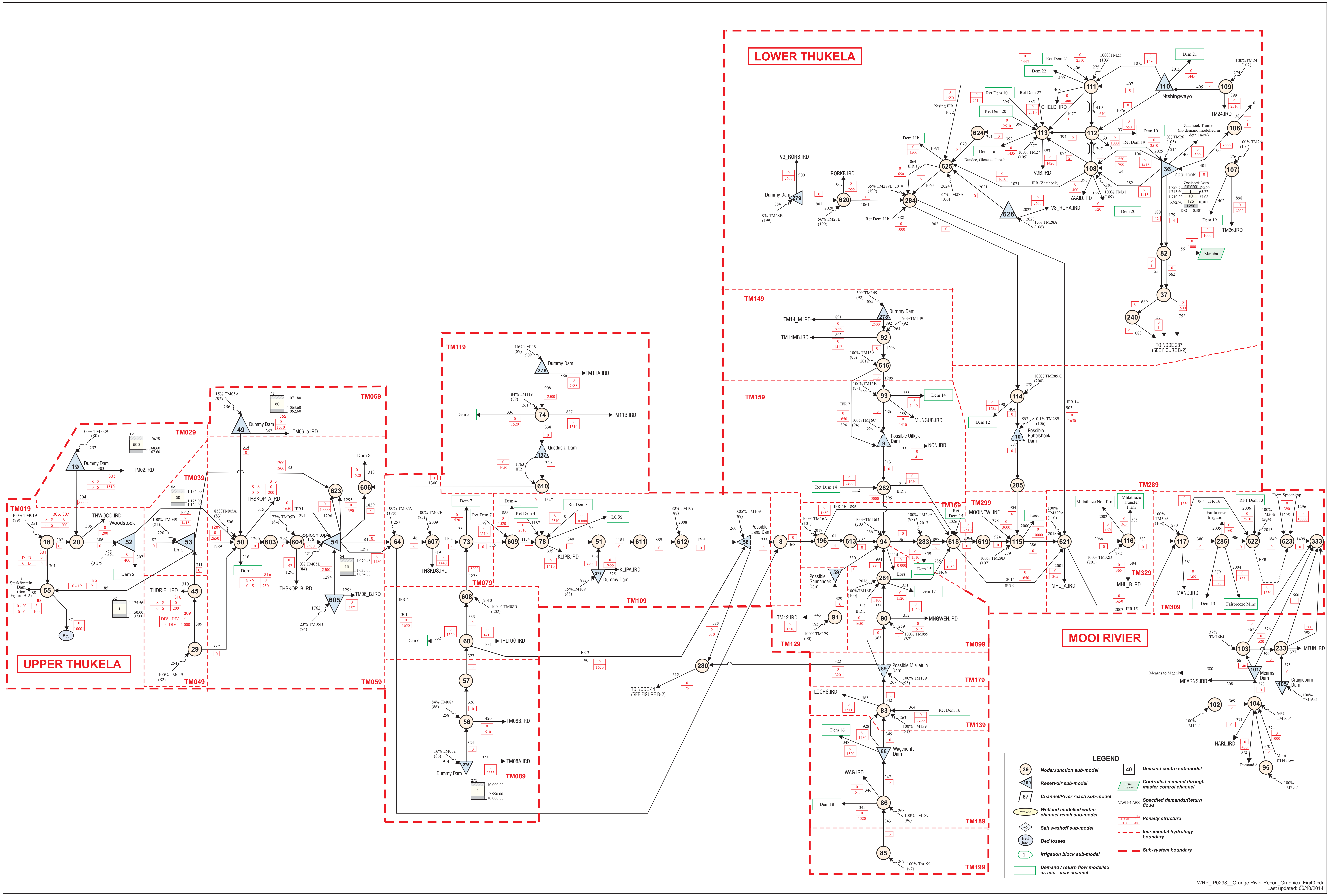


DEVELOPMENT OF RECONCILIATION STRATEGIES FOR BULK WATER SUPPLY SYSTEMS ORANGE RIVER

WRPM Schematic Diagram: Upper Thukela and Lower Sub-systems

B-1

USUTU

LEGEND

- Node/Junction sub-model
- Reservoir sub-model
- Channel/River reach sub-model
- Wetland modelled within channel reach sub-model
- Salt washoff sub-model
- Bed losses
- Irrigation block sub-model
- Demand / return flow modelled as min - max channel
- Demand centre sub-model
- Controlled demand through master control channel
- Specified demands/Return flows
- Penalty structure
- Incremental hydrology boundary
- Sub-system boundary

CHURCH 9 · WEST 9 · JERI 9 · MORG 9 · HEYS 9 · GROOTD 9 · TM269 · STERK 9 · FRAN 9 · KOMATI · VAAL 9 · C12D · DELA 9 · UPPER OLIFANTS · UPPER VAAL

Westoe Dam · Jericho Dam · Morgenstond Dam · Heyshope Dam · Dummy Dam · Grootdraai Dam · Vaal Dam · Sterk. · Saulspoort Dam · Dummy Dam 1

Driefontein · Camden · Kendal 1 · Kriel 1 · Matla 1 · Kriel 2 · Kendal 2 · Matla 2 · Sasol Secunda · Trichardts-fontein · Region B · Tutuka · Net Urban · Dummy Demand · Standerton · Sterkfontein · Qwa Qwa WSS · Dummy Dam 1

FROM NODE 240 (See Figure B-1) · FROM NODE 37 (See Figure B-1) · FROM NODE 55 (See Figure B-1) · From node 280 (See figure B-1) · From node 194 (See figure A-4)

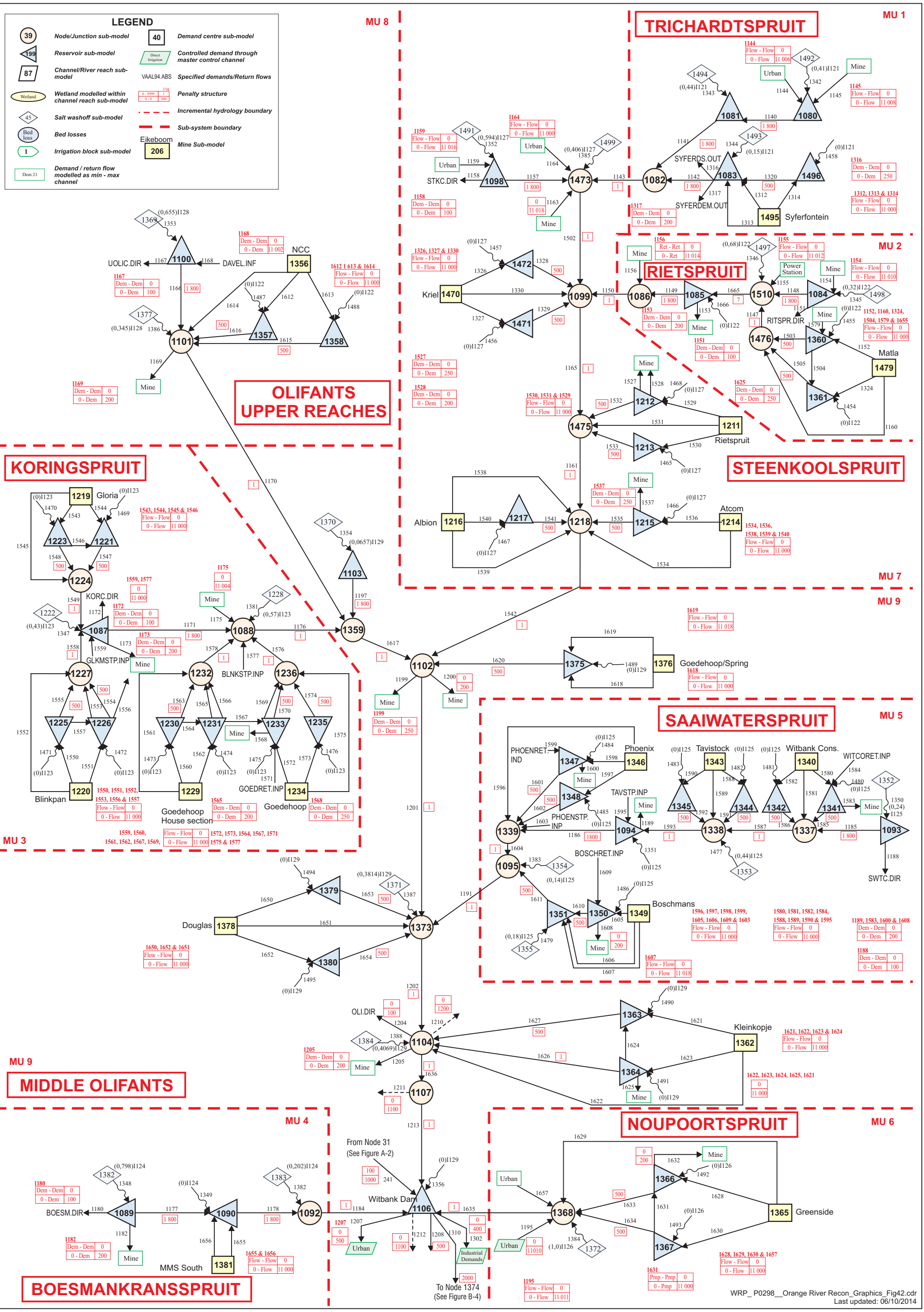
To Node 11 (See Figure B-5) · To Node 1106 (See Figure A-3) · To Node 159 (See Fig B-5) · To Node 159 (See Fig B-5)

WRP_ P0298__Orange River Recon_Graphics_Fig41.cdr
Last updated: 06/10/2014

DEVELOPMENT OF RECONCILIATION STRATEGIES FOR BULK WATER SUPPLY SYSTEMS ORANGE RIVER

WRPM Schematic Diagram: Upper Olifants, Upper Vaal and Usutu Sub-systems

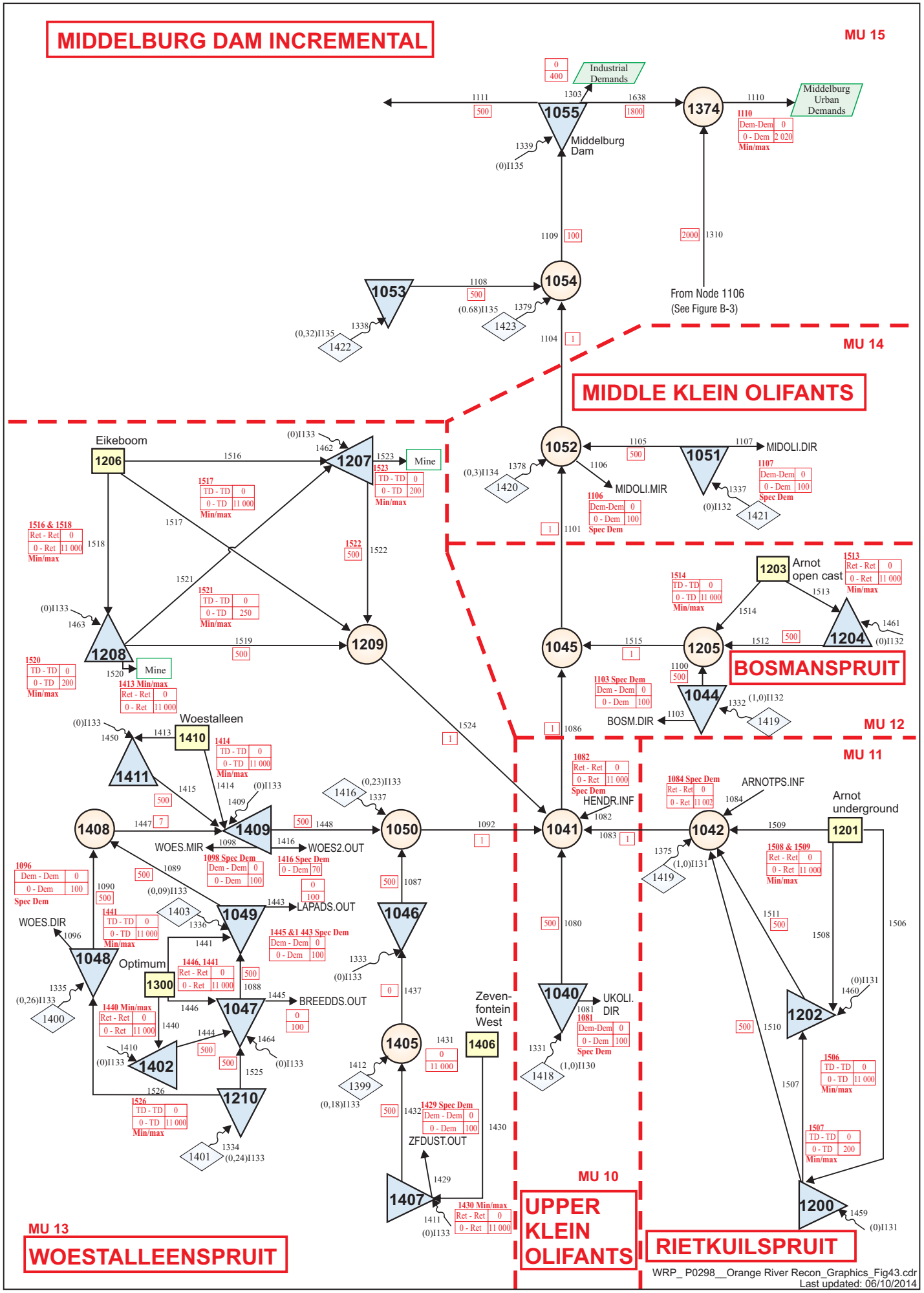
B-2



DEVELOPMENT OF RECONCILIATION STRATEGIES FOR BULK WATER SUPPLY SYSTEMS ORANGE RIVER

WRPM Schematic Diagram: Witbank Dam Sub-system with Penalty Structure

B-3



WRP_ P0298__Orange River Recon_Graphics_Fig43.cdr
Last updated: 06/10/2014

DEVELOPMENT OF RECONCILIATION STRATEGIES FOR BULK WATER SUPPLY SYSTEMS ORANGE RIVER

WRPM Schematic Diagram: Loskop Dam Incremental Sub-system and Middelburg Dam Sub-system with Penalty Structures

