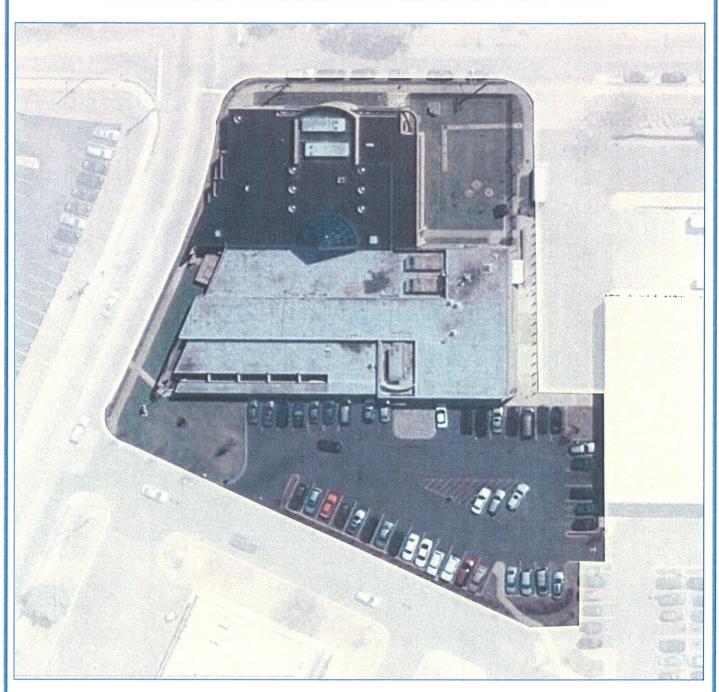
MASTIC MORICHES SHIRLEY COMMUNITY LIBRARY

BUILDING CONDITION REVIEW REPORT



JULY 2, 2010

SANDPEBBLE BUILDERS INC. 921 COUNTY ROAD 39 SOUTHAMPTON, NY 11968 631-287-6000

INTRODUCTION:

THIS REPORT SUMMARIZES THE CURRENT GENERAL BUILDING CONDITIONS OF THE MASTIC MORICHES SHIRLEY COMMUNITY LIBRARY AT 400 WILLIAM FLOYD PARKWAY IN SHIRLEY.

THE APPROXIMATE 45,000 SQFT FACILITY WAS BUILT IN TWO STAGES, THE FIRST IN 1982 AND THE SECOND IN 1995.

THE MULTIPLE VISITS DURING THE MONTHS OF JUNE AND JULY BY BOB VIOLA, CHRIS BARLETTA, AND VICTOR CANSECO OF SANDPEBBLE TOGETHER WITH CONTRACTOR REPRESENTATIVES IN THE ROOFING, HVAC, PLUMBING AND ELECTRICAL TRADES SERVED AS THE PRIMARY BASES FOR THIS REPORT.

IN ADDITION, VALUABLE INPUT WAS RECEIVED FROM DIRECTOR KERRI ROSALIA, AS WELL AS MAINTENANCE STAFF MEMBERS HARRY LUGO, CHRIS DIGIACOMO AND ARTHUR GEACKEL. FINALLY, TWO CURRENT MAINTENANCE CONTRACTORS, BOB NANKERVIS FROM TBS CONTRACTING INC. AND PAT MCCOMB FROM THERMAL SOLUTIONS INC. PROVIDED ADDITIONAL INFORMATION.

SUMMARY:

ALTHOUGH THE ONGOING MAINTENANCE EFFORTS OF THE JANITORIAL STAFF AND SEVERAL OUTSIDE CONTRACTORS HAVE BEEN QUITE EFFECTIVE AT KEEPING THE BUILDING OPERATIONAL, THE BUILDING IS IN NEED OF MAJOR RENOVATION AND UPGRADE WORK.

AS IS OFTEN THE NORM IN THE MAINTENANCE OF PUBLIC BUILDINGS, ONLY A PORTION OF THE REQUIRED WORK IS IN FACT COMPLETED EACH YEAR. MOSTLY BECAUSE OF BUDGETARY CONSTRAINTS, A LOT OF MAINTENANCE WORK IS DEFERRED FROM ONE YEAR TO THE NEXT, WITH THE FOCUS BEING ON THOSE ITEMS THAT HAVE BEEN ALLOWED TO BECOME URGENT.

