FERNBANK PS

480 COPE DRIVE, OTTAWA

PLANNING RATIONALE AND DESIGN BRIEF

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INTRODUCTION

N45 Architecture Inc has been retained by Ottawa Carleton District School Board (OCDSB) to provide professional services to design new Fernbank Public School, including preparation of the site plan control application, and the planning rationale in support of this application.

Over the past few years the OCDSB has been endeavoring to produce quality learning environments at a lower price per square foot that is in line with or below the benchmark set by Ontario Ministry of Education. In addition to the price requirement, school design was focused on Durability, Sustainability and facilities that would support 21st Century Learning and Ontario EcoSchools Program.

In 2011 our Firm was tasked with designing the first version of this highly economical and flexible 2-storey elementary school. The first school was constructed with modular hollow core slabs and featured super-insulated metal panels on the exterior. Soon after constructing this school, our Firm was asked to produce and improved version of the original school (V2) for another site. At this point, in cooperation with the OCDSB, we have designed V3 version of this model school. Each iteration incorporates lessons learned from the previous version and pushes the envelope on constructability and energy efficiency of the school. We have now been tasked with another new elementary schools, utilizing tilt-up construction, for an improved V5 version of this model school.

1. SITE INFORMATION

Site Information:

Institution	**Ottawa-Carleton District School Board**
Project Name	**Fernbank Public School (Elementary School)**
Municipal Address	**480 Cope Drive, K2S 1B6**
Legal Description	**BLOCK 385, PART OF LOFTS 29 AND 30, CONCESSION 10, GEOGRAPHIC TOWNSHIP OF GOULBOURN, CITY OF OTTAWA**
PIN	not known
Ward	**Stittsville (Ward 6)**
Property Area	**7 acres (28,365 m2)**
Zoning Designation	**I1 Institutional Zone, Sub-Zone I1A**
Area (Secteur)	**Area C (Suburban)**

The Subject Site is on Cope Drive, between Rauncey Road and Continental Avenue.

2. PLANNING CONTEXT

This report is intended to provide the necessary planning background and rationale in connection with the proposed construction of an elementary school for the **Ottawa-Carleton District School Board** on the south-west corner of Cope Drive and Rouncey Road. This proposal will not require any changes to the existing zoning by-law and is in compliance with all current requirements.

Site Context and Land Use: The subject property, which is 7 acres, is currently vacant and is generally flat. The property has been set aside by the sub-division developer and has been designated as the school site. The property is zoned I1A (Minor Institutional Zone).

Existing land uses abutting the subject property include as follows:

West:	R3YY Residential Development
South:	R3YY Residential Development, and O1 Future Park
East:	R3YY Residential Development
North:	R3Z Residential Development

Planning Context: According to City of Ottawa Zoning By-Law 2008-250, the subject property is currently zoned Institutional and would allow proposed school use. Attached Site Plan calls for 2 storey elementary school (70,000 sq.ft) served by 114 parking spaces (three BF Stall) and 56 bicycle spaces.

School Building is located on the corner of the property, featuring the Library facade on both adjacent streets. The front of the building has been moved to Cope Drive to the maximum allowable setback distance. This helps in creating a urban streetscape and lets the building engage with the street. In this instance we opted for the bus loop NOT in front of the main entrance and off the secondary street (to minimize the traffic impact). For student safety and school convenience a separate bus loop has been added (on school board property) away from parent drop off and school parking lot. Parking lot and the Bus Loop have been located away from the front entrance encouraging pedestrian access to the main entrance.

We opted for “sunken” garbage containers, which are less visible from the street and do not require large enclosures. Water and electrical meters are located inside the building. The transformer and the gas meter will be concealed by landscaping. Signage will be integrated into the landscaping.

Pedestrian connections have been provided from sidewalks of both streets and lead directly to the play yard (from parking, lay-buys, and bus loop). The pedestrian and vehicular access and circulation within the property are designed to provide safe and well-defined routes. The school “campus” is designed around the landscaped open spaces such as: entry plaza, outdoor courtyard, outdoor teaching areas, sports fields and community gardens to promote healthy living. Future play structure (drainage provided as part of this project) and community garden are two projects that are being developed with the parent council and wider community and will be implemented after the school has been constructed and the school is occupied. The school is designed to be the certified “ECO-SCHOOL” and sustainability will form an important part of the curriculum.

Part 7 of the Zoning By-Law, Major Institutional Zones, I1A Zone Provision

Zoning Mechanisms	Zone Provisions
Minimum Lot Width (m)	15
Minimum Lot Area (m2)	400
Minimum Front Yard Setback (m)	7.5
Minimum Interior Side Yard Setback (m)	7.5
Minimum Rear Yard Setback (m)	7.5
Minimum Corner Side Yard Setback (m)	4.5
Maximum Height	15

Permitted Uses (as per section 169(1))

School, Day Care

Part 4 of the Zoning By-Law,Parking, Queuing and Loading Provisions

Table 101, Minimum Parking Space rates (Area C on Schedule 1, Suburban Area)

Use		Parking Requirement	Size	Parking Req'd
School	Area C (Suburban)	1.5 per Classroom (portables included)	30 Classrooms	45
Portables	Area C (Suburban)	1.5 per Classroom (portables included)	12	18
Day Care	Area C (Suburban)	2 per 100 m2 of gross floor area	400m2 gfa	8
			Total	**71 (3BF)**

Section 106, Parking Space provisions

A motor vehicle parking space must have:

(a) a minimum width of 2.6 metres and a maximum width of 2.75 metres; and

(b) a minimum length of 5.2 metres, except for parallel parking where a minimum length of 6.7 metres is required.

Despite subsection (1), disabled parking spaces must comply with the provisions of the City of Ottawa Traffic and Parking By-law (part C).

Traffic and Parking By-law (part C)

Every owner and operator of a public parking area shall provide reserved parking spaces for the exclusive use of physically disabled persons, or persons conveying physically disabled persons, to park their motor vehicles, in at least the amount prescribed by the following table:

Capacity of Public Parking Area (Number of Parking Spaces)	Minimum Number of Spaces to be Reserved for Physically Disabled Persons
20-99	1

The reserved parking spaces referred to in Section 122 shall be:

.a of a width,
i. of three point sixty-six (3.66) metres each; or

ii. as specified on a plan approved by the City in accordance with Section 35a of The Planning Act, R.S.O. 1970, c.349, as amended, prior to 28 January 1981;

.b of a length so as to be the same length as the other parking spaces in the same parking facility;

.c hard surfaced;

.d level;

.e placed so as to be accessible to physically disabled persons whether via ramps, depressed curbs, or other appropriate means, and so placed as to permit easy access by such persons to or from a motor vehicle parked therein; and

.f identified by authorized signs as prescribed in subsection 124(1).

