7.5.1 Study Area K – Waterford and South Tipperary

Study Area K – Waterford and South Tipperary	
No. of WRZs	SAK lies within the counties of Limerick, Tipperary, Waterford, Kilkenny, Laois, Cork and Wexford, covering an area of approximately 5,060 km^2. The population of the Study Area is approximately 214,980.
75	The principal settlements (with a population of over 10,000) are Waterford City, Clonmel, and Tramore.

Current Supply System					
WTPs	**No.**	**Water Source Type**	**No.**	**Supply Deficit**	**m^3/day**
Existing WTP	99	Groundwater	84	DYCP 2019	43,900
High Risk WTP	80	Surface Water	26	DYCP 2044	58,440

Preferred Approach Summary					
Number of WTPs	**No.**	**GW Abstractions**	**No.**	**SW Abstractions**	**No.**
Upgrade (WQ only)	40	Increase	12	Increase	0
Upgrade (Capacity & WQ)	13	Maintain	30	Maintain	20
Decommission	46	Decommission	42	Decommission	6
New	6	New	7	New	3

The Preferred Approach (PA) for SAK consists of 27 local WRZ Options and 8 SA Grouped Options that involve interconnections between one or more supplies, reducing the total number of WRZs from 75 to 33. The SA Grouped Options include:

- Two Options involving new surface water abstractions from the River Suir:
    - Option SAK-983 - Develops a new WTP at Barnes and interconnects Templetney / Brackford Bridge and Ardfinnan Regional WRZs to Clonmel WRZ. Tullahea, Kilcask, Ahenny and Ballinver WRZs are rationalised to Templetney / Brackford Bridge; and Russelstown, Glenagad, Poulavanogue (Waterford) and Kilmanahan are rationalised directly to Clonmel WRZ.
    - Option SAK-949 - Nine (9) WRZs are rationalised to the East Waterford Water Supply System - Ballyogarty, Kilmacthomas, Faha, Smoore, Fews, Kill/Ballylaneen, Scrahan, Dunhill - Cois Coille and Dunhill Ballinageeragh.
- Four Options with new and/or increased groundwater abstractions:
    - Option SAK-973 - Increased groundwater abstraction feeding Deerpark WTP and a new groundwater source to supply Cappoquin WTP. Four WRZs are rationalised to Lismore / Cappoquin / Ballyduff (LCB) WRZ - Ballysaggart, Monatariff, Lacken, Moore's Well, and Carrignagower.
    - Option SAK-837 - New groundwater abstraction and WTP to supply Carrick-on-Suir. Four WRZs are rationalised to Carrick-on-Suir - Rathgormack, Ballyknock, Crehanagh and Garravoone.
    - Option SAK-853 – Increased groundwater abstraction at Mullinbawn Springs and interconnect Coalbrook / Commons and Fethard & Mullenbawn and supply deficit from Fethard & Mullenbawn.
    - Option SAK-995 – Increased groundwater abstraction for Dungarvan WRZ and rationalise Graiguenageeha and Stradbally to Dungarvan WRZ.
- One Option (SAK-975) supplying spare capacity from Thurles to neighbouring WRZs in deficit. Three WRZs are rationalised directly to Thurles WRZs - Horse and Jockey, Littleton, and Two Mile Borris. Glengar WRZ is rationalized to Dundrum WRZs, which is then interconnected to Thurles.

