

Waikeria Prison Development - Inspection & Test Plan (ITP)

**Process / Sub - Process:** Combined Services - DCW Pipework Hydrostatic Pressure Test

**WP Number:** NZ1005-CS-WPK-51

**ITP No.:** AES-NZ1005-STE-ITP-PMT-0024 **Rev: 1 Date:** 04.05.2022

THIS INSPECTION & TEST PLAN COMPRISES THE FOLLOWING DOCUMENTS AND IS APPROVED FOR USE:

**PART 1** Inspection and Test Plan

**PART 2** Check Sheet

**PART 3** Lot Verification Checklist

**Reference Documentation:**

**Project Specifications: Drawings:**

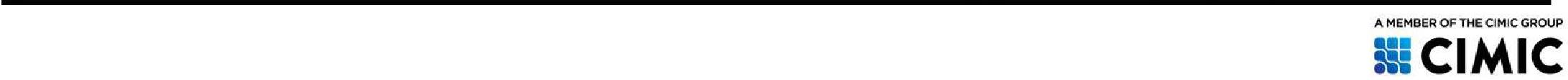
# Standard: AS/NZS 3500.1:2018

NZT5007-STE-HSSP-0001

AES-NZ1005-STE-SHD-COS-7001

-in sequence up to- AES-NZ1005-STE-SHD-COS-7016

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| **Prepared by: Jansen van Nieuwenhuizen** | **AE Smith** | **(date)** |
| **Reviewed by:** CPB Engineer | **(signature)** | **(date)** |
| **Reviewed by:** CPB QA Rep | **(signature)** | **(date)** |
| **Reviewed by:** CPB Completions Rep | **(signature)** | **(date)** |
| **Reviewed by:** Consultant  (If applicable. N/A for Architects) | **(signature)** | **(date)** |
| **Approved by:** CPB SPE or higher | **(signature)** | **(date)** |

**Title:** WPD Inspection and Test Plan - Template

**ID:** MSID-298162371-1209 Version: 3.0 **Date Published:** 20/08/2020 Waikeria Prison Development / WPDP - Uncontrolled Document when Printed Project Specific Document

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| **Contract** | Combined Services- DCW Pipework |
| **Document Title** | Combined Services- DCW Pipework Hydrostatic Pressure Test |
| **Document No.** | AES-NZ1005-STE-ITP-PMT-0024 |
| **Process** | Combined Services - Hydrostatic Pressure Testing |

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| **Action** | **Position** | **Name** | **Signature** | **Date** |
| **Prepared by** | AE Smith Site Manager | Jansen van Nieuwenhuizen |  |  |
| **Prepared by** | AE Smith Site Manager | Michael Simpson |  |  |
| **Approved by** | AE Smith Plumbing Manager | Stephen Tamatea |  |  |
| **Reviewed by** | CPB Quality Team |  |  |  |
| **Approved by** | CPB Services Manger |  |  |  |
| **Accepted by** | CPB Engineer |  |  |  |

## SOCPE OF WORKS:

This scope of works comprises the provision of the equipment & documentation for the Combined Services DCW Pipework Hydrostatic Pressure Testing of the combined ring main pipework;

Quality records, test results, reports and measurements

1. **REFERENCED DOCUMENTATION:**

**Specifications:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | NZT5007-STE-HSSP-0001 |  | Hydraulic Services Specification |
|  | AS/NZS 3500.1:2018 |  | Pressure Piping |

**Drawings:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | AES-NZ1005-STE-SHD-COS-7001  - In sequence to –  AES-NZ1005-STE-SHD-COS-7016 |  | In-Ground DWC Piping |

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|  | AES-NZ1005-STE-CMP-HYD-0001 |  | In-Ground DWC & Storage Tank Flushing & Disinfecting Plan |

