



CIVIL AND MECHANICAL ENGINEERING CONTRACTORS

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Project Title	BFI01/23/E2SC2 Re-Advert: RIVERTON WTW REFURBISHMENT OF OLD PLANT'S FILTERS, CHLORINE AND CHEMICAL DOSING SYSTEMS
Work Package Title	Procurement and Supply of Pipes and Flanges
Date of Work Package	November 2024
Project Manager	T.N Sibanda
Expected date of awarding of work package	25 th November 2024
Expected Date of Commencement Delivery	28 th November 2024
Expected Duration of Contract	21-30 days
Reference	C320-WPK008

Purpose

The objective of this work package is to engage a supply vendor for the procurement and supply of various sized piping materials including piping, flanges and related fittings, excluding any fabrication works. This package will be executed in a single phase, with all items delivered to the designated recipient at the specified address. Detailed specifications and quantities for each pipe and flange are provided in document C320 – Piping and Flange Schedule Rev 0 (attached).

This opportunity is restricted to enterprises meeting the following criteria: they must qualify as a Local Enterprise, Local Emerging Contractor, Local Services Provider, or Local Supplier, and must be recognized as a Targeted Enterprise as defined below.

Eigenbau intends on placing one or more orders in bulk for materials as the need arises for fabrication of fittings. It is further possible that smaller top up orders maybe placed over the life of the project.

Local

means the Sol Plaatje Municipality (SPM) area.

Local Emerging Contractor

means a legal business entity with its registered office and/or physical address in the Local area.

Local Supplier

means a legal business entity with its registered office and/or physical address in the Local area who has actively conducted business in the Local area for a period of more than 12 months and who supplies materials and plant directly to the end-user.

Local Services Provider

means a legal business entity with its registered office and physical address in the Local area who has actively conducted business in the Local area for a period of more than 12 months and who supplies services directly to the end-user.

Pre-qualification Criteria for Targeted Enterprises

i. an EME or QSE which is at least 51% owned by black people.

- ii. an EME or QSE which is at least 51% owned by black people who are youth.
- iii. an EME or QSE which is at least 51% owned by black people who are women.
- iv. an EME or QSE which is at least 51% owned by black people with disabilities.
- v. an EME or QSE which is 51% owned by black people living in rural or underdeveloped areas or townships.

Background

Eigenbau Pty Ltd is a company with a long history of successful projects in the water and wastewater treatment space. As such, Eigenbau competitively tendered for the appointment for various mechanical and electrical works at the Riverton Old Works. Eigenbau were appointed as the sole Main Contractor in the refurbishment of old plant's filters, chlorine and chemical dosing systems at Riverton Water Treatment works.

As part of the Scope of works, we are required to procure and supply completely fabricated pipes and flanges to the site location for installation. Eigenbau requires the services of supply vendor for the procurement and supply of various pipes, flanges and fitting from which Eigenbau will make spool pieces. The type and quantity of the pipes and flanges are specified in the pipe and valve schedule, bill of quantities and drawings (all of which are attached). This work has been identified as being suitable for subcontracting to a party who can manage tight timeframes. The ideal supply vendor should also have a proven track record of having worked with procurement, supply & delivery of various mechanical equipment and securing resale discounts in order to provide market competitive pricing. Eigenbau herewith issue this invitation to tender to suitable experienced service providers for this as a works package to qualifying local entities.

NOTE: *All responding parties are to remain aware that the main contract was secured under competitive bidding and accordingly the responding parties are encouraged to research what is acceptable rates for such work that allows all parties to reasonably benefit from the work. Eigenbau is committed to sharing workload, within the main contract parameters*

Site Location

Not Applicable to this Work Package

Delivery Address

Delivery address for all procured material will be; Eigenbau workshop, Boksburg, Gauteng.

Scope of work

Eigenbau seeks a qualified contractor to supply and deliver various sized pipes and flanges to the above specified location. The scope of work includes:

- a) Procuring and supply pipes and flanges as detailed in the attached Pipe and Flange Schedule.
- b) Ensure delivery of procured goods to the named delivery point including all QC documents, Material certifications etc.

Important Notes:

1. It is recommended that the OEM handles the delivery of all material. The supplier must submit a schedule of costs for each specific item listed, along with a delivery period for each item and the validity of the price quoted.
2. The appointed contractor is responsible for both loading and offloading at the collection and delivery points. Caution and attention to detail must be observed throughout the process.

Site Access

Not Applicable to this work package.

Deliverables

Below are the required deliverables.

- a. All material procured MUST, without exception, be delivered with material certificates showing the compliance with the material specifications. Failure to do so will result in automatic rejection of goods.
- b. Ensure delivery to the correct location.
- c. Delivery Note.

Assumptions

All cost related to this project should be incorporated into the submitted quotation for review. No variation orders will be tolerated.

Constraints

1. Submission closing date will be on the 21st of November 2024.
2. Orders could commence as early as 28th of November 2024 and may extend thereafter as noted above.

Dependencies

Bulk suppliers of piping and flanges are limited. To assist with expediting the procurement process, below is the recommended possible supplier and their contact details:

Name of Company	Name of contact person	Contact details		Location
		Email	Tel	
Stewarts and Lloyds	Narlani Arjuna	NarlaniA@sltrading.co.za	011 917 0778	Cnr Dan Jacobs & Old, Vereeninging Road, Alrode
NDE Stainless Steel	Donovan MacKenzie	donovan@jhb.nde.co.za	011 791 0630	Block F, Lifestyle Riverfront Office Park, Bosbok Road, Randpark Ridge Ext 75 PO Box 760, Fontainebleau, 2032

Risks and Mitigation

Non-Applicable to this work package

Milestones

Not applicable to this work package

Progress reporting

N/A to this work package

Attachments and Appendices

1. 3338.12.00.WFA.14.A001 VER.1
2. 3338.12.00.WFA.14.M001 VER.2
3. 3338.12.00.WFA.14.M002 VER.2
4. 3338.12.00.WFA.14.M003 VER.2
5. 3338.12.00.WFA.14.M004 VER.2

6. 3338.12.00.WFA.14.U001 VER.1
7. 3338.12.00.WFA.14.U002 VER.1
8. 3338.12.00.WFA.14.U003 VER.1
9. 3338.12.00.WFA.14.U004 VER.1
10. 3338.12.00.WFA.14.U005 VER.2
11. 3338.12.00.WFA.14.X001 VER.2
12. 3338.12.00.WFA.14.X002 VER.2
13. 3338.12.00.WFA.14.X003 VER.2
14. C320 - Specification for Procurement and Supply of Pipes and Flanges
15. C320 – Pipe Schedule Sheet Rev 0
16. C320 - Pricing Schedule for Procurement and Supply of Piping, Flanges and fittings.

Approvals

All approvals will be done by the Main contractors Project Manager.

Returnable Documents

Below is a list of the required returnable documents:

1. Signed Quotation and Offer of Services addressing the Scope of Work.
2. Copy of CIDB Certification as proof of contractor's registration (Not required in this instance).
3. CIPC Registration for the company (Only applicable to companies)
4. Tax Status Compliance or PIN. (*This document is compulsory, and non-compliance will result in disqualification*)
5. Certified copy of VAT Registration certificate
6. Certified copy of letter of good standing issued by the Department of Labour in terms of Act 130 of 1993.
7. Certified copy of Incorporation (Only required for applicants who are companies)
8. Certified copy of Partnership Agreement (If applicant is in a partnership)
9. Certified copy of Identity document of all owners/partners/directors etc.
10. Certified copy of the B-BBEE Status level verification certificate.
11. Copies of all identification for shareholder/directors/members etc (should not be older than 3 months)
12. CV of all key staff to be used on the project (Not required in this instance)
13. CV of the person who prepares the contractors Health, Safety and Environment plan.
14. Proof of Registration on the central supplier database (CSD)
15. Contractors Project Quality Plan and Transportation Method Statement.
16. Confirmation letter from bank for banking details.
17. Proof of Public Liability Insurance – not required for this package
18. Customer references in related industry.

Notes:

- a. No site briefing will be held.
- b. Other queries in this regard can be emailed to tenders@eigenbau.co.za no later than 48hours prior to the closing of the tender.

Commercial Terms and Conditions

Payment terms

Payment is strictly 30 days from month end in which delivery is made. Suppliers should also note that deliveries later than the 13th of each month, are considered delivered the following month and thus should be invoice according. No deposits or advanced payments are available. deposit payment will be invoiced and paid within 30days from month-end of receipt of invoice.

Submission of Documents

All documents must be submitted electronically by the 17.00 on the closing date, by scanning the originals and mailing them to tenders@eigenbau.co.za



SOL PLAATJE LOCAL MUNICIPALITY

INTEGRATED BULK WATER SUPPLY SYSTEM INTERVENTION

CONTRACT No: BFI01/23/E2SC2

Re-Advert: RIVERTON WTW REFURBISHMENT OF OLD PLANT'S FILTERS, CHLORINE AND CHEMICAL DOSING SYSTEM

PLN: MANUFACTURE, SUPPLY AND TESTING OF STEEL PIPES

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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



PLN 5.2 Specials

The tolerances on specials will be in accordance with BS 534, Section 4.
Unless shown otherwise, branch and manifold sections of Tees to have a common centre line and of Scour Tees to have a common invert line.

All dimensions on layout dwgs or item details are outer face to outer face, i.e. overall.

Position dimensions for puddle flanges and restraining flange refers to centre of flanges.

PLN 6 TESTING AND INSPECTION AT MANUFACTURER'S WORKS AND AT SITE

PLN 6.1 General

Factory and Site inspection, supervision of tests and adjudication of test records shall be carried out by an independent Inspectorate.

All tests and inspections at the factory and on site shall be at the expense of the Contractor who shall provide all necessary testing facilities, labour, instruments, equipment and samples that might be required, free of charge.

The Inspectorate shall be afforded every facility during the course of manufacture and testing to enable the inspection to be carried out effectively.

All test samples shall be selected by the appointed Inspectors and all instruments used for testing purposes shall be approved by the Inspectors and if in the opinion of the Inspectors any instrument should require calibration, such instruments shall be calibrated at the expense of the Contractor by the SABS or such other body as may be approved by the Inspectorate.

No mechanical working or straining of pipes and specials shall be allowed after testing and inspection.

PLN 6.2 Visual Inspection

All finished pipes and specials shall be visually examined and shall be free of injurious defects as defined in API 5L Section 10.7.

PLN 6.3 Non-destructive Inspection

PLN 6.3.1 Ultrasonic Inspection

Pipes shall be made by an approved welding process and 100 percent of all longitudinal or spiral welds on straight pipes shall be checked with an approved ultrasonic method capable of continuous and uninterrupted inspection of the weld seam in accordance with API 5L Section 9.10, 9.11 and 9.12 except that the equipment shall be checked with an applicable reference standard at least twice every working run.

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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



PLN 6.3.2 Radiographic Inspection

a) Longitudinal Weld Pipe

All electric fusion welded pipes, shall be inspected by radiological methods for a distance of 200 mm from each pipe end.

b) Spiral Weld Pipe

All electric fusion welded pipes shall be inspected by radiological methods for a distance of 100 mm from each end of each length of pipe and of the complete "H" at all scalp and welds including 150 mm of the spiral welds in both directions away from the intersection points with the scalp and welds.

c) Circumferential Butt Welds

100 percent of the length of circumferential butt welds shall be examined unless consistently acceptable results are obtained. Then the number of welds so to be tested may be reduced by mutual agreement between the Engineer, the Inspectorate and the Contractor.

d) Specials

100 percent of all manual or semi-automatic welds in specials shall be examined radiographically unless consistently acceptable results are obtained. Then the number of welds so to be tested may be reduced.

Where specials cannot be hydrostatically tested, all welds shall be liquid penetrate tested as per ASME Section V.

e) Repairs

Straight Piping :

100 percent of the total length of all repairs shall be examined radiographically unless repairs are done prior to ultrasonic inspection and such repairs pass ultrasonic inspection. Then no radiographic inspection of same is required.

f) Pipes for Rail, Road and River Crossings: 100 percent of the total length of all welds shall be examined radiographically.

PLN 6.4 Hydrostatic Testing

- a) Each individual straight pipe shall be subjected to a hydrostatic test in accordance with the methods described in API 5L, Section 5. Test pressures shall be such as to produce tensile fibre stresses in the pipe wall of not less than 85% of the minimum specified yield strength of the steel or shall be 9 MPa whichever is the lesser. Leaks or sweats shall be considered injurious defects.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

E2SC2 - Particular Specifications Combined.docx



- b) Should it not be possible to hydrostatically test straight piping and/or specials the through liquid penetrate test as per ASME Section V shall be done on all welds over and above the non-destructive tests specified above. This shall only be applicable with the prior written approval of the Engineer.

PLN 6.5 Repair of Injurious Defects

Injurious defects found by non-destructive testing of welds, visual examination, hydrostatic testing or determined by any other means to exceed the limitations in API 5L, Section 10.7 shall be repaired in accordance with API 5L Section 10.8 and 10.9 but subject always to the requirements of this specification.

PLN 6.6 Destructive Testing

PLN 6.6.1 The following destructive tests shall be performed in accordance with SABS 719 clause 7.2 on the first pipe and thereafter on one pipe of each 500 subsequent pipes.

- a) Transverse Tensile Test
- b) Root Bent Test (Electric Fusion Welds)
- c) Flattening Test (Electric Resistance Welds)

PLN 6.6.2 Sampling for Destructive Tests

a) **First Sample**

A section long enough to provide all the test specimens and material shall be cut from the selected pipe.

b) **Second Sample**

If the test specimens and material from the first selected pipe fail to pass any of the tests, a section long enough to provide the appropriate specimens for the tests failed by the first sample shall be cut from two further pipes.

c) **Third Sample**

If the test specimen from the second sample fails to pass the test(s) a similar section shall be cut from each of a further ten pipes.

d) **Compliance**

The piping shall be considered as complying with the specification if after testing of the first or the second or the third sample no defect is found.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



PLN 7 FLANGES

- a) Material shall be steel plates to conform to the requirements of SABS 1123 (1977), unless otherwise specified.
- b) Dimensions and drilling shall be in accordance with SABS 1123 (1977) unless otherwise specified. Flanges for 64 bar working pressure shall be in accordance with BS4504:1969. Dimensions not covered by SABS 1123 and BS4504, shall be in accordance with NWS 1676 Revision 0.
- c) All flanges shall be of the steel-plate for welding type and shall have flat joint faces unless otherwise specified.
- d) Connecting surfaces shall be in accordance with SABS 1123 clause 4.5.
- e) Puddle flanges need not be drilled. Where puddle flanges are slanted to an item, special flanges are required. Such flanges need not be circular, but shall meet the specified pressure rating and must protrude at least 100 mm outside item outer wall.
- f) Provide appropriate bolt units, consisting of a standard length bolt, nut and two washers of a material to conform to the requirements of SABS 1123 where applicable, otherwise to the requirements of the Engineer for each set of flanges and for flange adaptor to flange installations.

NB: The shortest standard bolt or stud that protrudes beyond the nut by a minimum of two threads, when the assemblies are fully tightened, shall be used. A washer shall be fitted under all bolt/screw heads and nuts.

