SHEPHERD PARK COMMUNITY CENTER GYMNASIUM

Design Analysis & Cost Estimate

July 09, 2018

DPR
DC DEPARTMENT OF PARKS AND RECREATION

dp+partners architects

CONTENTS

DPR has requested a feasibility study be done to determine options for developing a community center on the property adjacent to Shepherd Park Elementary School. The site is located between 14th and 16th Sts. between Kalmia St. and Jonquin St. NW, Washington DC. Department of Parks and Recreation now controls a large part of this property which also contains a soccer field and child play areas. The school sits atop a hill approximately 20 feet above the field below. The school currently has an exterior basketball court and Pre-K play areas on this upper level.

The design study proposes to determine the feasibility for a new facility/addition which will contain a gymnasium, multi-purpose space, fitness center and a small kitchen along with toilets, storage and office.

The existing area available for development adjacent to the School is level at the top with the general grade approximately four feet below the lower floor of the building. The site drops off toward the field between 10-20 feet down to field below. This upper level now has play areas for the school only. Service to the school comes to a loading dock, adjacent to the existing kitchen, from the south on the Jonquil St. side. The school's main entrance is at the corner of 14th St. and Kalmia St. NW. The lobby opens through the building with access to the play area on the west side.

Discussions between DPR and DCPS revealed that the existing school does have needs which could be shared with the new center. The understanding is that the community center will be used after school hours and the school would be able to utilize the facility during the day. Design should include ways of separating the school and community center as usage hours vary.

1. Gymnasium - The existing school only has a multi-purpose room which is used for recreation and dining. They currently have four dining sessions. The space is not large enough for a regulation basketball court.

2. Kitchen - The school has only a small warming kitchen and meals are delivered daily. DCPS is moving back to a prior requirement for a full-service catering kitchen which are much larger.

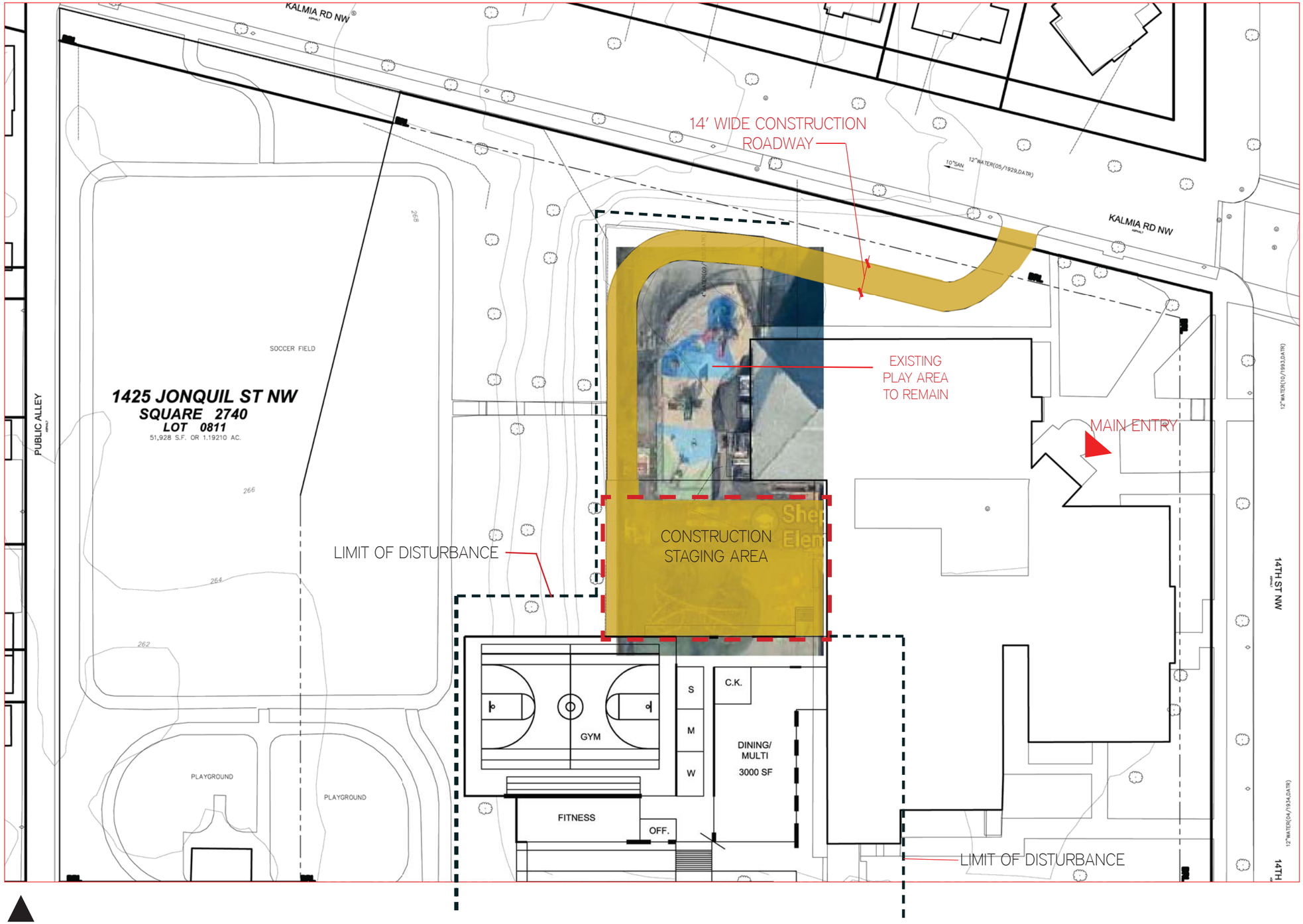
3. Multi-Purpose - Provide multi-purpose space which the school could use for dining. Existing multi-purpose could be reassigned as needed by the school.

4. Provide the main floor elevation to match existing school lower level and cafeteria and provide a corridor connection between the school and community center.

5. Convert the existing warming kitchen and eating area into a full cooking kitchen with a serving area. Service deliveries will still come to existing loading dock to south.

6. Maintain the maximum amount of upper play area possible for school

EXISTING SITE



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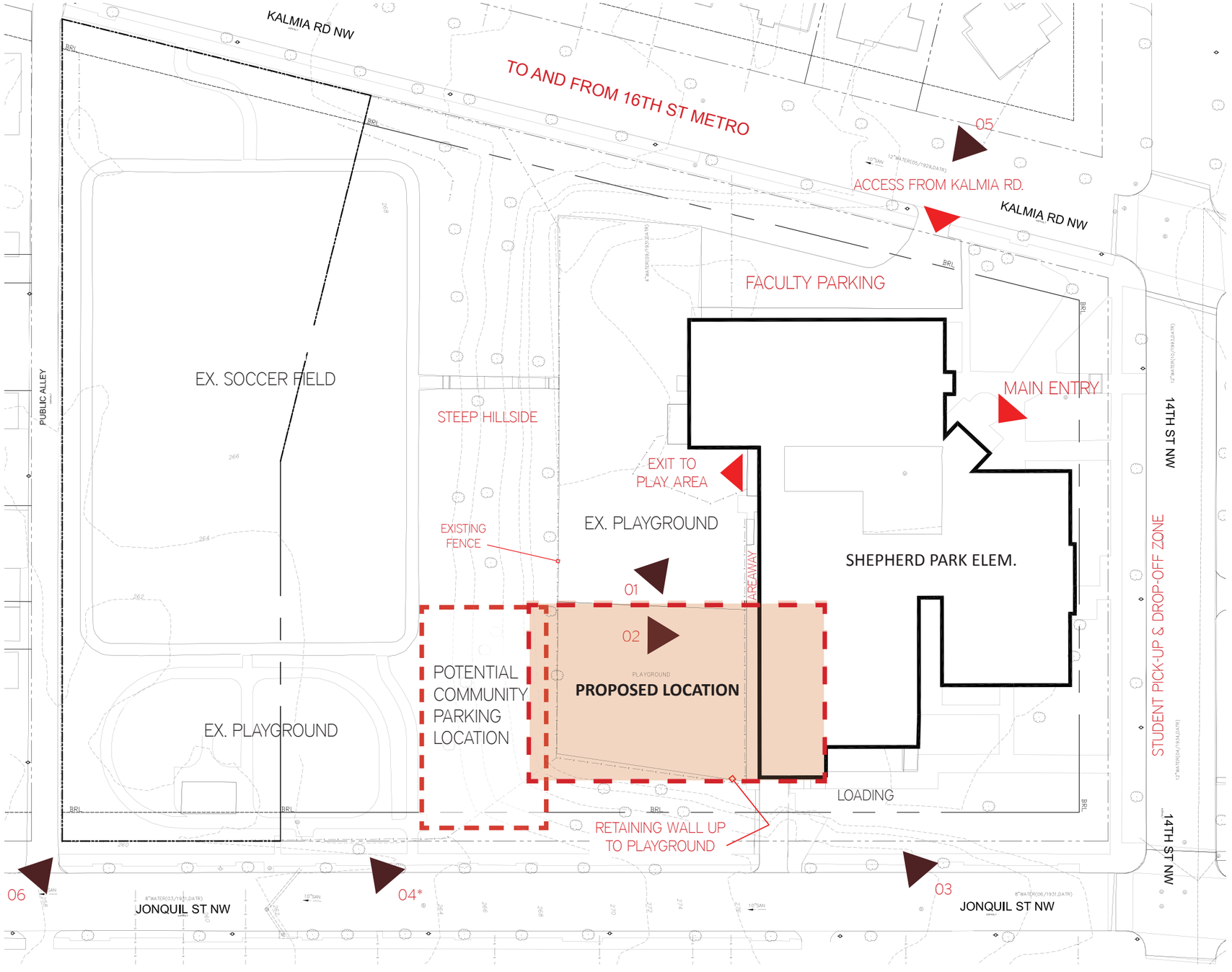
CONSTRUCTION STAGING PLAN



TRAFFIC & PEDESTRIAN CIRCULATION

14th St. NW -
Front entrance to school at north west corner.
School hour parking ban on west side
Resident zone parking on east side
Alley along west side of site

Jonquil St. NW -
Proposed Community Center Access
2hr parking along north side
Resident zone parking on south side

Kalmia St., NW -
2hr parking along south side
Resident zone parking on north side

Refer to zoning analysis for minimum parking requirements

Community has expressed concern about additional parking needs as a result of community center evening activities. The school runs after hours activities and some evening meeting.

*. *reference to site photograph locations*

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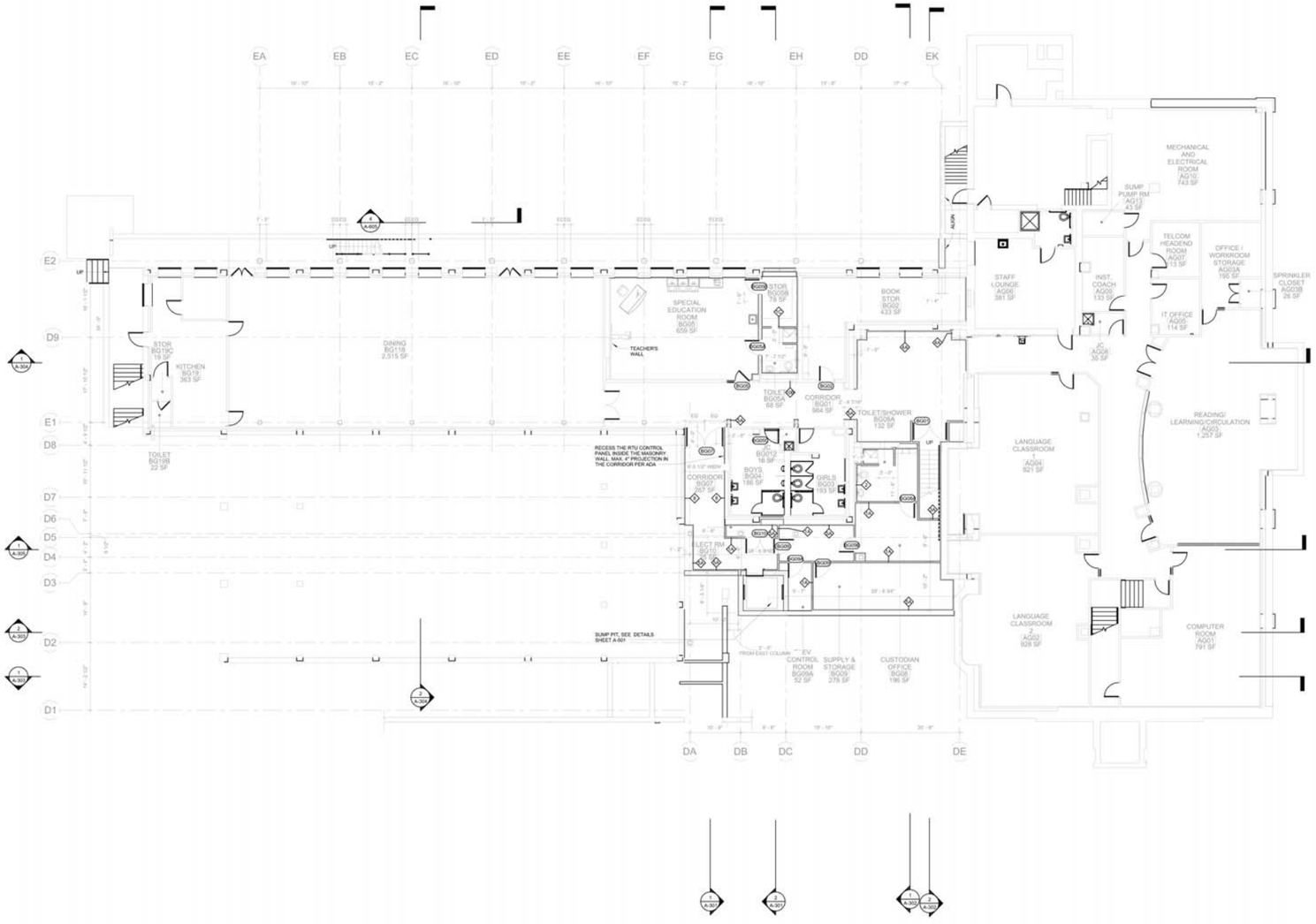
SCALE: 1/64" = 1'-0"

