STAGE
05

ELDERLY CARE HOUSING

An Architectural Model For Palliative Dementia Care

Final Thesis Book

5586 Words

New Age Dementia Residential Care Facility

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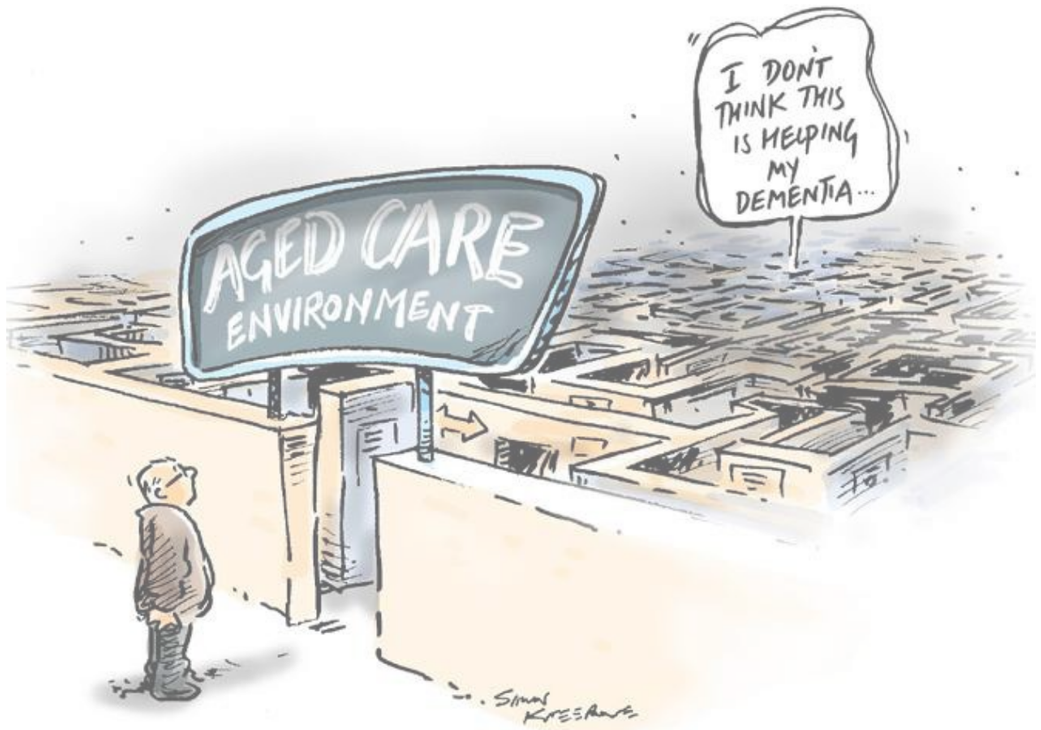
I DON'T THINK THIS IS HELPING MY DEMENTIA...
AGED CARE ENVIRONMENT

ELDERLY CARE **HOUSING**

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Introduction:

857 Words

Natural aging has been considered a normal part of a humans' life cycle throughout human history. It is important to differentiate though, between the natural changes in cognition that occur as a person ages known as senility[1] , and the syndrome that is known as dementia[2] (Cowart, 2004).

In this paper, I discuss what are the models of care for senility and dementia, looking at the effects it has caused within society and how the model of an intersection between architecture and care has been used to remedy these effects throughout history.

I will then follow with a discussion on three contemporary, innovative architectural approaches in models of care, concluding with the principals of these approaches, applied in the form of a set of design guidelines and ethics I plan to use in developing my studio design thesis project.

Senility and dementia will affect everyone at some point, in some way in modern society. Whether it be a loved one, a friend, or even you neighbour down the road, it is everywhere.

> *"A person with this condition has to be reminded all the time where he or she is, and where he or she comes from."*
>
> (Curtis, 2011)

As people living in Ireland over the next 25 years start to live longer (Sheehan & O'Sullivan, 2020), the average age of mortality grows higher, thus the rising population increases even more. This will see a greater pressure on our already overburdened Healthcare System. In particular, the effects of increasing cases of dementia are a rising concern within the Healthcare community (WHO, 2019).

> *"Significant increase in the numbers of people aged over 60, and in particular, the over 85 age range, which will triple between 2018 and 2050".*
>
> (The Alzheimer Society, 2020)

Ireland already has a higher rate of Dementia than the European average, this is projected to result in the current 64,000 dementia cases, more than doubling to 141'000 cases by 2050 (Senator Gavan, 2022).

Dementia is a syndrome and mimics many of the similar attributes associated with the natural regression in cognition as a person ages' known as senility, however, dementia is not just caused by age, it can be also caused by damage to various parts of the brain from such degenerative diseases like Alzheimer's, Parkinson's, and Huntington's disease[3] (Nall & Han M.D, 2022).

> *"Dementia is not a single disease entity but rather a highly variable clinical syndrome characterized by a gradually progressive deterioration of cognitive function".*
>
> (Walls, Abraham, & Zun, 2018).

There are many types of dementia, with over 200 subtypes, however, to this day it is often difficult for doctors and researchers to truly differentiate how many subtypes there actually are as almost 45% of patients have multiple dementias (Nall & Han M.D, 2022).

Dementia is tiered by the degree of cognitive impairment suffered by the patient from mild[1] , moderate[2] , to severe[3] (Walls, Abraham, & Zun, 2018).

Typical symptoms range from forgetfulness, loss of a patients track of time, paranoia and being lost in familiar places in the early stages of the syndrome, to being unaware of time and place, having difficulty recognising familiar people, such as family and friends, having difficulty with walking, an increased need for assisted self-care, and behavioural changes that can include depression and aggression in the later stages of the syndrome (World Health, 2022).

1 Senility is the quality or state of being senile, which is the physical and mental decline associated with old age. Synonyms Include: caducity, from the Latin 'caducus' meaning "tending to fall"; dotage, a state or period of senile decay marked by the decline of mental poise and alertness or second childhood (Merriam-Webster, 2022)

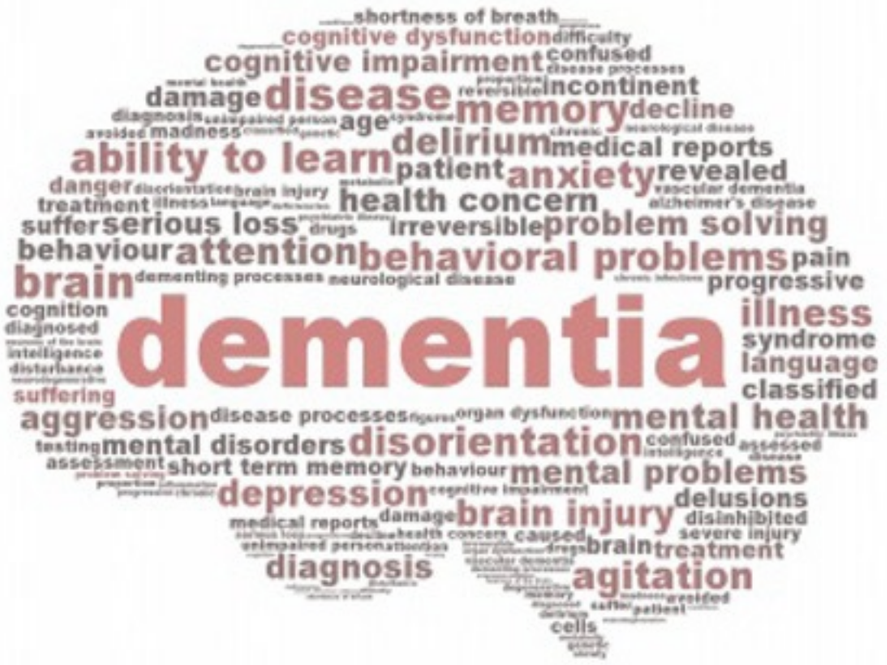
2 This syndrome slowly destroys the patient's self through the deterioration of their mind, which in turn deteriorates their body and effects all their loved ones. This natural regression in cognitive processes stems not only into the older persons ability to retain and store information, but also in turn, effects the older persons ability to access information to perform tasks, resulting in cognitive processes such as problem solving sometimes being confused (Cowart, 2004).

3 Other causes include faulty genes, tumours and infections that can affect the brain, such as HIV, herpes, and pneumonia (Nall & Han M.D, 2022), whilst stroke, chronic drug use and vascular diseases caused by the rising obesity levels are some of the highest rising causes of dementia today. It is important to note though that doctors and researchers as a whole do not fully know what the root causes of dementia are (Carper, 2015).

1 Mild or early stage is categorised as a low level of impairment in general daily activities, yet the patient still maintains much of their independence.

2 Moderate or middle stage is categorised as a proportion of supervision, either by a part time carer or a family member, as it is considered to be hazardous for the patient to live entirely independently.

3 Severe or late stage is categorised as a need for full time, continual supervision, this often results in custodial care in the form of a full-time care worker living with the patient or the patient being relocated to a nursing home or specialist facility.


shortness of breath
cognitive dysfunction
difficulty
cognitive impairment
confused
disease processes
damage
disease
memory
incontinent
decline
diagnosis
age
madness
delirium
medical reports
ability to learn
patient
anxiety
revealed
danger
brain injury
vascular dementia
treatment
illness
health concern
alzheimer's disease
suffer
serious loss
drugs
irreversible
problem solving
behaviour
attention
behavioral problems
pain
brain
dementing processes
neurological disease
progressive
cognition
dementia
illness
diagnosed
syndrome
intelligence
language
disturbance
classified
suffering
aggression
disease processes
organ dysfunction
mental health
testing
mental disorders
disorientation
confused
assessment
short term memory
behaviour
mental problems
depression
delusions
brain injury
disinhibited
medical reports
damage
severe injury
health concern
caused
brain
treatment
diagnosis
agitation
cells

History of Elderly Care:

645 Words

In early history, models of care for those suffering from senility and dementia, had a dark past, albeit well intended, with society often more concerned with the cure for age than treating it (Morely, 2004).

In many cultures, it was expected the elderly persons family take care of them until they died. This often meant many of these elderly individuals were not given the opportunity for the care they might have needed, such as pain relief and comfort.

However, the earliest concept of care for a community's elderly happens to be mentioned in the bible (Ruth, 4:15), with some the earliest forms of elderly care being managed by the welfare institutions, known as *"gerocomeia"* (fig.1), operated in Byzantium between the years 324-1453 AD.

The first known concept of care homes solely for the purposes of housing the elderly was first set up by Jewish communities in France and Germany in the 11th century (Morely, 2004).

By the mid-15th century, Hospices, such the (fig.2) in Beaune, France, had been erected around medieval Europe and the Levant, to operate as charitable alms-houses or hospitals for the poor (Steves, 2018).

This practice of private patronage originates from the religious fervour of rich nobles, crusaders and merchants in the early 7th century setting up refuges for the poor and needy in order to absolve them of their sins, which continued until the late 19th century (Knights Hospitaller, 2023). Before then, it was through the practice of charitable community donation through the church sole governance.

By the 17th century, England, passed of the Poor Relief Act in 1601, which saw the first state advocation for alms-houses, whose local church parishes would collect taxes to help support people who could not work, such as the elderly (Morely, 2004).

This started the transition in society of who cared for societies most vulnerable and signalled the first separation of state and church in the history of Anglo-Irish care and saw the first fully state organised workhouses.

By 1834, the New Poor Law was enacted In Britain and Ireland to help get the homeless off the streets and encourage the poor to work hard and be self-sustaining (1834 Poor Law, n.d.).

However, this led to intentional horrifying practices, were all inmates, weather young or old also had to work brutal hours of hard labour, live in terrible living conditions, and eat a malnourishing diet (fig.3). This intentional practice was meant to encourage others to work harder to not be sent to the workhouses (1834 Poor Law, n.d.).

These workhouses were designed in many similar ways to prisons and hospitals at the time where the hospital or prison was the place you went to die.

> *A "clumsy architecture that multiplies the disease in the inside without preventing its diffusion in the outside".*
>
> (Foucault, 1976).

Figure 1. - Gerocomeia

Figure 2. - Hôtel-Dieu de Beaune

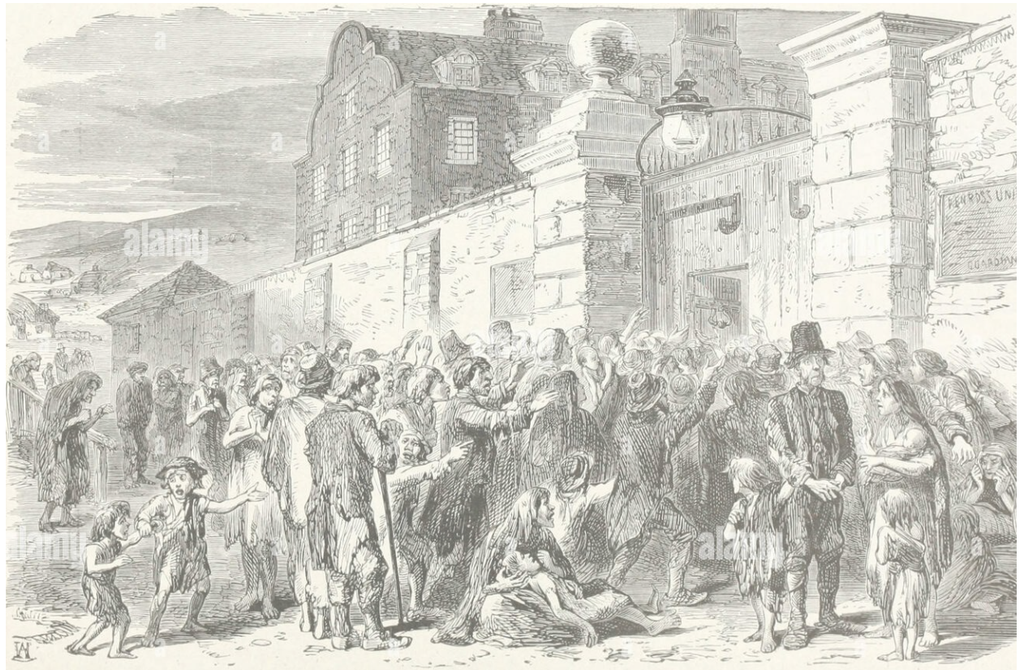
Architect Augustus Pugin's critique called for the return to the medieval Gothic style in his 1836 comparison between workhouses of the 18th and 19th centuries with the "romanticised" workhouses of the 14th and 15th centuries (fig.4) (Augustus Pugin, 2022).

In ailments not yet understood, such as Alzheimer's and Parkinson's disease, many of the elderly individuals afflicted with these progressive conditions (Stella Andrews, 2017), were often sent to mental asylums to live out the rest of their lives (Berrios, 1987).

