF, KHK, YML, JK	Weather conditions: Sunny, 30°C
Photographic record: P 9	Aerial photos: CN 16619R

Notes: Access through stream channel and marsh.

SPECIAL AND TYPICAL FEATURES OF CHANNEL CORRIDOR, MARGINAL VEGETATION AND BANK ZONE HABITATS

Marsh: extensive coverage of Phragmites communis, Panicum spp., Echinochloa spp.

Pond bund: covered with Mikania micrantha

ADJACENT LAND USE

Tree belt: Casuarina equisetifolia and Hibiscus tiliaceus.

Active fish ponds to the West.

NOTES ON INSECTS, BIRDS, MAMMALS AND FEATURES OF SPECIAL INTEREST

Night Heron, Feral Pigeon (large flock), Spotted Dove, Barn Swallow, Crested Bulbul, Common Tailorbird, Black-necked Starling, Crested Myna, Plain and Yellow bellied Prinia (carrying nesting material) recorded foraging along aquatic habitats.

DRAINAGE CHANNEL CHARACTERISTICS

Top Span: 44m

Proposed maintenance road on either side of trapezoidal channel: 5.5m (including verges).

Total width:55m~180ft

POTENTIAL ECOLOGICAL IMPACTS

- 1. Loss of active fish ponds and permanent partial loss of adjacent ponds.
- 2. Disturbance to exotic woodland belt and scrubland from construction activities
- 3. Loss of marsh and seasonal flooding due to MDC containment.
- 4. Habitat loss for insects, birds and mammals reptiles, amphibians

PROPOSED MITIGATION / SUGGESTIONS FOR HABITAT IMPROVEMENTS

- 1. Undertake suitable hydroseeding with native species and which is of beneficial use to wildlife along both channel embankments.
- 2. Create compensatory habitat such as wetland and woodland.
- 3. Fish ponds reinstated to pre-project condition.
- 4. Retain and protect all existing trees along border road.

RESIDUAL ECOLOGICAL IMPACTS

After habitat improvement no residual impacts are expected. Residual Impact: Minimal

KEY ISSUES / SUMMARY

Section 6/9 is assessed as being of moderate ecological importance.



