

**Appendix 1 - Craven Court Housing Development:
HRA Income and Expenditure**

<div> <div>Homes</div> <div>Prudential Borrowing Period</div> </div>	Housing Revenue Account
	24
	50
	Affordable Rented £000s
Scheme Costs	
Works budget cost (including de inc contingency of 5% @ £228)	4,062
e/o for Passiv Haus standard 10%	406
PV roof panels, EV charge points, bike store, removal of contamination	105
Build and oncost contingency 5%	241
Fees & Other Costs	410
Interest (during Build Phase)	85
Land Acquisition costs	0
Total Scheme Cost	5,309
Scheme Funding	
Homes England Grant - TBC Affordable Housing Grant	
Homes England Grant - Accelerated Construction	
Affordable Housing s106 Contributions	
Sales - Shared Ownership	
Housing Revenue Account	
- Capital Funding - 1 for 1 Right to Buy Receipts	1,593
- S106 Contributions	50
Prudential Borrowing - additional borrowing	3,666
Total Scheme Funding	5,309
Net Cost	0

Appendix 2 - Craven Court Housing Development: Financial Appraisal Long-term Cash flow

Long-Term Cashflow	Year	1	2	3	4	5	6	7	8	9	10	11	12
Gross Residential Rent	3.5% inc YRS 1-3, 2.5% inc Yrs 4-25	(183,487)	(188,992)	(194,661)	(198,555)	(202,526)	(206,576)	(210,708)	(214,922)	(219,220)	(223,605)	(228,077)	(232,638)
Voids	2% of Gross residential rent	3,670	3,780	3,893	3,971	4,051	4,132	4,214	4,298	4,384	4,472	4,562	4,653
Gross Rent after allowance for Voids		(179,817)	(185,212)	(190,768)	(194,583)	(198,475)	(202,445)	(206,494)	(210,623)	(214,836)	(219,133)	(223,515)	(227,986)
RSL Management	2.5% CPI	11,448	11,734	12,028	12,328	12,636	12,952	13,276	13,608	13,948	14,297	14,654	15,021
Maintenance	2.5% CPI	18,792	19,262	19,743	20,237	20,743	21,261	21,793	22,338	22,896	23,469	24,055	24,657
Major Repairs	2.5% CPI	0	0	0	0	0	0	0	0	0	43,724	44,817	45,938
Annual operational spend		30,240	30,996	31,771	32,565	33,379	34,214	35,069	35,946	36,845	81,490	83,527	85,615
Net Income before debt repayment		(149,577)	(154,216)	(158,997)	(162,018)	(165,096)	(168,231)	(171,424)	(174,678)	(177,991)	(137,643)	(139,988)	(142,371)
Repayment of Borrowing (interest)		108,078	107,103	106,099	105,064	103,999	102,901	101,770	100,606	99,407	98,171	96,899	95,588
Repayment of Borrowing (principal)		32,507	33,482	34,487	35,521	36,587	37,685	38,815	39,980	41,179	42,414	43,687	44,998
Cash outflow / (inflow)		(8,992)	(13,630)	(18,412)	(21,433)	(24,510)	(27,645)	(30,839)	(34,092)	(37,406)	2,943	597	(1,785)
Cumulative cash outflow / (inflow)		(8,992)	(22,622)	(41,033)	(62,466)	(86,976)	(114,622)	(145,461)	(179,553)	(216,958)	(214,016)	(213,419)	(215,203)

Appendix 2 - Craven Court Housing Development: Financial Appraisal Long-term Cash flow

Long-Term Cashflow	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Gross Residential Rent	(237,291)	(242,037)	(246,878)	(251,815)	(256,852)	(261,989)	(267,228)	(272,573)	(278,024)	(283,585)	(289,257)	(295,042)	(300,943)	(306,961)
Voids	4,746	4,841	4,938	5,036	5,137	5,240	5,345	5,451	5,560	5,672	5,785	5,901	6,019	6,139
Gross Rent after allowance for Voids	(232,545)	(237,196)	(241,940)	(246,779)	(251,714)	(256,749)	(261,884)	(267,121)	(272,464)	(277,913)	(283,471)	(289,141)	(294,924)	(300,822)
RSL Management	15,396	15,781	16,176	16,580	16,995	17,419	17,855	18,301	18,759	19,228	19,709	20,201	20,706	21,224
Maintenance	25,273	25,905	26,553	27,216	27,897	28,594	29,309	30,042	30,793	31,563	32,352	33,161	33,990	34,839
Major Repairs	47,086	48,263	49,470	50,706	51,974	53,273	54,605	55,970	57,370	58,804	60,274	61,781	63,325	64,909
Annual operational spend	87,755	89,949	92,198	94,503	96,866	99,287	101,769	104,314	106,921	109,594	112,334	115,143	118,021	120,972
Net Income before debt repayment	(144,790)	(147,247)	(149,742)	(152,276)	(154,849)	(157,462)	(160,114)	(162,808)	(165,542)	(168,319)	(171,137)	(173,998)	(176,902)	(179,850)
Repayment of Borrowing (interest)	94,238	92,848	91,416	89,941	88,421	86,856	85,244	83,584	81,874	80,113	78,299	76,430	74,505	72,523
Repayment of Borrowing (principal)	46,347	47,738	49,170	50,645	52,164	53,729	55,341	57,002	58,712	60,473	62,287	64,156	66,080	68,063
Cash outflow / (inflow)	(4,204)	(6,661)	(9,156)	(11,690)	(14,263)	(16,876)	(19,529)	(22,222)	(24,957)	(27,733)	(30,551)	(33,413)	(36,317)	(39,265)
Cumulative cash outflow / (inflow)	(219,408)	(226,069)	(235,226)	(246,916)	(261,179)	(278,055)	(297,584)	(319,806)	(344,763)	(372,496)	(403,048)	(436,460)	(472,777)	(512,042)

Appendix 2 - Craven Court Housing Development: Financial Appraisal Long-term Cash flow

Long-Term Cashflow	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Gross Residential Rent	(313,101)	(319,363)	(325,750)	(332,265)	(338,910)	(345,688)	(352,602)	(359,654)	(366,847)	(374,184)	(381,668)	(389,301)	(397,087)	(405,029)
Voids	6,262	6,387	6,515	6,645	6,778	6,914	7,052	7,193	7,337	7,484	7,633	7,786	7,942	8,101
Gross Rent after allowance for Voids	(306,839)	(312,975)	(319,235)	(325,620)	(332,132)	(338,775)	(345,550)	(352,461)	(359,510)	(366,700)	(374,035)	(381,515)	(389,145)	(396,928)
RSL Management	21,755	22,298	22,856	23,427	24,013	24,613	25,229	25,859	26,506	27,168	27,848	28,544	29,257	29,989
Maintenance	35,710	36,603	37,518	38,456	39,417	40,403	41,413	42,448	43,510	44,597	45,712	46,855	48,026	49,227
Major Repairs	66,531	68,195	69,899	71,647	73,438	75,274	77,156	79,085	81,062	83,088	85,166	87,295	89,477	91,714
Annual operational spend	123,996	127,096	130,273	133,530	136,868	140,290	143,797	147,392	151,077	154,854	158,725	162,694	166,761	170,930
Net Income before debt repayment	(182,842)	(185,879)	(188,961)	(192,089)	(195,263)	(198,484)	(201,753)	(205,069)	(208,433)	(211,846)	(215,309)	(218,822)	(222,385)	(225,998)
Repayment of Borrowing (interest)	70,481	68,378	66,212	63,980	61,682	59,315	56,877	54,366	51,779	49,115	46,371	43,544	40,633	37,635
Repayment of Borrowing (principal)	70,105	72,208	74,374	76,605	78,903	81,271	83,709	86,220	88,806	91,471	94,215	97,041	99,952	102,951
Cash outflow / (inflow)	(42,257)	(45,294)	(48,376)	(51,504)	(54,678)	(57,899)	(61,167)	(64,483)	(67,847)	(71,261)	(74,723)	(78,236)	(81,799)	(85,413)
Cumulative cash outflow / (inflow)	(554,299)	(599,592)	(647,968)	(699,472)	(754,150)	(812,048)	(873,215)	(937,699)	(1,005,546)	(1,076,807)	(1,151,530)	(1,229,766)	(1,311,565)	(1,396,978)

Appendix 2 - Craven Court Housing Development: Financial Appraisal Long-term Cash flow

Long-Term Cashflow	41	42	43	44	45	46	47	48	49	50	Total
Gross Residential Rent	(413,130)	(421,392)	(429,820)	(438,416)	(447,185)	(456,128)	(465,251)	(474,556)	(484,047)	(493,728)	
Voids	8,263	8,428	8,596	8,768	8,944	9,123	9,305	9,491	9,681	9,875	
Gross Rent after allowance for Voids	(404,867)	(412,964)	(421,224)	(429,648)	(438,241)	(447,006)	(455,946)	(465,065)	(474,366)	(483,854)	(15,503,152)
RSL Management	30,739	31,507	32,295	33,102	33,930	34,778	35,647	36,539	37,452	38,388	
Maintenance	50,458	51,719	53,012	54,337	55,696	57,088	58,515	59,978	61,478	63,015	
Major Repairs	94,007	96,357	98,766	101,235	103,766	106,360	109,019	111,745	114,538	117,402	
Annual operational spend	175,203	179,583	184,073	188,675	193,392	198,226	203,182	208,262	213,468	218,805	6,012,438
Net Income before debt repayment	(229,664)	(233,381)	(237,151)	(240,973)	(244,849)	(248,779)	(252,764)	(256,803)	(260,898)	(265,049)	
Repayment of Borrowing (interest)	34,546	31,365	28,088	24,713	21,237	17,657	13,969	10,170	6,258	2,228	3,362,574
Repayment of Borrowing (principal)	106,040	109,221	112,497	115,872	119,348	122,929	126,617	130,415	134,328	138,358	3,666,706
Cash outflow / (inflow)	(89,078)	(92,795)	(96,565)	(100,388)	(104,264)	(108,194)	(112,178)	(116,218)	(120,312)	(124,463)	(2,461,434)
Cumulative cash outflow / (inflow)	(1,486,056)	(1,578,852)	(1,675,417)	(1,775,804)	(1,880,068)	(1,988,262)	(2,100,440)	(2,216,658)	(2,336,971)	(2,461,434)	

Appendix 3 - Craven Court Housing Development Scheme

Accommodation Schedule

Ground Floor			First Floor			Second Floor			Third Floor		
Number of units	Unit size m2	Unit type	Number of units	Unit size m2	Unit type	Number of units	Unit size m2	Unit type	Number of units	Unit size m2	Unit type
1	54	1b2p	1	50	1b2p	1	50	1b2p	2	56	1b2p
1	65	2b3p	2	54	1b2p	2	54	1b2p	1	69	2b3p
1	68	2b3p	1	61	2b3p	1	61	2b3p	2	74	2b3p
1	72	1b2p	1	65	2b3p	1	65	2b3p			
1	83	2b3p	1	66	2b3p	1	66	2b3p			
			1	68	2b3p	1	68	2b3p			
5			7			7			5		

Rent Levels This scheme will be charged at Affordable Rent level:

	LHA level for info	Affordable Rent capped at LHA	Social Rent for information
1-bed	£137.74pw	£133.38pw, £135.22pw, £137.74pw	£89.39pw
2-bed	£174.90pw	£152.70, £153.62pw, £158.22pw, £159.14pw, £160.98pw	£107.14pw

Market rent equivalent including service charge and parking spaces

1-bed	£166.73pw, £169.03pw, £178.23pw
2-bed	£190.88pw, 192.02pw, £195.47pw, £197.77pw, £198.92pw, £201.22 pw

Affordable Rent

Service Charges £7pw additional to Social rent, included in Affordable rent

Build costs £2,333 m2 inc 5% contingency, demolition and 10% to build to Passiv Haus standards (equivalent to £1975m2 excluding contingency, demo and uplift for Passiv haus).