As with many misunderstood conditions during those times, it sadly became a dark history of misunderstood medicine, though meaning well, it often did quite the opposite for the patient.

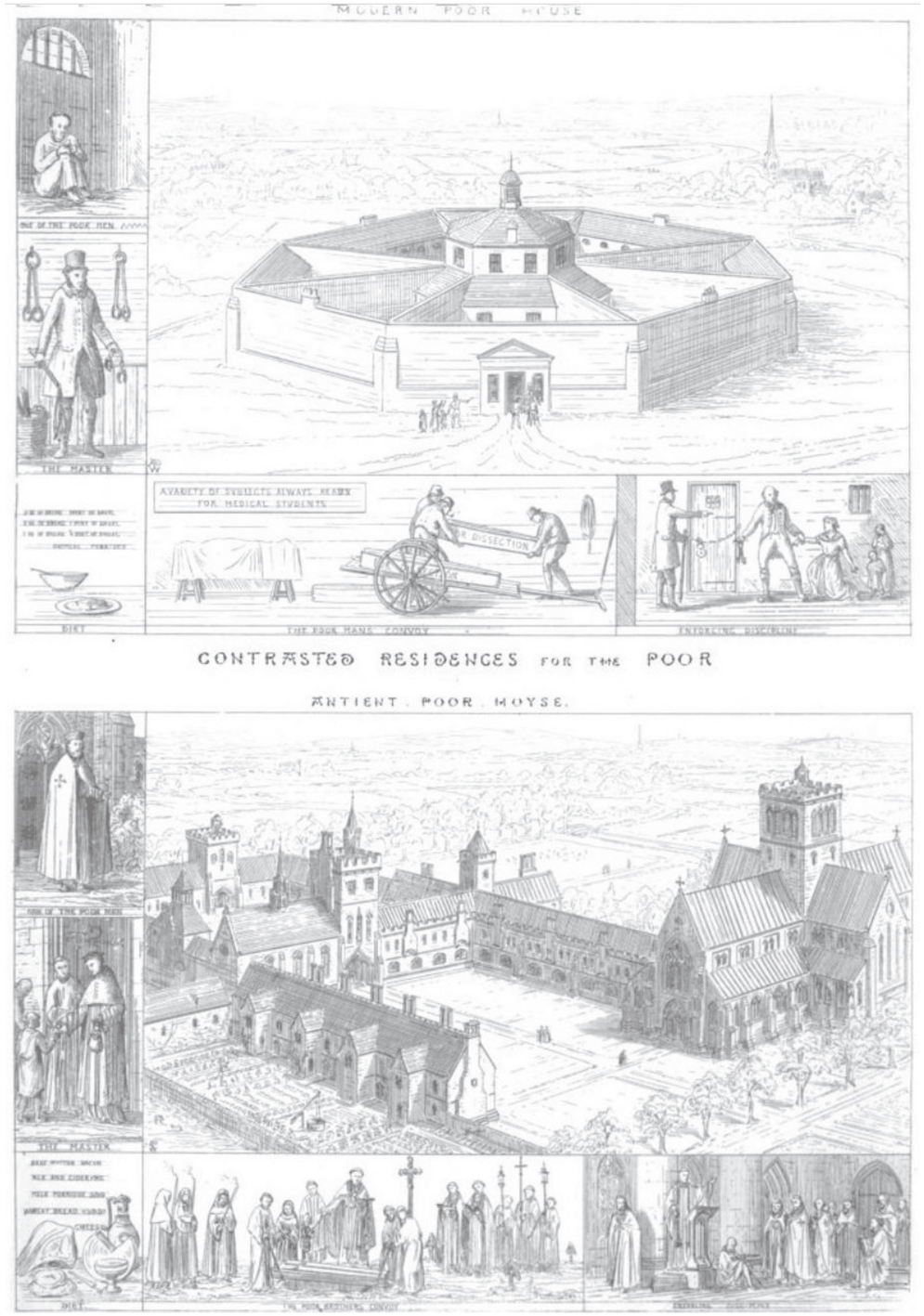
A good example of this is the fever hospitals that were built between the 18th and early 19th century to combat the outbreaks of tuberculosis, smallpox, typhus, relapsing and typhoid fever. The intention for such early facilities showed an understanding in society for the concept of contagion and quarantine from general hospitals and the public, as the predisposing causes at the time were considered to be hunger, poverty and insanitary living conditions (Geary, 2018).

Figure 3. - The Irish Famine Scene Outside a Work-House



THE IRISH FAMINE—SCENE AT THE GATE OF THE WORK-HOUSE.

Figure 4. - Contrast in Residences for Poor Houses run by the Church and the State



Irish Recent History of Elderly Care:

839 Words

In the early 1900's, a large amount of development towards moving away from the Poor Law Act in Ireland (fig.5), led to the launch of such initiatives as the Old Age Pensions Act in 1908, the National Insurance Act in 1911 and the setup of the Irish Public Health Council[1] in 1920, which aimed to protect the working classes from poverty, whilst maintaining their independence if they became sick, unemployed or retired (Geary, 2018).

However, by 1935, due to phasing away from the Poor Law Act, which sourced funding for each facility from their local community, parish and donations, in order to serve Health services to those who could not afford it, this led to medical facilities becoming increasingly dependent on fee paying patients and starting the growing significance of fee income in the healthcare system we know today (Geary, 2018).

By 1947, the Health Act was first enacted as a free medical service for mothers and children (fig.6). This Act developed and broadened its demographic over the next ten years, eventually leading to the Voluntary Health Insurance Act of 1957 (Geary, 2018).

In 1955, the world's second Gerontological Society was set up in Ireland, followed by Irelands first geriatric unit in St Mary's Hospital in Phoenix Park (fig.7. & fig.8.) in 1972. By 1988, a new geriatric medicine day hospital was built in Beaumont Hospital, but due to such high demand for further geriatric medical services, a geriatric medical department was set up in each hospital around the country. This showed a greater movement towards specialised care for the elderly within Ireland (Lavan, Noel, Moore, & Donegan, 2013).

Since then and now, geriatric medicine has made many further developments into further specialisation, including many charity based health, care and community based organisations such as the Alzheimer Society of Ireland (Blyth & Dunphy, 2019), Age Action (Connolly, 2019) and Home Instead (Home Instead, 2022).

Despite all the development in the healthcare for elderly system over the past 70 years, the current system has many issues with it. One such problem is the fact that the current access to care homes is under huge demand stresses, with projected demand set to reach an additional 7,500 care homes by 2026 (CBRE, 2020). So much so that it has led to a greater and greater dependency on private care home providers. Leading in 2019, to a 76% ratio of Care homes in Ireland operated through private providers, compared to a 21% ratio for public providers like the HSE (Phelan, et al., 2022).

On top of this, an estimated 20,000 residents out of a total of 32,000 residents in care homes in Ireland live with progressive conditions such as dementia. Between the high demand, greater costs and patients with the greatest need for care get first preference, has led to a lot of elderly having to either go without the care they need or having to rely on the governments underfunded Home Support Services and local community services (Phelan, et al., 2022).

Figure 5. - Ward of the Female Consumption Hospital, South Dublin Union Workhouse - 1905

Figure 6. - Nightingale ward, Dublin. Circa 1955. These large, open wards were easy to monitor and common in hospitals in this period.

1 The Irish Public Health Councils role was to act as a separate entity from the Poor Law Act and assist the government with health-related policies, whilst helping reform the old hospital services under the Poor Law Act which were considered "disjointed and unsatisfactory", as many of the old workhouse/union infirmaries and fever hospitals had become largely obsolete (Geary, 2018).

Figure 7. - St Mary's Hospital, Phoenix Park, Dublin - 1950's

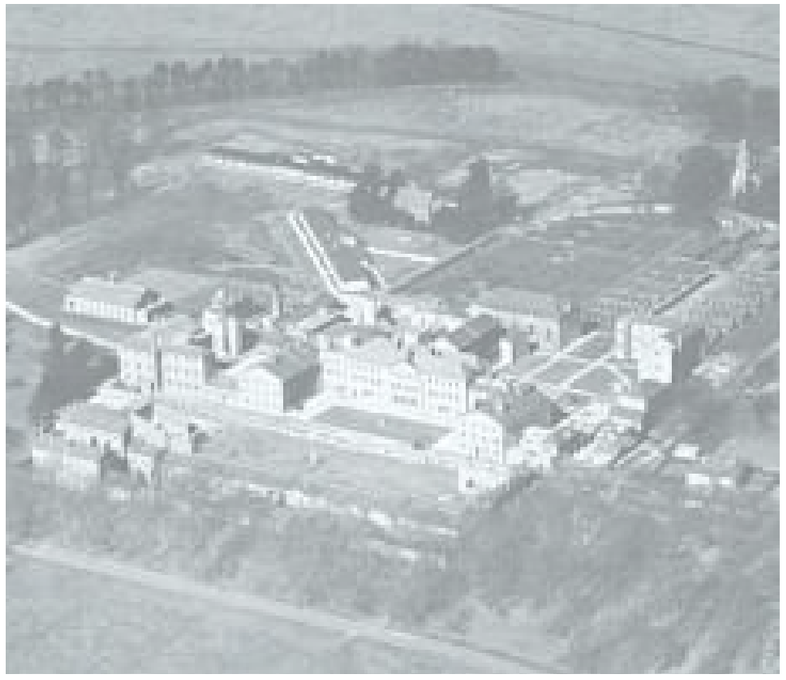


Figure 8. - St Mary's Hospital, Phoenix Park, Dublin - Present Day

Due to Covid-19, a lot of these issues with the elderly healthcare system were brought to light[1], which has led to massive social and political campaigns to both highlight public awareness, raise funding for more care homes and create change in government policies. This has led to a proposed Statutory Home Support Scheme[2] , to move dependency away from individual care homes, and bring care to elderly homes and communities (Walsh & Lyons, 2021).

Other inadequacies include a lack of environment, such as public and private spaces for patients, both internal and external. A greater emphasis is needed in the design brief for creating spaces that encourage “being together and forming friendships” (Anderson, Grey, Kennelly, & O’Neill, 2020), whilst creating a peaceful, relaxing private space for patients to retreat to when they want time to unwind and rest.

This also includes the need for a holistic understanding for the balance between need for care and the need for social integration with one’s community, creating a sense of normalcy of life, whilst emphasising a safe, compassionate environment where the patient and their family can rest assured, they are happy and content (fig.9) (Anderson, Grey, Kennelly, & O’Neill, 2020).

In recent years, many innovations in elderly care, such as McLaughlin’s Alzheimer’s Respite Centre in Dublin, De Hogeweyk (Dementia Village) in the Netherlands and Maggie Centres, with 26 centres in the UK.

1 Cracks started to appear as the healthcare system was put under enormous stress from the coupled influx in covid-19 cases and deterioration of public mental health from the emotional distress felt from social isolation in communities

2 However, there has been much criticism towards this new scheme and the design of care homes as a whole. Many of these facilities are considered to “not adequately support quality of life for older people” (Anderson, Grey, Kennelly, & O’Neill, 2020), through the lack of such importance’s such as location to the patient’s community, family and local services.

Figure 9. - New Universal Design Guidelines Research & Development Book, Released in the Wake of the Covid 19 Epidemic, Focused on Enhancing the Quality of Life, Safety, Physical & Mental Health and Well-being for Residents in Care Homes

Maggie Centres:

582 Words

Maggie's Centres operate as a charitable cancer care centre that works with the NHS, as a place where patients, and their families can receive the help and care they need for them deal with the emotional and physical stress that comes with a cancer diagnosis. Through the means of therapeutic acceptance and community support, Maggie Centres act as a vital form of care that integrates the medical world of care for the diagnosis with a more community-based form of care dealing with the diagnosis (Maggie Keswick Jencks Cancer Caring Centres Trust, 2022).

"A home from home that's designed to feel nothing like a hospital".

(Caring Centres Trust, 2015)

This briefly outlines the "ethos to be domestic," with natural light (fig.10) being used as much as possible. The entrances are obvious and welcoming to the occupant, who often, when first approaches the facility has just had their diagnosis upend their lives.

Therefore, a large welcoming space (fig.11) is needed to operate as a welcoming area, where the patient and their loved ones can take in the buildings comforting spaces (Keswick Jencks, 2015).

Areas where the occupants may relax and recline, sit down with a cup of tea and chat with others casually or personally, or just grab book and escape into its pages, but in a warm, comforting space, that reminds the occupants of home and safety (Keswick Jencks, 2015).

The idea behind this is to not intimidate the occupant on their first time, they will be upset, sensitive and worried. The need to feel like they're not just thrown into the building to deal with everything but can ease into it and take on the burden and acceptance of the diagnosis in their own time, surrounded by understanding and sympathy (Maggie Keswick Jencks Cancer Caring Centres Trust, 2022).

"The planting is loose, shaggy, and drifting, artfully casual. The idea is to make the garden seem as if it has always been there"

(Moore, 2021).

The role of the Maggie's Centre is to give the visitor the sense that they have been taken away from their daily troubles, where they, their families and friends find they comfort and support they need.

The use of well-designed Gardens gives the Maggie's Centres a clear flow that leads the visitors eye towards the beyond. This open interior allows for the visitor to have their privacy through the use of some intimate spaces in the form of small private rooms that allow for the visitor to reflect (fig.8), have private conversation, or receive intimate support, whilst the addition of a large open room breaks down the edges of isolation, for a more communal form or support, understanding and care (Moore, 2021).

The use of natural materials and lighting takes the Maggie's Centres away from the typical clinical and sterile spaces associated with care and healing, to a more informal yet personal space that gives the visitor a sense of freedom to simply visit instead of being admitted.

