

Application
to the
James D. MacConnell Award

Project Dossier
for

Riverside Public School,
Elmira Children's Centre and
Elmira Family Centre

Association for Learning Environments



Riverside Public School, Elmira Children's Centre, and Elmira Family Centre



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Tab 1

1.0 - Executive Summary

Riverside Public School and the Elmira Children's Centre – New Joint Facility Elmira, Ontario

1.0 - Executive Summary:

The Waterloo Region District School Board in partnership with the Region of Waterloo awarded **Kingsland +** the opportunity to provide complete architectural services for the design of a new replacement school and child care center in the growing community of Elmira, in the Township of Woolwich, Ontario.

The 6.8 acre site allowed for a linear 2-storey structure to be oriented along the south street face capitalizing on natural daylighting as an integral part of the design concept. A grand 2-storey atrium space with main entrances at the front and the back of the building acts as the link between the school to the east and the child care center to the west.

A school building with a thematic vision that

Responds To The Site And The Soul Of The Community

The overall design was inspired by two distinct community associations and the following themes were adopted.

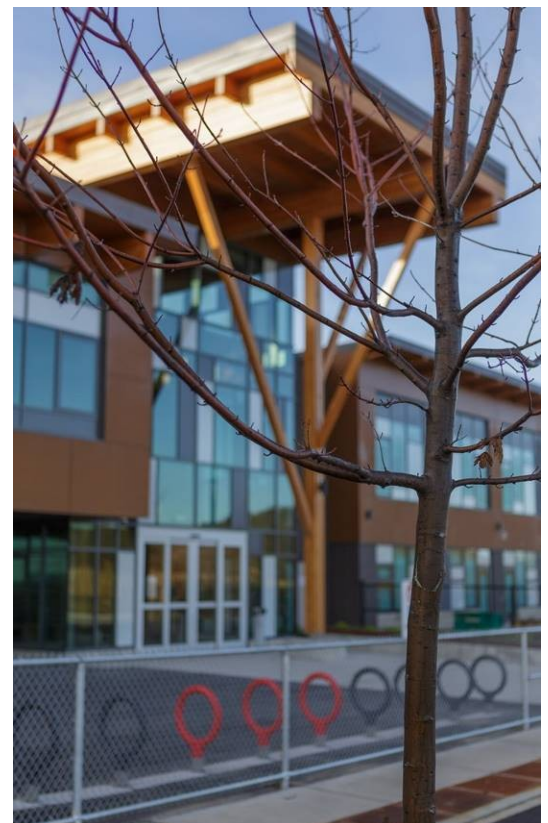
In the 1850s, German settlers moved into the community. Like most of the township, the primary settlers in the Elmira area were Mennonites, who still form a significant proportion of the population today. The town still retains much of its traditional Pennsylvania Dutch character. Many Old Order Mennonites can still be seen on the local roads using their traditional horse and buggy transportation. These early farmers and other industrialists developed this community with a unique Mennonite and English heritage, much of which is still evident. This historical information presents itself as a serious candidate for a theme centred around the agricultural, and industrial nature, of this early settlement.

The larger pieces of architecture of the day, such as the barns, implement sheds and drive sheds, mills, and other large building structures, can probably influenced the design of Riverside in terms of the structure, building materials and spatial qualities. Images of a rustic modern design using heavy timber roof and decking members and limestone and granite walls came to mind.

The other theme that married quite well with the first was the quintessential 'maple tree' of the Elmira region. Every year in early spring tens of thousands of people pour into Elmira to celebrate 'The World's Largest One Day Maple Syrup Festival'. That recognition was given by the Guinness Book of Records. The event is operated by 2,000 volunteers and not only helps to promote local maple syrup producers, it raises funds for local charities. You can learn about the tradition of making maple syrup and enjoy a host of other activities: sugar bush tours, a quilt and craft show, a toy show and sale, children's theatre, wagon rides, an antique sale, a pancake flipping relay race, and a dog show. It is usually held close to the Saturday in April. We couldn't pass up this opportunity as a theme.



We saw this as a huge opportunity to promote one of the things the town is best known for, Maple Syrup. You can't build the design of a school around maple syrup, but you can build a design around our ubiquitous sugar maple tree, the icon and emblem of our country. We



proposed to plant, via tree spade, the largest sugar maple we could get installed in a strategic location on the south facing side of the property and design the school around the tree. Unfortunately, the shape of the site dictated otherwise, but sugar maples were planted to reinforce the theme, particularly as a centred feature of the circular outdoor classroom. This theme allowed for a variety of features built within the design of the school and its curriculum. Structural elements, finishes and materials evoked and reinforced this central theme. Three full size maple trees strategically planted along the street side of the site helped to gel the final design upon completion.



Tab 2

2.0 - Scope of Work and Budget

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The program of work for the new school included 16 Classrooms, 6 Kindergartens, 1 Special Education, 2 Large Resource Rooms, 4 Small Resource Rooms, a Library, a double Gymnasium, 2 General Purpose Rooms, 1 Outdoor Classroom, and all the ancillary spaces as required including an elevator.

The program for the Elmira Children's Centre required 1 Infant Classroom including a sleep room, 3 Toddler Classrooms, 2 Preschool Classrooms, 3 Observation Rooms, washrooms and storage rooms adjacent to the classrooms, a full commercial kitchen, laundry room, Reception and Offices.

The program for the Elmira Family Centre required a suite of rooms for the OEYC (Ontario Early Years Centre), 1 Large Meeting Room, 1 Multi-Purpose Room, 1 Nursery School Room and all the ancillary spaces as required including an elevator.



Enrolment	673 JK – Grade 6
Enrolment	65 Full Time + Program Room and Office Occupants
Area – School:	5,555 m ² (59,793.5 sq.ft.)
Area – Children's Centre:	1,918 m ² (20,645.2 sq.ft.)
Final Cost @ substantial:	\$13,998,393.00
Tendered Cost:	\$13,643,000.00
Project Budget:	\$14,200,000.00

Construction of the facility started in September (2014) and we received substantial Performance in August 2016.

Tab 3

3.0 - School and Community Engagement

3.0 - School and Community Engagement:

Description of the Community:

Riverside is located in a completely new residential subdivision of Elmira. Prior to the design process, the streets were constructed but nothing else, just open land roughly graded by the developer. By the time the school was complete, houses had been built on the adjacent streets.

Context Sensitive Design Solutions:

In regards to context, we have taken a broader approach to context and have related our massing, materials and finishes to something more in keeping with the larger buildings in southern Ontario's past, (18 – 1900's). Timber, sawn wood, brick and stone were and still are the relevant materials of the mills, barns and implement sheds of small town and rural Ontario. Here are some examples of historical precedent still standing and in many cases, still functioning as intended or repurposed.