Additional costs £55 per sqm equating to £104.5k in total to include £25k for PV roof panels, £12k for Electric Vehicle Charging Infrastructure, £50k for Basement Bike

Contingency 5% additional build contingency (£223k), oncost contingency £500/unit (£12k)

Voids and bad debts 2%

Management £477 unit/pa Based on historic variable costs per unit

Maintenance £783 unit/pa Based on historic variable costs per unit

Major Repairs 0.8% of build cost deferred to Yr10 As agreed with Principal Surveying Manager

Loan interest rate % 3% Short term; 2% Long term

Loan term and type 50 year annuity

On costs/Fees element	Amount
Acoustic Engineer	£ -
Arbo report	£ 925
Architects fee (up to planning)	£ 27,650
Asbestos, needles, clear	£ 15,000
Bat survey	£ -
Carbon reduction statement	£ 1,590
CIL and Heathland mitigation	£ 7,456
Daylighting assessment	£ -
Demolition inc notices	£ -
Design review panel, pre-app, Consultation	£ -
Development Team	£ 120,000
Ecological survey and BMP	£ 480
Elec Disconnection	£ -
Employers Agent fee	£ 21,276
Security	£ 1,500
Gas disconnection	£ -
Ground investigation	£ 3,725
Heritage consultant	£ 800
Highways consultant	£ -
Homeless Payments & disturbance	£ 192,000
Landscape consultant	£ -
Legal sales fee	£ -
M+E Engineer	£ -
Marketing	£ -
Principle Designer	£ 3,000
Planning application fee	£ 11,088
Structural Engineer and Drainage	£ -
Topographical	£ 2,085
Tree protection and plan	£ -
Utilities and sustainability assessment	£ -
Valuation	£ 1,800
Westworks fee	£ -
Water disconnection	£ -
Total	£ 410,375

Note: On costs/fees are split by number of units to each financial appraisal

Equality Impact Assessment: Report and EIA Action Plan

Purpose

This is the narrative report that you will complete when you have captured your evidence and identified any negative impacts that require mitigation.

This is an important part of the process and should not be skipped over.

When reading the conclusion, decision makers need to be able to easily see:

- if there are any adverse impacts,
- what they are,
- who is affected
- what is going to be done about it.

Detail the positive impacts too. Decision makers should easily see the benefits of the proposed changes.

If there are no impacts one way or another you need to explain how you came to that conclusion, by summarising the assessment process.

Where there is insufficient information to make an informed decision the EIA process will need to be revisited.

Policy/Service under development/review:	Housing Development at Craven Court, 8-10 Knyveton Road, Bournemouth.
Service Lead and Service Unit:	Nigel Ingram, Head of Housing Delivery; Housing Delivery Team
People involved in EIA process:	Peter Friend, Project Manager. Claire Lynch, Housing Development Officer.
Date EIA conversation started:	08 th September 2020

Background

The proposal is to develop additional sustainable affordable housing in Bournemouth. The project includes demolishing existing buildings on site and developing 24 residential units. This development would be capable of housing 24 households, circa 65 persons. The completed project will provide much needed additional affordable rented housing within the conurbation.

There is need for additional homes across all tenures the demand for affordable housing at sub-market levels is particularly high. There are circa 4,300 households on the Housing Register for the Bournemouth area, circa 950 in Poole and circa 400 in the Christchurch area, all waiting for affordable housing in the form of either Council or Housing Association (RP's) Homes.

The existing building is in a poor condition and requires considerable work to bring it up to modern residential standards. It is considered that the site represents an opportunity to create a new high-quality purpose-built block of affordable housing homes.

The benefits of the proposal include:

- Providing 24 apartments within the affordable housing tenure.
- Increasing the number of homes on site by six apartments.
- These homes will help towards imminent new Local Plan housing targets and will also contribute significantly to unmet housing need.
- Development of a new building, as the need to demolish an existing building considered at the end of its useful life.
- The new homes provided will be designed and built to a better standard than currently.
- All homes will be built to the highest sustainability standards delivered through the excellent fabric first and airtightness approach (designed in this case to accommodate the principles of Passivhaus).
- Decreasing the number of households on the Council's Housing Waiting List.
- Benefiting singles/ couples/ families which are either homeless or they may live in unsuitable or under/ over occupied housing.
- Increasing job opportunities within the construction sector during the construction phase.
- Generating a long-term surplus income to the Housing Revenue Account.

The tenure mix has been developed after consultation of numerous factors including the need for the scheme to be financially viable and a providing a positive return, housing demands, site specifics and the need to ensure a sustainable community. The Council's Neighbourhood Management team and the Housing Options and Partnerships team have been closely involved in the development of this scheme to help ensure that it adequately meets housing needs and is designed in such a way to be sustainable and to enable good quality housing management.

The development was subject to a public consultation exercise by the Council. A consultation exhibition event scheduled for March 2020 had to be cancelled due to the Covid – 19 pandemic and instead a postal consultation exercise was undertaken in July 2020. The proposed plans with a covering letter of explanation were delivered to neighbouring properties.

Only two local residents responded to the consultation both from residential properties Frances Road (to the rear of the proposed scheme on Knyveton Road) related to privacy, cladding, the boundary wall and with the levels of car parking. The issues were considered by the development team and the architect, and we addressed these concerns as follows:

- a. **The potential impact on privacy from the top floor rear balconies (one respondent):** The building had been designed to sit on the existing building's footprint. The height of the new building is lower than the existing ridge height. This, in addition to, the natural screening provided by the trees at the rear of the property, should allow a good degree of privacy to be retained by neighbouring properties. It is also worth noting, that the new building's location is approximately 35m away from those in Frances Road, which is 10m further than required by current planning guidance.
- b. **The suitability of the upper floor grey cladding (one respondent):** As part of the planning application, we showed through a visual computer-generated image (CGI) what the building may look like. However, materials and the like are typically dealt with by the planning department at a later date. New drawings show that this proposed cladding has been changed. It is now vertical cladding and will comprise composite or timber material to comply with current standards post Grenfell.
- c. **Suggesting that less parking is provided in favour of more outdoor space (one respondent):** Our car parking provision was subsequently reduced. To note, the proposed car parking provision is also in line with the new BCP Car Parking SPD (2021). It is also likely that the existing tenants will move back into this property, so we need to ensure that there is adequate parking on site.

- d. **The retaining wall:** The retaining wall will be repaired where practicable. In other locations hedgerows will be used as a boundary for this site.

It is also worth noting that should planning permission be approved, issues such as materials (including cladding), boundaries and landscaping are conditions to a planning application. This means that the treatments and materials used for cladding, boundaries and landscaping will need to be approved separately by the planning department at a later date. This is considered normal procedure by the planning department. The Housing Development Team did respond to those that made representations.

Neighbours who are likely to be affected by the scheme have been written to and will be kept up to date.

The Housing Delivery Team undertook consultation with housing teams and input was gained from the Neighbourhood Management, Housing Delivery Enabling and Housing Options and Partnerships teams.

Ward Councillor consultation was carried out in March 2019, and they were further updated with scheme progress in July and August 2020. Feedback from the Housing Options and Partnerships team and that we should provide the greatest need, which was and remain for rented accommodation. This scheme is to provide rented homes to people on the housing waiting list, let at affordable rent levels.

During the planning application process, one public comment was received.

Findings

How does your decision affect those of:

- **Different Ages:** Admission for new residents to the scheme will be by objective eligibility criteria, which will be operated by the Housing Solutions team, who undertake property allocations for the Council to ensure that the properties are let to those in housing need. These properties are designed for families, couples and single people. There will be no loss of existing provision for other client groups as a result of this project. BCP Council's Housing Solutions Team will work with the existing tenants that reside in Craven Court to find alternative more suitable accommodation that is within the affordable housing tenure elsewhere. Most importantly, existing tenants of Craven Court will also be compensated under a Home Loss Payment and a Disturbance Payment, subject to regulations, for any inconvenience caused for moving to alternative accommodation. Existing Tenants of Craven Court will also be given first right of refusal to move back into the completed development. It is found that the majority of existing tenants are senior and thus this new development will be designed by meeting these standards to accommodate for all types of need. The Council is actively providing category 2 (equivalent to Lifetime Homes) & 3 (wheelchair housing) (silver and gold) dwellings on other schemes in the conurbation.
- **Disability:** Properties will be constructed to Building Control Approved Document Part M category 1 (Access to and use of buildings- also to be referred to in future reports as the bronze standard.). This means that the new flats designed will meet wheelchair accessible standards. The constrained nature of the site and the need for high dwelling density to make the site viable prevents the Council achieving the alternative categories.
- **Sex/ Gender Reassignment/ Pregnancy and Maternity/ Marriage and Civil/ Race/ Religion or Belief/ Sexual Orientation/ Armed Forces Community and any other factors/ groups:** Properties will be eligible for all eligible applicants on the housing register. No issues regarding these characteristics have been identified but this factor will be considered along with any service user identified needs.
- **Human Rights:** Will facilitate Article 11 of the International Covenant on Economic, Social and Cultural Rights – the right of everyone to adequate standard of living for themselves and their family, including

adequate food, clothing and housing. No human rights have been identified but these factors will be considered/ monitored along with any service users identified needs.

Conclusion

This proposal does not introduce new changes to policy or services; however, it does intend to create new residential homes. Existing residents will need to decant however they will be given monetary compensation for any inconvenience caused and will be helped by the Council to obtain a new affordable housing property. Once the new development at Craven Court is completed, the existing tenants of Craven Court will be first right of refusal to move back into the new development. Also, the development is restricted to provide 1 and 2 bed flats only however the Housing Delivery Team are providing larger sized houses elsewhere in the conurbation. The identification of housing need for specific client groups within the neighbourhood will be monitored as part of the ongoing Housing Strategy process. The benefits of the proposal include:

1. Providing 24 apartments within the affordable housing tenure Increasing the number of units on site by 6 affordable homes.
2. These homes will help towards meeting imminent new Local Plan housing targets and will also contribute significantly to unmet housing need.
3. Development of a new building, as there is a need to demolish an existing building considered at the end of its useful life.
4. The new homes provided will be designed and built to a better standard than currently.
5. All homes will be built to the highest sustainability standards delivered through the excellent fabric first and airtightness approach (designed in this case to accommodate the principles of Passivhaus).
6. Decreasing the numbers of households on the Council's Housing Waiting List.
7. Benefiting singles/couples/families which are either homeless or they may live in unsuitable or under/over occupied housing.
8. Increasing job opportunities within the construction sector during the construction phase of the development.
9. Generating a long-term surplus income to the Housing Revenue Account.

The only issue identified with this propose new development, is that it is designed for a mix of 1 and 2 bed flats only. These flats can be accommodated by single people, couples and families. Although there is a limited amount of larger family accommodation on this site, this can be offset by the delivery of a variety of larger housing on other sites across the Conurbation. Also, it is worthwhile highlighting that one and two bed flats can be more suitable for those occupying larger properties than they need. These persons may consider downsizing from larger properties into 1 and 2 bed properties thus freeing up potentially larger family houses in the area which contributes to providing a wider mix of properties across the conurbation. The identification of housing need for specific client groups within the neighbourhood will be monitored as part of the ongoing Housing Strategy process.