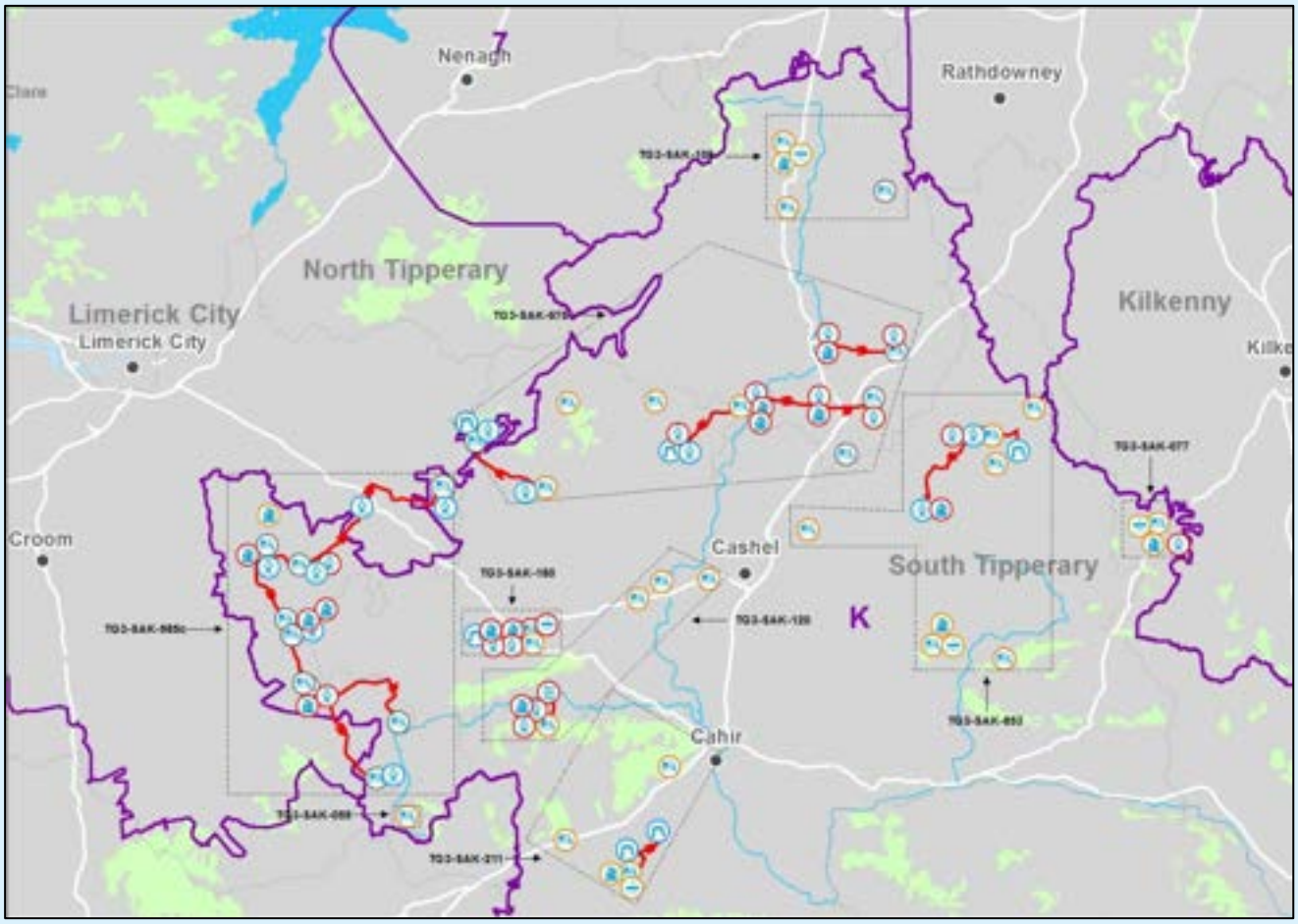
Study Area K – Waterford and South Tipperary

- One Option (SAK-985c) which rationalises 6 WRZs in SAK to the Limerick Supply System, which is located in the Eastern and Midlands Region.