B-4

KOMATI

LEGEND

- Node/Junction sub-model
- Reservoir sub-model
- Channel/River reach sub-model
- Wetland modelled within channel reach sub-model
- Salt washoff sub-model
- Bed losses
- Irrigation block sub-model
- Demand / return flow modelled as min - max channel
- Demand centre sub-model
- Controlled demand through master control channel
- Specified demands/Return flows
- Penalty structure
- Incremental hydrology boundary
- Sub-system boundary
- Mine Sub-model

XIIKI
XIIJI
XIIHI
XIIGI
XIIFI
XIIE1
XIIE2
XIIE3
XIID1
XIID2
XIIC1
XIIB2
XIIB1
XIIA1

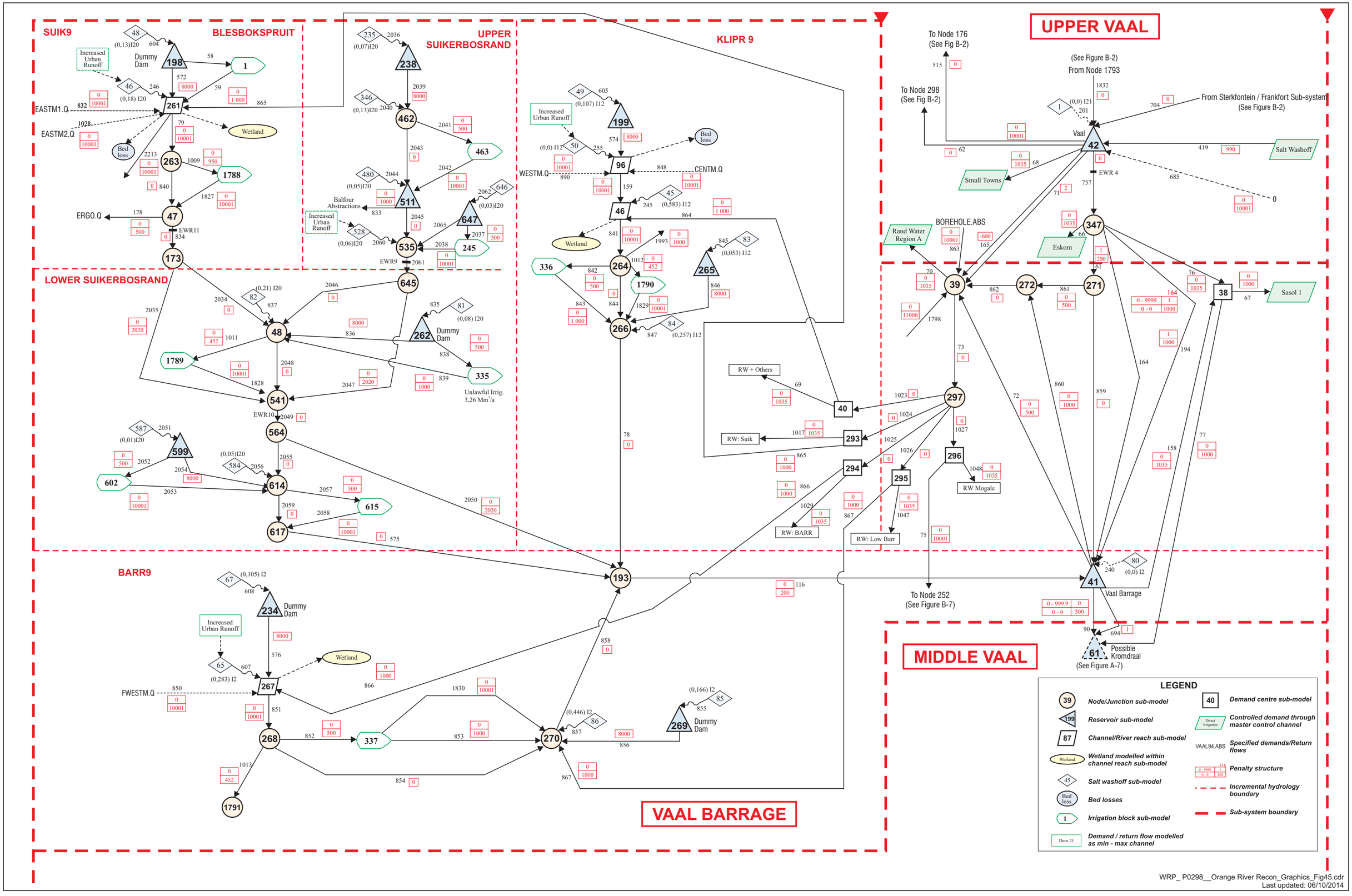
Vygeboom
Bosloop
Wintershoek
Klipfontein
Nkomati mine abs
Nkomatif.abs
Nooóitgedacht Dam
Carolinf.abs
Arnot U
Arnot E
Hendrina U
Hendrina E
Duvha 2
Duvha 1
Komati
From Node 25 (See figure B-2)
From Node 579
From Node 578 (See Figure B-2)
From Node 31 (See Figure B-2)

WRP_ P0298 _ Orange River Recon_Graphics_Fig44.cdr
Last updated: 06/10/2014

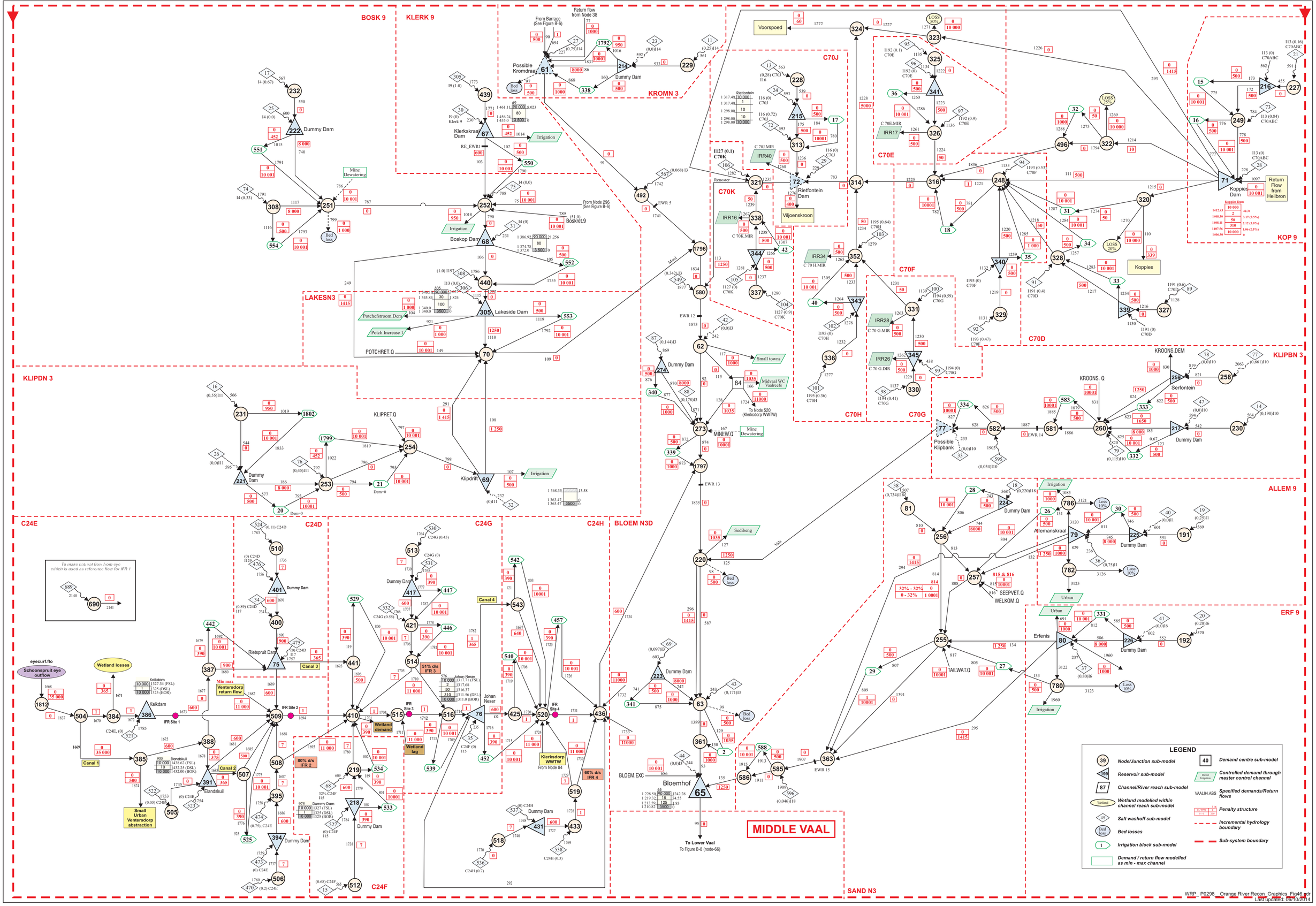
DEVELOPMENT OF RECONCILIATION STRATEGIES FOR BULK WATER SUPPLY SYSTEMS ORANGE RIVER

WRPM Schematic Diagram: Komati Sub-systems with Penalty Structures

B-5



WRP_ P0298__Orange River Recon_Graphics_Fig45.cdr
Last updated: 06/10/2014



DEVELOPMENT OF RECONCILIATION STRATEGIES FOR BULK WATER SUPPLY SYSTEMS ORANGE RIVER

WRPM Schematic diagram: Middle Vaal Sub-system with Penalty Structures

B-7

WRP_ P0298_ Orange River Recon_ Graphics_ Fig46.cdr
Last updated: 06/10/2014

LOWER VAAL SUBSYSTEM

RIET/MODDER SUBSYSTEM

USWENTZD

BARBERS

DSWENZD

VHARTS9

SPITS9

DEHOOP9

C3H013

C9H007

KRUG9

RUSTF9

TIER9

KALKF9

TWEE9

AUCH9

UPPER ORANGE SUBSYSTEM

From Vaal System (See Figure B-7)

BLOEMHOF DAM

WENTZEL DUMMY DAM

BARBERSPAN

EWR 16

Barberspan

Wentzel Dam

SWEIZER RENEKE DEMAND

WENTZEL DAM

TAUNG DUMMY DAM

Taung Dam

TAUNG DAM C3R006

Future Urban Use

PART TAUNG

EWR 17

SPITSKOP DUMMY DAM

PART TAUNG AND NORTH CANAL IRRIGATION

HARTU7.ABS

KB CANALS

SPITSKOP DAM

Spitskop Dam

Evaporation Losses = 78.1 Mm³/a

Distribution Losses (127.0)

VAALHARTS WEIR

Vaalharts Weir

KIMBERLEY.DEM

VARIOUS.DEM

DE HOOP WEIR

Operating Losses = 115.35 Mm³/a

VAAL-GAMAGARA

EWR 18 SCHMIDTSDRIFT

To Node 1862 Lower Orange

To Lower Orange (Fig B-12)

To Node 1801 Lower Orange (See Fig B-12)

FROM UPPER ORANGE NODE 1804 (Fig B-10)

Upper Orange Irr. Growth

Losses reach 1b

IRR

DOUGLAS WEIR

THABA'NCHU DEM

THABA'NCHU RETURN FLOWS

GROOTHOEK COMBINATION DAM

MOCKES DUMMY DAM

MOCKES DAM

L/V D/D4

L/V D/D5

L/V D/D6

L/V D/D7

TWEERIVIER WEIR

BLOEMFONTEIN D/C 422

BLOEM.DEM

BLOEM.RET

KRUGERDRIFT DAM

Krug. Urban

KRUGERSDRIFT DUMMY DAM

RUSTFONTEIN DUMMY DAM

RUSTFONTEIN DAM

Managing Demand: 0 million m³/annum

SEE FIGURE B-9 (FROM NODE 1702)

TO NODE 156

BOTSHABELO D/C 419

BOT.DEM

5% Losses

13% Losses

TIERPOORT DUMMY DAM

TIERPOORT DAM

KALKFONTEIN DUMMY DAM

KALKFONTEIN DAM

Kalk Urban

SEE B-9 (FROM WELBEDACHT DAM)

Small Users/ Towns

15% Losses

RICHIE URBAN

ORANGE RIVER TRANSFER

KNOFFELFONTEIN DAM

EWR 19

SPILLS

AUCAMPSHOOP WEIR

FROM NODE 239 (ORANGE-RIET CANAL IRRIGATION (SEE FIGURE B-10)