Quance Mill - Built in Delhi in 1913, it operated as a gristmill until 1970



Erb's Grist Mill, 1816



Hammond Sawmill

Architectural features to complement the community and establish neighbourhood identity and pride:

The massing of this school relates to levels typical of civic buildings, the schools, libraries and community centres, of our towns and villages. We have not taken the approach that civic buildings of this magnitude should be scaled or broken down into segments so as to blend in with the rows of detached homes in the community as some Planners request. We believe elementary schools to young children are points of destination and major landmarks in their understanding of how their community is organized. These buildings need to stand proud and speak of their civic duty. Set back slightly off the

street allows this civic function to be better seen from the street and sidewalks and provide the forecourt so often missing.

Stakeholders:

The affected stakeholders of the Riverside project were the staff and students of the school, the Waterloo Region District School Board and it's Trustees, the surrounding community residents and interest groups, and the Town of Elmira.

Challenges:

The size and configuration of the site created many challenges for how to locate the footprint of an 80,500 sq. ft. elementary school and Child Care facility, its required separated child care and Kindergarten playgrounds, playgrounds for the older age children, playing field, required parking areas, kitchen delivery access, Child Care drop-off, Kiss and Ride drop-off and school bus loops. The first obstacle was to understand the restrictions of the 'L' shaped lot. An elongated plan was developed for this site shape, where the street front of the site is longer than the site width, where vehicular access would want to be located, providing maximum allowable playground space to the rear of the building and parking to the front and rear of the site. The set-back requirements of the traffic circle contributed to the congestion at that end of the site.

This realization prompted the staff parking for the school and child care, the Kiss and Ride drop-off for the school and garbage removal access to be located at the west side of the lot. The restricted area for parking, due to the site constraints mentioned above, resulted in the school bus loop being located across the front of the school pushing the building back slightly. This addresses our design philosophy that school buildings should be set back slightly from the street in order to create a strong presence within the community. From a child safety point of view, many School Board philosophies stress the consideration for not mixing the parking of cars and Kiss and Ride drop-off areas with school bus drop-off and this configuration has been fundamentally accepted by many school boards and municipalities. A requirement for Child Care drop-off and visitor parking for the Child Care did require that this be located at the front of the school close to the facility so an independent access point was included. The Child Care also required deliveries to the commercial kitchen and needed to have access from the rear.



Another challenge was that the Municipality owned the site north of the school site and in cooperation with the School Board agreed that neither site was large enough for a full-size soccer pitch so jointly agreed to having the pitch straddle the two sites. Access and parking then had to be taken into account so that both owners could take advantage of the shared community park and school playground. The municipal park and associated parking and access point at the far north end would not take place until later on. It should be noted here that further to the community involvement, an outdoor storage room was added to the programme for the school to house a water connection point and hose storage for an outdoor ice rink in winter. Ultimately, the school parking had to be pushed to the west side and rear of the site as much as the site would allow, given the property available for development.



North Entrance



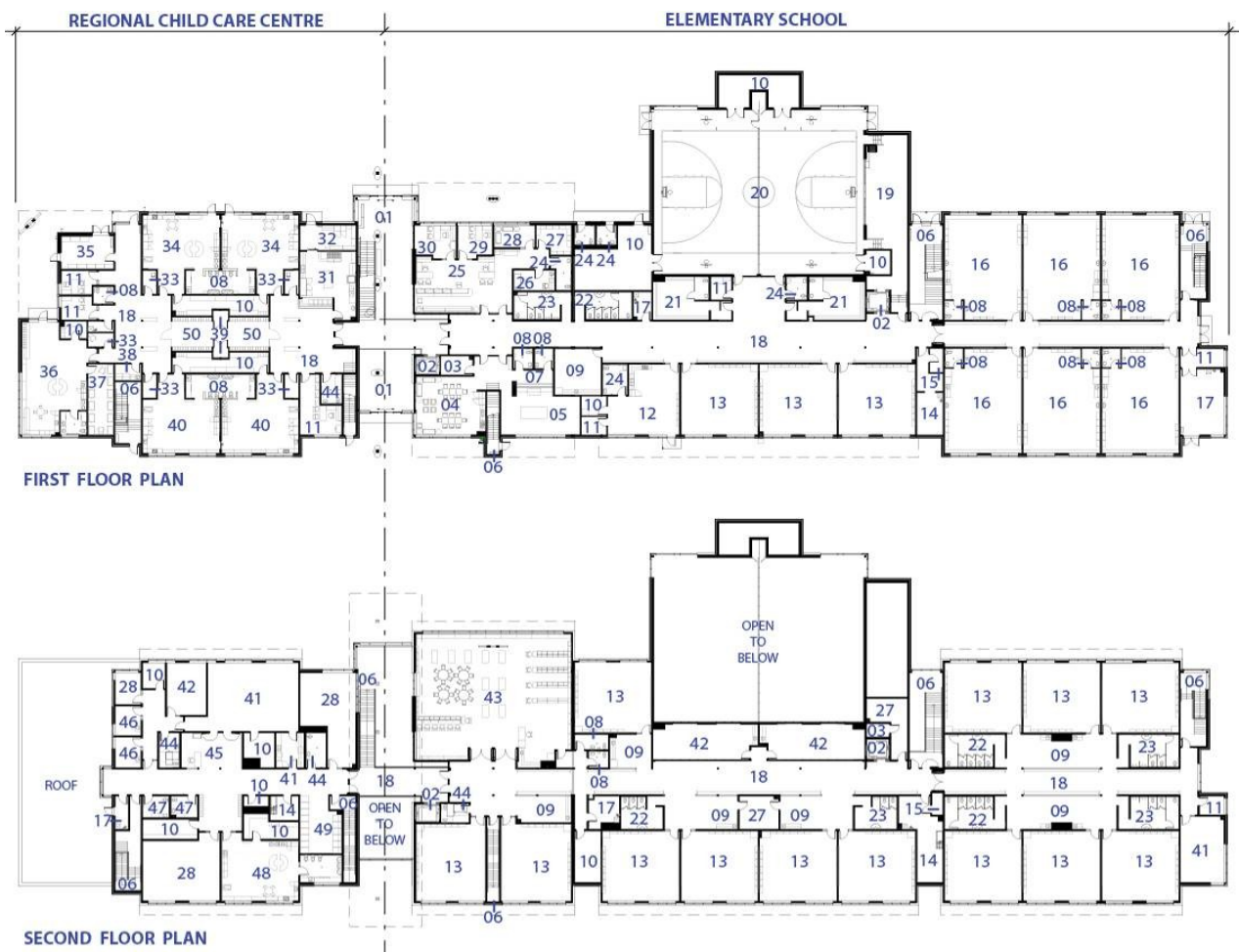
South Street Facing Entrance

Description of Assets:

The 6.8 acre site allowed for a linear 2-storey structure to be oriented along the south street face capitalizing on natural daylighting as an integral part of the design concept. A grand 2-storey atrium space with main entrances at the front and the back of the building acts as the link between the school to the east and the child care centre to the west. One of two elevators was located off this atrium.