DEPENDING ON THE LONG RANGE PLANS FOR A BUILDING, GROWTH FORECASTS, AND A FACILITY'S AGE, THERE USUALLY COMES A TIME WHEN THE OVERALL EFFECT OF THESE DEFERRED ITEMS RESULTS IN THE NEED FOR MAJOR UPGRADE WORK.

TECHNOLOGICAL ADVANCES IN BUILDING MATERIALS AND SYSTEMS TOGETHER WITH EVER CHANGING CODES AND MANDATES ARE ADDITIONAL REASONS THAT TRIGGER THESE TYPE RENOVATION PROJECTS.

FINALLY, RESEARCH AND DEVELOPMENT IN THE BUILDING INDUSTRY OVER THE PAST 10 - 15 YEARS HAS SHOWN THAT HIGH PERFORMANCE OR "GREEN BUILDINGS" HAVE ENORMOUS POSITIVE EFFECTS ON BOTH THE EXTERNAL ENVIRONMENT AND THE HEALTH AND WELFARE OF THE OCCUPANTS OF A BUILDING. A SIGNIFICANT AMOUNT OF TEST DATA DURING THIS TIME HAS PROVEN THAT MANY INDICES OF HUMAN PERFORMANCE IMPROVE WHEN

OCCUPYING A GREEN SPACE. SOME OF THESE ARE RATES OF LEARNING, READING RETENTION, AND REDUCED RATES OF ILLNESS. TWO OF THE PRIMARY CAUSES ARE REDUCED CARBON DIOXIDE LEVELS AND EVENLY DISTRIBUTED INDIRECT DAY LIGHTING. BECAUSE OF THIS, THE US GREEN BUILDING COUNCIL HAS DEVELOPED A PROGRAM FOR EXISTING BUILDINGS (LEED EB). UNDER THEIR GUIDELINES, EXISTING BUILDINGS CAN BE RENOVATED TO THE EXTENT THAT THEY CAN RECEIVE A LEED CERTIFICATION.

SOME OF THE ITEMS THAT NEED OR WILL NEED ATTENTION ARE AS FOLLOWS:

HVAC:

OIL FIRED STEAM HEATING PLANT ANTIQUATED AND INEFFICIENT

TWENTY FIVE YEAR OLD ROOF TOP A/C UNITS (1995 SECTION) NEARING THE END OF THEIR LIFE CYCLE

PLUMBING:

SEWAGE EJECTION PUMP SYSTEM NEEDS REPAIRS

DOMESTIC WATER HEATER NEEDS REPLACEMENT

FIRE SPRINKLER SYSTEM:

THE DELUGE HEADS SEPARATING THE OLD AND NEW SECTION NEEDS TO BE RECOMMISSIONED

ELECTRICAL:

PEAK SUMMER ELECTRICAL LOAD LEVELS EXCEED RATED CAPACITY OF THE ELECTRICAL SERVICE IN BOTH 2008 AND 2009

OUTDATED LIGHTING FIXTURES SHOULD BE REPLACED WITH MORE ENERGY EFFICIENT MODELS

MASONRY:

STEEL SUPPORT LINTELS IN THE BRICKWORK ARE SHOWING SIGNS OF CORROSION

ROOFING:

ALTHOUGH THE SEAMS OF 1995 SECTION ROOF MEMBRANE WERE REDONE IN 2009, the remaining life of the Roof is probably NO MORE THAN SEVEN YEARS.

WINDOWS:

SOME INSULATED GLASS PANELS HAVE FOGGED UP AND NEED REPLACEMENT

INSULATION:

GIVEN THE INCREASING COSTS OF ENERGY, THE BUILDING WOULD BENEFIT GREATLY FROM INCREASES IN THE THERMAL, AIR AND MOISTURE BARRIER COMPONENTS OF THE ENVELOPE.