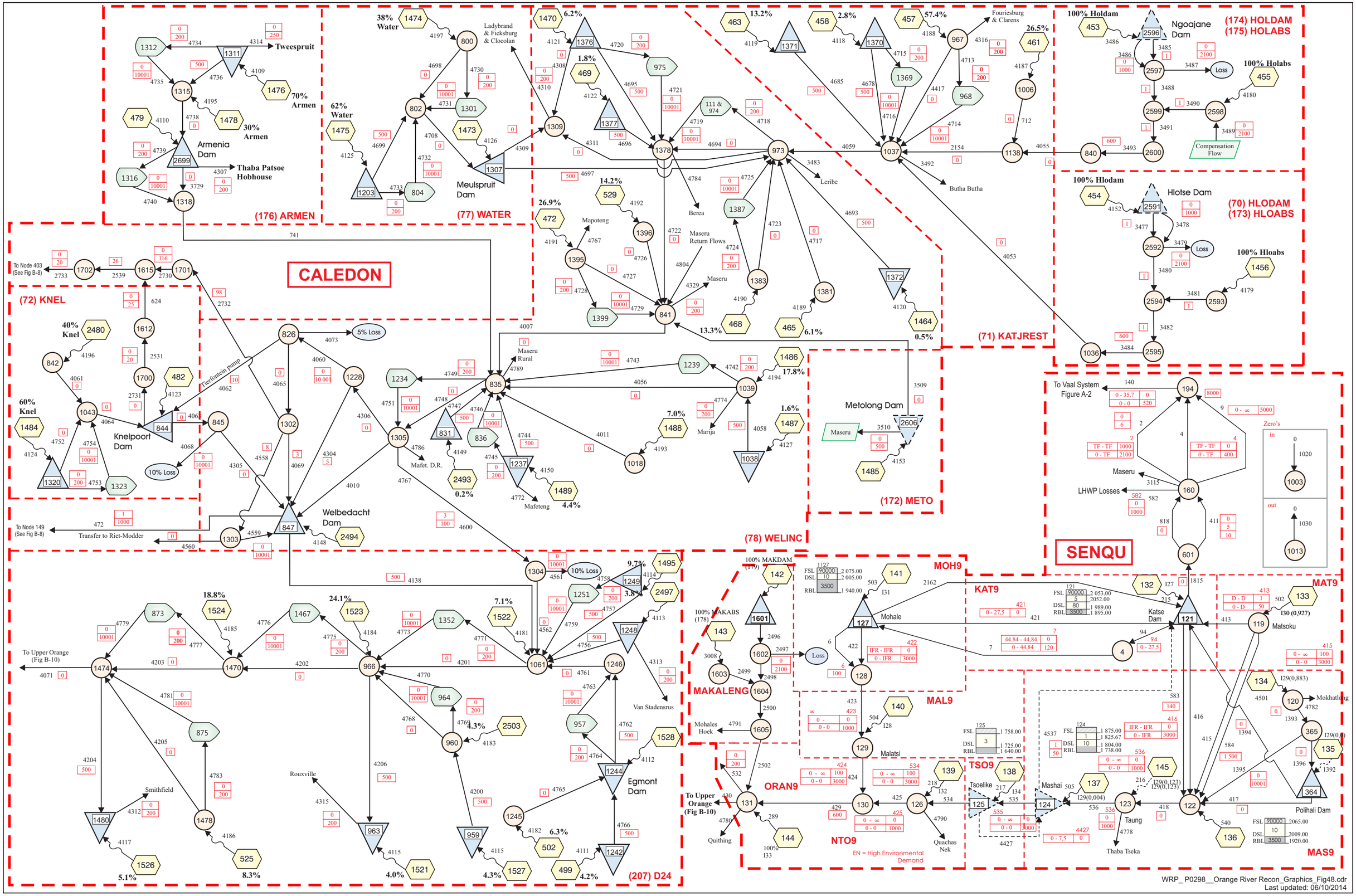
FROM NODE 1770 (SEE FIGURE B-10)

WQ Release for Lower Riet

LEGEND

- Node number
- Reservoir node
- Natural runoff
- Salt Washoff
- Penalty structure
- Wetland modelled within channel reach sub-model
- VAAL94.ABS Specific demands/Return flows
- Reservoir storage penalties
- Total loss node
- Irrigation Block
- Incremental hydrology boundary
- Sub-system boundary
- Controlled demand through

WRP_ P0298__Orange River Recon_Graphics_Fig47.cdr
Last updated: 06/10/2014



DEVELOPMENT OF RECONCILIATION STRATEGIES FOR BULK WATER SUPPLY SYSTEMS ORANGE RIVER

WRPM Schematic Diagram: Senqu and Caledon Sub-system with Penalty Structure

B-9

LEGEND

- Node/Junction sub-model
- Reservoir sub-model
- Channel/River reach sub-model
- Wetland modelled within channel reach sub-model
- Salt washoff sub-model
- Bed losses
- Irrigation block sub-model
- Demand / return flow modelled as min - max channel
- Demand centre sub-model
- Controlled demand through master control channel
- Specified demands/Return flows
- Penalty structure
- Incremental hydrology boundary
- Sub-system boundary

UPPER ORANGE

PKDU9

To Node 481 Riet/ Modder Sub-system (Fig B-8)

To Node 693 Riet/ Modder Sub-system (Fig B-8)

Orange Riet Irrigation

Ramah IRR

Hopetown

To Node 168 Lower Vaal Douglas (See Fig B-8)

Losses Reach 1A

Operating Losses

Resource Poor Upper

Urban Less V stad & Bethulie

Vanderkloof Dam

Molteno Dam

Molteno

Chiappinis Klip

Burgersdorp

JL de Bruin

From Senqu (Fig B-9)

Sterkspruit

Jozanna's Hoek Dam

Zastron & Lady Grey

Boskraai Dam

Aliwal

Aliwal North

From Caledon (Fig A-9)

Resource Poor Kraai

Jamestown

Dordrecht

Rhodes & Barkly East

Venterstad & Oviston

Gariep Dam

Eastern Cape Irrig.

Eastern Cape Urban

Bethulie Dam

Bethulie

D14 (75)

D12 (67)

D13 (74)

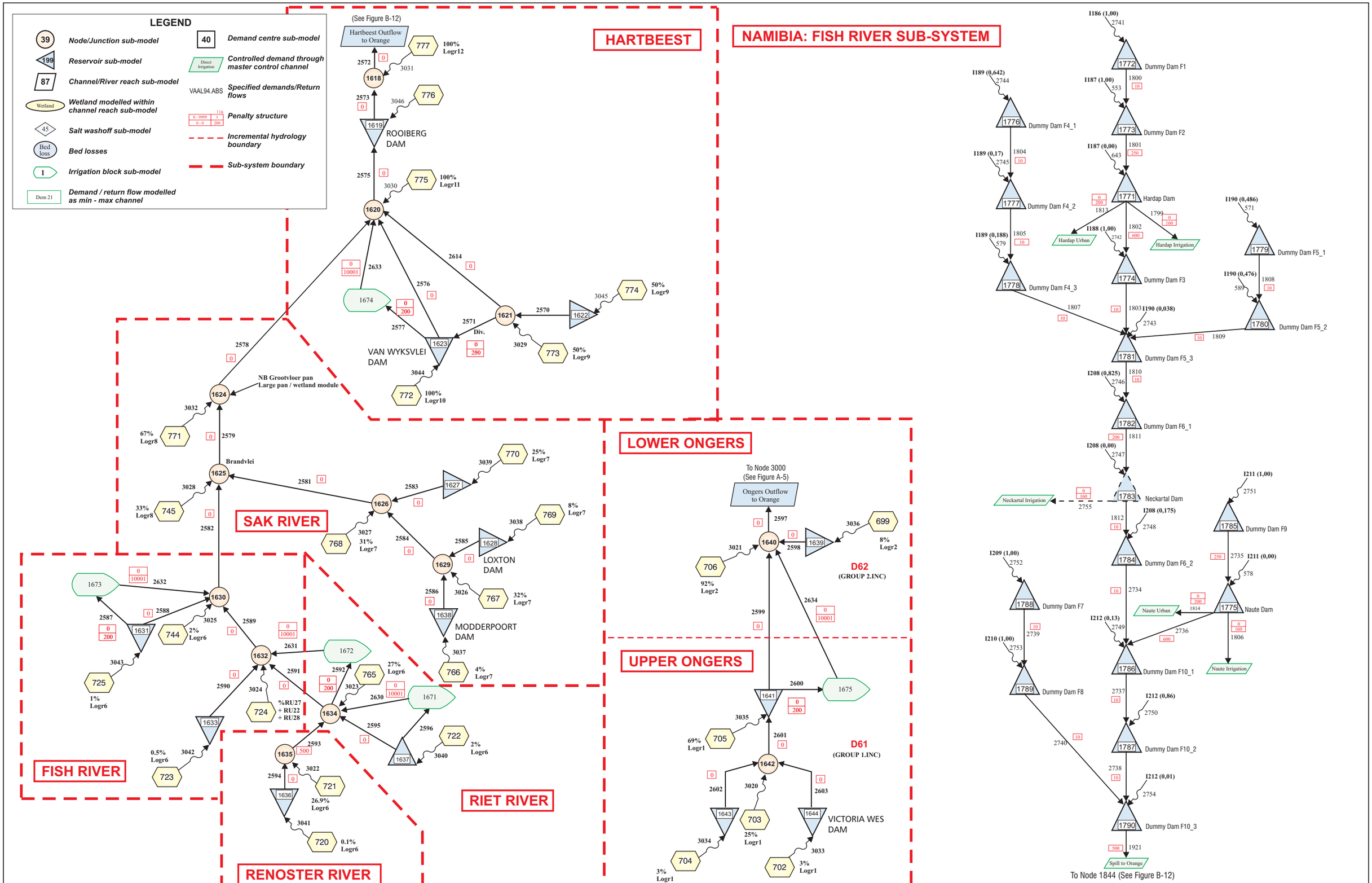
VDK (73)

D35 (69)

DEVELOPMENT OF RECONCILIATION STRATEGIES FOR BULK WATER SUPPLY SYSTEMS ORANGE RIVER

WRPM Schematic Diagram: Upper Orange Sub-system with Penalty Structure

B-10

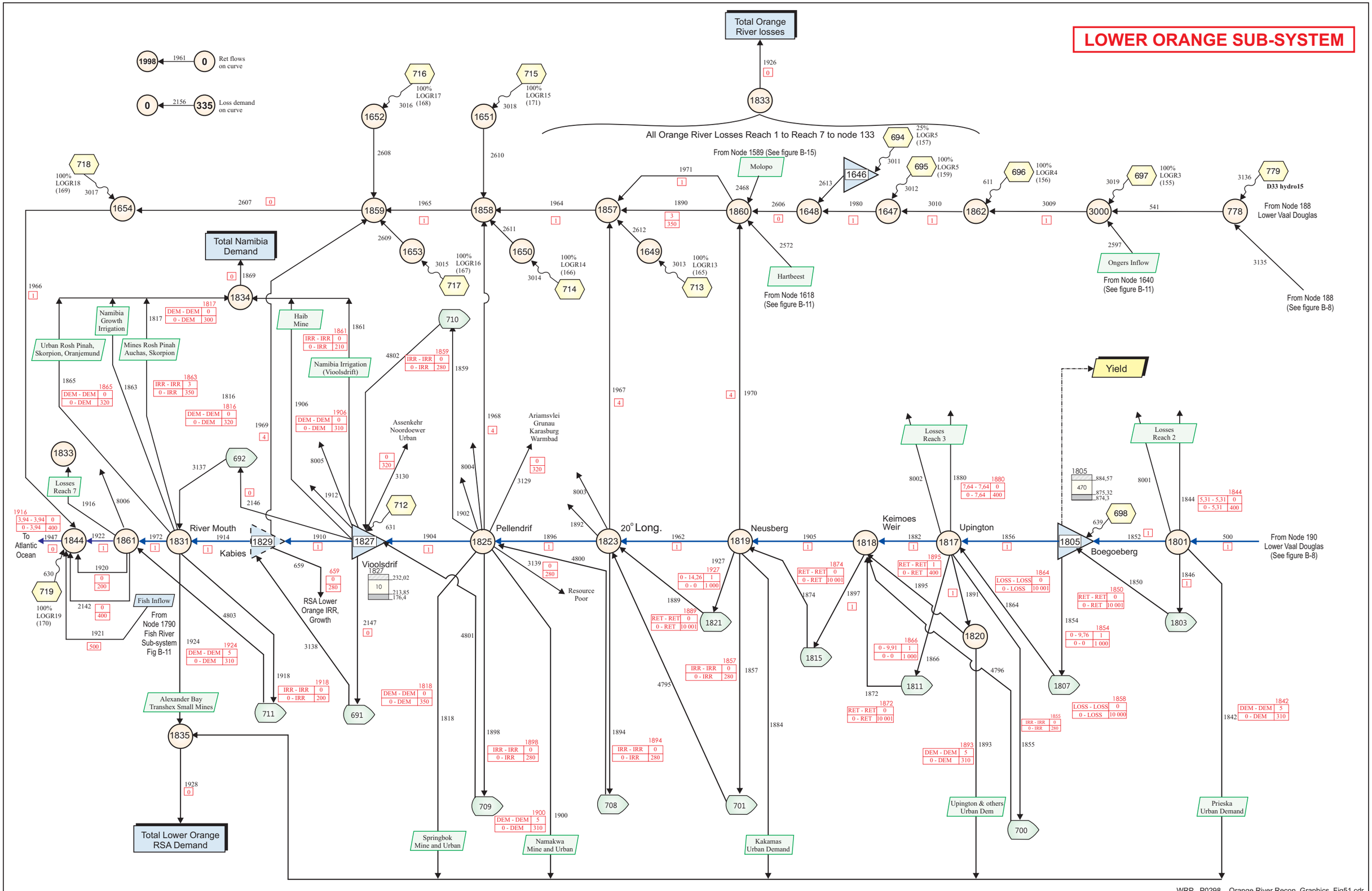


DEVELOPMENT OF RECONCILIATION STRATEGIES FOR BULK WATER SUPPLY SYSTEMS ORANGE RIVER

WRPM Schematic Diagram: Lower Orange tributaries & Fish Sub-system with Penalty Structure

