NOTES:

1. ALL DIMENSIONS IN METRES AND ALL LEVELS IN METRES AOD UNLESS NOTED OTHERWISE.
2. NO DIMENSIONS ARE TO BE SCALED FROM THIS DRAWING SET.
3. KEY DESIGN INFORMATION:
   - MINIMUM ALLOWABLE COVER IS 0.9m IN FIELDS, 1.2m IN ROADS AND 1.2m UNDER THE FIRM BED OF WATERCOURSES/DITCHES.
   - MINIMUM PIPE GRADIENTS MUST BE 1:500 UPHILL OR 1:300 DOWNHILL.
   - COMBINATION BENDS SHOULD BE AVOIDED AS FAR AS PRACTICABLE. IF A HORIZONTAL AND VERTICAL CHANGE IN DIRECTION IS REQUIRED, THIS SHALL BE FORMED UTILIZING TWO SEPARATE BEND FITTINGS.
4. THE DRAWING SETS SHALL BE READ IN CONJUNCTION WITH RELEVANT EXISTING UTILITY PLANS.THESE ARE UPDATED BASED ON RECORDS, GPR SURVEYS AND ADDITIONAL TRIAL HOLES PROPOSED CLOSER TO MAIN WORK. THE RECORD INFORMATION OF THE EXISTING UTILITIES MAY BE INCOMPLETE AND/OR UNCHARTED SERVICES MAY BE PRESENT. THE UTILITIES SHALL BE CONFIRMED BY TRIAL HOLES ON A CASE BY CASE BASIS PRIOR TO THE PIPELINE CONSTRUCTION.
5. SUITABLE PROTECTION OF EXISTING UTILITIES MUST BE PROVIDED. CONTRACTOR TO CONSULT TEMPORARY WORKS DESIGNER AND REFER TO EXISTING UTILITY CROSSING STANDARD GUIDANCE. CONTRACTOR TO OBTAIN APPROVAL FROM ASSET OWNERS WHERE REQUIRED AND FOLLOW APPROVED RAMS.
6. LAND DRAINAGE POSITIONS HAVE BEEN OBTAINED FROM THIRD PARTIES AND MAY NOT BE AS SHOWN. IT SHOULD BE NOTED THAT SOME PRIVATE SERVICES AND LAND DRAINS MAY NOT BE SHOWN IN THE DRAWING. LAND DRAINAGE IS THE RESPONSIBILITY OF THIRD PARTY DESIGNER.
7. POSITION OF VALVES MAY CHANGE SUBJECT TO DISCUSSION/AGREEMENT WITH LANDOWNER / CONSTRUCTION METHODS.
8. WORKS TO BE UNDERTAKEN IN LINE WITH ENVIRONMENTAL & ECOLOGICAL SPECIFICATIONS.
9. TYPE S4 BEDDING SHALL BE COMPACTED TO A MINIMUM OF 85%. IT IS ANTICIPATED THAT THE GROUND CONDITIONS THROUGHOUT THE ROUTE ARE FAVORABLE TO SATISFY S4 BEDDING REQUIREMENTS AS PER BS1295. ADEQUACY OF THE AS DIG MATERIAL TO BE USED AS S4 HOWEVER SHOULD BE VALIDATED ON SITE BY A GEOTECHNICAL ENGINEER AS PER MATERIAL RE-USE STRATEGY DOCUMENT (40018-001-DOC-SIN-B07-010) AND BEDDING AND SURROUND REQUIREMENTS REASSED AS APPROPRIATE.