Section 107 Aisle and Driveway Provisions

A driveway providing access to a parking lot or parking garage must have a minimum width of;

(i) three metres for a single traffic lane, and

(ii) 6.7 metres for a double traffic lane

Landscaping Provisions for Parking Lots (Section 110)

Minimum required width of Landscaped Buffer of a Parking Lot shall be:

	Parking Lot 10-100 spaces
Abutting a street	**3m**
Not Abutting a street	**1.5m**

Bicycle Parking Space Rates and Provisions (Section 111)

Bicycle parking must be provided for the land uses and at the rate set out in Table 111A for lands located in Areas A (Central Area), B (Inner City Area) and C (Suburban Area) on Schedule 1 and in the villages of Ashton, Burritt's Rapids, Carlsbad Springs, Carp, Constance Bay, Cumberland, Dunrobin, Fallowfield, Fitzroy Harbour, Galetta, Greely, Kars, Kenmore, Kinburn, Manotick, Marionville, Metcalfe, Munster, Navan, North Gower, Notre Dame des Champs, Osgoode, Richmond, Sarsfield, Vars and Vernon located in Area D on Schedule 1.

School	1 per 100m2 of gross floor area

Gross Floor Area 4,441 m2 (not including washrooms, service rooms, corridors, etc)

Bicycle Racks Required 45

TABLE 111B - MINIMUM BICYCLE PARKING SPACE DIMENSIONS

I **Orientation**	**II** **Minimum Space Width**	**III** **Minimum Space Length**
(a) Horizontal	0.6 metres	1.8 metres
(b) Vertical	0.5 metres	1.5 metres (By-law 2010-237)

SUMMARY OF ZONNING BY-LAW REQUIREMENTS

Zoning Mechanism	Required	Provided
Definition	I1A Minor Institutional Zone	School, day Care
Minimum Lot Width	15m	104.52m
Minimum Lot Area	400m2	28,365 m²
Minimum Front Yard Setback	7.5m	7.5
Minimum Rear Yard Setback	7.5m	66m
Minimum Interior Side Yard Setback	7.5m	n/a
MinimumCorner Side Yard Setback	4.5m	5m
Maximum Building Height	15m	8.5
Maximum Floor Space Index	1	0.15
Min. Width of Landscaped Area	Abutting Street = 3m	>3m
Parking Landscape Buffer	for a parking lot containing 11-99 spaces: abutting a street = 3 m; not abutting a street = 1.5 m	3m
Private Approach Provisions: Distance between a two-way private approach and any other private approach	15.0 m, as per ottawa by-law 2003-447, item (l)(ii), for a parking lot containing 20-99 spaces	15m
Minimum distance between the private approach and Roadway and other Private Approaches	As per Ottawa use of private approaches by-law 2003-447, item 25 (l)(ii), required **18m** clearance between a private approach and the intersection. required 15m clearance between private approaches.	18m
Maximum number of Private Approaches allowed	As per Ottawa use of private approaches by-law 2003-447, item 25 (a)(iv), one two-way approach and two one-way approach or two two-way approaches are permitted.	One Two-Way Approach
Standard Parking Space	2.6m W x 5.2m L	2.6m W x 5.2m L
Parallel Parking Space	2.6m W x 6.7m L	2.6m W x 6.7m L
Accessible Parking Space	3.66m W x 5.2m L	3.66m W x 5.2m L
Parking Requirements	Elementary School: 1.5 Parking Spaces per Classroom As Follows: 22 Classrooms X 1.5 = 33 Spaces 8 Kindergarten X 1.5 = 12 Spaces 12 Future Portables = 18 Spaces Daycare 2/100 Sqm = 8 Spaces Total Req'd = **71** Parking Spaces	114 Parking Spaces
Barrier Free Accessible Parking	as per Ottawa traffic & parking by-law 2003-530, part "c", item 122 (1), for a parking area with a capacity of 20-99 spaces, 1 barrier free accessible space is req'd	3 Barrier Free Spaces
Loading Spaces	1 per 2,000 m² - 4,999 m² of G.F.A.	4,441 m² G.F.A. = 1 SPACE
Bycucle Parking Rates	1 per 100m² of G.F.A. 4,441 m²/ 100m² = 45 Bicycle Spaces	56 Bicycle Spaces

3. RESPONSE TO CITY DOCUMENTS

City of Ottawa Official Plan

According to **schedule b** of the City of Ottawa Official Plan ("the urban policy plan"), the subject land is located in "**general urban area**" and in accordance with **section 3.6.1** of the City of Ottawa Official Plan, general urban area:

> "the general urban area designation permits the development of a full range and choice of housing types to meet the needs of all ages, incomes, and life circumstances, in combination with conveniently located employment, retail, service, cultural, leisure, entertainment and institutional uses. This will facilitate the development of complete and sustainable communities. A broad scale of uses is found within this designation, from ground-oriented single-purpose to multi-storey mixed-use; from corner store to shopping centre."

Policies (Section 3.6.1):

> "Building height in the General Urban Area will continue to be predominantly Low-Rise. Within this range, changes in building form, height and density will be evaluated based upon compatibility with the existing context and the planned function of the area. Secondary plans or zoning that currently permit building heights greater than four Storeys will remain in effect."
>
> "When considering a proposal for residential intensification through infill or redevelopment in the general urban area; the city willrecognize the importance of new development relating to existing community character so that it enhances and builds upon desirable established patterns and built form"

Response:

The proposed School is located on Cope Drive between Continental Avenue and Rouncey Road. The building's location on site, architectural massing, the use of colours, textures and building materials will create a focal point at the planned round about and in effect become a recognizable landmark in the community. Two-storey building is not overpowering the surrounding residential buildings, neither in height nor mass.

Policy 2.5.3 Schools and Community Facilities (Section 2.5 Building Livable Communities):

> "the city will recognize that schools form part of the building blocks of any community, not only in providing education to children, but also amenityspace and resources to the neighborhood. The city will work in partnership with school boards and school communities to ensure that schools are provided in all communities."

Response:

The new school will demonstrate it's "building block of the community" designation through design of interior and exterior spaces. From community garden, play structures, outdoor classroom, through community use of schools program, the school will be an integral part of the community where it resides.