B-11

LOWER ORANGE SUB-SYSTEM

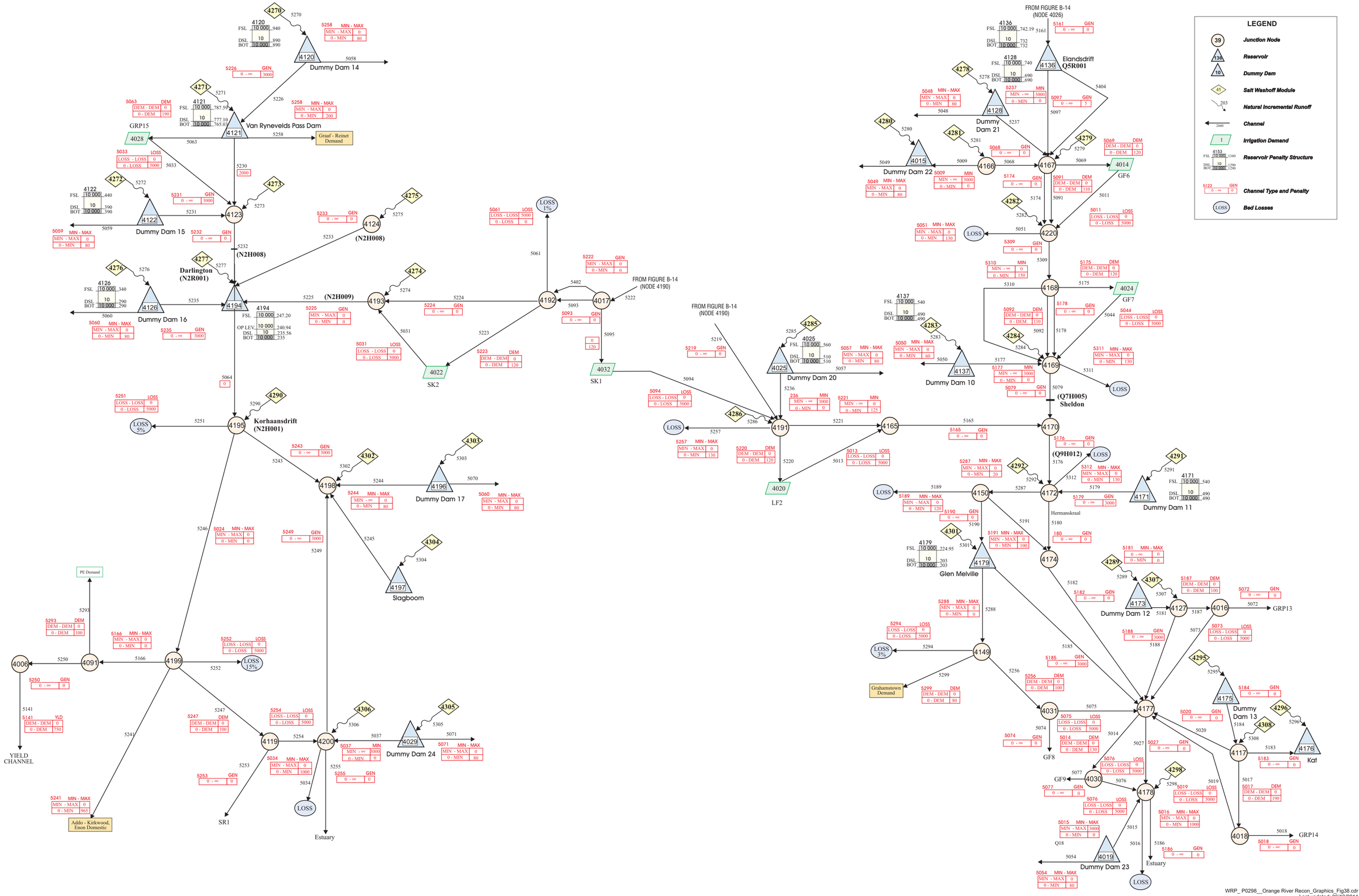


WRP_ P0298__Orange River Recon_Graphics_Fig51.cdr
Last updated: 06/10/2014

DEVELOPMENT OF RECONCILIATION STRATEGIES FOR BULK WATER SUPPLY SYSTEMS ORANGE RIVER

WRPM Schematic Diagram: Lower Orange Sub-system with Penalty Structures

B-12

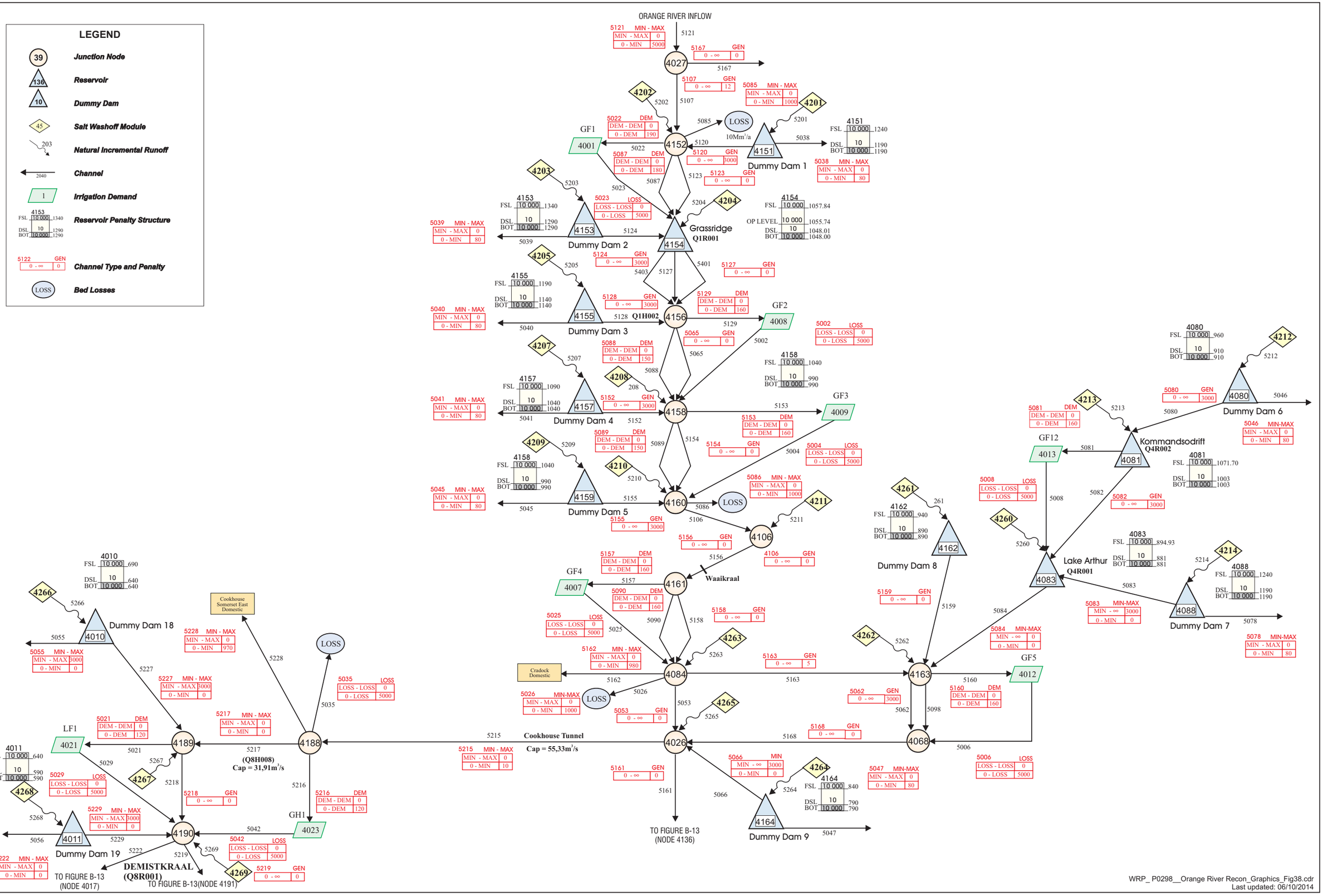


WRP_ P0298__Orange River Recon_Graphics_Fig38.cdr
Last updated: 06/10/2014

DEVELOPMENT OF RECONCILIATION STRATEGIES FOR BULK WATER SUPPLY SYSTEMS ORANGE RIVER

Eastern Cape WRPM System Diagram

B-13

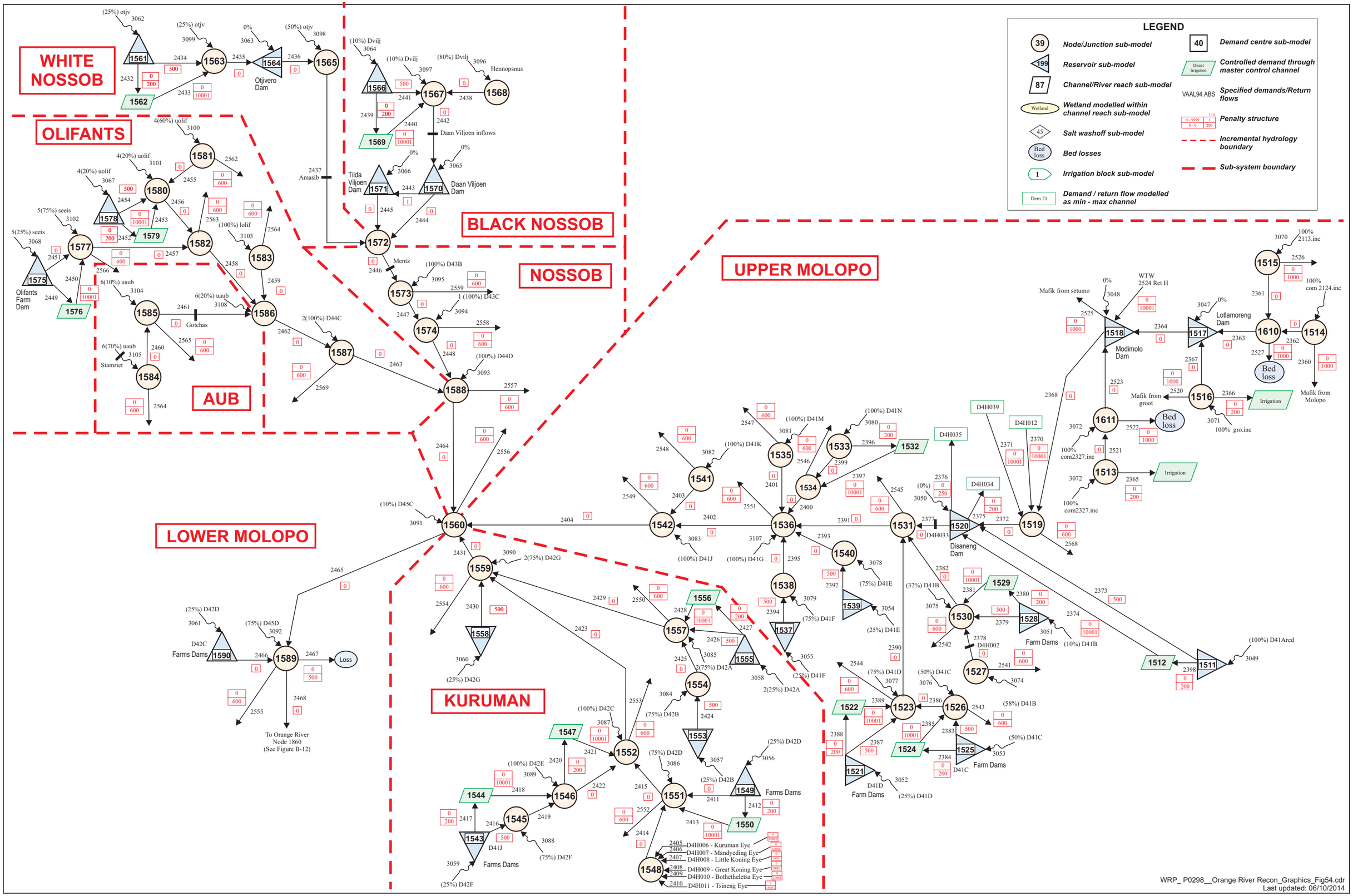


WRP_ P0298__Orange River Recon_Graphics_Fig38.cdr
Last updated: 06/10/2014

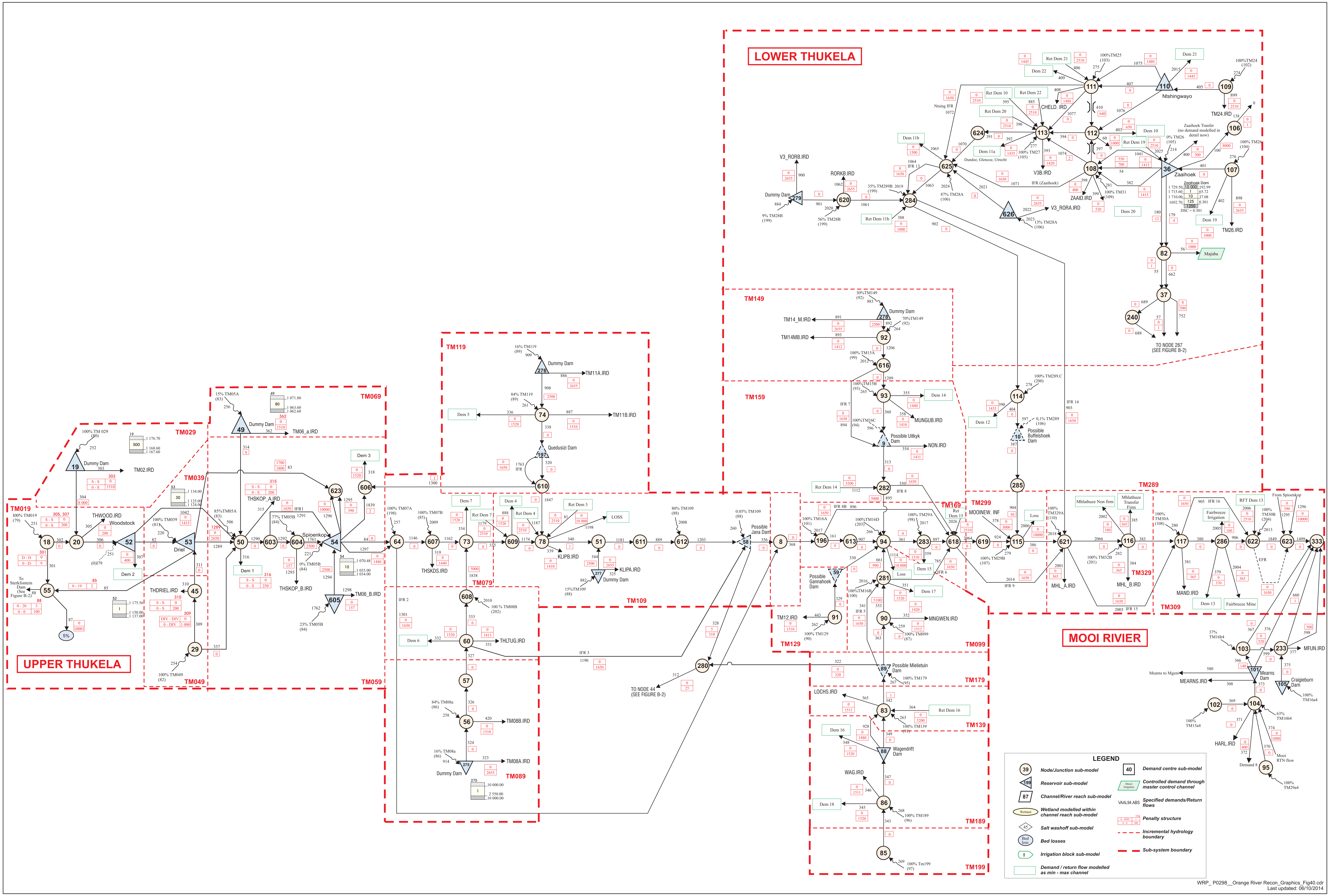
DEVELOPMENT OF RECONCILIATION STRATEGIES FOR BULK WATER SUPPLY SYSTEMS ORANGE RIVER

