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WALDO COUNTY COURTHOUSE

BELFAST DISTRICT COURT

SPACE PROGRAMMING  
&  
SCHEMATIC DESIGN STUDY

REVIEW COPY

Winton Scott Architects  
5 Milk Street  
Portland, Maine 04101

December 2, 2011

REVIEW COPY

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The purpose of this report will be to document both the existing conditions of the Superior Court and District Court buildings as well as to quantify the existing space usage of the buildings. As a result of this analysis, needs for the facilities have been determined and possible solutions may be considered. Overall issues relating to the facilities, to be detailed in the following pages, are as follows:

**1. Program Accommodation**

Currently space functions are divided between the two buildings for both the Courts and Waldo County functions. These are detailed in the attached itemized space programs. Ideally, space functions should not be divided between separate buildings.

**2. Physical Condition**

Both buildings are in useable condition, and have benefitted from ongoing replacement work done over the years. Both buildings, however, need substantial capital improvements to address energy costs and weather resistance.

Energy usage is a particularly serious problem for the Superior Court. Climate control for archival records storage is also lacking, in part due to the inability of the existing structures to support raised humidity levels.

**3. Space Planning Needs**

Each structure currently does not fulfill its required functions due to space limitations and problematic arrangement of spaces. Life safety code and handicapped access deficiencies pose a particular problem for the Superior Court. Neither Court provides an acceptable level of secure circulation for prisoner handling.

**4. Community Assets**

Both buildings are currently located within and make a significant contribution to the Belfast National Historic Register District. In particular, the Superior Court, constructed in 1855, is an outstanding representative of both earlier Federal Style massing and layout combined with, what was for its time, more contemporary Italianate detailing. Any additions and renovations should follow *The Secretary of the Interior's Standards for the Treatment of Historic Properties*.

**5. Expansion Possibilities**

The existing District Court site does not have enough area to accommodate court functions to be located on that site. It does, however, present opportunities for consolidating County needs by means of renovation if the Court could be relocated. If the Court uses remain in the building, County needs could be met with an addition at the rear of the facility. Either option would also entail the construction of a new elevator within the existing courtyard space. Storage space within the infill area would also be possible.

The existing Superior Court site could accommodate an addition containing two courtrooms and associated support spaces. Adequate functioning of the Court would require the relocation of County uses to another site.

Winton Scott Architects was retained by the State of Maine Judicial Branch and the County of Waldo to survey needs and make recommendations for the space needs of the Courts and County Offices located in Belfast. The areas to be specifically studied include:

1. Physical condition and structural condition of the buildings.
2. Space allocations within the buildings.
3. Interview staff to determine actual space needs.
4. Review site conditions and parking.
5. Review life safety conditions including means of egress, egress components, and features of fire protection.
6. Review the condition of the exterior envelopes including brickwork, lintels, windows, roofing, and insulation.

Facilities Study Team and Methodology

Information for this study has been obtained from several sources:

Architecture:	Winton Scott Architects, Mark Wilcox
Mechanical Engineering:	Mechanical Systems Engineers, Kurt Magnusson
Electrical Engineering:	Bartlett Design, Larry Bartlett
Background Information and Plans:	Waldo County, Keith Nealley, Facilities Manager
Prior Studies:	Waldo County Commissioners

The buildings were inspected in the field, and all accessible spaces were toured. Historical records and descriptions of the buildings were reviewed, and have been used as a basis for proposed analysis.

**Superior Court:  
General Description**

The existing two-story building was originally constructed in 1853, and received a major addition in 1900. The addition, on the High Street side of the building is clearly distinct from the original and has a daylight basement level, which is accessed from the interior as well as from an exterior handicapped access ramp.

The 1853 building is constructed with brick bearing walls and wood floors. The roof and attic floor are constructed with wood joists and rafters supported by heavy timber beams. (IBC Type 3-B.)

The 1900 addition was constructed as a non-combustible structure to provide fire protection for the archival records of the Court. It utilizes brick bearing walls and brick arch floors. The floors consist of steel beams with brick vaulting and concrete fill. The bottom flanges of the steel beams are not protected with masonry, and the exposed assembly is visible in the rear stairway at the second floor. This part of the building includes a steel framed roof with terracotta "book tiles" overlaid with lightweight concrete panel decking. (IBC Type 2-B.)