INTERIOR FINISHES:

WATER DAMAGED CEILING TILES NEED REPLACEMENT

CARPET IS BADLY WARN AND SOILED

RECOMMENDED NEXT STEPS:

- DEVELOP A FIVE YEAR PLAN FOR THE FACILITY
- PRIORITIZE THE MAINTENANCE/UPGRADE ITEMS THAT NEED TO BE ADDRESSED
- COORDINATE THE SEQUENCE OF THE REPAIR WORK WITH THE FIVE YEAR PLAN

FACILITY REVIEW:

EXTERIOR:

BUILDING ENVELOPE:

A BUILDING'S ENVELOPE (ROOF, WALLS AND FLOORS) SHOULD PROVIDE PROTECTIVE BARRIERS AGAINST THE PASSAGE OF THE FOLLOWING:

HEAT: ENTERING IN SUMMER AND LEAVING IN WINTER

MOISTURE: RAIN AND HUMIDITY...HUMIDITY ENTERS IN THE SUMMER AND LEAVES IN THE WINTER

AIR: AIR CURRENTS CAN EASILY PASS THROUGH GAPS IN A BUILDING ENVELOPE, THUS ACCELERATING ENERGY LOSSES

THE IMPORTANCE OF THE INTEGRITY OF THE ENVELOPE HAS INCREASED IN IMPORTANCE WITH BOTH THE ESCALATING COST OF ENERGY AS WELL AS WORLDWIDE CONCERNS ABOUT CLIMATE CHANGE.

MANY OF THE BENEFITS OF MODERN BUILDING COMPONENTS LIKE SOLAR PANELS, HIGH EFFICIENCY BOILERS AND BUILDING ENERGY MANAGEMENT SYSTEMS ARE NEVER REALIZED IF THE ENVELOPE IS NOT EFFECTIVE.

UNFORTUNATELY, IF A BUILDING IS MORE THAN TEN YEARS OLD, ITS ENVELOPE WAS MOST LIKELY NOT A PRIMARY CONCERN WHEN IT WAS DESIGNED AND BUILT. MMSCL IS NO EXCEPTION TO THIS.

THE EXTERIOR WALLS CONSIST OF METAL STUDS, FIBERGLASS BATT INSULATION, WALL SHEATHING AND BRICK VENEER.

ROOFING:

MANY OF THE CEILINGS AND WALLS SHOW EVIDENCE OF LEAKS. IN 2009, THE 1982 SECTION WAS REPOOFED AND THE SEAMS AND INTERSECTIONS ON THE ROOF ON THE 1995 AREA WERE REDONE. ACCORDING TO FEEDBACK FROM THE SOME OF THE MAINTENANCE PERSONNEL, THIS HAS ELIMINATED THE ROOF LEAK PROBLEM AT THIS TIME. THE ONLY EXCEPTION SEEMS TO BE SOME LEAKAGE AT THE ROOF TOP AIR CONDITIONING UNITS DURING A WIND DRIVEN RAIN.













INSULATION AT THE ROOF IS DEPICTED ON THE PLANS AS 3" OF RIGID INSULATION UNDER THE MEMBRANE ROOFING. WHILE THIS WAS A TYPICAL INSULATION DETAIL IN THE 80'S AND 90'S, IT PROVIDES MINIMAL THERMAL PROTECTION BY TODAY'S HIGH PERFORMANCE STANDARDS.

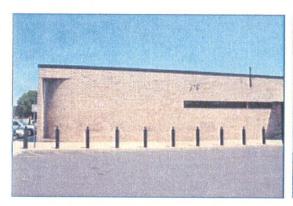
AS ENERGY COSTS INCREASE OVER TIME, THE COST IMPACT ON THE OPERATING BUDGET WILL INCREASE ACCORDINGLY.