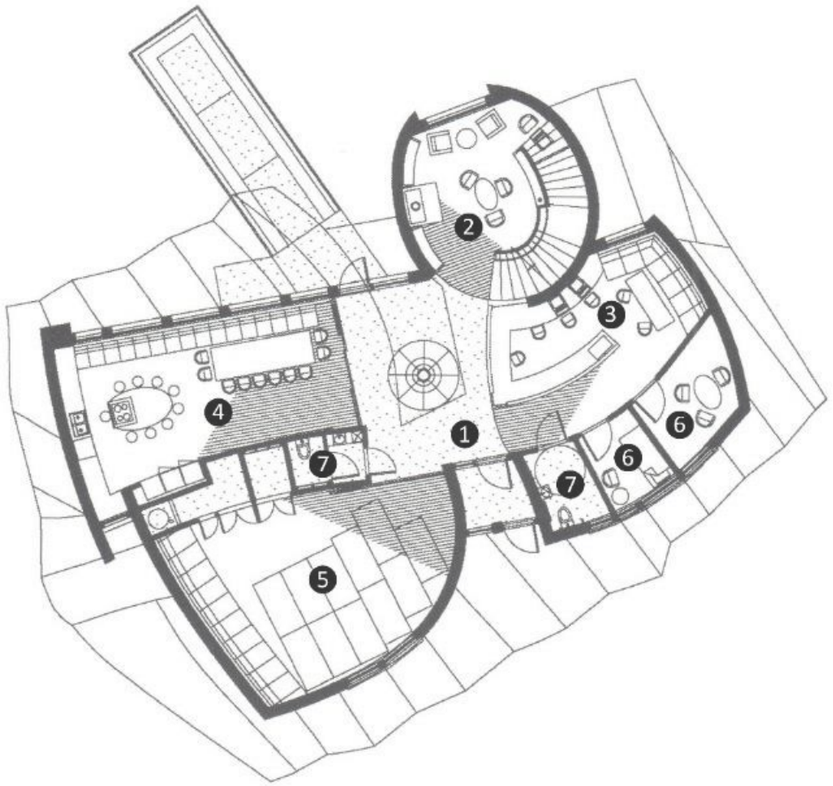
This marriage of naturally lighting, materials, colours and views of natural environments gives a more sensuous connection for the visitor with the building, creating a series of warm and comforting spaces for the visitor to reflect on the self and promote the emotional care and healing that the sufferer and their loved ones need.

To conclude, Maggie's Centres focus on care for the emotional repercussions of a diagnosis, by practising architecture that creates a "healing environment" for those affected by cancer and has been massively praised by society as a whole.

Figure 10. - Greenhouse

Figure 11. - Large Welcoming Space

Maggie’s Dundee - Gehry Partners - 2003



2. - Library

5. - Living Room

4. - Kitchen

De Hogeweyk (The Dementia Village):

662 Words

The idea of another healing environment is De Hogeweyk (fig.9) and is a highly celebrated new age eldercare facility known as the Dementia Village, designed by Molenaar&Bol&VanDillen, now Buro Kade Architects in 2009 (Adams & Chivers, 2021).

Located a few minutes' drive from downtown Amsterdam, in Weesp, at first glance it appears like any small Dutch neighbourhood, comprising of housing units, with small shops such as a hairdressers, theatre, restaurant, a grocery store and open green spaces. However, the facility entirely for people with severe dementia and their carer's (Halliday, 2022).

Everyone that works there, is trained in dementia care and the facility has been designed to help people suffering from dementia to feel safe and free. A patient's sense of safety and freedom is of paramount importance as the effects of severe dementia causes sufferers to gradually lose their ability to recognise the world around them, thus intensifying the sufferers feeling of helplessly losing control of their reality (Halliday, 2022).

It is broken into seven different lifestyle themes, such as crafts, culture, religion and urban lifestyles and everything from its layout, materials, furniture, and landscaping are all designed and chosen for dementia patients from the local area. The idea is to give the patients a sense of familiarity and comfort (Haubursin, 2022).

The sheer fact that the facility looks very much like a small Dutch village, is precisely for that reason, to give the patient the feeling and perception that life is normal and that they are living in the day-to-day life they remember from when they were younger (Haubursin, 2022).

This emphasis of encouragement for normal life and the patients perceived reality contrasts the usual facilities most patients suffering from dementia end up in. Often these facilities are clinical, sterile and lack any individuality or familiarity with the patient (Halliday, 2022).

This results in the patient being taken from the community and home that they know and feel comfortable in, being relocated to an institution which feels more like a prison, which they do not recognise, and simple exasperates the patient's sense of confusion, disorientation, and loss of freewill.

Nursing homes traditionally keep all their residents under one roof, with individual rooms for each patient, but a similar layout to a hospital wing. The Dementia Village, however, break up the structure of this model, to create residents that operate like homes in units of 6 or 8 residents (Haubursin, 2022).

This is more socially familiar to patents day to day life, as it scales down the facility to the size of a single-family home, but also allows for more individuality, autonomy, and personalisation of spaces for patients to make their new home feel like a home (Haubursin, 2022).

It also encourages social structures to form like small communities or groups that operate like a sort of care neighbourhood, encouraging friendships and connections with patients' peers inside and outside their individual neighbourhoods (Adams & Chivers, 2021).

Surrounding these neighbourhoods there are many different public spaces[1] (fig.12. & fig.13.), each one given themes for certain activities (fig.10), which bring together residents that have similar interests into a socially interactive environment (Adams & Chivers, 2021).

This creates a layered experience for the resident as they move from the private personal space to the public open space (fig.14), where they choose freely where to go and what they want to do based on the experience they want to have[2] (Adams & Chivers, 2021).

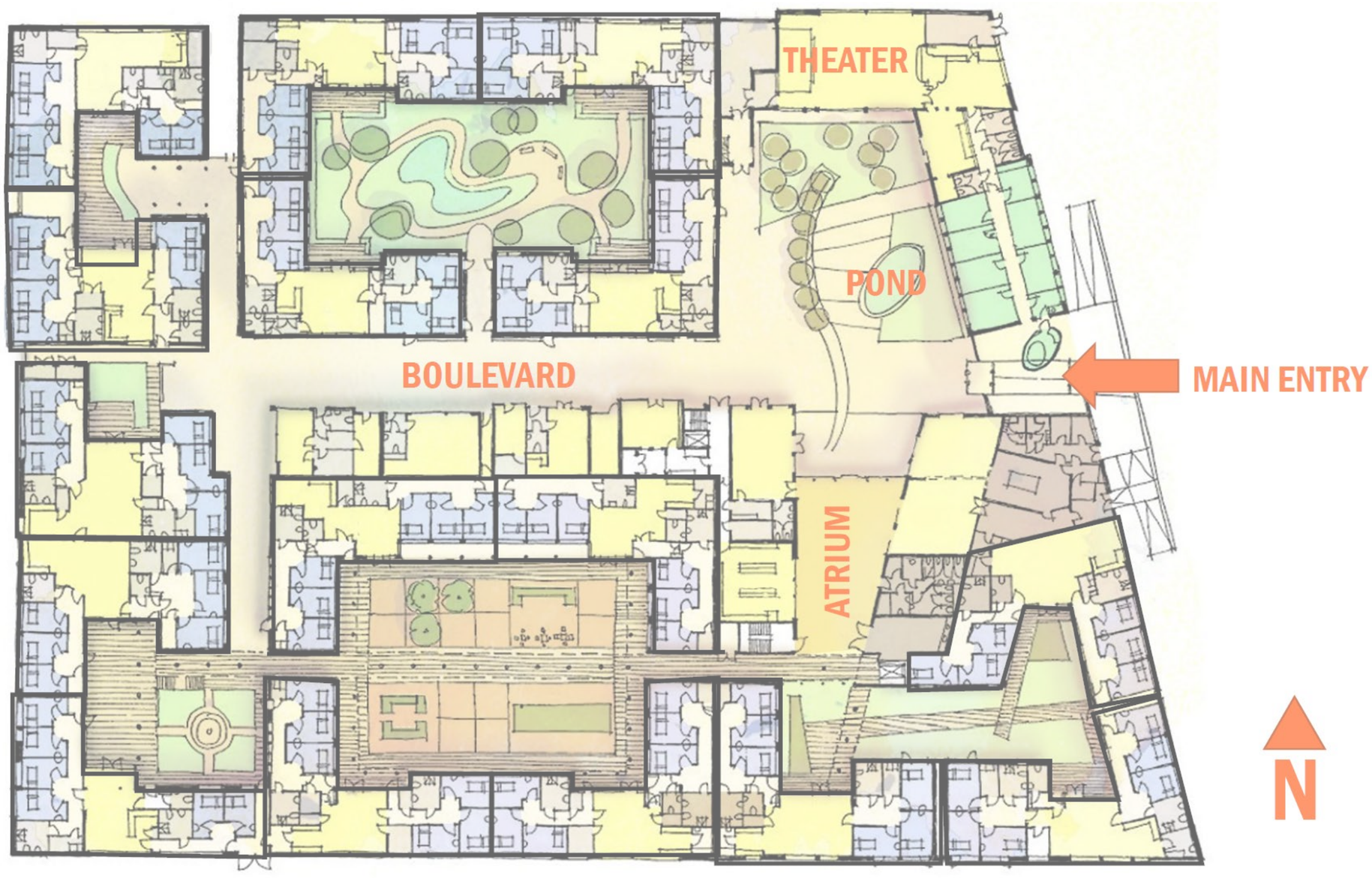
Figure 12. - Small Communial Courtyard

Figure 13. - Large Communial Courtyard

1 Each one of these public spaces also have distinct landmarks or features, which help a resident to easily orient themselves with their surroundings. Such destinations as the theatre or grocery store are located in different buildings to encourage further movement and social interactions between the residents (Adams & Chivers, 2021).

2 Whether they want to relax in their own personal room, have a cup of tea in their home with their housemates, mingle in the yard or even explore what the village has to offer for the day, it is all about free will.

Figure 14. - Site Plan Showing Each Unique Courtyard and Garden that Assists with Wayfinding and Encourages Social Interaction



The Niall McLaughlin's Alzheimer's Respite Centre:

515 Words

This approach to prioritising free will and choice is also found in the McLaughlin's Alzheimer's Respite Centre, located in Blackrock, Dublin, was built in 2009 by Níall McLaughlin Architects and was constructed on the foundations of an 18th century walled kitchen garden, as a respite centre for people suffering from dementia[1] .

According to Níall McLaughlin, when designing a facility for dementia sufferers, it is paramount for a sufferer to remain in their home and interact with their community as long as possible, as it shows to slow the decline in the severity of the sufferer's dementia and maintain a more familiar, integrated, nurturing environment.

> *"When dementia affects people, it takes longer to impact on our more deeply ingrained memories and our oldest habits"*
>
> (McLaughlin, Building With Dementia in Mind, 2016)

McLaughlin also urges that Architects should move to design public buildings with sufferers of dementia in mind, in order to make a safer, more inclusive, comfortable environment, and not just rely on internal facilities for those with the condition (McLaughlin, Building With Dementia in Mind, 2016).

> *"It's about a way of thinking about the kind of obstacles that present themselves to a person with dementia - orientation, navigation and clarity of signage, making services of different kinds, such as public toilet facilities for example, easily accessible for someone."*
>
> (McLaughlin, Building With Dementia in Mind, 2016).

Much like the design brief of the Maggie's Centres and the ethos of the Dementia Village, the Alzheimer's Respite Centre's design focuses on an easily distinguishable[2] free flow for its visitors, with vivid landmarks such as very distinct paintings, pieces of furniture and colour distinctions[3] between different spaces, coupled with an emphasis on beautiful landscape spaces encouraging visitors to spend time outdoors.

Long walls span uninterrupted from the residents' rooms (fig.18), leading to various separated small courtyards (fig.19) and the main gardens (fig.17). This coupled with the use of glazed elements, like doors, cabinets and windows also help assist and stimulate the visitors sense of orientation, short-term memory and encourages movement around the building.

Following these walls, nodal points ranging from spaces for reflection (fig.15), relaxation, activity, social interaction (fig.16), dining, and sensorial stimulation are found dotted throughout the layout of the building (fig.20) as the visitor wanders, giving them a sense of free will and normalcy, whilst enticing them to different activities as they move about the building.