Overall area of the floors is approximately 5,250 GSF per floor. The building is fully sprinklered and its height and area meet current IBC standards for its assembly use group.

**Superior Court:  
Space Allocations**

Suitability of the spaces to functions contained varies in the building. In general there appears to be sufficient space for current needs for the Registry of Deeds and County Archives, but without any ability to accommodate future growth.

The offices of the District Attorney are severely undersized and also splintered into four locations, without internal communicating circulation. There are no staff toilet rooms, break room or storage for files. In addition, the absence of a separated conference space, is a major impairment to the proper functioning of the department. Privacy of any type for victims visiting the department is not provided.

*A summary of existing and needed program square footages is attached.*

**Superior Court:  
Site Conditions**

The existing building abuts its property lines and public sidewalks on three sides, with a landscaped lawn on the fourth. The entire lawn area between the Court and City Hall appears to be on the Court's parcel of land. Dimensions on the city tax maps (usually rounded to the nearest foot) indicate that a semi-circular bay on City Hall, used for the city council chambers is, in fact, located on the Court's property. In addition, the chiller for the City Hall air conditioning system as well as the greater portion of four City parking spaces are on County, not City

property.

Paved bituminous concrete walkways provide for site circulation between Church Street, High Street and the front steps to Belfast City Hall.

Surface drainage appears to be well managed, although roof water from rain leaders is routed into the building at the lower level, presumably into the internal plumbing system (given the age of the building).

No parking is provided on the site.

*The side yard space between the Court and City Hall should be evaluated for its suitability for an addition to the Court.*

*The existing site is located in a core zoning district which does not require the creation of parking for new construction, however parking should be provided in any expansion on the existing site for staff and jury use. Such parking should be in near proximity to the Court. Construction on a new site would require full parking proportional to the square footage and number of assembly seats in the new facility.*

**Superior Court:  
Life Safety Code**

The basic combustible construction type of the building allows an assembly use on the second floor, as a result of the presence of the automatic sprinkler system. Occupancy of the second floor, however, is limited to 200 people, which matches the current condition.

Under the Life Safety Code, stricter standards apply to new construction and less strict standards apply to existing buildings. This allows the evaluation of older buildings for a minimum level of life safety. Superior Court presents substantial difficulty in meeting either.

Serious defects exist in the egress pathways. Both stairways do not conform to code, due to the use of winders. The rear stair has more winders, and is also far steeper than the allowable limit. To this extent, the second floor currently has no egress whatsoever.

The arrangement of the means of egress is also non-conforming. Even if the stairs met code, areas of both the first and second floors require travel through the first stair in order to reach a point where the second means of egress could be reached. This is not allowed by code. The intent of having two separate means of egress from each floor is based on the possibility that one stair is not useable in a fire. In this event, occupants of the Registry of Deeds, Library, Archives and Judges Chambers would have no access to any pathway.

The main stairway from the courtroom is not fire rated, and does not have required exit device hardware.

A detection and alarm system, a feature that is required occupancies of 300 or more, has been recently installed and may allow continued occupancy and use of the facility.

*Due to space constraints, provision of adequate egress stairways would be most easily accomplished by providing two additions to the building, one for each stair. Alternatively, they could be included in a larger addition.*

**Superior Court:  
Accessibility**

Exterior ramps have been added in a 1990 renovation of the building providing handicapped access to the first floor and lower level. An inclined platform lift in the back stairway serves the second floor. The platform lift, however, is smaller than the minimum required by the ADA. In essence, there is no accessibility to the courtroom or between floors.

Accessible routes are provided in general on the ground and first floors. The court however, has several impediments to access. These include lack of adequate aisle clearance for travel from the lift to the courtroom gallery, and inadequate width for the main doors into the courtroom. The gallery itself does not include spaces for wheelchairs. A sloped floor has been installed to allow wheelchair access to the jury box, however the route to this location requires travel through the well of the courtroom.