EXISTING SITE LAYOUT

GROUND FLOOR PLAN



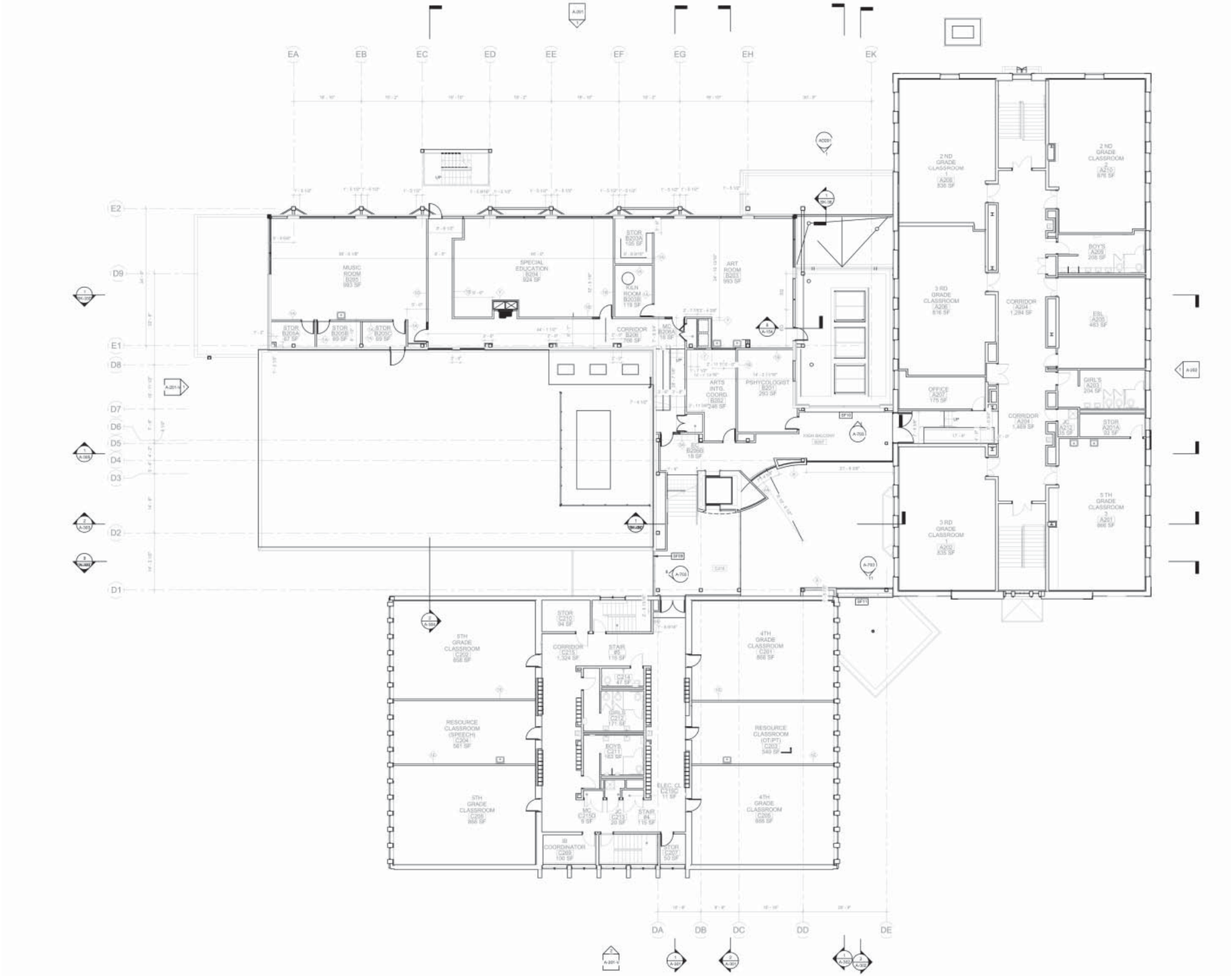
N ▶ SCALE: 1/32” = 1’-0”

FIRST FLOOR PLAN

N ▶ SCALE: 1/32” = 1’-0”

SHEPHERD ELEMENTARY: EXISTING FLOOR PLANS

SECOND FLOOR PLAN



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SHEPHERD ELEMENTARY: EXISTING FLOOR PLANS

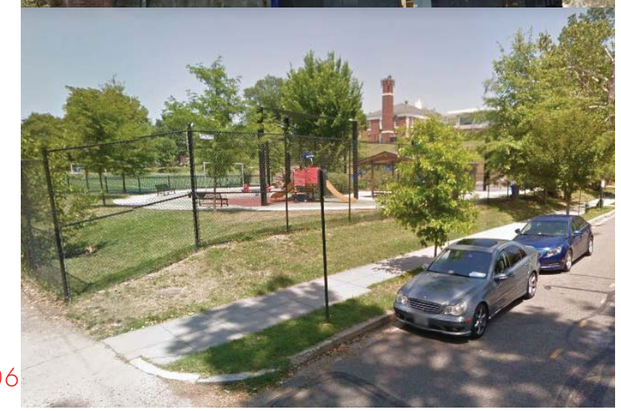
01

02

03

04

05



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Shepherd Park Elementary School - 7800 14th Street NW

Square	2740
Lot	0021
Zoning	R-1-B
Site Area	124,577 SF
Proposed Building SF	14,200 SF
Building Foot Print	31’380 SF Avg. (2 Stories)
Lot Occupancy	40% - 49,830 SF
Proposed Lot Occupancy	41%
Building Height Building Height	40’ – Institutional 90’
Proposed Building Height	30’ +
Maximum Stories	3 Stories
Proposed	2 Stories
Rear Yard Setback	25’
Side Yard Setback	8’
Parking required	0.25 Spaces/ per 1,000 S.F. of GFA 14,200 / 0.25 = 3 - 4 spaces
Pervious Surface	50% - 62,288 SF

BACKGROUND AND DESCRIPTION

The project is located within Alexander Shepard Elementary School campus in NW Washington, DC. Shepherd Park Community Center is comprised of an approximately 14,200 square feet of community space adjacent to the Shepherd Elementary school in Washington, DC.
The community center includes a culinary kitchen, bathrooms, offices, storage rooms, gymnasium, and fitness areas.
The site is surrounded by Kalmia Rd NW at the north, 14th street NW at the east, Jonquil St NW at the south and Shepard Park at the west. The project is to construct a new gymnasium within the lot of the school that may function to serve the community and provide access to neighboring schools. As a result of the construction the site work will include utility installation, stormwater management, and general site improvements.

Three space plan options were presented and option C is the preferred. Option C layout shows the kitchen and the serving area layout in the Shepherd Elementary School. The remaining parts of the Community center are a single story addition to the school. The kitchen and serving area power, domestic water and fire protection, and fire alarm must be connected to the services from the school. The remaining parts of the Community center can be provided with new power, domestic water and fire line if the Community center is separated from the school by a two hour fire rated structure. We will assume this approach will be taken for this study.

CIVIL

EXISTING SITE CONDITIONS

The existing site is within record lot 0021 of square 2740, the existing site is about 3.33 acres with a school building, soccer field, walking path, and playgrounds. According to records, the existing site is located on District Land, as a part of RPTA Ownership. The site is less than 55% impervious with low relief and most slopes greater than 30% surrounding the building and the remaining slopes less than 10%. The existing drainage is through overland flow to street inlets and high runoff as a result of steep slopes from the east.

EXISTING UTILITIES

WATER:
According to DC Water, there is currently an existing 4” service water line that was installed 1931 to the school building with water meter installed inside building, per records. There is also an 8” Cast Iron Water Main in Jonquil Street NW that was installed in 06/1931 adjacent to the building. North of the site, Kalmia Rd NW, which is also about 8’-12’ higher than the south of the site, there is a 12” water main installed in 1929 from which the water service connects. Finally, there is a 12” water main installed in 1993 at the north and 1934 towards the south along 14th street NW. In public space there are no hydrants within the block of building, but there is one adjacent on Jonquil Rd NW and on the east side of 14th street NW.

According to DC Water there is no evidence of lead on the public side of the water service line, however there is no information for the private side. Also, 7801 14th street NW shows lead on private side and so does 1520 Kalmia Rd NW.

SANITARY/STORM SEWER:

This project is within a MS4 area, which means that the storm and sanitary mains are separately collected. The storm is collected and discharged into portions of the Rock Creek watershed and the remaining is treated at the treatment facility. There is no information about on site existing storm or sanitary services.

At the north of the site, under Kalmia Rd NE, there is a 10” sanitary line with about a 6% slope heading west with about 10-12’ of cover. At the south, Jonquil st NW, there is a 10” sanitary line with about 7.7% slope headed west to 16th street NW and approximately 10’-13’ of cover. There is no evidence of any storm mains, north on Kalmia road or south of building on Jonquil Street, however there is a 24” storm line east of school on 14th street NW.

