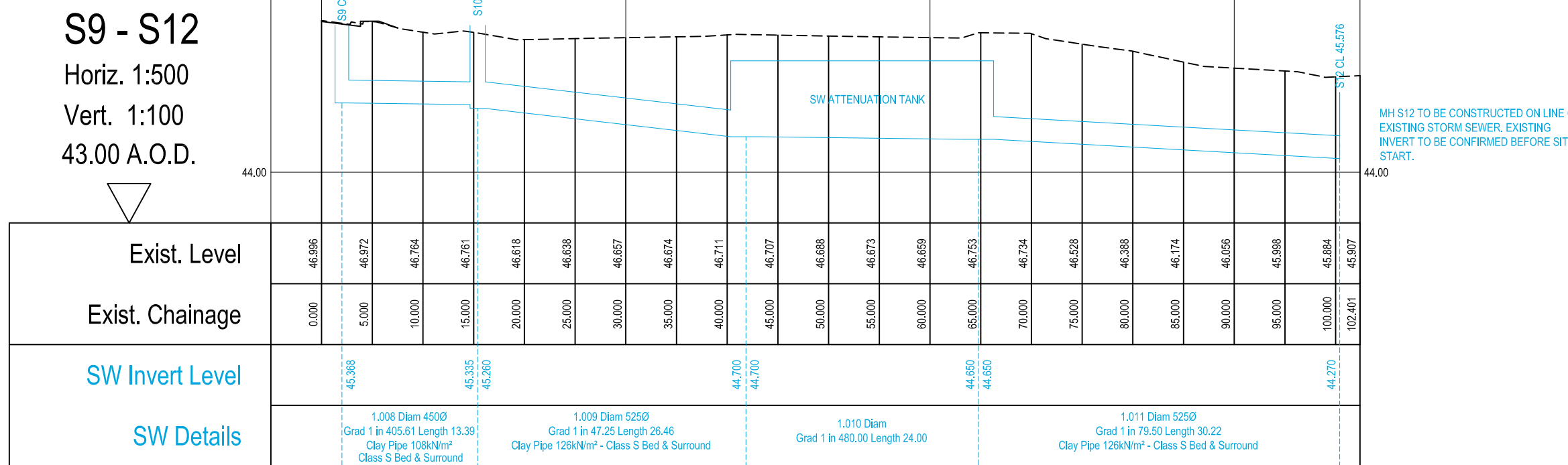
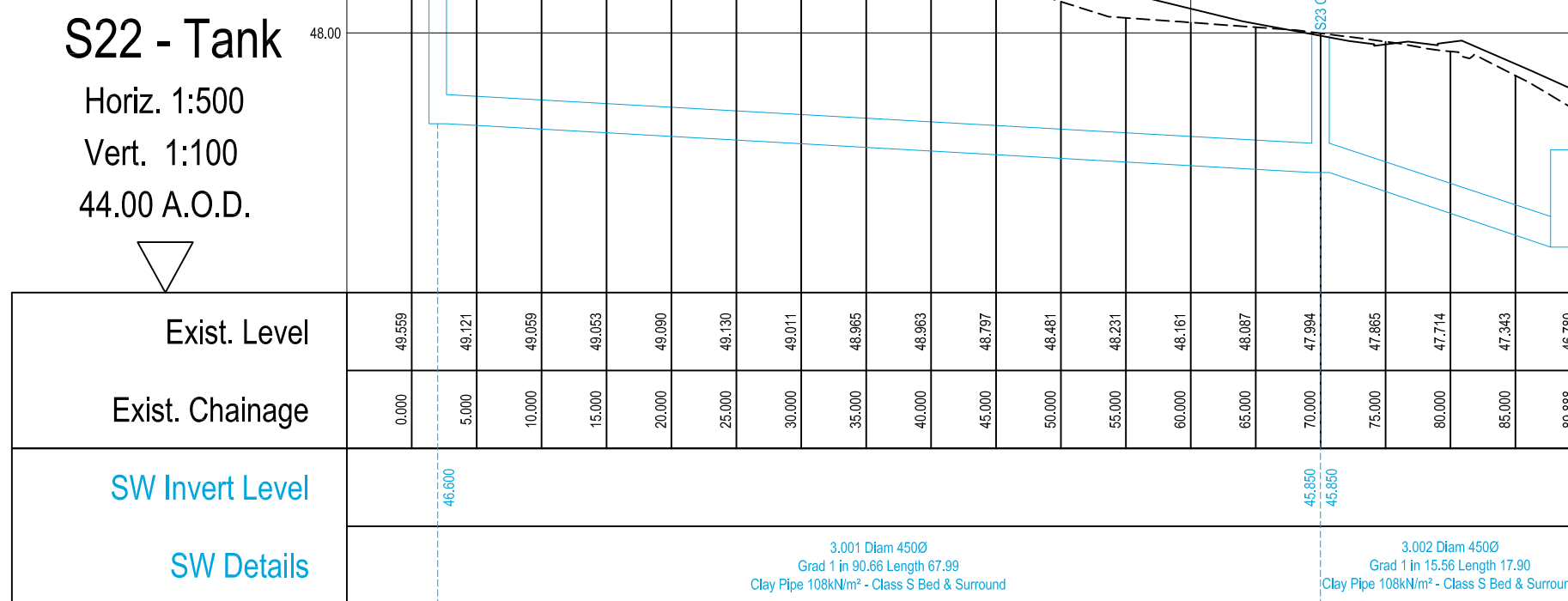
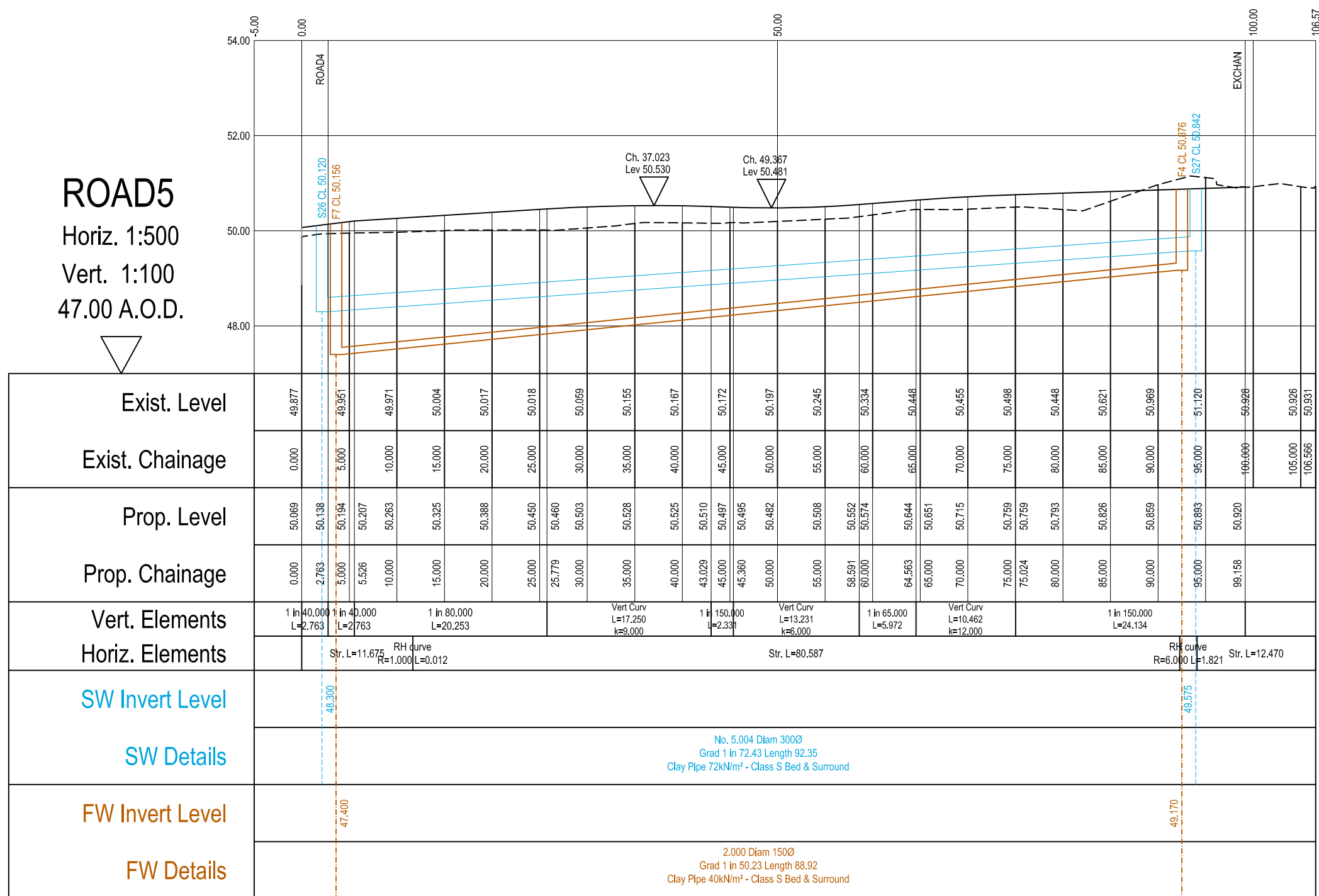
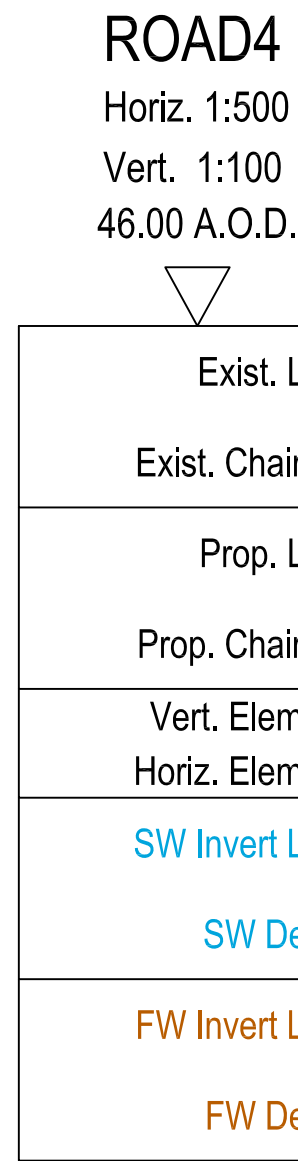
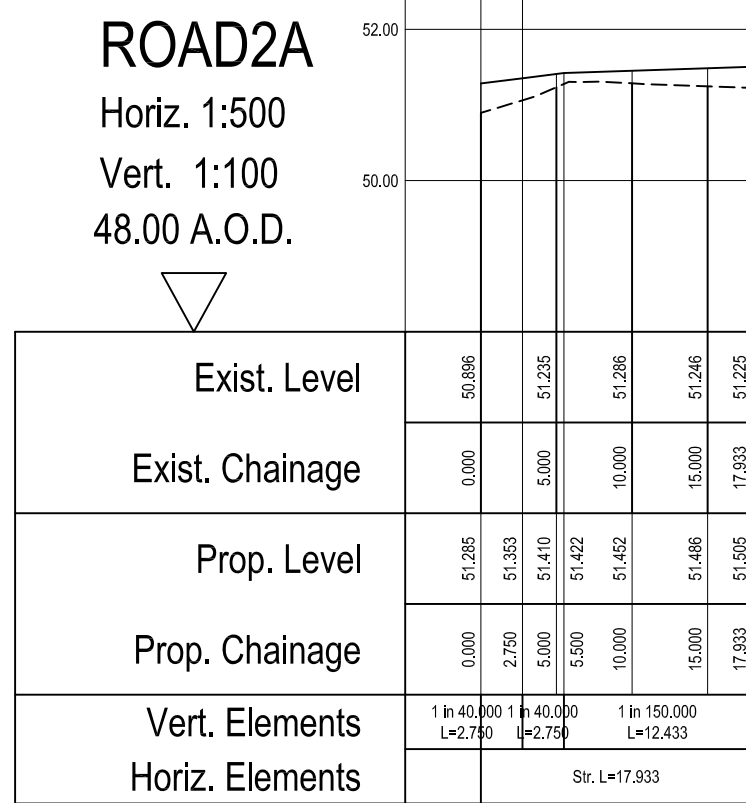
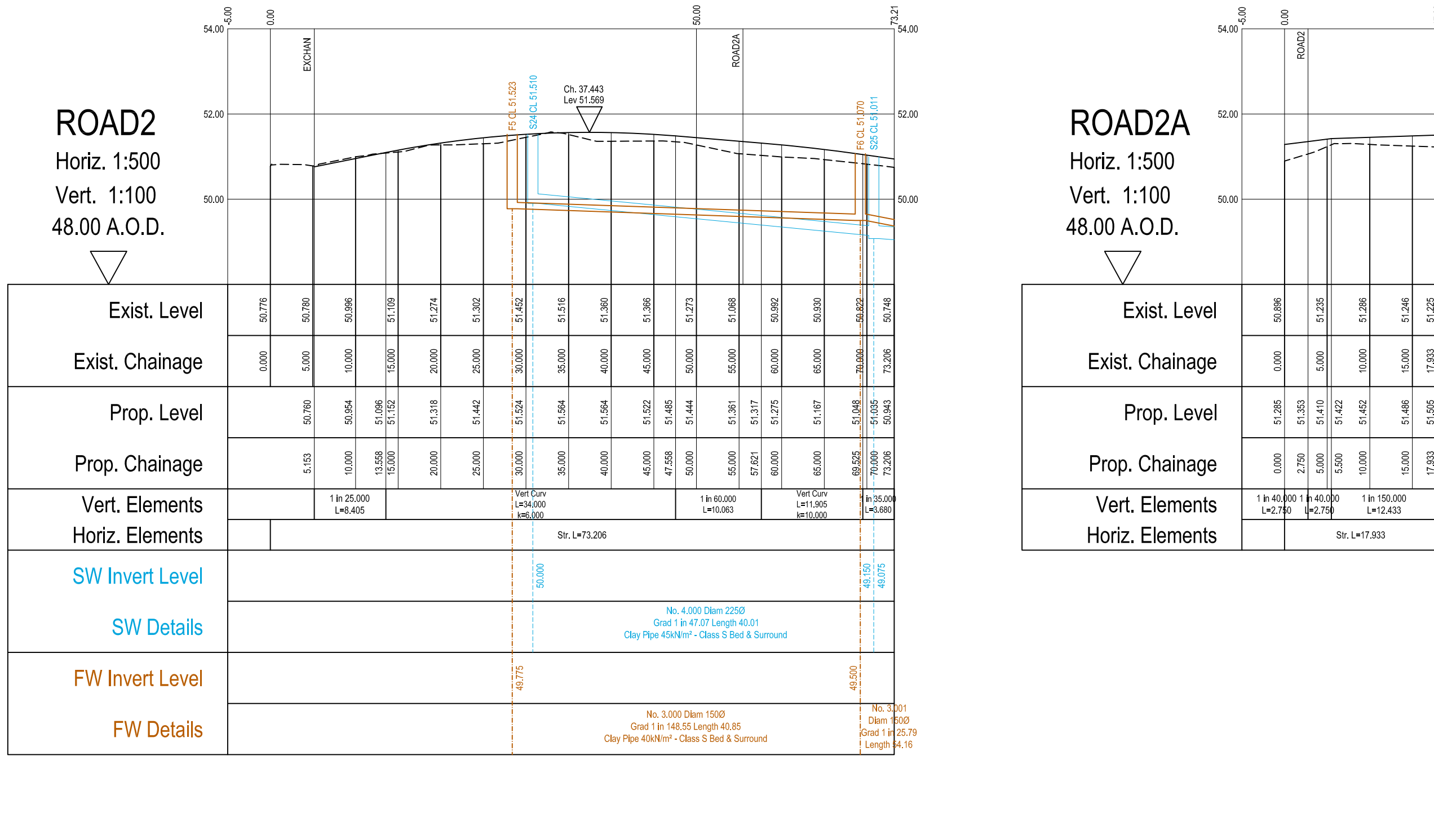
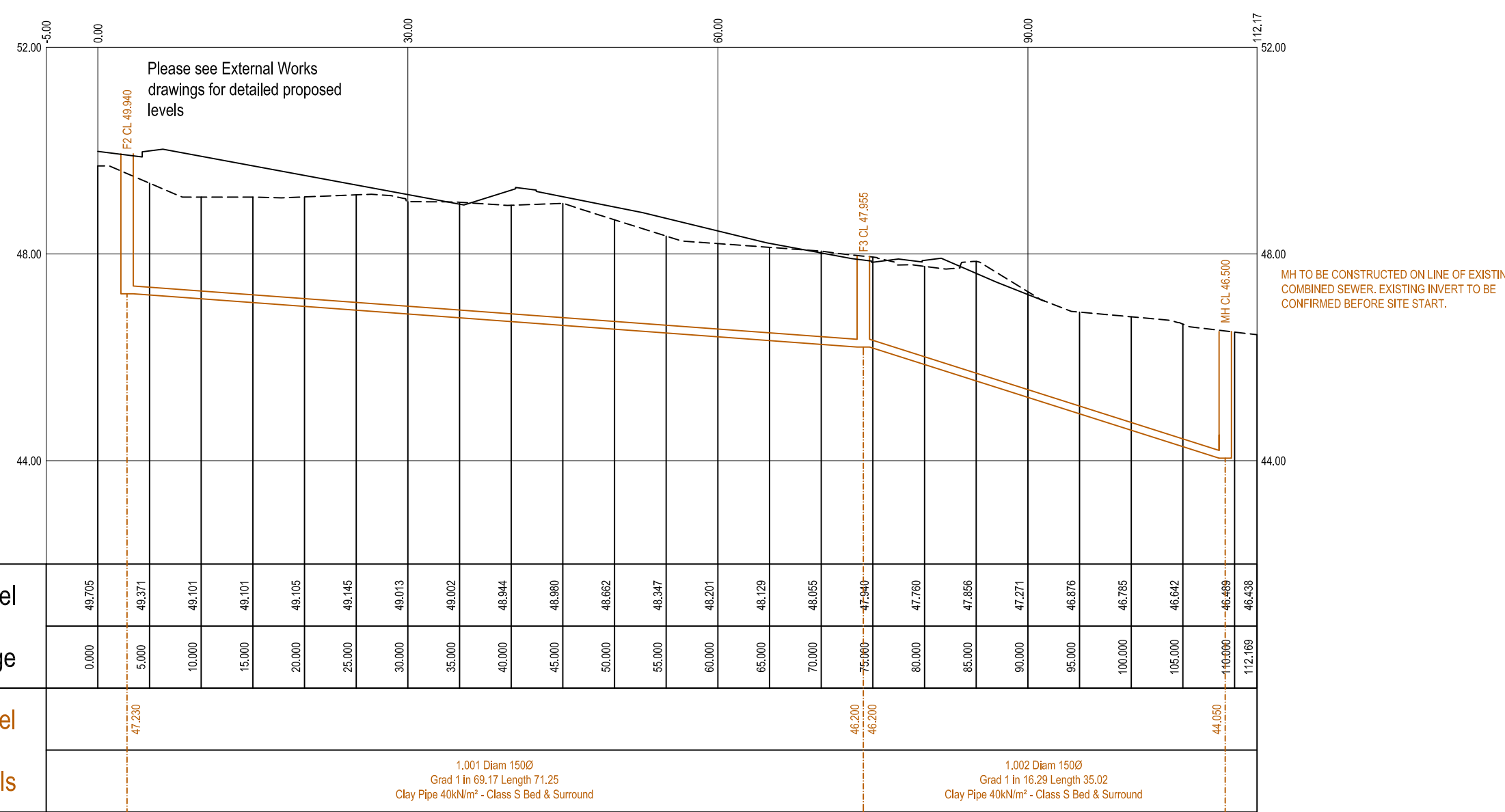
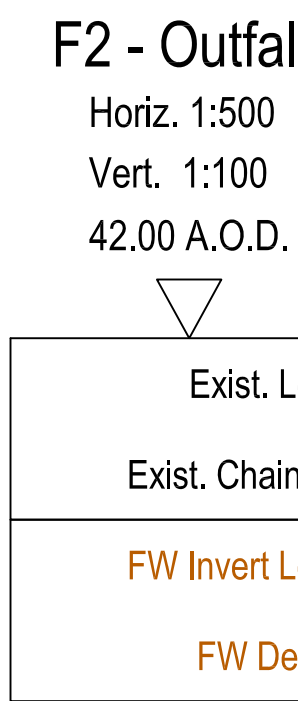




FW Manhole Schedule															
MH REF	MANHOLE TYPE	SIZE	COVER TYPE	COVER LEVEL	INVERT LEVEL	DEPTH (m)	DIS PIPE LENGTH (m)	DIS GRADIENT	PIPES IN			DEPTH N BACKCROP	PIPES OUT		
									PIPE No	IL	DIAMETER		PIPE No	IL	DIAMETER
F1	MH B1	1200	D 400	49.020	47.500	1.370	30.08	1:111.40				0.000	1.000	47.500	150
F4	MH B	1200	D 400	50.876	49.170	1.596	88.92	1:50.23				0.000	2.000	49.170	150
F5	MH B	1200	D 400	51.523	49.775	1.598	40.85	1:148.55				0.000	3.000	49.775	150
F6	MH B1	1200	D 400	51.070	49.800	1.420	54.16	1:257.79	3.000	49.800	150	0.000	3.001	49.800	150