Bathrooms were added on the first floor in the 1990 renovation do not have the adequate clearances required at the handicapped toilets. Compartments with 4' width were used, not have 5' ones as required by the ADA and Maine Human Rights Commission. Bathrooms on the ground and second floor, with the exception of one in the Jury Room, are inaccessible.

Some elements of have recently been updated to enable better access to the building in general. These included the installation of an automatic door opener at the front door and path of travel improvements between the inclined platform lift and the jury box on the second floor.

*Solutions to the many access problems of the building should be undertaken. These would require either sacrificing useable space for accessible circulation and bathrooms, or constructing an addition to enable access.*

**Superior Court:  
Security**

Currently, portable equipment is used for entry screening on an as-needed basis at the main entrance. Other security measures are lacking at this point in time, and the need for public access to the Registry of Deeds and County Archives is a complicating factor. If these public functions were not located in the rear of the building, a higher level of security for judicial functions and access controls could be implemented.

There are no card access doors or motion detection systems in the building.

There is no secure arrangement of spaces for prisoner circulation or temporary holding.



*Any new construction or renovation should provide for isolated facilities for prisoner access to the courtroom(s). This should include a vehicle sally port, temporary holding cells, temporary group holding, a separate elevator for prisoner circulation, and temporary holding space on the court floor(s).*

**Superior Court:  
Structural**

Observable elements of the existing building do not exhibit structural distress. Floors appear in good condition, and sagging of floors or roofs is not apparent. Settlement or load cracks in walls were not observed.

**Superior Court:  
Exterior Envelope**

The exterior brickwork appears in good condition, and neither eroded mortar joints nor cracked lintels were observed. The building features brownstone trim for a belt course at the second floor line and selected decorative elements. This stone is in excellent condition, probably due to its paint protection. The uncoated brownstone is observable in the attic above the 1900 addition. Exposed portions of the foundation walls are faced with coursed rock-face granite and capped with a sawed finish granite belt course.

Windows are replacement-type PVC double hung units. These include double pane glass for a higher insulating value, however cold air infiltration performance of such units when used in large sizes is poor. Structural performance of the units does appear to be adequate to resist wind-driven rain however.

Wall insulation in buildings of this era is generally non-existent. The attic floors do have a rock wool fill.

The existing asphalt roof shingles exhibit areas of wind scour, and the roof appears to be nearing the end of its useful life.

**Superior Court:  
Historic Features**

The courthouse represents a significant historic asset to the city. It is located within the historic district, and together with City Hall forms a civic focus for Belfast. In particular, the entrance and recessed gable ends provide a dramatic presence of the past, which is a great benefit to the life of the city.

The 1853 building recalls Federal Style architecture, and includes recessed window surrounds and arched lintels. Most notable, is the use of dramatic Italianate detailing, employing large brackets and intricate hooded lintels.

Many interior features represent the highest level of public architecture found in Maine in the mid-1800's. Most notable is the courtroom itself. The Judges Bench is framed by two large murals on the rear wall, one depicting an ancient Greek philosopher contemplating nature of law, and the other showing a renaissance king contemplating the establishment of the rule of law in the modern world. Woodwork in the space has a restrained ornateness, and is finished in faux-mahogany throughout. The original ceiling of the room was replaced in 1890, with

a coffered design reflecting current interest in Renaissance Revival trends at the time.

The main staircase, constructed of cantilevered slabs of granite in a curving configuration forms a powerful structure in the entry to the building. This feature reminds the visitor of the time when Maine quarries in the region supplied granite to many public buildings across the country.

Exterior renovations have been made over the years however, which have adversely impacted the character of the structure. These include:

- Loss of the original cupola.
- Loss of multiple pane windows.
- Obstruction of window jamb and head trim by the addition of aluminum trim.
- Obstruction of eave and soffit trim with aluminum trim and panels.
- Construction of an awkwardly-located ramp at the main entrance.