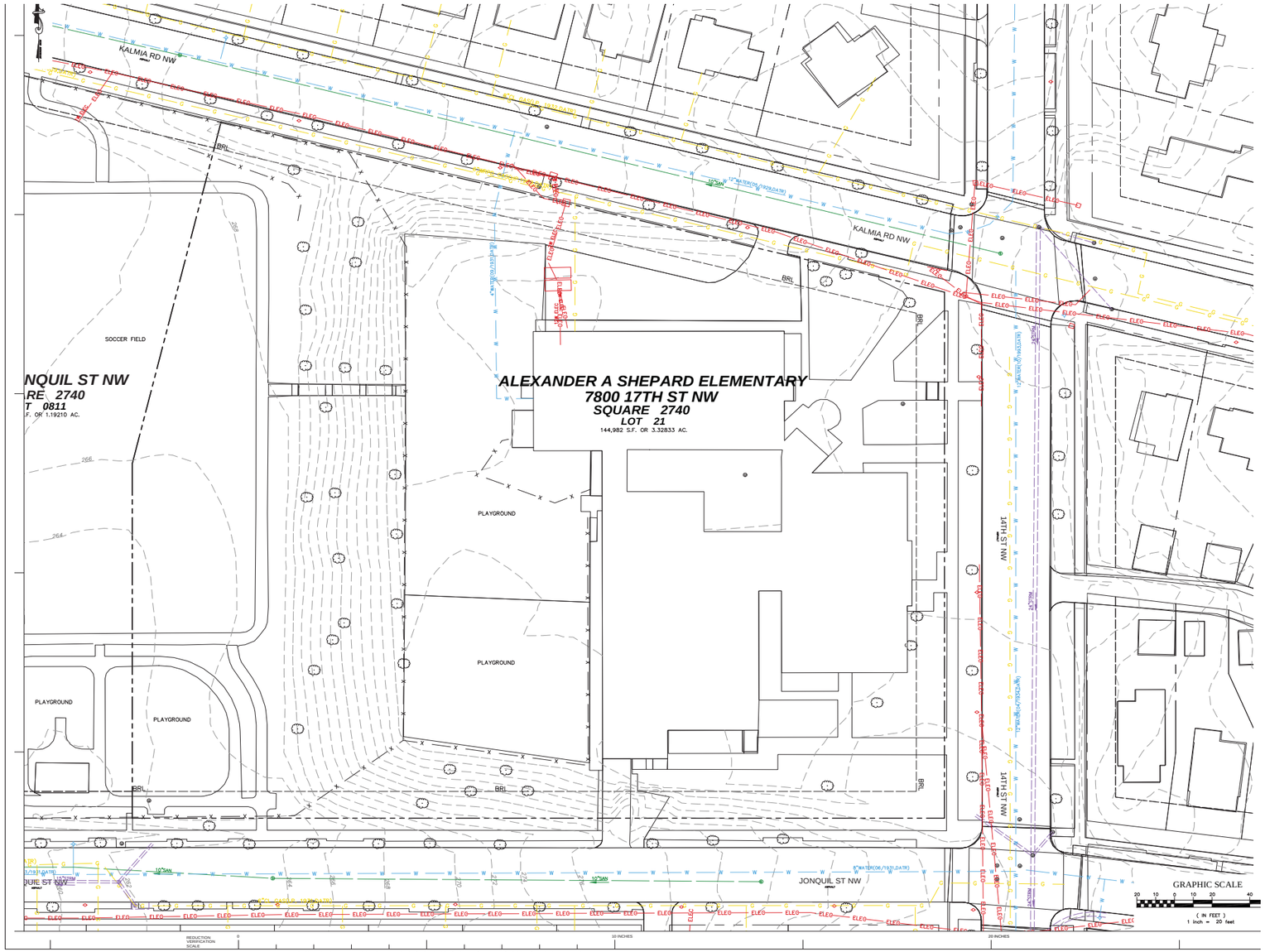
OTHER UTILITIES

Per Washington Gas, there is a 2” gas plastic lateral from Kalmia rd. NW, installed in 2013 from a 6” WRPD main installed in 1969. At the south of the lot, south of Jonquil st nw sidewalk, there is a 6” low pressure gas main that run along the Jonquil street NW. At the north of the property, there is a 6” wrapped steel pipe with high pressure gas behind the south curb on Kalmia RD NW that was installed in 1969. At the north of Kalmia Rd, behind the curb there is a 6” low pressure gas main that was installed in 1934. At the east of the property there is a 6” cast iron low pressure main installed in 1931 that ends about 50’ before intersection.

Currently underground electric and/or telecommunication service around the site is located behind the southern public sidewalk on Kalmia Rd NW, behind the west curb along 14th street, and behind the southern public sidewalk on Jonquil street NW. Per Pepco, there is a 12-way electric and 12-way telecommunication service entering from Kalmia road north of the elementary school both from 6x14 underground vault

MECHANICAL, ELECTRICAL & PLUMBING

The existing school power, water, sprinkler, and fire alarm must be evaluated to feed the kitchen and the serving area. The remaining parts of the Community center will be provided with new incoming power, domestic water, sprinkler, and fire alarm.



CIVIL: EXISTING CONDITIONS PLAN

LEGEND:

- TREE
- UNKNOWN MANHOLE
- UTILITY POLE
- FH — FIRE HYDRANT
- X — X — FENCE
- PROPERTY LINE
- FF — FINISH FLOOR ELEVATION
- BUILDING
- W — W — WATER LINE
- STORM
- SANITARY SEWER MANHOLE
- WV — WATER VALVE
- FH — FIRE HYDRANT
- G — G — GAS LINE
- BRL — BUILDING RESTRICTION LINE

UTILITY INFORMATION:

UTILITY COMPANY	STATUS
VERIZON 13101 COLUMBIA PIKE FDC-1 SILVER SPRING, MD 20904	NO INFORMATION RECEIVED
PEPCO 701 9th STREET, N.W. WASHINGTON, DC 20068	NO INFORMATION RECEIVED
WASHINGTON GAS 6801 INDUSTRIAL ROAD SPRINGFIELD, VA 22151	NO INFORMATION RECEIVED
DC WATER 5000 OVERLOOK AVENUE, S.W. WASHINGTON, DC 20032	COMPOSITE OF DC – DPW PLANS EF-31-32 & 33-34 – N.W. WATER EF-31-32 & 33-34 – N.W. SEWER

NOTES:

1. HORIZONTAL DATUM: BASED ON DC GIS INFORMATION
2. VERTICAL DATUM: BASED ON DC GIS INFORMATION
3. PROPERTY IS ZONED: LOT 0021 (R-1-B)
4. BOUNDARY INFORMATION SHOWN HEREON WAS OBTAINED FROM RECORDS AND VERIFIED USING PHOTOS AND GOOGLE MAPS. PROPERTY LINE DIMENSIONS FROM OFFICIAL CITY RECORDS MAY NOT NECESSARILY AGREE WITH ACTUAL MEASURED DIMENSIONS. ALL PROPERTY LINES IN THE DISTRICT OF COLUMBIA ARE SUBJECT TO CHANGE BY THE OFFICE OF THE SURVEYOR, D.C. THIS SURVEY DOES NOT REFLECT A "SURVEY TO MARK". THE PROPERTY LINE REFLECTED ON THIS SURVEY IS NOT TO BE USED FOR ANY CONSTRUCTION STAKEOUT PURPOSES. A "SURVEY TO MARK" MUST BE APPROVED BY THE OFFICE OF THE SURVEYOR PRIOR TO BEGINNING ANY BUILDING DEMOLITION OR CONSTRUCTION OPERATIONS.
5. CONTOUR INTERVAL IS TWO (2) FOOT.
6. PROPERTY INFORMATION LOT 21 SQUARE 2704

EXISTING CONDITIONS PLAN NARRATIVE

THE SITE CONSISTS OF LOT 21 OF SQUARE 2704, A SCHOOL BUILDING, SOCCER FIELD AND PLAYGROUND. THE SITE IS ABOUT 55% IMPERVIOUS WITH LOW RELIEF AND MOST SLOPES GREATER THAN 30% SURROUNDING THE BUILDING WITH REMAINING SLOPES LESS < 10%. EXISTING DRAINAGE IS THROUGH DOWNSPOUTS, INLETS OVERLAND FLOW. THE ANACOSTIA RIVER IS ABOUT 2 MILES AWAY FROM THE SITE, NO WATER BODIES ARE ON OR DIRECTLY ADJACENT TO THE PROPERTY.

EXISTING CONDITIONS PLAN NOTES

1. THIS EXISTING CONDITIONS PLAN IS A COMPILATION OF A DC ATLAS AND DC GIS INFORMATION RETRIEVED FEBRUARY 2018 BY DHA.
2. EXISTING CONDITIONS LEGEND APPLIES TO THIS SHEET ONLY. EXISTING CONDITIONS MAY BE DEPICTED DIFFERENTLY OR NOT FULLY DEPICTED ON OTHER PLAN SHEETS.
3. LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE AND BASED UPON AVAILABLE RECORDS. CONTRACTOR SHALL LOCATE AND CONFIRM ALL UTILITIES PRIOR TO UNDERTAKING ANY DEMOLITION OR EXCAVATION.

CIVIL

PROPOSED SITE DEVELOPMENT AND STORMWATER MANAGEMENT

PROPOSED SITE DEVELOPMENT

The proposed work includes a new community gym that would be placed to best access the Shepard Elementary School. The remainder of the site will undergo grading, landscaping, building access via stairs and ramps, fencing, ADA compliance and stormwater management best management compliance.

PROPOSED STORMWATER MANAGEMENT

The preferred connection of the storm sewer system is at the intersection of Jonquil Street and 14th street NW to the existing 24-inch storm sewer under 14th street NW. The proposed storm line is estimated to be 12” and should traverse from the north side of the building, to service future stormwater management facilities south to Jonquil Street and running east parallel to the Jonquil to the point of connection on 14th street NW. The connection to the existing storm line shall be using a 60” diameter doghouse manhole, note that for the pipe sizes greater than 8” a minimum of 48” diameter manhole is required at all changes in directions.
The proposed location of the stormwater management facilities are currently based on availability of land. Geotechnical investigation and determination of rates of infiltration will determine its final location.

PROPOSED STORMWATER MANAGEMENT REQUIREMENTS

The District of Columbia’s Department of Energy and Environment (DOEE) requires that all development and redevelopment projects that disturb more than 5,000 square feet of land in the District provide a system to manage the quality and quantity control of stormwater runoff from the sites.
The new stormwater management requirement is to retain the rainwater from a 1.2 inch rainfall event on site. Retention can be achieved by infiltration or repurposing of the stormwater. All stormwater facilities and conveyance systems must be designed using the 15-year design frequency.
DOEE requires that the post–development peak discharge for a 24-hour, 15-year frequency storm event be maintained at a level that is equal to or less than the 24-hour, 15-year pre-development peak discharge rate.
DC Water typically allows storm drain lines on private property to be PVC; however, beyond the property line, storm drain lines must be reinforced concrete pipe with rubber gaskets (Class III or higher). The minimum size for storm sewers in a public space is 15 inches. All connections must be made perpendicular from the sewer main to the property line with a minimum of 5.5 feet of cover.
With minor site improvements, total disturbance area of the site is expected to be less than 5,000 sq. ft., therefore, stormwater management should be not required. However, the stormwater drainage system on site shall be redesigned and reconstructed in the next phase to meet updated DOEE requirements. It is recommended that a new stormwater drainage pipe system including a roof

PROPOSED SITE UTILITIES

WATER:
Water service to the new building shall be from the existing 8” water main under Jonquil street NW. This line was built in 1931 and at present the material is not known. The proposed services shall be a 4” domestic line and a 6” fire line, on Jonquil street. The water meter shall be housed in a 6”x6”x6” concrete vault located in public space on Jonquil street NW. Both lines will be requiring backflow preventers that will be located inside the building. The fire line will require a detector check meter, this will also be located inside the building, and will require a signed letter by DC Water.
The project will require the construction of a new 4” domestic water line and a 6” fire service line, an abandonment of existing 4” water service (on Kalmia rd), which will be further verified in later design phases. All connections must be made perpendicular from the water main to the property line with a minimum 4’ of cover. The proposed water lines should be connected to the 12” line on Kalmia RD NW considering this is at a higher elevation.
Fire hydrant flow tests must be conducted for buildings that will have 3” or larger fire service lines. Flow tests are typically valid for one (1) year from the date of testing. The test should be requested to DC Water, and at the time of the next concept design phase.

SANITARY SEWER
The preferred connection of a sanitary sewer service is on Jonquil street NW to an existing 10” sanitary line located at approximately the middle of the street. The estimated size of this service shall be a 6” sch40 pvc pipe and shall be connected using a why branch.
DC Water requires separate storm and sanitary sewer connections and all sewer connections must have a clean-out or a clean-out manhole at the property line. Sewer connections larger than 8” require a manhole. No connections are permitted within the drip line of trees. All connections must be made perpendicular from the sewer main to the property line.
It is recommended that a new 6” sanitary lateral connection, depending on MEP recommendation, connect to the 10” sanitary main in Jonquil street NW, since this is at a lower elevation.

OTHER UTILITIES

ELECTRIC
Based on the required load for the proposed building the MEP engineer will submit a load letter to Pepco requesting service. Pepco will determine the point of connection, the required lines, transformers, etc and communicate and coordinate this information with the MEP.

GAS
Similar to the electric service, the MEP will submit a load letter to Washington Gas and determine a location of the gas meter. Washington Gas will design and provide the gas line up to the meter. Again this will be coordinated with the MEP engineer.
Civil Permits and Applications
The District of Columbia requires a Building Permit for construction of the project. There are various signatories to the Building Permit application. Listed below are the standard signatories related to the civil site aspect.

DDOT

- Maintenance of Traffic – approval of a traffic safety and traffic flow management plan during construction activity.

- Work in Public Space – approval of construction activity within the public right-of-way. A bonding amount must be paid for the full replacement cost for all sidewalks, curbing, drive ways and other items surrounding the site.

DC Water

- Fire Hydrant Flow Tests – required for buildings that will have a fire service line 3” and larger.

- Connection/Tap Fees – for new domestic water and fire service taps for each new building on the project site.

- Water Meter Stamp – approval of water line and appurtenance layout and connections.

- Water/Sewer Availability Slip – certification of existing municipal facilities within 250 ft of a lot ine.

- Backflow Prevention Certification – certification of an approved device and its location to protect the municipal water supply from backwash contamination once water has left the public side of a water meter.

DOEE

- Approval of a Stormwater Management plan satisfying the DOEE storm water runoff, containment and treatment requirements (for projects with site disturbance exceeding 5,000 SF, or improvement value more than 50% of property value, which maybe not apply to this project).

- Approval of a Green Area Ratio (GAR) plan satisfying the DOEE stormwater runoff, containment, and treatment requirements (for projects with site disturbance exceeding 5,000 SF that maybe not apply to this project). Note that this plan is certified by an approved Certified Landscape Expert as defined by DCMR.