Secondary plan: FernbankCommunity Design Plan ("CDP")

The school property is located within the Fernbank Community located in the West Urban Community of the City of Ottawa. The FernbankCommunity Design Plan ("CDP") among other things, provides a framework of the design criteria for the overall identity and structure of the proposed Fernbank Community.

6.4.1 community central spine: developments adjacent to arterial road/rapid transit corridor

Guidelines:

- development located along the arterial road/transit corridor should be developed to reduce potential conflicts with vehicles and pedestrians by minimizing the crossing of pedestrian walkway and vehicular routes
- Higher density development shall be encouraged to located adjacent to transit stations
- development within 600m of a rapid transit station shall be in accordance with the city of Ottawa's transit-oriented development guidelines.
- the main entry of the residential dwelling units or non-residential buildings adjacent to the arterial road/transit corridor should be located towards the corridor.
- driveways and garages should be located at the side or rear of the residential dwelling units, accessible from a rear lane.

6.6.5 schools

Guidelines:

- school buildings should be located close to the public street with main entrances visible from the street
- where practical, gathering or plaza areas should be included in front of the main entrance of the school
- Parking areas are discouraged from being located at the front of the main entrance of the school
- school elevations should be designed with a high level of architectural character and materials
- bus drop-off areas should be located away from the main entrance of the school, preferably at the side of the building to avoid conflict with other vehicles.
- bus drop-off areas for elementary schools may also be located on local streets, where appropriate.
- pedestrian connections should be provided from sidewalks, parking areas, and bus loading areas to school buildings.
- lighting for school buildings and parking areas to be directed away from adjacent properties.
- service areas should be screened from public view
- signage should be integrated into the landscape treatments or building architecture.
- where possible, utility elements and equipment should be located away from publicly exposed views, and are discouraged from being located in the front yard or flankage yard of a corner lot.Where utilities are required to be located in the front or flankage yards, the utilities should be located in a discreet area or screened from public view through landscaping or other screening mechanisms.

Response:

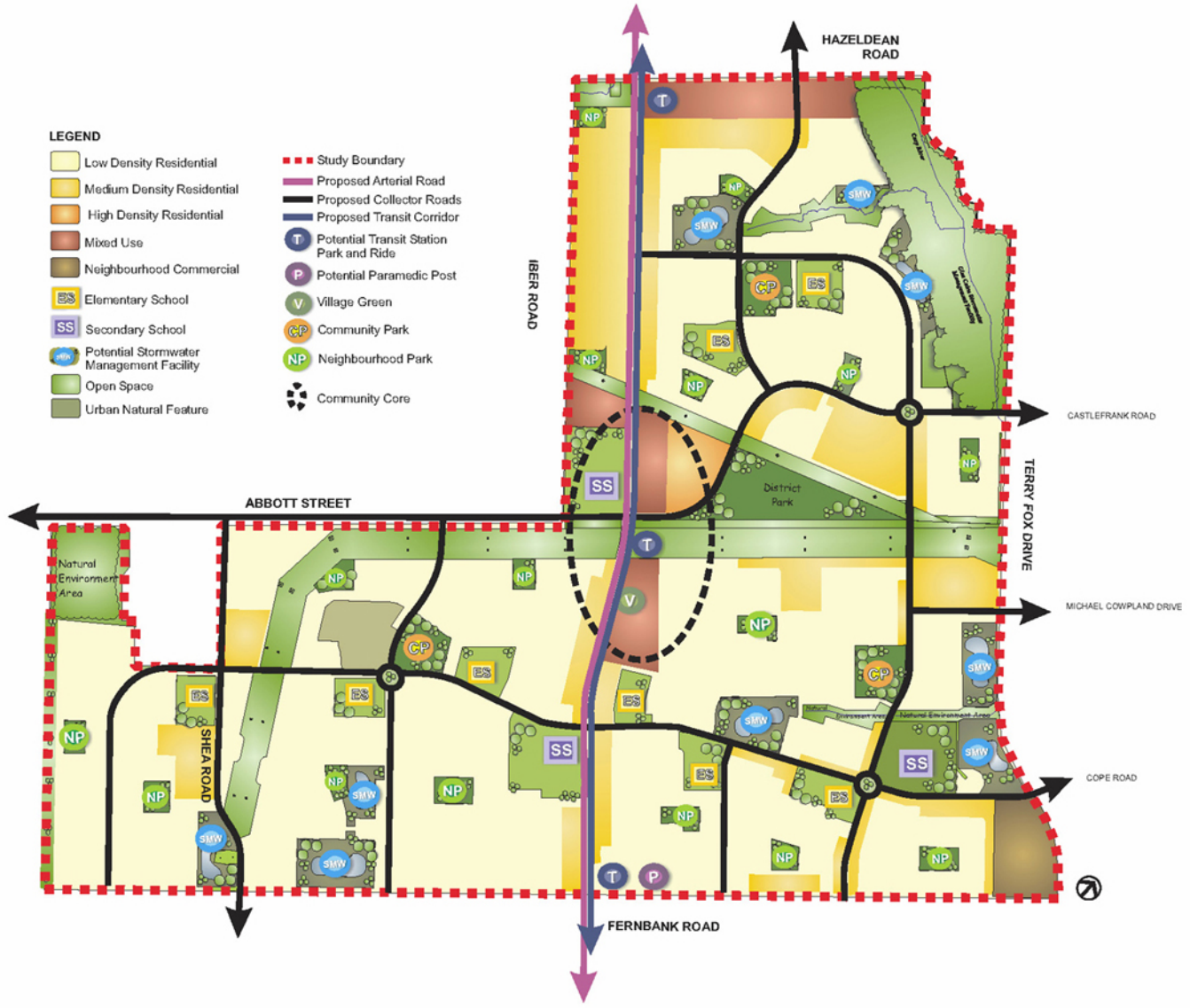
The new school "campus" is designed to be in compliance with the school design guidelinesoutlined in the FernbankCDP.The building facades will be facing three streets. An entry plaza will be included in front of the main entrance to the school. The exterior "courtyard" will be designed to be an outdoor social space and teaching area.