Equality Impact Assessment: Report and EIA Action Plan

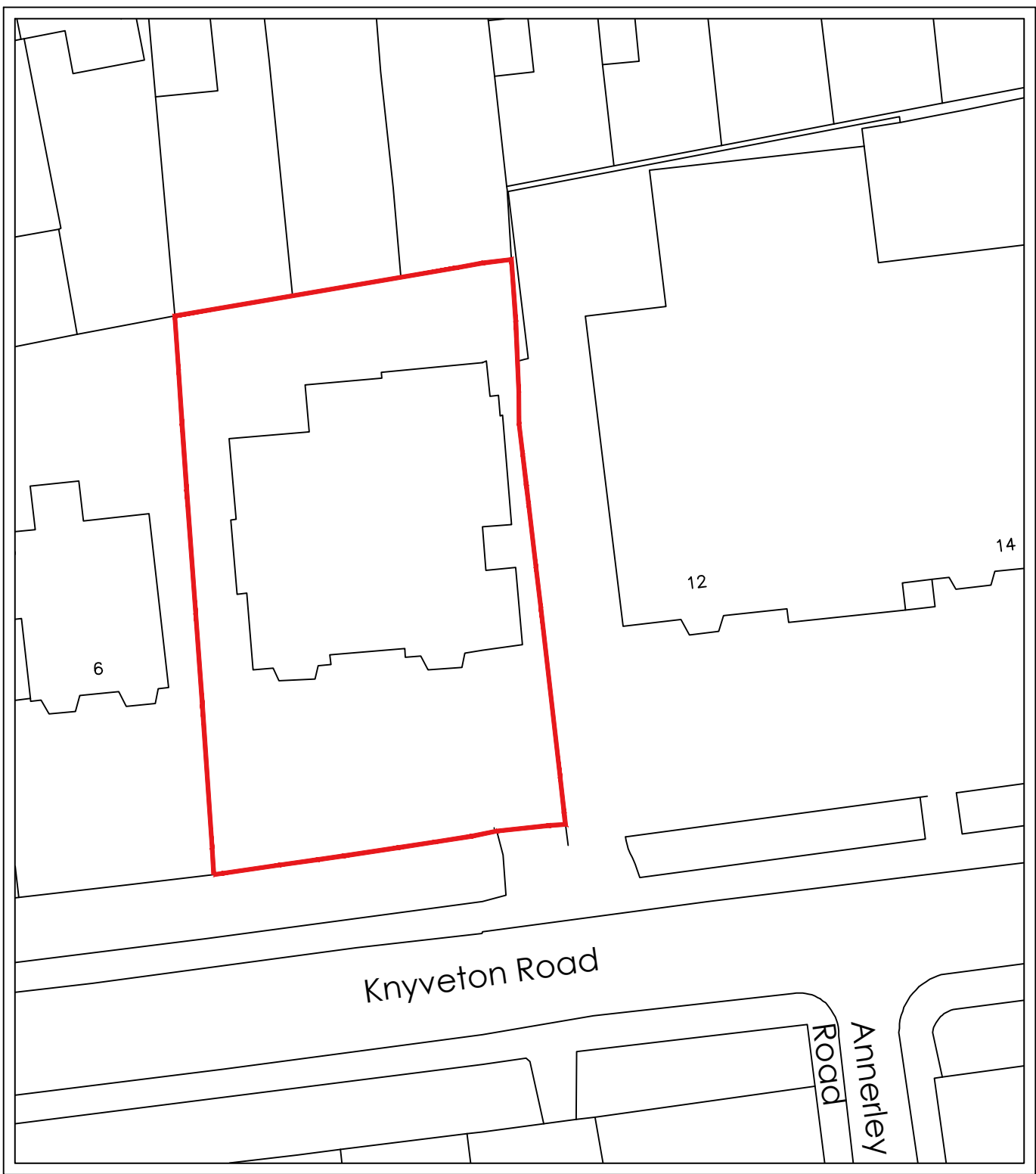
Equality Impact Assessment Action Plan

Please complete this Action Plan for any negative or unknown impacts identified above. Use the table from the Capturing Evidence form to assist.

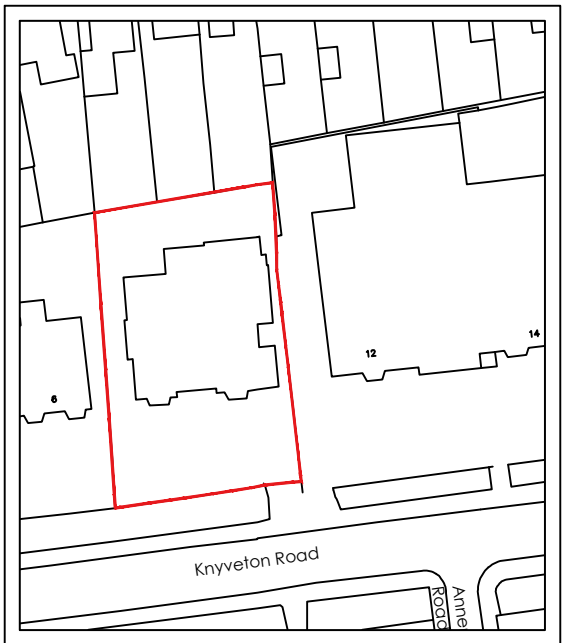
Issue identified	Action required to reduce impact	Timescale	Responsible officer
<i>The properties are designed for families, couples, single people – a mix of 1 and 2 bed flats.</i>	<i>As a consequence of no 3 or 4 bed housing provision on this site, impact can be offset by delivery of homes elsewhere within the BCP area.</i> <i>One and two bed flats can be more suitable for those occupying larger properties than they need. Subsequent downsizing will free up larger family houses.</i> <i>The identification of housing need for specific client groups within the neighbourhood will be monitored as part of the ongoing Housing Strategy process.</i>	<i>Ongoing</i>	<i>Affordable Housing and Resettlement Manager.</i>



SITE PLAN
SCALE 1:200
BASED ON LDS
SURVEY INFORMATION DATED FEB 2019



BLOCK PLAN
SCALE 1:500
BASED ON O.S INFORMATION
O.S LICENCE NUMBER 100007080

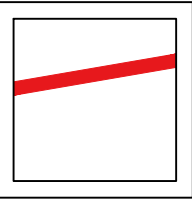
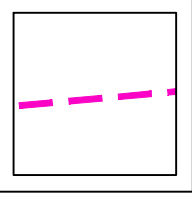
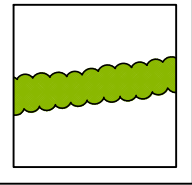


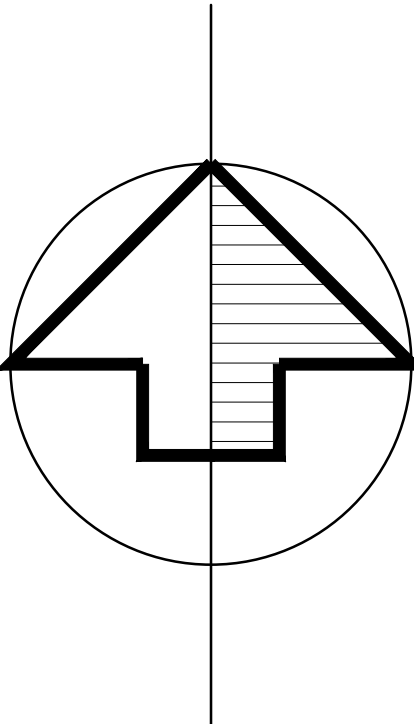
LOCATION PLAN
SCALE 1:1250
BASED ON O.S INFORMATION
O.S LICENCE NUMBER 100007080

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LEGEND

-  SITE BOUNDARY
-  EXISTING BUILDING TO BE DEMOLISHED
-  PROPOSED PLANTING



SITE AREA: 0.1479 HECTARES / 0.3655 ACRES	
9 PARKING SPACES (UNALLOCATED) 24 CYCLE SPACES	
PROPOSED GIA:- 1913 SQM / 20591.34 SQFT	
10 X 1 BED APARTMENTS 14 X 2 BED APARTMENTS TOTAL UNITS = 24	

I	PARKING NOTE UPDATED	09/02/21	AE
H	LANDSCAPING AMENDED	04/02/21	AE
G	PLANNERS COMMENTS	28/01/21	AE
F	CLIENT COMMENTS	30/06/19	AE
E	CLIENT COMMENTS	05/06/19	AE
D	CLIENT COMMENTS	11/05/19	AE
C	SITE ENTRANCE ANNOTATION UPDATED	03/06/19	AE
B	GENERAL UPDATES	08.05.19	TC
A	GENERAL UPDATES	30/04/19	AE

No.	Revision.	date	by
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PROPOSED DEVELOPMENT,
CRAVEN COURT,
8 KNYVETON ROAD,
BOURNEMOUTH,
DORSET,
BH1 4PA.

SITE, BLOCK & LOCATION PLANS

scale AS SHOWN @ A1	checked CS
date MAY 2019	drawn AE
9083/200	A B C D E F G
	H I

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LEGEND

Accommodation schedule				
LEVEL	UNIT NO.	BEDROOMS	GIA m²	GIAH*
GROUND	1	2	93	1001.042700
GROUND	2	1	72	775.000800
GROUND	3	1	54	581.250600
GROUND	4	2	68	731.945200
GROUND	5	2	66	710.417400
GROUND FLOOR TOTALS		8	353	3799.656700
FIRST	6	2	64	688.889600
FIRST	7	1	50	538.195000
FIRST	8	1	54	581.250600
FIRST	9	1	54	581.250600
FIRST	10	2	68	731.945200
FIRST	11	2	66	710.417400
FIRST	12	2	69	742.709100
FIRST FLOOR TOTALS		11	425	4574.657500
SECOND	13	2	64	688.889600
SECOND	14	1	50	538.195000
SECOND	15	1	54	581.250600
SECOND	16	1	54	581.250600
SECOND	17	2	68	731.945200
SECOND	18	2	66	710.417400
SECOND	19	2	69	742.709100
SECOND FLOOR TOTALS		11	425	4574.657500
THIRD	20	2	74	796.528600
THIRD	21	1	56	602.778400
THIRD	22	1	56	602.778400
THIRD	23	2	74	796.528600
THIRD	24	2	69	742.709100
THIRD FLOOR TOTALS		8	329	3541.323100
OVERALL TOTALS		38	1532	16490.294800

ANCILLARY AREAS		
GROUND	BIKE STORE	32
GROUND	BIN STORE	21
GROUND	PLANT	32
GROUND	STORAGE UNITS	33
TOTAL GIA (INC CIRCULATION, BINS AND BIKES)		1913

344.44800	226.041900	344.44800	355.208700
20591.340700			



H	THIRD FLOOR PLAN UPDATED	03/02/21	KU
G	PLANNERS COMMENTS	28/12/20	KU
F	PLANNERS COMMENTS	14/12/20	KU
E	CLIENT AMENDMENTS	30/06/20	AE
D	CLIENT AMENDMENTS	05/06/20	AE
C	CLIENT AMENDMENTS	08/05/20	AE
B	GENERAL UPDATES	03/06/19	AE
A	GENERAL UPDATES	08/05/19	TC

No.	Revision.	date	by
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PROPOSED DEVELOPMENT,
CRAVEN COURT,
8 KNYVETON ROAD,
BOURNEMOUTH,
DORSET,
BH1 4PA.