## DEFINITION OF TERMS:

|  |  |
| --- | --- |
| Conformance Record | Record submitted by AE Smith to CPB of the evidence pertaining to each lot which demonstrates that the specified requirements for that lot have been met |
| Hold Point | An identified point in a process past which AE Smith shall not proceed without a direction from CPB |
| Lot | A portion of material or a section of the Works which has been constructed and/or supplied under essentially uniform conditions and contains material of essentially uniform quality, or  A single finished item of work which includes several materials and/or work types (e.g. a pit in place) |
| Witness Point | An identified point in a construction process at which an activity is observed |

1. **INSPECTION AND TEST PLAN:**

Responsible: SE-AE Smith / Downer Site Engineer, SUP-AE Smith / Downer Supervisor, SRV-Surveyor Method: DR-Document review, FM-Field measure, FT-Field test, M-Monitoring, S-Survey, V-Visual

Record: FTR-Field test report, LTR-Laboratory test report, TDS-Technical data sheet, QCC-Quality control checklist

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| **#** | **Inspection and Test Control Point** | **Resp.** | **Referenced Documentation** | **Conformance Criteria** | **Method** | **Frequency** | **Ctrl Point** | | **Records** |
| **WP** | **HP** |
| **1.0 MATERIAL COMPLIANCE** | | | | | | | | | |
| 1.1 | RDM & Consent Approval | CPB | RDM Tracker Consent Tracker | RDM approval tracker Consent approval tracker | Document Review | By Building/ Site Wide |  | CPB | Receipt of Approval by Client |
| 1.2 | General | SE | NZT5007-STE-HSSP-0001  AES-RFI-000270 | For all materials, a certificate of compliance shall be provided to the Client Rep. before the materials are incorporated into the works.   * Specifications & QA Documents Approved * Drawings are confirmed * Equipment fit for purpose | DR | Each material |  | CPB | Incoming Inspection Checklists  Drawing Register |

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| **WP** | **HP** |
| **2.0 CONNECT PRESSURE PUMP TO DCW RING MAINS** | | | | | | | | | |
| 2.1 | Confirm Flushing & Disinfection of Pipework | SUP | AES-NZ1005-STE-CMP-HYD-0001 | 1. Air should be removed at each building prior to the DCW water supply water entry assembly to prevent debris from entering building. 2. Ensure system sterilization completed. 3. Ensure all screens/ strainers are cleaned/ inspected if not isolated from test. | V + DR | Once | AE Smith | CPB | CMP  +  Check Sheet |
| 2.2 | Accept delivery of pump to site | SUP |  | 1. Check pump is rated for pressure test 2. Check all supplied attachments are correct and in good order 3. Check fluid levels & fill as necessary | V | Once | AE  Smith |  | Check sheet |
| 2.3 | Isolate: Mains water  Storage Tanks | SUP | AEC-NZ1005-TNK-DWD- HYD-006 | 1. Check Mains water is isolated 2. Check Storage Tank is isolated 3. Check Filters are isolated **(10 Bar max rated)** | V | Once | AE  Smith |  | Check Sheet |
| 2.4 | Connect pump to pipework under test | SUP | NZT5007-STE-HSSP-0001 | Confirm connections are safe and correct,  Supervisor to confirm section under test is correct and all other parts of the system not under test correctly isolated | V | Once | AE  Smith |  | Check Sheet |
| 2.5 | Connect calibrated gauges for pressure test | SUP | NZT5007-STE-HSSP-0001 AS/NZS 3500.1:2018 | Confirm position is correct, gauge is in good order for test & calibrated | V + DR | Each test | AE  Smith |  | Check Sheet  +  Document |