Parking areas are located at the side of the property, are well lit, and are screened by the landscaping. The new school building is set close to the road and the building's entrance forms becomes a focal point. The building is

utilizing a minimal front yard setback of 7.5m so that the school can as close as possible to the road. Facades facing the flanking streets are articulated through the playful use of, corner windows, mass walls with alternate textures and colours. Bus Loop, driveways and parking areas are located on the side of the property and are screened by landscaping.Pedestrian connections have been provided from sidewalks of both streets and lead directly to the play yard (from parking, lay-buys, and bus loop). The pedestrian and vehicular access and circulation within the property are designed to provide safe and well-defined routes. The school "campus" is designed around the landscaped open spaces such as: entry plaza, outdoor courtyard, outdoor teaching areas, sports fields and community gardens to promote healthy living. Future play structure (drainage provided as part of this project) and community garden are two projects that are being developed with the parent council and wider community and will be implemented after the school has been constructed and the school is occupied. The school is designed to be the certified "ECO-SCHOOL" and sustainability will form an important part of the curriculum.

Conclusion

The proposed development conforms to the general urban area policies of the official plan which permits such a use. The proposed development conforms to the applicable land use and design guidelines of the FernbankCDP.


LEGEND
Low Density Residential
Medium Density Residential
High Density Residential
Mixed Use
Neighbourhood Commercial
Elementary School
Secondary School
Potential Stormwater Management Facility
Open Space
Urban Natural Feature
Study Boundary
Proposed Arterial Road
Proposed Collector Roads
Proposed Transit Corridor
Potential Transit Station Park and Ride
Potential Paramedic Post
Village Green
Community Park
Neighbourhood Park
Community Core
HAZELDEAN ROAD
IBER ROAD
CASTLEFRANK ROAD
TERRY FOX DRIVE
MICHAEL COWPLAND DRIVE
COPE ROAD
ABBOTT STREET
SHEA ROAD
FERNBANK ROAD
District Park
Natural Environment Area

4. DESIGN BRIEF

Design Principles

1.0 DURABILITY

The intent of this design requirement is to minimize materials use and construction waste over a building's life resulting from premature failure of the building and its constituent components and assemblies. At the concept design stage, one of the project team's objectives is to reiterate the building's design service life of 50-99 years for educational buildings ("long life") taking into account future adaptations of the building. The design team, in cooperation with OCDSB, selected load-bearing tilt-up panels as appropriate primary structural element for the exterior and seismic walls, and post and beam steel structure in the corridors for greater flexibility for future renovations. Once the panels are selected multiple criteria are evaluated:

- rain penetration control
- resistance to condensation on interior surfaces
- thermal resistance and thermal bridging
- durability to physical damage
- control of air leakage
- compatibility between materials
- overall constructability

These criteria are evaluated to make sure that the design of panels and other components will perform adequately in the proposed building envelope system.

Proposed major building envelope components are:

Roof	Modified Bituminous membrane Roofing on Steel Deck and OWSJ (R40)
Exterior Walls	Concrete Tilt-up panels with embedded insulation and exterior finish (R20 | R37.5 when taking into account thermal mass of the tilt-up wall)
Openings	Aluminum Curtain Wall with Insulated Glazed Units (R2) and/or Solera Panels (R17)

2.0 SUSTAINABILTIY

In designing the New Schools we shall use SB-10 (OBC Supplementary Standard for Energy Conservation) as a low benchmark and where practical, improve upon it in every aspect of the building. We will use Energy Modeling to evaluate the existing and proposed design alternatives in order to create a simple but effective building envelope and achieve highest possible energy conservation (compared to SB-10 requirements). Emphasis will be placed building envelope, light harvesting strategies, lighting controls and high efficiency mechanical and electrical systems.

It is essential that funding allocated to schools is used effectively and appropriately by designing and installing long term sustainable energy systems. An additional benefit of this approach will be to make the schools more comfortable and improve the educational environment for students by making them fit for purpose. The entire school then becomes a learning tool for the students and raises the awareness about our environment and energy conservation.

3.0 21ST CENTURY LEARNING

There is a growing recognition that 21st century knowledge and skills not only build upon core content knowledge, but also include information and communication skills, thinking and problem-solving skills, interpersonal and self-directional skills. Students today, utilize 21st century tools, such as information and communication technologies. Schools today should be enabled to move away from teacher-directed instruction and create learning workplaces for a collaborative culture of students at work.

Matching Pedagogical Approach with Physical Environment: Pedagogical activities must be matched with appropriate physical environment and must encourage cross-collaboration

delivering • applying • creating • communicating • decision making

principle	pedagogical approach	pedagogical activity	implications for building design
The learning environment is supportive and productive	Learner centred pedagogies with multiple learning settingscollocated	**delivering applying creating communicating decision making**	Design reflects community diversity, respects and values different cultures Students have access to teachers
The learning environment promotes independence, interdependence and self motivation	Peer to peer learning, integrated problem- and resource- based		Breakout spaces are provided to allow individual student work . Furniture is suitable for cooperative learning
Students are challenged and supported to develop deep levels of thinking andapplication	Integrated, problem and resource based learning		Access to ICT, multi-media supports authentic learning
Students' needs, backgrounds, perspectives and interests are reflected in the learning program	Theory linked to practice, problems integrate both aspects, resources used continually and creatively, integrated curriculum delivery		Quiet spaces, multi-purpose rooms that enable students to work on different subjects over longer periods of time, encourage integrated curriculum. Teacher spaces that encourage cross-disciplinary teams of teachers working with groups of students
Assessment practices are an integral part of teaching and learning	Continuous assessment, utilizing a pedagogy of assessment		Spaces for student-teacher conferencing Intranet facilities enable ongoing monitoring of student progress by students and parents
Learning connects strongly with communities and practice beyond the classroom	Project and resource-based learning on practical problems		Buildings and facilities that bring the community into the school ICT facilities that support curriculum links to professional and community practice

School Topology: The starting point for this definition of general design patterns for educational facilities was a body of research, based on the analysis of international case studies. The research focused on school buildings that presented innovative factors in the field of spaces for learning and socializing. It led to the identification of four design types: the courtyard type, block type, cluster type and town-like type (**Figure 1**). It is important to note that the basic criteria for the elaboration of these types were morphology and internal layout. These latter aspects strongly influence the characteristics of some spatial patterns which are fundamental to the planning process of school buildings. They include, for instance, the hierarchy between the various spaces within the facility and the co-existence of classrooms (or their evolution) and the semi-private areas nearby. For these new schools we are proposing "Block Learning Street" type.

The block type is characterized by compact volumes and simple internal layouts , which contributes to cost efficiency. A second major feature of this type is a large (and unique) space for socializing leading directly to the main learning spaces (classrooms, studios, laboratories). The simplicity of the circulation scheme, an expanding internal street, is designed to facilitate the sense of orientation of people with multiple disabilities. This type, with its different configurations (the “learning street”), tends to optimize the circulation areas and provides for a flexible layout of didactical spaces. This also makes the "street" a vibrant place, especially when pupils move from one classroom / activity to another.