10. TRENCHLESS CROSSINGS TO BE DETERMINED BY OTHERS. INFORMATION SHOWN ON THE DRAWINGS ARE INDICATIVE ONLY. START AND END POINTS FOR TRENCHLESS CROSSINGS TO BE CONFIRMED AND UPDATED ON THE LONG SECTIONS PRIOR TO WORKS COMMENCEMENT OF WORKS ON SITE. VALVE POSITIONS AT TRENCHLESS CROSSINGS BASED ON BEST INFORMATION AT TIME OF ISSUE. LONG SECTION DRAWINGS TO BE REISSUED FOLLOWING CROSSING DETAILED DESIGN.
11. VALVE POSITIONING SHOWN AS AGREED WITH NWG WATER OPERATIVES. SUBJECT TO CHANGE FOLLOWING CONSULTATION WITH LANDOWNERS AND CONFIRMATION OF CONSTRUCTION TECHNIQUE..
12. PIPE GRADIENTS ARE SHOWN ON THE LONG SECTIONS AS POSITIVE WHEN GOING UP HILL AND NEGATIVE WHEN COMING DOWN TO DIFFERENTIATE CHANGE IN GRADIENT ON THE DRAWINGS.
13. OVERHEAD CABLE HEIGHT SHOWN INDICATIVELY. EACH CROSSING POINT TO BE REVIEWED ON AN INDIVIDUAL BASIS AND ACTIVITIES OF CONSTRUCTION PLANT MANAGED ACCORDINGLY.
14. MARKER TAPE REQUIRED TO BE REINSTATEMENT OVER PIPE WORK, MINIMUM 400mm DEEP. DETECT A MESH OR SIMILAR PRODUCT TO BE USED.
15. EXPECTED ADDITIONAL UTILITY CROSSINGS INFORMATION:
   - ALL CROSSING UTILITY LOCATIONS AND INVERT ELEVATION TO BE ASSUMED AND AWAITING TRIAL PIT AND OVERHEAD SURVEY CONFIRMATION.
   - UTILITY INFORMATION IS BASED ON 50% SURVEY RESULTS OBTAINED FROM GPR SURVEY AND REST ARE BASED ON RECORDS AS ADVISED BY UTILITY TEAM. UTILITY RECORD PLANS ARE TO BE REVIEWED ON A THREE MONTH BASIS WITH RESULTS AND RECORD INFORMATION DISTRIBUTED TO THE CONSTRUCTION TEAM.
16. ALL STEEL PIPEWORK TO HAVE A WALL THICKNESS OF SDR 100.
17. FOR PIPE EMBEDMENT DESIGN A MINIMUM SPANGLAR MODULUS VALUE OF 2 M/N m² HAS BEEN USED FOR THE NATIVE SOIL STRENGTH BASED ON INITIAL SITE INVESTIGATION WORKS AND THE GEOTECHNICAL INTERPRETIVE REPORT. INSPECTION AND TESTING OF THE TRENCH FORMATION LEVEL WILL BE REQUIRED TO VERIFY THIS MINIMUM VALUE. IF A SPANGLAR MODULUS OF LESS THAN 2M/N m² IS ENCOUNTERED, THE DESIGNER IS TO BE CONSULTED IN THE FIRST INSTANCE AND THE PIPE BEDDING DESIGN WILL BE REVIEWED.
18. ROAD CROSSINGS ARE SLEEVED THROUGH CONCRETE SLEEVE PIPE. REFER TO RELEVANT DRAWINGS FOR DETAILS.
19. STANK LOCATIONS SHOWN ON THE LONGITUDINAL DRAWINGS ARE INDICATIVE ONLY AND ARE REPRESENTATIVE OF STANKS POSITIONED AT 50m SPACING. STANKS TO BE PLACED AT ALTERNATE 'BELL PITS' C 50 – 56M APART OR AS AGREED WITH CLIENT REPRESENTATIVE ON SITE. FOR FURTHER DETAILS REFER TYPICAL STANK DETAIL DRAWING NO. 40018-001-DWG-CST-G04-077.