- g) Gaskets for flanged connections shall be of aramid and glass fibre with nitrile rubber binder to BS 7531, ring type with a minimum thickness of 3 mm, unless otherwise specified.
- h) Should certain equipment e.g. valves, etc. only be supplied with specific flange drilling, the Contractor must arrange for adjacent flanged items to have the same drilling prior to the manufacture of such items.
- i) Some flexible couplings to be restrained by means of a restraining flange. The diameter, number and length of the long restraining bolts as well as any possible pipe wall thickening to be designed by manufacturer for specified pressures. The seal retaining flange on the flexible coupling may be factory machine scalloped to accommodate the long bolts. Provide all the necessary nuts, washers, etc. for the restraining bolts.

Restraining flanges need not have all the bolt holes specified in the applicable flange drilling table. Only those required for the long restraining bolts need to be provided; these holes should, however, comply with the applicable flange drilling table and be spaced equally on the flange PCD and symmetrically around the flange centre lines.

- j) Restraining bolts to be positioned so as to not clash with any stubs specified for an item.
Blank flanges for pipes equal to or greater than 400 dia to be provided with two approved lifting handles.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



PLN 8 FLEXIBLE COUPLINGS AND FLANGE ADAPTORS

Flexible couplings and flange adaptors shall be the Viking Johnson or Klamflex type.

Manufacture of straight and stepped couplings (SR-C + ST-C) as well as flange adaptors (FA) to be approved by Engineer. Couplings must be able to withstand hydrostatic test pressures of 1.5 times the specified design pressures and coupling flanges must be designed to withstand all stresses due to tightening of the bolts. Rubber rings shall generally comply to SABS 974 Class F. Flexible couplings shall be supplied complete with all necessary bolts, nuts and rubber jointing rings.

Coupling installation gaps to be to approved supplier's specification.

Applicable to all flange adaptors:

- Studs may not be welded onto flange.
- Flange to be drilled and tapped for threaded studs where applicable.
- Drilling to suit connecting flange.

PLN 9 MARKING OF PIPES

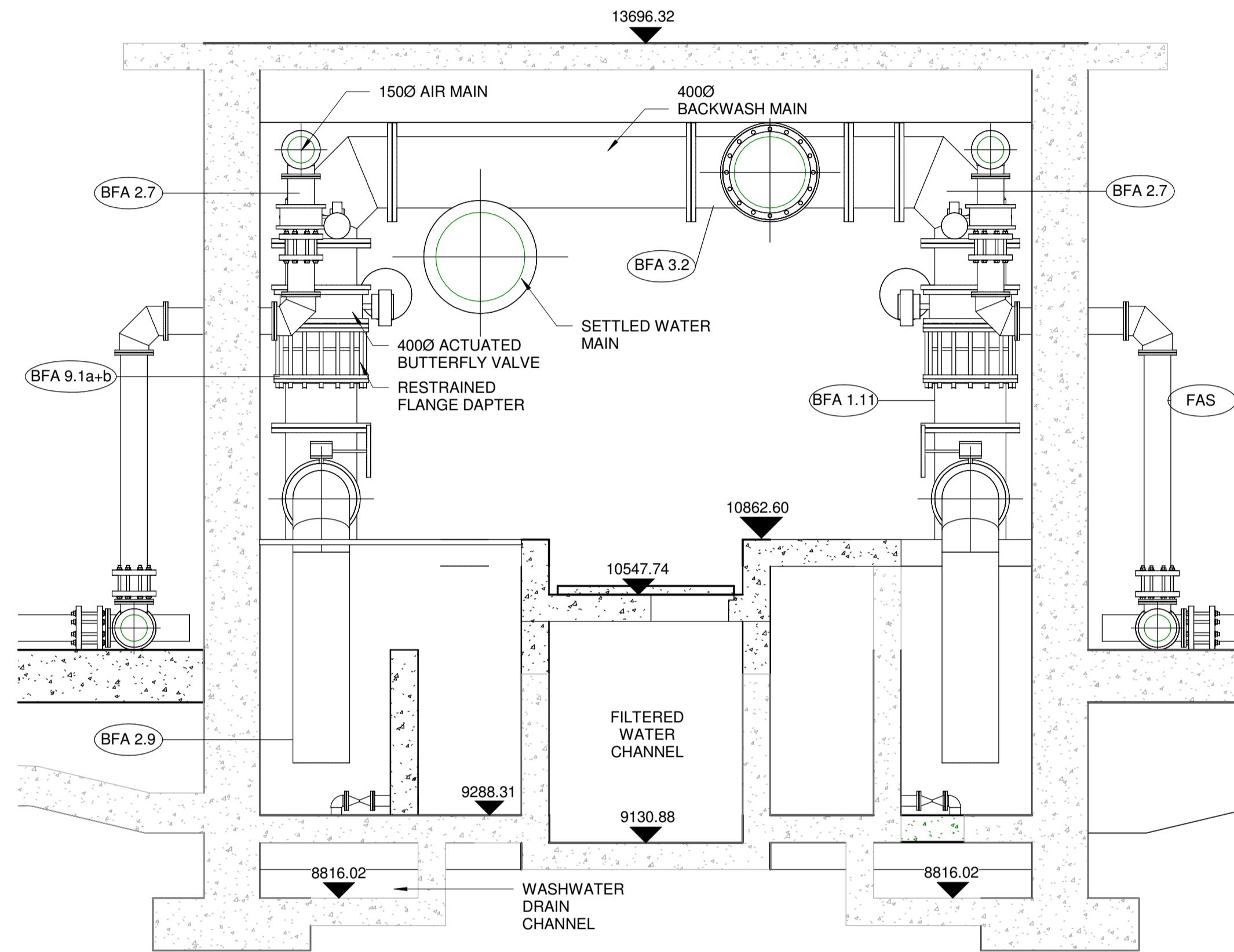
All pipes and specials shall be clearly hand stamped alongside a longitudinal or spiral weld on one end of the pipe with the following.

- a) Grade and thickness of steel
- b) Serial number of the pipe or specials
- c) Nominal diameter
- d) Hydraulic test pressure

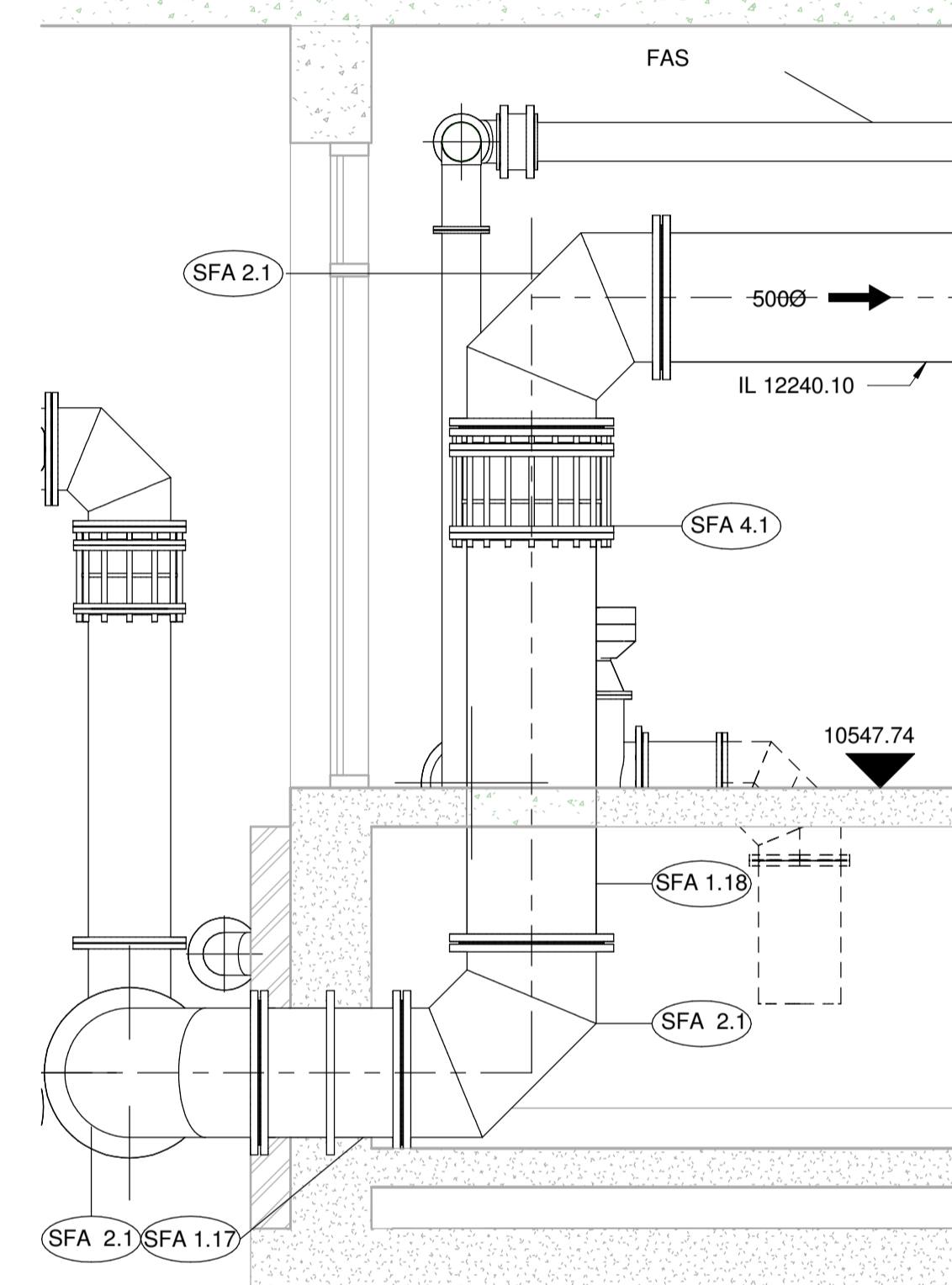
END SECTION

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

E2SC2 - Particular Specifications Combined.docx March 2024



SECTION G-G
SCALE 1 : 25



SECTION H-H
SCALE 1 : 25

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VERSION/AMENDMENTS			
No.	DATE	DESCRIPTION	AUTH. BY

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PROJECT TITLE:
**SOL PLAATJE LOCAL MUNICIPALITY
INTERGRATED BULK WATER SUPPLY
SYSTEM INTERVENTION**

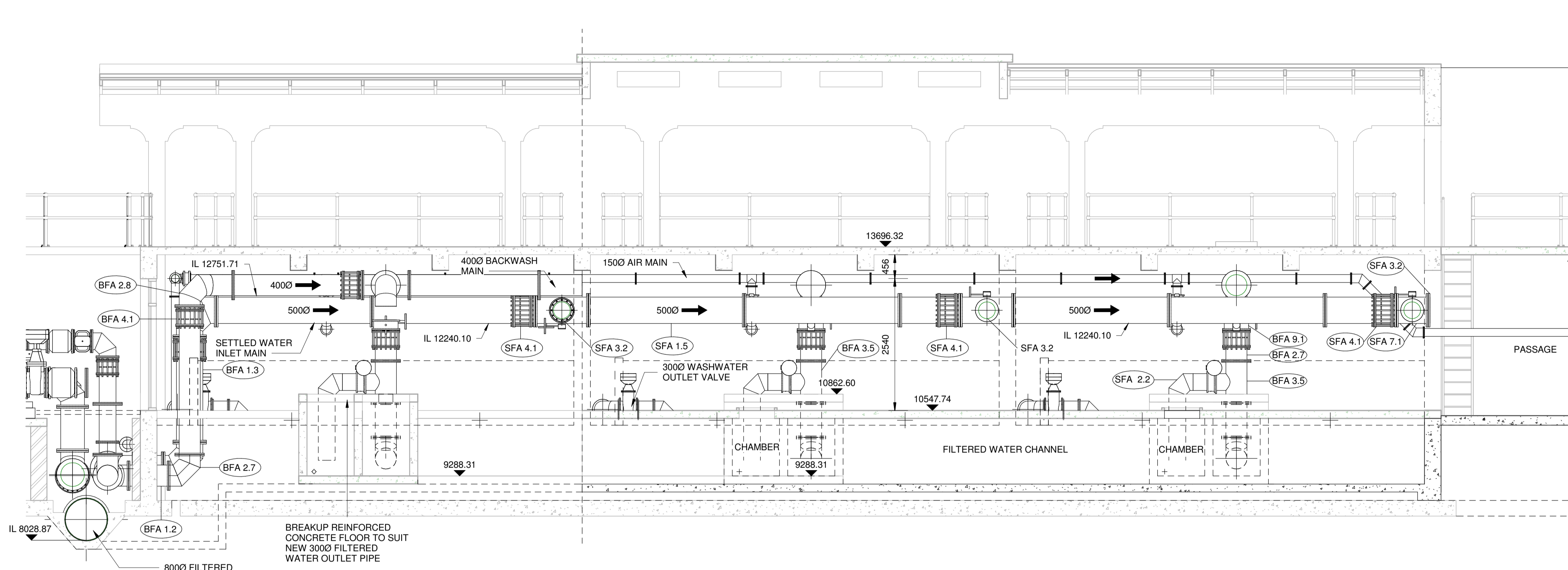
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NEW FILTERED WATER OUTLET SYSTEM,
PIPEWORK & DETAILS**



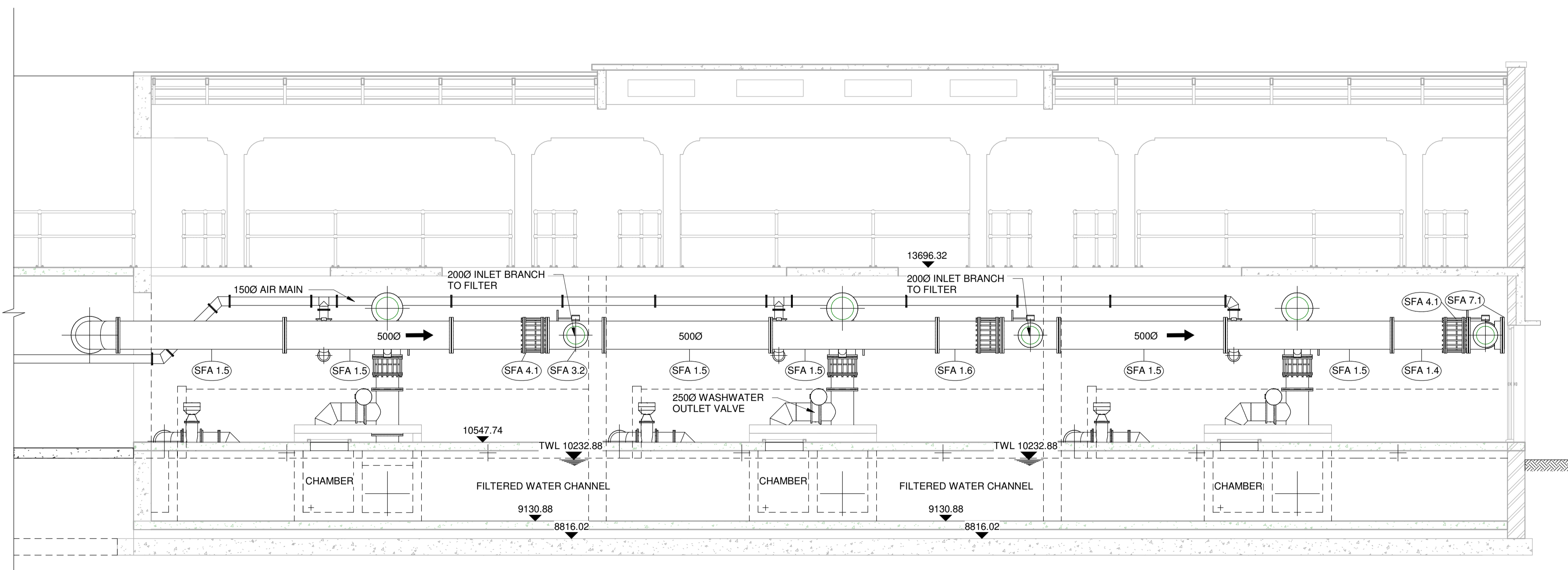
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COORD SYSTEM	DATE	SEPT 2023
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SECTION B-B - FILTER 1 to 6
SCALE 1 : 50