*Given the significance of this building as an historic asset, renovations and ongoing improvements should endeavor to conform to "The Secretary of the Interior's Standards for the Treatment of Historic Properties".*

*Alterations to the interior of the existing building should avoid alteration of the courtroom and grand staircase. Construction of a new code conforming stair in another location should be considered rather than removing the existing stair.*

**District Court:**

**General Description**

The existing two-story building was originally constructed in 1930 and a major addition was added in 1986. The floors each have an area of +/- 6,000 GSF.

The 1930 building is constructed with brick bearing walls and wood floors. The roof and attic floor are constructed with wood joists. (IBC Type 3-B.)

The 1986 addition was constructed with a steel frame, and bar-joist framed floors with form deck and concrete slabs (IBC Type 2-B). The roof consists of wood trusses and plywood decking and these components should form the classification of the building as a whole unless fire-retardant lumber was employed (IBC Type 5-B).

The building is not sprinkled and its height does not appear to meet current IBC standards for its assembly use group. As originally constructed, the structure appears to meet the height and area standards for a business use group.

**District Court:**

**Space Allocations**

County and Courts function on their respective levels of the building and neither currently provides needed space adequately.

The Clerk of Courts office does not have enough space for the number of staff. In addition, storage of files used on a regular basis is located in other parts of the building, creating inconvenience and delay in delivering services.

The County Offices are overcrowded to the point of being non-functional. Basic necessities of space and need for privacy of some job functions are not provided, and are not available elsewhere in the building.

**District Court:**

**Site Conditions**

The existing building site includes limited parking and is fully built-out.

**District Court:**

**Life Safety Code**

Egress for the building is generally satisfactory. Pathways are well arranged, and door swings acceptable (with the exception of the first floor entry to the 1930 building).

A fire rated stair added in 1986 provides a second means of egress for the first floor. At the lower level the two means of egress, one to the parking lot and one to Spring Street, do not meet current remoteness criteria (although they did so at the time of construction).

A detection and alarm system has recently been installed in the building.

**District Court:  
Accessibility**

Accessibility to the building was provided in the 1989 addition and renovation. This work included renovations to the bathrooms on the upper level and new bathrooms on the lower level. Each floor is accessed independently, however, and there is no access between floors.

Recent work has been done which has improved access to the building. The exterior entrance ramp was made less steep and railings were added, with an automatic door opener installed at the entry. Also, entry and bathroom doors were widened, and other doors were retrofitted with swing-clear hinges.

**District Court:  
Security**

Security conditions are lacking at the building, as at the Superior Court.

**District Court:  
Structural**

Structural conditions are in good condition and no signs of distress were observed.

**District Court:  
Exterior Envelope**

The exterior brickwork is in good condition and mortar joints and lintels are also in good condition.

Windows in the 1930 building are the original double hung units with an exterior storm window. The 1986 building has clad casement windows with double pane glass. Both types give acceptable insulating values.

Wall insulation was added to the 1930 building in 1986, consisting of 1" of polyisocyanurate rigid insulation.

Attic insulation in both portions of the building is limited by its placement at the ceiling level. In the 1930 building rock wool fill was used in the ceiling joists, which is limited in its effectiveness. The 1986 addition is also insulated at the ceiling level. With a suspended acoustic tile ceiling installed, many areas of the insulation have large gaps to the attic or the insulation is missing. Since this type of installation inherently leaks heat into the attic, energy is wasted and in addition ice dams are easily formed.

*The current program of roofing upgrades with waterproofing membranes should be continued. Any major renovation of the building should consider the possibility of installing sprayed polyurethane foam insulation on the underside of the roof deck.*

**District Court:  
Historic Features**

The District Court building is a well-constructed example of Georgian Revival architecture that contributes to the local historic district. Its residential scale is a unique feature for an institutional building, and this aspect of the facility should be maintained.