F7	MH B	1200	D 400	50.158	47.400	2.896	16.83	1:97.81	2.000	47.400	150	0.000	2.001	47.400	150
F2	MH B	1200	D 400	48.940	47.230	2.560	71.25	1:66.17	1.000	47.230	150	0.000	1.001	47.230	150
F3	MH B	1200	D 400	47.865	46.200	1.665	35.02	1:116.29	1.001	46.200	150	1.002	46.200	150	
EX MH									1.002		150				
F8	MH B	1200	D 400	48.300	45.800	2.300	20.55	1:20.40					5.000	45.800	150
EX MH									5.000		150				

SW Manhole Schedule															
MH REF	MANHOLE TYPE	MANHOLE SIZE	COVER TYPE	COVER LEVEL	INVERT LEVEL	DEPTH (ft)	DIS PIPE LENGTH (ft)	DIS GRADIENT	PIPES IN		DEPTH N BACKCROP	PIPES OUT			
									PIPE NO.	DIAMETER		PIPE NO.	DIAMETER		
S9	MH-B1	1350	D 400	46.900	45.368	1.032	13.39	1.405.61	1.007	45.443	375	0.075	1.008	45.368	450
S10	MH-B1	1500	D 400	47.000	45.260	1.215	26.46	1.481.11	1.008	45.335	450	0.075	1.009	45.260	525
S11	MH-B	3000	D 400	47.400	44.700	2.705	24.00	1.480.00	1.009	45.205	525	0.505	1.010	44.700	-5