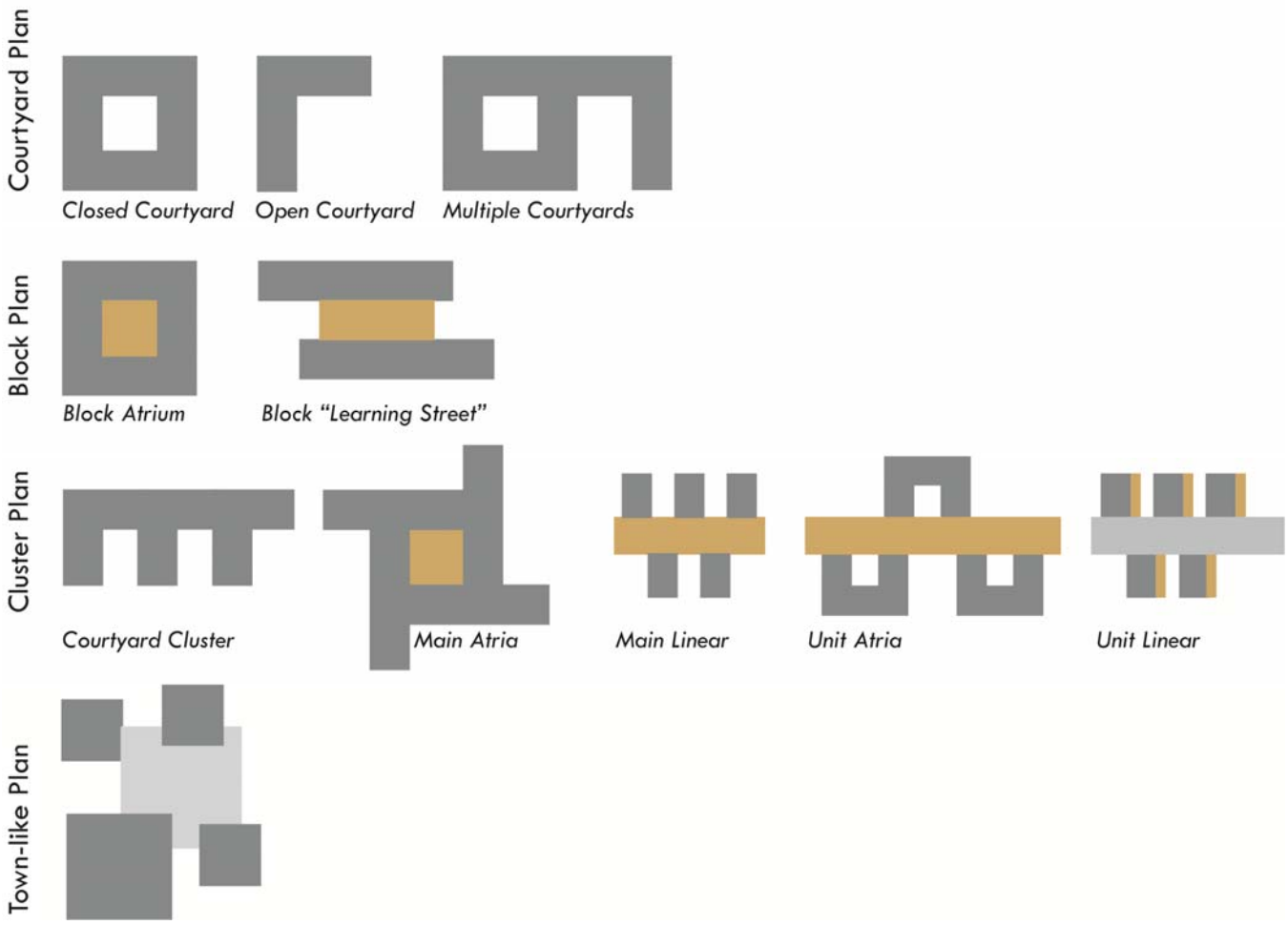


Figure 1

Programming and Layout: Although, the traditional linear model might not work for high schools, we still feel that the "modified linear model" is still appropriate learning environment for K-8 schools. The traditional layout of corridors with classrooms on either side (“cells and bells” model of the traditional school) is to be modified / supplemented with flexible spaces for individual and group learning activities and plenty of natural light. This translates into many diverse learning spaces: the student home base, the collaboration incubator, storage space, specialized and focused labs, project space and wet areas, outdoor learning space, display space, breakout space, the individual pod, group learning space, presentation space, teacher meeting space, etc. All these spaces should be centralized around central learning commons ("learning corridor", "great room", "plaza") that should be the heart of the school in this community centre like environment (**Figure 2**). In this space the students should might feel more like they are in an art gallery or a high-end book store than a typical classroom

building. This "flexible layout" should be very different from unstructured space of “open-concept” schools in the 1960s.

A variation to the traditional model will be a “school within a school” format which should divide students into learning communities (K, grades 1-5 and 6-8), each with separate entrances to the playground and all connected to the building’s central learning commons. This way the "student communities" can choose the level of integration with the rest of the school. Instead of one student hub, each community can have its own learning commons.