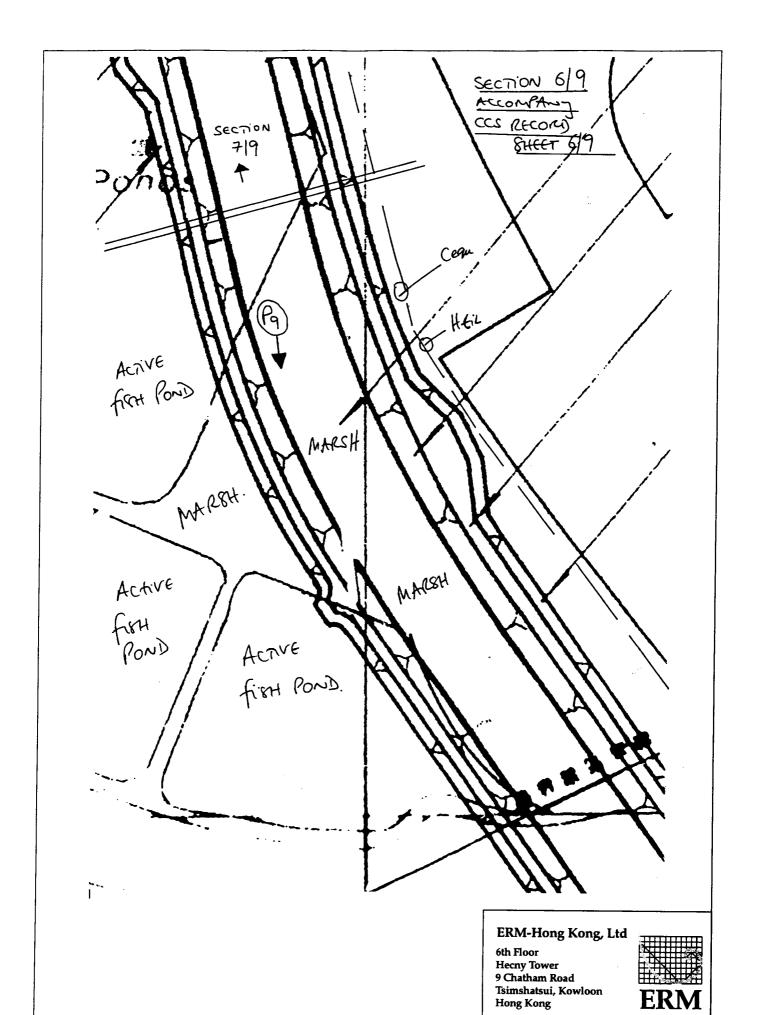
PHOTO #7, Section 5/9



PHOTO #9, SECTION 6/9

ERM-Hong Kong, Ltd





CHANNEL CORRIDOR SURVEY RECORD SHEET 7 of 9	
Channel: Eastern MDC, San Tin.	Date of survey: 20 & 28 / 05 / 1997
Surveyor(s): CIF, KHK, YML, JK	Weather conditions: Sunny, 30°C
Photographic record: P 13	Aerial photos: CN 16619R

Notes: Access from border road. Site 2 Quantative Survey

SPECIAL AND TYPICAL FEATURES OF CHANNEL CORRIDOR, MARGINAL VEGETATION AND BANK ZONE HABITATS

Marsh: covered in Phragmites communis, Panicum spp. Echinochloa sp.

Pond bund: covered with Mikania micrantha.

ADJACENT LAND USE

Tree belt lined with Casuarina equisetifolia, Hibiscus tiliaceus. Border road to East.

Active fish ponds to West.

NOTES ON INSECTS, BIRDS, MAMMALS AND FEATURES OF SPECIAL INTEREST

Chinese Pond Heron, Common Kingfisher, Barn Swallow, Black-necked Starling, Crested Myna, Yellow-bellied Prinia (carrying nesting material), Rufous-backed Shrike (juveniles) recorded foraging along aquatic habitats. A Pheasant-tailed Jacana was seen foraging at an adjacent fish pond.

Gomphid Dragonfly Stylogomphus chunlinae recorded (not common).

DRAINAGE CHANNEL CHARACTERISTICS

Top Span: 44m

Proposed maintenance road on either side of trapezoidal channel: 5.5m (including verges).

Total width:55m~180ft

POTENTIAL ECOLOGICAL IMPACTS

- 1.Loss of active fish ponds and permanent partial loss of adjacent fish ponds.
- 2. Disturbance to exotic woodland belt and scrubland from construction activities
- 3. Loss of marsh and seasonal flooding due to MDC containment.
- 4. Habitat loss for insects and birds.

PROPOSED MITIGATION/SUGGESTIONS FOR HABITAT IMPROVEMENTS

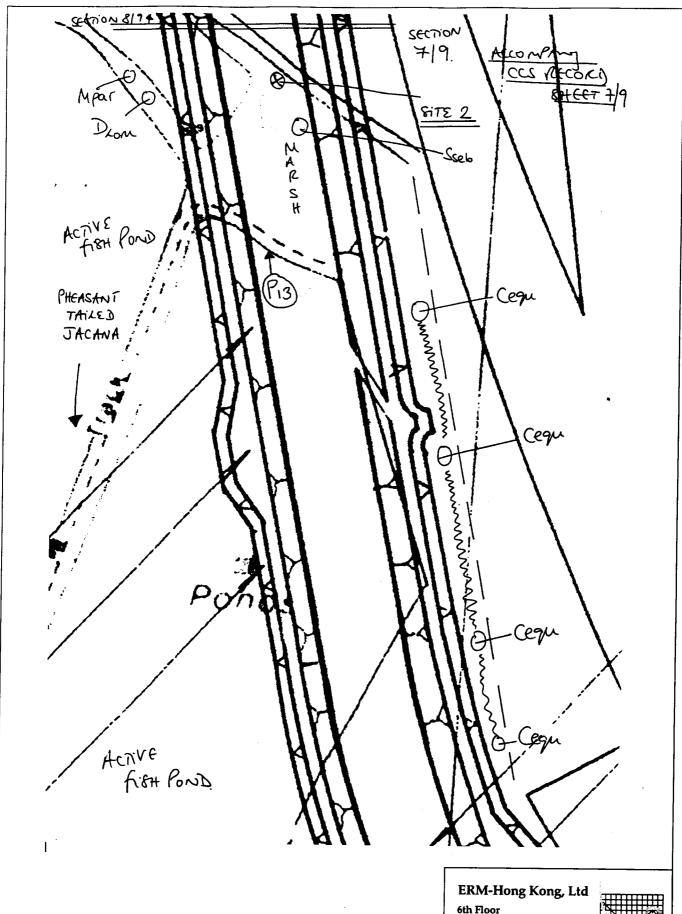
- 1.Undertake suitable hydroseeding with native species and which is of beneficial use to wildlife along both embankments.
- 2. Create compensatory habitat such as wetland and woodland.
- 3. Fish ponds reinstated to pre-project condition.
- 4. Retain and protect all existing trees along border road.