The school consists of 16 Classrooms, 6 Kindergartens, 1 Special Ed. Classroom, a large Library with Computer Labs, a double gymnasium complete with full size Stage and direct access to the playground and fields, a Music Classroom, a Science and Technology Classroom, several large and small Seminar Rooms and 'Pods', an irrigated Sports Field, Creative Play area and an Outdoor Classroom.

Within the Child Care Centre, infants, toddlers, preschoolers and nursery school children each have designated classrooms and will have food services provided in-house by a professional chef cooking in a commercial kitchen designed within the centre. The centre was designed as a Child Care Hub that not only included the Child Care facility but also included meeting rooms, general purpose rooms and offices on the second floor for medical practitioners to meet with parents and children regarding health and wellness. The children play safely in outdoor play yards designed specifically for them using natural elements and materials to engage discovery and exploration away from the school play areas.



LEGEND

- | | | | | |
|-------------------|-------------------|-----------------------|------------------------|---------------------------|
| 01 - ENTRANCE | 11 - OFFICE | 21 - CHANGE ROOM | 31 - KITCHEN | 41 - GENERAL PURPOSE ROOM |
| 02 - ELEVATOR | 12 - SPECIAL ED. | 22 - GIRLS' WASHROOM | 32 - PANTRY | 42 - LARGE RESOURCE ROOM |
| 03 - MACHINE ROOM | 13 - CLASSROOM | 23 - BOYS' WASHROOM | 33 - OBS (OBSERVATION) | 43 - LIBRARY |
| 04 - STAFF ROOM | 14 - MECH./ELECT. | 24 - B.F. WASHROOM | 34 - TODDLER | 44 - UNIVERSAL WASHROOM |
| 05 - WORK ROOM | 15 - COMM. ROOM | 25 - GENERAL OFFICE | 35 - OUTDOOR STORAGE | 45 - LOBBY |
| 06 - STAIR | 16 - KINDERGARTEN | 26 - HEALTH ROOM | 36 - INFANT | 46 - CONSULT ROOM |
| 07 - COATS | 17 - CUSTODIAN | 27 - ACADEMIC STORAGE | 37 - SLEEP ROOM | 47 - FAMILY WASHROOM |
| 08 - WASHROOM | 18 - CORRIDOR | 28 - MEETING ROOM | 38 - LAUNDRY | 48 - NURSERY SCHOOL |
| 09 - POD | 19 - STAGE | 29 - V.P. OFFICE | 39 - DRYING | 49 - STROLLER STORAGE |
| 10 - STORAGE | 20 - GYM | 30 - PRINCIPAL | 40 - PRESCHOOL | 50 - CUBBIES |

The east / west linear design of the school, prompted by the site configuration, located the main entrance as an atrium running north/south with entrances at either end. One to satisfy the main entrance off the street as visitor and Child Care drop-off and one to act as a main entrance for staff and student drop-off.



North-South Cross Section of Entrance Atrium

Description of Assets: Materials and Finishes

In regards to materials and finishes, the cladding of the school will be primarily brick and block masonry, composite panel and aluminum windows with some curtainwall at the main entrance atrium lobby.

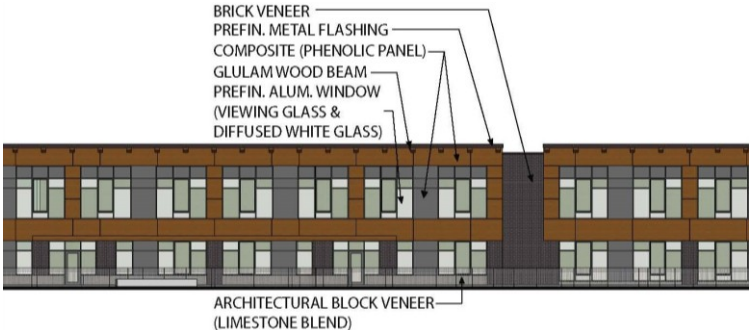
The block masonry is an architectural block product with a varying range of colour that resembles limestone. It is reserved for the base of the building to simulate a raised limestone foundation indicative of the area.

The heavy timbers including glulam provide a structural alternative to steel and concrete and is more reminiscent of early large building construction. The beauty, colour and natural essence of the wood warms up the building as a whole both inside and out.

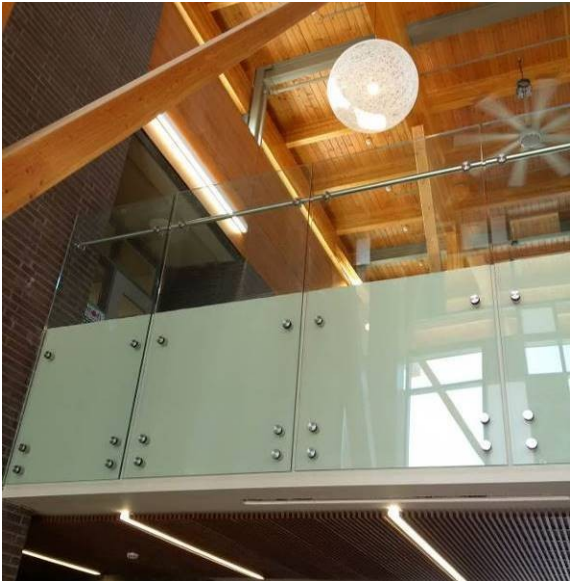
The charcoal brown brick provides a striking contrast that brings the wood even more alive. The brick is more dominant around the sides and rear of the building where the building plays a more interactive role with the children playing and provides durability.

The composite panels in a wood grain finish are a more resilient and cost effective solution to using a real wood cladding that was so prominent in the buildings of the past. Refer to examples above under the heading 'Context ...'. These panels add to the warmth and charm of the building and reinforce the real wood beams and columns around the roof line and main entrance lobby. The same panels were used in the corridors wherever coat hooks and hat shelves were required.

Regarding the glazing, we used an aluminum frame charcoal in colour with random viewing glass and white translucent insulated glass for diffused light inside. Periodically, to break up the amount of composite wood panels and glass, we have interjected a charcoal grey composite panel to mimic the charcoal brown brick. Without losing its civic nature, the façade is broken by these changing elements into more residential sized segments across the south, street facing, side.



The materials and finishes used throughout, as suggested in the theme selected, act as features within the school. Glulam wood 'trees' and roof beams, wood grained phenolic panels, wood ceiling slats and heavy timber roof deck, charcoal coloured brick masonry and metal elements bring an earthy quality we wanted to reinforce the theme. The large format floor tile was chosen for it's stone-like appearance.