SECTION B-B - FILTER 7 to 12
SCALE 1 : 50

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**RIVERTON WTW: OLD PLANT
NEW PIPEWORK FILTERS 1 to 12
PIPEWORK & DETAILS**



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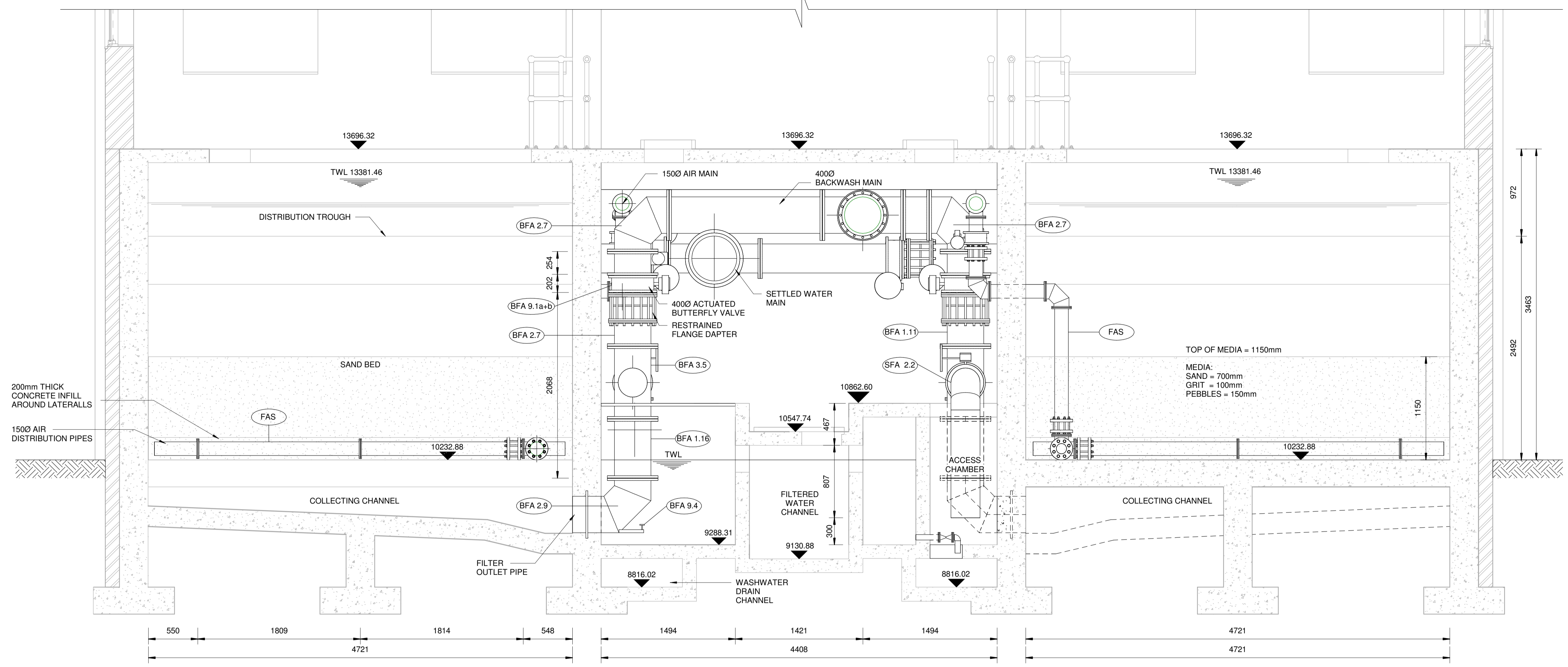
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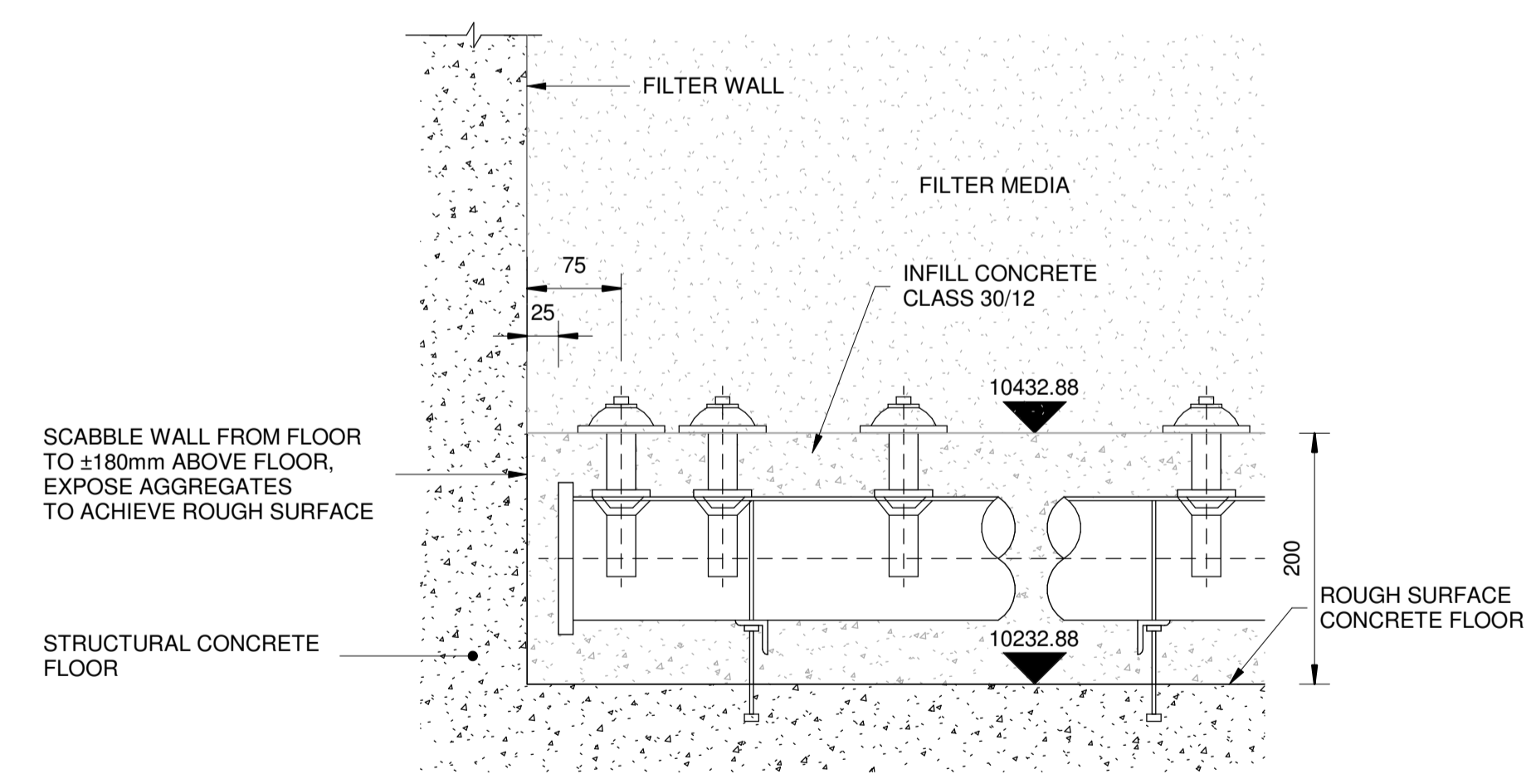
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DRAWN	V MABONA	DATE
COORD SYSTEM	DATE	SEPT 2023
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DRAWING No.: 3338.12.00.WFA.14.X002		

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SECTION A-A
SCALE 1 : 25



TYPICAL FLOOR DETAIL
SCALE 1 : 5

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NEW PIPEWORK FILTERS 1 to 12
PIPEWORK & DETAILS**