Figure 15. - Contemplation Room

Figure 16. - Central Space

Figure 17. - Herb & Scent Garden

Figure 18. - Bedroom/Office Corridor

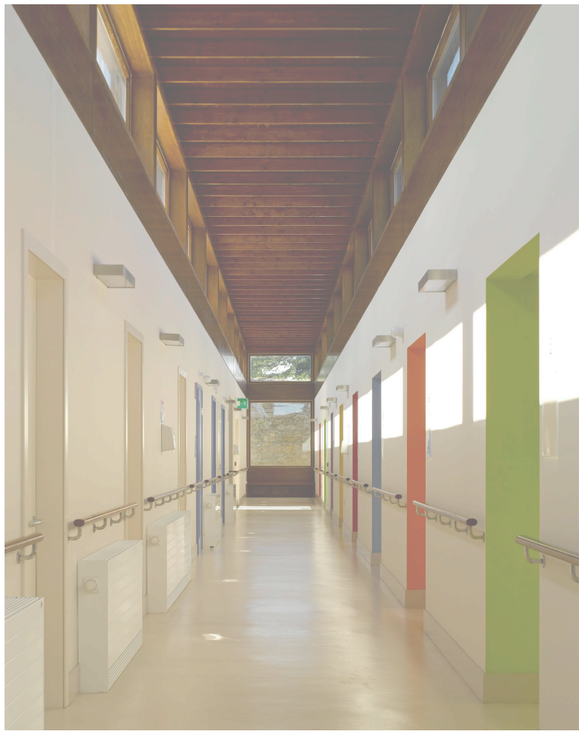


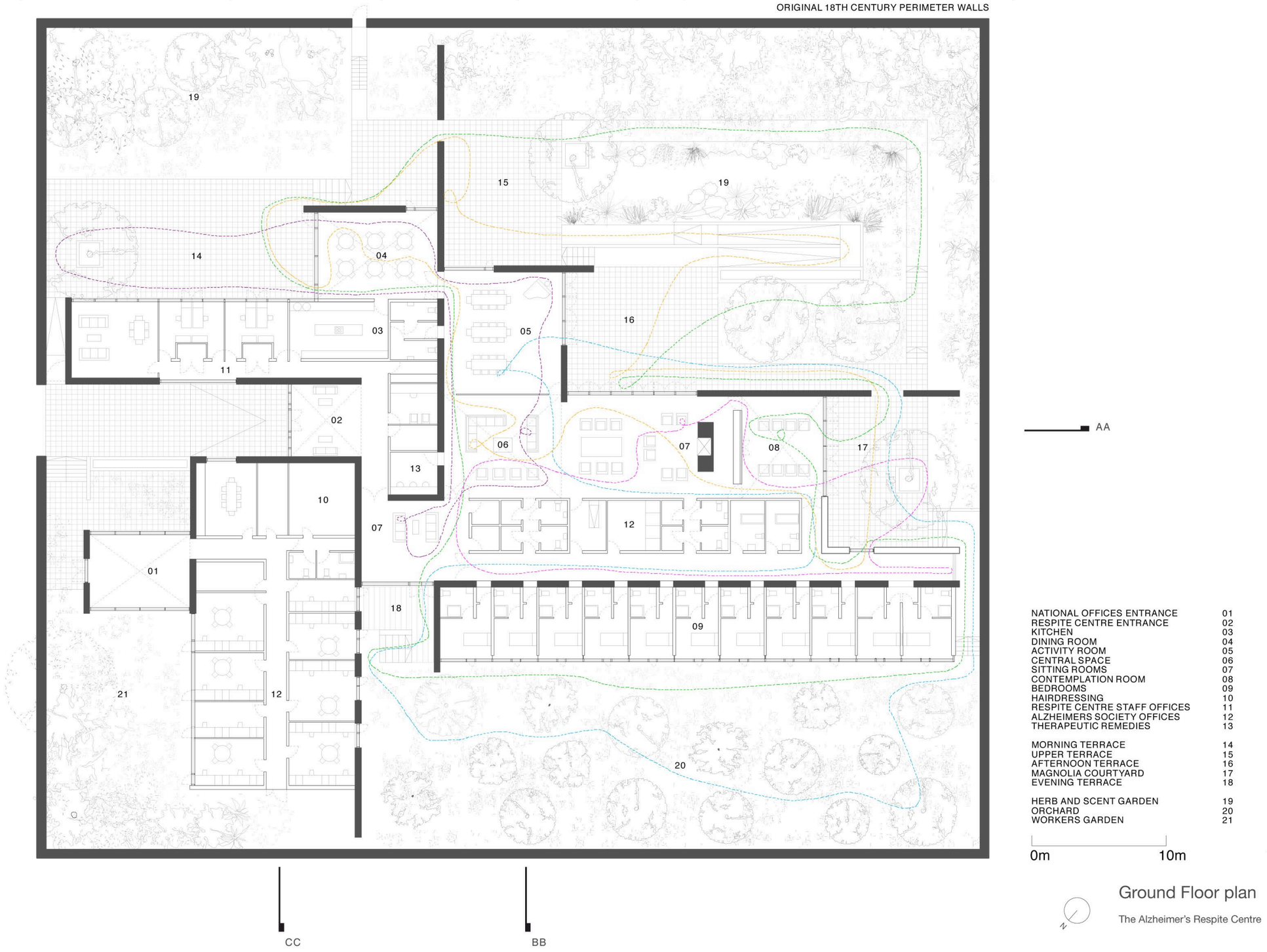
Figure 19. - Upper Terrace

1 The most common form of dementia at any age is mixed dementia; 40% is Alzheimer's, 30% Cerebral-Vascular, 20% Hippocampal Sclerosis and 10% DLB (Dementia with Lewy Bodies) (Carper, 2015)

2 It is normal for cognitive processes to gradually become slower and less accurate as a person naturally ages and is commonly seen in an older person's working memory, as they may take longer to process a communication or change in their environment and respond to it (Cowart, 2004).

3 Often, an older person's working memory is exacerbated by the interference of a complex environment, with stimuli such as loud noises, bright or glared light, chaotic spaces (Cowart, 2004), and even smells that the older person associates with stressful or depressing memories (Jönsson, Møller, & Olsson, 2011).

Figure 20. - Site Plan Showing Circulation Throughout the Building That Encourages Exploration and Interaction with the Building.

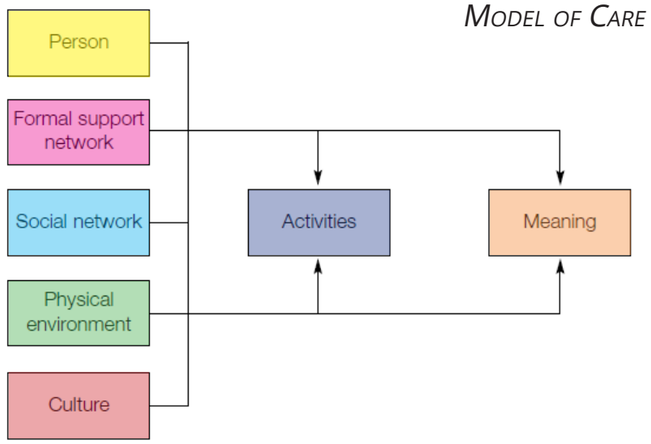


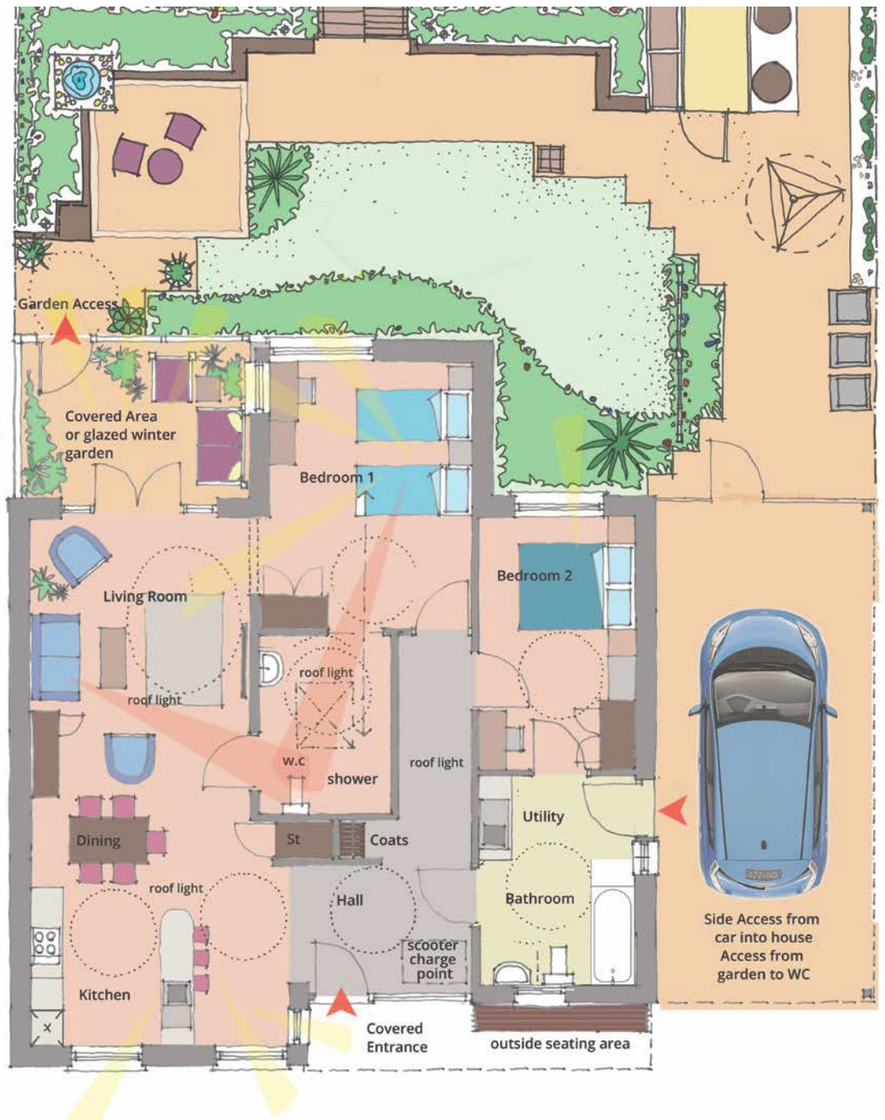
Dementia Princple Design Research

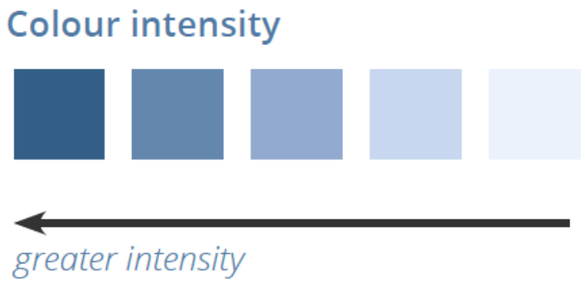
Design Principles From Dementia Support Facilities:

1. Homelike:
   - Small
   - Access to small sitting areas
   - Access to small dining settings
2. Orientation:
   - Simple layout
   - Short corridors
   - Visual cues
   - Visually connected spaces
   - Direct lines of sight
   - Depth of spaces for wayfinding
3. Balancing privacy and community:
   - Connection to community
4. Stimulus:
   - Olfactory (smells) cues during meal preparation
   - Landscape, fragrance and sunlight
5. Safety:
   - Well-positioned handrails
6. Independence:
   - Choice of space with views
   - Unrestricted access to safe exteriors
7. Wayfinding:
8. Appropriate Material & Colour Choice:
9. Dementia Deterants:

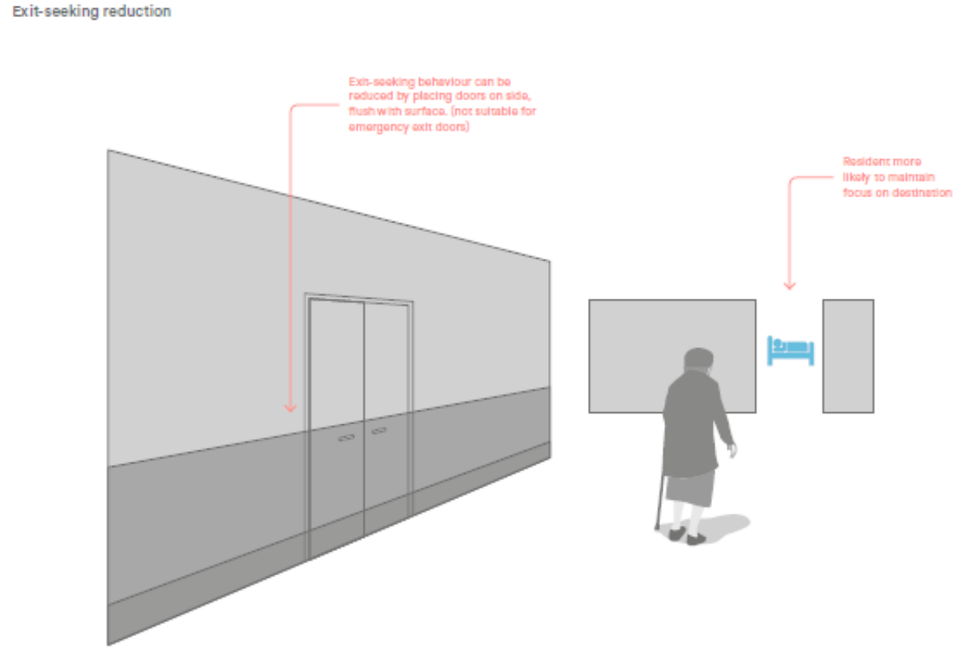
Model of Care

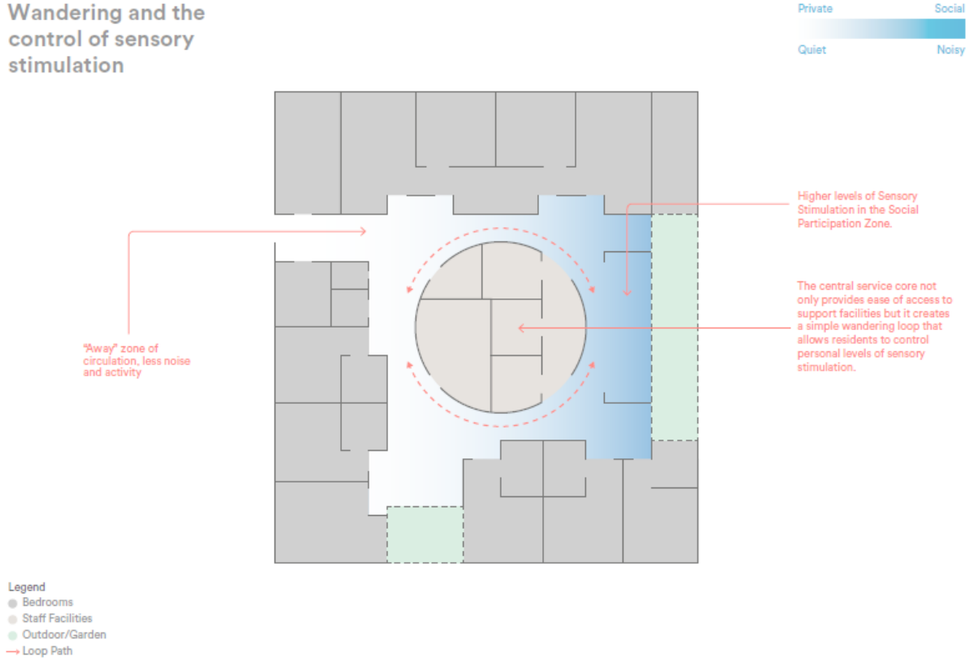






Research of Multi-Sensory Wandering, Visual Flow & Dementia Deterants



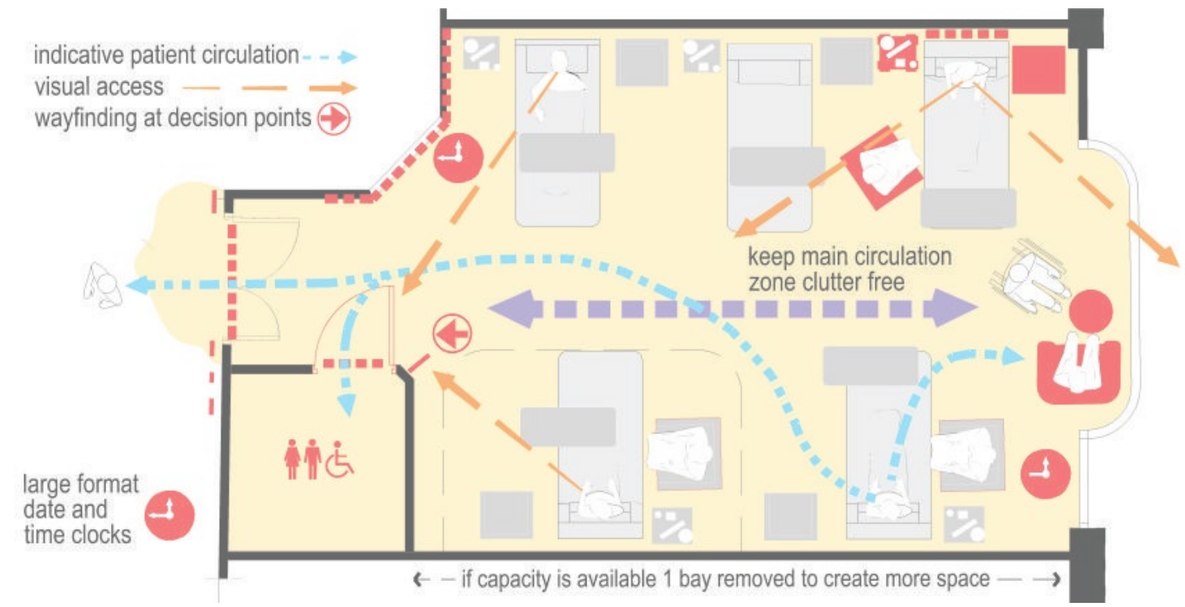


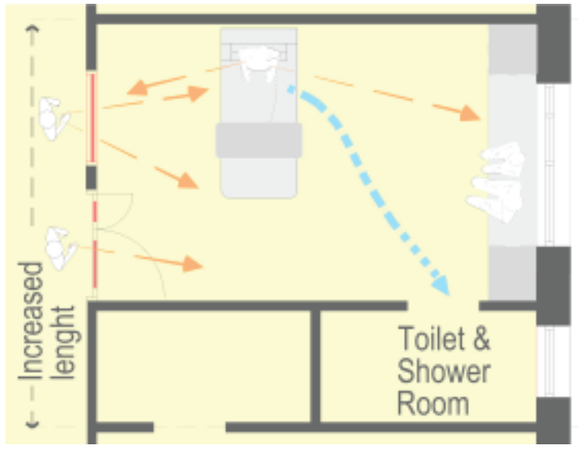
Bedroom Design Research

Dementia Friendly Design:

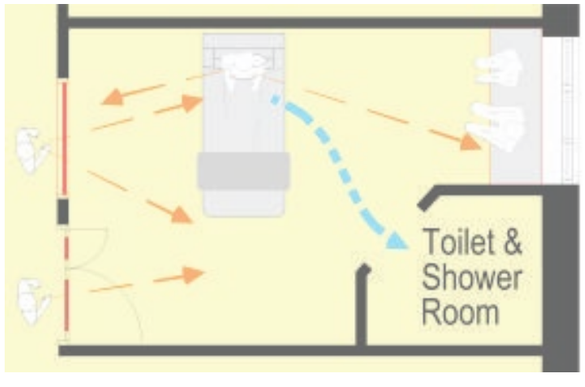
- Use large format signage, colour coding, or images to identify room entry on approach.
- Use uniform colour flooring and avoid colour or tonal changes at thresholds.
- Provide date and time clocks to improve temporal orientation.
- Ensure key spaces such as toilets are clearly visible and easily identified.
- Provide space beside beds for personal belongings.
- Remove clutter from windows to ensure patients have a clear view to the outside.
- If possible provide family or visitor zone within room. This will allow family members or an accompanying person to comfortably remain within the room for longer periods and not be in the way, or feel like they are getting in the way, of staff.
- Provide good colour or tonal contrast between floors and walls to improve spatial perception for patients.
- Provide uncluttered, safe and comfortable conditions for patient mobilisation within the room and ward. This will be enhanced by continuous handrails that are clearly visible to the patient.

Typical Shared Patient Room:



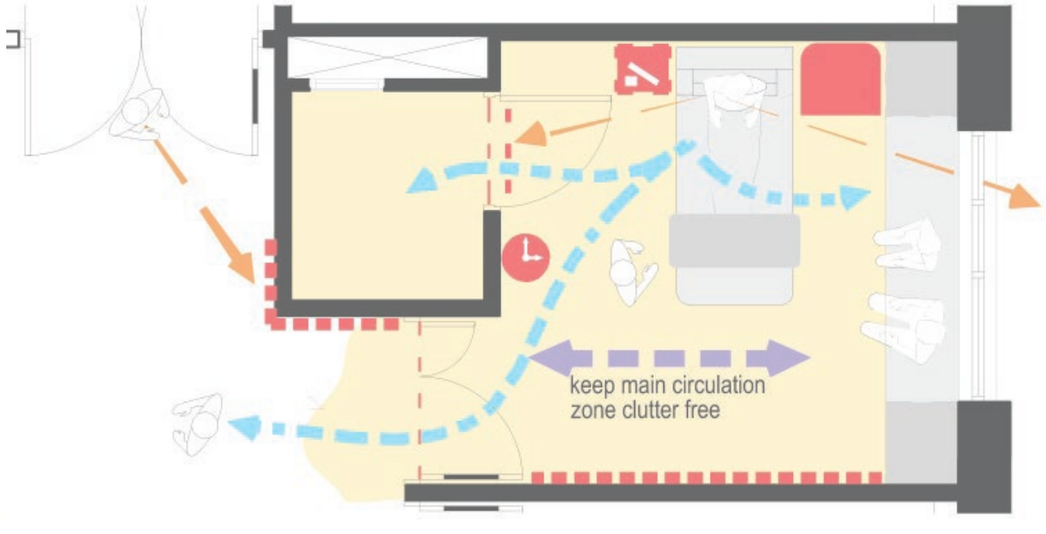


Nested Bathroom:



Outboard Bathroom:

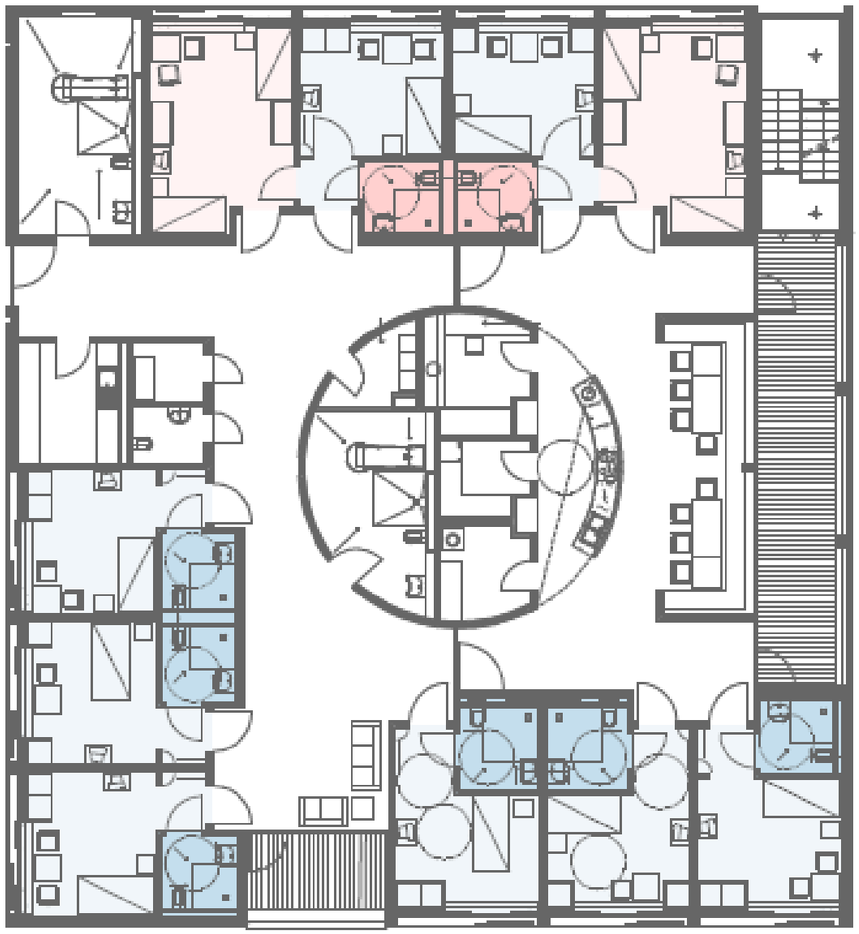
Typical Single Patient Room:



Appropriate Material Research

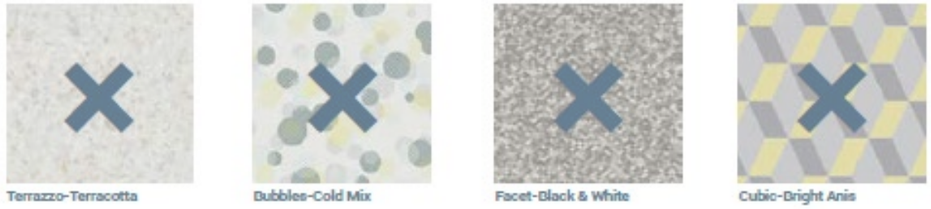
Demtia Competence Centre, Nuremburg:

Dementia care neighbourhood
showing mix of double and
single bedrooms.



Legend
- Single Bedroom
- Private Ensuite
- Shared Bedroom
- Shared Ensuite

Not Appropriate Colour Pallette:



Appropriate Material Pallette:

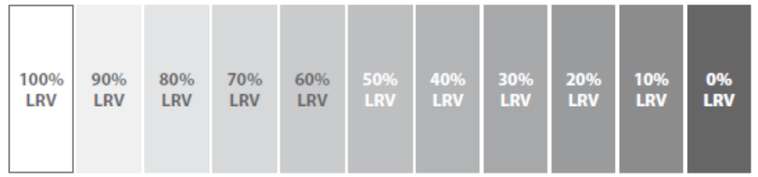
Appropriate Material Pallette:

Material Light Reflectance Research

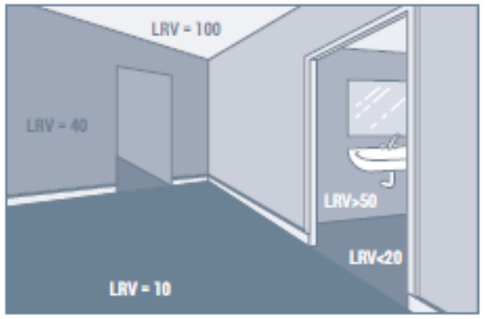
Material Practices For Dementia Design:

- Destinctive contrast between floors, skirting and walls, 30%.
- Tonal contrast between two different adjoining materials on the floor should be no more than 10%.
- Avoid material transition strip and maintain the floorinf is level, as this can be interperated as a step or drop.
- Avoid highly reflective materials that create glare
- Avoid to much contrast between floors

Light Reflectance Values (LRV):



Appropriate Material Contrast:



Appropriate Material Contrast:

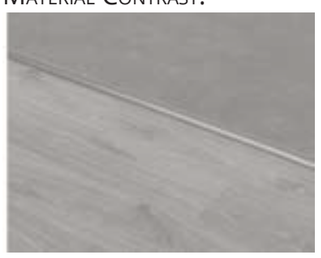
Dementia Vision of Material Contrast:

Mid Tone Contrast:

Dementia Vision of Material Contrast:

Light Floors:

Dementia Vision of Material Contrast:

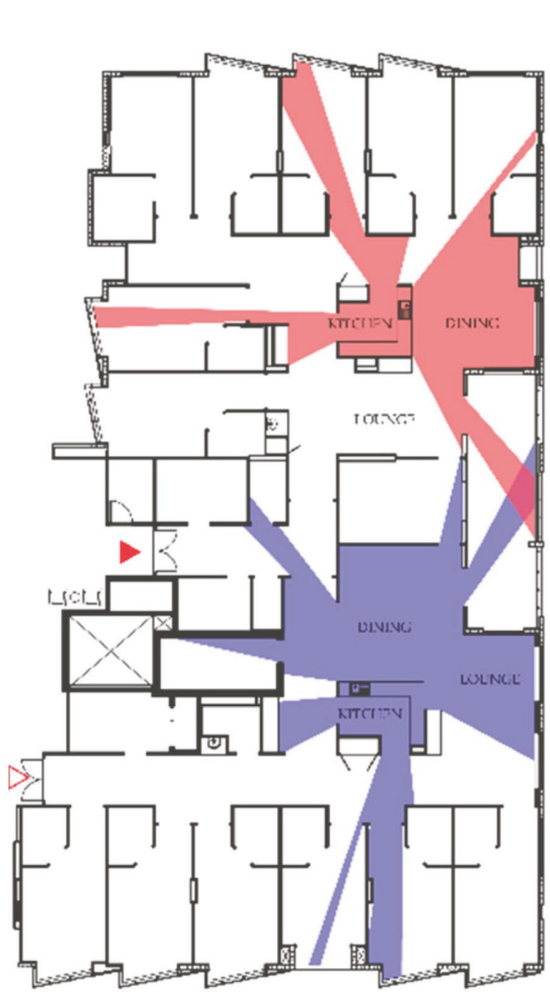


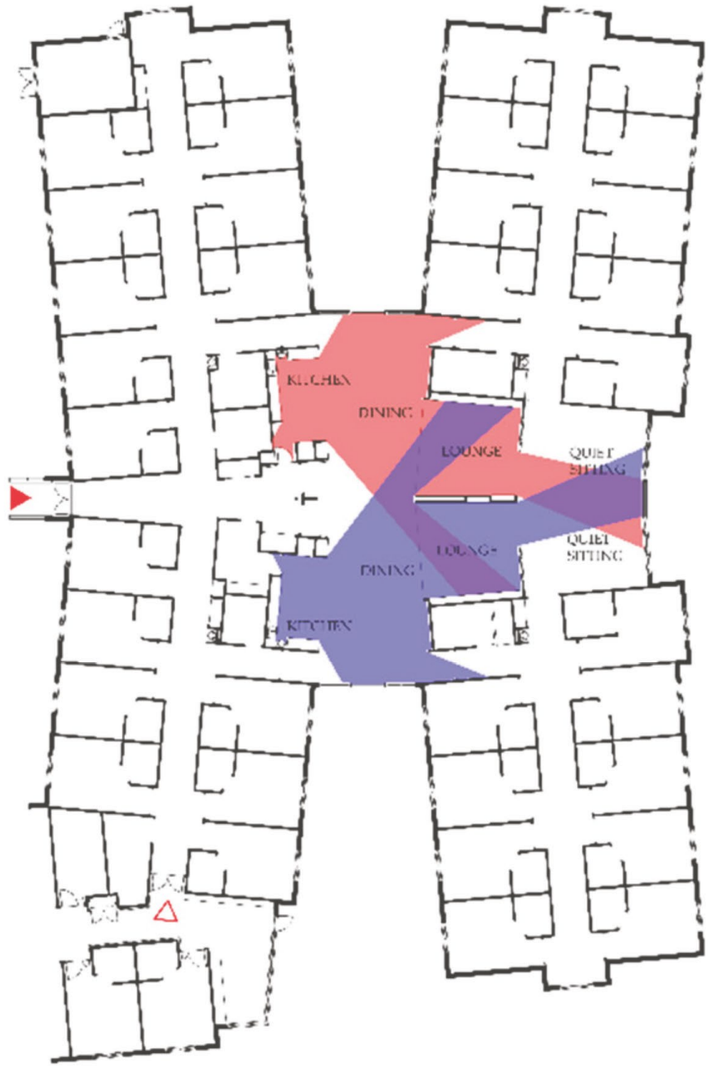
Dark Floors:

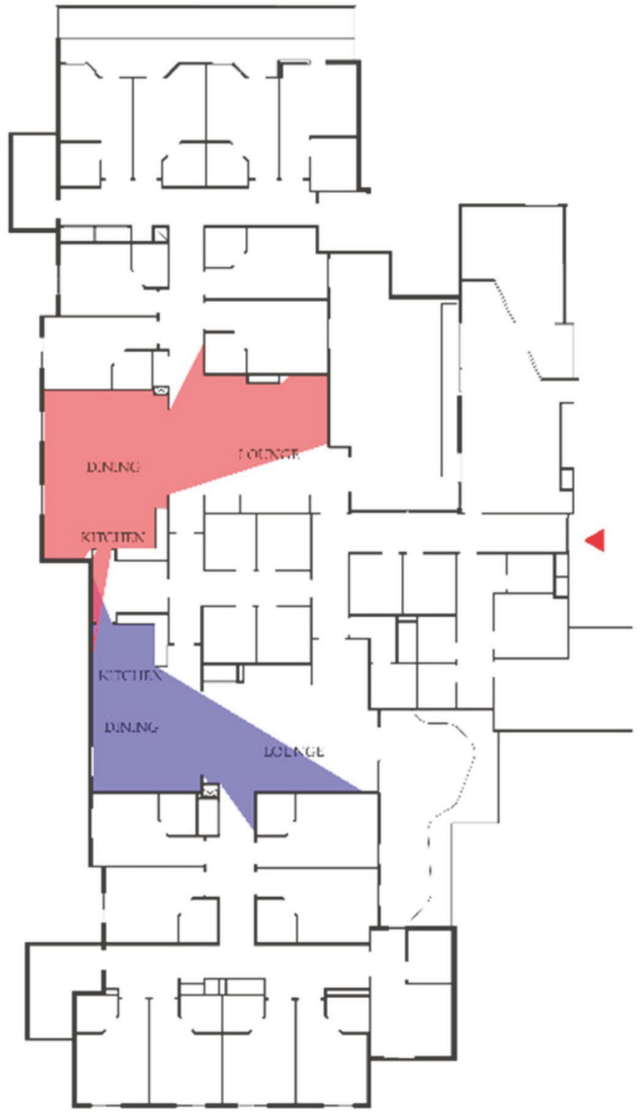
Orientation Research

Isovist Analysis (Direct Lines of Sight):

Set of points visible from a given vantage point in space







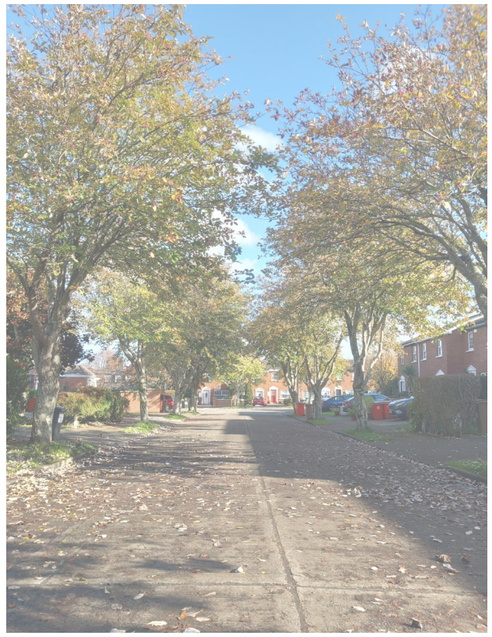
Kitchen 1 — Main Entrance

Kitchen 2 — Secondary Entrance

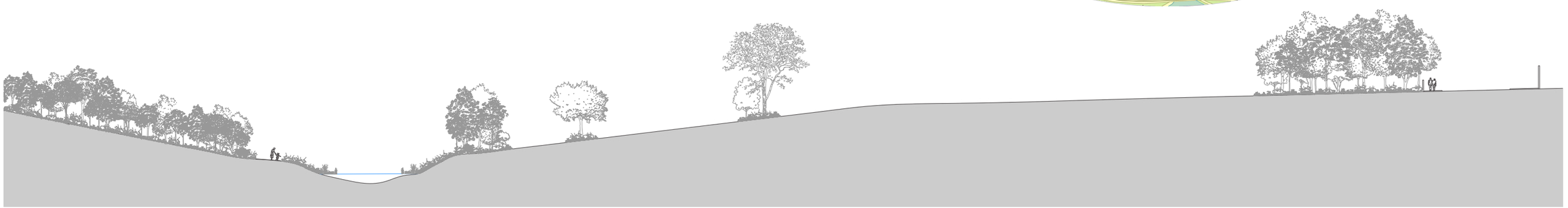
Existing Site Plan of Tolka Valley Pary & Housing Estate

Existing Housing Estate

Site Images



Accustic Pollution Site Plan
Scale 1:10,000



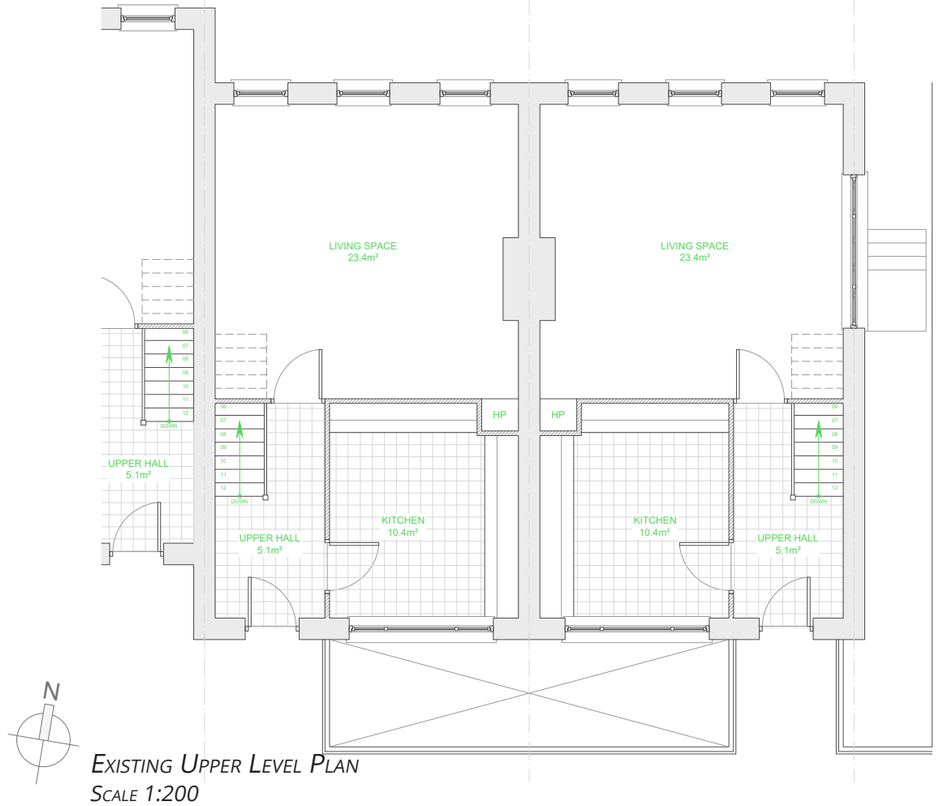
Existing Tolka Valley Park Site Section
Scale 1:500