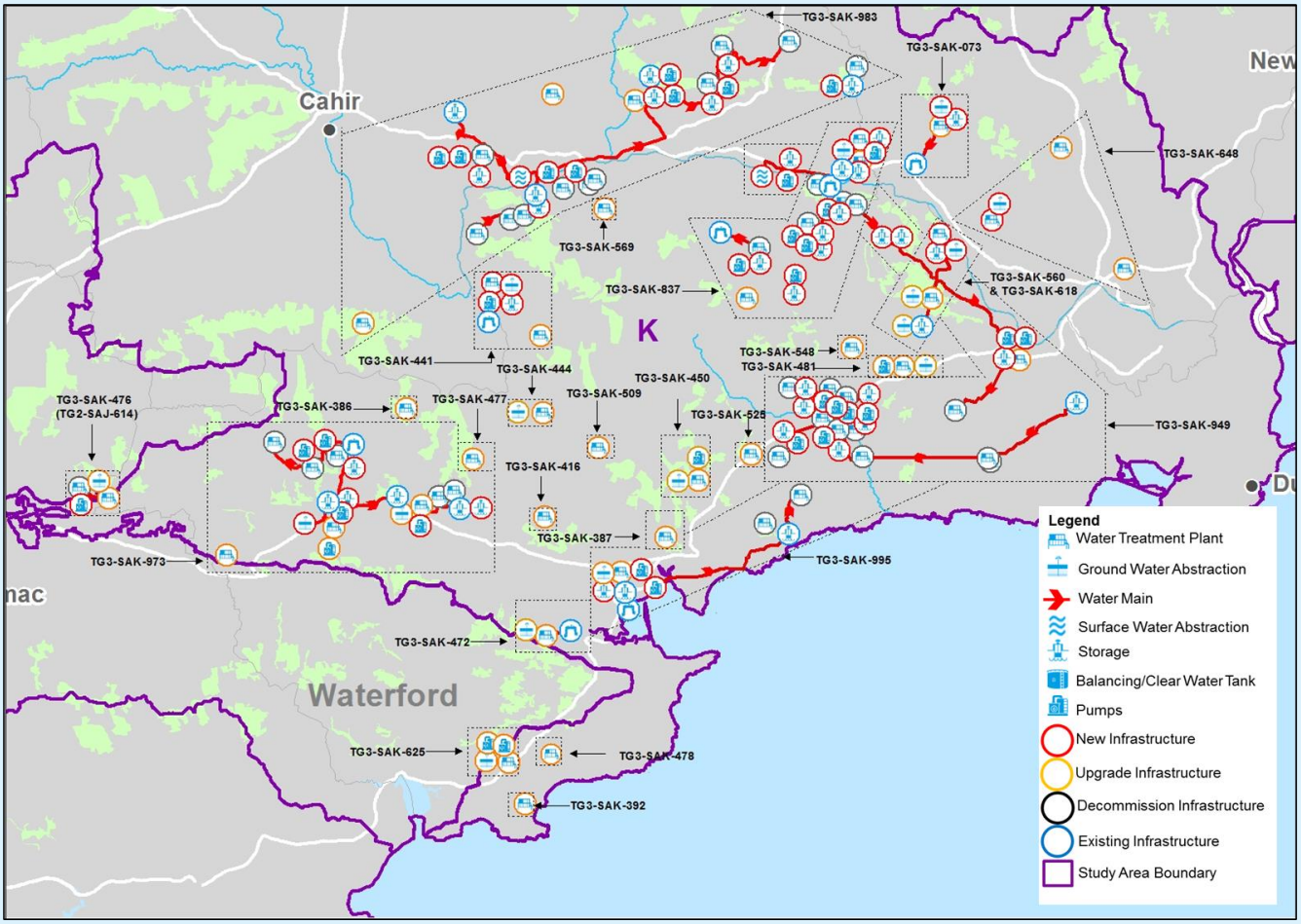
The Preferred Approach provides environmental benefits by decommissioning four existing surface water abstractions that may not meet sustainability guidelines – Boola River Intake, Poulavanogue Abstraction 1, Poulavanogue Abstraction 2 and Glenary Abstraction 2. All abstractions are currently part of the Clonmel WRZ supply system.

Ongoing leakage management through our National Leakage Reduction Programme, also contributes by reducing the volume of water lost in distributing water to demand centres. In SAK, planned leakage reduction programmes will reduce leakage by 350 m^3/day in Fethard & Mullenbawn regional PWS, Galtee Regional, and Tipperary Town WRZs. We have also committed to additional Leakage Targets of 36,233 m^3/day that will reduce leakage to 21% of demand in WRZs where the demand exceeds 1,500 m^3/day.

Delivery of the Preferred Approach will secure all of the supplies in the area in terms of Quality, Quantity, Sustainability and Resilience.



Study Area K – Waterford and South Tipperary



TG1-SAX-00X are the Option Codes assigned to each Option. A description of each Option can be found in Table 5.9 of the Technical Appendices 1-3.