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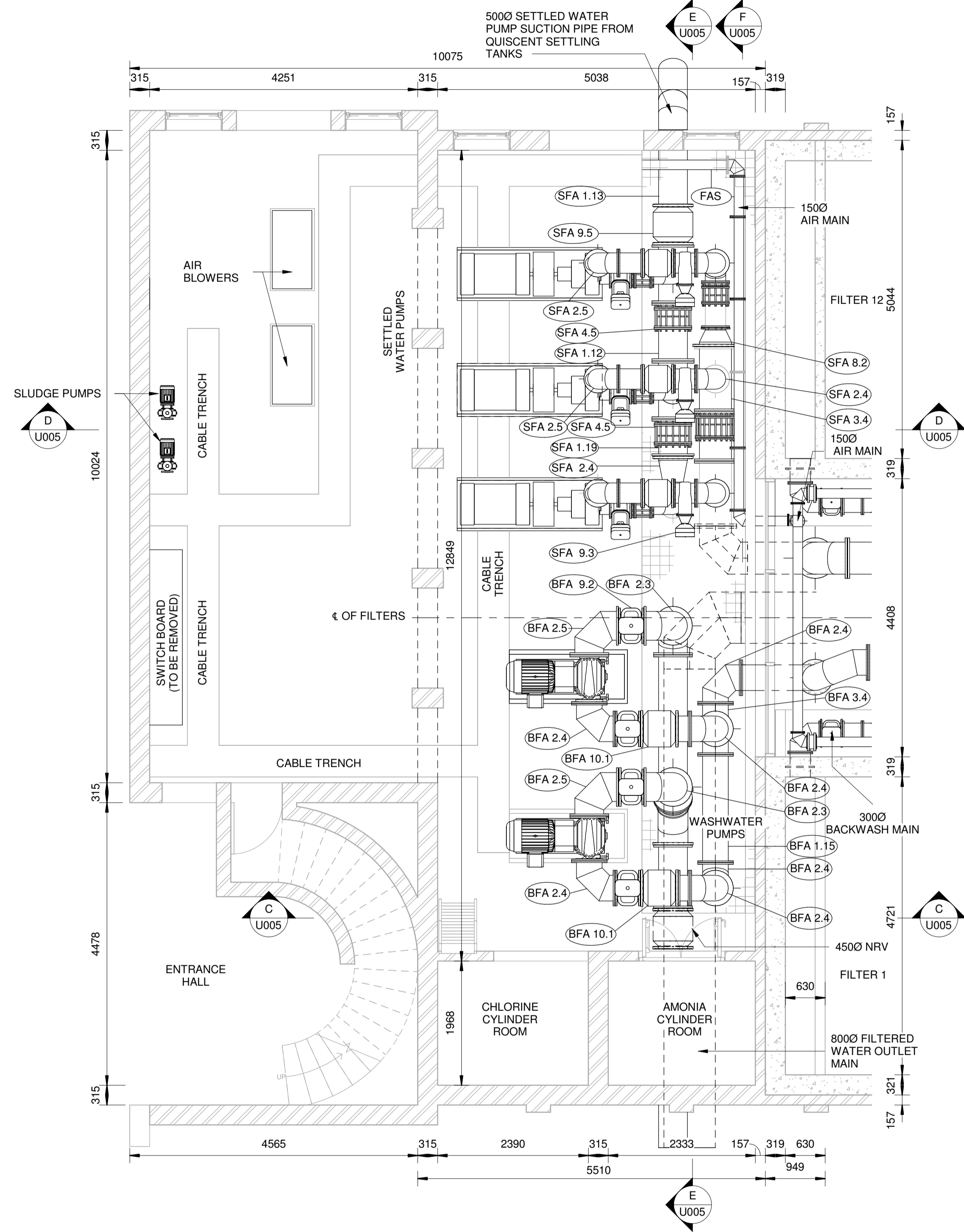
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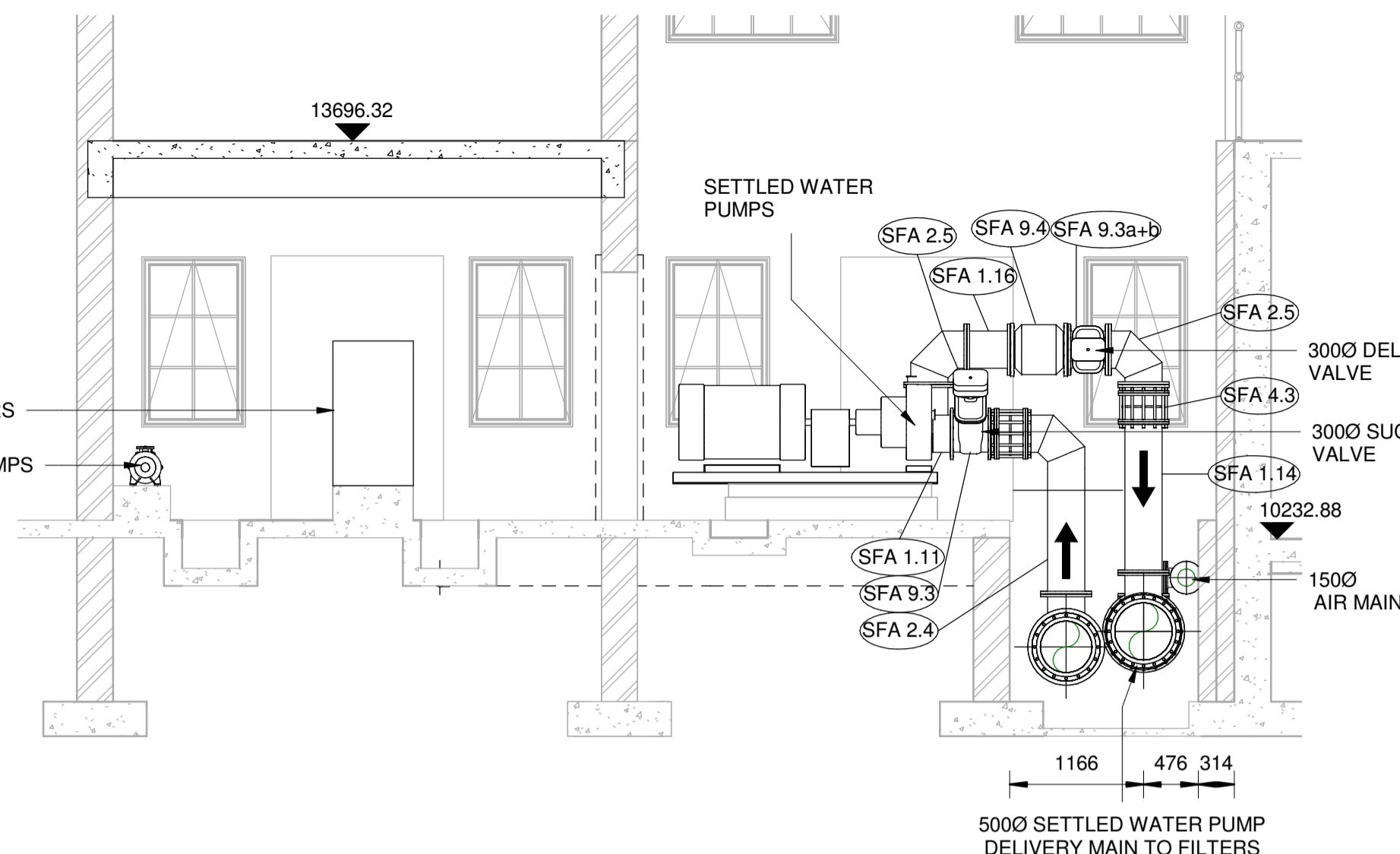
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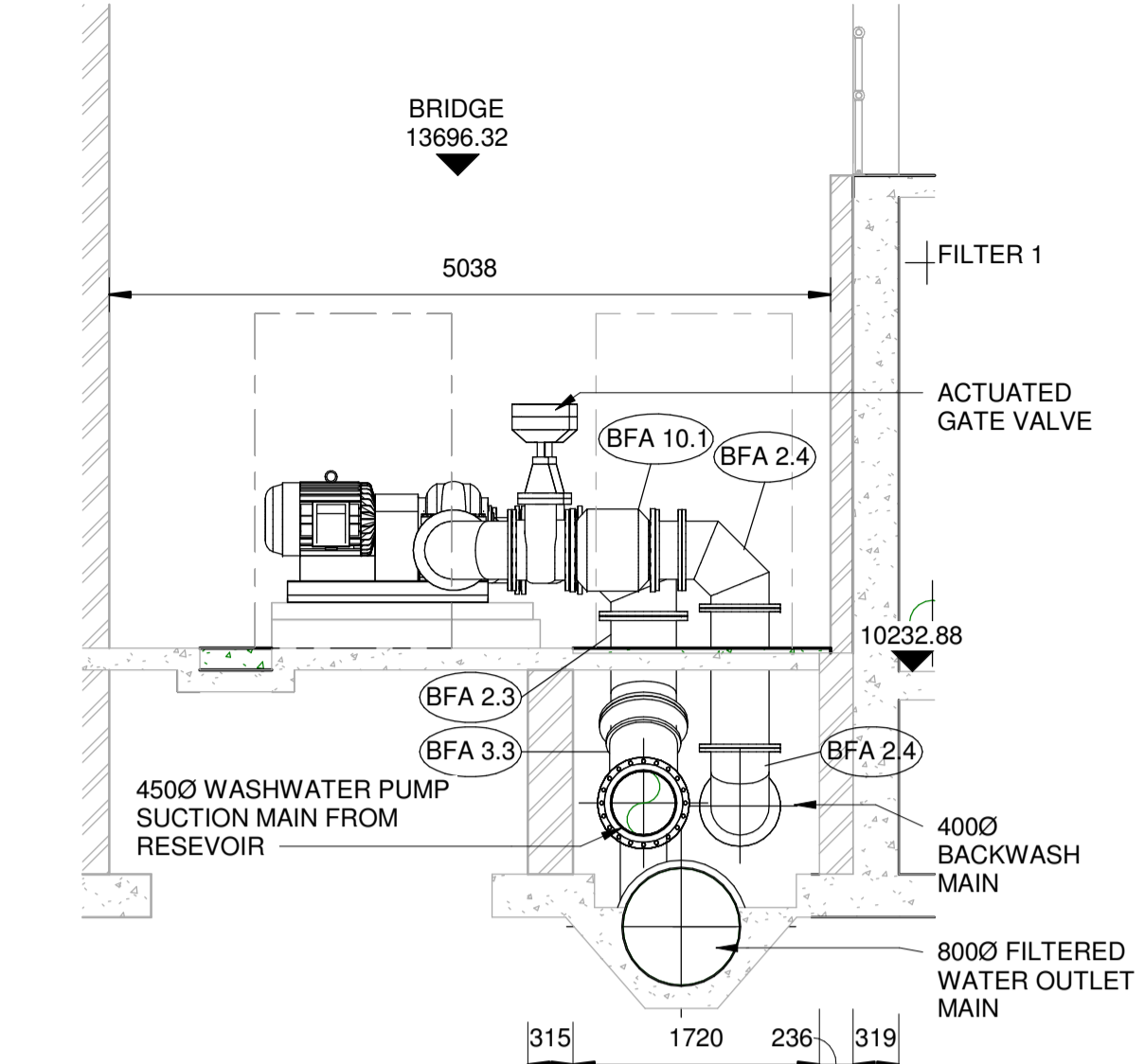
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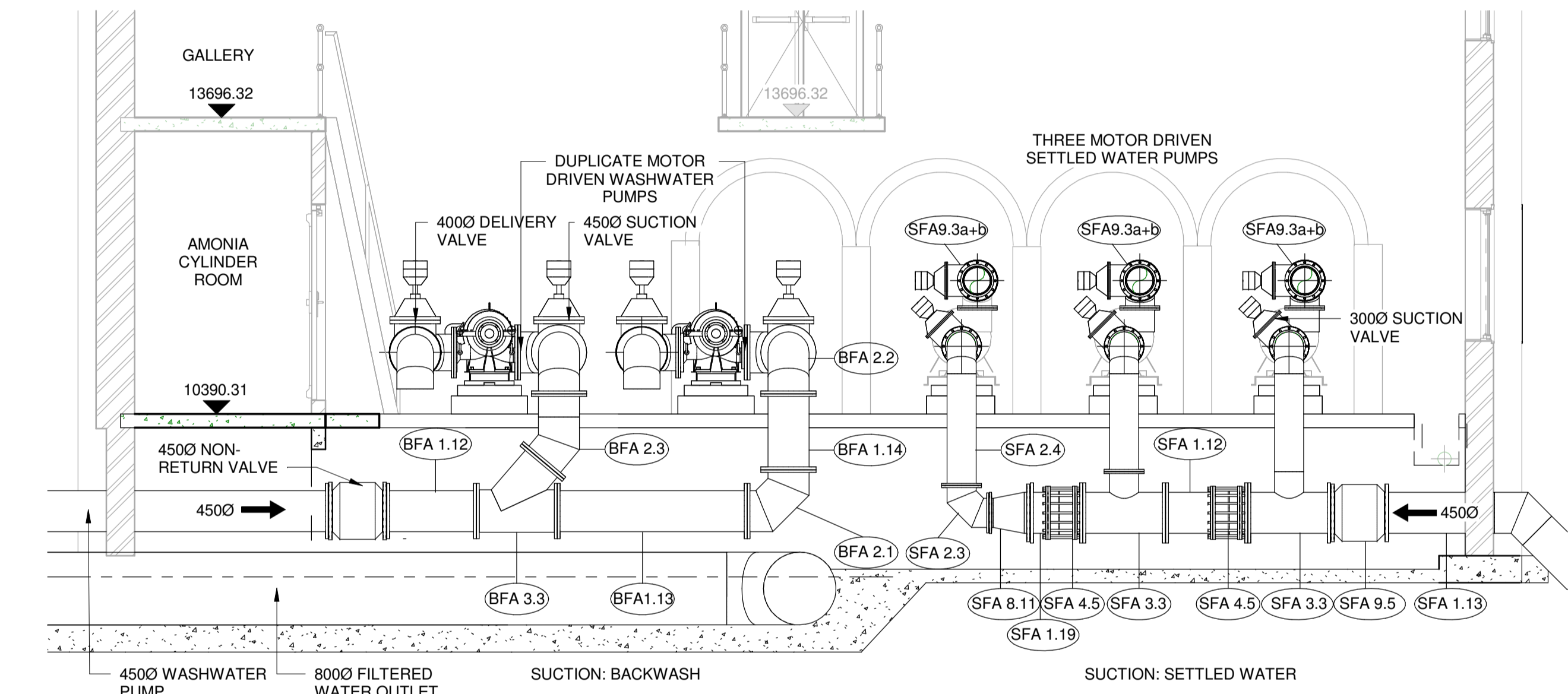
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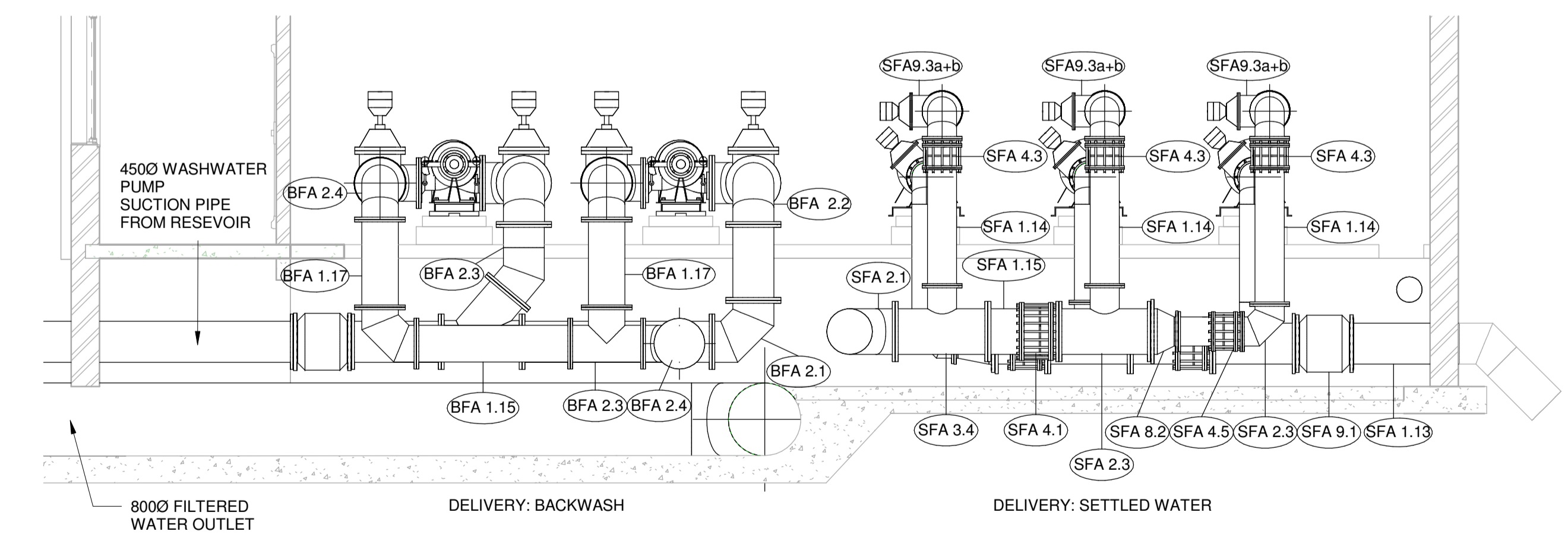
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SECTION C-C
SCALE 1 : 50



SECTION E-E
SCALE 1 : 50



SECTION F-F
SCALE 1 : 50

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SYSTEM INTERVENTION**

DRAWING TITLE:
**RIVERTON WTW: OLD PLANT
NEW PIPEWORK MACHINERY ROOM
PLAN & SECTIONS**

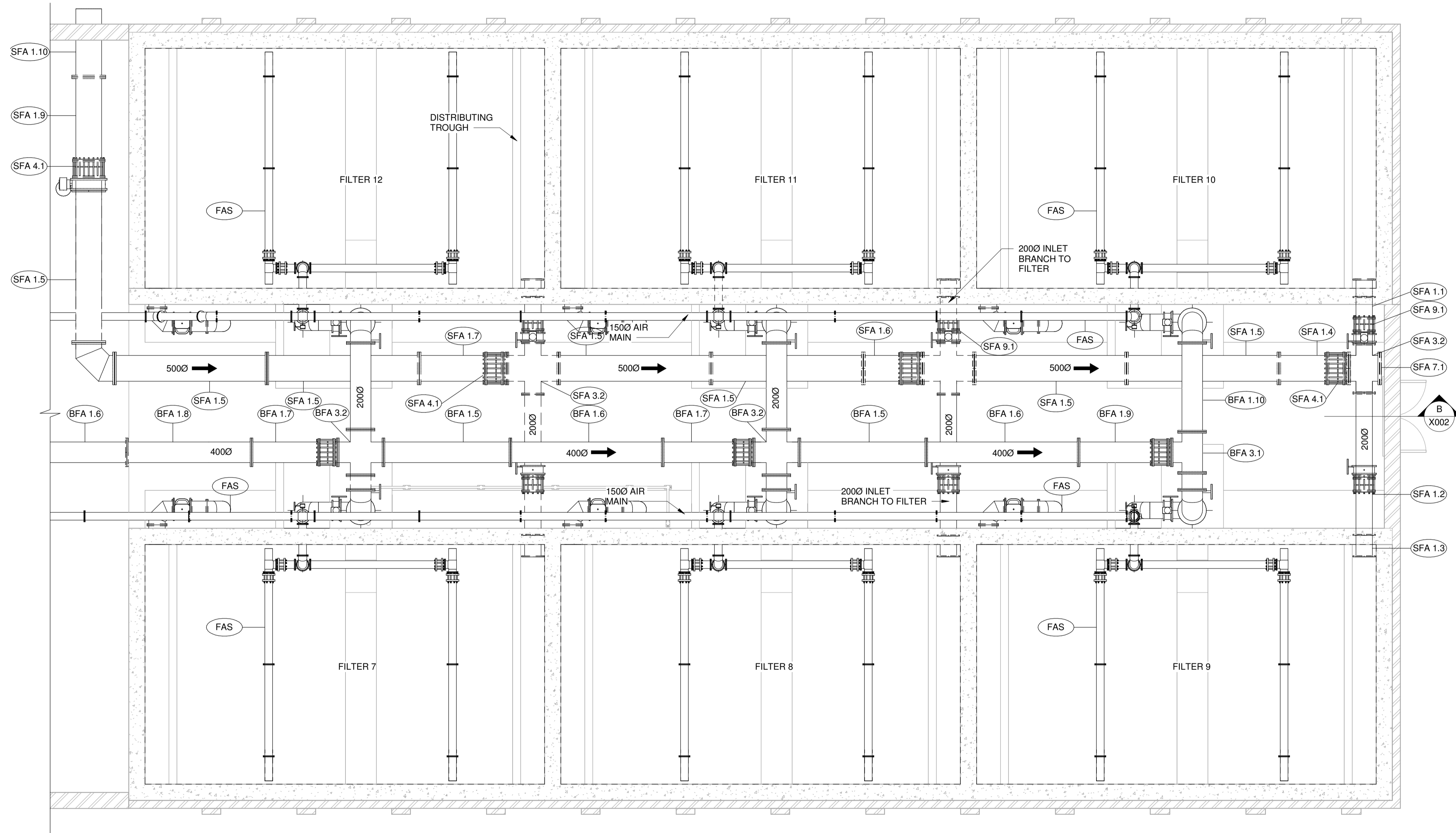


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DRAWN	V MABONA	
COORD SYSTEM	DATE	SEPT 2023
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VERSION:		2