- Approval of an Erosion and Sediment Control plan satisfying the DOEE requirements for sediment and silt runoff containment measures during construction activity (for projects disturbing 50 SF or more).

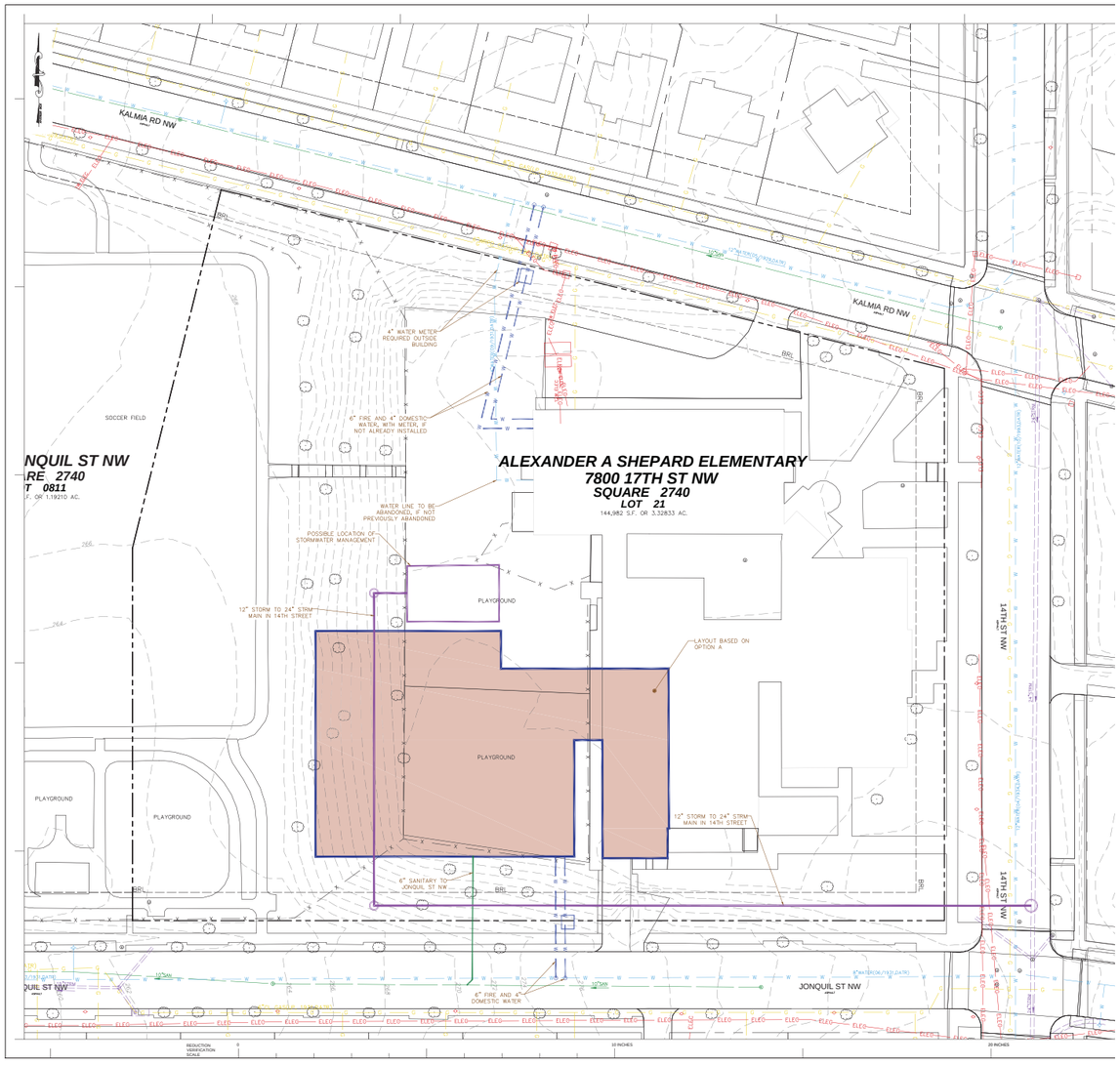
New 6” Sanitary wye service to Jonquil Street NW to connect to 10” main;

- New 6” fire and 4” domestic lateral connections to the existing 12” main under Kalmia rd NW, with two (2) 6” valves

- Replacing other utilities including electrical, gas, communication, etc.;

- Providing additional funding for various permits, and LEED certification;

- If Limit of Distance exceeds 5,000 SF or improvement cost exceeds 50% of the existing property value, stormwater management will be required; providing additional funding for stormwater management.



CONCEPTUAL UTILITY PLAN

RECOMMENDATIONS

Based on the above analysis, it is recommended that the following items be included in the civil site improvement for the project:

- 12” storm connection to 24” storm in 14th street NW, adjacent to building;
- If storm connection is greater than 8”, than a min. 48” diameter manhole will be required for storm
- New 6” Sanitary wye service to Jonquil Street NW to connect to 10” main;
- New 6” fire and 4” domestic lateral connections to the existing 12” main under Kalmia rd NW, with two (2) 6” valves
- Replacing other utilities including electrical, gas, communication, etc.;
- Providing additional funding for various permits, and LEED certification;
- If Limit of Distance exceeds 5,000 SF or improvement cost exceeds 50% of the existing property value, stormwater management will be required; providing additional funding for stormwater management.

MECHANICAL, ELECTRICAL & PLUMBING

Shepherd Park Community Center is comprised of an approximately 14,200 square feet of community space adjacent to the Shepherd Elementary school in Washington, DC. The community center includes a culinary kitchen, bathrooms, offices, storage rooms, gymnasium, and fitness areas.

PROPOSED SITE DEVELOPMENT

MECHANICAL

HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS

Codes and Standards
The design of the heating, ventilating, and air conditioning system will be in conformance with the design guidelines of the following and other applicable standards and codes:

- International Building Code 2012
- International Mechanical Code 2012
- District of Columbia Codes, 2013
- International Energy Conservation Code 2012
- ANSI/ASHRAE Standard 90.1-2010
- ANSI/ASHRAE Standard 62.1-2010
- National Fire Protection Agency (NFPA)
- All mechanical work shall be coordinated with the requirements of all other divisions including Architectural, Structural, Plumbing and Electrical.

Design Criteria
- Outdoor Air

Summer: 95 Deg. F dry bulb, 78 Deg. F wet bulb
Winter: 12 Deg. F dry bulb

- Indoor design conditions

Most areas: 75 ± 2 Deg. F dry bulb,
50 ± 5 percent relative humidity cooling season

- Storage rooms: 80 ± 5 Deg. F
- Mechanical spaces: 90 Deg. F dry bulb.

CLIMATE ZONE

The climate zone is determined per ASHRAE 90.1 Building Envelop Climate Criteria map as climate zone 4A. The climate zone 4A is identified as Mixed-Humid with the following thermal criteria:

Zone Number	Name	Cooling Degree Days	Heating Degree Days
4A	Warm-Humid	CDD50 °F ≤ 4500	3600 < HDD65 °F ≤ 5400

PROPOSED HVAC SYSTEM

OPTION NO. 1: BUILT-UP ROOF TOP UNITS AND HOT WATER BOILERS

Self-contained variable air volume roof top units with gas fired furnaces, heat recovery wheels will be provided on roof of each wing to provide conditioned air to various areas. Each thermal zone will be provided with a parallel fan powered VAV air terminal with hot water heating coil to maintain space temperature. Each air handling unit will be fitted with air monitoring stations to measure outside air to assure compliance with LEED ventilation requirements. Air monitoring stations will be installed at return air and supply air to vary return air in response to variation is outside air. Each air handling unit will be provided with heat recovery units to extract energy from return air to reduce energy costs.

The kitchen areas will be provided with grease hood exhaust duct to exhaust the grease hood. Grease exhaust duct will be extended to roof and terminated to a roof mounted grease exhaust fan. The grease exhaust duct will be provided with proper clean-outs meeting governing codes. The grease exhaust duct will be extended to roof and will terminate minimum 40 inches above roof and 25 feet away from any air intake or windows. A gas fired make-up air unit will be provided for the kitchen area to make-up for the grease hood exhaust air. Other hoods such as convection ovens and dishwashers will also be ducted to roof via separate ducts.

High efficiency condensing type hot water boilers will be designed to provide hot water to variable air volume air terminal units heating coils and other heating coils throughout the building. Each boiler will be provided with a circulating pump to assure water circulation for the boiler protection. A variable flow secondary pumping system will be designed to vary hot water flow according to heating load of various hot water coils throughout the building.

OPTION NO. 2: VARIABLE REFRIGERANT VOLUME (VRV) SYSTEM WITH DEDICATED OUTSIDE AIR ROOF TOP UNITS WITH HEAT RECOVERY COIL AND GAS FIRED FURNACE

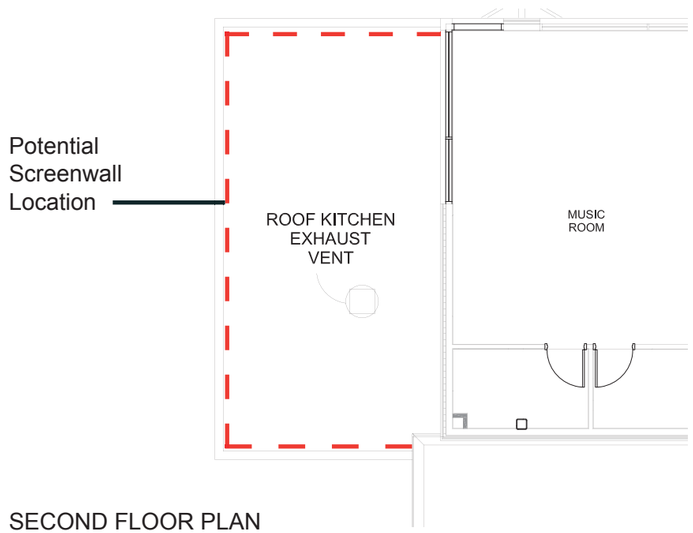
A heat recovery type VRV system will provide simultaneous heating and cooling requirements of each zone as well as providing a modular design adaptive to expansion and space modification. The VRV heat recovery heat pump units will be located on the roof and will be piped to branch controllers. Each Branch controller will be connected to VRV fan coil units in each zone with dedicated cooling and heating requirements. Each system will be increments of 32 tons heat recovery heat pump units piped to group of indoor fan coil units in each wing.

The VRV system can also be water cooled units using geothermal wells. This system will have the lowest operating cost since the VRV heat pump system will reject heat to the geothermal loop during summer and will absorb heat from geothermal loop during heating season. The number of wells will be determined by analysis of soil condition and thermal conductivity. Geothermal wells can be located throughout the school grounds. Condenser water will be pumped through pipes run in approximately 400 feet deep wells to provide approximately 2 tons of cooling per well. Geothermal loop will not be sufficient to reject the entire cooling system heat of rejection and will be provided with supplemental cooling towers and gas fired boilers.

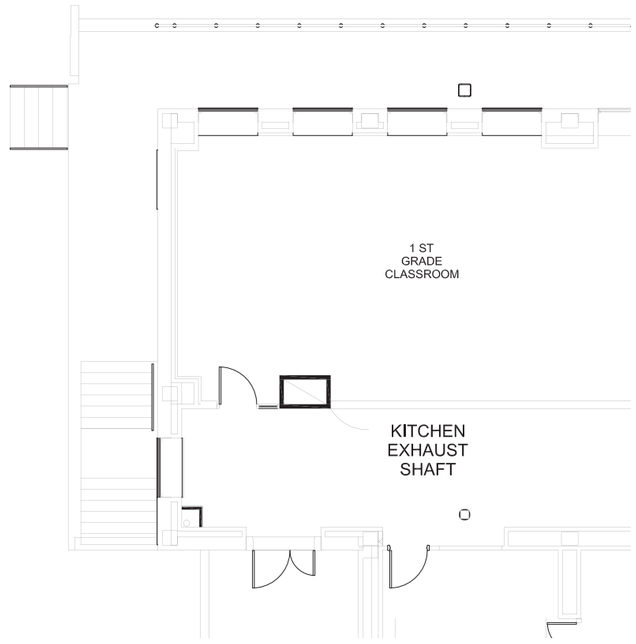
Outside air will be provided by variable air volume100% outside air roof top units with integral air cooled condensing unit. The 100% outside air volume roof top unit shall consist of MERV 8 and MERV 13 filter racks, relief air fan, heat recovery heat exchanger, gas heating furnace, access section, dual circuit direct expansion cooling coil, supply air fan with variable frequency drive and condensing unit. The condensing unit section shall have dual circuit refrigeration circuits with multiple variable capacity scroll compressors for capacity modulation. The 100% outside air roof top unit will be mounted on a roof curb and will be ducted with low pressure each space with outside air requirements. Carbon dioxide (CO2) sensors in each classrooms and other densely populated spaces will be provided to vary outside air according to space population and CO2 levels. The 100% outside air unit includes an exhaust air heat recovery component to extract heat and cool content of return air from space. Return air ductwork will extend return air plenum spaces to the roof top unit via low pressure ductwork rated for holding negative two inches of static pressure. The relief air fan will be provided with a variable frequency drive to track the supply air fan to maintain space pressurization. Heat recovery heat exchangers extract energy from return air to increase building performance to reduce energy budget costs.