How the Environment Supports a Variety of Learning and Teaching Styles Through Adaptability and Flexibility:

As a means to providing an environment that supports a variety of learning and teaching styles, additional teaching spaces of differing sizes, outside the classroom proper, are spread along the corridor. These open pods and small and large resource rooms help to break up the long corridor and tend to be located so that a number of classrooms can share these optional teaching spaces. The community is also welcome to make use of the large and small meeting rooms. Further, the ceiling heights and physical treatments locates and identifies the special nature of these spaces.

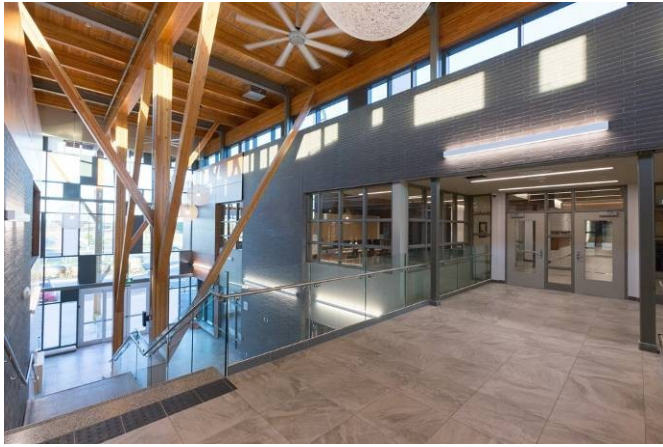
We have a design philosophy regarding the association of one space to another. It begins with how urban spaces were treated historically and gets carried through a project from exterior to interior. For instance, we see foyers, lobbies and atria as courtyards or squares. We see corridors as streets and classrooms as houses or urban buildings lining those streets, depending on the scale. The more prominent the room the more likely you will find it accessed off a foyer, lobby or atria.



For example, in the Riverside Public School and Elmira Children's Centre project, we played with the notion of streets and squares whenever something important happened, such as where two buildings or two functions meet as with the atrium that connects the school with the child care centre or where the corridors meet the library, classroom pods, resource rooms or gymnasium / auditorium.

For instance, the double gymnasium, which can function as an auditorium with a stage, has a reasonably sized lobby or forecourt allowing occupants to spill out of the auditorium during, before and after a school or community function. That 'crush' space also enables the teacher to have the children assemble prior to entering the gym and for performers to queue before their turn on stage.

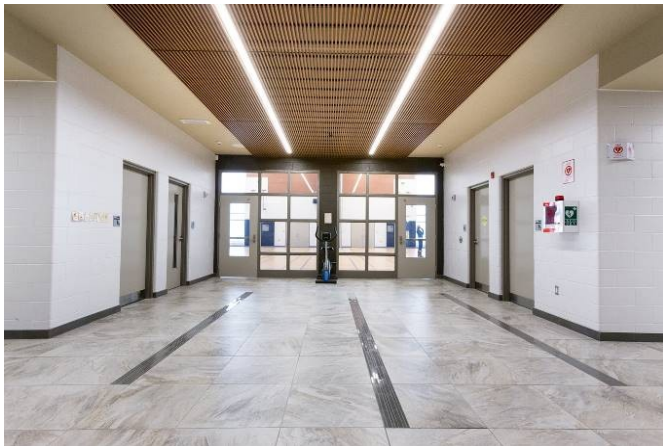
One of the benefits of the elongated plan is greater control over supervision. One can stand along any point, or at either end, and survey the corridor easily from one end to the other.



Atrium Bridge



Administration



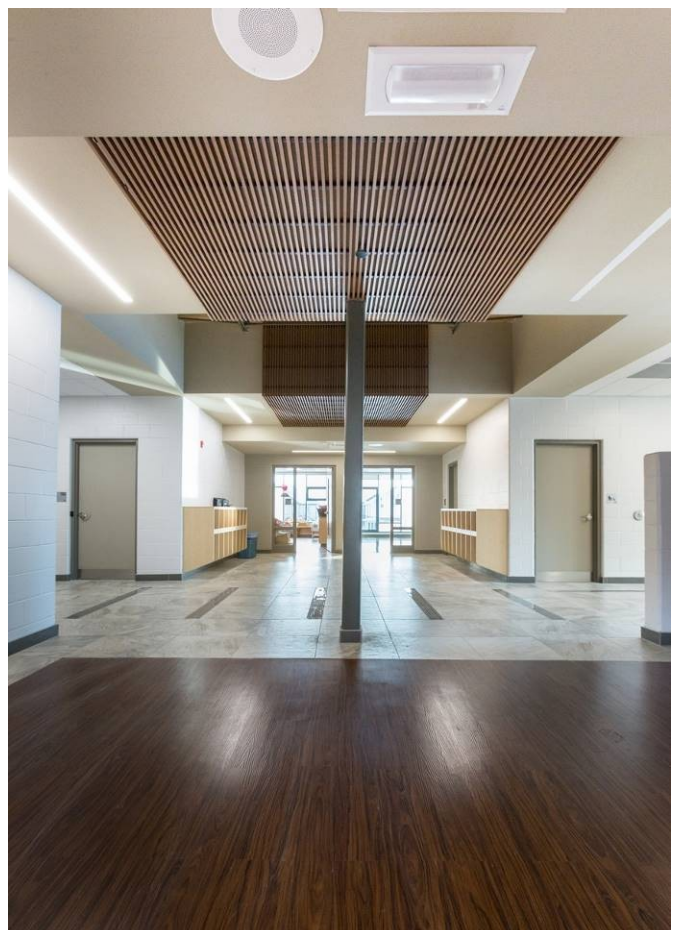
Gymnasium / Auditorium



Library



Gymnasium / Auditorium



Family Centre



Child Care

Tab 4

4.0 - Educational Environment

4.0 - Educational Environment:

Educational Vision and Goals:

The population had outgrown the existing Riverside Elementary School and the school was nearing the end of its lifespan. The decision was made to design and build a new school. Further to that the existing Child Care operated by the Region of Waterloo, had also outgrown their aging facility. This led to the joint venture between the Region and the School Board whereby the opportunities for the sharing of facilities under one roof was feasible and economically viable.