S21	MH-B	1200	D 400	48.941	46.950	1.691	35.34	1.151.68				0.000	3.000	46.950	300
S24	MH-B1	1200	D 400	51.510	50.000	1.285	40.01	1.147.07				0.000	4.000	50.000	225
S25	MH-B	1200	D 400	51.011	49.075	1.636	53.91	1.69.56	4.000	49.150	225	0.075	4.001	49.075	300
S27	MH-B1	1200	D 400	50.842	49.650	0.892	92.35	1.68.41	5.003	49.725	225	0.075	5.004	49.650	300
S26	MH-B	1200	D 400	50.120	48.300	1.520	16.68	1.10.76	4.001	48.300	300	0.000	4.002	48.300	300
S22	MH-B	1350	D 400	49.880	46.600	2.830	67.89	1.90.56	3.000	46.750	300	0.150	3.001	46.600	450
								4.002		46.750	300				
S23	MH-B	1350	D 400	47.555	45.850	1.655	19.26	1.30.81	3.001	45.850	450	0.500	3.002	45.850	450
								6.001		46.750	150				
S17	MH-B	3000	D 400	47.200	44.600	2.100	38.91	1.498.87	1.010	44.650	-5	0.375	1.011	44.600	450
S12	MH-B		D 400						1.011	44.572	450				



- Notes:
1. DO NOT USE THIS DRAWING IN ISOLATION. This drawing has been prepared as part of a set, and must therefore be read in conjunction with all other drawings. Any discrepancies must be reported to the engineer prior to commencing works.
 2. Third party information is used to prepare the engineering design (including architectural layout, ground investigation, existing utilities records, and specialist design items). The engineering design must therefore be read in conjunction with all third party information prior to commencing work. Quaternary Design Ltd are not responsible for any third party information or details.
 3. House type working drawings are to be used in conjunction with the plot setting out drawing.
 4. Drawing status will remain preliminary until full technical approval is received from local authority and sewerage undertaker. Works commenced prior to technical approval are done at all risk and may be subject to change.
 5. The contractor is expected to prepare appropriate construction method statements for all aspects of approved work. This should include any temporary protection works.
 6. Land drainage is not permitted to discharge into the public sewer network. Any need for land drainage should be assessed by the ground worker and landscaper during construction and placement of gardens on an individual plot basis. If land drainage designs are required, they should be approved prior to plot completion.
 7. The contractor is expected to check all drainage inverts prior to commencing work. This may involve completion of trial holes if invert levels have been interpolated.
 8. The position, line and diameter of all existing drainage apparatus should be confirmed on site prior to the commencement of the works. Any discrepancies must be reported to the engineer immediately.
 9. The connection of foul and surface water drainage to the existing public sewer system shall be subject to the approval of the local sewerage undertaker. The contractor is expected to apply for relevant permits prior to commencing the work.