EXTERIOR WALLS AND BRICK VENEER:

AS PER THE DRAWINGS, THE EXTERIOR WALLS ARE CONSTRUCTED OF BRICK VENEER, AN AIR SPACE, DAMPROOFING MEMBRANE, WALL SHEATHING, METAL STUDS WITH FIBERGLASS BATT INSULATION BETWEEN THE STUDS, AND SHEETROCK. WITHOUT ANY FOAM INSULATION OVER THE WALL SHEATHING TO CREATE A THERMAL BARRIER, THE METAL STUDS CONDUCT HEAT IN AND OUT OF THE BUILDING (DEPENDING ON THE SEASON) WITH LITTLE RESTRAINT.

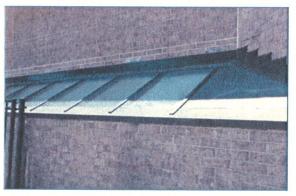
USING TODAY'S HIGH PERFORMANCE ENVELOPE DESIGN PRINCIPLES, ALL EXTERIOR WALL SURFACES WOULD BE ENVELOPED IN A 2-3 INCH LAYER OF INSULATING FOAM. THIS WOULD SERVE AS AN EFFECTIVE THERMAL AND AIR BARRIER AND MINIMIZE ENERGY LOSSES THROUGH THE EXTERIOR WALLS OF THE BUILDING.

THE GENERAL CONDITION OF THE BRICK APPEARS TO BE GOOD WITH LITTLE OR NO MORTAR JOINT FAILURE. THERE WAS EVIDENCE OF MANY FLASHING FAILURES AT THE INTERSECTIONS OF THE BRICK WITH SKYLIGHT FRAMES AND OTHER PENETRATIONS. THERE WERE STAINED CEILING TILES BELOW SOME OF THESE AREAS AND IT WAS NOT CLEAR WHETHER REPAIRS MADE IN THESE AREAS WERE TOTALLY WEATHER TIGHT. CHANGING THESE TILES WOULD HELP DETERMINE THIS.









A PATCH AT THE FRONT FACADE WAS MADE WITH BRICKS OF A DIFFERENT COLOR. BRICKS ARE AVAILABLE IN A COLOR MORE CLOSELY MATCHING THE ORIGINAL BRICK.



THE ENTIRE BRICK FAÇADE WOULD BENEFIT FROM A THOROUGH CLEANING.





THE PAINTED STEEL LINTELS SUPPORTING THE BRICK AT VARIOUS OPENINGS AROUND THE BUILDING ARE RUSTING, AND THEIR EXPOSED AREAS SHOULD BE PREPARED AND PAINTED. SINCE THE LINTELS DID NOT RECEIVE A GALVANIZED COATING PRIOR TO INSTALLATION, THOSE PORTIONS IN CONTACT WITH THE MASONRY AND HIDDEN FROM VIEW WILL CONTINUE TO DEGRADE OVER TIME, BUT THE PAINT WORK WILL HELP TO SLOW THE CORROSION RATE FOR THE EXPOSED SURFACES.





STUCCO WALL SECTIONS AND SOFFITS:

IN SOME AREAS, THESE ARE BADLY SOILED AND WOULD BENEFIT FROM CLEANING AND PAINTING.





WINDOWS AND SKYLIGHTS:

WINDOW ASSEMBLIES CONSIST OF DOUBLE PANED INSULATING GLASS SET IN BRONZE ALUMINUM FRAMES. MINIMAL EVIDENCE OF LEAKS WAS OBSERVED. AS INSULATED GLASS PANELS AGE, THE PERIMETER SEAL BETWEEN THE PANES FAIL AND THE INFILTRATION OF MOISTURE CAUSES THE PANEL TO "FOG UP". THIS CONDITION WAS NOTICED AT SEVERAL LOCATIONS AND THESE UNITS SHOULD BE REPLACED.





SEWAGE TREATMENT AND DISPOSAL:

A DENITRIFICATION SYSTEM WAS ORIGINALLY INSTALLED IN THE MID NINETIES TO TREAT THE SANITARY WASTE FROM THE BUILDING PRIOR TO IT BEING DISCHARGED INTO THE GROUND. THIS IS LOCATED IN THE GRASSY AREA AT THE SOUTHEAST CORNER OF THE BUILDING.