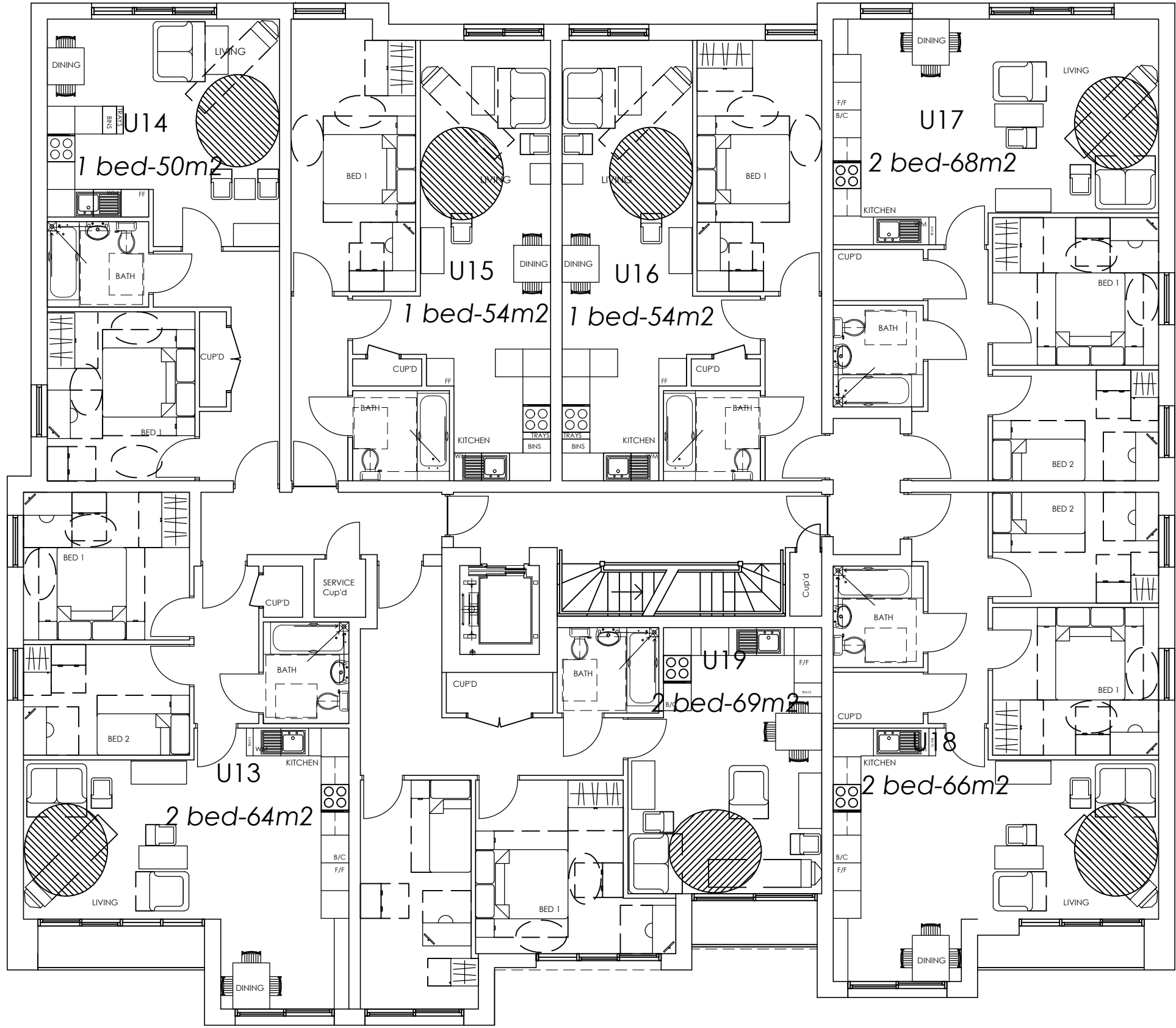
PROPOSED FLOOR PLANS

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date	MAY 2019	drawn	AE
9083/201		A	B
		C	D
		E	F
		G	

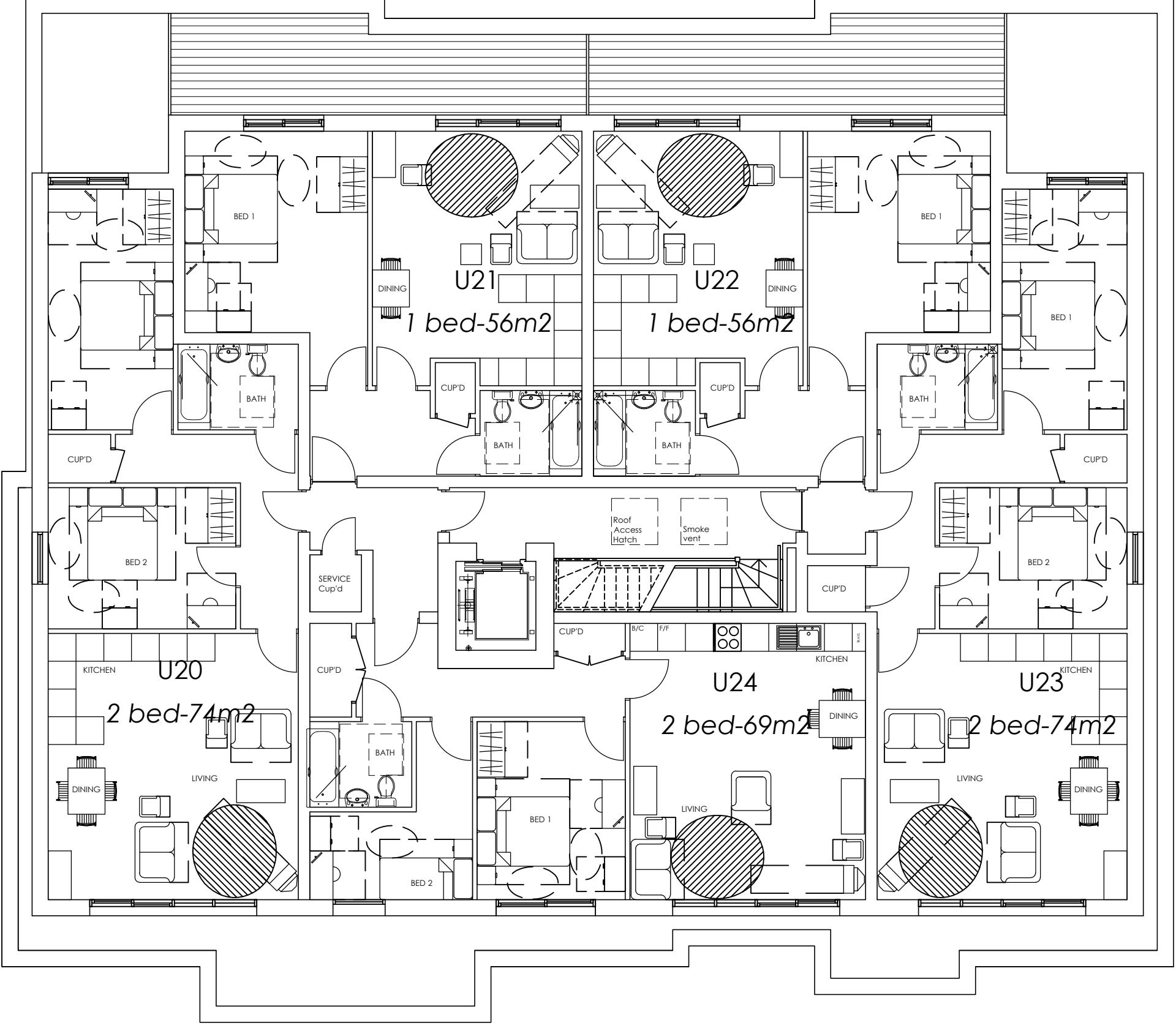
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Christchurch, Dorset, BH23 1EP

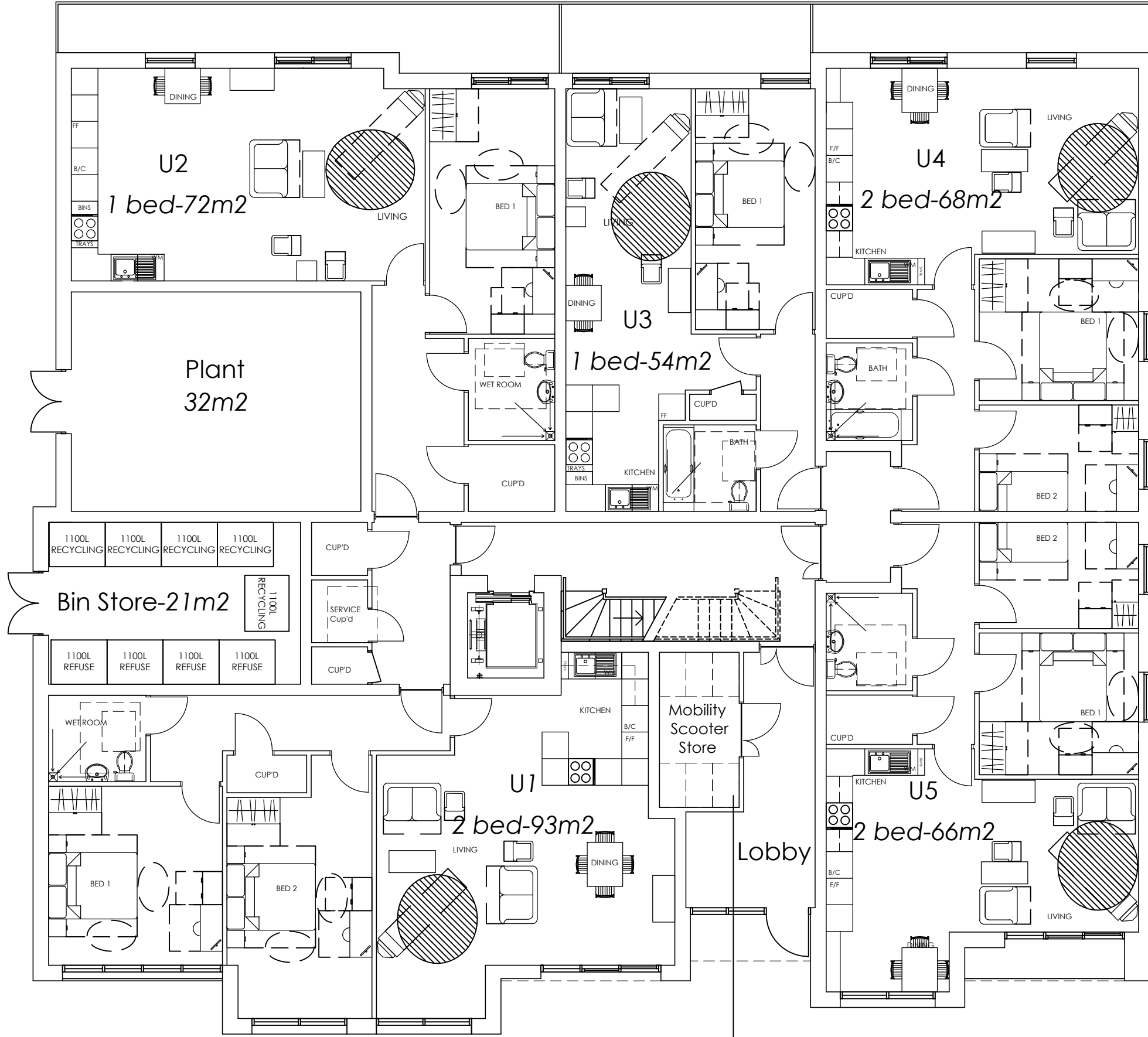
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Web: www.andersrobertscheer.co.uk