How the Environment Supports the Curriculum:

Initially when presented with the required programme for each facility, the question quickly raised was how to keep the two facilities independent yet connected. Typically, both the school and the child care centre would have their own centrally located main entrance. Our intervention created the atrium with



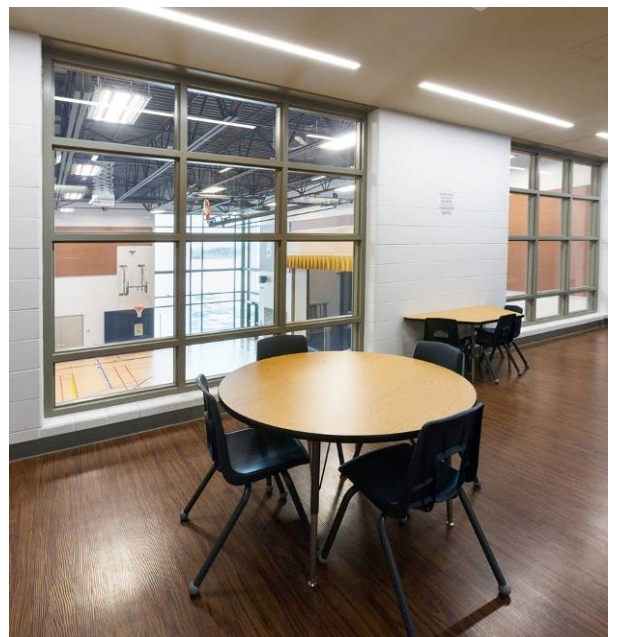
it's front and rear entrance, at north and south ends, and within, the entrances to the school and child care were located off the east/west spine. All the requirements of each facility were met, in particular, security. Each were able to open and lock up at times and methods independent of the other. The distinction between one and the other from a visitor and end-user point of view was also clear and distinct. A feature stair within the atrium provided access to the second-floor functions and, an additional elevator helped to provide the required accessibility between floors.



After determining that the entrance to the school was required at one end rather than the centre, the other three major functions within the school began to fall into place. The school administration offices and staff room were required at the school's entrance off the atrium to allow for supervision of the atrium entrances. Likewise, with the Child Care office. The library was positioned above the administration which, now on the second floor, allowed it to have a higher ceiling with windows facing north but also facing west into the atrium. This location made community use more accessible.



The Double Gymnasium / Auditorium played a more central role in part due to it's prominence in the school curriculum but also that it required immediate access to the play ground and sports fields, required a higher roofline and was seen as less desirable on the sunny side of the school. Having a higher roof allowed for viewing of the gym from the resource / meeting rooms.



Tab 5

5.0 - Physical Environment

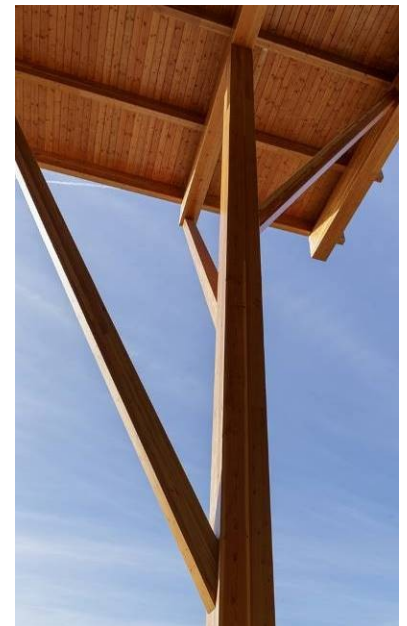
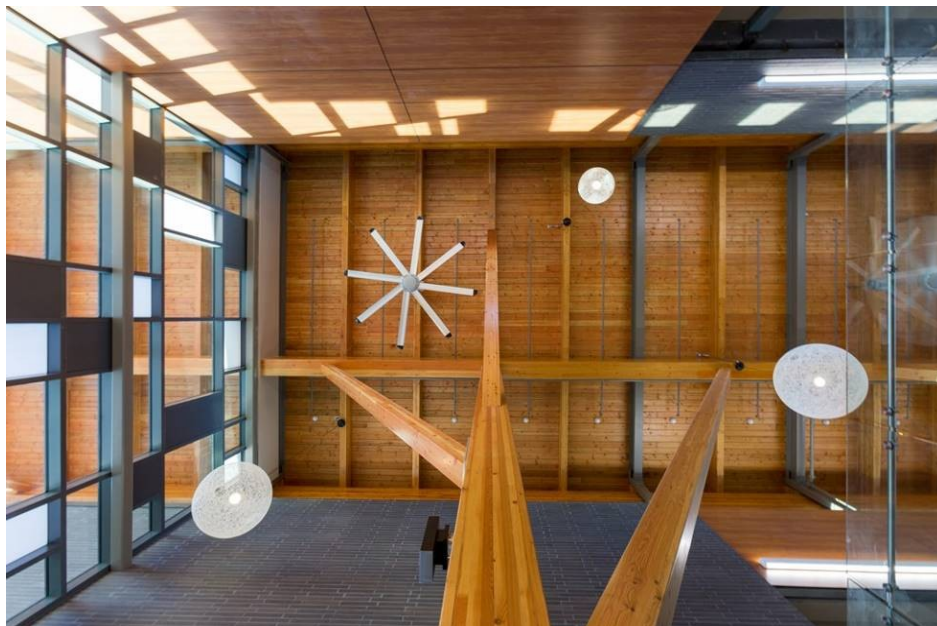
5.0 - Physical Environment:

The Physical Attributes: The defining traits or features

Form/shape – When the linear nature of the plan of the school and child care centre was determined, mostly due to the unusual site configuration, but also as an attempt to maximize the amount of the best natural daylight to the classrooms, the random nature of the upper fenestration helped to break up the shear volume. This affect was playfully enhanced by the random nature of the composition of the façade that consisted of varying heights and widths of opaque spandrel, translucent glass, and clear glass panels wrapped with wood grained phenolic panels and brick. The nature of the facade allowed for views out and sunlight in but also reduced the amount of discomfort from too much visual exposure.



The airy, lofty and timber look of the atrium and library and timber outriggers supporting the overhanging upper roof, supports the original theme with an uplifting sense of grandeur. Natural light floods the facility limiting the need for artificial lighting for darker winter days and evenings.



Exposure due to Orientation, Materials and Finishes:

As can be seen in the floor plans above, the majority of classrooms were located along the south side of the school. As a result, they were able to take advantage of the south-westerly breezes in the summer months. The use of white translucent insulated glass for diffused light within the mix of clear glass and spandrel panels, reduced glare, heat gain and still provided an abundance of natural light.



Conversely, components of the programme that did not desire southern exposure and could be used to buffer against winter winds faced north.



The southern exposure in the summer months was tempered by deep overhanging soffits as a large shading device calculated to cut off the angle of the summer sun while allowing the lower winter sun to be captured. The library resource area was deliberately placed on the north side for the more desirable diffused north light but also has views into the atrium.