Eastern Cape WRPM System Diagram

B-14



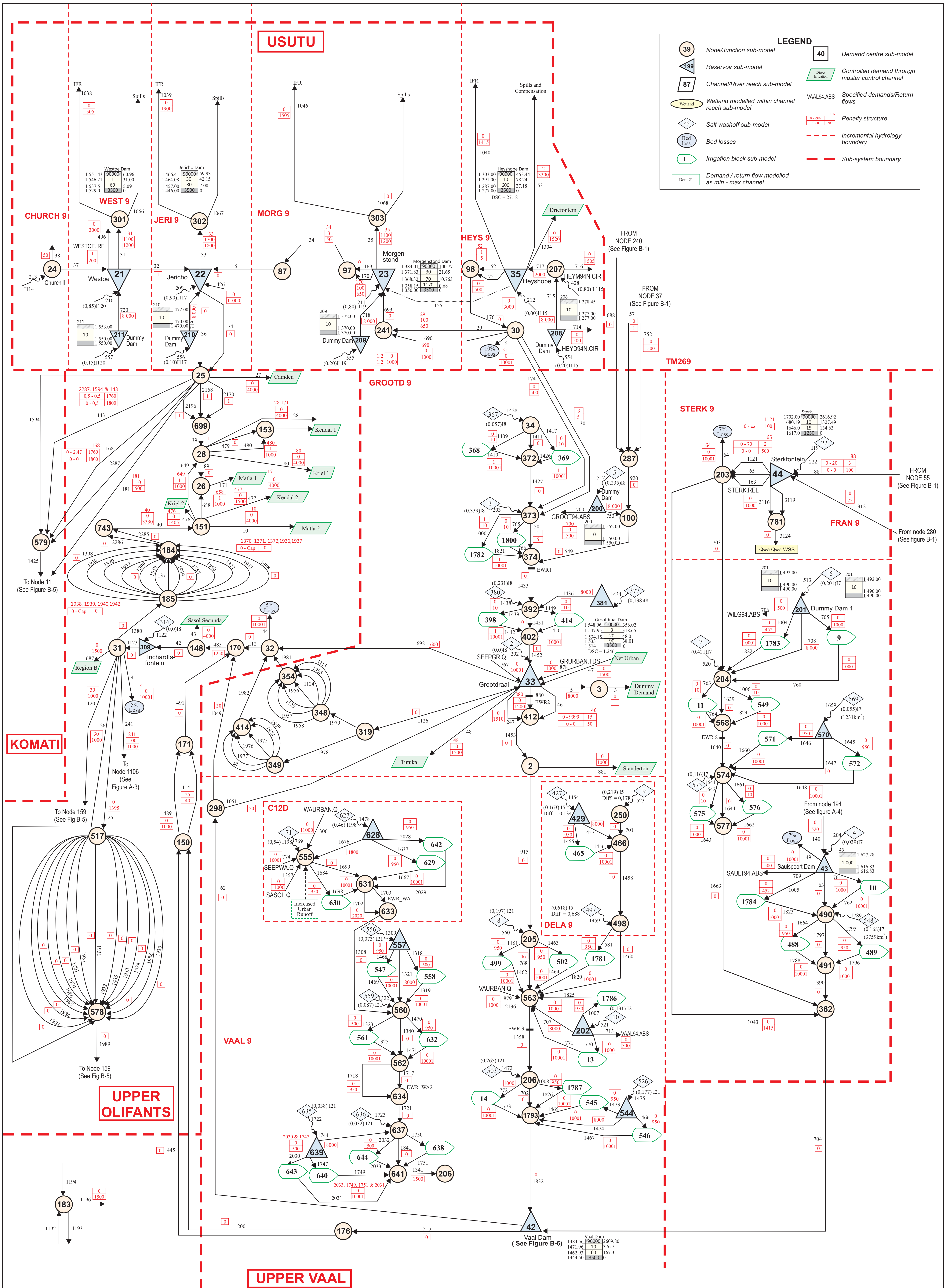
WRP_ P0298__Orange River Recon_Graphics_Fig54.cdr
Last updated: 06/10/2014



DEVELOPMENT OF RECONCILIATION
STRATEGIES FOR BULK WATER SUPPLY SYSTEMS
ORANGE RIVER

WRPM Schematic Diagram: Upper Thukela and Lower Sub-systems

B-1

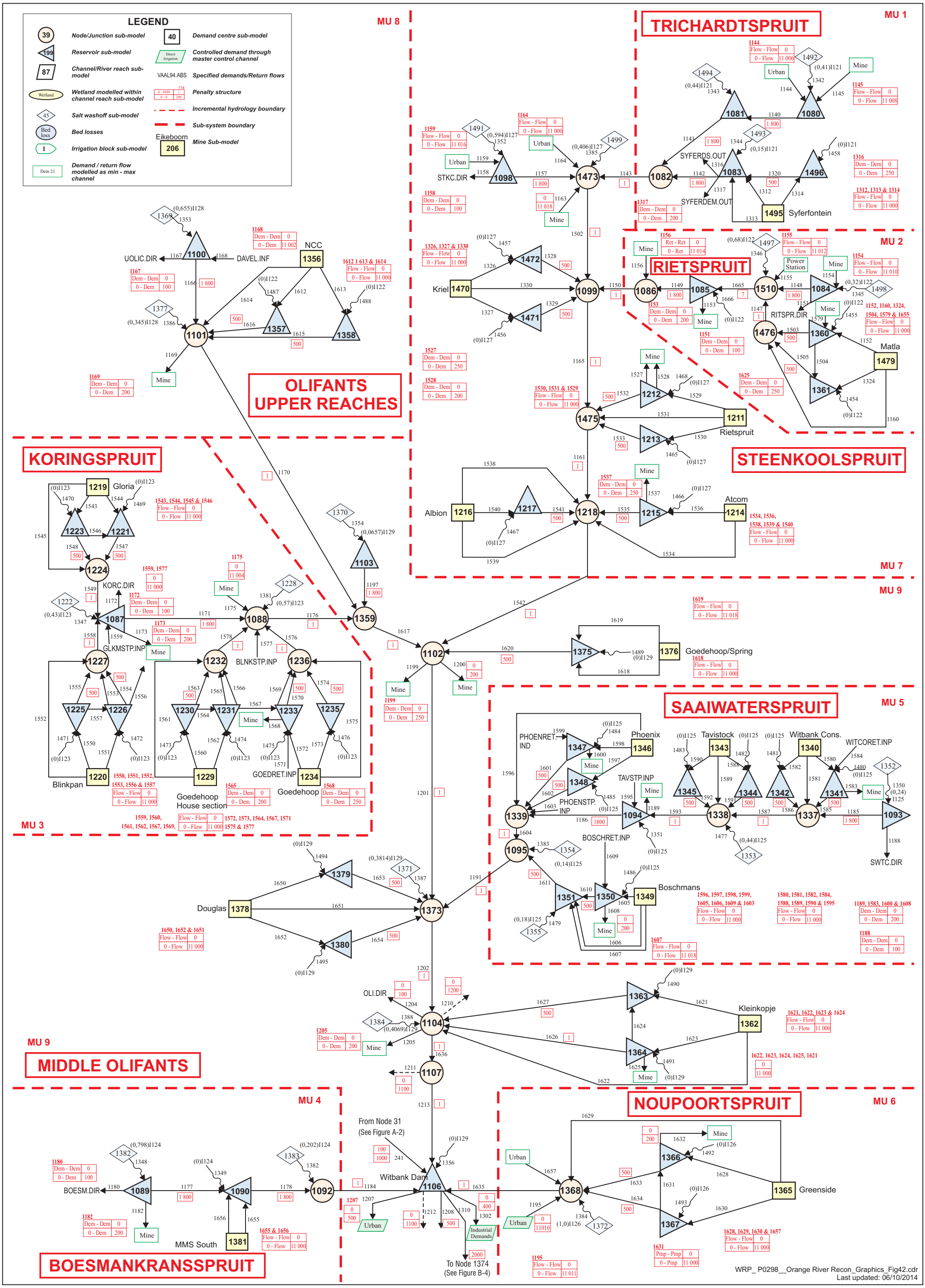


WRP_ P0298__Orange River Recon_Graphics_Fig41.cdr
Last updated: 06/10/2014

DEVELOPMENT OF RECONCILIATION
STRATEGIES FOR BULK WATER SUPPLY SYSTEMS
ORANGE RIVER

WRPM Schematic Diagram:
Upper Olifants, Upper Vaal and Usutu Sub-systems

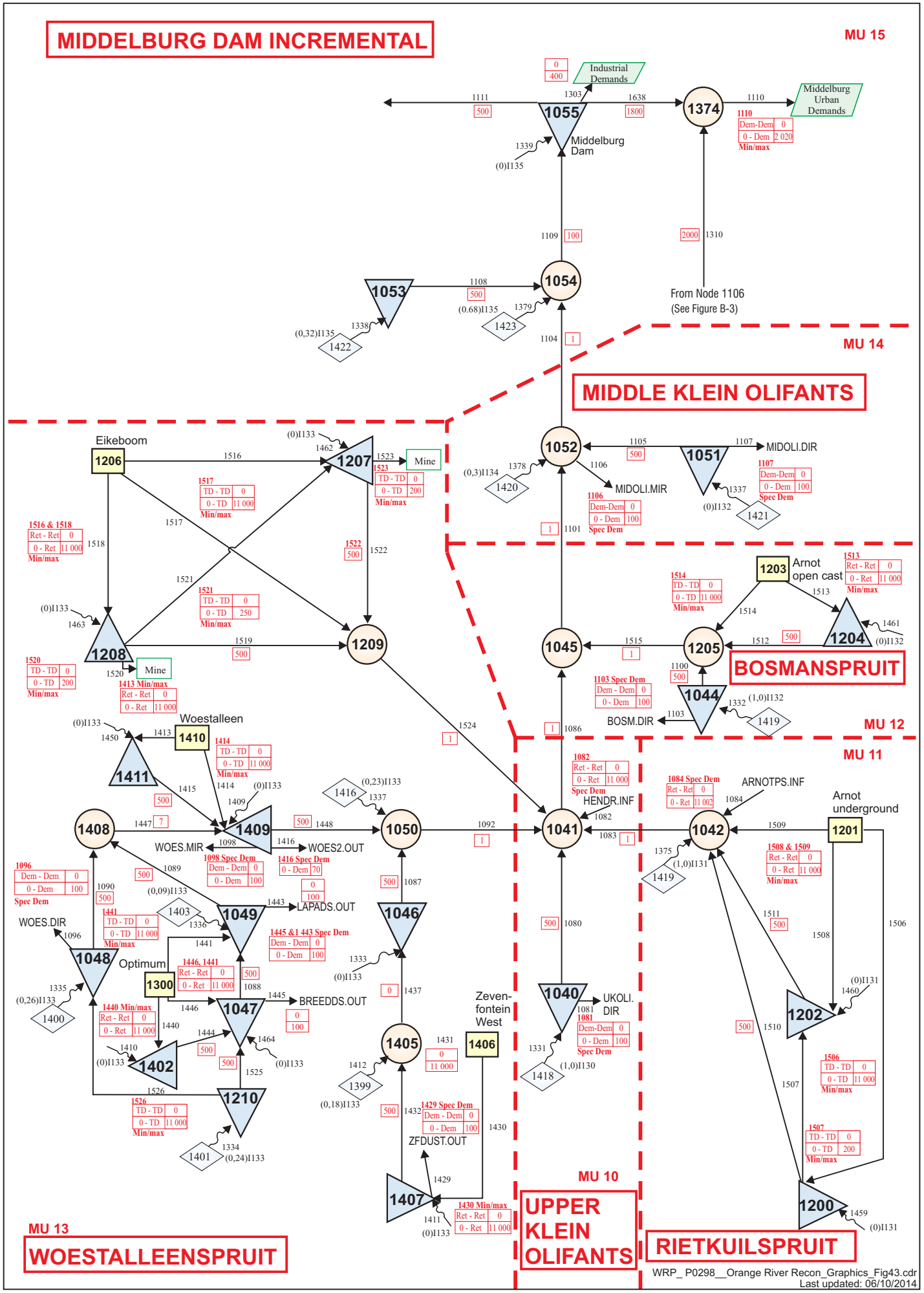
B-2



DEVELOPMENT OF RECONCILIATION STRATEGIES FOR BULK WATER SUPPLY SYSTEMS ORANGE RIVER

WRPM Schematic Diagram: Witbank Dam Sub-system with Penalty Structure

B-3



DEVELOPMENT OF RECONCILIATION STRATEGIES FOR BULK WATER SUPPLY SYSTEMS ORANGE RIVER

WRPM Schematic Diagram: Loskop Dam Incremental Sub-system and Middelburg Dam Sub-system with Penalty Structures