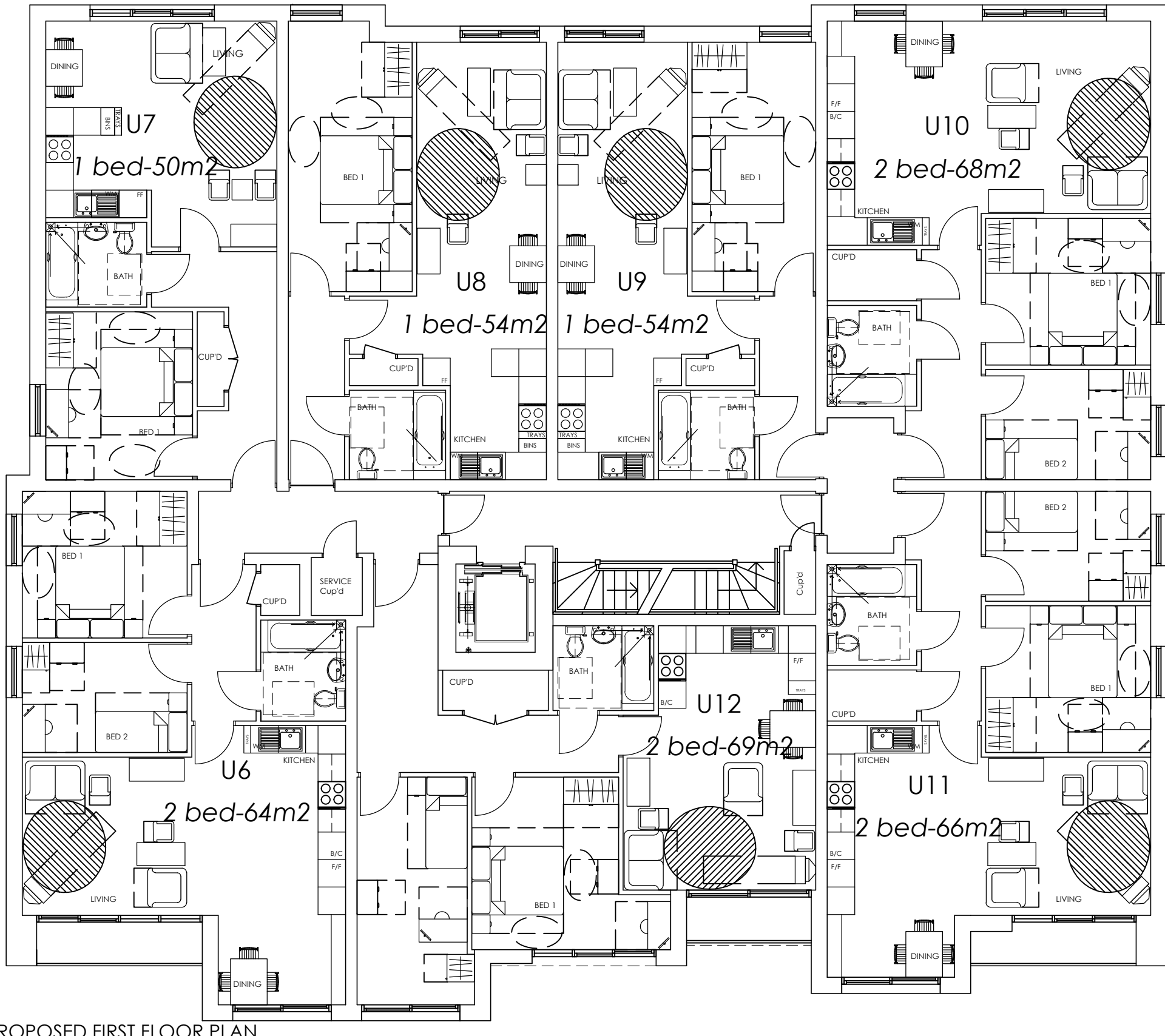
PROPOSED SECOND FLOOR PLAN
SCALE 1:100



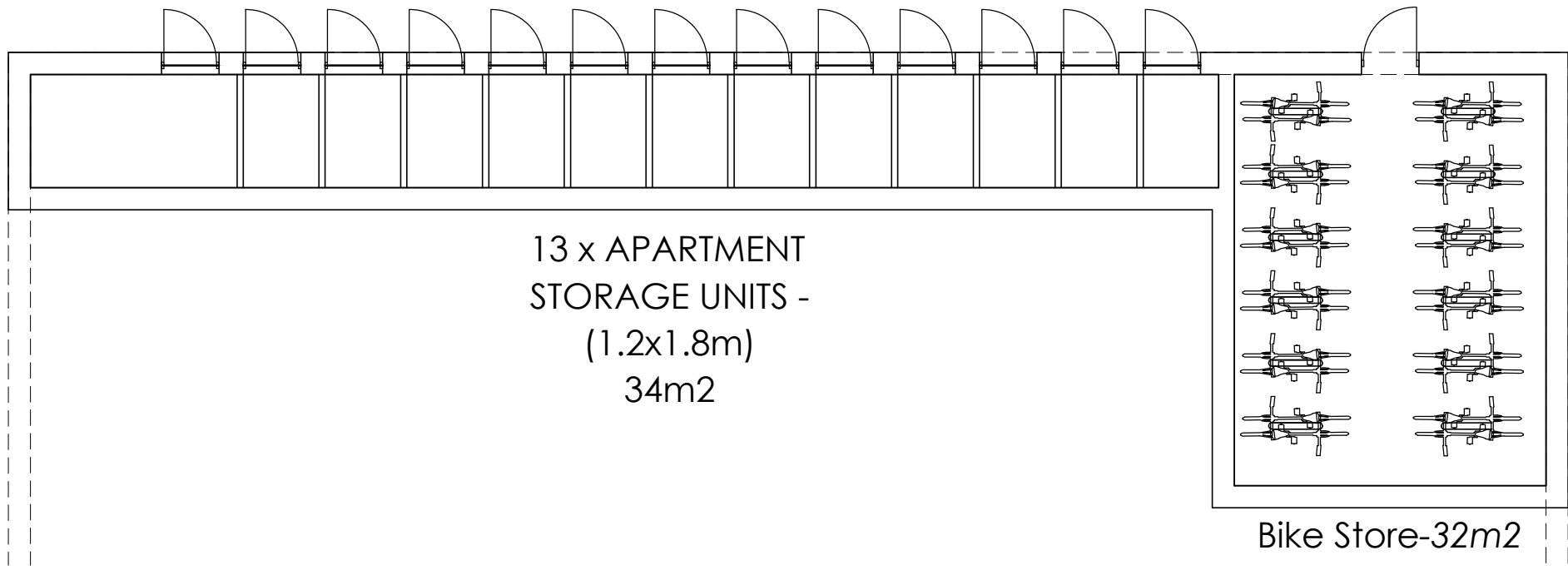
PROPOSED THIRD FLOOR PLAN
SCALE 1:100



PROPOSED GROUND FLOOR PLAN
SCALE 1:100



PROPOSED FIRST FLOOR PLAN
SCALE 1:100



PROPOSED SUB BASEMENT PLAN
SCALE 1:100

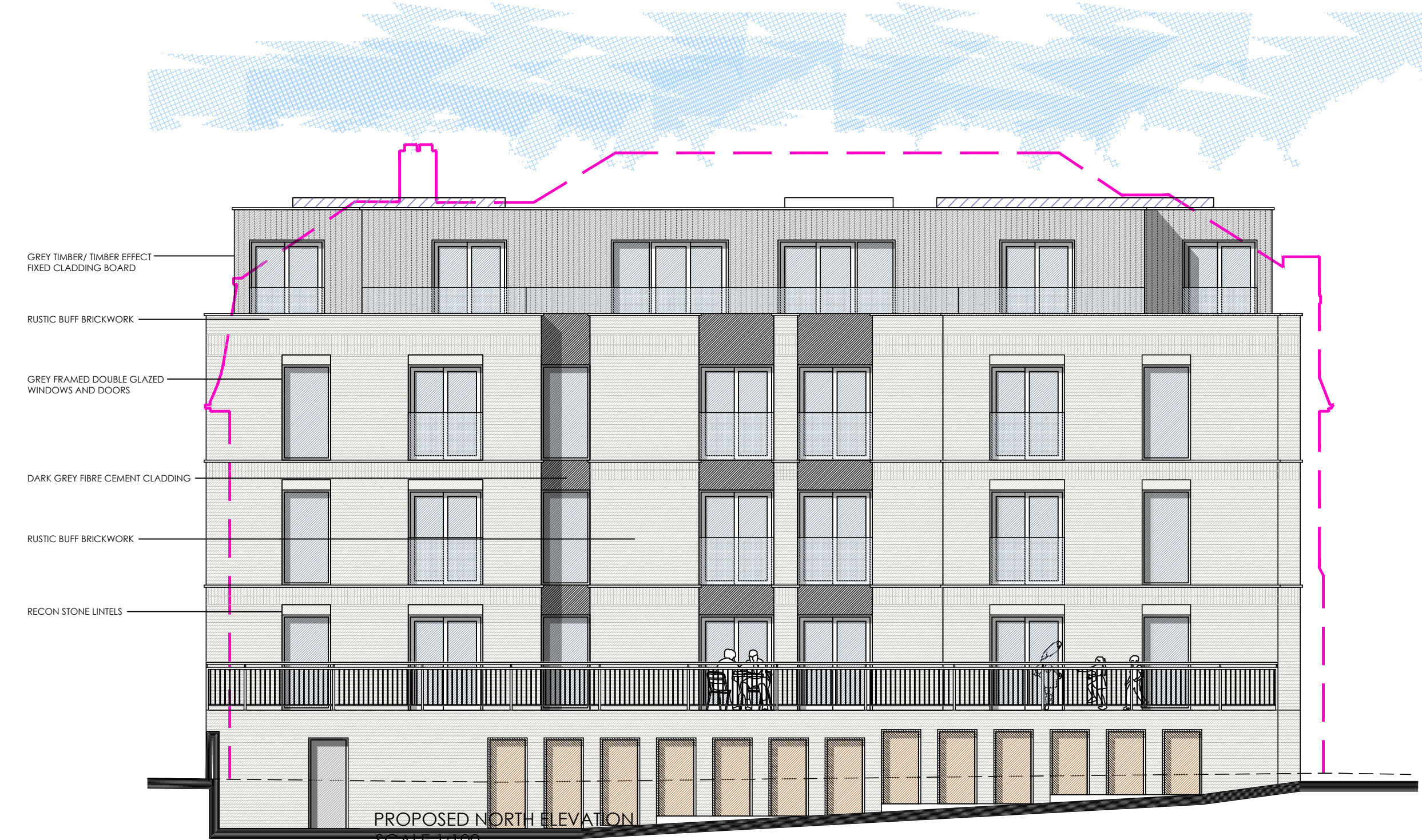
10m @ 1:100



PROPOSED SOUTH ELEVATION
SCALE 1:100



PROPOSED EAST ELEVATION
SCALE 1:100



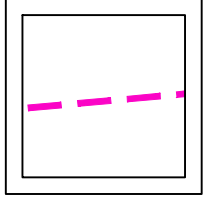
PROPOSED NORTH ELEVATION
SCALE 1:100



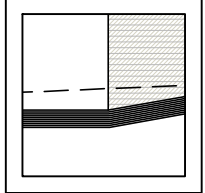
PROPOSED WEST ELEVATION
SCALE 1:100

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LEGEND



EXISTING BUILDING TO BE DEMOLISHED



EXISTING GROUND LEVELS

MATERIALS SCHEDULE			
ROOF: GREY SINGLE PLY MEMBRANE			
WINDOWS: GREY WINDOWS			
WALLS:			
	GREY TIMBER/ TIMBER EFFECT FIXED CLADDING BOARD		
	BUFF BRICK		

F	PLANNERS COMMENTS	28/12/21	KU
E	PLANNERS COMMENTS	14/12/20	KU
D	CLIENT COMMENTS	30/06/20	AE
C	CLIENT COMMENTS	05/06/20	AE
B	LEGEND UPDATED	03/06/19	AE
A	GENERAL UPDATES	08/05/19	TC
No.	Revision.	date	by

PROPOSED DEVELOPMENT,
CRAVEN COURT,
8 KNYVETON ROAD,
BOURNEMOUTH,
DORSET,
BH1 4PA.