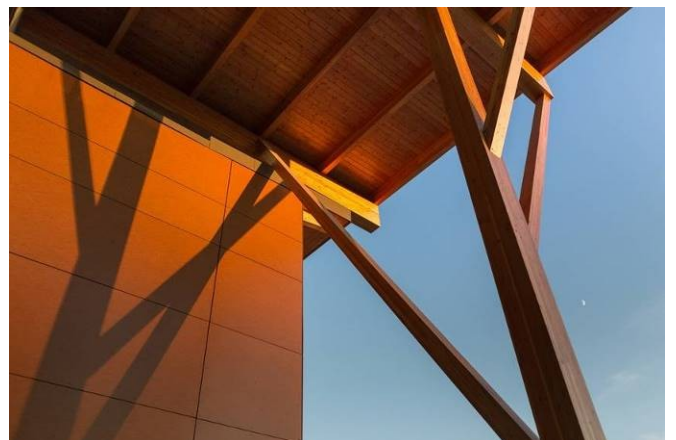
Views inside and out.

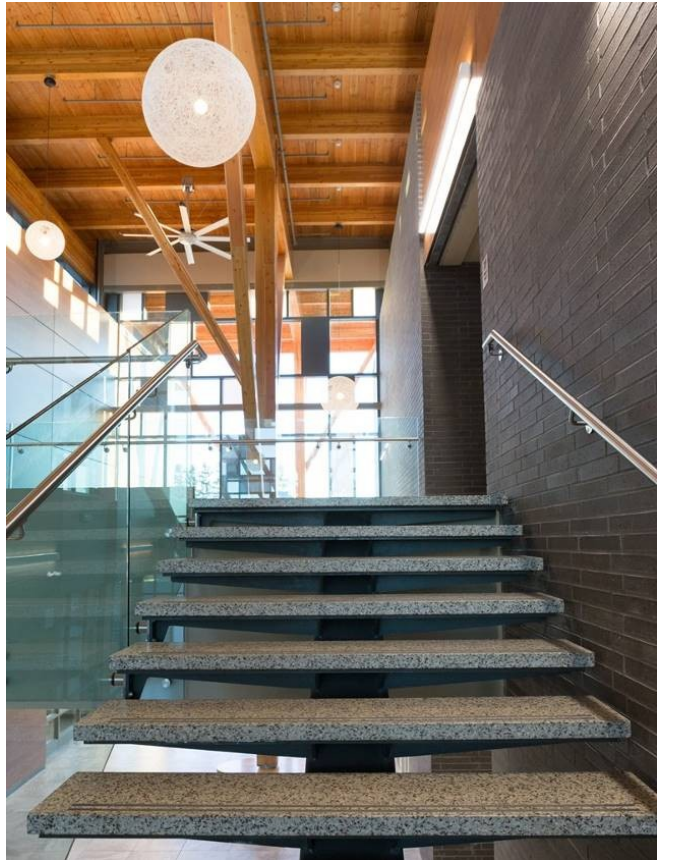
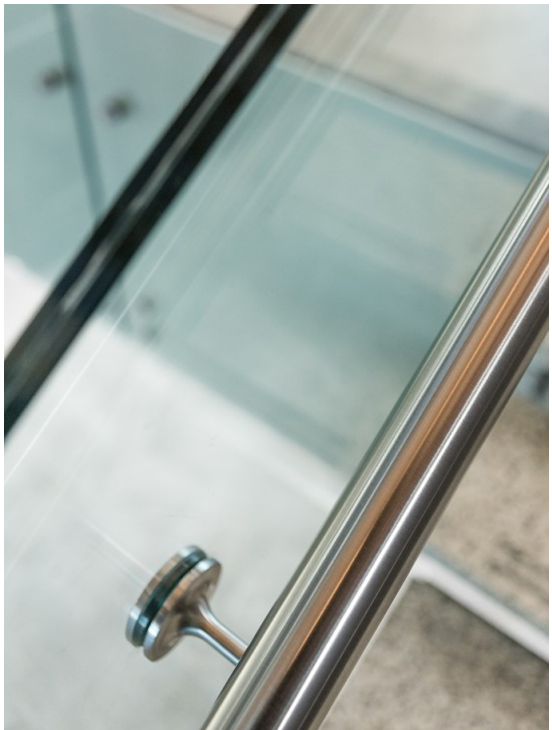
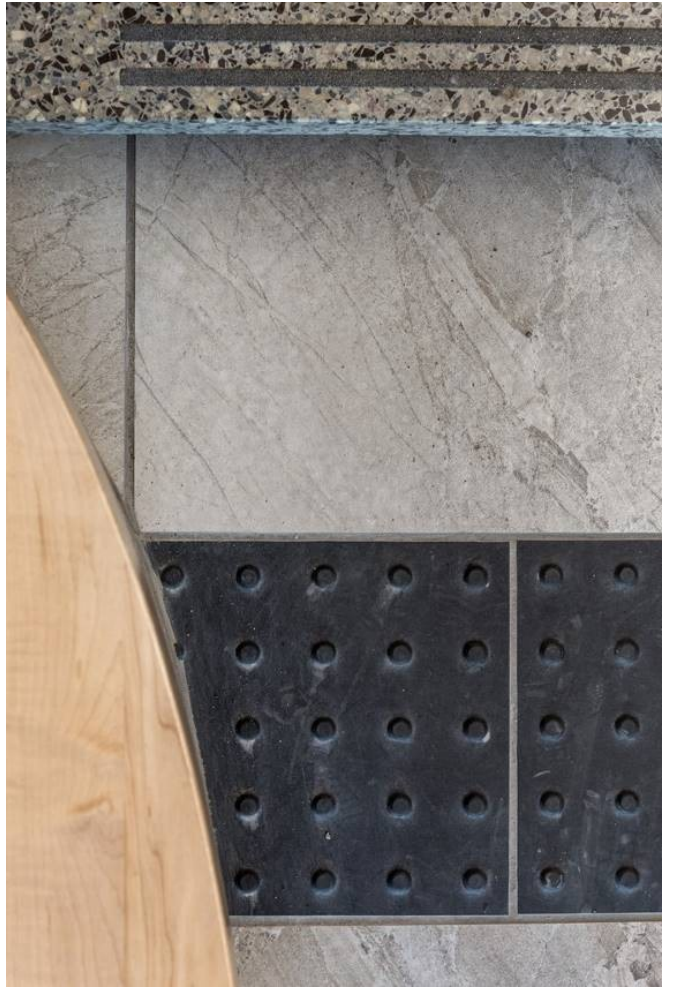
Views through many parts of the school, both through adjoining interior spaces as well as to the outside, from corridors through the administration, through the library, through meeting rooms and across the gymnasium, reinforces the openness of the plan despite the physical boundaries of walls and building code compliances.



The Maple Theme – An earthy palette emerges through line, colour and random proportions

The facades and interiors of the two facilities, the forms and patterns created by exposed timber structure, the juxtaposition of stone, clay and wood, all aid in expressing the original theme, of bringing the outdoor environs to the composition of this building. The borrowing of those elements, the lines, colours, forms, and shapes, albeit in a contemporary narrative, help to ground the facility and make it one with this rural town shrouded in the history of gristmills, sawmills, and the making of maple syrup.