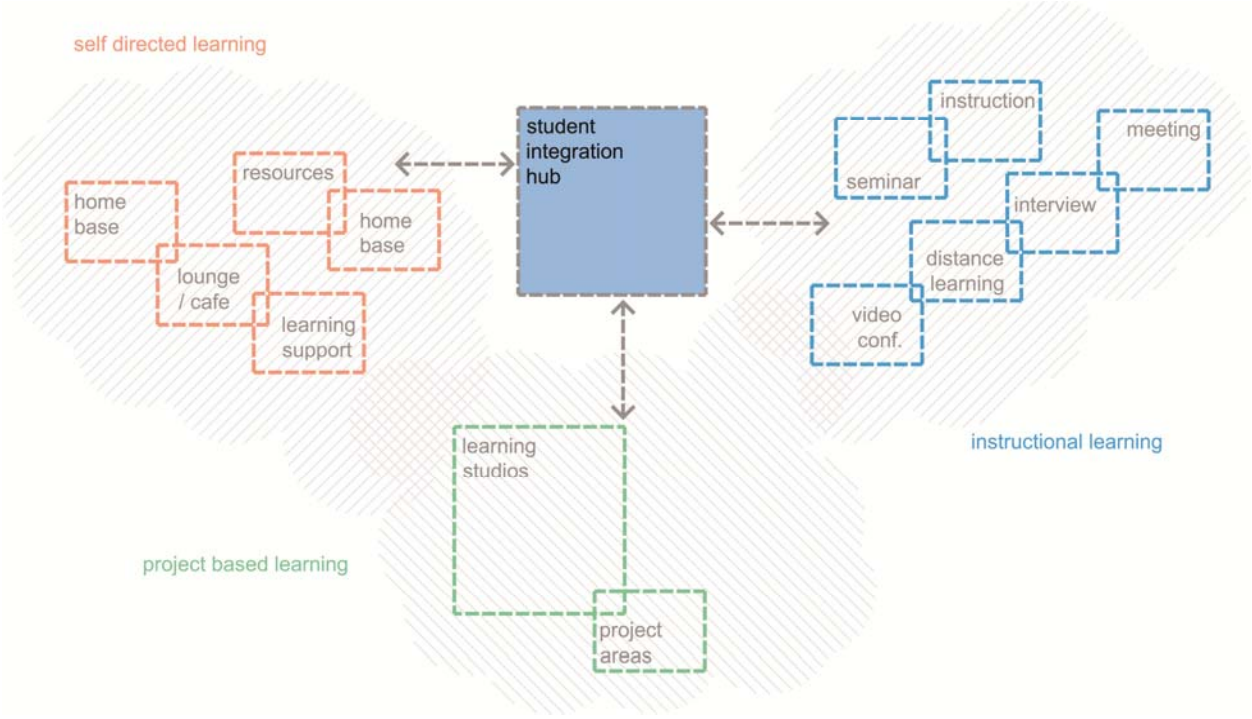


Figure 2

Site Orientation / Local Climate: Local climate has a great influence on how the outdoor learning is delivered. Taking into account harsh winters in Canada, the design must fulfill the need for outdoor learning spaces and maintain student comfort. There should always be a strong visual connection / immersion with the outdoors. This is why site selection (and future school orientation) is critical in the design process. A well designed site can greatly enhance curriculum delivery and quality of learning.

Interactive Communication Technologies: Students utilize new technology tools as investigators and producers of knowledge. The best 21st century schools provide every student with a computer, which increasingly means a laptop or tablet in a wireless environment. Computers, tablets, cameras, and interactive whiteboards all come to life as student tools in a 21st century classroom. Newer Web 2.0 tools, including blogs, wikis, and social networking sites, add greatly to the student toolset for individual and collaborative work.

4.0 ONTARIO ECOSCHOOLS

The Design of the new elementary schools will focus on support in areas of Energy Conservation, Waste Minimization, School Ground Greening, Environmental Stewardship and incorporation of these elements in the curriculum.

"Energy Monitoring Station" will be installed in the main lounge area enabling students to actively explore energy use and energy conservation within the school.

Recycling Bins will be placed in the school where they are highly visible and accessible to all students and staff. This will enable students to monitor recycling practices within the school and participate in school-wide waste audits and prevent garbage/recycling contamination.

As part of the design process, our team will design and set aside areas on the property for student/community greening projects (see section on outdoor learning spaces).

5.0 COMMUNITY USE

New schools will be required to further develop and enhance their role within the community. As well as providing increased access for the community for sports and other educational facilities and resources. The school administration will need to consider a range of other services and activities to improve the learning and well being of the pupils, their families and for the wider community.

The accommodation needs of each school to facilitate community provision will vary. However, consideration should be given to location and access for efficient management and maintaining site security e.g. zoning of heating and zoned access and control of facilities.

As part of this project we will make appropriate provisions to support community use of Gym, Kitchen, Library (including spaces for community meetings), and outdoor learning spaces (as outlined in 4.0 Ontario EcoSchools).

6.0 ACCESSIBILITY FOR ONTARIANS WITH DISABILITIES ACT (AODA)

Historically, educational buildings within the OCDSB have undergone alterations to comply with the AODA on a need by need basis for those students with a disability transferring between schools. It is the firm belief of the Board and our company that all new schools must be 100% AODA compliant creating equal opportunities for students, staff and the community.

The new model elementary school will have a hydraulic elevator, unit washroom on each floor, barrier free stalls in each washroom, barrier free washrooms for staff and all areas in the school shall be barrier free accessible.

Outdoor paths, play areas and play structures shall comply to AODA Standards for Accessibility of Public Spaces.

7.0 SECURITY AND SUPERVISION

Schools should have appropriate signage, security warnings, trespass warnings and direction to main entrance. Parking control signage is required as part of a controlled entrance to the school and separate vehicle and pedestrian entrances to enjoy segregated safe access for pupils and community users.

Attention shall be paid to designing out poor visibility and blind spots around schools which make safeguarding children more difficult.

The design must support all applicable policies and procedures of OCDSB pertaining to safety and well being of students (lock down procedures, access to school premises, safe arrival, safe schools, emergency school evacuation, etc.)

The School Building

1.0 PROGRAME

Each New Elementary School shall be designed to accommodate 674 students with gross floor area of 65,820 sq.ft. The school will consist of:

8	Full Day Kindergarten Classrooms
21	Regular Classrooms
1	Special Education Classroom
1	Art Room
1	Music Room
1	Science Classroom (including greenhouse)
1	Tech Classroom
1	LST Room
1	LRT Room
1	Double Gym (with full stage)
1	Library
1	Administration and Staff lounge

The design will also incorporate all auxiliary spaces like prep rooms, book rooms, resource rooms, storage areas, washrooms, utility spaces, etc (see attached floor plan, **Figure 3**).

2.0 CLASSROOM LEARNING SPACES

As the fundamental aim of education is to produce learners who are increasingly responsible for their own learning and able to make full use of new technologies we refer in this document to learning spaces as opposed to teaching areas.

In order to deliver the changing curriculums successfully, the spaces for learning will in future need to facilitate/accommodate (**Figures 4, 5, and 6**):

- Flexible learning in small and large group spaces for independent and collaborative learning
- Sufficient storage for teacher resources and student work
- Integrated IT and Communication systems and full wireless access in the classroom.
- The organization of a wide range of resources that can be accessed independently by children

- Classrooms must have access to a secure outdoor space that encompasses a mixture of soft and hard play areas, shade and shelter, access to water and provision for gardening
- Classroom/learning spaces should have two sinks, at an appropriate height for the age range of the students

Learning resource areas are generally spaces used for informal learning and shared by the whole school. These spaces can also be used for special group learning or as break-out group spaces that are project specific.