The kitchen areas will be provided with grease hood exhaust duct to exhaust the grease hood. Grease exhaust duct will be extended to roof and terminated to a roof mounted grease exhaust fan. The grease exhaust duct will be provided with proper clean-outs meeting governing codes. The grease exhaust duct will be extended to roof and will terminate minimum 40 inches above roof and 25 feet away from any air intake or windows. A gas fired make-up air unit will be provided for the kitchen area to make-up for the grease hood exhaust air. Other hoods such as convection ovens and dishwashers will also be extended to roof.

Refer to the figure adjacent: PROPOSED EXHAUST DUCT ROUTE



SECOND FLOOR PLAN



FIRST FLOOR PLAN

PROPOSED EXHAUST DUCT ROUTE

RECOMMENDED HEATING, VENTILATING AND AIR-CONDITIONING SYSTEM:

We believe Option 1 described above will have the lowest energy use. This option provides the least operating cost due to packaged units and sealed refrigerant piping. It also provides simultaneous cooling and heating for various spaces. Both systems will be analyzed using a computer simulation program such as Trane Trace to evaluate and select the least energy consuming system.

VENTILATION:

Ventilation air will be determined based on space type/application, occupancy type, and floor area per ASHRAE 62.1-2010. All bathrooms, Art classrooms, locker rooms and other spaces required by ASHRAE 62.1-2001 will be exhausted to outside. All mechanical rooms will be ventilated with supply and return fans through local louvers at exterior walls.
Electrical room will be ventilated with supply and return air fans through local louvers at exterior walls.

AUTOMATIC TEMPERATURE CONTROL SYSTEM:

A direct digital control system will be specified to control the equipment. The microprocessor-based direct digital control system would include the required software to meet ASHRAE 90.1-2007 and LEED requirements.

SYSTEM TESTING AND BALANCING

System testing and balancing will be performed by an independent contractor approved by the engineer of record. A certified report will be prepared and submitted for review at completion of the project.

SYSTEM COMMISSIONING

Commissioning is a process for achieving, verifying, and documenting the performance of a building and its various systems to show designs intent and owner's operational need are met. Building HVAC systems and controls will be commissioned to ensure the system components are installed, calibrated and perform according the project requirements per ASHRAE 90.1-2010 and LEED requirements.

Shepherd Park Community Center is comprised of an approximately 14,200 square feet of community space adjacent to the Shepherd Elementary school in Washington, DC. The community center includes a culinary kitchen, bathrooms, offices, storage rooms, gymnasium, and fitness areas.

PROPOSED SITE DEVELOPMENT

PLUMBING

CODES AND STANDARDS

- The design of the plumbing system will be in conformance with the design guidelines of the following and other applicable standards and codes:
- International Building Code 2012
- International Plumbing Code 2012
- District of Columbia Codes 2013
- International Energy Conservation Code 2012
- ANSI/ASHRAE Standard 90.1-2010
- National Fire Protection Agency (NFPA)
- All plumbing work shall be coordinated with the requirements of all other divisions including Architectural, Structural, Mechanical and Electrical.

PLUMBING FIXTURES

Water closets: Generally wall mounted back discharge, vitreous china water closets with dual flush valve, elongated bowls, open front seats without covers will be installed in the public bathrooms. Floor outlet, vitreous china water closets with elongated bowls, exposed, manually operated flush valves, and open front seats without covers will be installed in common toilet areas. Where required to be wheelchair accessible water closets in common toilet areas will have high bowls that set the seat approximately 18” above floor level. To meet current water conservation standards water use will not exceed 1.6 gallons per flushing cycle. Sensor operated and dual flush type flush valves will be considered to further reduce water consumption.

Lavatories: Self-rimming, vitreous china lavatories with center set, single lever faucets and pop up drains will be installed. Wall hung, vitreous china lavatories on concealed arm carriers, fitted with center set, single lever faucets and fixed drains will be installed in common toilet areas. Where required to be wheelchair accessible lavatories in common toilet rooms will be mounted with the front rim 34” above the floor level. To meet current water conservation standards lavatories will have 0.5 gpm flow control aerators. Sensor operated lavatories will be considered to further reduce water consumption.

Drinking Fountains: There will be electric water cooler with recessed chiller or, fountains at various floors, meeting ADA requirements.

Sinks: Floor mounted mop basins will be installed in janitor’s closets. A stainless steel sink with two compartments, drainboard, and garbage disposer will be installed in the kitchen. To meet current water conservation standards water use at sinks will not exceed 2.2gpm.

Floor Drains: Sanitary Floor drains will be installed in the food preparation areas to accept indirect waste from service equipment. Automatic trap primers will be installed for floor drains that are located in areas where the floor will not be washed down regularly.

Grease interceptors will be sized per applicable codes to drain 3-compartment sinks in the food preparation areas. Grease interceptor location will be evaluated based on the food service drawings during the design process.

Domestic Water System

Water Service: Domestic water for the community center will be supplied from public water main through an underground domestic water service line. If the street water pressure is higher than 80 psi a domestic water pressure reducing station will be installed where the domestic water line enters the building, and will be set to maintain 70 psi maximum static pressure in the domestic water system. The kitchen and serving area are located in the school will be connected to the school domestic water line.

Water Distribution: Domestic water piping will be sized to limit velocities to 8 feet per second, and to limit friction loss to 5 psi per 100 feet of run. Shutoff valves will be installed at the base of each water supply riser, in branch piping to isolate each group of fixtures, and to individually isolate each hose bibb, hose reel, wall hydrant and major piece of equipment. Service stops will be installed at each plumbing fixture. Water hammer arresters will be installed in the branch piping supplying flush valve fixtures, dishwashers, washing machines, and hose connections. Backflow preventers for cross connection control will be installed where required by the IPC.

Domestic Hot Water: Domestic water will be heated in gas fired water heaters with integral storage tanks located in each wing to reduce the length of hot water piping and recirculation pump energy. Each water heater will be sized to accommodate 50 percent of calculated peak domestic hot water demand. To mitigate concerns about Legionella, hot water will be stored and circulated at 140 degrees F. Scaled prevention measures will include mixing valves at point of use and pressure balancing shower valves with adjustable safety hot temperature limit stops. An inline type stainless steel or all bronze circulating pumps will be used to maintain water temperature in the domestic water distribution piping. Plug type or ball type balancing valves and check valves will be installed in each branch of the domestic hot water return system.

Sanitary Drainage and Vent System

Plumbing fixtures and sanitary floor drains will be trapped, vented and discharge to the sanitary drainage system through a network of vertical risers and horizontal building drainage system through a network of vertical risers and horizontal building drains installed below slab on grade. The number of vent pipes that penetrate the planted roof will be minimized. Typically, water closets located in single occupancy toilet rooms will be wet vented through the adjacent lavatories. Floor drains and other fixtures will be individually vented or circuit vented.

ELECTRIC

Electrical Systems

Codes and Standards

- The design of the electrical system will be in conformance with the design guidelines of the following and other applicable standards and codes:
- International Building Code 2012
- International Electrical Code 2012
- District of Columbia Codes 2013
- National Electrical code 2011
- International Energy Conservation Code 2012
- ANSI/ASHRAE Standard 90.1-2010
- National Fire Alarm code NFPA 72
- National Electrical Safety Code, ANSI C2
- National Electrical Manufacturer's Association (NEMA)
- Illumination Engineers Society (IES)
- Telecommunications Distribution Methods Manual (TDMM)-"BICSI"
- Telecommunications Standards EIA/TIA
- Underwriter's Laboratories (UL)
- USGBC LEED V4
- All electrical work shall be coordinated with the requirements of all other divisions including Architectural, Structural, Plumbing and Electrical.

Electrical Service

The estimated loads for new Community space is approximately is estimated at about 347kVA, which is about 17 VA per square foot. The school electrical service will be studied to provide power for the kitchen and the serving area. The remaining part of the community center will be provided with a new service from PEPCO.

Power Distribution System

Assuming the school incoming power service is a 480/277 volt, 3 phase, 4 wire service a distribution panel will be tapped into the upgraded switchboard to serve the kitchen and the serving area. The Culinary Kitchen will be provided with a 75kVA dry-type step-down transformer to serve 208/120 volt devices such as receptacle outlets, miscellaneous loads and small mechanical/plumbing loads.
The remaining parts or community center will be connected to new incoming power. A distribution panel will supply power to other panels throughout the community center.
The kitchen area will be provided with a shunt-tripped panel to cut-off power for all equipment and outlets under the grease hood in case hood fire protection system is activated.

Emergency Power Distribution
An outdoor gas fired generator with sound attenuator muffle and aluminum weatherproof enclosure will be provided for an emergency power system. An automatic transfer switch "ATS" and panel will be provided in Electrical Closet.

Renewable Energy (Solar Panels)
The space on the new roof is limited because the mechanical equipment and plumbing vent pipes provided obstruction of sun views for installation of renewable energy source such as solar panels that harvests free energy from the sun during day time. The best solar performances in summer and winter seasons are facing toward southern sky. The maximum solar panels with equivalent size 62" x 43" can be installed up to 822 panels on the roof. Each panel is rated 300Volt-Ampere. The total power can harvest from the sun at highest peak is 246kVA. Assume the system is operated efficiently 5 hours per day without any interruptions such as bad weather, cloudy days, rainy days and snowy days etc. Yearly the system can produce approximately 442,800kW/hrs or more depending on the climate. This is one good solution to reduce the cost of utility bills and also reduce the carbon footprint (CO2) in the atmosphere. The only drawing back is the cost of materials and labor of installation for the solar system which are still very expensive about $6.25 to $7.00 per 1 watt of power. The cost has been continuously and slowly dropped down every year. The advantage of installing solar panels is low cost maintenance with an average life span of about 25 years or more depending on the quality of products.

Lighting System
Lighting fixtures will be selected and specified by the architect to create the best work space environment as well as the energy efficient. Lighting loads density must meet the LEED and comply with ComCheck requirements. General lighting design foot-candle levels for various spaces will be in accordance with the IESNA guidelines.

Lighting foot candle calculations will be performed for typical classroom, and other special use area to assure lighting levels are within the recommended levels of IESNA.
Lighting will be controlled via dual technology occupancy sensors to reduce energy consumptions. Additionally, a programmable lighting control system will be provided to shut-off lighting fixtures throughout the building when building is unoccupied per ASHRAD 90.1-2010.
In areas where day lighting may supplement space lighting needs, interior photo sensors shall be provided to switch off lighting when foot-candle levels within a space are adequate.

Generally, 2 x 2, 2 x 4, 1 x 4 LED 4000K color temperature lighting fixtures with high energy efficiency electronic driver to be used in the general offices, storage room and corridors, etc. Direct/indirect LED with 3000K color temperature lighting fixtures will be provided in the Multi-purpose Dining and Fitness for better lighting environment. A continuous row 4'-0" long LED wrapped around with prismatic lens and sealed tight gasket to suite the Kitchen environment. Special pendant mounted high bay LED 4000K color temperature with vandalism prismatic lens will be provided in Gymnasium. Round LED sealed tight gasket and 2'-0" long decorative LED fixture above hand sink mirrors will be provided in Bathroom.

Lighting Control System
Multi-purpose Dining and Fitness lights will be provided with wall mounted digital light switches near egress doors and ceiling mounted vacancy sensors and associated low voltage power pack units. The daylight sensor will be provided to comply with Energy Saving Code only where large glass windows available that permits more sunlight comes through the room. The dimming control system will be provided only requested by the users or the owner.

Kitchen and Storage lights will be controlled with wall mounted digital light switches near egress doors and ceiling mounted vacancy sensors and associated low voltage power pack units.

Bathroom lights will be controlled with wall mounted toggle light switch near egress door and ceiling mounted occupancy sensor and associated low voltage power pack unit.

Gymnasium lights will be controlled by an automated lighting control system with override switches near egress doors and high bay ceiling mounted vacancy sensors and daylight sensors as needed per Energy Saving Code.

Emergency and Egress Lighting
A complete system of exit and egress lighting will be provided for illumination of all paths of egress from the building in accordance with the floor layouts for safe discharge of the occupants. The exit and egress lighting shall be powered from the building's emergency generator. Exit signs shall be red LED type.