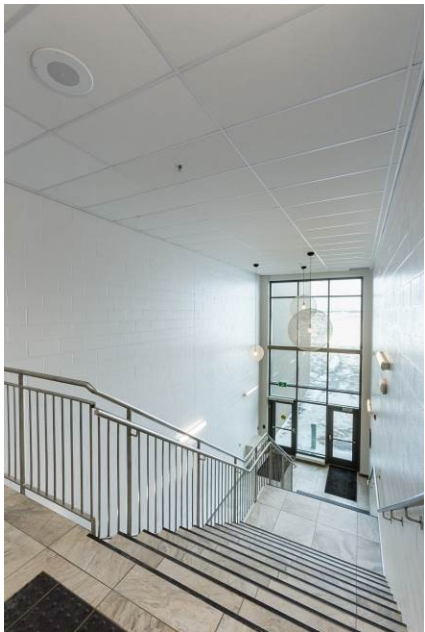
Indoor Environment

Natural daylighting strategies, air movement and air quality

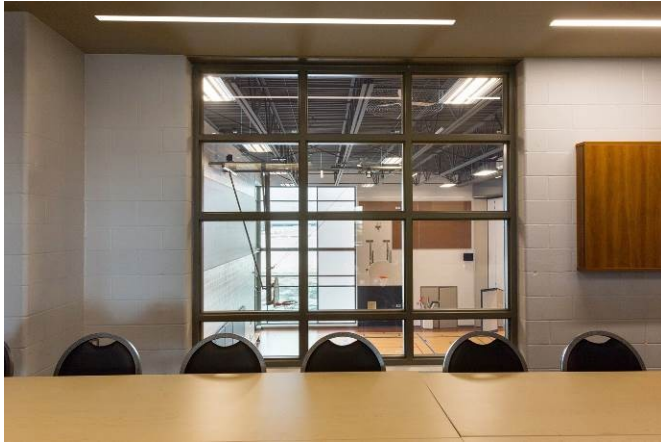
In general, we believe one of the most important philosophies we engage in the design of our school buildings, to enhance the learning experience of the students, is the implementation of natural daylighting strategies. We know that high performance or holistic design can have a positive effect on health and comfort, and design strategies such as daylighting have been shown to enhance productivity. We also believe good indoor air quality is essential for the health of the user. Creating an environment that is healthy, stimulating and which has been proven to positively affect productivity and reduce absenteeism is, in our estimation, a prerequisite.



Bringing natural light into perimeter rooms is easy. The challenge is to bring natural daylight into the core of the building or into more cavernous spaces where natural light would be an asset. Full width and full height glazed walls, clerestory glazing and white translucent insulated glass for diffused light contribute to pushing natural light deep into the building.

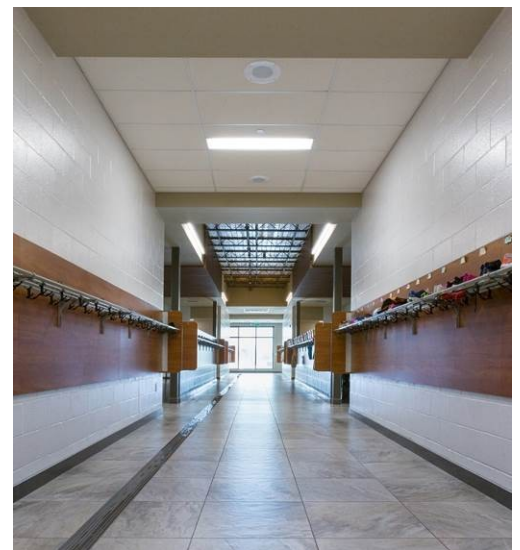


Aside from the views aspect already covered, borrowed natural light is achievable through the use of layers of glazing partitions providing the connectivity from the core to the exterior. We encourage the utilization of full height glazing in elementary schools whenever and wherever possible.



We have found air movement to be critical to good indoor air quality, so, high-volume, low-speed fans were installed at Riverside as part of our sustainability design strategy. Not only does the atrium feel less stuffy, but from both a comfort and economical sense, the breeze they generate creates a cooling effect of 10°F (5.5°C) in summer and de-stratifies the air in tall spaces such as what we have in the atrium in winter. The suggested result is up to 30% reduction in the heating and cooling costs and the occupants are more comfortable.

As an example of one of the strategies we apply to all our school designs, we ensure that the ends of corridors receive a glazed wall to allow natural light deep down the otherwise, dark corridors.



How does Riverside fit within the larger context of the community?

The Riverside project has had little or no impact on the larger context of the community. On the outer edge of town, this rural setting is almost considered countryside and this neighbourhood of small, two storey, single detached homes that faced three sides of the school, was only under construction as the Riverside facility was being built. The residents had little to compare to once they moved in. However, through the School Board's **Community Use of Schools** program, spaces are available to the community. The community has the opportunity of using parts of the facility, outside of school hours for not-for-profit community groups. The meeting rooms, library, gyms, sports field, auditorium and classrooms are available for sporting events, concerts, recitals and more, and this facility has provided more options as a community asset. The skating rink in winter would be a great hit. The primary goal of the school Board is to subsidize local not for profit organizations who provide support and programming for local youth (under the age of 18 or under the age of 28 for participants with a disability). Also, the second floor of the child care centre called the Elmira Family Centre, has space available for large or small meetings and office spaces specifically built for families to meet with social and medical practitioners for health and wellness related meetings and discussions.

How does Riverside Inspire and Motivate?

We always endeavour to make the spaces we design as stimulating, exciting and as attractive as the budget will allow using common materials in interesting ways. We try to imagine the student's involvement, participation in, and contact with our buildings. We try to expose them to ideas and concepts through the engagement of their senses, through observation, awareness and insight. Schools are not simply teaching facilities, they are learning facilities, and the building, its interior and its site must be as responsible in the education of an individual's mind as the teachers and programs provided within.

We play with forms, shapes and colours in the process of designing our schools. We believe in being playful. We want children to be excited about the environment they spend more than half of their waking hours residing in. The playful interaction of parts was accentuated by the use of different materials and planes. Colour on the exterior was crucial and was also a key ingredient in attempting to make the building more fun, to fit the environment, and to reinforce the theme we set out to achieve.



