| **Time** | **Activity** | **Location** | **Resp** |
| --- | --- | --- | --- |
| **7 March**  8.30-8.45 | Karakia and Introductions. | Online | Kevin Campbell (SMS) |
| 8.45-9.45 | Sewage Treatment and Disposal – An Overview   * Sources of sewage – the activities that generate sewage and other wastewater * What is in sewage and other wastewater * Treatment processes * The environment and how sewage and other wastewater affect the environment and PH * An overview of sewerage systems, particularly as they influence sewage * Treatment and disposal options * Conventional sewage treatment and disposal systems * Alternatives to conventional treatment systems and emerging treatment technologies * Technical treatment options that exist, advantages and disadvantages of each given the context * Trends & innovations in community sewage treatment and disposal systems e.g. greywater * The public health drivers for choosing one technology over another, e.g. pathogen removal, odour control etc * Examples of smaller community schemes and treatment considerations | Online | John Cocks  (Engineer) |
| 9.45-9.55 | Break. | Online | All |
| 9.55-10.55 | Alternative Reticulation (Sewerage) Systems: Systems for conveying sewage   * What popular alternative reticulation systems exist to conventional methods * Examples of smaller community reticulation systems and consideration of their place within reticulation options e.g. cost, space, population * Examples of their use and outcome (success & failures, risks & opportunities) * Resilience of the sewerage infrastructure – Christchurch example | Online | Sarah Burgess  (Ministry of Health) |
| 10.55-11.10 | Morning Tea. | Online | All |
| 11.10-12.10 | Effluent Standards and Receiving Water Quality | Online | Sarah Burgess |
| 12.10-12.20 | Break. | Online | All |
| 12.20-1.00 | Sludge Treatment and Management | Online | Sarah Burgess |
|  |  |  |  |

| **Time** | **Activity** | **Location** | **Resp** |
| --- | --- | --- | --- |
| **8 March**  8.30-9.30 | On-Site Sewage Treatment and Disposal: An Overview   * On-site sewage management concepts * On-site land-based treatment technologies – conventional and alternatives * Land based effluent disposal technologies   AS/NZS 1547:2012 On-site Domestic Wastewater Management: its approach to:   * Achieving public health, environmental and technical performance objectives * Managing the site investigation, design and installation procedures * Managing the operation, maintenance and monitoring procedures? | Online | John Cocks |
| 9.30-9.40 | Break. | Online | All |
| 9.40-10.40 | Site investigation – soil texture assessment interactive exercise. Soil types and characteristics. | Online | John Cocks |
| 10.40-10.55 | Morning Tea. | Online | All |
| 10.55-11.40 | The important elements in selecting an on-site system appropriate to the site and soil conditions, and the principal design considerations if the system is to work to optimal parameters e.g. pre-treatment levels; land application rates related to soil type and structure, limitations of soils, surface/ground water influences on capacity of soils to assimilate wastewater? | Online | John Cocks |
| 11.40-11.50 | Break. | Online | All |
| 11.50- | Written Assessment– to be completed and returned by 8.30am tomorrow. |  | All |
|  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Time** | **Activity** | **Location** | **Resp** |
| **9 March**  8.30-10.15 | Achieving Bottom Line Public Health Requirements for Wastewater Management Through Effective Use of RMA Processes, including a hypothetical case history exercise. | Online | Jim Bradley  (Stantec NZ) |
| 10.15-10.30 | Morning Tea | Online | All |
| 10.30-11.00 | Wastewater Outfalls | Online | Jim Bradley |
| 11.00-11.25 | ESR Case Study – Composting and Decentralised Emergency Toilets | Online | Bronwyn Humphries (ESR) |
| 11.25-11.35 | Break | Online | All |
| 11.35-12.15 | ESR Case Study – Pathogen Transport and Risk in Groundwater and Wastewater Environments | Online | Louise Weaver (ESR) |
| 12.15-12.20 | Closing Address | Online | Allison Graham (SMS) |
|  |  |  |  |