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PROJECT TITLE:
**SOL PLAAATJE LOCAL MUNICIPALITY
 INTERGRATED BULK WATER SUPPLY
 SYSTEM INTERVENTION**

DRAWING TITLE:
**RIVERTON WTW: OLD PLANT
 NEW PIPEWORK FILTERS 7 to 12
 UPPER GALLERY PLAN**

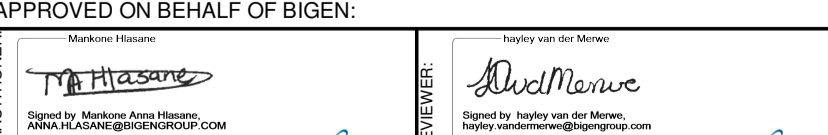


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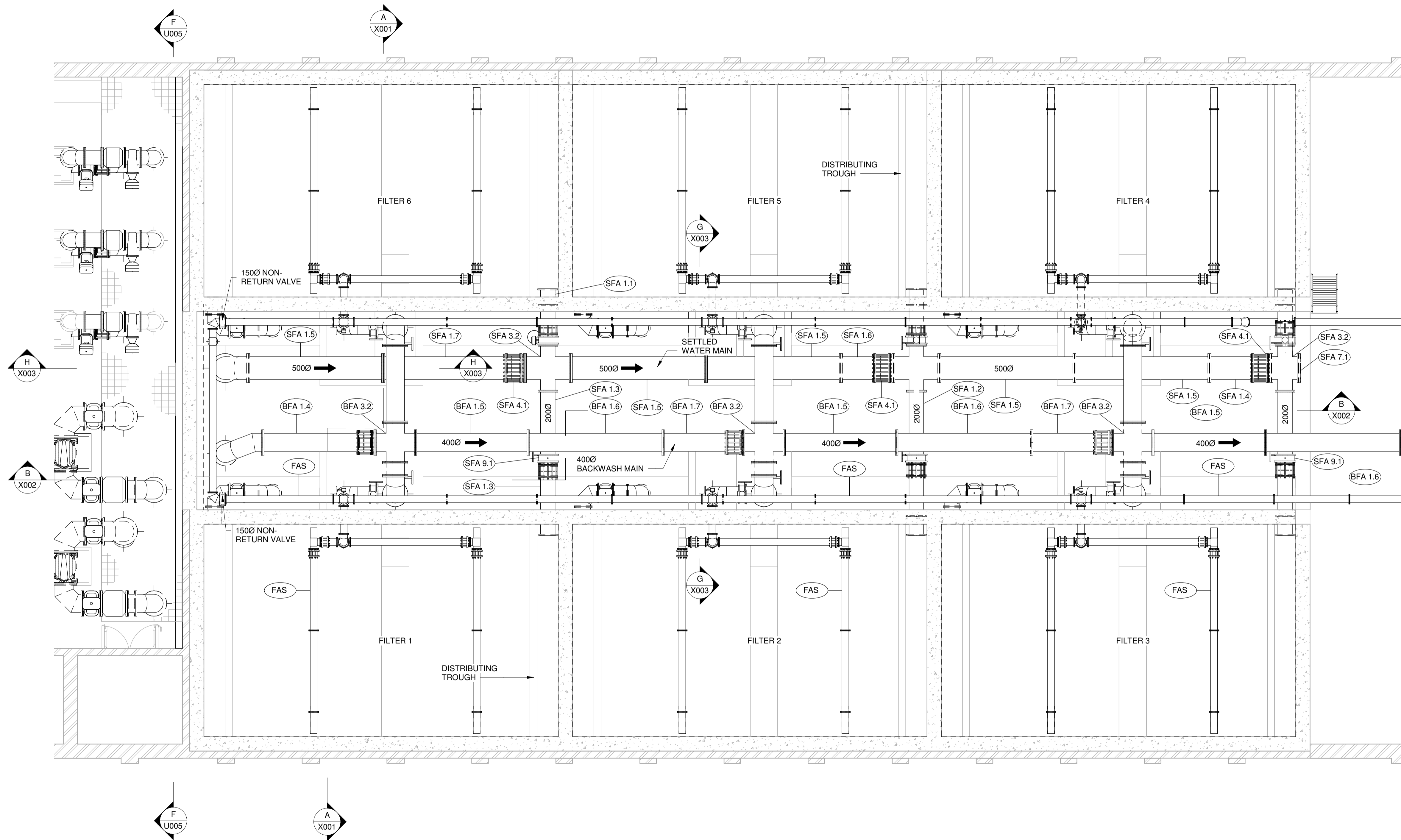
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APPROVED ON BEHALF OF CLIENT:

NAME: _____
 DATE: _____
 CLIENT DRAWING No.: _____ CLIENT REF No.: _____

SURVEYED	DESIGNED	A HLASANE
DRAWN	V MABONA	DATE
COORD SYSTEM	DATE	SEPT 2023
APPROVED ON BEHALF OF BIGEN:		
		
DRAWING No.:	3338.12.00.WFA.14.U004	VERSION: 1

3338.12.00.WFA.14.U004



2024/10/16 16:13:39 X:\dms8261\3338-12-00 - SOL PLAAATJIE - OLD PLANT FILTERS - REV 6 (1).DWG

VERSION/AMENDMENTS			
No.	DATE	DESCRIPTION	AUTH. BY

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PROJECT TITLE:
**SOL PLAAATJIE LOCAL MUNICIPALITY
 INTERGRATED BULK WATER SUPPLY
 SYSTEM INTERVENTION**

DRAWING TITLE:
**RIVERTON WTW: OLD PLANT
 NEW PIPEWORK FILTERS 1 to 6
 UPPER GALLERY PLAN**



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 100mm ON ORIGINAL DRAWING

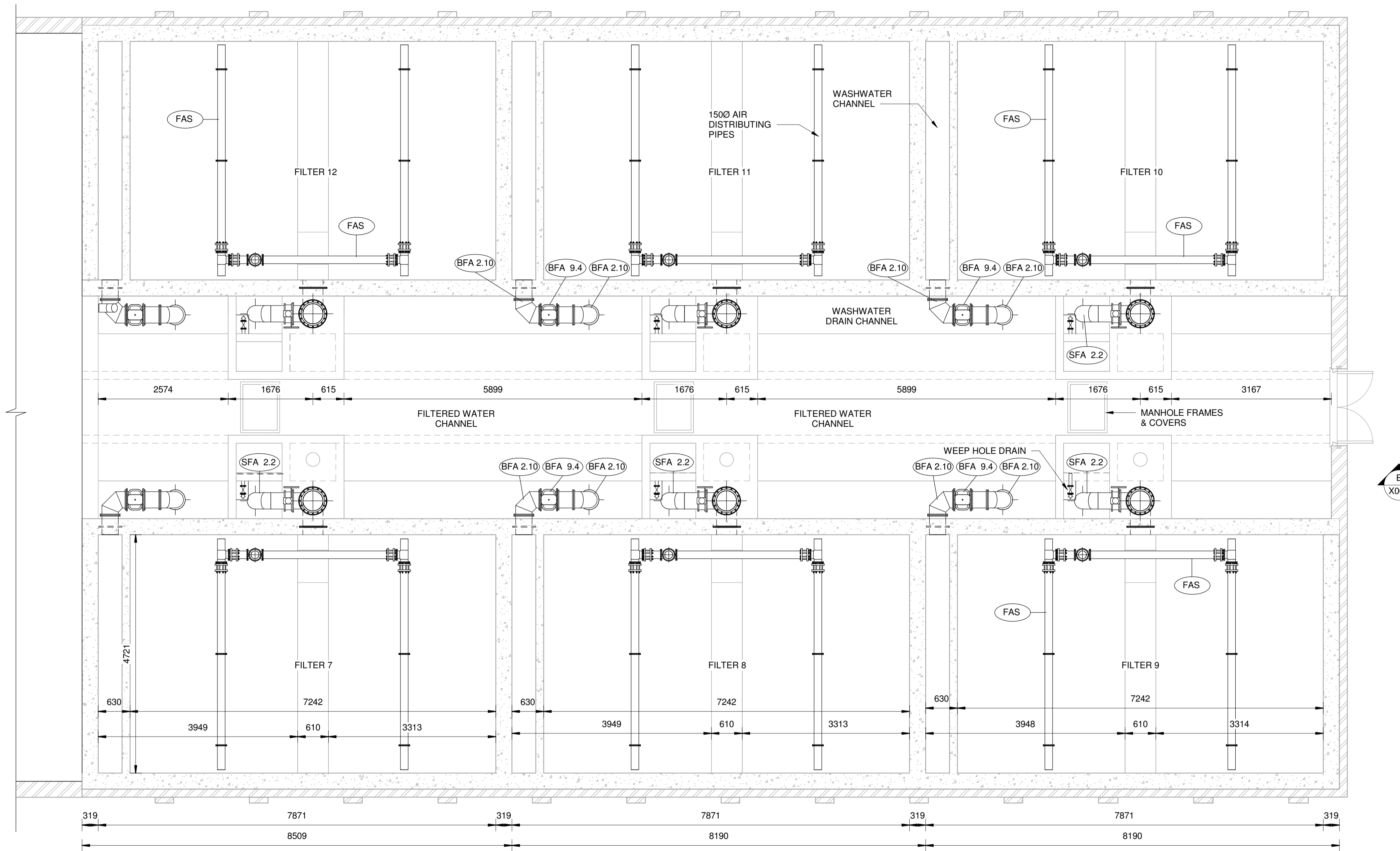
ORIGINAL DRAWING SCALE: 1 : 50 ORIGINAL DRAWING SHEET SIZE: A1

APPROVED ON BEHALF OF CLIENT:

NAME: _____
 DATE: _____
 CLIENT DRAWING No.: _____ CLIENT REF No.: _____

SURVEYED	DESIGNED	A HLASANE
DRAWN	V MABONA	DATE
COORD SYSTEM	DATE	SEPT 2023
APPROVED ON BEHALF OF BIGEN:		
 Signed by: M. Hlasane Signed by: V. Mabona		
DRAWING No.:	3338.12.00.WFA.14.U003	VERSION: 1

3338-12.00-WFA-14-U003



LOWER FLOOR PLAN - 7 - 12
SCALE 1 : 50

2024/10/16 16:14:27 X:\dms8261\3338-12-00 - SOL PLAAATJIE - OLD PLANT FILTERS - REV 6 (1).DWG

VERSION/AMENDMENTS			
No.	DATE	DESCRIPTION	AUTH. BY

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PROJECT TITLE:
**SOL PLAAATJIE LOCAL MUNICIPALITY
INTERGRATED BULK WATER SUPPLY
SYSTEM INTERVENTION**

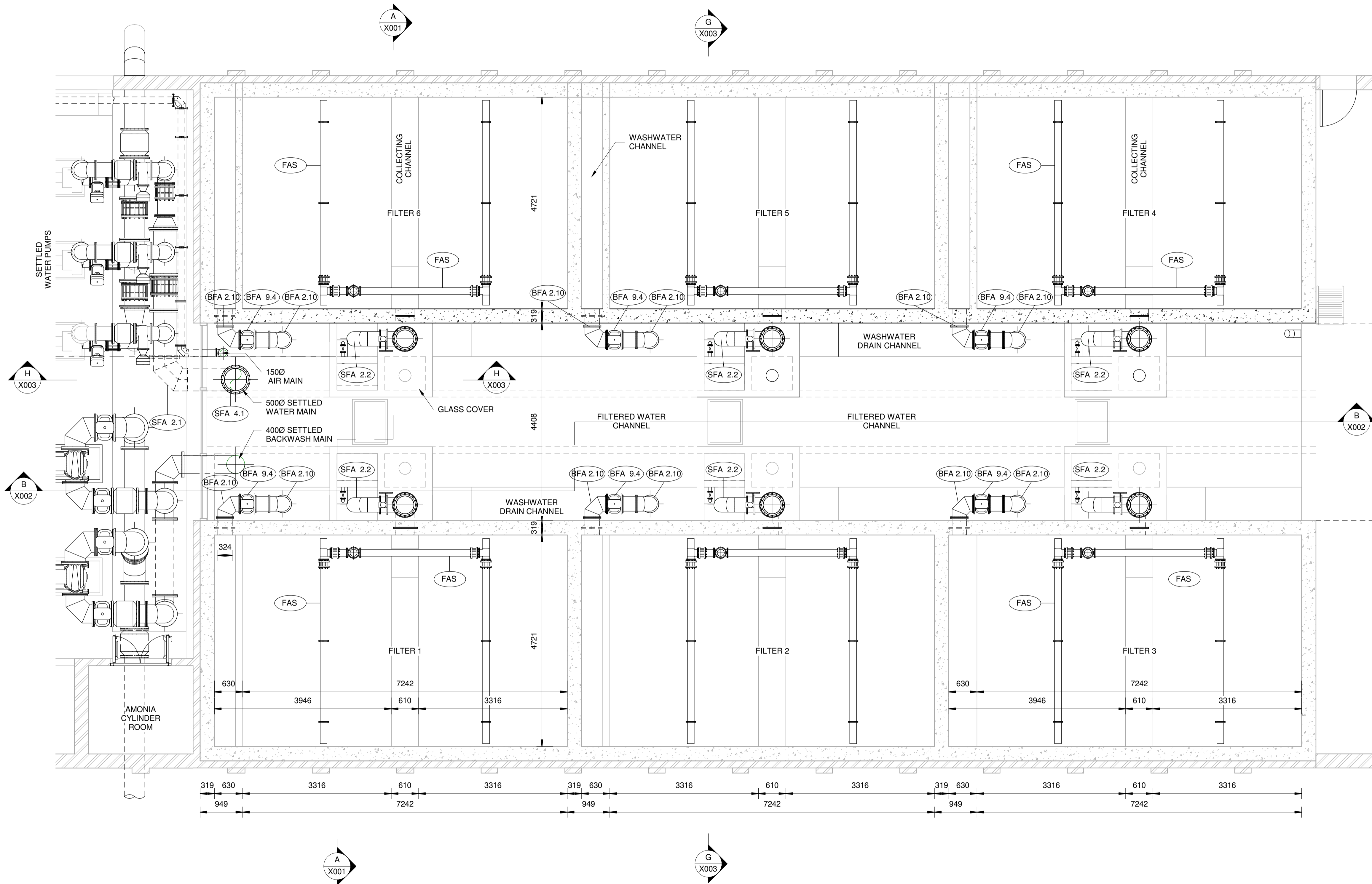
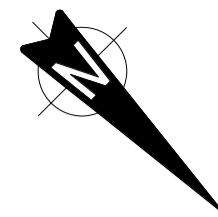
DRAWING TITLE:
**RIVERTON WTW: OLD PLANT
NEW PIPEWORK FILTERS 7 to 12
LOWER GALLERY PLAN**