RESIDUAL ECOLOGICAL IMPACTS

After habitat improvement no residual impacts are expected. Residual Impact: Minimal

KEY ISSUES / SUMMARY

Section 7/9 is assessed as being of moderate ecological importance. Special note must be given to the record of the Pheasant tailed Jacana which is rare migrant passage bird.





CHANNEL CORRIDOR SURVEY RECORD SHEET 8 of 9	
Channel: Eastern MDC, San Tin.	Date of survey: 20 & 28 / 05 / 1997
Surveyor(s): CIF, KHK, YML, JK	Weather conditions: Sunny, 30°C
Photographic record: P 18	Aerial photos: CN 16619R

Notes: Access from border Road

SPECIAL AND TYPICAL FEATURES OF CHANNEL CORRIDOR, MARGINAL VEGETATION AND BANK ZONE HABITATS

Pond bund: sparse vegetation on bunds.

Abandoned pond bund: Mikania micrantha.

Small area of cultivated land. Drainage channel containing black and odorous backflow water from

Shenzhen River.

Plantation woodland: Casuarina equisetifolia and Hibiscus tiliaceus

ADJACENT LAND USE

Border road and San Sham Road to East.

Active fish ponds to West.

NOTES ON INSECTS, BIRDS, MAMMALS, FISH AND FEATURES OF SPECIAL INTEREST

Common Kingfisher, Barn Swallow, Yellow-bellied Prinia, Crested Myna, Tree Sparrow, Black-necked Starling (carrying nesting material) recorded foraging and roosting along aquatic and woodland habitats. Single catfish, *Clarias fuscus* seen in shallow water of channel.

Gomphid Dragonfly Stylogomphus chunlinae recorded (not common)

DRAINAGE CHANNEL CHARACTERISTICS

Top Span: 44m

Proposed maintenance road on either side of trapezoidal channel: 5.5m (including verges).

Total width:55m~180ft

Proposed site of Pumping Station

POTENTIAL ECOLOGICAL IMPACTS

- 1. Loss of active fish pond and permanent partial loss of active fish ponds.
- 2.Loss of marsh and plantation woodland.
- 3. Habitat loss for insects, birds, mammals, reptiles and amphibians

PROPOSED MITIGATION / SUGGESTIONS FOR HABITAT IMPROVEMENTS

- 1. Undertake suitable hydroseeding with native species and which is of beneficial use to wildlife along both embankments.
- 2. Create compensatory habitat such as wetland and woodland.
- 3. Fish ponds reinstated to pre-project condition.
- 4. Retain and protect all existing trees along border road.

RESIDUAL ECOLOGICAL IMPACTS

After habitat improvement no residual impacts are expected. Residual Impact: Minimal