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| **WP** | **HP** |
| **3.0 HYDROSTATIC TEST** | | | | | | | | | |
| 3.1 | Fill DWC ring mains with domestic water | SUP |  | Completely fill closed loop system with water releasing all air from the Taps at each Building | V | Every time system is opened | AE  Smith |  | Check Sheet |
| 3.2 | Gradually increase system pressure to 1550kPa | SUP | NZT5007-STE-HSSP-0001 AS/NZS 3500.1:2018 | Slowly raise system pressure to 1550kPa  Checking for any signs of leaks or pressure drops | V+M | Constantly Monitored | AE  Smith |  | Check sheet |
| 3.3 | Stabilize 1550kPa pressure (***START*** WITNESSED) | SUP | NZT5007-STE-HSSP-0001 AS/NZS 3500.1:2018  WCT 68 (a)(ii) | Record ***START*** time & photograph gauge  All relevant parties to witness starting pressure of 1550kPa  IR to be invited for witness at the reviewer’s discretion **(Aconex hold point mail)** | V+M | Once | AE  Smith | AE  Smith / CPB / IR | Check Sheet  +  Photos |
| 3.4 | Hold 1550kPa pressure for 35min  (***END*** WITNESSED) | SUP | NZT5007-STE-HSSP-0001 AS/NZS 3500.1:2018  WCT 68 (a)(ii) | Record ***FINISH*** time & photograph gauge  All relevant parties to witness pressure of 1550kPa  IR to be invited for witness at the reviewer’s discretion **(Aconex hold point mail)** | V+M | Once | AE  Smith | AE  Smith / CPB / IR | Check Sheet  +  Photos |
| 3.5 | Pressure released or reduced for next test | SUP |  | Supervisor to ensure energy (pressure) is only stored while under test | V+M | Once | AE  Smith |  | Check Sheet |

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| **WP** | **HP** |
| 3.6 | Discharge pressure  leave system in a safe state | SUP |  | Discharge system pressure, ensure area is left in a safe state meeting site requirement | V+M | Once | AE  Smith |  | Check Sheet |
| **4.0 COMPLETION RECORDS** | | | | | | | | | |
| 4.1 | Testing Results | SE SUP | NZT5007-STE-HSSP-0001 AS/NZS 3500.1:2018 | All pipework pressure test reports shall be provided | DR | Each lot | AE  Smith | AE  Smith / CPB | Check Sheet |
| 4.2 | Works Completion Test  WCT 68 | SUP | Schedule 11  WCT 68 | PDS testing and satisfactory commissioning (including interfaces with other services) has been completed, recorded and compliance results presented to the Independent Reviewer for the pressure test all cold and domestic hot water pipe lines | DR | Each lot | AE Smith | AE Smith / CPB /  IR | Check  Sheet  QA Documents |

Inspection and Test Plan Lot Verification Checklist

PART 3 OF INSPECTION & TEST PLAN

|  |  |
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| **Lot Number:** |  |
| **Lot Description:** |  |

*Note: Item / # records to be filled out by CPB Engineer - minimum is to match ITP, extra documents can be added*

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| **No. Item**  **ITP / Quality Control Checklists** | | **Number of Records Required** | **LOT Subfolder No:** | **Remarks (initial / date)** |
| 1.0 |  |  |  |  |
| 1.1 |  |  |  |  |
| **Survey Results** | | | | |
| 2.0 |  |  |  |  |
| 2.1 |  |  |  |  |
| **Test Results** | | | | |
| 3.0 |  |  |  |  |

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| **Conformance of Work Statement *(if required ie if some docs not signed*):**  The works for this construction lot conforms in respects to the ITP. | | | |
| **Name:** | **Signed:** | ***Subcontractor:*** | **Date:** |
| **Conformance of Work Statement:**  The works for this construction lot conforms in respects to the ITP. | | | |
| **Name:** | **Signed:** | ***Foreman/Supervisor*** | **Date:** |
| **Conformance / Verification of Construction Lot Statement:**  This closed lot conforms in all respects with the standards and requirements specified in the Contract Documents. The lot verification records are complete and attached. Any non-conformances have been dispositioned in accordance with the contract requirements. | | | |
| **Name:** | **Signed:** | ***Project Engineer/Senior Project Engineer*** | **Date:** |
| **Quality Review:** | | | |
| **Name:** | **Signed:** | ***Quality Manager / Rep.*** | Date: |



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