ORIGINAL DRAWING SCALE: 1 : 50	ORIGINAL DRAWING SHEET SIZE: A1
APPROVED ON BEHALF OF CLIENT:	
NAME:	
DATE:	
CLIENT DRAWING No.:	CLIENT REF No.:

SURVEYED	DESIGNED	A HLASANE
DRAWN	V MABONA	
COORD SYSTEM	DATE	SEPT 2023
APPROVED ON BEHALF OF BIGEN:		
DRAWING No.:	3338.12.00.WFA.14.U002	VERSION: 1

3338.12.00.WFA.14.U002



2024/10/16 16:15:11 X:\dms8261\3338-12-00 - SOL PLAAJTJE - OLD PLANT FILTERS - REV 6 (1).DWG

VERSION/AMENDMENTS			
No.	DATE	DESCRIPTION	AUTH. BY
A.0	Date 4	1	

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PROJECT TITLE:
**SOL PLAAJTJE LOCAL MUNICIPALITY
 INTERGRATED BULK WATER SUPPLY
 SYSTEM INTERVENTION**

DRAWING TITLE:
**RIVERTON WTW: OLD PLANT
 NEW PIPEWORK FILTERS 1 to 6
 LOWER GALLERY PLAN**



ORIGINAL DRAWING SCALE: 1 : 50	ORIGINAL DRAWING SHEET SIZE: A1
APPROVED ON BEHALF OF CLIENT:	
NAME:	
DATE:	
CLIENT DRAWING No.:	CLIENT REF No.:

SURVEYED	DESIGNED	A HLASANE
DRAWN	V MABONA	
COORD SYSTEM	DATE	SEPT 2023
APPROVED ON BEHALF OF BIGEN:		
DRAWING No.:	3338.12.00.WFA.14.U001	VERSION: 1

3338.12.00.WFA.14.U001

NOTES:

- PIPE ITEM DIMENSIONS** – ON LAYOUT DWGS AS REFERRED TO.
NB – SAID DIMENSIONS MUST BE VERIFIED ON SITE PRIOR TO ORDERING OF SUCH ITEMS ESPECIALLY WITH REGARD TO NEW AND EXISTING PIPEWORK CONNECTIONS AS WELL AS NEW PIPEWORK IN EXISTING STRUCTURES.
- DIMENSIONS FOR EQUIPMENT** – VALVES, FLOW METERS, PRELIMINARY SELECTED PUMPS, ETC. WERE OBTAINED FROM CATALOGUES FOR PIPEWORK LAYOUT DESIGNS.
SUCH DIMENSIONS MAY BE INCORRECT ONCE MECHANICAL EQUIPMENT SUBMITTED BY CONTRACTOR HAS BEEN APPROVED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CHECK ALL AFFECTED PIPE ITEM DIMENSIONS PRIOR TO ORDERING ANY ITEMS.
- UNLESS SHOWN OTHERWISE:**
ALL VALVES, FLOW METERS, STRAIGHT AND STEPPED COUPLINGS AS WELL AS FLANGE ADAPTERS TO BE FOR 1000 KPA MAXIMUM WORKING PRESSURE.
- PIPE ITEM MATERIAL**
ST GRADE 300 WA STEEL
X52 GRADE X52 STEEL
316L GRADE 316L STAINLESS STEEL
FLANGES EX 300WA OR AS SPECIFIED
FLANGES ON SS ITEMS:
SUBMERGED – 316L SS
NOT SUBMERGED – 300WA
SLUICE & CHANNEL GATES:
– SUBMERGED PARTS, ANCHORS & SPINDLE EX SS
– OPERATING GEAR, BRIDGES & PEDESTALS ABOVE WATER LINE EX ST
.../6,0 PIPE ITEM WALL THICKNESS FOR SPECIFIC MATERIAL
AL ALUMINIUM
NB DUAL MATERIAL SPECIFIED FOR ONE ITEM – SS PORTION TO BE CAST INTO CONCRETE AND MUST EXTEND 150 mm MIN BEYOND DRY CONCRETE FACE OR AS INDICATED.
- ABBREVIATIONS**
CORROSION PROTECTION FACTORY APPLICATION
EP EPOXY PAINT
FBE FUSION BONDED EPOXY
G HOT-DIP GALVANISING
MPEP MULTI-PURPOSE EPOXY PAINT
RB REINFORCED BITUMEN
ON SITE APPLICATION, AFTER INSTALLATION
RPU RE-COATABLE POLYURETHANE TO CLIENT'S COLOUR
CODING SPECIFICATION
Tape WRAP

C CORROSION PROTECTION COATING
COR PR CORROSION PROTECTION
CTO CAP TOP – OPERATED
CTS PIPE LENGTH CUT TO SUIT ON SITE
DP DIFFERENTIAL PRESSURE
DWG DRAWING
EA ELECTRIC ACTUATOR
F FLANGED
F/F FACE TO FACE DIMENSION
FA FLANGE ADAPTOR
FDT FLANGE DRILLING TABLE
GS GALVANISED STEEL
HD HEAVY DUTY – GALVANISED STEEL PIPEWORK
HPWB HANDWHEEL PEDESTAL ON WALL SUPPORT BRACKET
HW HANDWHEEL
HWO HANDWHEEL-OPERATED
IF INSULATED FLANGE CONNECTION
KCV KNIFE GATE VALVE
LF LOOSE FLANGE – WELDED ONTO PIPE END AFTER CUTTING PIPE LENGTH TO SUIT ON SITE –
NB: INSTALLATION POSITION AS INDICATED ON LAYOUT DRAWING TO REMAIN UNCHANGED
LH LEFT HAND SIDE
LR LONG RADIUS
MD MEDIUM DUTY – GALVANISED STEEL PIPEWORK
MR MEDIUM RADIUS
MWP MAXIMUM WORKING PRESSURE
OD OUTSIDE DIAMETER
PCD PITCH CIRCLE DIAMETER FOR FLANGES
PE PLAIN PIPE END
PF PUDDLE FLANGE – UNLESS OTHERWISE SPECIFIED, ALL TO BE EX 10 mm THICK GRADE 300 WA STEEL. PF OD 100 mm GREATER THAN PIPE OD. NOT TO BE DRILLED
PMHP PLATFORM-MOUNTED HANDWHEEL PEDESTAL
R RADIUS
RB RESTRAINING BOLT
RC REINFORCED CONCRETE
RF RESTRAINING FLANGE
RH RIGHT HAND SIDE
RSV RESILIENT SEAL GATE VALVE
S CORROSION PROTECTION SITE APPLICATION
SB SOLID BODY
S + S SCREWED + SOCKETED
SE SPINDLE EXTENSION
SHPWB STUB HANDWHEEL PEDESTAL ON WALL SUPPORT BRACKET
SO APPROPRIATE SOCKET WITH PLUG WELDED ONTO PIPE ITEM IN POSITION AS SPECIFIED FOR INSTRUMENTATION INSTALLATION
SP STRAIGHT PIPE
SR-C STRAIGHT COUPLING
SS STAINLESS STEEL
ST-C STEPPED COUPLING
SW CERTAIN ITEMS WELDED TOGETHER ON SITE (SITE WELDING). PREPARATION OF ENDS FOR WELDING MUST COMPLY WITH THE SPECIFICATION – NB – CORROSION PROTECTION TO BE REPAIRED TO ENGINEER'S APPROVAL
t PLATE THICKNESS
WGV WEDGE GATE VALVE
WT PIPE WALL THICKNESS

Revisions	Item No	Total	Refer Dwg	Dia Left	Dia Right	Dia Brch 1	Dia Brch 2	End Left	End Right	End Brch 1	End Brch 2	Bend Angle (Degree)	Bend Radius	Material	Flange Spec/Drilling SABS 1123 (1977)	Corrosion Protection			Description	Dimensions
																Internal Lining	External Coating	Site Application		
WFA – FILTERS: BACKWASH SYSTEM – DWG. 3338.12.00.WFA.14.A001, A002, U001, U002, U003, U004, X001, X002 AND X003																				
	BFA 2.7	15	U005, X002	400	400			F	F			90	405	ST/4.5	1000/3	EP	EP	RPU	3-SEGMENT ELBOW	
	BFA 2.8	1	X002	400	400			F	F			90	405	ST/4.5	1000/3	EP	EP	RPU	3-SEGMENT ELBOW WITH 21' HORIZONTAL OFF-SET	
	BFA 2.9	12	X001	400	400			F	F			90	405	ST/4.5	1000/3	EP	EP	RPU	3-SEGMENT ELBOW WITH PF AND 100# DRAIN PIPE	
	BFA 2.10	24	X001	300	300			F	F			90	305	ST/4.5	1000/3	EP	EP	RPU	3-SEGMENT ELBOW	
	BFA 3.1	2	U004, U005	400	400	400		F	F	F				ST/4.5	1000/3	EP	EP	RPU	TEE PIECE	
	BFA 3.2	5	U003, U004	400	400	400	400	F	F	F	F			ST/4.5	1000/3	EP	EP	RPU	EQUAL CROSS	
	BFA 3.3	1	U005	450	450	450		F	F	F				ST/4.5	1000/3	EP	EP	RPU	60' LATERAL TEE PIECE	
	BFA 3.4	1	U005	400	400	400		F	F	F				ST/4.5	1000/3	EP	EP	RPU	EQUAL TEE	
	BFA 4.1	18	U003, U004, X001											ST	1000/3	EP	EP	RPU	400 DIA FA	STANDARD
	BFA 9.1a	12	U003, U004, X001	400										ST	1000/3	FBE	FBE	RPU	400 DIA FLANGED ISOLATING BUTTERFLY VALVE WITH RH GEARBOX FOR 1000KPa MWP	
	BFA 9.1b	12	U003, U004, X001											ST					SUITABLE OPEN/CLOSE ELECTRIC ACTUATOR FOR ITEM BFA 9.1a	
	BFA 9.2	2	U003, U004, X001	450										ST	1000/3	FBE	FBE	RPU	450 DIA FLANGED NON RISING SPINDLE RSV TO SANS 664	
	BFA 9.3	2	U005, X002	400										ST/4.5	1000/3	EP	EP	RPU	400 DIA FLANGED NON RISING SPINDLE RSV TO SANS 664	
	BFA 9.4	12	U003, X002	100										ST/4.5	1000/3	EP	EP	RPU	100 DIA FLANGED NON RISING SPINDLE RSV TO SANS 664	
	BFA 10.1	2	U005	400										ST/4.5	1000/3	EP	EP	RPU	400 DIA FLANGED, SLANTED SEAT TILTING DISK CHECK VALVE	
	BFA 10.2	1	U005	450										ST/4.5	1000/3	EP	EP	RPU	450 DIA FLANGED, SLANTED SEAT TILTING DISK CHECK VALVE	
	FAS	1	U003, U004, X001, X002																APPROX 72m 150 DIA MED DUTY GS SANS 62 STEEL (4,24mm WT) AND APPROX 120m 150 DIA SS (3,4mm WT) FILTER AIR SCOUR PIPEWORK. • SS SECTIONS APPLY TO SUBMERGED PIPEWORK WITH SUITABLE END TO CONNECT ONTO PIPEWORK AS SPECIFIED BY FILTER FLOOR SPECIALIST. • 12 APPROVED 150 DIA ELECTRIC ACTUATED ISOLATING BUTTERFLY VALVES: – 1000 KPA MWP – SOLID BODY – DRILLING TO SANS 1123 (1977), TABLE 1000/3 – RH SIDE GEARBOX • 12 NO FA – DOWNSTREAM END OF ISOLATING VALVE • PIPEWORK IN FILTER GALLERY – FLANGE CONNECTED WITH APPROVED ANCHOR SECURING TO STRUCTURE • CORROSION PROTECTION – IN FILTER GALLERY AND EXPOSED TO SUNLIGHT – HOT DIP GALVANISED + RPU – SS: L-EP, C-EP	

VERSION			
No.	DATE	DESCRIPTION	AUTH. BY

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PROJECT TITLE:
SOL PLAATJE LOCAL MUNICIPALITY INTERGRATED BULK WATER SUPPLY SYSTEM INTERVENTION

DRAWING TITLE:
RIVERTON WTW: OLD PLANT FILTERS PIPE ITEM AND VALVE SCHEDULES



0 50 100 100mm ON ORIGINAL DRAWING	SURVEYED	DESIGNED	A Hlasane
ORIGINAL DRAWING SCALE: AS SHOWN	DRAWN	A Hlasane	
ORIGINAL DRAWING SHEET SIZE: A1	COORD SYSTEM	DATE	September 2023
APPROVED ON BEHALF OF CLIENT:			
NAME:	DATE:		
CLIENT DRAWING No.:	CLIENT REF No.:		

APPROVED ON BEHALF OF BIGEN:			
NAME:	DATE:		
DRAWING No.:	VERSION:		
3338.12.00.WFA.14.M004	2		

3338.12.00.WFA.14.M004

NOTES:

- PIPE ITEM DIMENSIONS – ON LAYOUT DWGS AS REFERRED TO.
NB – SAID DIMENSIONS MUST BE VERIFIED ON SITE PRIOR TO ORDERING OF SUCH ITEMS, ESPECIALLY WITH REGARD TO NEW AND EXISTING PIPEWORK CONNECTIONS AS WELL AS NEW PIPEWORK IN EXISTING STRUCTURES.
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- PIPE ITEM MATERIAL
ST GRADE 300 WA STEEL
X52 GRADE X52 STEEL
316L GRADE 316L STAINLESS STEEL
FLANGES EX 300WA OR AS SPECIFIED
FLANGES ON SS ITEMS:
SUBMERGED – 316L SS
NOT SUBMERGED – 300WA
SLUICE & CHANNEL GATES:
-SUBMERGED PARTS, ANCHORS & SPINDLE EX SS
-OPERATING GEAR, BRIDGES & PEDESTALS ABOVE
WATER LINE EX ST
.../6,0 PIPE ITEM WALL THICKNESS FOR SPECIFIC MATERIAL
AL ALUMINIUM
NB DUAL MATERIAL SPECIFIED FOR ONE ITEM – SS PORTION TO BE CAST INTO CONCRETE AND MUST EXTEND 150 mm MIN BEYOND DRY CONCRETE FACE OR AS INDICATED.
- ABBREVIATIONS
CORROSION PROTECTION
FACTORY APPLICATION
EP EPOXY PAINT
FBE FUSION BONDED EPOXY
G HOT-DIP GALVANISING
MPEP MULTI-PURPOSE EPOXY PAINT
RB REINFORCED BITUMEN
ON SITE APPLICATION, AFTER INSTALLATION
RPU RE-COATABLE POLYURETHANE TO CLIENT'S COLOUR
CODING SPECIFICATION
Tape WRAP
C CORROSION PROTECTION COATING
COR PR CORROSION PROTECTION
CTO CAP TOP – OPERATED
CTS PIPE LENGTH CUT TO SUIT ON SITE
DP DIFFERENTIAL PRESSURE
DWG DRAWING
EA ELECTRIC ACTUATOR
F FLANGED
F/F FACE TO FACE DIMENSION
FA FLANGE ADAPTOR
FDT FLANGE DRILLING TABLE
GS GALVANISED STEEL
HD HEAVY DUTY – GALVANISED STEEL PIPEWORK
HPWB HANDWHEEL PEDESTAL ON WALL SUPPORT BRACKET
HW HANDWHEEL
HWO HANDWHEEL-OPERATED
IF INSULATED FLANGE CONNECTION
KGV KNIFE GATE VALVE
LF LOOSE FLANGE – WELDED ONTO PIPE END AFTER CUTTING PIPE LENGTH TO SUIT ON SITE –
NB: INSTALLATION POSITION AS INDICATED ON LAYOUT DRAWING TO REMAIN UNCHANGED
LH LEFT HAND SIDE
LR LONG RADIUS
MR MEDIUM RADIUS
MR MEDIUM RADIUS
MWP MAXIMUM WORKING PRESSURE
OD OUTSIDE DIAMETER
PCD PITCH CIRCLE DIAMETER FOR FLANGES
PE PLAIN PIPE END
PF PUDDLE FLANGE – UNLESS OTHERWISE SPECIFIED, ALL TO BE EX 10 mm THICK GRADE 300 WA STEEL. PF OD 100 mm GREATER THAN PIPE OD. NOT TO BE DRILLED
PMHP PLATFORM-MOUNTED HANDWHEEL PEDESTAL
R RADIUS
RB RESTRAINING BOLT
RC REINFORCED CONCRETE
RF RESTRAINING FLANGE
RH RIGHT HAND SIDE
RSV RESILIENT SEAL GATE VALVE
S CORROSION PROTECTION SITE APPLICATION
SB SOLID BODY
S + S SCREWED + SOCKETED
SE SPINDLE EXTENSION
SHPWB STUB HANDWHEEL PEDESTAL ON WALL SUPPORT BRACKET
SO APPROPRIATE SOCKET WITH PLUG WELDED ONTO PIPE ITEM IN POSITION AS SPECIFIED FOR INSTRUMENTATION INSTALLATION
SP STRAIGHT PIPE
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t PLATE THICKNESS
WGV WEDGE GATE VALVE
WT PIPE WALL THICKNESS