PROPOSED ELEVATIONS

scale	AS SHOWN @ A1	checked	
date	MAY 2019	drawn	AE
9083/202		A	B
		C	D
		E	F

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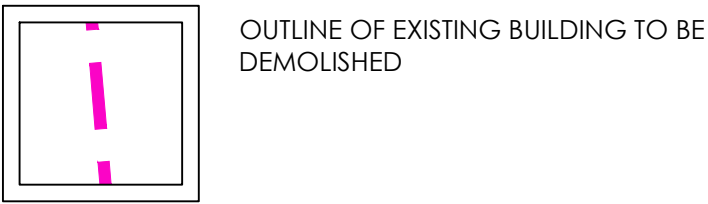


10m @ 1:100

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LEGEND



PROPOSED STREET ELEVATION FOR INDICATIVE PURPOSES ONLY
SCALE 1:100

D	PLANNERS COMMENTS	28/01/21	AE
C	PLANNERS COMMENTS	14/12/20	KU
B	CLIENT COMMENTS	30/06/20	AE
A	CLIENT COMMENTS	05/06/20	AE

No.	Revision.	date	by
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PROPOSED DEVELOPMENT,
CRAVEN COURT,
8 KNYVETON ROAD,
BOURNEMOUTH,
DORSET,
BH1 4PA.

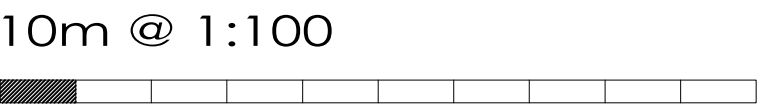
PROPOSED STREET ELEVATION

scale	AS SHOWN @ A1	checked					
date	APRIL 2019	drawn AE					
9083/203		A	B	C	D		

ARC Architecture Ltd.

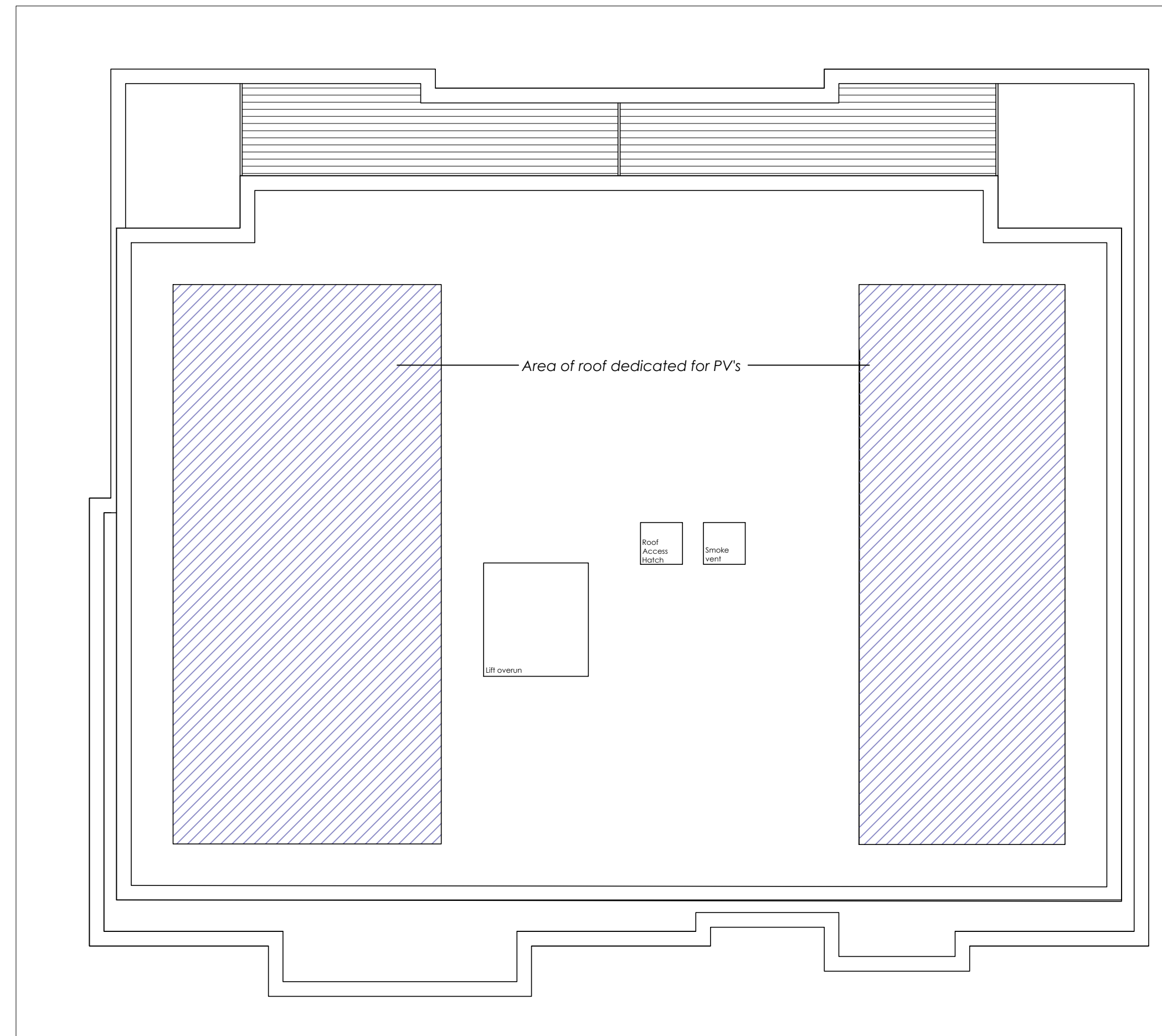
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DRAINAGE



91675mN

9963

37.20

37.52

1113

6

12

U1 1 bed-83m²

U2 1 bed-72m²

U3 1 bed-54m²

U4 2 bed-68m²

U5 2 bed-66m²

Plant 32m²

Bin Store 21m²

Lobby

EV CHARGING BAY

EV CHARGING BAY

EXISTING ENTRANCED REMOVED AND BOUNDARY WALL EXTENDED

EXISTING DROPPED KERB WIDENED

Knyveton Road

0 10

10m @ 1:100

No.	Revision.	date	by
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scale AS SHOWN @ A1	checked					
date MAY 2019	drawn AE					
9083/206	A	B	C	D	E	F



TYPICAL MAINTENANCE PLAN	
MAINTENANCE	WHEN TO BE CARRIED OUT
<ul style="list-style-type: none"> • INSPECTION OF INLETS & OUTLETS • REMOVAL OF LITTER • GRASS CUTTING 	MONTHLY
<ul style="list-style-type: none"> • REMOVAL OF SILT AROUND COMPONENTS • REMOVAL OF VEGETATION AROUND COMPONENTS 	ANNUALLY



Health & Safety Assessment Tool

Completed by

Name	Claire Lynch
Business Unit	Housing Development
Date	08th September 2020

Please save this document to your computer and complete by entering your responses in the boxes provided. Information about the HASAT is available on BIZ within the Corporate H&S pages.

1	<u>Name of Project</u>
Development at Craven Court, 8-10 Knyveton Road, Bournemouth, BH1 3QN	

2	<u>Project Number</u>

6	<u>Is this project notifiable under the CDM Regulations 2015</u>
YES	

7	<u>Aspects of the project</u> Please see the HASAT guidance template on the 2nd tab of this document.		
<u>ITEM</u>	<u>YES</u>	<u>NO</u>	<u>COMMENTS</u>
1 Risk Assessment	YES		The tender will contain a designers risk assessment highlighting any project specific risks to the contractors tendering for the work. A Construction Phase Health and Safety Plan including risk assessments and method statements will be submitted before the commencement of the construction phase.
2 Contractors	YES		Evidence of competence of the Principal Contractor should be provided. This should include any sub contractors.
3 Manual Handling	YES		As part of their CDM duty the Designer will try where practicable to design the project in a manner that reduces the potential of this hazard. Before construction works commence the Principal Contractor will be obliged to submit an examples of manual handling risk assessments.

4 Fire Safety Impacts	YES		As part of their CDM duty the designer will try where practicable to design the project in a manner that reduces the potential of this hazard. Fire service will be a consultee to the planning process. Fire Risk Assessment to be completed at practical completion.
5 Working at Heights	YES		As part of their CDM duty the designer will try where practicable to design the project in a manner that reduces the potential of this hazard. Before construction works commence the the Contractor will be obliged to submit a Construction Phase Health and Safety Plan which will include a risk assessments and method statements to address this hazard.
6 Accident recording	YES		Before construction works commence the the Principal Contractor will submit their arrangements for incident reporting.
7 CDM Notification to the HSE	YES		The Principal Contractor will notify the HSE of the project and forward evidence.
8 Requirement of continued monitoring	YES		Before construction works commence the the Contractor will be obliged to submit their arrangements for continued health monitoring.
9 Need for specialist equipment / tools	YES		As part of their CDM duty the designer will try where practicable to design the project in a manner that reduces the potential of this hazard. Please forward a list of any specialist equipment or tools needed for the construction including risk assessments and maintenace records.
10 Exposure to hazardous substances	YES		The Designer will where practicable, design the project in a manner that reduces the exposure to hazardous substances. Before construction works commence the Principal Contractor will be obliged to submit examples of COSHH assessments for substances that will be used in the construction.

8	Please provide a list of all persons, who have been consulted regarding H&S for this project
Employers Agent & Principle Designer - David Richards Practice. Architect - Anders Roberts Cheer. Principal Contractor - TBC. Building Control - LABC	



Environment Impact Checklist for all Cabinet Reports

Issue: Housing Development at **Craven Court, 8-10 Knyveton Road, Bournemouth, BH1 3QN**

Meeting Date: 30th December 2020.