Wiring And Device
Receptacle will be provided with duplex 20A, 120V, NEMA 5-20R for general purposes, computers and miscellaneous equipment. Special receptacle will be provided per specific equipment based on the manufacturer's requirement.

Feeder and Secondary Service Power Cabling: The main power feeders and secondary power cabling from the utility pad mount transformer will be rated for 600 volts, consist of insulation type THHN/THWN wire, utilizing conductors with 70 degree Celsius copper. Cabling larger than American Wire Gauge (AWG) size #10 shall be stranded type and #10 and smaller will be solid conductor type. This type of cabling will typically be used to distribute 480/277 volt and 208/120 volt utilization power from the utility transformer, emergency generator, power distribution panels, step-down transformers and appliance panels. These conductors will typically be installed in electrical metallic tubing EMT conduit when run within the building. Conductors originating in the utility pad mount transformer and the emergency generator will be installed in an underground ductbank consisting of Schedule 40 polyvinyl-chloride (PVC) conduits encased in concrete.

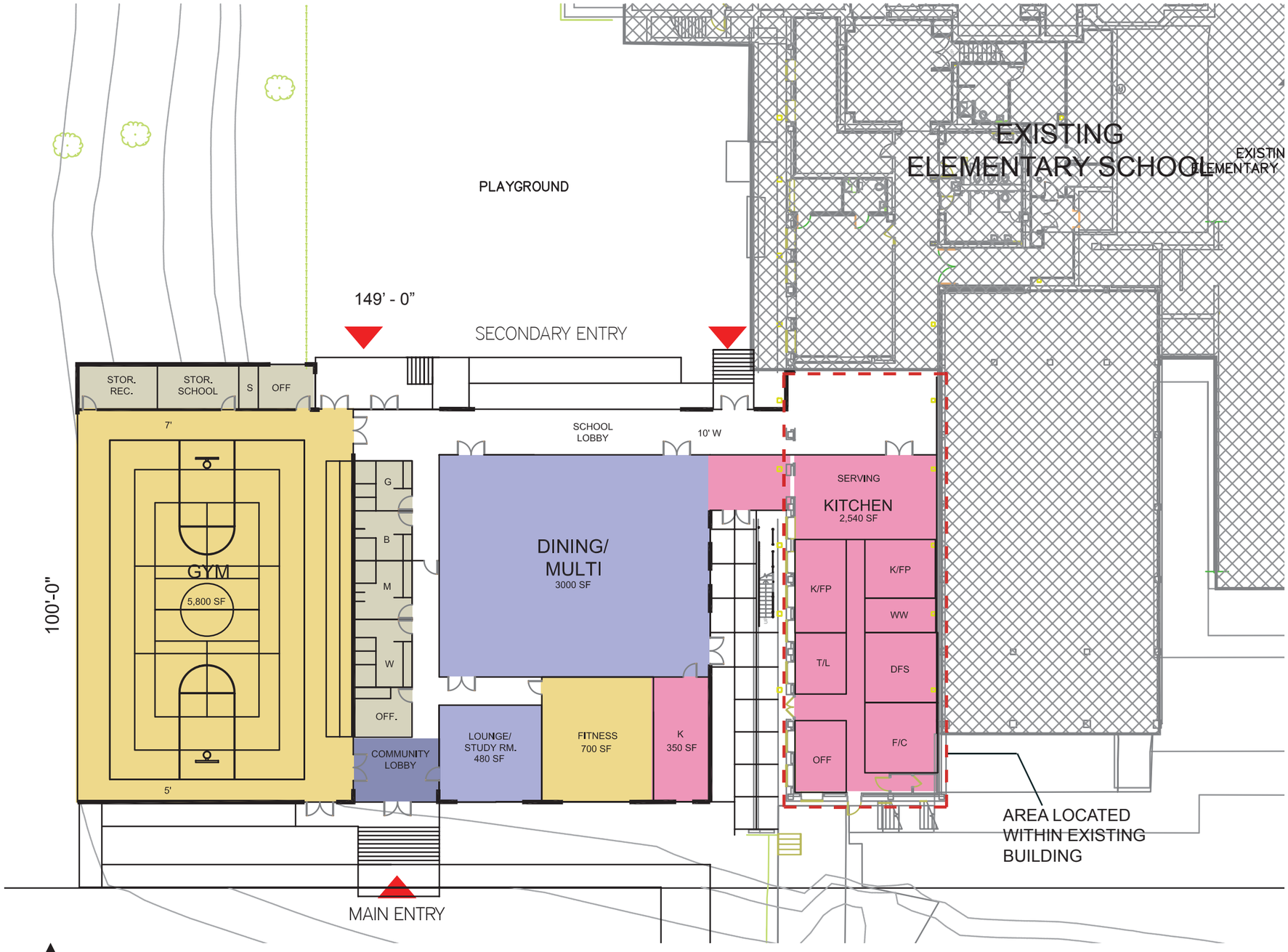
Grounding
A copper ground bus will be provided at each telecommunications room and each room housing fire alarm, security and paging system equipment. Ground buses will be solid copper with 2 inch heights and ¼ inch thick. Ground buses will be surface mounted on insulators.

Fire Alarm System
Existing addressable fire alarm system in the Elementary School will be extended to smoke detectors, audio, and visual devices, combination audio/visual devices and pull station in the kitchen and serving area in the school. The existing annunciator panel will be updated to include the addition space. New zones will be provided on the annunciator panel per NFPA 72.
A new fire alarm system will be provided for the community center.

Special systems (Telecom and Security)
4x4 gang steel outlet boxes with single reducer plate and ¾" empty conduits with pull strings up to 6" above accessible ceiling tiles for data outlets.

4x4 gang steel outlet boxes with single reducer plate and ¾" empty conduits with pull strings up to 6" above accessible ceiling tiles for TV outlets.

Security system and other systems, where required shall be specified by others. 4x4 gang steel boxes with empty raceways and pull wires will be provided as required per security consultants.
System Commissioning
Building energy systems will be commissioned to verify energy-related systems are installed, calibrated and perform according the project requirements per LEED requirements.



	PROGRAM - Option C.1	
1	Gymnasium	5,800
2	Fitness Room	700
3	Multi-Purpose/ Dining	3,000
4	Serving Kitchen	2,540
5	Culinary Kitchen	350
		-
6	Staff Office	145
7	Lounge / Study	480
8	Men' & Womens Restrooms	650
9	Subtotal	13,665
10	Circulation & Support	2,125
	Gross Total	**$15,790**

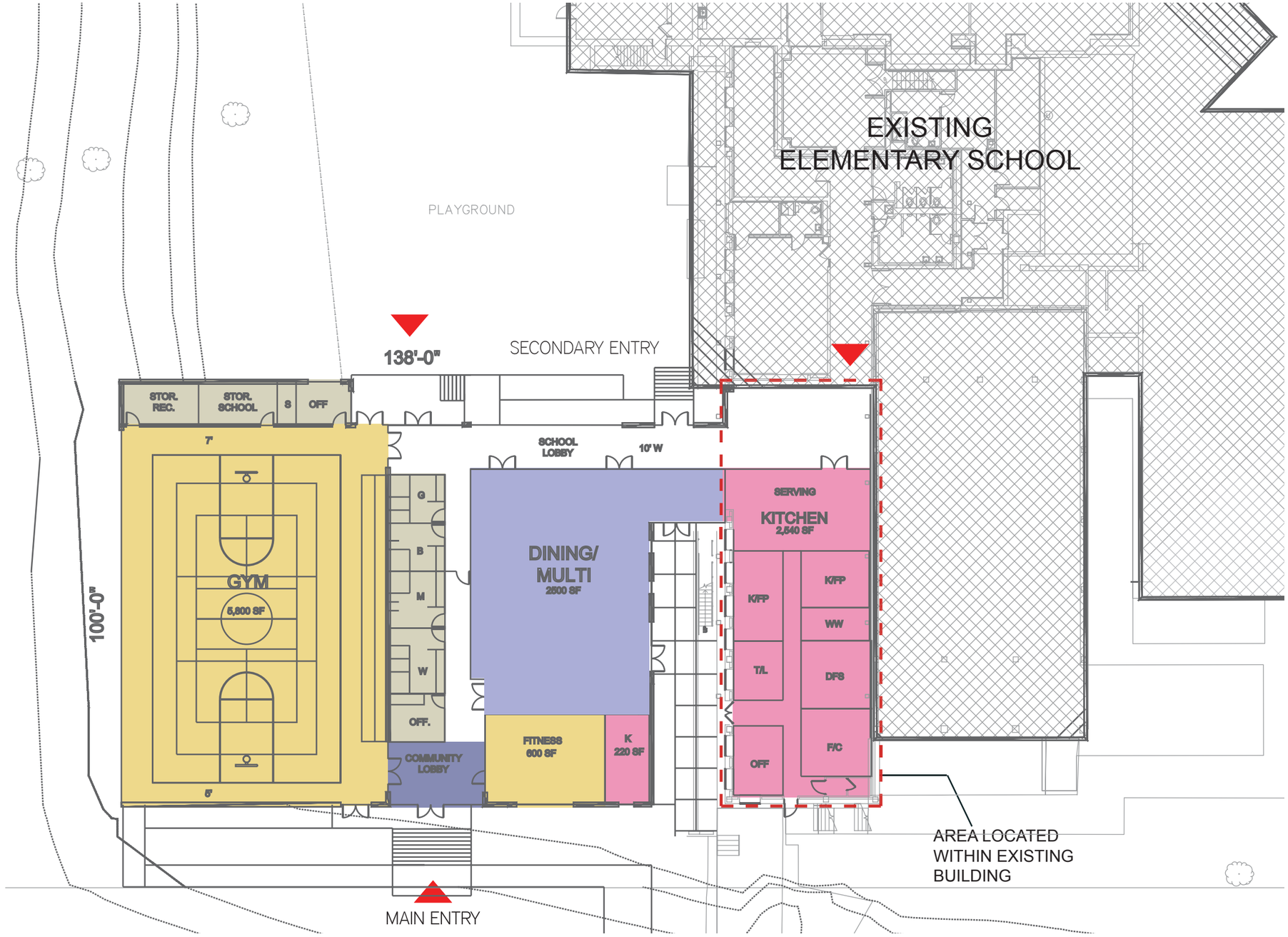
NOTES

1. Building located south over existing basketball court
2. Configuration highlights Fitness area as main community exposure.
3. Community Center main entrance to south from Jonquil St., NW
4. Provide a direct connection from center to lower school floor
5. Split kitchen allows for multiple versions of seperation from the community as required.
6. School building can be locked down after hours.

LEGEND

- CATERING KITCHEN
- GYMNASIUM / FITNESS
- MULTIPURPOSE/ DINING
- COMMUNITY LOBBY
- OFFICE /BATH/ STORAGE

OPTION C.1: FLOOR PLAN



	PROGRAM - Option C.2	
1	Gymnasium	5,800
2	Fitness Room	600
3	Multi-Purpose/ Dining	2,500
4	Serving Kitchen	2,540
5	Culinary Kitchen	220
		-
6	Staff Office	145
7	Lounge / Study	
8	Men' & Womens Restrooms	650
9	Subtotal	12,380
10	Circulation & Support	1,820
	Gross Total	**$14,200**

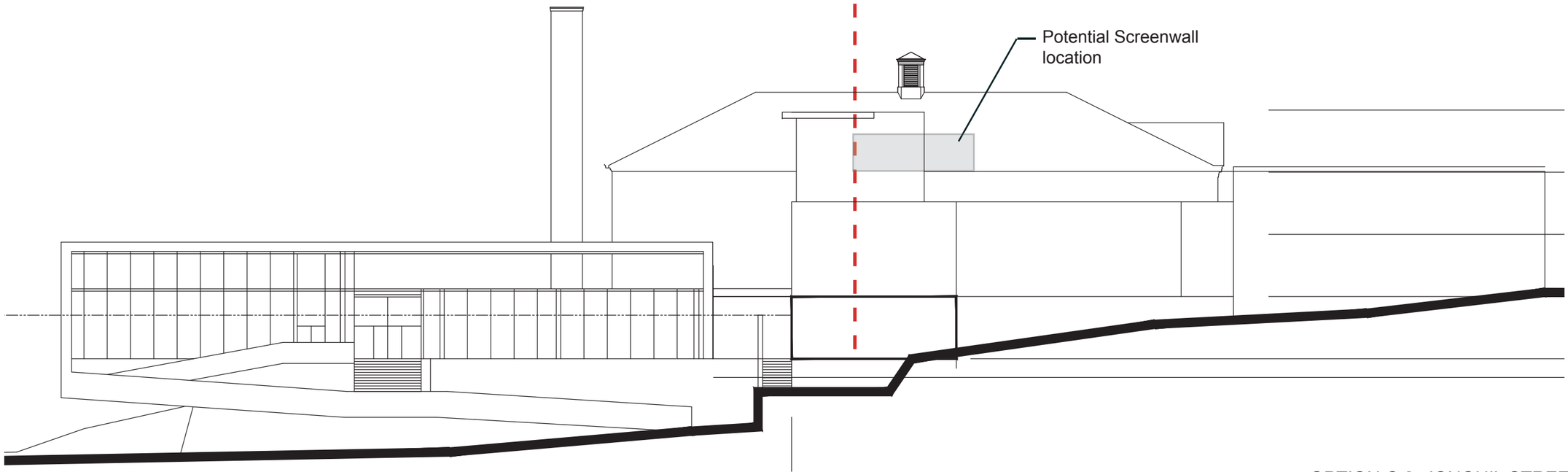
NOTES

1. Building located south over existing basketball court
2. Configuration highlights Fitness area as main community exposure.
3. Community Center main entrance to south from Jonquil St., NW
4. Provide a direct connection from center to lower school floor
5. Split kitchen allows for multiple versions of seperation from the community as required.
6. School building can be locked down after hours.