- Highways
1. All highway works to be carried out in accordance with the current South Yorkshire design guide and specification.
 2. All excavations below proposed and existing highways to be back filled with granular Type 1 sub base and well compacted in layers not exceeding 150mm, unless otherwise agreed.
 3. Highway authority to be notified by the contractor prior to the commencement of works.

- Yorkshire Water Notes
1. All adaptable sewer works and material to be in accordance with "Sewers for Adoption" 6th Edition, The Relevant British/European and Yorkshire Water's Standards/Requirements/Addendum and Kitemark.
 2. Manhole covers and must have a clear opening of 600mm and shall be Class D400 to BS EN 124 with 150mm deep frames in highways.
 3. FFI ground must be filled and consolidated under the supervision and to the satisfaction of Yorkshire Water before any sewer works are carried out.
 4. Yorkshire Water is not obliged to accept filter drain/drainage runoff into the public sewer network or adaptable drainage system (directly or indirectly). An alternative method of disposal of the last drainage runoff will therefore be required and will be liable with the Local Authority, Land Drainage Section with regard to the disposal of the filter drain/drainage runoff.
 5. Cover slabs must carry the BS Kitemark and be checked by Yorkshire Water Inspector. Where the clear opening of the Kitemarked product is different to that of the cover and frame, a loading bearing slab should be fitted above the cover slab to bring the size down to 600mm x 600mm for the Yorkshire Water specified cover size. Please refer to Concrete Pipe Systems Association (CPSA), "Technical Bulletin" issued autumn 2004 for Kitemarked cover slab opening sizes.