## Attachments

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- A. Existing Space Tabulation
- B. Space Needs Program
- C. Site Program for New Construction
- D. Project Budgets
  - D-1 New Construction
  - D-2 Superior Court Renovation
  - D-3 County Facilities Renovation
- E. Existing Conditions Documentation
  - E-1 Architectural Summary
  - E-2 Mechanical Systems Summary
  - E-3 Electrical Systems Summary
- F. Renovation Option Plans



**Superior Court Existing Space Summary**

Space Description	Net SF	Department Subtotal
<b>Superior Court</b>		
Courtroom	2,270	
Jury Room	165	
Court Reporters	164	
Prisoner Holding	164	
Security Staff Room	95	
Law Library	442	
Police Officer's Workroom	120	
Grand Jury Room (Used For Files Storage)	354	
Victim Advocates	227	
Clerk of Courts Satellite Office	397	
Clerk of Courts Records	270	
District Attorney	176	
Assistant District Attorneys	434	5,278
<b>Registry of Deeds</b>		
Staff Area	221	
Deeds Area and Room	676	
Workroom	274	
Plan Books Room	526	
Plan Files Room	372	
Plan Viewing Room	192	2,261
<b>County Administration</b>		
Waldo County Archives (Second Floor)	496	
Sheriff's Records Storage (Basement)	841	
Receiving	218	
Workshop	395	
Facilities Office	158	2,108
9,847 Total Net Area		
<b>Existing Building Gross Area</b>		
5,250 GSF Per Floor x 3 Floors		15,750
Existing Net / Gross Ratio		61%

Waldo County Superior Court / Belfast District Court

**District Court Existing Space Summary**

Space Description	Net SF	Department Subtotal
<b>District Court</b>		
Courtroom	1,186	
Large Conference Room	150	
Small Conference Room	81	
Marshal's Office	87	
Waiting	180	
Police Officer's Workroom	144	
Prisoner Holding	49	
District Attorney Workroom	115	
Clerk of Courts	632	
Judges Chambers	274	
Forms Storage	148	
General Storage	54	
Records Storage (Remote)	162	
Kitchenette	54	
Archived Records (Basement)	70	3,386
<b>County Administration</b>		
Deputy Clerk / Treasurer / Deputy Treasurer	199	
County Clerk / Human Resources	186	
Conference Room	195	
Storage Room	118	
Facilities Supplies	36	734
<b>Registry of Probate</b>		
Public Vestibule	143	
Staff Workstations	300	
Conference Area	165	
Records Shelving + File Cabinets	164	
Microfiche Area	99	
Record Books Area	95	
Reading Area	100	
Storage Room and Closets	142	
Staff Room	208	1,416
<b>Probate Court</b>		
Probate Courtroom	644	
Conference Room	98	
Small Conference Room	64	
Judges Chambers	438	1,244
	6,780	
<b>Existing Building Gross Area</b>		
6,035 GSF Per Floor x 2 Floors		12,070
Existing Net / Gross Ratio		56%

Waldo County Superior Court / Belfast District Court

**Space Needs Summary**

Space Needs Description	Comments
<b>Superior Court</b>	
Enlarged Judge's Chambers	Needs T-Desk + private bathroom.
Fire Stairs	Enclosed and discharge to exterior.
Entry Screening Area	Include dedicated guard station if possible.
Public Elevator	
Bathroom for Clerk of Courts Staff	
Separate Staff / Prisoner Elevator	
Prisoner Holding With Secure Circulation	Needs sally port vestibule.
<b>District Court</b>	
Improved Work Flow	Need spaces on one floor.
Family Courtroom	Needs large well for multi-party proceedings.
Additional Judge's Chambers	
Entry Screening Area	Include dedicated guard station if possible.
Mediation / Large Conference Room	Existing rooms are used by other functions.
Breakout Conference Rooms	Need 2 or three.
Public Elevator	
More Clerk of Courts Workstations (8 Total)	Enlarge from 630 to 1,430 SF.
Private Office for Clerk of Courts	
Staff Support	Need bathroom and break room.
Records Shelving in Clerk of Courts	
Storage Space in Clerk of Courts	
Records Archives	Bring Back Off-Site Records.
Prisoner Holding With Secure Circulation	Needs sally port vestibule.
Staff / Prisoner Elevator	
<b>County Administration</b>	
Public Hearing Room ?	
Private Offices for Clerk Treasurer and H.R.	
Workstations (4)	
Staff Conference Room	
Staff Break Room	
Workspace for Commissioners	
Storage Space	
<b>District Attorney</b>	
District Attorney Private Offices	
Workstations for Staff and ADA's - - 6 Total	Need additional 4 workstations.
Private Conference Room	Space for staff, victims and police meetings.
Waiting Area	