B-4

KOMATI

LEGEND

- Node/Junction sub-model
- Reservoir sub-model
- Channel/River reach sub-model
- Wetland modelled within channel reach sub-model
- Salt washoff sub-model
- Bed losses
- Irrigation block sub-model
- Demand / return flow modelled as min - max channel
- Demand centre sub-model
- Controlled demand through master control channel
- Specified demands/Return flows
- Penalty structure
- Incremental hydrology boundary
- Sub-system boundary
- Mine Sub-model

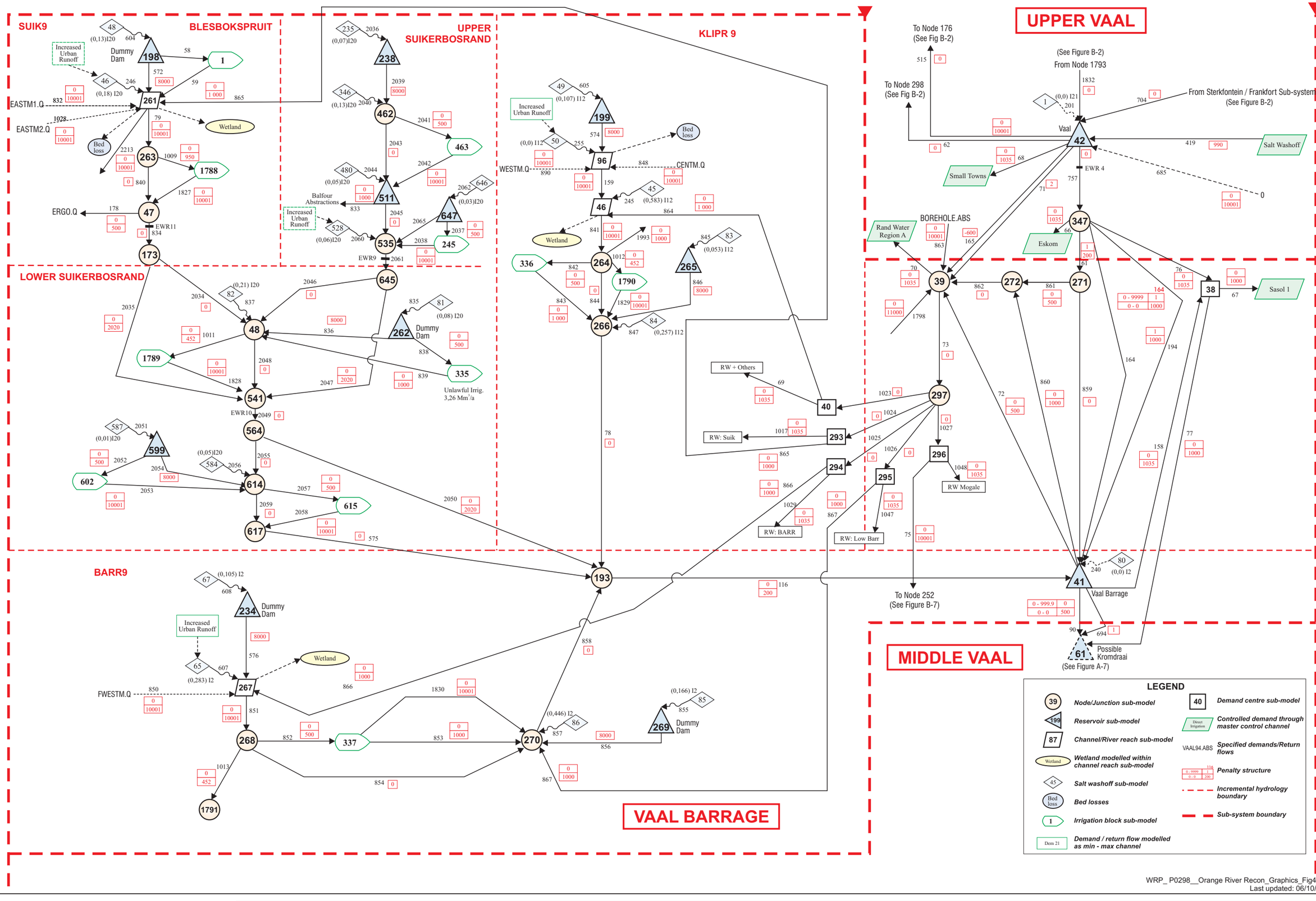
XIIKI
XIIJI
XIIHI
XIIGI
XIIFI
XIIE1
XIIE2
XIIE3
XIID1
XIID2
XIIC1
XIIB2
XIIB1
XIIA1

Vygeboom
Bosloop
Wintershoek
Klipfontein
Nkomati mine abs
Nkomatif.abs
Nooóitgedacht Dam
Carolinf.abs
Arnot U
Arnot E
Hendrina U
Hendrina E
Duvha 2
Duvha 1
Komati
From Node 25 (See figure B-2)
From Node 579
From Node 578 (See Figure B-2)
From Node 31 (See Figure B-2)

DEVELOPMENT OF RECONCILIATION STRATEGIES FOR BULK WATER SUPPLY SYSTEMS ORANGE RIVER

WRPM Schematic Diagram: Komati Sub-systems with Penalty Structures

B-5



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Last updated: 06/10/2014

BOSK 9

KLERK 9

KROMN 3

KLIPDN 3

LAKESN3

C70J

C70K

C70E

C70F

C70H

C70G

C70D

KOP 9

KLIPBN 3

ALLEM 9

ERF 9

C24E

C24D

C24G

C24H

BLOEM N3D

C24F

SAND N3

MIDDLE VAAL

Possible Kromdraai

From Barrage (See Figure B-6)

Return flow from Node 38

Dummy Dam

Klerkskraal Dam

Irrigation

Mine Dewatering

Boskop Dam

Boskret.9

From Node 296 (See Figure B-6)

Potchefstroom.Dam

Potch Increase 1

POTCHRET.Q

Lakeside Dam

Voorspoed

Renoster

Rietfontein Dam

Viljoenskroon

Koppies Dam

Koppies

Return Flow from Heilbron

Small towns

Midvaal WC Vaalreefs

To Node 520 (Klerksdorp WWTW)

Mine Dewatering

MINEW.Q

Dummy Dam

Sedibeng

Bloemhof

To Lower Vaal

To Figure B-8 (node-66)

KLIPRET.Q

Klipdrift

Dummy Dam

Possible Klipbank

KROONS.DEM

KROONS. Q

Serfontein

Allemanskraal

Dummy Dam

SEEPVET.Q

WELKOM.Q

TAILWAT.Q

Erfenis

Dummy Dam

Eyecurf.flo Schoonspruit eye outflow

Wetland losses

Kalkdam

IFR Site 1

IFR Site 2

IFR Site 3

IFR Site 4

Min max Ventersdorp return flow

Ventersdorp abstraction

Elandskuil

Canal 1

Canal 2

Canal 3

Canal 4

Rietspruit Dam

Dummy Dam

Dummy Dam

Dummy Dam

Dummy Dam

Dummy Dam

Dummy Dam

Dummy Dam

Dummy Dam

Johan Neser

Wetland demand

Wetland lag

51% d/s IFR 3

80% d/s IFR 2

60% d/s IFR 4

Klerksdorp WWTW

From Node 84

Irrigation

Small Urban Ventersdorp abstraction

To make natural flow from eye which is used as reference flow for IFR 1

LEGEND

- Node/Junction sub-model
- Reservoir sub-model
- Channel/River reach sub-model
- Wetland modelled within channel reach sub-model
- Salt washoff sub-model
- Bed losses
- Irrigation block sub-model
- Demand / return flow modelled as min - max channel
- Demand centre sub-model
- Controlled demand through master control channel
- Specified demands/Return flows
- Penalty structure
- Incremental hydrology boundary
- Sub-system boundary

DEVELOPMENT OF RECONCILIATION STRATEGIES FOR BULK WATER SUPPLY SYSTEMS ORANGE RIVER

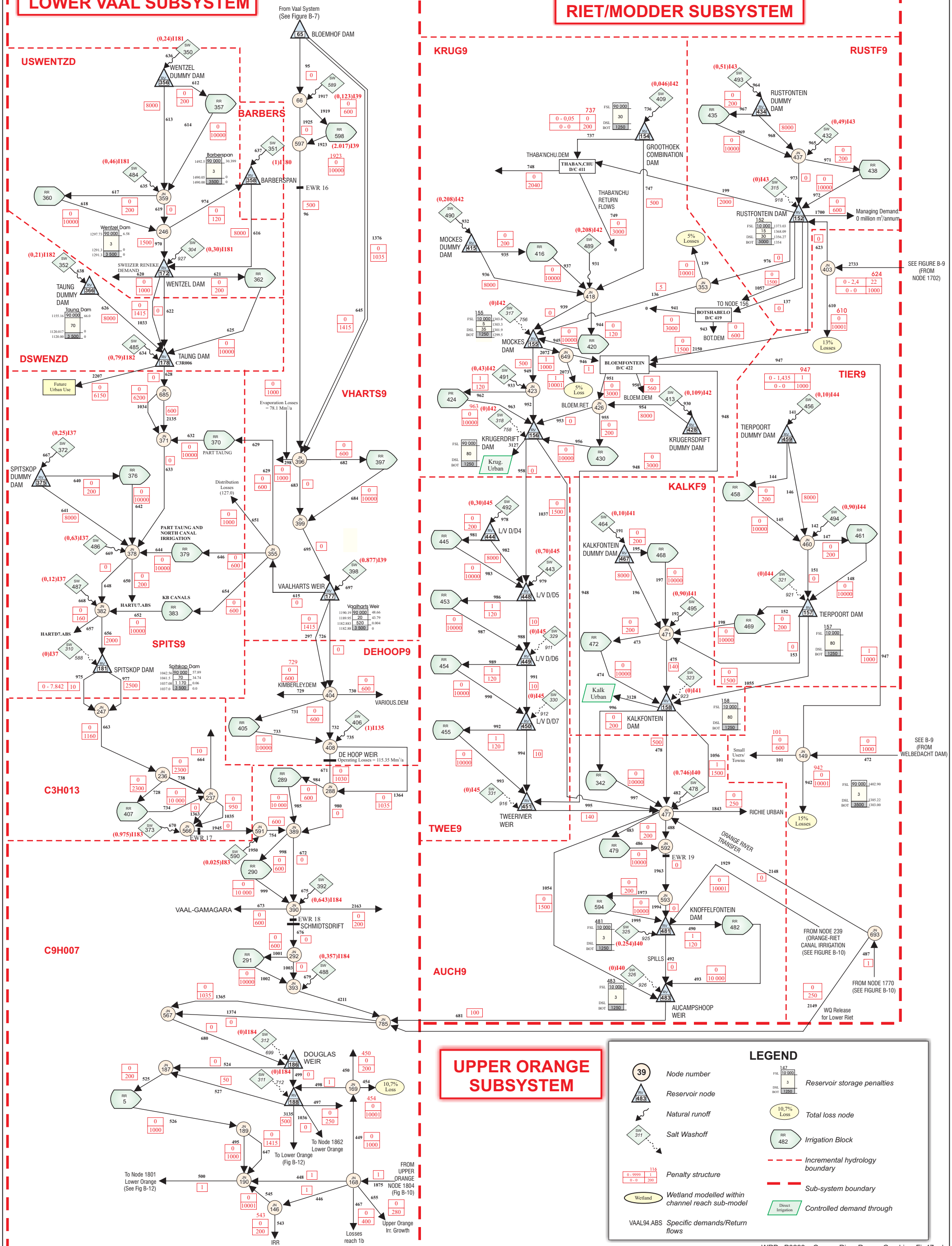
WRPM Schematic diagram: Middle Vaal Sub-system with Penalty Structures