Accountable Manager: Lorraine Mealings, Director Housing

Impact Assessor: Jonathan Thornton ☎ 01202 458347 ✉ jonathan.thornton@bcpcouncil.gov.uk

Key	
+	Balance of positive Impacts
?	Balanced or unclear impacts
-	Balance of negative impacts
n/a	Not applicable

Impact Criteria	Impact	Comments
Natural resources impact on use of natural resources – for example energy, water, raw materials	-	<p>The redevelopment of this site will have a negative effect on the use of natural resources. However, the existing building is in poor condition and requires considerable work to bring up to modern residential standards. Also, the tarmacadam surfacing will remain on site and be used as a piling mat and temporary site surface during the construction phase. This will reduce soil deposits on the adjacent highway and the need for washing down of vehicles leaving site.</p> <p>Materials from the existing building will be reclaimed and recycled wherever possible as part of the demolition works, and masonry crushed and re-used. The new properties will be more energy efficient (heating systems and insulation), so less energy will be required to heat the completed homes than the existing.</p>
Quality of environment contribution to safe and supportive environments for living, recreation and working	+	<p>A new, high quality building on this site could make a positive contribution to the quality of the environment. The development of new homes on the site will improve natural surveillance of the area, contributing to a safer environment, particularly to the public footpath adjacent to the site.</p> <p>A number of trees are retained in the current scheme proposals and to add appropriate landscape, including a buffer of trees/landscaped areas between the proposed building and the Knyveton Road and also to the retained homes adjacent.</p> <p>Outside space is limited in the proposed development, balconies are provided where possible; access to the remaining open space will be available. The site is well located and walkable to the town centre of Bournemouth.</p>

Bio-diversity protects and improves wildlife and habitats	?	The site is currently still in use as residential use providing 18 flats. It is a 2-3 storey building. Existing trees/landscaped areas on the perimeter of the site (around the tarmacadam surfacing) are retained to ensure safety of wildlife and trees.
Waste and pollution effects on air, land and water from waste and emissions	-	This redevelopment will result in intensified use of the site (from 18 homes to 24 homes), resulting in additional waste and emissions. However, the new buildings will be built to high energy efficiency standards of Passiv Haus Principles.
Council Priority and Objectives for Improving our Environment: <ul style="list-style-type: none"> • Reduce traffic congestion • Improve streetscene • Improve recycling & energy management • Respond to climate change • Improve quality of existing space 	?	<p>The Street scene will be greatly improved by the redevelopment.</p> <p>The development will be built to Passiv Haus Principles and will reduce carbon emissions by 22%.</p>

Craven Court. 24 new build flats



RAG rating	G
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[illegible]



9 Freeland Park, Wareham Road, Lytchett Matravers, Poole, Dorset BH16 6FH
e: mail@energycount.co.uk | www.energycount.co.uk | 01202 623236

CARBON REDUCTION STATEMENT

PROJECT: Craven Court, Knyverton Road, Bournemouth, Dorset, BH1 4PA

CLIENT: BCP Council

PROJECT REF: 0292-1020-20_03

DATE: 26 January 2021

CONTENTS

1.0 - Introduction

2.0 - Energy Requirements

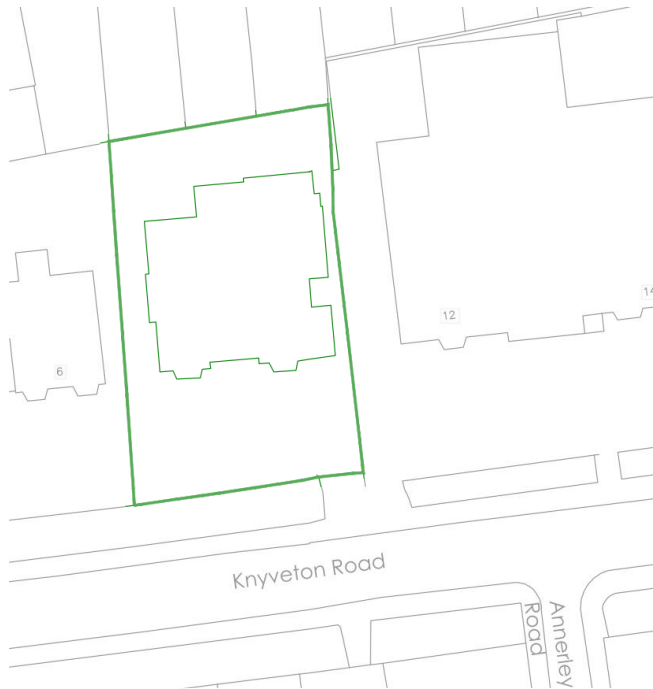
3.0 - Energy Hierarchy

4.0 - Methodology

5.0 – Findings

6.0 - Conclusions

1.0 - INTRODUCTION



The development of Craven Court consists of the replacement of an existing 18-unit block with an energy efficient new building comprising 24 units.

As part of its commitment to reduce CO₂ emissions in the conurbation BCP Council declared a Climate & Ecological Emergency in July 2019. On the back of this the new BCP local plan is being developed to help achieve a reduction in CO₂ emissions in new developments. The existing local plan was adopted in October 2012 and is out-of-date¹ in planning terms.

The current Policy CS2 of the Core Strategy requires that all developments must have at least 10% of their energy demand to come from decentralised and renewable or low carbon sources unless this is demonstrated as not feasible or viable.

The proposed development at Craven Court will be built to Passivhaus standards using a fabric-first approach that will exceed Building Regulations by a large margin.

The purpose of this report is to show how the fabric-first Passivhaus approach will provide a significant CO₂ emissions reduction across the development compared to the same building if it were built to current Building Regulations requirements.

¹ Refer to Appendix A

2.0 - ENERGY REQUIREMENTS

Energy efficiency first

The largest proportion of energy demand of a typical dwelling built to current regulations is from space and water heating. It is good practice therefore to reduce the overall energy demand of a dwelling by utilising a low energy design approach.

For a Passivhaus, using a fabric-first approach, the space heating demand of a dwelling is brought closer to zero due to the high levels of thermal insulation and air tightness.

Low energy design involves the consideration and implementation of measures to reduce the energy requirement of a dwelling. This can be achieved by:

- Improving levels of insulation to reduce heat loss through the fabric of the building.
- Use of low-energy technologies, e.g. low-energy lighting, energy efficient boilers & appliances.
- Use of passive solar design.

3.0 - ENERGY HIERARCHY

When designing a building it is advisable to follow an Energy Hierarchy. The primary aim is to make the building as energy efficient as possible in order to reduce the demand for energy, and thus CO₂ emissions.

Building Regulations 2013 Part L aims to reduce CO₂ emissions from new buildings by 6% compared to those built to 2010 regulations. This can be achieved by making improvements to the fabric of the building by increasing levels of insulation, increasing air tightness and the use of efficient heating & appliances. CO₂ emissions can be further reduced using renewable energy sources.

In order to reduce the regulated CO₂ emissions of the proposed development the principle is to follow the energy hierarchy:

- Use less energy – energy efficient measures, air tightness, passive solar, low energy design

Use less energy

Areas of consideration in order to improve the efficiency of the fabric of a dwelling:

- Increased insulation to main thermal elements (roof, walls, floor, glazing)
- Reduce thermal bridging to near-zero
- Improved air tightness

Other areas for improvement:

- Efficient heating & hot water systems
- Improved heating & lighting controls
- Controlled ventilation
- Energy efficient lighting
- Energy efficient appliances (cooker, washing machine, fridges, etc.)

4.0 - METHODOLOGY

Project Appraisal

BCP Council impose a condition on all new dwellings that requires a 10% reduction in Energy Demand from renewable or low carbon sources. The 10% energy demand reduction requirement in the out-of-date Bournemouth Local Plan is a noble intention, but too simplistic a tool in practice.

Under the out-of-date local plan there is no requirement for a dwelling to exceed Building Regulations, just that the energy demand is reduced by 10%. It is therefore possible to build an inefficient building that fails to meet Building Regulations Part L CO₂ requirements without renewables, to then add renewables to achieve the 10% energy demand reduction.

Using a fabric-first approach can achieve a decent Building Regulations pass without the need for renewables.

The proposed development will be built to Passivhaus standard using a fabric-first approach that will greatly exceed Building Regulations.

The latest Design SAP software has been used to determine CO₂ emissions for the development.

5.0 - FINDINGS

Table 5.1 Benchmark Calculations (Base spec)

Block Compliance Report - DER					
Block Reference: 0292-1020-01		Block Name: Craven Court			
Property-Assessment Reference	Multiplier	Floor Area (m ²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER
0292-1020-01(U03)_GF_mid-002_0	1	54	34.10	25.74	-32.48 %
0292-1020-01(U04)_GF_corner-002_0	4	68	37.11	26.50	-40.05 %
0292-1020-01(U09)_MidF_mid-002_0	6	54	28.24	22.96	-22.97 %
0292-1020-01(U09)_TopF_mid-002_0	3	54	28.24	22.96	-22.97 %
0292-1020-01(U10)_MidF_corner-002_0	8	68	31.65	23.82	-32.88 %
0292-1020-01(U23)_TopF_corner-002_0	2	73.51	31.06	23.40	-32.74 %
Totals:	24	1503.02	190.40	145.38	
Average DER = 31.57 kgCO ₂ /m ²		% DER/TER	FAIL		
Average TER = 24.05 kgCO ₂ /m ²		-31.27 %			

Table 5.1 shows CO₂ emissions of the building if built to a typical specification with electric heating. The average DER is 31.57 kgCO₂/m², which for Building Regulations purposes represents a -30.27% fail.

The base spec used for the benchmark calculations is as follows:

Walls = 0.20 W/m ² K	(Building Regulations Part L limit = 0.30 W/m ² K)
Floor = 0.15 W/m ² K	(Building Regulations Part L limit = 0.25 W/m ² K)
Roof = 0.20 W/m ² K	(Building Regulations Part L limit = 0.20 W/m ² K)
Glazing = 1.5 W/m ² K	(Building Regulations Part L limit = 1.6 W/m ² K)
Air tightness (q50) = 3.0 m ³ /hr/m ²	(Building Regulations Part L limit = 10.0 m ³ /hr/m ²)

Table 5.2 Benchmark Calculations (Base spec + PV)

Block Compliance Report - DER					
Block Reference: 0292-1020-01		Block Name: Craven Court			
Property-Assessment Reference	Multiplier	Floor Area (m ²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER
0292-1020-01(U04)_GF_corner-002_1	4	68	26.43	26.50	0.26 %
0292-1020-01(U10)_MidF_corner-002_1	8	68	23.74	23.82	0.33 %
0292-1020-01(U23)_TopF_corner-002-2	2	73.51	23.32	23.40	0.34 %
0292-1020-01(U03)_GF_mid-002_1	1	54	25.38	25.74	1.40 %
0292-1020-01(U09)_MidF_mid-002_1	6	54	22.85	22.96	0.50 %
0292-1020-01(U09)_TopF_mid-002_1	3	54	22.85	22.96	0.50 %
Totals:	24	1503.02	144.57	145.38	
Average DER = 23.96 kgCO ₂ /m ²		% DER/TER	PASS		
Average TER = 24.05 kgCO ₂ /m ²		0.37 %			

Table 5.2 shows CO₂ emissions of the building if built to the same typical specification with electric heating, plus 25.5kW of Solar PV to achieve a pass. The average DER is 23.96 kgCO₂/m², which for Building Regulations purposes represents a 0.37% pass.

Tables 5.1 & 5.2 represent a building built to a specification that is typical in the industry today. The specification exceeds the limits set in Building Regulations Part L, yet still requires renewables to achieve a pass on the CO₂ emissions aspect of Part L.