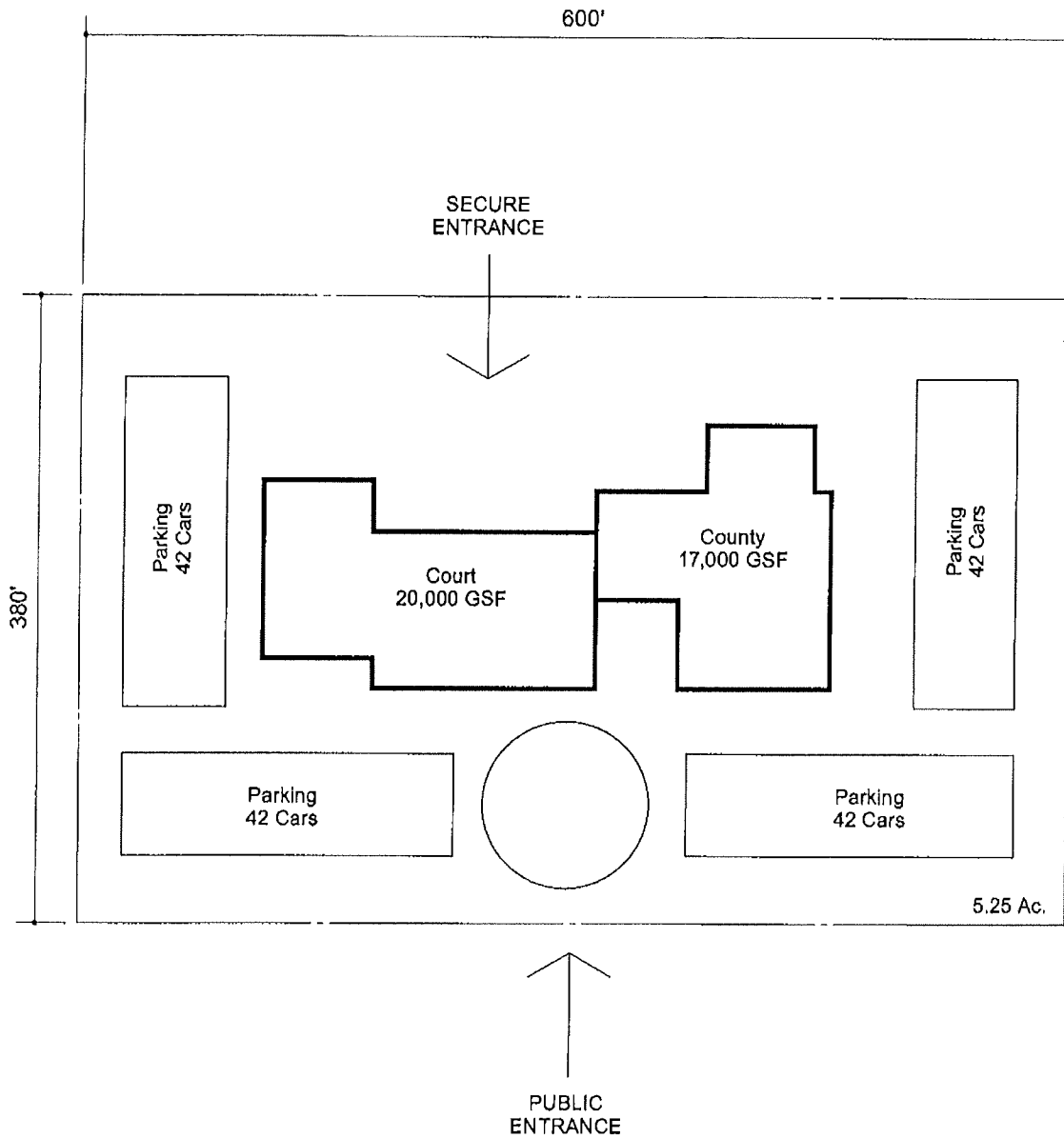




**Combined Superior and District Courts: New Construction Program**

Space Description	Net SF	
<b>Site Development</b>		
Parking Spaces Required: 92 @ 325	29,900	Paved area for 92 parking spaces (+/- 1 acre w/setbacks etc.) (Zero required in Core District)
Courtrooms: 180 seats / 3 = 60 Spaces		
Offices 5,500 SF @ 3 per 1,000 GSF = 17 Spaces		
Conference Rooms @ 3 per 1,000 GSF = 3 Spaces		
Grand Jury Room: 36 seats / 3 = 12 Spaces		
<hr/>		
<b>Courtrooms</b>		
Superior Courtroom (Includes 2 waiting rooms and soundlock vestibule)	2,200	
District Courtroom	1,400	
Family Courtroom	1,400	
Jury Deliberation Room w/Bathrooms	450	
District Court Waiting	350	
Court Floor Holding	350	
Large Conference Room	350	
Small Conference Rooms 3 @ 120 SF	360	6,860
<b>Courtroom Ancillary Spaces</b>		
Police Officer's Workroom	120	
Victim Advocates Office	225	
Court Floor Secure Visiting	100	445
<b>Court Offices and Support Spaces</b>		
Combined Clerk of Courts	1,800	
Judges Chambers 3 @ 300	900	
Judges Toilets 3 @ 64 SF	192	
Staff Break Room	200	
Storage Room	160	
Archived Records	660	
Central Holding	550	
Vehicle Sallyport	420	
Court Floor Holding	200	
Court Security Office	120	
Security Staff Break Room	120	5,322
<b>District Attorney Suite</b>		
Full Time Prosecutors Offices 2 @ 225 SF	450	
Part Time Prosecutors Workstations 2 @ 120 SF	240	
District Attorney Workstation 1 @ 120 SF	120	
Interview / Conference Room	150	
Staff Workstations 5 @ 100 SF	500	
Office Records / Equipment	200	1,660
<hr/>		
	14,287	Net SF Total
	0.62	Efficiency Factor
	<b>23,044</b>	Gross SF Required





Assumptions:

- ONE STORY BUILDING