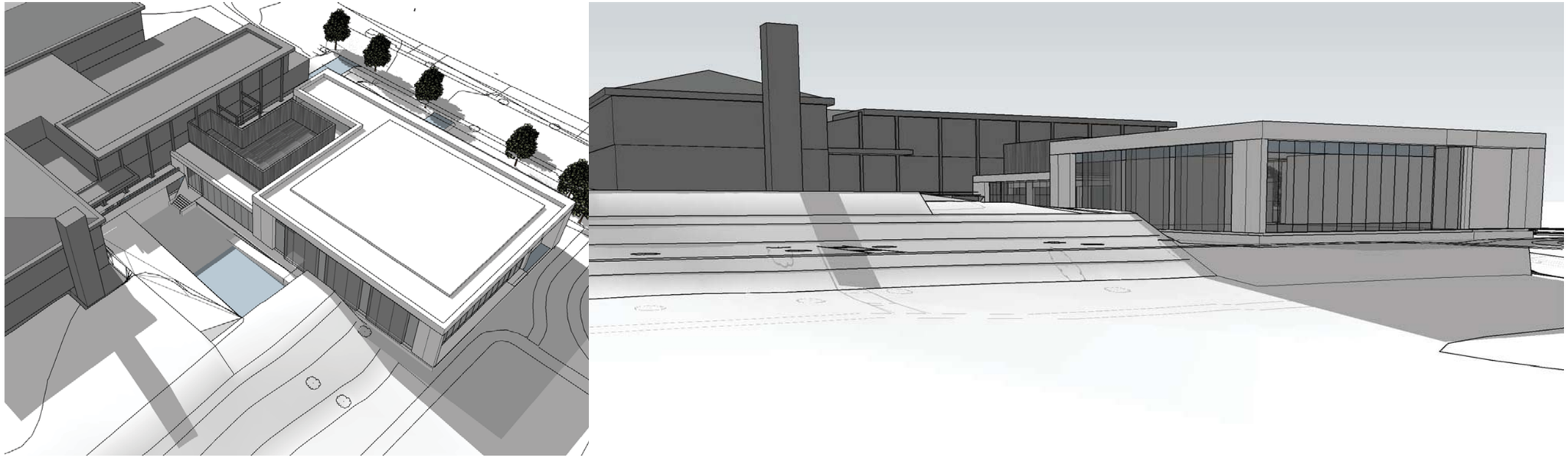
LEGEND

- CATERING KITCHEN
- GYMNASIUM / FITNESS
- MULTIPURPOSE/ DINING
- COMMUNITY LOBBY
- OFFICE /BATH/ STORAGE

OPTION C.2: FLOOR PLAN



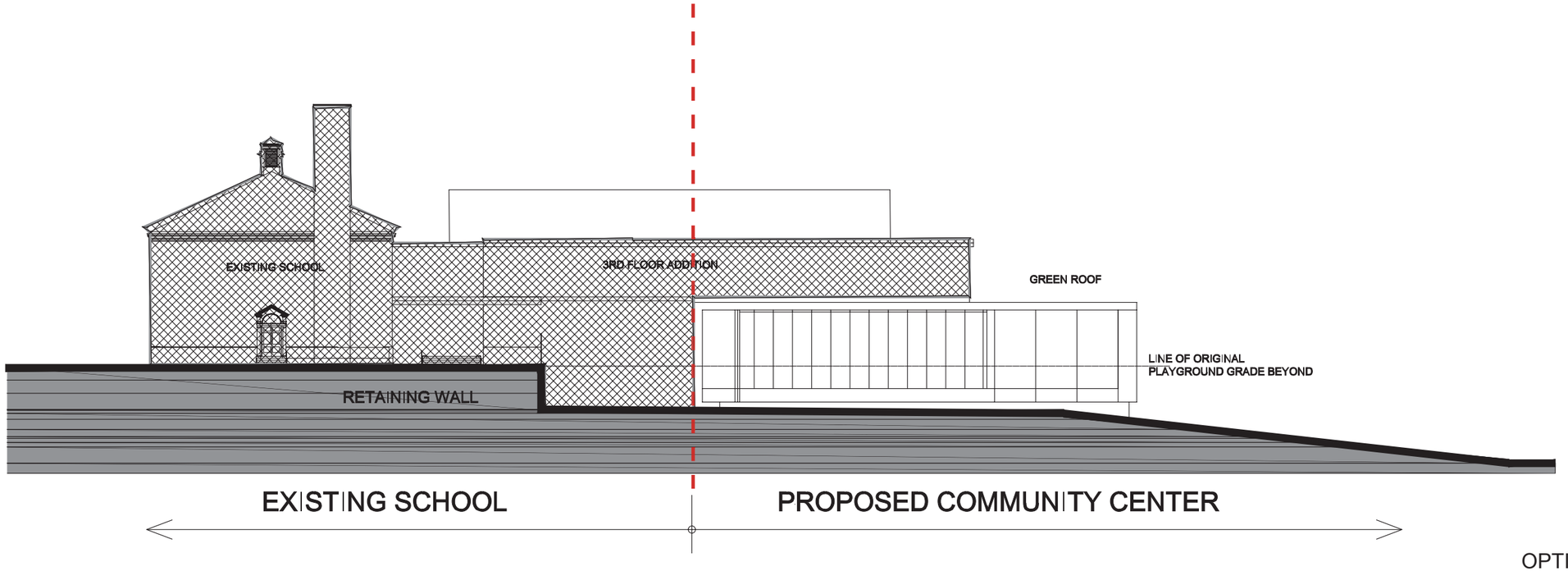
OPTION C.2: JONQUIL STREET ELEVATION



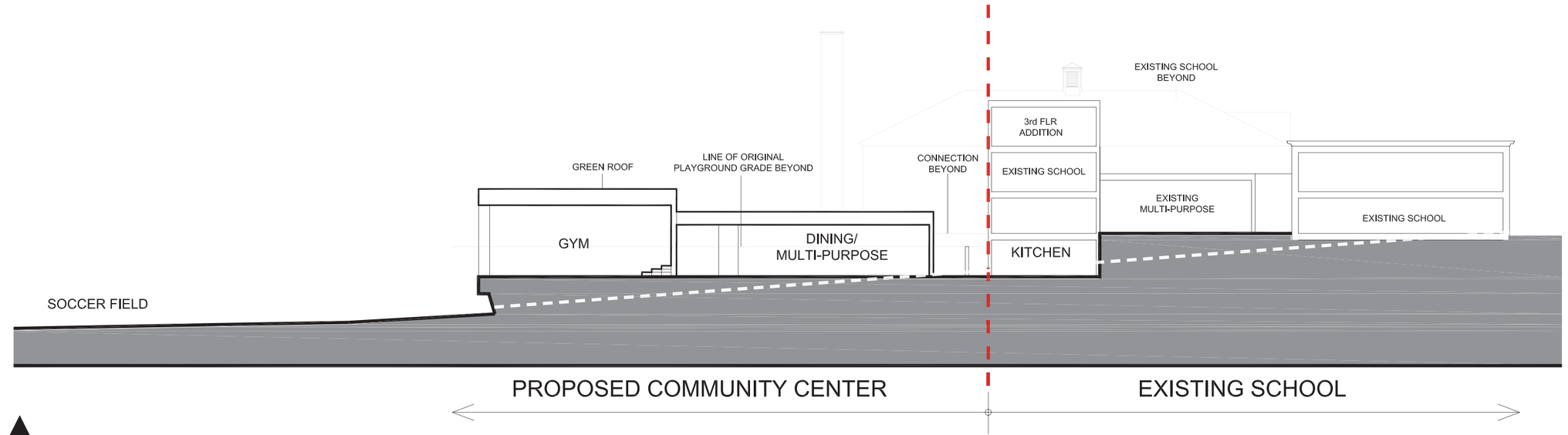
N

0 10 30 50
graphic scale

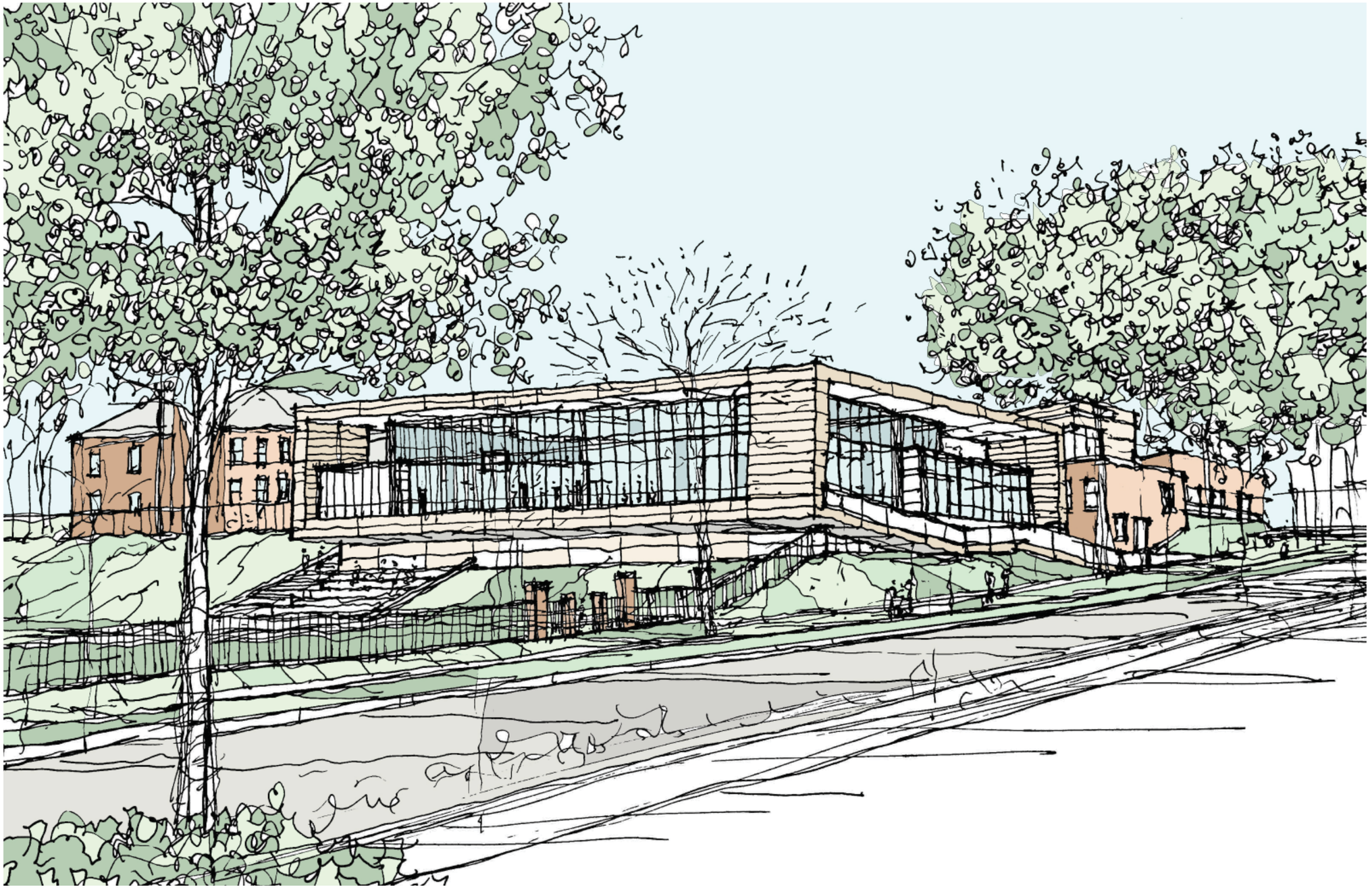
OPTION C.2: RENDERINGS

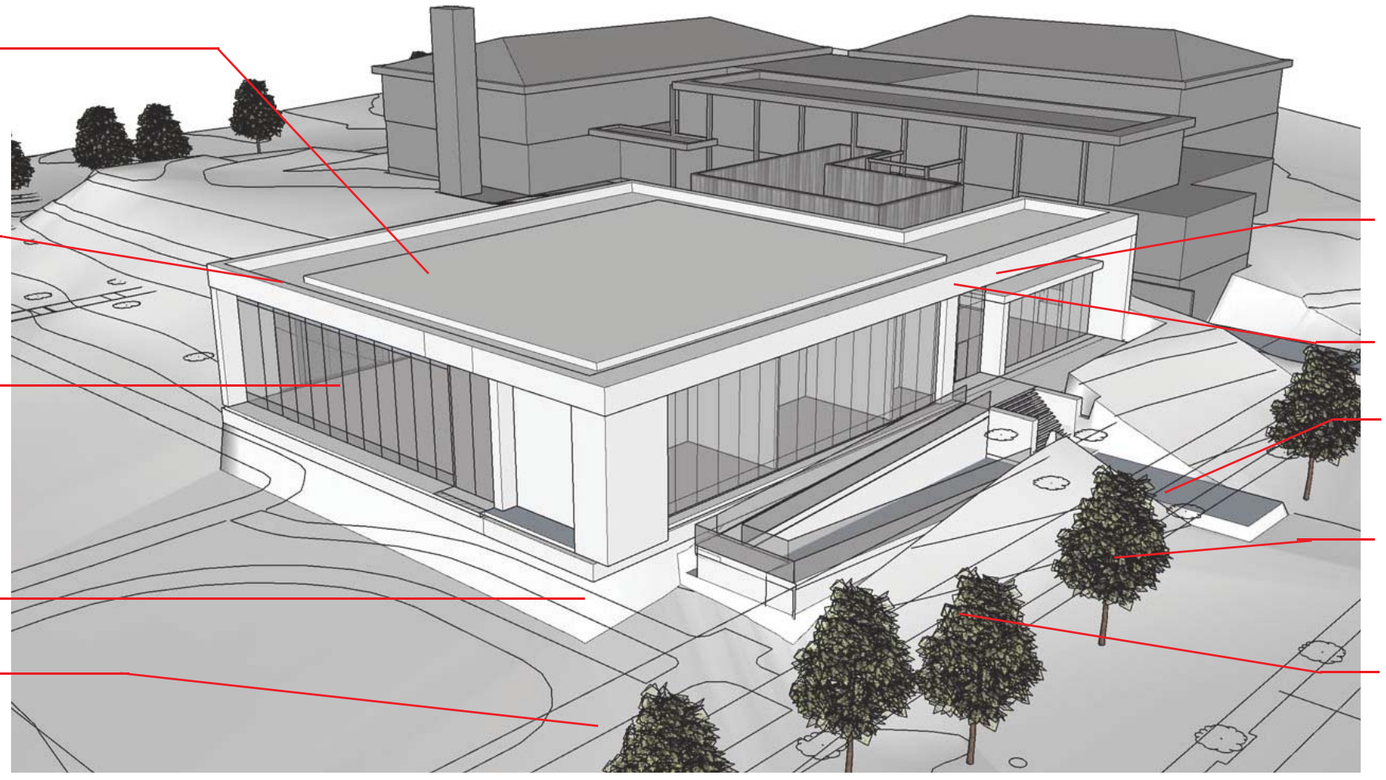


OPTION C.2 : FIELD ELEVATION



OPTION C.2 : SITE SECTION





SHEPHERD PARK COMMUNITY CENTER
Sustainable features like low-flow fixtures to save water, occupancy detectors to turn lights off if a room is empty, and better insulation for improved temperature control can aid in the creation of an environmentally- and socially-responsible building for the community center. In addition, the use of daylighting to maximize natural lighting and reduce energy use, double layers of two-inch thick insulation to increase temperature control, and recycled and regional materials could potentially help the project obtain the desired Gold minimum.

Additional features for building include preferred parking for low-emitting and fuel-efficient vehicles, a green cleaning plan, water use reduction and a controlled stormwater runoff system.

LEED COMPLIANCE STRATERGIES

Sample Project Checklist

LEED v4 for BD+C: New Construction and Major Renovation

Project Checklist

Project Name:
Date:

Y	?	N			
			Credit	Integrative Process	1

0	0	0	**Location and Transportation**		**16**
			Credit	LEED for Neighborhood Development Location	16
			Credit	Sensitive Land Protection	1
			Credit	High Priority Site	2
			Credit	Surrounding Density and Diverse Uses	5
			Credit	Access to Quality Transit	5
			Credit	Bicycle Facilities	1
			Credit	Reduced Parking Footprint	1
			Credit	Green Vehicles	1

0	0	0	**Sustainable Sites**		**10**
			Prereq	Construction Activity Pollution Prevention	Required
			Credit	Site Assessment	1
			Credit	Site Development - Protect or Restore Habitat	2
			Credit	Open Space	1
			Credit	Rainwater Management	3
			Credit	Heat Island Reduction	2
			Credit	Light Pollution Reduction	1

0	0	0	**Water Efficiency**		**11**
			Prereq	Outdoor Water Use Reduction	Required
			Prereq	Indoor Water Use Reduction	Required
			Prereq	Building-Level Water Metering	Required
			Credit	Outdoor Water Use Reduction	2
			Credit	Indoor Water Use Reduction	6
			Credit	Cooling Tower Water Use	2
			Credit	Water Metering	1

0	0	0	**Energy and Atmosphere**		**33**
			Prereq	Fundamental Commissioning and Verification	Required
			Prereq	Minimum Energy Performance	Required
			Prereq	Building-Level Energy Metering	Required
			Prereq	Fundamental Refrigerant Management	Required
			Credit	Enhanced Commissioning	6
			Credit	Optimize Energy Performance	18
			Credit	Advanced Energy Metering	1
			Credit	Demand Response	2
			Credit	Renewable Energy Production	3
			Credit	Enhanced Refrigerant Management	1
			Credit	Green Power and Carbon Offsets	2

0	0	0	**Materials and Resources**		**13**
			Prereq	Storage and Collection of Recyclables	Required
			Prereq	Construction and Demolition Waste Management Planning	Required
			Credit	Building Life-Cycle Impact Reduction	5
			Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
			Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
			Credit	Building Product Disclosure and Optimization - Material Ingredients	2
			Credit	Construction and Demolition Waste Management	2

0	0	0	**Indoor Environmental Quality**		**16**
			Prereq	Minimum Indoor Air Quality Performance	Required
			Prereq	Environmental Tobacco Smoke Control	Required
			Credit	Enhanced Indoor Air Quality Strategies	2
			Credit	Low-Emitting Materials	3
			Credit	Construction Indoor Air Quality Management Plan	1
			Credit	Indoor Air Quality Assessment	2
			Credit	Thermal Comfort	1
			Credit	Interior Lighting	2
			Credit	Daylight	3
			Credit	Quality Views	1
			Credit	Acoustic Performance	1

0	0	0	**Innovation**		**6**
			Credit	Innovation	5
			Credit	LEED Accredited Professional	1

0	0	0	**Regional Priority**		**4**
			Credit	Regional Priority: Specific Credit	1
			Credit	Regional Priority: Specific Credit	1
			Credit	Regional Priority: Specific Credit	1
			Credit	Regional Priority: Specific Credit	1

0	0	0	**TOTALS**	Possible Points:	**110**