Revisions	Item No	Total	Refer Dwg	Dia Left	Dia Right	Dia Brch 1	Dia Brch 2	End Left	End Right	End Brch 1	End Brch 2	Bend Angle (Degree)	Bend Radius	Material	Flange Spec/Drilling SABS 1123 (1977)	Corrosion Protection			Description	Dimensions
																Internal Lining	External Coating	Site Application		
WFA – FILTERS: BACKWASH SYSTEM – DWG. 3338.12.00.WFA.14.A001, A002, U001, U002, U003, U004, X001, X002 AND X003																				
	BFA 1.1	1	U005	400	400			F	F					ST/4.5	1000/3	EP	EP	RPU	SP	
	BFA 1.2	1	U005, X002	400	400			F	F					ST/4.5	1000/3	EP	EP	RPU	SP	
	BFA 1.3	1	X002	400	400			F	FA					ST/4.5	1000/3	EP	EP	RPU	SP WITH RESTRAINED FLANGE, PROVIDE SUITABLE AND APPROVED RB'S	
	BFA 1.4	1	U003	400	400			F	FA					ST/4.5	1000/3	EP	EP	RPU	SP WITH RESTRAINED FLANGE, PROVIDE SUITABLE AND APPROVED RB'S	
	BFA 1.5	5	U003	400	400			FA	F					ST/4.5	1000/3	EP	EP	RPU	SP	
	BFA 1.6	6	U003	400	400			F	F					ST/4.5	1000/3	EP	EP	RPU	SP	
	BFA 1.7	4	U003	400	400			F	FA					ST/4.5	1000/3	EP	EP	RPU	SP WITH RESTRAINED FLANGE, PROVIDE SUITABLE AND APPROVED RB'S	
	BFA 1.8	1	U003	400	400			F	F					ST/4.5	1000/3	EP	EP	RPU	SP WITH PF	
	BFA 1.9	1	U003	400	400			F	FA					ST/4.5	1000/3	EP	EP	RPU	SP WITH RESTRAINED FLANGE, PROVIDE SUITABLE AND APPROVED RB'S	
	BFA 1.10	6	U003	400	400			F	FA					ST/4.5	1000/3	EP	EP	RPU	SP WITH RESTRAINED FLANGE, PROVIDE SUITABLE AND APPROVED RB'S	
	BFA 1.11	12	X001	400	400			F	FA					ST/4.5	1000/3	EP	EP	RPU	SP WITH RESTRAINED FLANGE, PROVIDE SUITABLE AND APPROVED RB'S	
	BFA 1.12	1	U005	450	450			F	F					ST/4.5	1000/3	EP	EP	RPU	SP	
	BFA 1.13	1	U005	450	450			F	F					ST/4.5	1000/3	EP	EP	RPU	SP	
	BFA 1.14	1	U005	450	450			F	F					ST/4.5	1000/3	EP	EP	RPU	SP	
	BFA 1.15	1	U005	400	400			F	F					ST/4.5	1000/3	EP	EP	RPU	SP	
	BFA 1.16	12	U003, U004	400	400			F	F					ST/4.5	1000/3	EP	EP	RPU	SP	
	BFA 2.1	1	U005	450	450			F	F			90	460	ST/4.5	1000/3	EP	EP	RPU	3-SEGMENT ELBOW	
	BFA 2.2	2	U005	450	450			F	F			90	460	ST/4.5	1000/3	EP	EP	RPU	3-SEGMENT ELBOW	
	BFA 2.3	1	U005	450	450			F	F			12.5		ST/4.5	1000/3	EP	EP	RPU	2-SEGMENT ELBOW	
	BFA 2.4	5	U005	400	400			F	F			90	405	ST/4.5	1000/3	EP	EP	RPU	3-SEGMENT ELBOW WITH CONCENTRIC REDUCER AND RF, PROVIDE SUITABLE AND APPROVED RB'S	
	BFA 2.5	2	U005	TO SUIT PIPE DIA	450			FA-PUMP SUCTION	F			90	460	ST/4.5	1000/3	EP	EP	RPU	3-SEGMENT ELBOW WITH CONCENTRIC REDUCER AND RF, PROVIDE SUITABLE AND APPROVED RB'S	
	BFA 1.17	2	U005	400	400			F	F					ST/4.5	1000/3	EP	EP	RPU	SP	

VERSION			
No.	DATE	DESCRIPTION	AUTH. BY

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PROJECT TITLE:
**SOL PLAATJE LOCAL MUNICIPALITY
INTERGRATED BULK WATER SUPPLY
SYSTEM INTERVENTION**

DRAWING TITLE:
**RIVERTON WTW: OLD PLANT
FILTERS
PIPE ITEM AND VALVE SCHEDULES**



0	50	100
100mm ON ORIGINAL DRAWING		
ORIGINAL DRAWING SCALE: AS SHOWN	ORIGINAL DRAWING SHEET SIZE: A1	
APPROVED ON BEHALF OF CLIENT:		
NAME:		
DATE:		
CLIENT DRAWING No.:	CLIENT REF No.:	

SURVEYED	DESIGNED	A Hlasane
DRAWN	A Hlasane	
COORD SYSTEM	DATE	September 2023
APPROVED ON BEHALF OF BIGEN:		
PROJECT OWNER:		
DESIGNER:		
DRAWING No.:	3338.12.00.WFA.14.M003	VERSION: 2

3338.12.00.WFA.14.M003

NOTES:

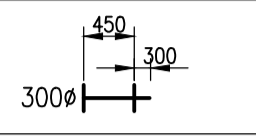
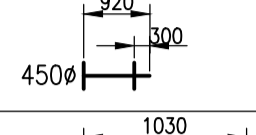
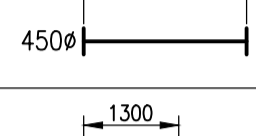
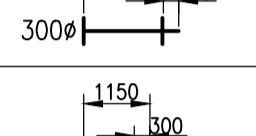
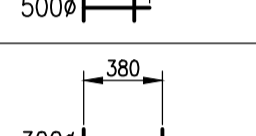
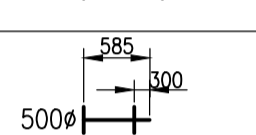
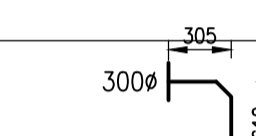
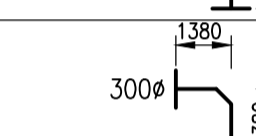
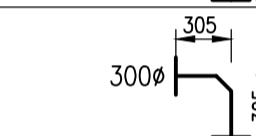
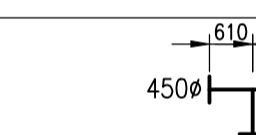
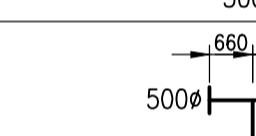

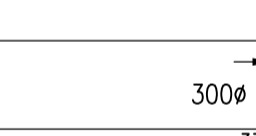
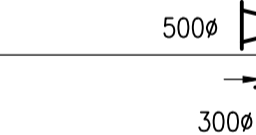
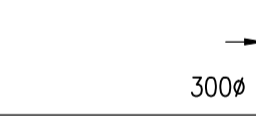
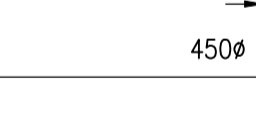

- PIPE ITEM DIMENSIONS** – ON LAYOUT DWGS AS REFERRED TO.
NB – SAID DIMENSIONS MUST BE VERIFIED ON SITE PRIOR TO ORDERING OF SUCH ITEMS ESPECIALLY WITH REGARD TO NEW AND EXISTING PIPEWORK CONNECTIONS AS WELL AS NEW PIPEWORK IN EXISTING STRUCTURES.
- DIMENSIONS FOR EQUIPMENT** – VALVES, FLOW METERS, PRELIMINARY SELECTED PUMPS, ETC. WERE OBTAINED FROM CATALOGUES FOR PIPEWORK LAYOUT DESIGNS.
SUCH DIMENSIONS MAY BE INCORRECT ONCE MECHANICAL EQUIPMENT SUBMITTED BY CONTRACTOR HAS BEEN APPROVED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CHECK ALL AFFECTED PIPE ITEM DIMENSIONS PRIOR TO ORDERING ANY ITEMS.
- UNLESS SHOWN OTHERWISE:**
ALL VALVES, FLOW METERS, STRAIGHT AND STEPPED COUPLINGS AS WELL AS FLANGE ADAPTERS TO BE FOR 1000 KPA MAXIMUM WORKING PRESSURE.
- PIPE ITEM MATERIAL**
ST GRADE 300 WA STEEL
X52 GRADE X52 STEEL
316L GRADE 316L STAINLESS STEEL
FLANGES EX 300WA OR AS SPECIFIED
FLANGES ON SS ITEMS:
SUBMERGED – 316L SS
NOT SUBMERGED – 300WA
SLUICE & CHANNEL GATES:
-SUBMERGED PARTS, ANCHORS & SPINDLE EX SS
-OPERATING GEAR, BRIDGES & PEDESTALS ABOVE WATER LINE EX ST
.../6,0 PIPE ITEM WALL THICKNESS FOR SPECIFIC MATERIAL
AL ALUMINIUM
NB DUAL MATERIAL SPECIFIED FOR ONE ITEM – SS PORTION TO BE CAST INTO CONCRETE AND MUST EXTEND 150 mm MIN BEYOND DRY CONCRETE FACE OR AS INDICATED.
- ABBREVIATIONS**
CORROSION PROTECTION
FACTORY APPLICATION
EP EPOXY PAINT
FBE FUSION BONDED EPOXY
G HOT-DIP GALVANISING
MPEP MULTI-PURPOSE EPOXY PAINT
RB REINFORCED BITUMEN
ON SITE APPLICATION, AFTER INSTALLATION
RPU RE-COATABLE POLYURETHANE TO CLIENT'S COLOUR
CODING SPECIFICATION
TW TAPE WRAP

C CORROSION PROTECTION COATING
COR PR CORROSION PROTECTION
CTO CAP TOP – OPERATED
CTS PIPE LENGTH CUT TO SUIT ON SITE
DP DIFFERENTIAL PRESSURE
DWG DRAWING
EA ELECTRIC ACTUATOR
F FLANGED
F/F FACE TO FACE DIMENSION
FA FLANGE ADAPTOR
FDT FLANGE DRILLING TABLE
GS GALVANISED STEEL
HD HEAVY DUTY – GALVANISED STEEL PIPEWORK
HPWB HANDWHEEL PEDESTAL ON WALL SUPPORT BRACKET
HW HANDWHEEL
HWO HANDWHEEL-OPERATED
IF INSULATED FLANGE CONNECTION
KGV KNIFE GATE VALVE
LF LOOSE FLANGE – WELDED ONTO PIPE END AFTER CUTTING PIPE LENGTH TO SUIT ON SITE
NB: INSTALLATION POSITION AS INDICATED ON LAYOUT
DRAWING TO REMAIN UNCHANGED

LH LEFT HAND SIDE
LR LONG RADIUS
MD MEDIUM DUTY – GALVANISED STEEL PIPEWORK
MR MEDIUM RADIUS
MWP MAXIMUM WORKING PRESSURE
OD OUTSIDE DIAMETER
PCD PITCH CIRCLE DIAMETER FOR FLANGES
PE PLAIN PIPE END
PF PUDDLE FLANGE – UNLESS OTHERWISE SPECIFIED, ALL TO BE EX 10 mm THICK GRADE 300 WA STEEL. PF OD 100 mm GREATER THAN PIPE OD. NOT TO BE DRILLED