3.0 LEARNING COMMONS, LIBRARY, HALLS, LOUNGES AND STUDIOS

These learning areas will support project and problem solving learning. The design will encourage different types of group or individual learning and promote social interaction among students and staff, and learning outside the traditional classroom.

New Schools will have the double Gym on site to provide for whole school assemblies, physical education, dance, drama, music, school performances and community gatherings. In addition to that, a full stage (connected to Music / Multi-purpose Room) will provide variety of functions (apart from music program)), like informal lectures, community/ school gatherings around kitchen, extended lounge, etc (**Figure 7**).



Kindergarten Students will reside on the ground floor and will have access to breakout areas in the corridor, as well as Library and extended Library Lounge adjacent to Library. These rooms will be interconnected and equipped with removable partitions, so that Kindergarten Classrooms can be expanded into larger learning areas with variety of possible furniture layouts to suit the particular learning style (**Figure 8**).

Grades 1-6 and 7-8 will reside on the second floor. Each age group will have access to their own learning lounge (**Figures 9, and 10**) and will share the main "learning commons" in the centre of the school (**Figure 11**). lounges and learning commons will be used for independent learning, breakout sessions,

5.0 BUILDING AS A TEACHING TOOL

School walls commonly serve as a silent backdrop for posters and other educational displays. In the new school design we want to incorporate all architectural elements and building systems as teaching props for the students. Mechanical & Electrical Rooms, Data Rooms, Recycling, and other utility rooms will be showcased with glass partitions ("viewing ports"). The students will be able to see inside those rooms and have engaging discussions about real life connectivity and sustainability. These systems, if strategically exposed around the school and installed with hands-on learning tools such as meters and gauges for observation and investigation, can provide valuable lessons on how they work, how buildings come together, or how physics, chemistry and environmental science can be linked. In combination with "Energy Monitoring Station", located in the main

lounge, the students will be able to quantify what they see in the utility rooms with hard data shown on the monitoring station.

Tilt-up panels are another teaching tool that shows the manufacturing process in all its rough form. Students can see "shadows" of formwork and rebar pads which will help them understand the manufacturing process.

Select walls and ceilings will be left exposed (with a plexiglass panel instead of gypsum board in walls) so that construction methods can be explained to students.

The school building also offers a prime opportunity to teach about sustainability, how buildings effect the environment, what they consume, pollution they produce in terms of waste and noise, and the overall impact of pollutants on climatic change, wildlife and vegetation.

6.0 SPECIALTY SPACES, RESOURCE AND PREP AREAS

Learning resource areas are generally spaces used for informal learning and shared by the whole school. These rooms will also be used as teacher prep rooms and small group break-out rooms or studios. Resource rooms will be located adjacent to lounges and learning commons so that they can be used as extensions of class activities or independent learning in smaller groups. Transparent walls will keep visual interaction between break-off groups and the learning commons (for privacy, curtains will be provided).

7.0 STAFF AND ADMINISTRATION

The Staff and Administration area is located at the front entrance with the visual and physical connection to the main lobby. This area acts as a "gateway" for students, community and visitors. Apart from space for admin staff, this cluster will accommodate offices of Principal and Vice-Principal as well as Health Room (with integrated washroom) and Copy/Supply Room.

The staff room will provide for suitably sized social and dining area for staff, as well as work areas with wired computers stations (wireless will also be provided). Staff room will be equipped with a microwave, stove, fridge, and dishwasher. Staff mail slots will also be located in this room.

8.0 WASHROOMS

All washrooms in the school shall be barrier-free accessible. Separate washrooms shall be provided for students and staff/visitors. In addition to these washrooms, one "Unit Washroom" per floor will be provided to accommodate students with disabilities who need assistance.

9.0 KITCHEN

Not all schools prepare hot food, though all schools require a kitchen area. The kitchen area must include facilities for cold storage, preparing food and drink and washing up. The kitchen will mostly be used for re-heating of prepared food, the milk program and distribution of catered food during school or community events.

The kitchen will serve school and community needs and will be located near the new Gym and in proximity to outdoor area with good access to play yard for events that would take place outside the school building (community events, outdoor classes, etc).

10.0 CIRCULATION

Circulation areas include corridors, stairs, and reception areas, though may also be within the teaching space where the school includes learning commons and lounges as part of the corridor system.

Due to the practicality of increasing corridor widths in schools of particular designs it would be cost prohibitive to increase widths beyond circulation requirements. Instead widening in corridor width are provided at lounges and learning commons.

Outdoor Spaces

1.0 SITE SECURITY AND VEHICULAR SAFETY

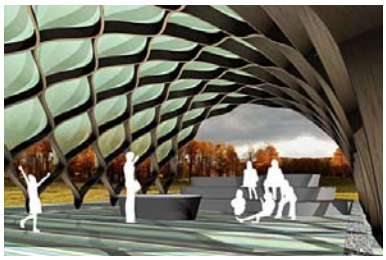
All schools will be fully secure to ensure safety to pupils and staff from external influences. This will be achieved with 1.8m chain link fence at the perimeter of the property. Entry points will be provided from parking and drop-off areas as well as community paths leading to the school. All entry points will have lockable gates with separate vehicle and pedestrian entrances.

School Bus, parking and student drop-off will be physically (and visually; landscaped) separated. "Kiss-and-Ride" approach will be implemented for students being dropped off. Drop off area will be designated within the parking lot (with direct pedestrian access to the play yard) or if allowed by City of Ottawa a lay-by at the street curb.

2.0 OUTDOOR LEARNING SPACES

There is a wealth of evidence of the wide and varied benefits arising from outdoor learning and play and a range of organizations and policy documents that promote young children's engagement, enjoyment and learning outdoors. Learning is more than merely the acquisition of certain knowledge and information; and that learning outside the classroom is one vehicle to support the development of young people in both formal and informal ways in school grounds, the local environment, local community spaces, and so forth.





As part of the design process, our team will design and set aside areas on the property for student/community greening projects. This will enable students and community to collaborate on planning, design, fundraising, implementation and maintenance of these projects. Areas of interest would be outdoor classrooms, community "sharing gardens", outdoor lounge areas, nature study areas, etc. These initiatives will help engage the community and help students learn about environment, biodiversity, native plant species, plant growth, and sustainability as part of their curriculum. During winter period, students can start growing plants in the greenhouse. In the spring student, teachers, and community can transfer those plants to the outdoor “sharing garden” and outdoor class.

In order to support the community garden a "Rain Water Harvesting" should be considered in close proximity to the garden and outdoor classroom.