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

PROPOSED POINT APPROACH

LOCATION & TRANSPORTATION	09	16 total
SUSTAINABLE SITES	04	10
WATER EFFICIENCY	09	11
ENERGY & ATMOSPHERE	29	33
MATERIALS & RESOURCES	09	13
INDOOR ENVIROMENTAL QUALITY	15	16
INNOVATION	06	6
REGIONAL PRIORITY	01	4
TOTAL	82	110

XXXX XXXX XXXXX

LEED BD+C: New Construction (v2.2) — GOLD, AWARDED JUL 2010

SUSTAINABLE SITES — AWARDED: 5 / 14

SSc1	Site selection	0 / 1
SSc2	Development density and community connectivity	0 / 1
SSc3	Brownfield redevelopment	0 / 1
SSc4.1	Alternative transportation - public transportation access	0 / 1
SSc4.2	Alternative transportation - bicycle storage and changing rooms	1 / 1
SSc4.3	Alternative transportation - low emitting and fuel efficient vehicles	1 / 1
SSc4.4	Alternative transportation - parking capacity	0 / 1
SSc5.1	Site development - protect or restore habitat	0 / 1
SSc5.2	Site development - maximize open space	1 / 1
SSc6.1	Stormwater design - quantity control	0 / 1
SSc6.2	Stormwater design - quality control	1 / 1
SSc7.1	Heat island effect - non-roof	0 / 1
SSc7.2	Heat island effect - roof	1 / 1
SSc8	Light pollution reduction	0 / 1

WATER EFFICIENCY — AWARDED: 3 / 5

WEc1.1	Water efficient landscaping - reduce by 50%	1 / 1
WEc1.2	Water efficient landscaping - no potable water use or no irrigation	0 / 1
WEc2	Innovative wastewater technologies	0 / 1
WEc3.1	Water use reduction - 20% reduction	1 / 1
WEc3.2	Water use reduction - 30% reduction	1 / 1

ENERGY & ATMOSPHERE — AWARDED: 8 / 17

EAc1	Optimize energy performance	6 / 10
EAc2	On-site renewable energy	0 / 3
EAc3	Enhanced commissioning	1 / 1
EAc4	Enhanced refrigerant Mgmt	0 / 1
EAc5	Measurement and verification	1 / 1
EAc6	Green power	0 / 1

MATERIAL & RESOURCES — AWARDED: 6 / 13

MRc1.1	Building reuse - maintain 75% of existing walls, floors & roof	0 / 1
MRc1.2	Building reuse - maintain 95% of existing walls, floors & roof	0 / 1
MRc1.3	Building reuse - maintain 50% of interior non-structural elements	0 / 1
MRc2.1	Construction waste Mgmt - divert 50% from disposal	1 / 1
MRc2.2	Construction waste Mgmt - divert 75% from disposal	1 / 1
MRc3.1	Materials reuse - 5%	0 / 1

MATERIAL & RESOURCES — CONTINUED

MRc3.2	Materials reuse - 10%	0 / 1
MRc4.1	Recycled content - 10% (post-consumer + 1/2 pre-consumer)	2 / 1
MRc4.2	Recycled content - 20% (post-consumer + 1/2 pre-consumer)	0 / 1
MRc5.1	Regional materials - 10% extracted, processed and manufactured regionally	1 / 1
MRc5.2	Regional materials - 20% extracted, processed and manufactured regionally	0 / 1
MRc6	Rapidly renewable materials	0 / 1
MRc7	Certified wood	1 / 1

INDOOR ENVIRONMENTAL QUALITY — AWARDED: 13 / 15

EQc1	Outdoor air delivery monitoring	1 / 1
EQc2	Increased ventilation	0 / 1
EQc3.1	Construction IAQ Mgmt plan - during construction	1 / 1
EQc3.2	Construction IAQ Mgmt plan - before occupancy	1 / 1
EQc4.1	Low-emitting materials - adhesives and sealants	1 / 1
EQc4.2	Low-emitting materials - paints and coatings	1 / 1
EQc4.3	Low-emitting materials - carpet systems	1 / 1
EQc4.4	Low-emitting materials - composite wood and agrifiber products	1 / 1
EQc5	Indoor chemical and pollutant source control	0 / 1
EQc6.1	Controllability of systems - lighting	1 / 1
EQc6.2	Controllability of systems - thermal comfort	1 / 1
EQc7.1	Thermal comfort - design	1 / 1
EQc7.2	Thermal comfort - verification	1 / 1
EQc8.1	Daylight and views - daylight 75% of spaces	1 / 1
EQc8.2	Daylight and views - views for 90% of spaces	1 / 1

INNOVATION — AWARDED: 4 / 5

IDc1	Innovation in design	3 / 4
IDc2	LEED Accredited Professional	1 / 1

TOTAL 39 / 69

Sample Gold Scorecard

LEGEND

- Required credits sought
- Potential project credits sought

Proposed design methodolgies and credit approach is expected to yield the desired goal of obtaining a LEED Gold certification minimum with potential to reach LEED Platinum certification level. Critical to the success of this endeavor will be the development and activation of a concise and comprehensive LEED Work Plan. Particular attention paid to key credits:

WE:	Indoor Water Use Reduction	6
EA:	Optimize Energy Performance	18
MR:	Building Life-Cycle Impact Reduction	5

These credits account for a total impact of 29 points.

LEED COMPLIANCE STRATERGIES

dp+partners architects