- LEVEL SITE



Belfast District Court Space Needs Study

Site Utilization Program Diagram

1" = 100' - 0"

9.7.11

**Project Budget Summary**

<i>Waldo County Superior and Belfast District Court</i>	Date of this report: 12/02/2011
<i>Option D-1: New Courthouse and County Facilities On New Site</i>	
<i>Unknown Location</i>	Bid Date: 01/03/2013
<i>Belfast, Maine</i>	Proposed Occupancy Date: 05/03/2014

**Part A: Administrative**

1 Land	\$750,000	<i>Site location unknown</i>
2 Advertising	\$2,000	
3 Legal/Insurance	\$0	
4 Bid Document Printing and Handling	\$10,000	
5.1 Furnishings	\$225,000	
5.2 Fixtures		
5.3 Equipment		
6 Telecommunications	\$25,000	
7 Security Systems	\$25,000	
8 Percent for Art program	\$123,154	<i>1% of construction cost estimate</i>
9 Moving, Temporary Space	\$15,000	
10 Bid Contingency	\$657,770	<i>5% of construction cost estimate</i>
11 Construction Contingency	\$1,315,540	<i>5 to 10% of construction cost estimate</i>
12	<b>Part A Subtotal</b>	<b>\$3,148,464</b>

**Part B: Fees & Services**

13 Architect/Engineer Basic Services Fee	\$1,039,277
14 Additional A/E Services Fees (Supplemental Agreements)	\$0
15 A/E Reimbursables Expenses	\$3,000
16 CM Preconstruction Fee (if used)	\$0
17 CM Preconstruction Reimbursable Expenses (if used)	\$0
18 Hazardous Materials Removal Design	\$0
19 Environmental Phase I / Renovation Impact Study	
20 Survey	\$6,000
21 Soils/Borings	\$16,000
22 Preconstruction Testing	\$0
23 Construction Testing	\$15,000
24 Life Cycle Cost Analysis	\$8,000
25 Hazardous Materials Removal	
26 Construction Clerk	\$100,000
27 Owner's Representative	\$0
28	<b>Part B Subtotal</b>
	<b>\$1,187,277</b>