The fabric-first Passivhaus specification

The proposed building will be built to Passivhaus standards, with a specification as follows:

Walls = 0.12 W/m ² K	(Building Regulations Part L limit = 0.30 W/m ² K)
Floor = 0.12 W/m ² K	(Building Regulations Part L limit = 0.25 W/m ² K)
Roof = 0.12 W/m ² K	(Building Regulations Part L limit = 0.20 W/m ² K)
Glazing = 0.8 W/m ² K	(Building Regulations Part L limit = 1.6 W/m ² K)
Air tightness (q50) = 1.0 m ³ /hr/m ²	(Building Regulations Part L limit = 10.0 m ³ /hr/m ²)

As part of the Passivhaus specification requirement thermal bridges are largely designed out, making for an extremely well insulated and airtight thermal envelope.

Table 5.3 Calculations (Passivhaus spec)

Block Compliance Report - DER					
Block Reference: 0292-1020-01		Block Name: Craven Court			
Property-Assessment Reference	Multiplier	Floor Area (m ²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER
0292-1020-01(U03)_GF_mid-r3 PH + elec	1	54	20.25	25.74	21.33 %
0292-1020-01(U04)_GF_corner-r3 PH + elec	4	68	20.51	26.50	22.60 %
0292-1020-01(U09)_MidF_mid-r3 PH + Elec	6	54	18.92	22.96	17.61 %
0292-1020-01(U09)_TopF_mid-r3 PH + Elec	3	54	18.92	22.96	17.61 %
0292-1020-01(U10)_MidF_corner-r3 PH + Elec	8	68	17.82	23.82	25.18 %
0292-1020-01(U23)_TopF_corner-r3 PH + Elec	2	73.51	17.51	23.40	25.17 %
Totals:	24	1503.02	113.93	145.38	
Average DER = 18.72 kgCO ₂ /m ²		% DER/TER	PASS		
Average TER = 24.05 kgCO ₂ /m ²		22.16 %			

Table 5.3 shows CO₂ emissions of the building if built to the Fabric-First Passivhaus specification with electric heating. The average DER is 18.72 kgCO₂/m², which for Building Regulations purposes represents a 22.16% pass.

Table 5.4 Calculations (Passivhaus spec + 1kW PV per dwelling)

Block Compliance Report - DER					
Block Reference: 0292-1020-01		Block Name: Craven Court			
Property-Assessment Reference	Multiplier	Floor Area (m ²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER
0292-1020-01(U03)_GF_mid-r4 PH + elec + PV	1	54	11.95	25.74	53.57 %
0292-1020-01(U04)_GF_corner-r4 PH + elec + PV	4	68	13.91	26.50	47.50 %
0292-1020-01(U09)_MidF_mid-r4 PH + elec + PV	6	54	10.62	22.96	53.75 %
0292-1020-01(U09)_TopF_mid-r4 PH + elec + PV	3	54	10.62	22.96	53.75 %
0292-1020-01(U10)_MidF_corner-r4 PH + elec + PV	8	68	11.23	23.82	52.85 %
0292-1020-01(U23)_TopF_corner-r4 PH + elec + PV	2	73.51	11.41	23.40	51.24 %
Totals:	24	1503.02	69.74	145.38	
Average DER = 11.56 kgCO ₂ /m ²		% DER/TER	PASS		
Average TER = 24.05 kgCO ₂ /m ²		51.93 %			

Table 5.4 shows CO₂ emissions of the building if built to the Fabric-First Passivhaus specification with electric heating + 1kW of solar PV per flat. The average DER is 11.56 kgCO₂/m², which for Building Regulations purposes represents a 51.93% pass.

CO₂ EMISSIONS (TONNES/YEAR)

Tables 5.1 – 5.4 show the following CO₂ emissions reductions achieved as follows:

5.1 Base Spec

Average DER = 31.57 kgCO₂/m²

Total Floor Area (TFA) = 1503.02 m²

Total DER x TFA = 47,450kg = **47.45 Tonnes of CO₂ per year**

5.2 Base Spec + PV

Total DER = 23.96 kgCO₂/m²

Total Floor Area (TFA) = 1503.02 m²

Total DER x TFA = 36,012kg = **36.01 Tonnes of CO₂ per year**

5.3 Passivhaus Spec

Total DER = 18.72 kgCO₂/m²

Total Floor Area (TFA) = 1503.02 m²

Total DER x TFA = 28,136kg = **28.14 Tonnes of CO₂ per year**

5.4 Passivhaus Spec + 1kW PV per dwelling

Total DER = 11.56 kgCO₂/m²

Total Floor Area (TFA) = 1503.02 m²

Total DER x TFA = 17,375kg = **17.37 Tonnes of CO₂ per year**

The Passivhaus spec, CO₂ savings:

19.31 Tonnes of CO₂ per year over the Base spec.

7.87 Tonnes of CO₂ per year over the Base Spec with PV.

The Passivhaus spec + 1kW PV per dwelling, CO₂ savings:

30.08 Tonnes of CO₂ per year over the Base spec.

18.64 Tonnes of CO₂ per year over the Base Spec with PV.

BUILD COSTS vs CO₂ EMISSIONS.

Estimated total build cost = **£4,053,525**

Estimated cost to build to Passivhaus standard = Build cost + 10% = **£4,458,878**

Estimated extra cost to install 1 kW PV equivalent to each dwelling = **£20,000**

Building to the base spec, the building requires Solar PV to achieve Building Regulations Part L1a compliance.

NB. The quantity of PV required to achieve a pass, however, would also satisfy BCP's planning requirement for 10% of energy demand to be generated by on-site low carbon or renewable sources.

Table 5.5 CO₂ emissions

Specification	CO ₂ emissions (Tonnes)	CO ₂ emissions over 75 years (Tonnes)	Different in CO ₂ emissions over 75 years (Tonnes)	CO ₂ emissions reduction (%)
Base spec + PV (regs pass)	36.01	2700.9	-	-
Passivhaus spec	28.14	2110.2	590.7	21.9%
Passivhaus spec + 1kW PV per dwelling	17.37	1303.1	1397.8	51.8%

Base spec + PV (Building Regulations pass):

Build cost = £4,053,525

Passivhaus spec:

Build cost = £4,458,878

Cost increase = 10%

CO₂ emissions reduction = 21.9%

Passivhaus spec + 1kW PV per dwelling:

Build cost = £4,478,878* (*estimated extra cost for PV = £20k)

Cost increase = 10.5%

CO₂ emissions reduction = 51.8%

6.0 - CONCLUSIONS

Although it is possible to achieve a Building Regulations Part L pass with a significant quantity of renewables (e.g. 25+ kW of solar PV), the CO₂ emissions of the building would exceed that of the same building if built to Passivhaus standards.

The metric of energy demand reduction from renewables in the out-of-date Bournemouth Local Plan, whilst worthy, does not provide as significant a CO₂ emissions reduction as if the same building were built to the Fabric-First Passivhaus standard.

If built to Passivhaus standard the development at Craven Court would produce around 22% less CO₂ emissions than the same building if it were built to comply with Building Regulations Part L1a.

Findings show the following CO₂ emissions reductions over the Building Regulations-compliant Base Spec with PV:

CO₂ saving (Fabric-First Passivhaus spec)

7.87 Tonnes of CO₂ per year (590.7 tonnes over 75 years), i.e. 21.9%

Extra cost to build to Passivhaus spec = £405,352

Cost per tonne of CO₂ over 75 years = £405,352/590.7 = **£686**

CO₂ saving (Fabric-First Passivhaus spec + 1kW PV per dwelling)

18.64 Tonnes of CO₂ per year (1397.8 tonnes over 75 years), i.e. 51.8%

Extra cost to build to Passivhaus spec + 1kW PV = £425,352

Cost per tonne of CO₂ over 75 years = £425,352/1397.8 = **£304**

ADDENDUM

Over 75 years the Passivhaus spec + 1kW PV option would save 1397.8 tonnes of CO₂.

By comparison, a typical tree will absorb up to 1 tonne of CO₂ over 100 years, which equates to around 0.75 tonnes over 75 years.

A simple calculation shows that the CO₂ emissions reduction provided by the Passivhaus spec + 1kW PV option is equivalent to planting **1864 trees**. (i.e. 1397.8/0.75)

APPENDIX A

Paragraph 11 of the National Planning Policy Framework (2019) [NPPF] states that:

“Plans and decisions should apply a presumption in favour of sustainable development”. For decision-taking this means (..) where there are no relevant development plan policies, or the policies which are most important for determining the planning application are out-of-date, granting permission unless:

- (i) The application of policies in this Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed, **or**
- (ii) Any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this framework taken as a whole.

‘Out-of-date means “that when a local authority cannot demonstrate a five year supply of deliverable sites (with the appropriate buffer); **or** where the Housing Delivery Test indicates that the delivery of housing was substantially below (less than 75%) of the housing requirement over the three years”. In terms of the term ‘particular importance’ this includes “heritage assets which includes a building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest”.

The Housing Delivery Test (HDT) was introduced into national policy through the NPPF. The purpose of the HDT is to monitor local authority housing delivery against local requirements and to ensure that measures are taken to improve delivery where required. Where housing delivery falls below 95% of the local requirement (over the proceeding 3 financial years), an action plan must be prepared to identify measures to improve delivery and a buffer of 20% must be added to the 5-year housing land supply.

The first HDT measurement was published in February 2019 and was measured against the housing requirements set out in the adopted Local Plan for each former local authority area. *Table 1: HDT of the Housing Delivery Action Plan* shows that all former local authority areas failed to meet the housing delivery levels of 95%. For the Bournemouth area, the housing target was for 2,353 dwellings to be development from 2015/16 to 2017/18, with only 1,970 dwellings actually delivered thus equating to 84%. This means that outside of publishing an action plan, a 20% buffer was applied to the 5-year housing land supply.

Of particular interest, from 2019/20 onwards the housing requirement in Bournemouth steps up hugely from 730 to 1,422 dwellings per annum with the transition to the government’s standard methodology. This step change in housing requirement presents a significant challenge in relation to housing delivery and housing land supply. The results for HDT for 2019 was recently published by the Government (February 2020) and Bournemouth HDT measurement is 66% (total number of homes required is 3,064 dwellings a year, and the number of homes delivered is 2,010 dwellings) . Although the 2020 results will be published in February 2021, it is likely that the HDT will be significantly below 75% due to COVID. Thus, it could be argued that the average HDT for Bournemouth is substantially less than 75% for the proceeding three years, thus the policies which are most important for determining the planning application are out-of-date.

Five Year Housing Land Supply:

The Bournemouth Area Strategic Land Availability Assessment (2019) [SHLAA] provides information on the land available in the local authority area. The SHLAA is part of the Local Plan’s evidence base and is required by the NPPF. The SHLAA should plan for a supply of specific, deliverable sites for years one to five of the plan period and specific, deliverable sites or broad locations for growth for years six to ten and where possible years 11-15 of the plan. *Table 1: Sites Identified by types for year 1-5 (April 2019 to March 2024)* of the SHLAA shows that Bournemouth can only demonstrate a land supply of 2.9 years.

As stated in paragraph 9.8 of the SHLAA, due to the government’s change in approach to calculating housing need and supply, BCP Council for the Bournemouth area cannot demonstrate a 5-year supply against the local housing need figure derived from the 2014 Household Projections plus the 20% buffer required by the results of the 2018 Housing Delivery Test. “As a consequence, the presumption in favour of sustainable development as laid out in paragraph 11 of the NPPF now applies in the area of BCP Council covered by the Bournemouth Local Plan – Core Strategy”.