7.5.2 Study Area L – Kilkenny

Study Area L - Kilkenny	
No. of WRZs	SAL lies within the counties of Tipperary, Carlow, Kilkenny, Laois, and Wexford, covering an area of approximately 1,700 km^2. The population of the Study Area is approximately 53,620. The Principal Settlement (with a population of over 10,000) is Kilkenny.
10	

Current Supply System					
WTPs	**No.**	**Water Source Type**	**No.**	**Supply Deficit**	**m^3/day**
Existing WTP	13	Groundwater	9	DYCP 2019	2,820
High Risk WTP	11	Surface Water	7	DYCP 2044	3,840

Preferred Approach Summary					
Number of WTPs	**No.**	**GW Abstractions**	**No.**	**SW Abstractions**	**No.**
Upgrade (WQ only)	3	Increase	1	Increase	0
Upgrade (Capacity & WQ)	2	Maintain	3	Maintain	3
Decommission	8	Decommission	5	Decommission	4
New	3	New	4	New	0

The Preferred Approach (PA) for SAL consists of local WRZ Options for 3 of the 10 WRZs in the Study Area. The 7 other WRZs are supplied by 3 SA Grouped Options reducing the total number of WRZs from 10 to 6. The SA Grouped Options include:

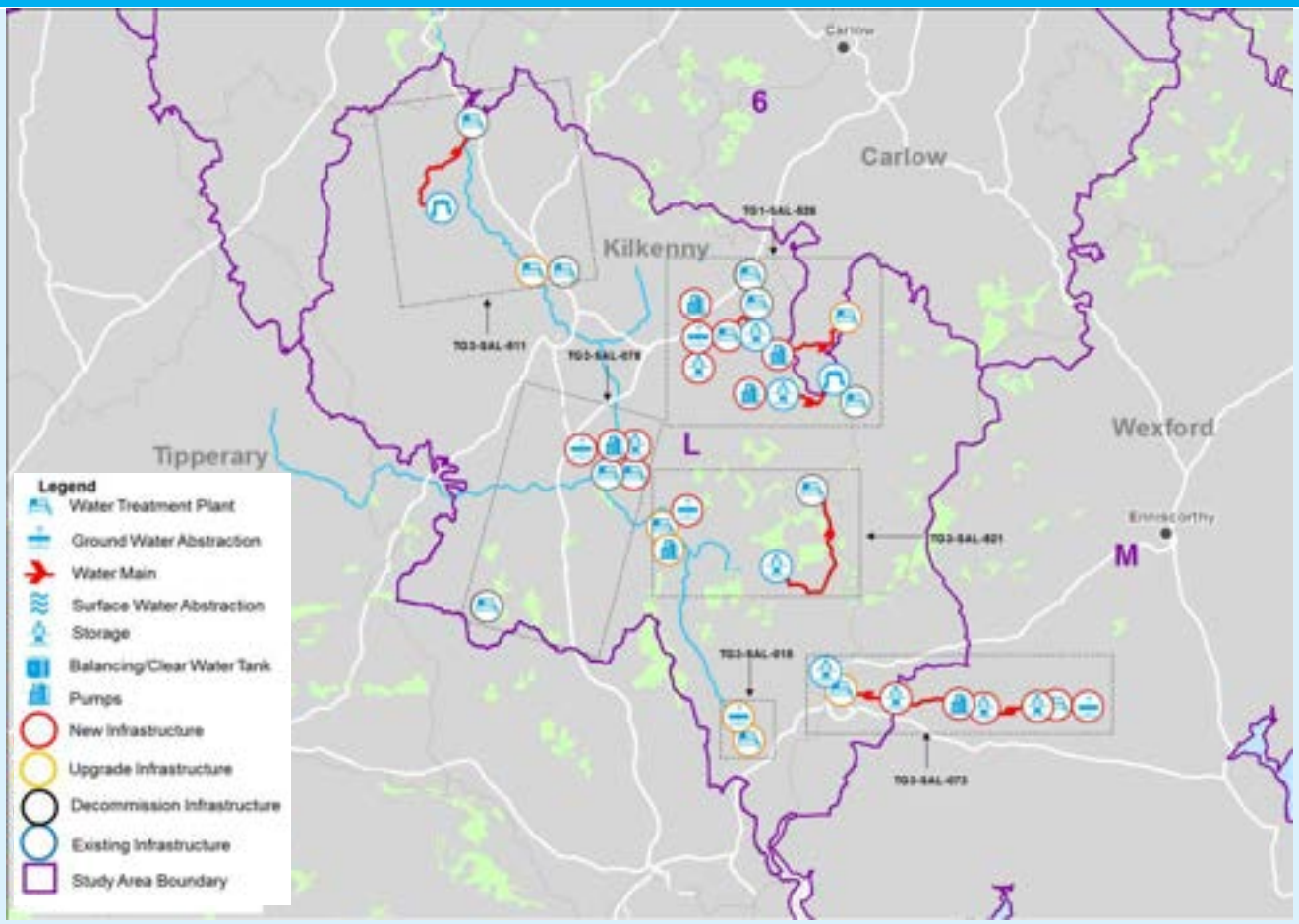
- Two Options rationalising WRZs and supplying the deficit with new groundwater abstractions:
  - Option SAL-526, rationalising Ballinkillen and Borris WRZs to Gowran-Goresbridge-Paulstown WRZ
  - Options SAL-521, rationalising Graiguenamanagh to Thomastown WRZ.
- One Option rationalising WRZs to increase resilience and achieve long-term operational savings:
  - Option SAL-511, upgrades Troyswood WTP to improve water quality performance and rationalise Ballyragged to Kilkenny City WRZ.