BASED ON CONVERSATIONS WITH MAINTENANCE PERSONNEL AND GENERAL INFORMATION ABOUT THESE SYSTEMS, IT DOES NOT APPEAR THAT IT IS OPERATING CORRECTLY. THE RESULT IS THE DISCHARGE OF AN EXCESS OF NITRATES IN TO THE GROUND AND EVENTUALLY THE WATER TABLE.

THESE SYSTEMS ARE NO LONGER APPROVED BY THE SUFFOLK COUNTY HEALTH DEPARTMENT WHO WOULD PROBABLY REQUIRE THE INSTALLATION OF A SEWAGE TREATMENT PLANT, IF ANY EXPANSION WAS PLANNED FOR THE FACILITY.

STORM WATER FLOODING:

THE EXIT DOOR AT THE NORTH EAST CORNER OF 1995 SECTION IS SUBJECT TO OCCASIONAL FLOODING WHEN THE STORM SEWER NEAR THE DOOR BACKS UP IN PERIODS OF HEAVY RAIN.

THIS IS CAUSED BY THE RELATIVELY SMALL DIFFERENCE IN ELEVATION BETWEEN THE FINISHED FLOOR OF THE BUILDING AND THE ADJACENT STREET. EXCLUDING CHANGES TO THE STORM SEWER SYSTEM, OR CLOSING OFF THE DOORWAY (PROBABLY NOT A VIABLE OPTION), THERE DOES NOT APPEAR TO BE A SOLUTION TO THIS PROBLEM.



PARKING:

ALTHOUGH THE LIBRARY IS LOCATED AT THE NORTH END OF A SHOPPING COMPLEX WITH A TOTAL PARKING CAPACITY OF SEVERAL HUNDRED SPACES, THE NUMBER OF ADJACENT SPACES TO THE FACILITY IS APPROXIMATELY 37. WITH AN OCCUPANCY RATING OF 570 AND A GROSS SQUARE FOOTAGE OF APPROXIMATELY 45,000 SQFT, THE NORMAL PARKING REQUIREMENT WOULD BE OVER 200 SPACES LOCATED AT A CONVENIENT DISTANCE FROM THE FACILITY. WITHIN THE CONFINES OF THE EXISTING PROPERTY, THERE IS NO SOLUTION TO THIS PROBLEM.

INTERIOR:

FLOORING:

CARPET:

THIS IS THE MOST PREDOMINANT FLOORING MATERIAL AND IS BADLY WORN AND STAINED IN MANY AREAS. TWO CONSIDERATIONS FOR THE NEXT REPLACEMENT SHOULD BE THE SUBSTITUTION OF VINYL OR RUBBER TREADS ON THE STAIRS WHICH ARE ALWAYS SUBJECT TO EXCESSIVE WEAR AND THE USE OF CARPET TILES IN LIEU OF BROADLOOM MATERIAL. THIS TYPE OF MATERIAL IS USED IN MANY NEW PUBLIC AREAS BECAUSE IT ALLOWS STAINED AREAS TO BE SELECTIVELY AND EASILY REMOVED AND REPLACED WITHOUT INSTALLING NEW CARPET IN AN ENTIRE AREA.



RESILIENT BASE:

IN MANY PLACES, THE EXISTING BASE IS SOILED AND REPLACEMENT IS WARRANTED.

CERAMIC TILE FLOORING:

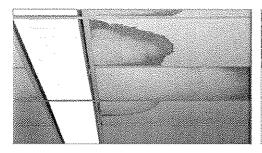
BATHROOM FLOORS ARE GENERALLY IN GOOD SHAPE.

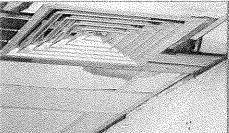
WALLS:

THESE CONSIST MOSTLY OF EXPOSED DRYWALL AND PAINTING IS AN ONGOING MAINTENANCE ITEM. SUBSTITUTING A COMMERCIAL GRADE VINYL WALL COVERING IN SOME AREAS WOULD BE A LESS EXPENSIVE ALTERNATE OVER TIME.