3.0 PLAY AREAS

The Accessibility for Ontarians with Disabilities Act (AODA), 2005 requires the province to be accessible by 2025 through the development of five mandatory accessibility standards. One of the five standards to be developed, the Accessible Built Environment Standard, is expected to provide direction on new construction and extensive renovations.

There have been significant changes in provincially-mandated standards for play structures in recent years, with much more rigorous requirements from both the Canadian Standards Association (CSA) and the Accessibility for Ontarians with Disabilities Act (AODA) integrated standard of Design of Public Spaces.

When designing new elementary schools, it is OCDSB's practice to include one play structure for the kindergarten play area. Provision will be made on our site plans for a second primary play structure, but the structure itself is not part of the capital project. School councils will have to raise funds to add play structure to the play area.

5. PUBLIC CONSULTATION STRATEGY

1.0 Introduction

This Public Consultation Strategy Report is prepared in support of the Site Plan Control Application to the City of Ottawa by Ottawa Carleton District School Board. The purpose of this reportis to outline an engagement strategy that facilitates communication betweenthe applicant, interested stakeholders, and thesurrounding community. Currently, the site part of a large residential development and the school site has been set aside for OCDSB by Mattamy Homes. The proposed building is a two-storey K-6 elementary school.

2.0 Scope of Consultation

The scope of consultation is defined by two populations:

1. those who immediately surround the proposed development,and
2. those families whose students will be attending the future Fernbank Public School

These are the groups who will likely takea significant interest in the engagement process.

3.0 Purpose of Consultation

- Share information and seek inputrelated to the proposal withthe public and any interestedstakeholders
- Consult with interested personsand groups, using various methodsof engagement
- Determine overarching themes andkey points about the proposal fromvarious consultations
- Understand how feedback canbe addressed/incorporated intofuture iterations of plans andreports
- Communicate with the public ina transparent and open mannerabout the proposal as well as theengagement process

4.0 Pre-Application Consultation

Pre-Application Consultation with City of Ottawa staff was held on August 14, 2019. Our team has presented the preliminary site plan and implemented the feedback received from City staff. Our team is continuing the dialogue with the staff as we are preparing necessary reports and studies.

5.0 Engagement Methods

While our early discussions with various stakeholders will seek input on how each group wishes to engage, we have prepared our thinking on what could work, as identified with the following engagement methods. The applicant proposes to put this outline forward to the various stakeholders for their input; and is prepared to adjust the engagement plan in response to their feedback.

Meeting with Councilor: OCDSB and our team will engage with Councilor Glen Gower (Ward 6, Stittsville) to discuss the details of this proposal. We will process initial feedback and provide the Councilor with the updates.

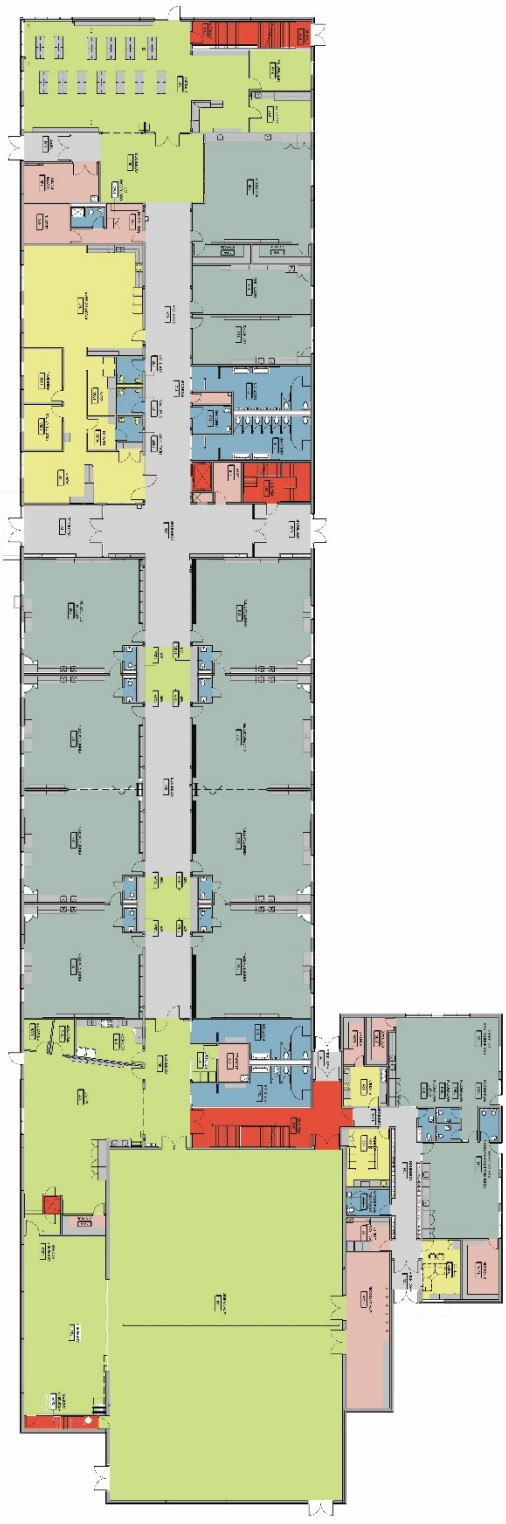
OCDSB Project Web Page: A webpage for the project will serve as a central information hub for the project. The purpose of the webpage will be to inform residents, stakeholders, and interested members of the public, and will provide the opportunity to: Learn more about the project, Review plans and reports, Learn about the status of the project, Be notified about any upcoming meetings, Provide comments and ask questions. The intention is to launch the webpage after the formal submission of the application to the City of Ottawa.

Open House: OCDSB and our team will organize an open house to present the project to the community. The purpose of the open house is to provide an opportunity for the community to learn and ask questions about the proposed development. It will give the opportunity for all of the project team to engage with attendees to gauge interest and understand the concerns of the community. This engagement method will rely heavily on visual tools to show the community what the proposed development could look like and what it would feature.

Documentation and Collection of Feedback: As the main purpose of this engagement method is to inform the community about the happenings of the project, the consulting team and applicant, plan to be engaged with attendees for the majority of the event. After the completion of the open house, all members of the team who participated will have a debrief where comments and questions brought forward by the attendees can be shared. Feedback will then be combined into a report to summarize the event. Feedback could be integrated into the website, update notice, and any future engagement happenings. It will also be used to inform any re-submissions of project applications.

APPENDIX

Floor Plans



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