DRAWING REFERENCES:

- 40018-001-DWG-CST-G04-041: TYPICAL AIR VALVE DETAIL
- 40018-001-DWG-CST-G04-061: TYPICAL OFFLINE WASHOUT DETAIL
- 40018-001-DWG-CST-G04-067: TYPICAL LINE VALVE ARRANGEMENT
- 40018-001-DWG-CST-G04-077: TYPICAL STANK DETAIL
- 40018-001-DWG-CST-G04-078: TYPICAL TRENCH DETAILS (OPTION 01)
- 40018-001-DWG-CST-G04-146: TYPICAL TRENCH DETAILS (OPTION 02)
- 40018-001-DWG-CST-G04-120 & 40018-001-DWG-CST-G04-121: PIPE BREAK DETAIL
- 40018-001-DWG-CST-G04-115: GATE VALVE TYPICAL ARRANGEMENT - HYDRANT BYPASS (Ø900 - Ø600 GATE VALVES)
- SZ14-T15A-PR1-M1-001-DWG-CST-G04-085: TYPICAL ROAD CROSSING AND REINSTATEMENT DETAIL
- SZ14-T15A-PR1-M1-001-DWG-CST-G04-096: MAJOR ROAD A688 - ROAD CROSSING DETAIL
- SZ14-T15A-PR1-M3-001-DWG-CST-G04-044: MAJOR ROAD A6072 - ROAD CROSSING DETAIL
- SZ14-T15A-PR1-M1-001-DWG-CST-G04-001-023: LARTINGTON TO WHORLEY PLAN AND LONG SECTIONS
- SZ14-T15A-PR1-M3-001-DWG-CST-G04-001-033: WHORLEY TO SHILDON PLAN AND LONG SECTIONS
- SZ14-T15A-PR1-M1-001-DWG-CST-G04-101-113: DMA PIPELINE PLAN AND LONG SECTIONS
- 49025-001-DWG-CST-G04-002: LARTINGTON WTW STRATEGIC CONNECTION GENERAL ARRANGEMENT
- 49040-001-DWG-CST-G04-002: WHORLEY HILL SR STRATEGIC CONNECTION GENERAL ARRANGEMENT
- 40018-001-DWG-SIN-B06-001: SHILDON SR GENERAL ARRANGEMENT
- 49053-001-DWG-CST-G04-015: STAINTON WEST WATER BOOSTER STATION GENERAL ARRANGEMENT DRAWING
- 49053-001-DWG-CST-G04-016: STAINTON WEST WATER BOOSTER STATION - PLAN AND SECTIONS
- 49053-001-DWG-CST-G04-017: STAINTON WEST WATER BOOSTER STATION - PIPEWORK DETAILS

THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH BELOW DRAWINGS & REPORTS

- 40018-001-DOC-C01-001 : DESIGN RISK ASSESSMENT.
- 40018-001-DOC-SIN-B07-010 - MATERIAL RE-USE REPORT
- 40018-001-DOC-SIN-B07-003 - GEOTECHNICAL INTERPRETATIVE REPORT
- 40018-001-DOC-SIN-BO7-002 - GEOTECHNICAL DESK STUDY

FARRANS A CRH COMPANY
ATKINS Member of the SNC-Lavalin Group
Atkins Limited
Chadwick House, Birchwood Park, Warrington, WA3 6AE
Direct: 01925 238319

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Suitability: S4

Rev.	Description	Date	Drawn	Chk'd	App'd
P02	FOR REVIEW	22.11.2023	AJ	RH	SK
P01	FOR REVIEW	27.09.2023	AJ	RH	SK

Note:-
IF THIS DRAWING IS FOUND TO BE IN ANY WAY INACCURATE, PLEASE ADVISE THE RECORD OFFICE IMMEDIATELY AND COMPLETE AN AMENDMENT FORM.

NORTHUMBRIAN WATER living water

CONTRACTOR: FARRANS
REF. NO.: WN019/0205-4.11
I.D. PROJECT NO.: WN019/0205

Drawing Title:
TEES STRATEGIC TRANSFER MAIN
GENERAL NOTES (LARTINGTON TO WHORLEY)

Dwg No:
SZ14-T15A-PR1-M1-001-DWG-CST-G04-029

Sheet:	Date:	Sheet:	Scale:	Rev No:
1 OF 1	22.11.2023	A1	-	P02