The Preferred Approach provides environmental benefits by decommissioning two existing surface water abstraction that may not meet sustainability guidelines – River Dinan and River Douglas, both currently supplying Kilkenny City.

Ongoing leakage management through our National Leakage Reduction Programme, also contributes by reducing the volume of water lost in distributing water to demand centres. In SAL, planned leakage reduction programmes will reduce leakage by 320 m^3/day in Kilkenny City WRZ. We have also committed to additional Leakage Targets of 3,830 m^3/day that will reduce leakage to 21% of demand in WRZs where the demand exceeds 1,500 m^3/day.

Delivery of the Preferred Approach will secure all of the supplies in the area in terms of Quality, Quantity, Sustainability and Resilience.

Study Area L - Kilkenny



TG1-SAX-00X are the Option Codes assigned to each Option. A description of each Option can be found in Table 5.9 of the Technical Appendices 1-7.

7.5.3 Study Area M – Wexford and Wicklow

Study Area M – Wexford and Wicklow	
No. of WRZs	SAM lies within the counties of Carlow, Wexford, and Wicklow, covering an area of approximately 2,240 km^2. The population of the Study Area is approximately 100,640.
26	The Principal Settlements (with a population of over 10,000) are Wexford and Enniscorthy.

Current Supply System					
WTPs	**No.**	**Water Source Type**	**No.**	**Supply Deficit**	**m^3/day**
Existing WTP	31	Groundwater	27	DYCP 2019	13,770
High Risk WTP	24	Surface Water	10	DYCP 2044	18,220

Preferred Approach Summary					
Number of WTPs	**No.**	**GW Abstractions**	**No.**	**SW Abstractions**	**No.**
Upgrade (WQ only)	13	Increase	7	Increase	1
Upgrade (Capacity & WQ)	9	Maintain	12	Maintain	8
Decommission	9	Decommission	8	Decommission	1
New	4	New	7	New	0

The Preferred Approach (PA) for SAM consists of 18 local WRZ Options and 4 SA Grouped Options which reduce the total number of WRZs from 26 to 19. The SA Grouped Options are:

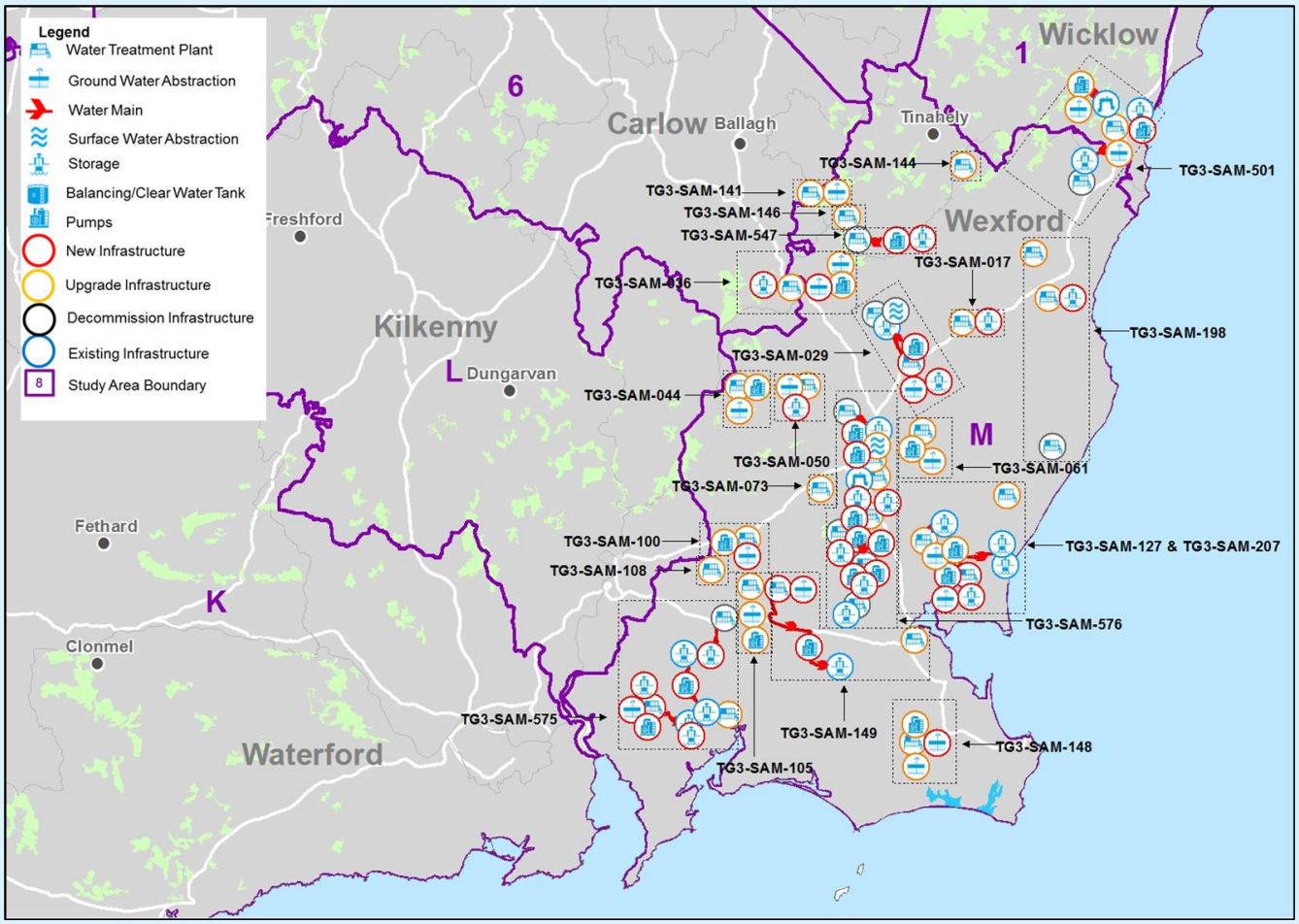
- Option SAM-576 – Increases the surface water abstraction from River Slaney to supply the deficit. Four WRZs are rationalised to Enniscorthy WRZ - Bree, Ballyhogue, Glynn and Marshalstown WRZs.
- Option SAM-575 – Develops a new groundwater source and rationalises Carrickbyrne to South Regional WRZ.
- Option SAM-501 - rationalises the Coolgreany WRZ to the Arklow WRZ (Study Area 1 – Eastern and Midland region).
- Option SAM-547 rationalises the Ballingate WRZ to the Tinahely WRZ (Study Area 1 – Eastern and Midland region).

The Preferred Approach provides environmental benefits by decommissioning one existing surface water abstraction that may not meet sustainability guidelines -River Currlane (Ferns Regional WRZ).

Ongoing leakage management through our National Leakage Reduction Programme, also contributes by reducing the volume of water lost in distributing water to demand centres. In SAC, planned leakage reduction programmes will reduce leakage by 240 m^3/day in Fardystown, Enniscorthy and Gorey WRZs. We have also committed to additional Leakage Targets of 5,240 m^3/day that will reduce leakage to 21% of demand in WRZs where the demand exceeds 1,500 m^3/day.

Delivery of the Preferred Approach will secure all of the supplies in the area in terms of Quality, Quantity, Sustainability and Resilience.

Study Area M – Wexford and Wicklow



*TG1-SAX-00X are the Option Codes assigned to each Option. A description of each option can be found in Table 5.9 of the Technical Appendices 1-7.