Existing Housing Estate

Existing Front Elevation
Scale 1:500

Existing Rear Elevation
Scale 1:500

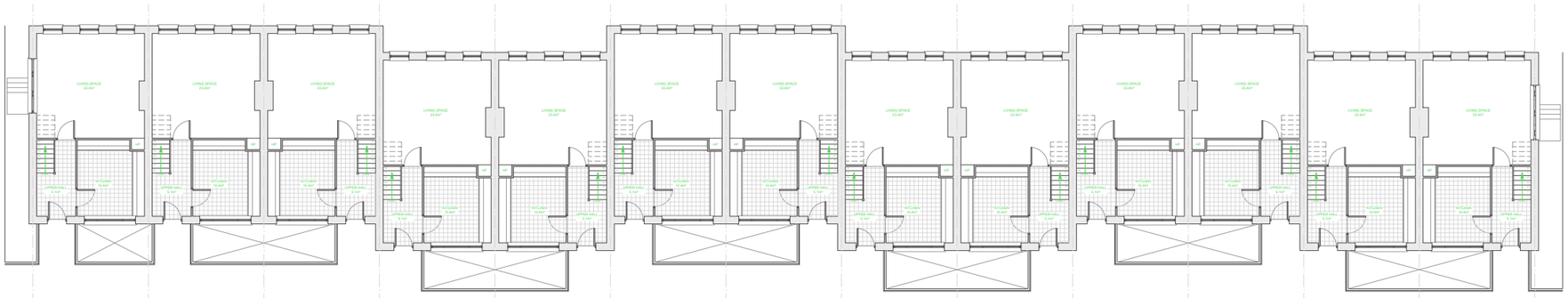
Existing Lower Level Plan
Scale 1:200



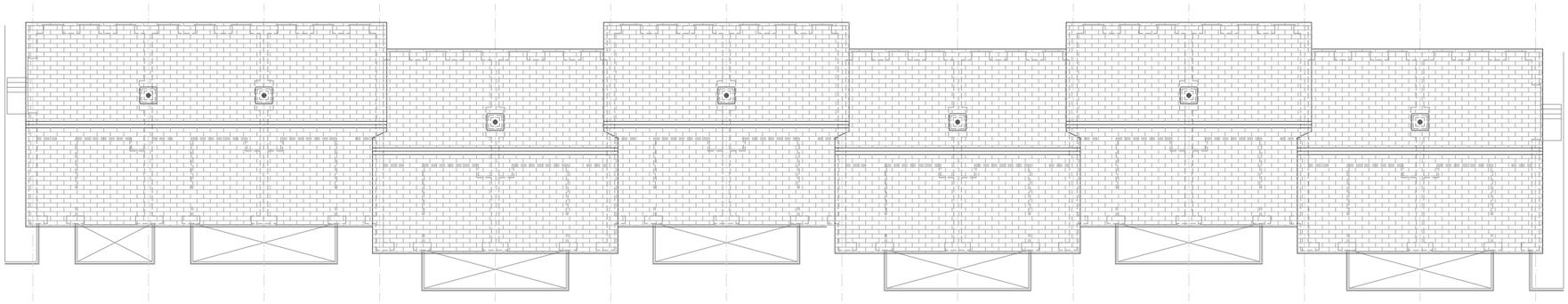
Existing Upper Level Plan
Scale 1:200

Existing Housing Estate

Existing Lower Level Plan
Scale 1:500

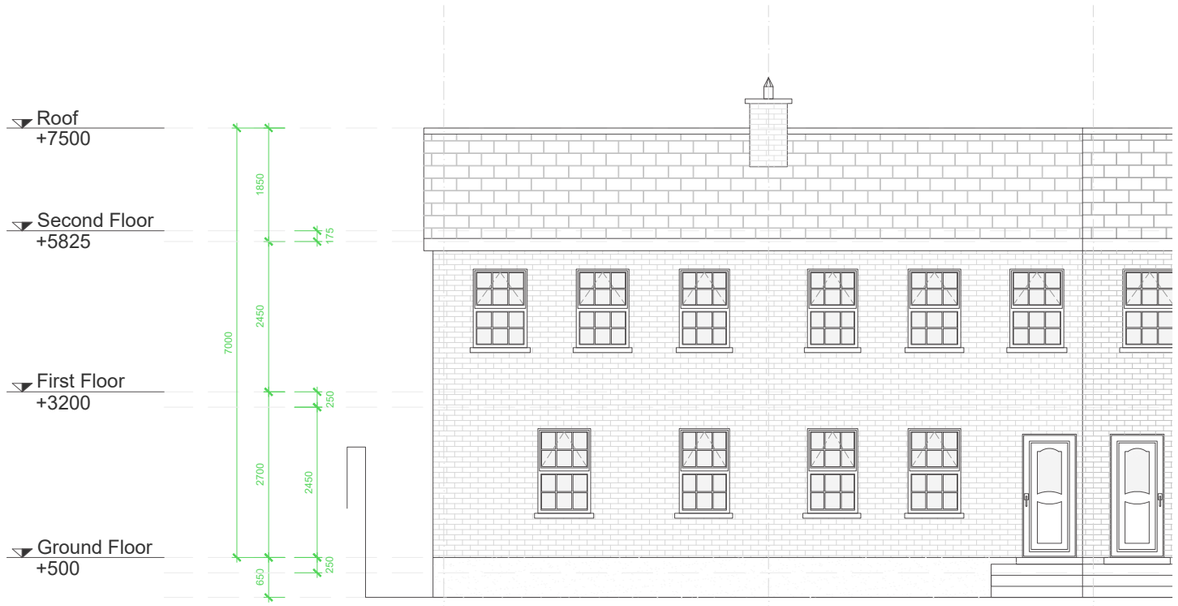


Existing Upper Level Plan
Scale 1:500



Existing Roof Plan
Scale 1:500

Existing Housing Estate



Existing Rear Elevation
Scale 1:200

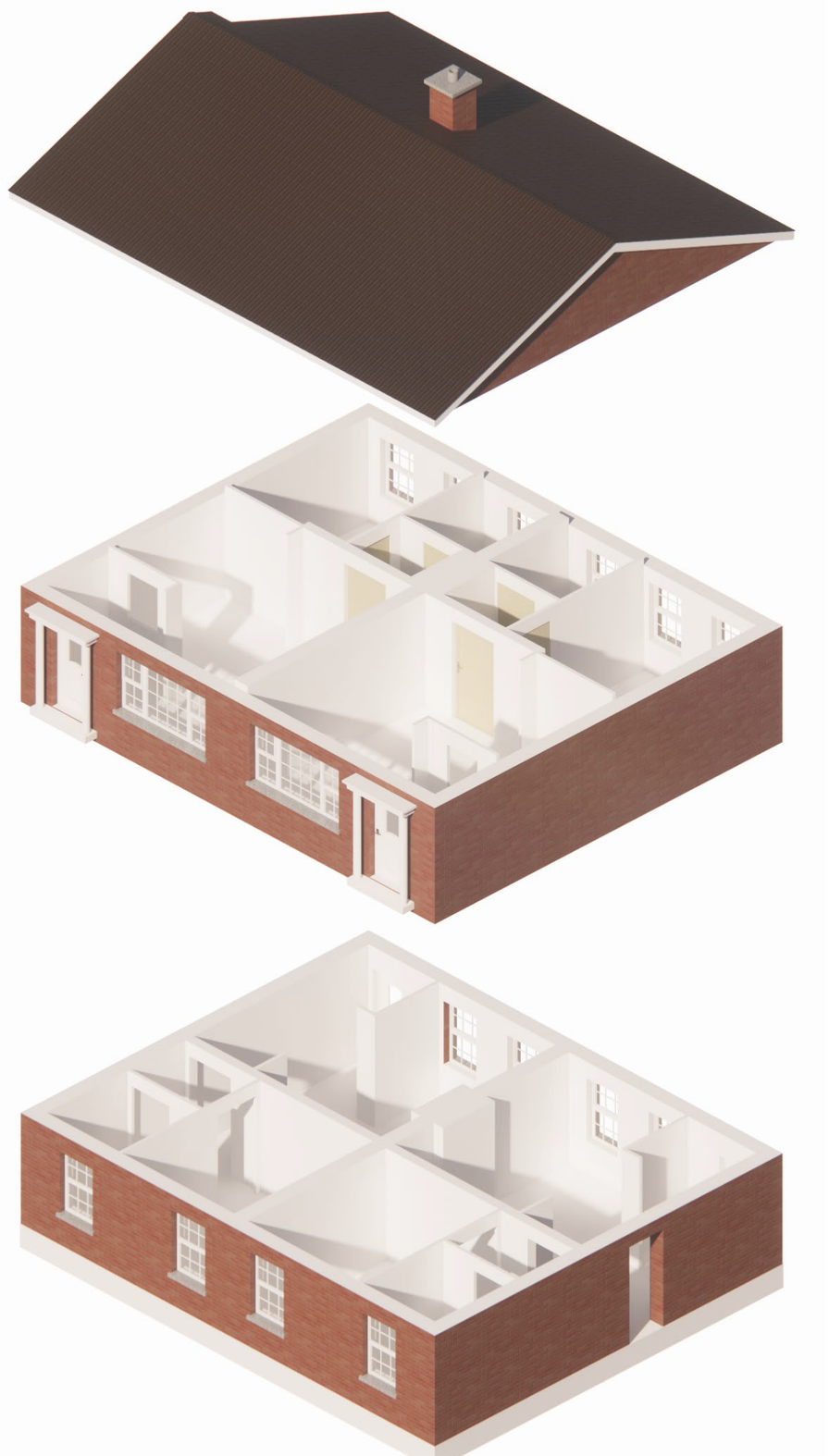
Existing Front Elevation
Scale 1:200

Existing Side View Section
Scale 1:200

Existing Housing Estate

Existing Housing Estate Render

Existing Housing Estate Photo



Existing Housing Estate Exploded Axonometric

Local Population Cencus Data

Site Map at 1km Radius
Scale: 1:10000

Census Infromation	House holds	No. of Children
Total male Population	114	
Total male Population	69	
Total female Population	127	
Total female Population	90	
Total Population	241	
Total Population	159	
Occupied - Permanent Dwellings	97	
Occupied - Permanent Dwellings	70	
Temporarily Absent- Permanent Dwellings	2	
Temporarily Absent- Permanent Dwellings	2	
Unoccupied Holiday Homes	0	
Unoccupied Holiday Homes	0	
Other Vacant Dwellings	1	
Other Vacant Dwellings	8	
Total - Pemanent Dwellings	100	
Total - Pemanent Dwellings	80	
Couples - kids under 15	12	19
Couples - kids under 15	12	15
Couples - kids over 15	6	11
Couples - kids over 15	3	8
Couples - kids both under & over 15	3	9
Couples - kids both under & over 15	2	4
Total Couples - with kids	21	39
Total Couples - with kids	17	27
Mother - kids under 15	7	9
Mother - kids under 15	5	7
Mother - kids over 15	5	8
Mother - kids over 15	3	4
Mother - kids both under & over 15	0	0
Mother - kids both under & over 15	0	0
Total Mother - with kids	12	17
Total Mother - with kids	8	11
Father - kids under 15	1	1
Father - kids under 15	0	0
Father - kids over 15	0	0
Father - kids over 15	0	0
Father - kids both under & over 15	0	0
Father - kids both under & over 15	0	0
Total Father - with kids	1	1
Total Father - with kids	0	0

Local Population Demenia Census Data

- 2km Area

Name	Male Total	Female Total	Total	Occupied Dwellings	Absent Dwellings	Unoccupied Holiday Homes	Other Vacant Dwellings	Total Dwellings	50-54	55-59	60-64	65-69	70-74	75-79	80-84	<85
Finglas South B	117	131	248	79	0	0	0	79	22	10	4	8	2	0	0	1
Cabra East A	69	90	159	70	2	0	8	80	8	14	6	1	2	5	1	0
Botanic A	136	215	351	104	4	1	4	113	33	16	17	10	15	20	24	27
Finglas South B	119	116	235	100	2	0	6	108	6	14	14	17	22	10	8	3
Cabra West B	142	162	304	110	4	0	3	117	13	12	10	24	13	12	7	2
Cabra West A	131	111	242	89	4	0	3	96	12	27	22	26	8	8	6	1
Cabra East A	179	186	365	113	0	0	1	114	18	22	16	18	25	10	5	3
Cabra East A	204	180	384	131	3	0	2	136	21	17	30	34	25	9	10	3
Cabra East A	118	134	252	108	1	0	4	113	10	24	25	39	14	11	2	2
Botanic A	168	188	356	139	2	0	0	141	20	36	27	31	45	14	5	5
Ballygall A	140	139	279	108	6	0	2	116	15	10	7	5	1	5	2	1
Ballygall D	125	144	269	119	8	1	5	133	16	11	23	5	9	17	8	9
Ballygall D	135	163	298	109	5	0	8	122	28	15	20	7	12	15	16	13
Finglas South B	102	102	204	75	0	0	1	76	10	9	23	22	8	8	0	0
Cabra West B	136	144	280	109	0	0	4	113	27	17	17	18	15	9	4	1
Cabra West A	110	119	229	80	4	0	3	87	15	9	15	16	28	13	8	2
Ballygall A	171	167	338	113	3	0	1	117	31	35	36	29	9	8	1	0
Ballygall D	140	160	300	111	1	0	7	119	13	17	17	22	15	8	8	4
Finglas South B	99	103	202	90	6	0	4	100	11	7	4	0	1	0	0	0
Botanic A	99	133	232	97	1	0	3	101	15	17	14	27	19	19	5	3
Ballygall D	132	147	279	112	2	0	2	116	17	16	22	10	11	10	9	6
Ballygall D	96	121	217	76	2	0	5	83	15	19	17	5	6	5	2	7
Cabra West B	127	137	264	101	1	0	5	107	24	18	15	16	8	12	7	0
Ballygall D	131	133	264	91	9	1	8	109	15	11	11	10	8	6	7	5
Ballygall D	116	105	221	78	1	0	4	83	16	10	7	8	18	19	7	7
Finglas South B	102	121	223	76	1	0	4	81	11	10	1	8	12	10	6	0
Finglas South B	160	179	339	103	1	0	3	107	11	18	8	24	19	12	0	0
Finglas South B	144	207	351	97	0	0	2	99	11	9	11	24	16	9	17	16
Ballygall A	220	234	454	134	3	0	1	138	61	38	26	14	4	0	0	1
Finglas South B	166	191	357	130	8	0	72	210	11	3	3	0	1	1	0	0
Ballygall A	168	170	338	114	3	0	9	126	9	5	1	1	0	0	0	0
Finglas South B	198	194	392	118	0	0	4	122	14	5	8	16	9	3	0	2
Finglas South B	160	165	325	112	1	0	1	114	16	12	17	44	16	4	1	0
Ballygall D	128	119	247	89	1	0	2	92	23	24	18	7	9	6	2	1
Cabra East A	114	127	241	97	2	0	1	100	29	10	8	14	5	2	1	3
Cabra West B	116	126	242	88	0	0	7	95	19	16	17	10	8	6	7	4
Cabra West B	93	97	190	70	2	0	6	78	10	14	13	15	7	6	3	2
Cabra West A	154	160	314	107	0	0	5	112	16	21	13	16	9	13	11	4
Cabra West B	129	143	272	104	1	0	1	106	17	17	9	11	12	5	2	2
Ballygall A	118	124	242	99	6	0	4	109	8	2	5	1	0	0	0	0
Ballygall A	109	123	232	92	4	0	9	105	4	8	2	1	0	0	0	0
Finglas South B	142	150	292	120	3	0	18	141	8	3	1	0	0	0	0	0
Finglas South B	118	101	219	92	5	0	22	119	4	7	3	1	0	0	0	0
TOTAL:	**5781**	**6261**	**12042**	**4354**	**112**	**3**	**264**	**4733**	**713**	**635**	**583**	**615**	**466**	**330**	**202**	**140**	**3684**

TOTAL DEMENTIA PATIENTS 2020: **131**

TOTAL DEMENTIA PATIENTS 2050: **300**

Calculated Average Demographics of Dementia Patients in a 2km Area (Local Community) and Estimated the Increased Projections in the Next 25 Years

The Need For Action:

241 Words

Need For Action
Examining the population data of Ireland, there is a slight increase in Ireland's population for the period 2018 and 2025, followed by a stronger projected increase between 2025 and 2050.

The overall numbers of people with dementia will more than double from 52,736 in 2018 to 141,200 in 2050 (Senator Gavan, 2022).

Similarly, as a percentage of the overall population, people with dementia will represent 2.49% in 2050 compared to 1.09% in 2018. Ireland exceeds the broader European trend of the numbers of people with dementia more than doubling by 2050 (World Health, 2022).

A key factor in this change appears to be the significant increase in the numbers of people aged over 60, and in particular, the over 85 age range, which more than triples between 2018 and 2050.

In a response to this worrying future for Ireland, a potential action could be rather than just building the 7,500 Nursing Homes Ireland needs now, Ireland could take inspiration from the McLaughlin's Alzheimer's Respite Centre, the Dementia Village and Maggie Centres, that have shown very positive results in different approaches to palliative care that work with the architecture to create comfortable, life enjoying, care communities.

These three precedents all take a common focus on the care and well-being of the resident, giving careful consideration to everything they they may not like, rather than simply putting them in an institution to live out the rest of their days, almost like a sentence.

Total Dementia Patients 2018:

131 Patients - 1km Zone
- *72 Mild Dementia*
- *42 Moderate Dementia*
- *16 Severe Deentia*

343 Patients - 2km Zone
- *189 Mild Dementia*
- *110 Moderate Dementia*
- *42 Severe Deentia*

Total Dementia Patients 2050:

300 Patients - 1km Zone
- *165 Mild Dementia*
- *96 Moderate Dementia*
- *36 Severe Deentia*

783 Patients - 2km Zone
- *431 Mild Dementia*
- *251 Moderate Dementia*
- *94 Severe Deentia*

The Proposal:

586 Words

This proposal would be located in the Tolka Valley Park, in Dublin city, right beside the Pitch & Putt coarse, the reason for this is to maximise natural park views, whilst at the same time, utilising the golf course to be used for physiotherapy for residents.

Exposure to nature, flora and fauna is of paramount importance for residents as it encourages them to get outdoor and be active as much as possible which assists with a natural circadian rhythm, mental health and stimulates oxygen to the brain which has been found to levitate the symptoms and regression of dementia.

The facility will work in three phases, for those in the early stage of dementia, the idea is to maintain them as long as possible in their family home. A community respite centre works as a link between the outpatients and the primary care centre, whilst providing therapy and support for the patient and their loved ones on understanding what dementia is and how to live or care for someone with dementia. This also includes dementia care training for loved ones who wish to act as the resident's full-time carer.

For those in the moderate stage of dementia, life starts to get quite difficult, this starts to require a full-time carer and certain interventions such as enabled assistance.

For these residents, the idea is to either continue maintaining them in their family home with increased assistance, relocate them and their family into the repurposed/retrofitted existing housing estate as living accommodation for Dementia residents that wish to continue living with their loved ones whilst still availing of the services of the community respite centre and small primary care centre as day patients, or the resident moving into the Dementia residential care housing as a fulltime in-patient.

The ethos at this stage is to give as much respect and understanding to the preference of every resident and their loved ones, so they are happy with the care and level of freedom they can avail of, whilst giving the best life standard possible for each resident and reassuring their loved ones as much as possible in the process.

For those in the severe stage of dementia, life requires full-time, supervised care. This is often the hardest time for the loved ones of a resident. For this stage, residents would live as In-patients in the Dementia residential care housing. This facility would be enclosed but would encourage loved ones and members of the local community to visit.

All staff (much like the Dementia Village) would wear casual attire, and everyone would be trained in dementia care. This would be to give the impression that the resident is living their normal day to day life, still in their local area.

Every garden is unique, with different themes, activities and flora to assist each resident in wayfinding as they move around the site. This coupled with each housing unit located on its own elevation, that works with the slope of the site, to give each unit its own individual views and semi-public gardens.

Paths meander throughout the site, all of which bring the resident on a journey visiting each themed garden, giving choice where the resident wishes to stop to contemplate or rest. Dotted along these paths are seating and shelters, each with their own unique view, these shelters act in response to behaviour people with dementia often do when disorientated or lost, they seek shelter at a bus stop, for this reason these shelters are designed to resemble a Dublin bus stop.

Proposed Site Plan

- Showing Demential Care Housing, Internal Retrofited Housing Estate & Dementia Community Building

Site Plan
Scale 1:1000

The Dementia Care Housing:

508 Words

Each residential unit caters for six residents. Visitors and residents' approach from the south through the unique semi-public garden, onto a communal semi-private terrace. Each one of these terraces are bordered by a soft boundary of natural planting. This is to allow each resident a private, outdoor, south facing terrace, that both shelters the resident, whilst giving them a feeling of safe observation of the outside world.

To the west of the building, is the staff designated rooms. This includes a staff room, for staff to retreat to, a staff bathroom, hot water cupboard, storage and a large reception area. The access doors to these staff facilities use dementia deterrents, in the form of material similarities to the wall in order to restrict residents from accessing private areas.

The reception is all about observation from a distance, with views of the terraced area, semi-private garden, communal dining area, communal living room and kitchen, all from one vantage point. This is to maximise observation, whilst minimising interaction, allowing residents to go about their activities when unsupervised.

The large communal dining area has a high ceiling, this is to maximise light penetration during the middle of the day to help stimulate residents to have the most energy when it is time to eat and do their physiotherapy.

To the North of the Communal dining area there is a communal living room and the communal kitchen. The kitchen is a place for residents to maintain some independence, in the form of preparing their breakfast (under supervision) or baking activities.

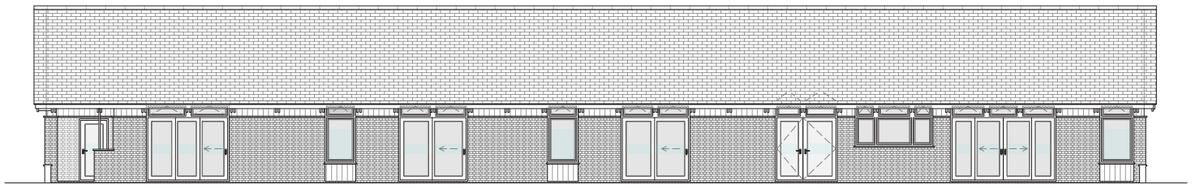
To the East of the communal dining area, is the main corridor leading to the residents' individual bedrooms. There is also a communal enabled bathroom. To the north of this corridor is a cognitive therapy room. This room can also act as a private space for patients to do physiotherapy if they are more sensitive to noise. To the east of this room is an assisted wash/bathing room for residents who need assistance to bath themselves or who may have had an 'accident'. Its location down the end of the corridor is to maintain privacy and decency for the resident.