KEY ISSUES / SUMMARY

Section 8/9 is assessed as being of moderate ecological importance

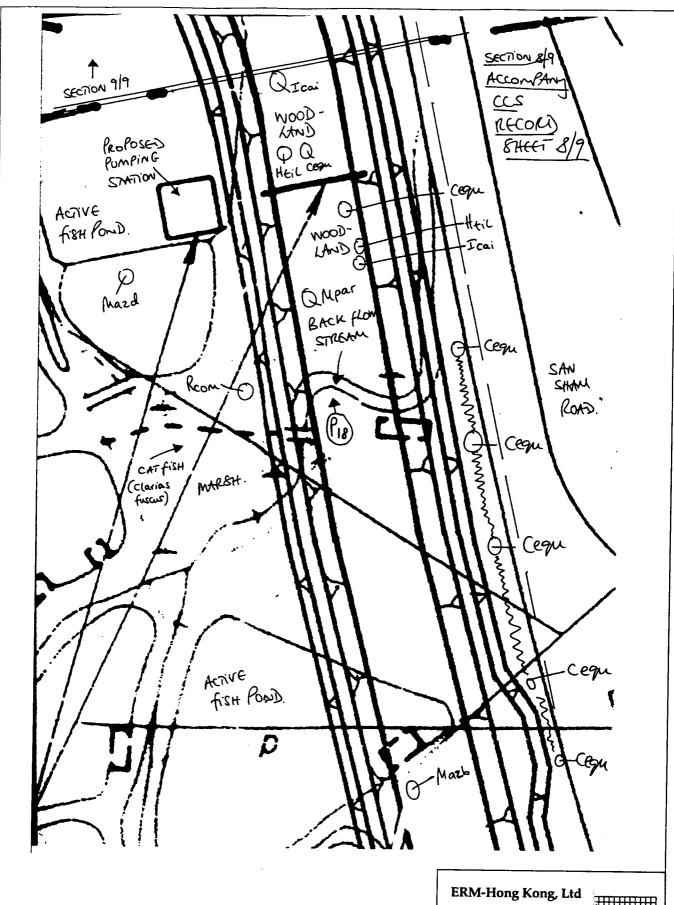






PHOTO #13, SECTION 7/9



PHOTO #18, SECTION 8/9

ERM-Hong Kong, Ltd



OOR SURVEY RECORD SHEET 9 of 9
Date of survey: 20 & 28 / 05 / 1997
Weather conditions: Sunny, 30°C
Aerial photos: CN 16619R

Notes: Access via San Sham and border road.

SPECIAL AND TYPICAL FEATURES OF CHANNEL CORRIDOR, MARGINAL VEGETATION AND BANK ZONE HABITATS

Abandoned fish pond due to relocation of Border fence for Shenzhen River Regulation Project. Pond bunds: Vegetation included *Cyperus* spp., *Sapium sebiferum*, *Bidens pilosa*, *Praxelis clematidea*, *Pueraria* spp., *Gynura bicolor*.

ADJACENT LAND USE

Tree belt and San Sham flyover to East.

Abandoned and active fish ponds to the West. Stream channel contained polluted back flow water Excavating has already commenced on SRRP, Stage 2.

NOTES ON INSECTS, BIRDS, MAMMALS AND FEATURES OF SPECIAL INTEREST

Night Heron, Little Egret, Feral Pigeon, Barn Swallow, and Yellow-bellied Prinia recorded foraging and roosting along aquatic and woodland habitats.

DRAINAGE CHANNEL CHARACTERISTICS

Top Span: 47m

Proposed maintenance road on either side of trapezoidal channel: 5.5m (including verges).

Total width:58m~190ft

POTENTIAL ECOLOGICAL IMPACTS

- 1.Loss of active fish pond and permanent partial loss of adjacent fish ponds.
- 2 Loss of marsh, seasonal flooding and backflow of brackish water from Shenzhen River
- 3.Loss of woodland belt.
- 4. Habitat loss for insects, birds, mammals, reptiles and amphibians

PROPOSED MITIGATION / SUGGESTIONS FOR HABITAT IMPROVEMENTS

- 1.Undertake suitable hydroseeding with native species and which is of beneficial use to wildlife along both embankments.
- 2. Create compensatory habitat such as wetland and woodland.
- 3. Fish ponds reinstated to pre-project condition.
- 4. Retain and protect all existing trees along border road.
- 5. Creating an intertidal mangrove habitat at the MDC and Shenzhen River junction.

RESIDUAL ECOLOGICAL IMPACTS

After habitat improvement no residual impacts are expected. Residual Impact: Minimal

KEY ISSUES / SUMMARY

Plantation of a mangal community at the junction would constitute as on site mitigation for the Western MDC.

Section 9/9 is assessed as being of moderate ecological importance

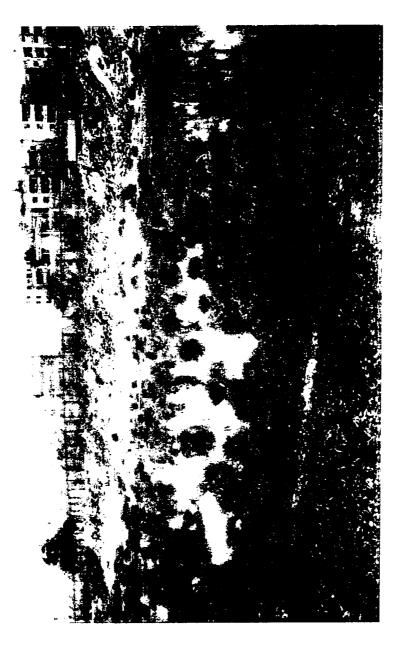


PHOTO #20, SECTION 9/9

ERM-Hong Kong, Ltd