 6. Suitable resistant corner (C20/C25) and precast concrete products must be used or a laboratory report provided proving that such precautions are not necessary.
 7. All adaptable sewers should be a minimum of 1m and manholes 0.5m from kerb faces and service manholes.

8. Sewers must have 5 metres clearance from trees and hedges (please also refer to Figure 2.2 on page 3.3.1 "Sewers for Adoption" 6th Edition for restrictions on tree planting adjacent to sewers).
9. Sewers to be laid in Class "B" Bedding (100mm granular bed and surround), where depth of cover to top of the sewer is less than 1.2m in highways and verges or less than 900mm in none vehicular access areas then a concrete slab should be provided above granular bed and surround.
10. Bedding and backfill material to conform to the requirement of Water Industry Specification 4-84-02 (Table A2).
11. The chamber size of manholes with more than one connection in them may need to be increased an increment to accommodate the connections and bends.
12. Yorkshire Water policy is not to accept Type "C" brick manholes and 1000mm Ø manhole rings. Instead it is preferred that you use a Type "T" manhole with 1200mm Ø or 1500mm Ø rings, with the opening sized over the channel where depth of cover to pipe is 1 - 1.5m.
13. All adaptable sewers to be BS Kitemark (Certified to WIS 4-5001).
14. Adaptable sewer pipes to be laid in maximum 3m lengths unless there is a specific operational need to lay longer lengths. 12 Bedding and backfill material to conform to the requirement of Water Industry Specification 4-84-02 (Table A2).
15. Plastic channel sections in manholes are not acceptable and Yorkshire Water would prefer daywye channel in manholes, we have found that plastic channels are difficult to set in concrete because they float and a satisfactory finish cannot be obtained on the bedding.
16. Yorkshire Water policy is not to accept Type "C" brick manholes and 1000mm Ø manhole rings. Instead it is preferred that you use a Type "T" manhole with 1200mm Ø or 1500mm Ø rings, with the opening sized over the channel where depth of cover to pipe is 1 - 1.5m.
17. Concrete pipes should be Class 120 to BS 1915 BS 5911-1-2002.
18. The position, line and diameter of all existing drainage apparatus should be confirmed on site prior to the commencement of the works. Any discrepancies must be reported to the engineer immediately.
19. The connection of foul and surface water drainage to the existing public sewer system shall be subject to the approval of the local sewerage undertaker. The contractor is expected to apply for relevant permits prior to commencing the work.
20. 1500d chamber rings are allowed on the adaptable network and are to be Kitemarked.
21. The position, line and diameter of all existing drainage apparatus should be confirmed on site prior to the commencement of the works. Any discrepancies must be reported to the engineer immediately.
22. The connection of foul and surface water drainage to the existing public sewer system shall be subject to the approval of the local sewerage undertaker. The contractor is expected to apply for relevant permits prior to commencing the work.

- Existing Services
- Prior to the commencement of any works under ground mapping surveys and constraints plan is to be related to any discrepancies are to be reported to engineer.
- Any existing services which may be affected by the proposed works should be located by means of a hand dig in close liaison with the statutory service authorities. The contractor shall inform the developer of any services that may affect the proposed design. Contractor to notify statutory service authorities prior to commencement of work. As Constructed Information is the contractors responsibility to provide the following as constructed drawings to the developer upon the completion of the works covered by the contract.
1. Position/co-ordinates of all adaptable manholes.
 2. Invert and cover levels of all adaptable manholes.
 3. New gully positions and connections.
 4. Position and depth of service ducts for water, gas, electric, BT, cable and street lighting, staling size and number of ducts.



REV	REVISION	BY	DATE
1	First Issue	NL	31.07.17

Drawing Status
PRELIMINARY

Title
**Keepmoat Homes
Thurnscoe Phase 2**

Longsections

Scale
1:500/100 @ A1

Drawn By
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Revision
-

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