CEILINGS:

CELLAR CEILINGS ARE PRIMARILY UNPAINTED DRYWALL. ALL OTHER CEILINGS CONSIST OF DIFFERENT TYPES OF SUSPENDED CEILINGS. MANY AREAS SHOW EVIDENCE OF PAST WATER DAMAGE.





IT IS OUR UNDERSTANDING THAT ALMOST ALL OF THESE LEAKS HAVE BEEN ELIMINATED BY THE FALL 2009 ROOFING WORK (SEE ROOFING SECTION).

AS PER JANITORIAL STAFF, THE ONLY OCCASIONAL ROOF LEAKS OCCUR DURING A WIND DRIVEN RAIN, WHEN WATER INFILTRATION OCCURS IN THE VICINITY OF THE ROOF MOUNTED HVAC EQUIPMENT.

ONGOING WATER INFILTRATION THROUGH A ROOF, SKYLIGHTS OR WINDOWS IS VERY DETRIMENTAL TO A BUILDING AND THE PRIMARY CAUSE OF MOLD AND STRUCTURAL DEGRADATION.

DOORS AND HARDWARE:

ALTHOUGH MANY DOORS ARE IN NEED OF REFINISHING, MOST ARE OPERATIONAL AND SOME NEED MINOR HARDWARE REPAIRS OR ADJUSTMENTS.

MECHANICAL, PLUMBING, ELECTRICAL:

HVAC:

1982 SECTION:

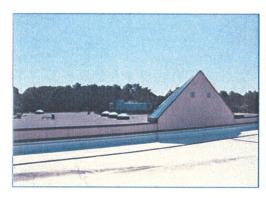
HEATING AND COOLING ARE PROVIDED BY THREE ROOF TOP UNITS POWERED BY NATURAL GAS AND ELECTRICITY. AS PER PAT MCCOMB AT THERMAL SOLUTIONS, ONE UNIT IS APPROXIMATELY SEVEN YEARS OLD AND THE OTHER TWO WERE REPLACED ABOUT FIVE YEARS AGO.





1995 SECTION:

COOLING IS PROVIDED BY TWO ROOF TOP UNITS WHICH APPEAR TO BE ORIGINAL EQUIPMENT.





HEATING IS PROVIDED BY AN OIL FIRED STEAM BOILER IN THE CELLAR OF THE 1995 BUILDING.

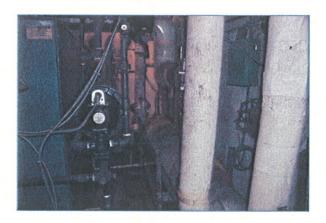








IN A HEAT EXCHANGER, THE STEAM IS USED TO PRODUCE HOT WATER WHICH IS THEN CIRCULATED THROUGH THE BUILDING TO PRODUCE HEAT.



THERE IS A 3,000 GALLON OIL STORAGE TANK IN THE CELLAR OF THE 1995 SECTION WITH A TRANSFER PUMP TO SUPPLY OIL TO THE BOILER.



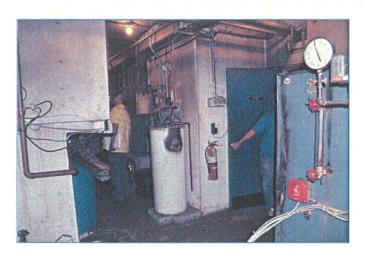


BECAUSE OF BOTH THE BOILER'S AGE AND THE INEFFICIENCY CREATED BY USING STEAM TO HEAT WATER, THE BOILER SHOULD BE CONSIDERED FOR REPLACEMENT WITH ROOF TOP UNITS SIMILAR TO THOSE IN SERVICE ON THE 1982 SECTION.

basanist.

IN ADDITION TO THE INCREASED EFFICIENCY, THIS WOULD ELIMINATE THE NEED FOR THE LARGE OIL TANK. TOGETHER WITH THE REMOVAL OF THE BOILER, THIS WOULD FREE UP VALUABLE SPACE IN TWO AREAS OF THE CELLAR.

ALTHOUGH DOMESTIC HOT WATER IS CURRENTLY PROVIDED BY AN ELECTRIC WATER HEATER IN THE BOILER ROOM,



IT WOULD BE MORE EFFICIENT TO REPLACE THIS WITH A HIGH EFFICIENCY GAS FIRED UNIT.