In between each of the therapy and assisted washrooms, there are semi-private lounge spaces. These act as a refuge for patients who want to escape the communal area but don't want to go to their room, or as a more private lounge space to host visitors. Each one of these semi-private lounge areas open up to the north courtyard, encouraging residents to meander throughout the building, moving from private space to semi-private space, to semi-public space to public space, giving the resident a choice of the level of interaction between others they wish to part-take in, based on what they feel comfortable with.

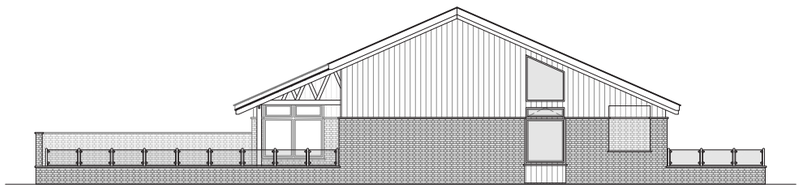
This meets two paramount considerations when designing for people with dementia; engaging them as much as possible with community and a sense of family, whilst giving back a much-needed level of control, albeit small, into their lives, as control when it comes to dementia deteriorates as the syndrome develops.

Corridor Lounge Render

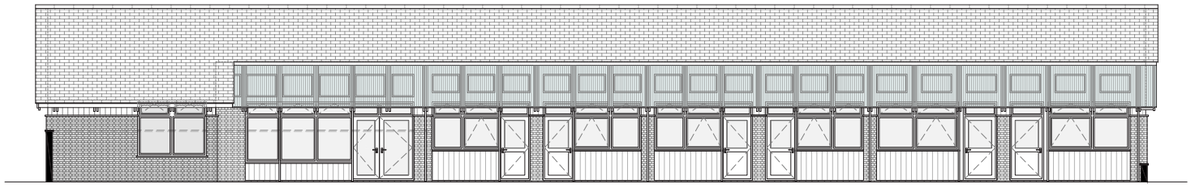
Communial Lounge Area Render



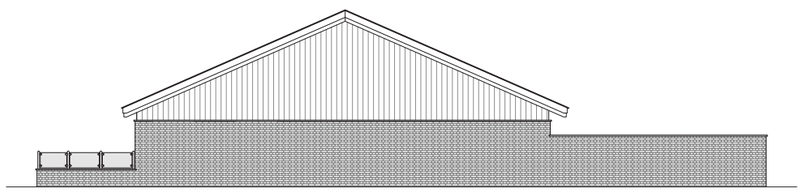
Proposed Rear Elevation
Scale 1:200



Proposed East Elevation
Scale 1:200



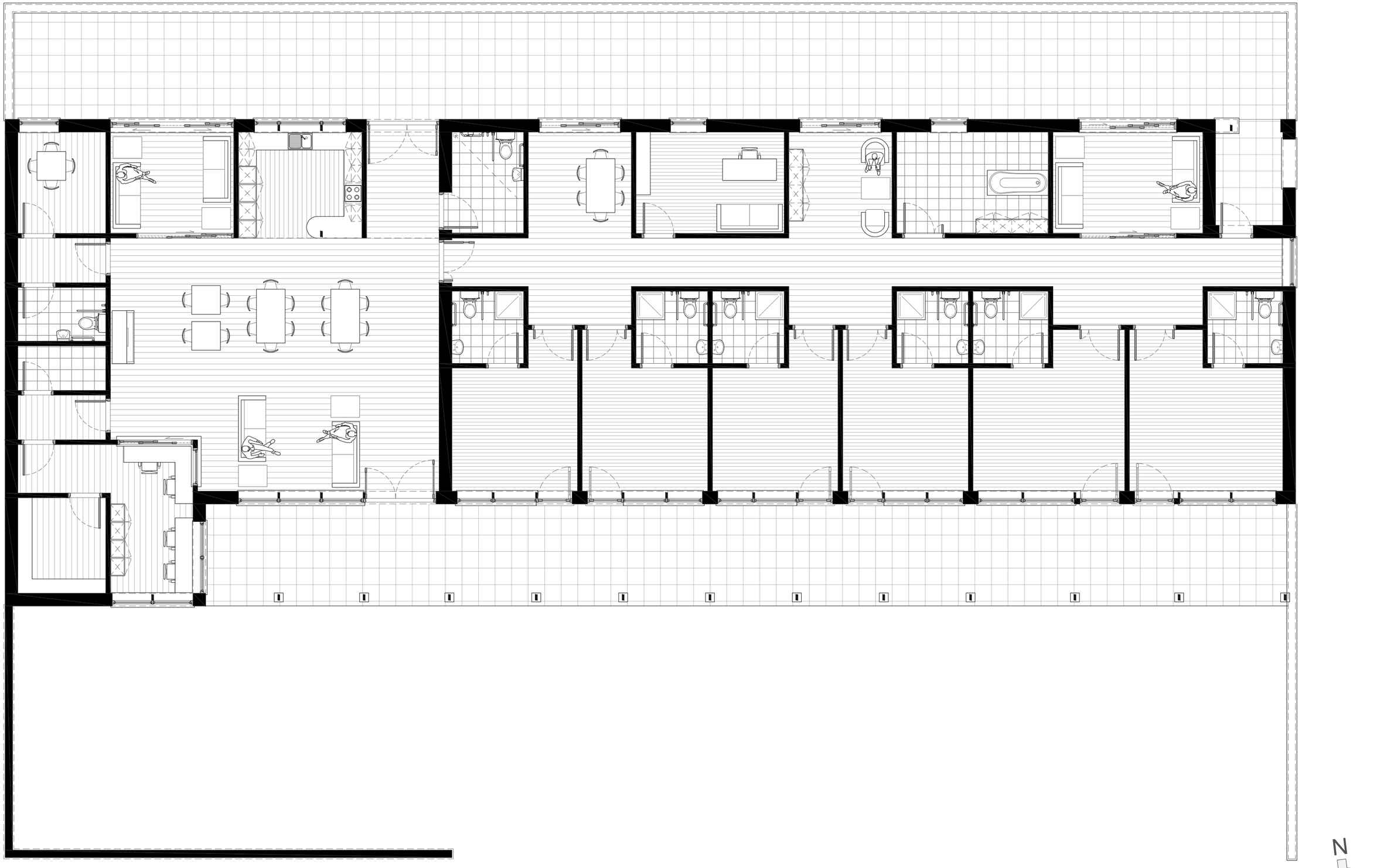
Proposed Front Elevation
Scale 1:200



Proposed West Elevation
Scale 1:200

Proposed Roof Plan
Scale 1:200

Communial Terrace Area Render


N

Communial Living Area Render

Communial Living Area Render

Communial Living Area Render

Entrance Render

The Individual Bedrooms:

508 Words

Each resident's bedroom is tailored to their tastes and uniqueness. Furniture from their home, personal items that have sentimental value, decoration, material/colour choices are all selected for each resident to try and make their room a little piece of them, that will entice memory and make them feel comfortable and that they have somewhere private that they can retreat to where they feel safe.

Outside each bedroom is a "memory box" for each resident, this is to help the resident recognise their room, through the use of small visual memory stimulus, such as a childhood toy, photos of when they were younger, even a painting. This is to all assist with the reassurance that were they are safe, and they are not lost.

Every bedroom has a raised angled ceiling near the upper window, this is to maximise solar gain during the short winter days (which tend to be the worst time of the year for people with dementia). Allowing them to get the natural light streaming into their room, thus assisting with maintaining a natural circadian rhythm which helps to combat sundowning[1] .

Perspective Section B-B
Scale 1:100

Perspective Section C-C
Scale 1:100

1 The term "sundowning" refers to a state of confusion occurring in the late afternoon and lasting into the night. Sundowning can cause different behaviors, such as confusion, anxiety, aggression or ignoring directions. Sundowning can also lead to pacing or wandering. Sundowning isn't a disease.

Bedroom 1 Render

Bedroom 2 Render

Bedroom 3 Render

Corridor Render

Proposed Communal Living Area

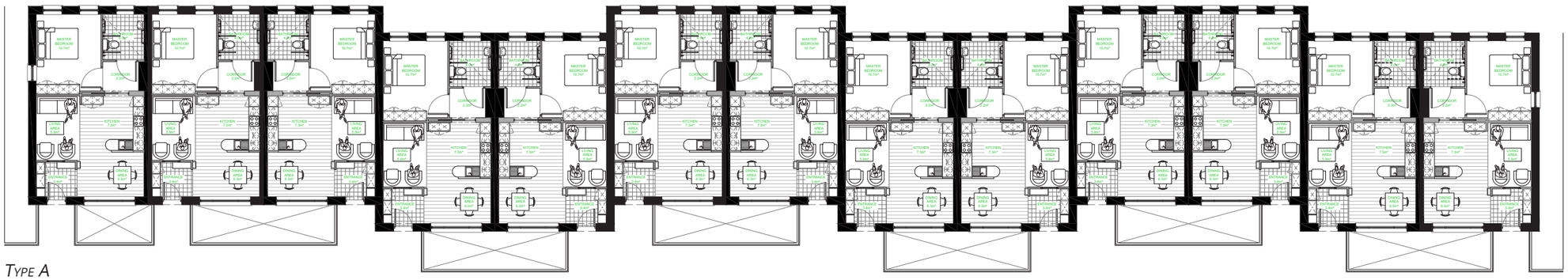
Perspective Section A-A
Scale 1:50

Proposed Internal Retrofit of Existing Housing Estate

Front Elevation - Type A
Scale 1:200

Rear Elevation - Type A
Scale 1:200

Lower Level Plan - Type A
Scale 1:200

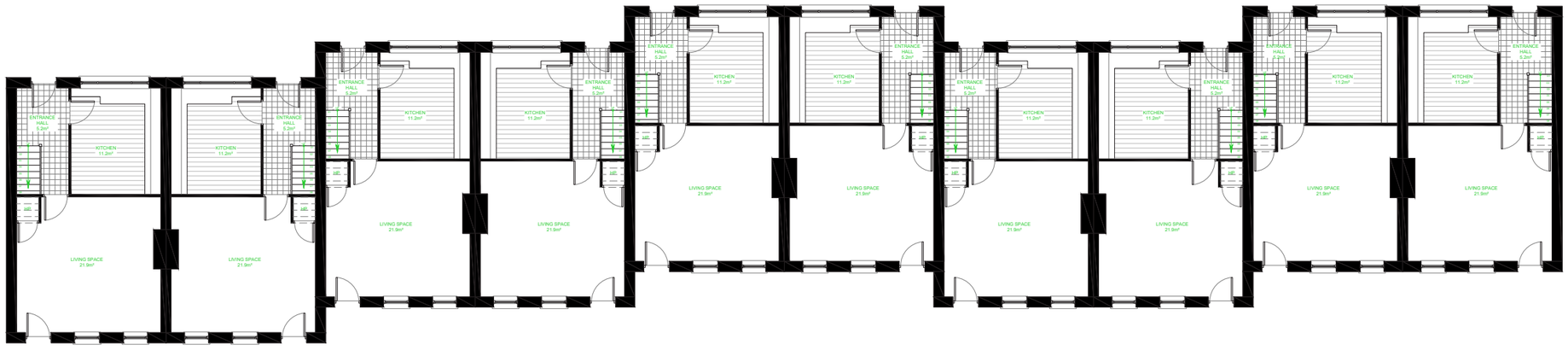


Upper Level Plan - Type A
Scale 1:200

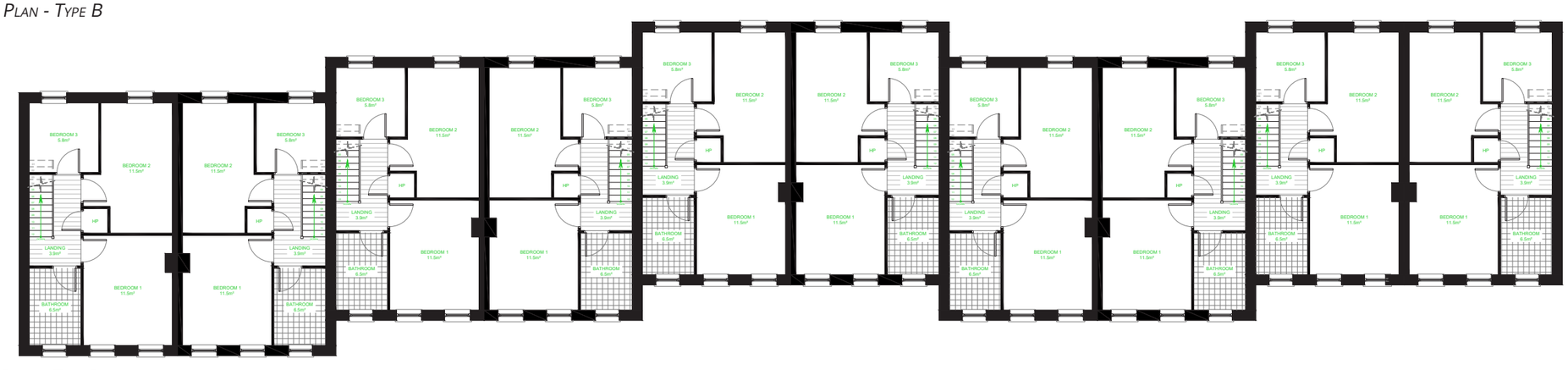
Proposed Repurpose of Existing Housing Estate

Front Elevation - Type B
Scale 1:200

Rear Elevation - Type B
Scale 1:200



Lower Level Plan - Type B
Scale 1:200



Upper Level Plan - Type B
Scale 1:200

Conclusion:

151 Words

The idea of one's home is deeply ingrained as one's personal environment, which calls for people suffering from senility and dementia to stay in their homes, where they feel safest, as long as possible.

Historically, models of care start with good intentions on a macro scale and seem to work for the period. Albeit definitely not perfect when reviewed from after their conception, still act, much like the healthcare facilities of today, with solutions for the problems of their time, and have worked as steppingstones in the right direction. This has resulted in greater and greater development in models of care over the centuries.

Therefore, the models of care implemented by these buildings should be used as a template to hone future designs to a more refined and specialised form of architecture, whilst issues between the vision and practice of the building can be learned from and considered in the design.

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Thank you