B-7

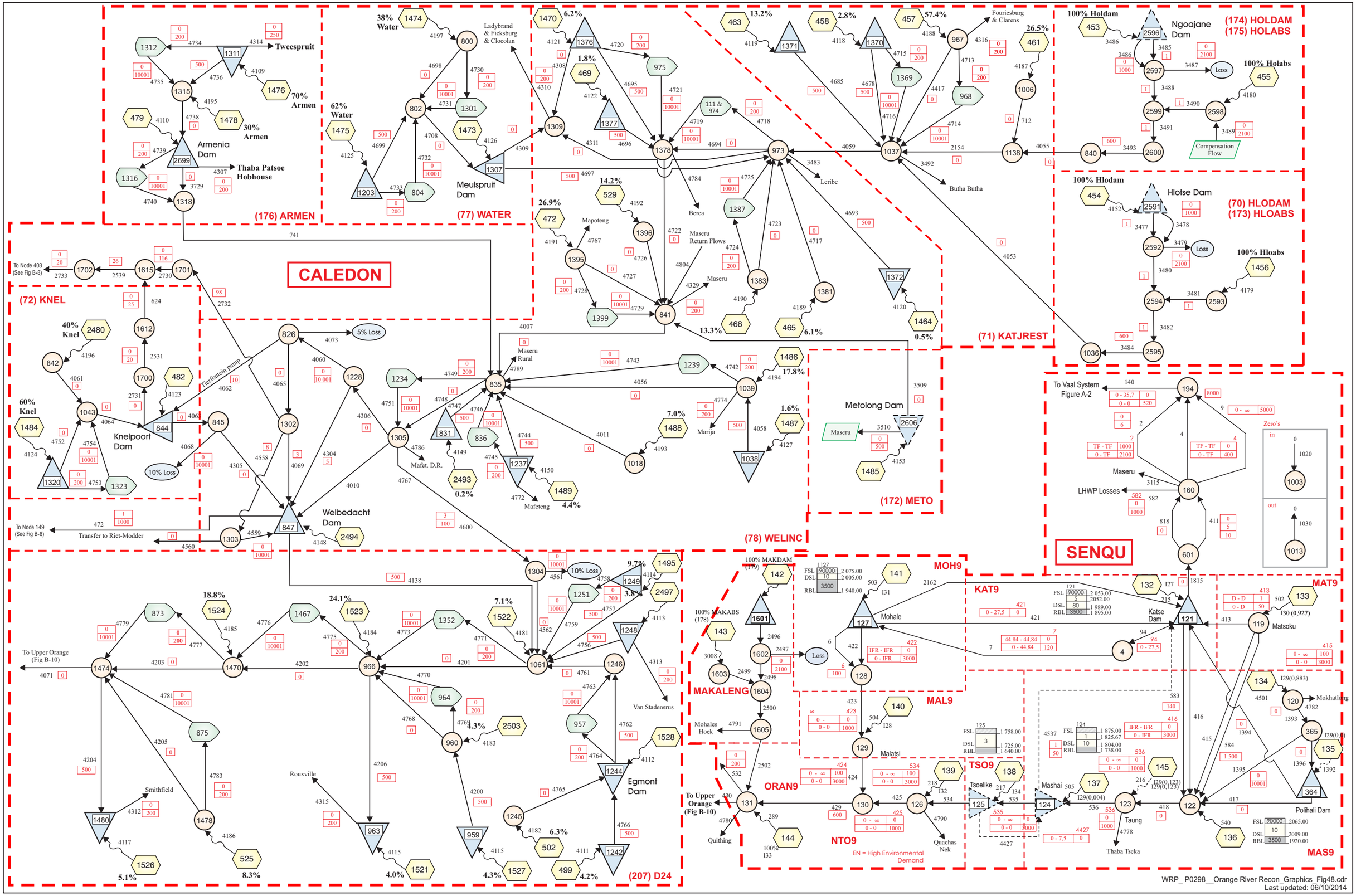
WRP_ P0298_ Orange River Recon_ Graphics_ Fig46.cdr
Last updated: 06/10/2014

LOWER VAAL SUBSYSTEM

RIET/MODDER SUBSYSTEM



WRP_ P0298__Orange River Recon_Graphics_Fig47.cdr
Last updated: 06/10/2014


CALEDON
(176) ARMEN
(77) WATER
(174) HOLDAM
(175) HOLABS
(70) HLODAM
(173) HLOABS
(71) KATJREST
(72) KNEL
(172) METO
(78) WELINC
SENQU
(207) D24
MOH9
KAT9
MAT9
MAL9
TSO9
ORAN9
NTO9
MAS9
Armenia Dam
Thaba Patsoe Hobhouse
Tweespruit
70% Armen
30% Armen
62% Water
38% Water
Ladybrand & Ficksburg & Clocolan
Meulspruit Dam
1.8%
6.2%
13.2%
2.8%
57.4%
26.5%
Fouriesburg & Clarens
Ngoajane Dam
100% Holdam
100% Holabs
Hlotse Dam
100% Hlodam
100% Hloabs
Leribe
Butha Butha
Berea
Maseru Return Flows
Maseru
Maseru Rural
Mapoteng
14.2%
26.9%
13.3%
6.1%
0.5%
Tierfontein pump
40% Knel
60% Knel
Knelpoort Dam
10% Loss
5% Loss
Welbedacht Dam
Mafet. D.R.
Mafeteng
0.2%
4.4%
7.0%
17.8%
1.6%
Marija
Metolong Dam
To Node 403 (See Fig B-8)
To Node 149 (See Fig B-8)
Transfer to Riet-Modder
To Vaal System Figure A-2
Zero's
LHWP Losses
Compensation Flow
To Upper Orange (Fig B-10)
Van Stadensrus
Egmont Dam
Smithfield
Rouxville
Quithing
Quachas Nek
Thaba Tseka
Polihali Dam
Mohale
Katse Dam
Matsoku
Mokhatlong
Malatsi
Tsoelike
Mashai
Taung
Marija
Mohales Hock
MAKALENG
100% MAKABS (178)
100% MAKDAM (179)
EN = High Environmental Demand
WRP_ P0298__Orange River Recon_Graphics_Fig48.cdr
Last updated: 06/10/2014
DEVELOPMENT OF RECONCILIATION STRATEGIES FOR BULK WATER SUPPLY SYSTEMS ORANGE RIVER
WRPM Schematic Diagram: Senqu and Caledon Sub-system with Penalty Structure
B-9

LEGEND

- Node/Junction sub-model
- Reservoir sub-model
- Channel/River reach sub-model
- Wetland modelled within channel reach sub-model
- Salt washoff sub-model
- Bed losses
- Irrigation block sub-model
- Demand / return flow modelled as min - max channel
- Demand centre sub-model
- Controlled demand through master control channel
- Specified demands/Return flows
- Penalty structure
- Incremental hydrology boundary
- Sub-system boundary

UPPER ORANGE

PKDU9

To Node 481 Riet/ Modder Sub-system (Fig B-8)

To Node 693 Riet/ Modder Sub-system (Fig B-8)

Orange Riet Irrigation

Ramah IRR

Hopetown

To Node 168 Lower Vaal Douglas (See Fig B-8)

Losses Reach 1A

Operating Losses

Resource Poor Upper

Urban Less V stad & Bethulie

Vanderkloof Dam

Molteno Dam

Molteno

Chiappinis Klip

Burgersdorp

JL de Bruin

From Senqu (Fig B-9)

Sterkspruit

Jozanna's Hoek Dam

Zastron & Lady Grey

Boskraai Dam

Aliwal

Aliwal North

From Caledon (Fig A-9)

Resource Poor Kraai

Jamestown

Dordrecht

Rhodes & Barkly East

Venterstad & Oviston

Gariep Dam

Eastern Cape Irrig.

Eastern Cape Urban

Bethulie Dam

Bethulie

D14 (75)

D12 (67)

D13 (74)

VDK (73)

D35 (69)

DEVELOPMENT OF RECONCILIATION STRATEGIES FOR BULK WATER SUPPLY SYSTEMS ORANGE RIVER

WRPM Schematic Diagram: Upper Orange Sub-system with Penalty Structure

LEGEND

- 39 — Node/Junction sub-model
- 199 — Reservoir sub-model
- 87 — Channel/River reach sub-model
- Wetland — Wetland modelled within channel reach sub-model
- 45 — Salt washoff sub-model
- Bed loss — Bed losses
- 1 — Irrigation block sub-model
- Dem 21 — Demand / return flow modelled as min - max channel
- 40 — Demand centre sub-model
- Direct Irrigation — Controlled demand through master control channel
- VAAL94.ABS — Specified demands/Return flows
- 116 | 0 - 9999 | 1 | 0 - 0 | 200 — Penalty structure
- Incremental hydrology boundary
- Sub-system boundary

HARTBEEST

(See Figure B-12)
Hartbeest Outflow to Orange
777 100% Logr12
2572 0 3031
1618
2573 0
776 3046
1619 ROOIBERG DAM
2575 0 3030
775 100% Logr11
1620
0 10001 2633
2614 0
2576 0
1674 0 200
2577
1621
2570
1622 3045 774 50% Logr9
2571 Div.
1623 VAN WYKSVLEI DAM 0 280
3029 773 50% Logr9
3044 772 100% Logr10

SAK RIVER

2578 0
NB Grootvloer pan Large pan / wetland module
1624
3032 67% Logr8 771 0 2579
Brandvlei
1625
3028 33% Logr8 745 0 2582
2581 0
1626
2583 0
1627 3039 770 25% Logr7
3027 31% Logr7 768
2584 0
2585
1628 3038 769 8% Logr7
1629 LOXTON DAM
2586 0 3026 767 32% Logr7
1638 MODDERPOORT DAM
3037 766 4% Logr7

FISH RIVER

1673 0 10001 2632
1630
2587 0 200 1631 2588 744 2% Logr6 3025 2589
3043 725 1% Logr6
0 10001
2631
1632
2590 0 3024 724 %RU27 + RU22 + RU28
1672
2592 0 200 765 27% Logr6 3023
2591 0
0 10001 1671
2630
1634
2595 0
1633
0.5% Logr6 3042 723
2596 722 2% Logr6 3040
1637

RENOSTER RIVER

2593 500
1635
3022 721 26.9% Logr6
2594 0
1636
3041 720 0.1% Logr6

RIET RIVER

LOWER ONGERS

To Node 3000 (See Figure A-5)
Ongers Outflow to Orange
0 2597
1640
3021 706 92% Logr2
0 2598 1639 3036 699 8% Logr2
D62 (GROUP 2.INC)
2599 0
2634 0 10001

UPPER ONGERS

1641
2600 1675
0 200
3035 705 69% Logr1
2601 0
1642
D61 (GROUP 1.INC)
0 2602 3020 2603 0
1643 703 25% Logr1 1644 VICTORIA WES DAM
3034 704 3% Logr1
3033 702 3% Logr1

NAMIBIA: FISH RIVER SUB-SYSTEM

I186 (1,00) 2741
1772 Dummy Dam F1
I189 (0,642) 2744
1776 Dummy Dam F4_1
I187 (1,00) 553 1800 10
1773 Dummy Dam F2
I189 (0,17) 2745 1804 10
1777 Dummy Dam F4_2
I187 (0,00) 643 1801 250
1771 Hardap Dam
0 200 1813
1799 0 160
Hardap Urban
Hardap Irrigation
I189 (0,188) 579 1805 10
1778 Dummy Dam F4_3
I188 (1,00) 2742 1802 600
1774 Dummy Dam F3
I190 (0,486) 571
1779 Dummy Dam F5_1
I190 (0,476) 589 1808 10
1780 Dummy Dam F5_2
1807 10
10 1803 I190 (0,038) 2743
1809 10
1781 Dummy Dam F5_3
I208 (0,825) 2746 1810 10
1782 Dummy Dam F6_1
200 1811
I208 (0,00) 2747
1783 Neckartal Dam
I211 (1,00) 2751
Neckartal Irrigation 0 160 2755
I208 (0,175) 1812 10 2748
1785 Dummy Dam F9
1784 Dummy Dam F6_2
I209 (1,00) 2752
250 2735 I211 (0,00) 578
1788 Dummy Dam F7
10 2734
Naute Urban 0 200 1814
I212 (0,13) 2749
1775 Naute Dam
10 2739
I210 (1,00) 2753
2736 600
1786 Dummy Dam F10_1
0 160 1806
Naute Irrigation
1789 Dummy Dam F8
2737 10
I212 (0,86) 2750
2740 10
1787 Dummy Dam F10_2
2738 10
I212 (0,01) 2754
1790 Dummy Dam F10_3
500 1921
Spill to Orange
To Node 1844 (See Figure B-12)

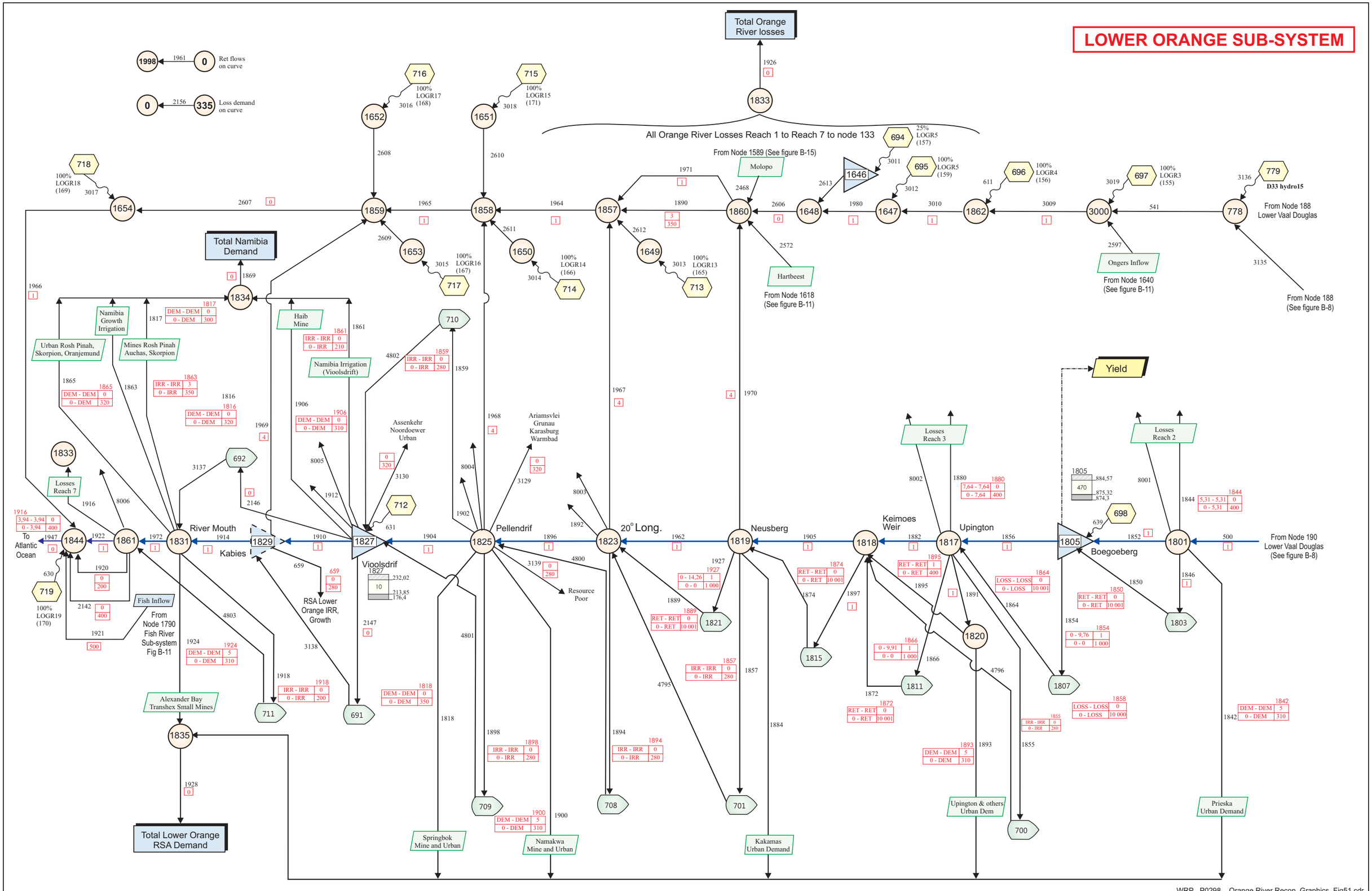
WRP_ P0298__Orange River Recon_Graphics_Fig50.cdr
Last updated: 06/10/2014