The consideration for how much time a student is in school has become increasingly important because we have a better understanding now, than ever before, how we are a product of our environment. According to many authors on the subject, such as Malcolm Gladwell, the environment does matter, that if you are at the right place at the right time you may have an advantage over others. Having no control over the timing part, our goal is to create the right place. We believe the design of the school and its immediate environs plays a crucial role toward the success of the student. If you make for an inviting, relaxing and yet invigorating atmosphere we believe the students are more likely to be working at their best. We need them to be inspired and invigorated. The school needs to go beyond bricks and mortar, to be less intimidating and provide a better social environment inside and outside of the classroom. We believe we have found and utilized ways to keep them invigorated. At Riverside, the greatest accolade we received from the principal was

"I wanted to take a moment to reach out to let you know how much I continue to love coming to work in this beautiful school you designed. Loving the space you work in makes all the difference and it really does set

the tone for your day. I continue to receive positive comments about how beautiful the school is and how lucky I am to work here. I've had 2 colleagues, one involved in a new school build and the other involved in a major school renovation, contact me about various elements that spoke to them when they've been at Riverside; elements they would like to have included in their new builds. I started my teaching career with the WRDSB opening a new school and, all being well, I will end my career working in this beautiful new school. So once again, thanks for building this great learning environment!!

It's working!

Tab 6

6.0 - Results of the Process and Project

6.0 - Results of the Process and Project:

We have a passion for seeing children and young adults thrive in their learning environments. We get great satisfaction in believing that what we do makes a difference to a child or young adult's overall conscious and/or subconscious outlook regarding school. We believe in some way we are able to affect their overall spirit and determination to succeed, their self-esteem, confidence, optimism and pride in where they go to school. We believe we help to keep kids in school and to provide the healthy and invigorating environment towards making them successful.

The same goes for staff and teachers. We believe we have a huge impact on the quality and morale of teachers. If they enjoy their school and are excited to be there, the benefits get passed down to the students, increasing morale and chances of success. We believe that from a fiscal point of view, the greater the morale the less absenteeism. The less absenteeism, the less cost associated with labour.

We have been told and congratulated, but also believe in our hearts, that Riverside has been a huge success. The programme was fulfilled, the design and construction complete, the educational goals and objectives were met, and everyone is happy.

We have been asked "Why are we school architects?". The answer, "It's what we do". Between our passion for creating valuable learning environments and the amount of experience, both in design and technically, it's pretty much all we do. We are school designers and architects ... and very proud of it!



Tab 7

7.0 - Educational Specifications

7.0 - Educational Specifications:

SECONDARY SCHOOL SPACE TEMPLATE Barrie North Collegiate Institute

School Board: Simcoe County District School Board
Grade Range: Grade 9 to 12
Program: English, French or Dual Track
School Name: Barrie North Collegiate Institute

Instructional Spaces	#	Size		Floor Area		Load	OTG
		m ²	ft ²	m ²	ft ²		
Classroom	33	67	725	2,224	23,938	21	693
Science Laboratories	7			601	6,464		147
Science General (Avg Size)	7	86	923	601	6,464	21	147
Science Biology (Avg Size)		-	-	-	-	21	-
Science Chemistry (Avg Size)		-	-	-	-	21	-
Science Physics (Avg Size)		-	-	-	-	21	-
Total Music / Arts	5			335	3,605		106
Music Instrumental/Vocal	1	215	2,316	215	2,316	21	21
Graphics/Visual Arts	3	9	92	26	276	21	63
Theatre Arts	1	94	1,013	94	1,013	21	21
Photography		-	-	-	-	21	-
Media Arts		-	-	-	-	21	-
Technical / Vocational	13			2,329	25,069		273
Business/Computer Room	4	84	907	337	3,630	21	84
Family Studies	2			227	2,444		42
Family Studies (Food)	1	110	1,188	110	1,188	21	21
Family Studies (Textiles/Fasion)	1	117	1,256	117	1,256	21	21
Family Studies (Nutrition)		-	-	-	-	21	-
Technology Lab Large	4			1,230	13,240		84
Transportation	2	298	3,206	596	6,412	21	42
Construction	1	290	3,123	290	3,123	21	21
Design/Drafting		-	-	-	-	21	-
Manufacturing	1	344	3,705	344	3,705	21	21
Green Industries		-	-	-	-	21	-
Welding		-	-	-	-	21	-
Wood		-	-	-	-	21	-
Integrated		-	-	-	-	21	-
Technology Lab Small	3			535	5,756		63
Communications	2	159	1,709	318	3,418	21	42
Computer Engineering		-	-	-	-	21	-
Computer Laboratory		-	-	-	-	21	-
Cosmetology	1	217	2,338	217	2,338	21	21
Health Sciences		-	-	-	-	21	-
Special Education / Resource	5			397	4,274		39
Special Education Area	3	55	588	164	1,765	9	27
Resource Area - Loaded (400-699)	1	183	1,965	183	1,965	12	12
Resource Area - Unloaded (<400 sf)	1	50	544	50	544		-
Instructional Area Flexibility		-	-	-	-		-
Other Spaces	8			1,224	13,177		-
Stage	1	148	1,597	148	1,597		-
Library/Library Resource Centre	1	397	4,278	397	4,278		-
Cafetorium/Cafeteria	1	505	5,431	505	5,431		-
Lecture		-	-	-	-	21	-
Seminar	5	35	374	174	1,870		-
Chapel		-	-	-	-		-
Gymnasium and Exercise Room	10			1,472	15,845		21
Gymnasium Area - Quadruple		-	-	-	-	63	-
Gymnasium Area - Triple		-	-	-	-	42	-
Gymnasium Area - Double	1	595	6,409	595	6,409	21	21
Gymnasium Area - Single	1	290	3,120	290	3,120		-
Dance/Aerobics Studio		-	-	-	-		-
Exercise Room	1	234	2,514	234	2,514		-
Weight Room		-	-	-	-		-
Change Rooms	7	50	543	353	3,802		-
Total GFA and OTG of Instructional Area				8,582	92,373		1,278

Operational Areas	Per Pupil		Floor Area	
	m ²	ft ²	m ²	ft ²
General Office			197	2,120
Guidance Area			131	1,413
Cooperative Education Office			-	-
Staff Lounge			87	942
Kitchen/Servery			142	1,528
Custodial Areas			199	2,144
Staff Room and Teacher Work			551	5,934
Meeting Room			16	172
Academic Storage			181	1,952
Washrooms			346	3,722
Gymnasium Storage			74	802
Mechanical Spaces			656	7,058
Total Operational Area			2,582	27,789
Total Instructional (from above)			8,582	92,373
Total Operational and Instructional			11,163	120,162
Gross Up Added		42%	4,689	50,468
Gross Floor Area			15,852	170,629
Area per Pupil			12.40	133.5

Community Use Rooms	m ²	ft ²
Child Care	-	-
Early Years Hub	-	-
Community Use	-	-
Other (please identify)	-	-
Other (please identify)	-	-
Other (please identify)	-	-
Total Community Use Rooms Area	-	-
Total Square Feet	15,852	170,629