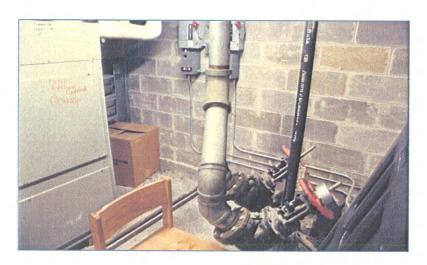
PLUMBING:

Domestic water is provided by a 2" service with an RPZ valve located in a pit on the north side of the building. The water system seems adequate.



WHILE THE BATHROOMS APPEAR TO FUNCTION ACCEPTABLY, THEY APPEAR TO BE SUBJECT TO EXCESSIVE WEAR AND TEAR AND THE RESULTANT CONTINUAL MAINTENANCE.

A TWIN PUMP SEWAGE EJECTION PUMP SYSTEM IN THE CELLAR OF THE 1995 SECTION COLLECTS ALL WASTE FLOW FROM THE BUILDING AND PUMPS IT TO THE DENITRIFICATION SYSTEM. WHILE BOTH PUMPS ARE OPERATIONAL, IT APPEARS THAT ONE FLOAT SWITCH IS NOT AND SHOULD BE REPAIRED/REPLACED. THE ROOM CONTAINING THESE PUMPS WAS OVERRUN WITH SMALL FLIES WHICH WE WERE TOLD HAVE RESISTED NUMEROUS EXTERMINATION ATTEMPTS.



FIRE PROTECTION:

The water supply for the fire protection system consists of A 4" service beginning in a pit on the north side of the building. This is reduced to 2 1/2" once it enters the building.



THE ENTIRE BUILDING IS NOT PROTECTED BY THE SYSTEM.

APPROXIMATELY 15 SPRINKLER HEADS ARE LOCATED BETWEEN THE

OLD AND NEW SECTIONS OF THE LIBRARY ON THE MAIN FLOOR.



NO INFORMATION WAS AVAILABLE AS TO WHY THIS SYSTEM DOES NOT UNDERGO ANNUAL TESTING.

ELECTRICAL:

POWER AND LIGHT:

ALTHOUGH NO ELECTRICAL PROBLEMS WERE IDENTIFIED BY THE MAINTENANCE PERSONNEL, THE FOLLOWING SHOULD BE NOTED:

THE MAIN ELECTRICAL SERVICE IS A 120/208 3 PHASE WYE CONFIGURATION





THE MAIN DISCONNECT SWITCH IS 1600 AMP AND WITH 80% SAFETY FACTOR, THIS EQUALS APPROXIMATELY 1280 AMPS

AS PER LIPA, MAXIMUM DEMAND ON THE ELECTRICAL SERVICE WAS AS FOLLOWS:

2009: 232.2 KW = 1314 AMPS

2008: 242.6 KW = 1375 AMPS

THE CURRENT CONSUMPTION IS AT THE APPROXIMATE SAFE MAXIMUM OF THE SERVICE, AND ANY ADDITIONS TO THE LOAD WOULD REQUIRE A NEW SERVICE.

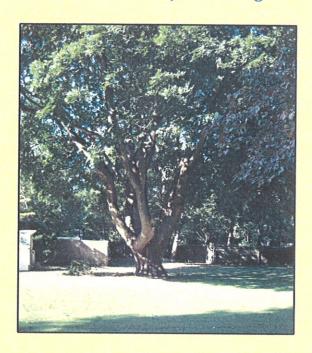
CURRENT LIGHTING FIXTURES ARE MUCH MORE ENERGY EFFICIENT THAT THOSE IN PLACE.

FIRE ALARM:

ANNUAL FIRE MARSHAL TESTS ARE DONE EACH APRIL/MAY AND THE SYSTEM IS FUNCTIONING AS PER CODE.

Sandpebble Builders Inc.

Construction Project Managers



For over 30 years...

getting everyone to do what they said they would do...

and we practice what we preach...