DEVELOPMENT OF RECONCILIATION STRATEGIES FOR BULK WATER SUPPLY SYSTEMS ORANGE RIVER

WRPM Schematic Diagram:
Lower Orange tributaries & Fish Sub-system with Penalty Structure

B-11

LOWER ORANGE SUB-SYSTEM

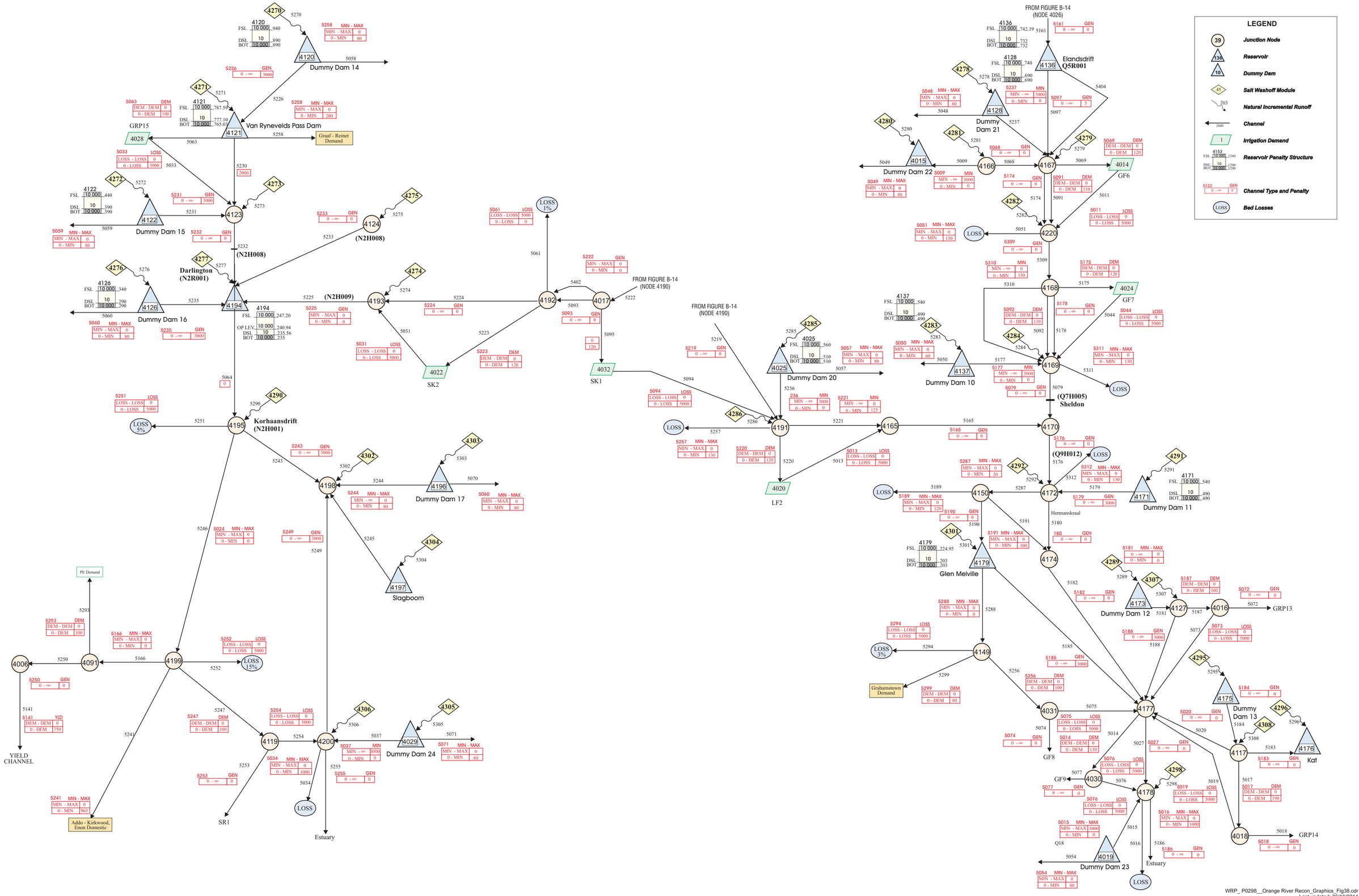


WRP_ P0298__Orange River Recon_Graphics_Fig51.cdr
Last updated: 06/10/2014

DEVELOPMENT OF RECONCILIATION STRATEGIES FOR BULK WATER SUPPLY SYSTEMS ORANGE RIVER

WRPM Schematic Diagram: Lower Orange Sub-system with Penalty Structures

B-12



WRP_ P0298__Orange River Recon_Graphics_Fig38.cdr
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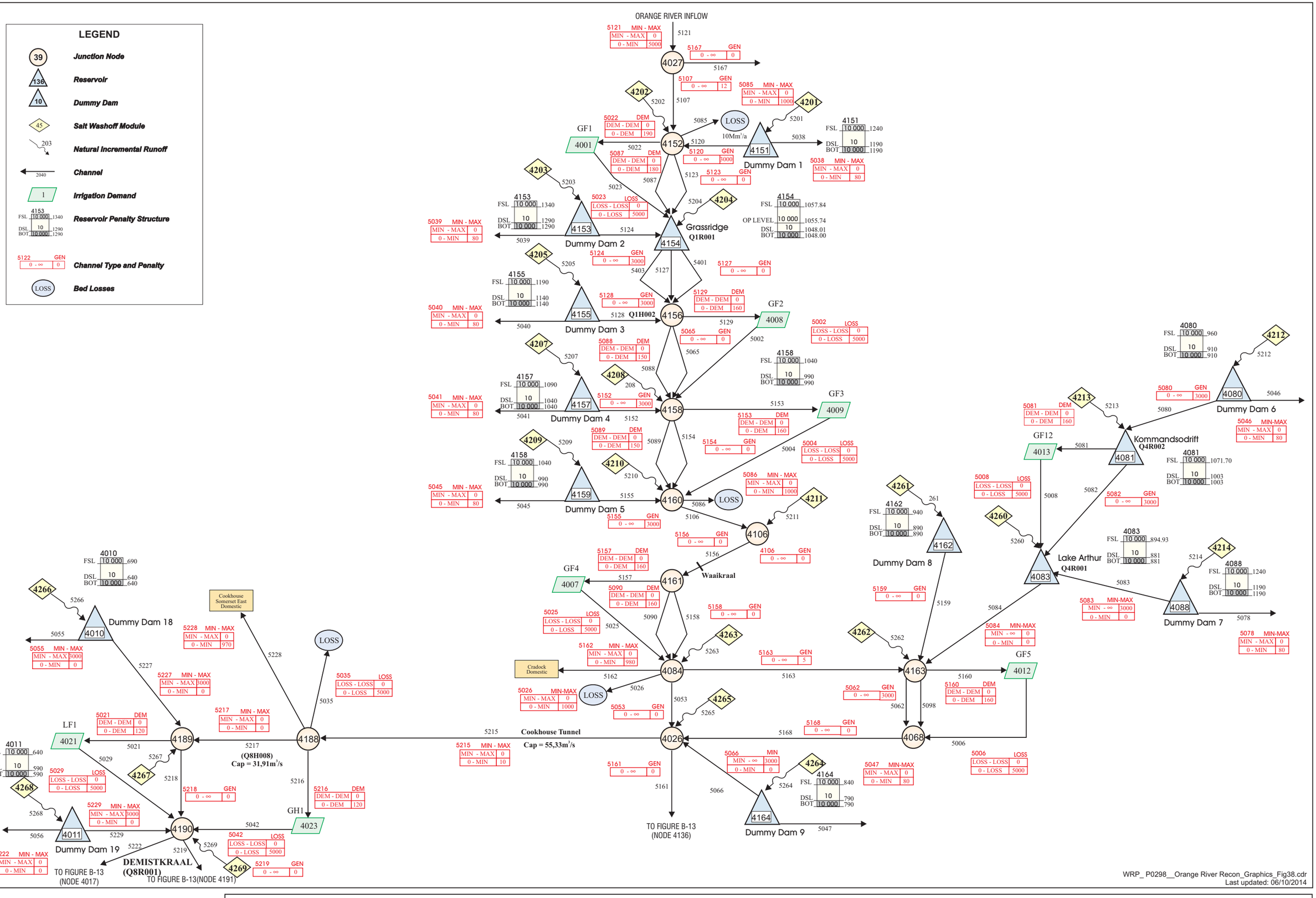
DEVELOPMENT OF RECONCILIATION STRATEGIES FOR BULK WATER SUPPLY SYSTEMS ORANGE RIVER

Eastern Cape WRPM System Diagram

B-13

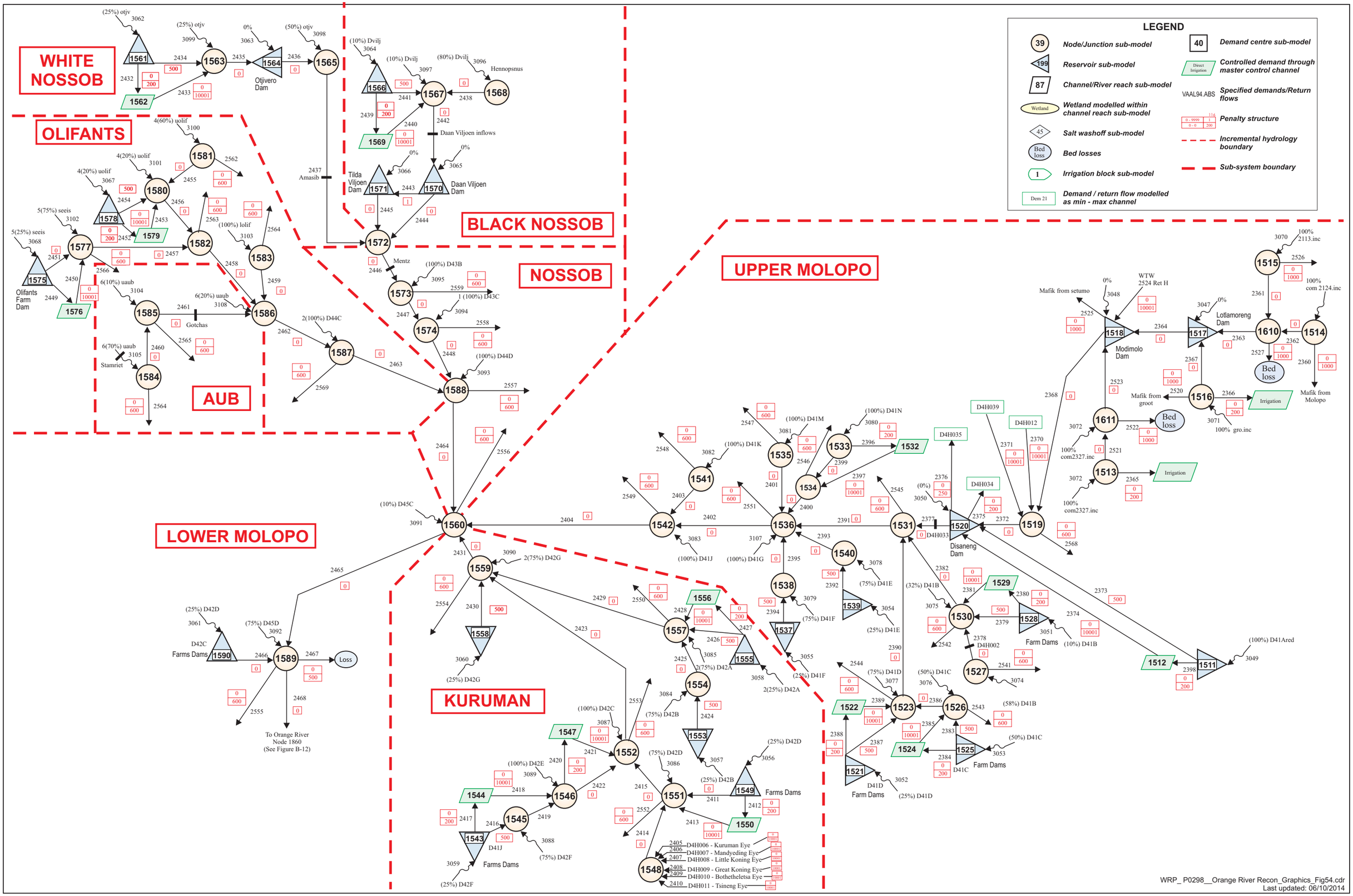


WRP_ P0298__Orange River Recon_Graphics_Fig38.cdr
Last updated: 06/10/2014

DEVELOPMENT OF RECONCILIATION STRATEGIES FOR BULK WATER SUPPLY SYSTEMS ORANGE RIVER

Eastern Cape WRPM System Diagram

B-14



WRP_ P0298__Orange River Recon_Graphics_Fig54.cdr
Last updated: 06/10/2014

DEVELOPMENT OF RECONCILIATION STRATEGIES FOR BULK WATER SUPPLY SYSTEMS ORANGE RIVER

WRPM Schematic Diagram: Molopo Sub-system with Penalty Structure

B-15