PMHP PLATFORM-MOUNTED HANDWHEEL PEDESTAL
R RADIUS
RB RESTRAINING BOLT
RC REINFORCED CONCRETE
RF RESTRAINING FLANGE
RH RIGHT HAND SIDE
RSV RESILIENT SEAL GATE VALVE
S CORROSION PROTECTION SITE APPLICATION
SB SOLID BODY
S + S SCREWED + SOCKETED
SE SPINDLE EXTENSION
SHPWB STUB HANDWHEEL PEDESTAL ON WALL SUPPORT BRACKET
SO APPROPRIATE SOCKET WITH PLUG WELDED ONTO PIPE ITEM IN POSITION AS SPECIFIED FOR INSTRUMENTATION INSTALLATION
SP STRAIGHT PIPE
SR-C STRAIGHT COUPLING
SS STAINLESS STEEL
ST-C STEPPED COUPLING
SW CERTAIN ITEMS WELDED TOGETHER ON SITE (SITE WELDING). PREPARATION OF ENDS FOR WELDING MUST COMPLY WITH THE SPECIFICATION – NB – CORROSION PROTECTION TO BE REPAIRED TO ENGINEER'S APPROVAL

t PLATE THICKNESS
WGV WEDGE GATE VALVE
WT PIPE WALL THICKNESS

Revisions	Item No	Total	Refer Dwg	Dia Left	Dia Right	Dia Brch 1	Dia Brch 2	End Left	End Right	End Brch 1	End Brch 2	Bend Angle (Degree)	Bend Radius	Material	Flange Spec/Drilling SABS 1123 (1977)	Corrosion Protection			Description	Dimensions
																Internal Lining	External Coating	Site Application		
WFA – FILTERS: NEW SETTLED WATER PUMPS PIPEWORK – DWG. 3338.12.00.WFA.14.A001, A002, U005																				
	SFA 1.11	3	U005	300	300			F	FA					ST/4.5	1000/3	EP	EP	RPU	SP WITH RESTRAINED FLANGE, PROVIDE SUITABLE AND APPROVED RB'S	
	SFA 1.12	1	U005	450	450			F	FA					ST/4.5	1000/3	EP	EP	RPU	SP WITH RESTRAINED FLANGE, PROVIDE SUITABLE AND APPROVED RB'S	
	SFA 1.13	1	U005	450	450			F	F					ST/4.5	1000/3	EP	EP	RPU	SP	
	SFA 1.14	3	U005	300	300			F	FA					ST/4.5	1000/3	EP	EP	RPU	SP WITH RESTRAINED FLANGE, PROVIDE SUITABLE AND APPROVED RB'S	
	SFA 1.15	1	U005	500	500			F	FA					ST/4.5	1000/3	EP	EP	RPU	SP WITH RESTRAINED FLANGE, PROVIDE SUITABLE AND APPROVED RB'S	
	SFA 1.16	3	U005	300	300			F	F					ST/4.5	1000/3	EP	EP	RPU	SP	
	SFA 1.19	1	U005	500	500			F	FA					ST/4.5	1000/3	EP	EP	RPU	SP WITH RESTRAINED FLANGE, PROVIDE SUITABLE AND APPROVED RB'S	
	SFA 2.3	2	U005	300	300			F	F			90	305	ST/4.5	1000/3	EP	EP	RPU	3-SEGMENT ELBOW	
	SFA 2.4	3	U005	300	300			F	F			90	1380	ST/4.5	1000/3	EP	EP	RPU	3-SEGMENT ELBOW	
	SFA 2.5	6	U005	300	300			F	F			90	305	ST/4.5	1000/3	EP	EP	RPU	3-SEGMENT ELBOW	
	SFA 3.3	2	U005	450	450	300		F	F	F				ST/4.5	1000/3	EP	EP	RPU	TEE PIECE	
	SFA 3.4	2	U005	500	500	300		F	F	F				ST/4.5	1000/3	EP	EP	RPU	TEE PIECE	
	SFA 4.5	2	U005					F	F					ST/4.5	1000/3	EP	EP	RPU	450 DIA FA	STANDARD
	SFA 8.1	1	U005	450	300									ST	1000/3	EP	EP	RPU	CONCENTRIC REDUCER	
	SFA 8.2	1	U005	300	500									ST	1000/3	EP	EP	RPU	CONCENTRIC REDUCER	
	SFA 9.3	6	U005											ST	1000/3	FBE	FBE	RPU	300 DIA FLANGED NON RISING SPINDLE RSV TO SANS 664	
	SFA 9.4	3	U005											1000/3	FBE	FBE	RPU	300 DIA FLANGED, SLANTED SEAT TILTING DISK CHECK VALVE		
	SFA 9.5	1	U005											1000/3	FBE	FBE	RPU	450 DIA FLANGED, SLANTED SEAT TILTING DISK CHECK VALVE		

VERSION			
No.	DATE	DESCRIPTION	AUTH. BY

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Labram
Kimberley
Phone: + 27 (0) 53 831 2935
marthinus.pretorius@bigengroup.com



PROJECT TITLE:
SOL PLAATJE LOCAL MUNICIPALITY
INTERGRATED BULK WATER SUPPLY
SYSTEM INTERVENTION
DRAWING TITLE:
RIVERTON WTW: OLD PLANT
FILTERS
PIPE ITEM AND VALVE SCHEDULES



0	50	100
100mm ON ORIGINAL DRAWING		
ORIGINAL DRAWING SCALE: AS SHOWN	ORIGINAL DRAWING SHEET SIZE: A1	
APPROVED ON BEHALF OF CLIENT:		
NAME:		
DATE:		
CLIENT DRAWING No.:	CLIENT REF No.:	

SURVEYED	DESIGNED	A Hlasane
DRAWN	A Hlasane	
COORD SYSTEM	DATE	September 2023
APPROVED ON BEHALF OF BIGEN:		
PROJECT MANAGER		
DESIGNER		
DRAWING No.:	3338.12.00.WFA.14.M002	VERSION: 2

3338.12.00.WFA.14.M002

NOTES:

- PIPE ITEM DIMENSIONS – ON LAYOUT DWGS AS REFERRED TO.**
NB – SAID DIMENSIONS MUST BE VERIFIED ON SITE PRIOR TO ORDERING OF SUCH ITEMS ESPECIALLY WITH REGARD TO NEW AND EXISTING PIPEWORK CONNECTIONS AS WELL AS NEW PIPEWORK IN EXISTING STRUCTURES.
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RB REINFORCED BITUMEN
ON SITE APPLICATION, AFTER INSTALLATION
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CODING SPECIFICATION
TW TAPE WRAP
C CORROSION PROTECTION COATING
COR PR CORROSION PROTECTION
CTO CAP TOP – OPERATED
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DP DIFFERENTIAL PRESSURE
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F/F FACE TO FACE DIMENSION
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HD HEAVY DUTY – GALVANISED STEEL PIPEWORK
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HWO HANDWHEEL-OPERATED
IF INSULATED FLANGE CONNECTION
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LF LOOSE FLANGE – WELDED ONTO PIPE END AFTER CUTTING PIPE LENGTH TO SUIT ON SITE
NB: INSTALLATION POSITION AS INDICATED ON LAYOUT DRAWING TO REMAIN UNCHANGED
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MR MEDIUM RADIUS
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S CORROSION PROTECTION SITE APPLICATION
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S + S SCREWED + SOCKETED
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WFA – FILTERS: NEW SETTLED WATER PIPEWORK – DWG. 3338.12.00.WFA.14.A001, A002, U001, U002, U003, U004, X001, X002 AND X003																				
	SFA 1.1	6	U003,U006, X003	200	200			F	PE					ST/4.5	1000/3	EP	EP	RPU	SP WITH PF	
	SFA 1.2	6	U003,U006, X003	200	200			F	F					ST/4.5	1000/3	EP	EP	RPU	SP	
	SFA 1.3	6	U003,U006, X003	200	200			F	PE					ST/4.5	1000/3	EP	EP	RPU	SP WITH PF	
	SFA 1.4	2	U003, U004	500	500			F	FA					ST/4.5	1000/3	EP	EP	RPU	SP WITH RESTRAINED FLANGE, PROVIDE SUITABLE AND APPROVED RB'S	
	SFA 1.5	12	U003, U004	500	500			F	F					ST/4.5	1000/3	EP	EP	RPU	SP	
	SFA 1.6	2	U003, U004	500	500			F	FA					ST/4.5	1000/3	EP	EP	RPU	SP WITH RESTRAINING FLANGE, PROVIDE SUITABLE AND APPROVED RB'S	
	SFA 1.8	1	U003, U004	500	500			F	FA					ST/4.5	1000/3	EP	EP	RPU	SP WITH RESTRAINING FLANGE, PROVIDE SUITABLE AND APPROVED RB'S	
	SFA 1.9	1	U003, U004	500	500			F	FA					ST/4.5	1000/3	EP	EP	RPU	SP WITH RESTRAINING FLANGE, PROVIDE SUITABLE AND APPROVED RB'S	
	SFA 1.10	1	U003, U004	500	500			F	F					ST/4.5	1000/3	EP	EP	RPU	SP WITH PF	
	SFA 1.17	1	X003	500	500			F	F					ST/4.5	1000/3	EP	EP	RPU	SP WITH PF	
	SFA 1.18	1	X003	500	500			F	PE					ST/4.5	1000/3	EP	EP	RPU	SP WITH RESTRAINING FLANGE, PROVIDE SUITABLE AND APPROVED RB'S	
	SFA 2.1	4	U004,U005, X002	500	500			F	F			90	510	SS/4.78	1000/3	EP	EP	RPU	3-SEGMENT ELBOW	
	SFA 2.2	12	X001, X002	300	300			FA	PE			90	305	ST/4.5	1000/3	EP	EP	RPU	SP WITH 3-SEGMENT ELBOW	
	SFA 3.2	6	X003, X004	500	500	200	200	F	F	F	F			ST/4.5	1000/3	EP	EP	RPU	UNEQUAL CROSS	
	SFA 4.1	9	U003, U004, X001, X002											ST	1000/3	EP	EP	RPU	500 DIA FA	STANDARD RFA
	SFA 4.2	12	U003, U004, X001, X002											ST	1000/3	EP	EP	RPU	200 DIA FA	STANDARD
	SFA 4.3	18	U003, U004, U005, X001, X002											ST	1000/3	EP	EP	RPU	300 DIA FA	STANDARD
	SFA 9.1a	12	U003, U004, X001											ST	1000/3	FBE	FBE	RPU	200 DIA FLANGED ISOLATING BUTTERFLY VALVE WITH RH GEARBOX FOR 1000KPa MWP	
	SFA 9.1b	12	U003, U004, X001											ST				RPU	SUITABLE OPEN/CLOSE ELECTRIC ACTUATOR FOR ITEM FA 9.1a	
	SFA 9.2a	12	U003, U004, X001											SS	1000/3	FBE	FBE	RPU	300 DIA FLANGED ISOLATING BUTTERFLY VALVE WITH RH GEARBOX FOR 1000KPa MWP	
	SFA 9.2b	12	U003, U004, X001											ST				RPU	SUITABLE MODULATING ELECTRIC ACTUATOR FOR ITEM FA 9.2a	
	SFA 7.1	2	U003, U004, X001											ST	1000/3	EP	EP	RPU	500 DIA FA	STANDARD

VERSION			
No.	DATE	DESCRIPTION	AUTH. BY

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4 Jacobus Smith Street
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Phone: + 27 (0) 53 831 2935
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PROJECT TITLE:
**SOL PLAATJE LOCAL MUNICIPALITY
INTERGRATED BULK WATER SUPPLY
SYSTEM INTERVENTION**

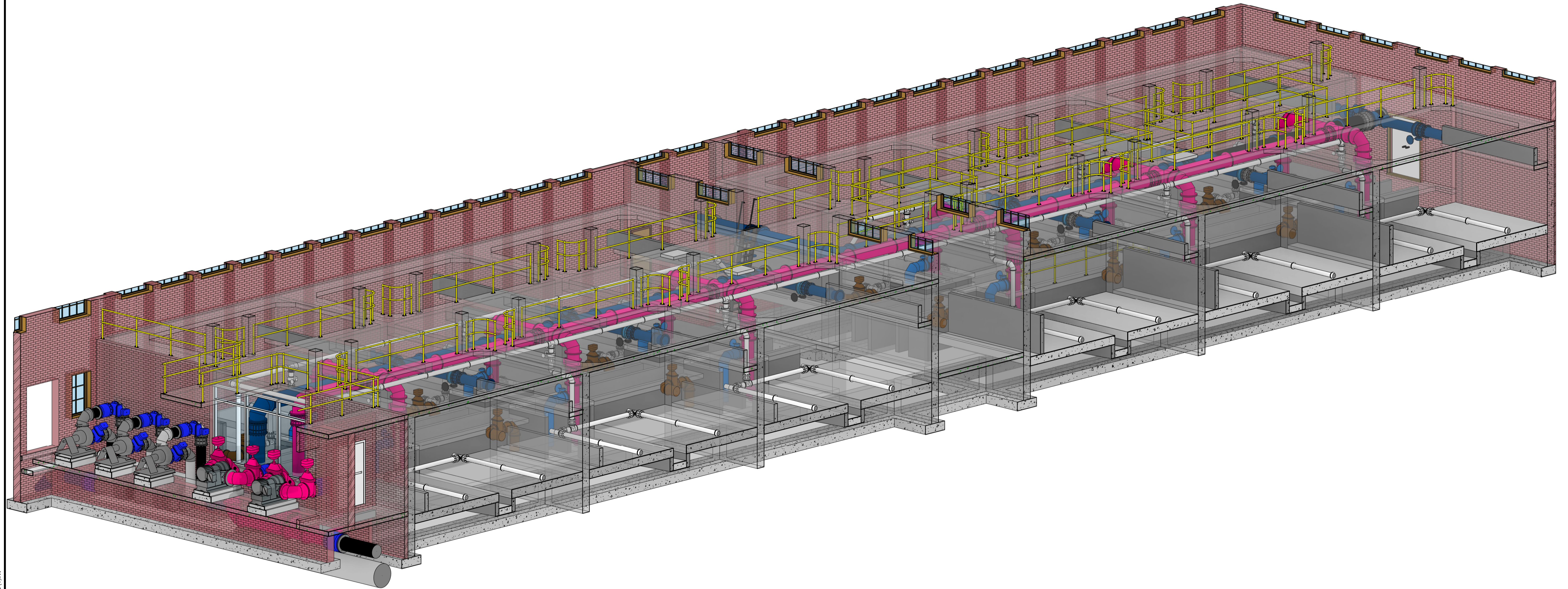
DRAWING TITLE:
**RIVERTON WTW: OLD PLANT
FILTERS
PIPE ITEM AND VALVE SCHEDULES**



0	50	100
100mm ON ORIGINAL DRAWING		
ORIGINAL DRAWING SCALE: AS SHOWN	ORIGINAL DRAWING SHEET SIZE: A1	
APPROVED ON BEHALF OF CLIENT:		
NAME:		
DATE:		
CLIENT DRAWING No.:	CLIENT REF No.:	

SURVEYED	DESIGNED	A Hlasane
DRAWN	A Hlasane	
COORD SYSTEM	DATE	September 2023
APPROVED ON BEHALF OF BIGEN:		
PROJECT OWNER:		
DESIGNER:		
DRAWING No.:	3338.12.00.WFA.14.M001	VERSION: 2

3338.12.00.WFA.14.M001



2024/10/16 16:17:39 X:\dms8261\3338-12-00 - SOL PLAAATJE - OLD PLANT FILTERS - REV 6 (1).rvt

VERSION/AMENDMENTS			
No.	DATE	DESCRIPTION	AUTH. BY

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PROJECT TITLE:
**SOL PLAAATJE LOCAL MUNICIPALITY
 INTERGRATED BULK WATER SUPPLY
 SYSTEM INTERVENTION**

DRAWING TITLE:
**RIVERTON WTW: OLD PLANT
 FILTERS
 3D VIEW**



0 50 100
 100mm ON ORIGINAL DRAWING

ORIGINAL DRAWING SCALE: ORIGINAL DRAWING SHEET SIZE: **A1**

APPROVED ON BEHALF OF CLIENT:

NAME: _____
 DATE: _____
 CLIENT DRAWING No.: _____ CLIENT REF No.: _____

SURVEYED	DESIGNED	A HLASANE
DRAWN	V MABONA	DATE
COORD SYSTEM	DATE	SEPT 2023
APPROVED ON BEHALF OF BIGEN:		
 V MABONA A HLASANE		
DRAWING No.:	3338.12.00.WFA.14.A001	VERSION:
		1

3338_12.00.WFA.14.A001