**Part C: Construction**

29 Building Cost	\$12,315,400
30 Site Development Cost	\$840,000
31	<b>Part C Subtotal</b>
	<b>\$13,155,400</b>

32	<b>Total Project Cost</b>	<b>\$17,491,141</b>
	<i>Allocated Amount</i>	

Building Areas		
Courts Construction	23,044 SF @	\$350 Cost Per GSF
County Offices Construction	17,000 SF @	\$250 Cost Per GSF
<b>Total</b>	<b>40,044 SF</b>	

**Project Budget Summary**

<i>Waldo County Superior and Belfast District Court</i>	Date of this report: 12/02/2011
<i>Option D-2: Superior Court Addition / Renovation (Without County Offices)</i>	
<i>137 Church Street</i>	Bid Date: 06/03/2012
<i>Belfast, Maine</i>	Proposed Occupancy Date: 06/03/2013

**Part A: Administrative**

1 Land	\$555,500	Site for parking lot
2 Advertising	\$2,000	
3 Legal/Insurance		
4 Bid Document Printing and Handling	\$10,000	
5.1 Furnishings	\$200,000	
5.2 Fixtures		
5.3 Equipment		
6 Telecommunications	\$25,000	
7 Security Systems	\$25,000	
8 Percent for Art Program	\$72,885	1% of construction cost estimate
9 Moving, Temporary Space	\$20,000	
10 Bid Contingency	\$381,925	5% of construction cost estimate
11 Construction Contingency	\$763,850	5 to 10% of construction cost estimate
12	<b>Part A Subtotal</b>	<b>\$2,056,160</b>

**Part B: Fees & Services**

13 Architect/Engineer Basic Services Fee	\$878,428	
14 Additional A/E Services Fees (Supplemental Agreements)		
15 A/E Reimbursables Expenses	\$4,000	
16 CM Preconstruction Fee (if used)	\$0	
17 CM Preconstruction Reimbursable Expenses (if used)	\$0	
18 Hazardous Materials Removal Design	\$0	
19 Environmental Phase I / Renovation Impact Study		Unknown
20 Survey	\$5,000	
21 Soils/Borings	\$16,000	
22 Preconstruction Testing	\$0	
23 Construction Testing	\$15,000	
24 Life Cycle Cost Analysis	\$8,000	
25 Hazardous Materials Removal		Unknown
26 Construction Clerk	\$100,000	
27 Owner's Representative	\$25,000	
28	<b>Part B Subtotal</b>	<b>\$1,051,428</b>

**Part C: Construction**

29 Building Cost	\$7,288,500	
30 Site Development Cost	\$350,000	
30A Off Site Development Cost	\$200,000	Parking: demo structures and develop 35 car lot
31	<b>Part C Subtotal</b>	<b>\$7,638,500</b>

32	<b>Total Project Cost</b>	<b>\$10,746,088</b>
	<i>Allocated Amount</i>	

Building Areas			
New Construction	13,580 SF @	\$375	\$5,092,500
Renovation	10,980 SF @	\$200	\$2,196,000
Total	24,560 SF		

**Project Budget Summary**

<b>Waldo County Superior and Belfast District Court</b> <b>Estimate D-3: County Facilities Renovation</b> 103 Church Street Belfast, Maine	Date of this report: 11/04/2011  Bid Date: 06/03/2012 Proposed Occupancy Date: 03/03/2013
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**Part A: Administrative**

1	Land	\$0	
2	Advertising	\$0	
3	Legal/Insurance		
4	Bid Document Printing and Handling	\$5,000	
5.1	Furnishings	\$0	
5.2	Fixtures		
5.3	Equipment		
6	Telecommunications	\$15,000	
7	Security Systems	\$15,000	
8	Percent for Art program	\$0	
9	Moving, Temporary Space	\$10,000	
10	Bid Contingency	\$60,700	5% of construction cost estimate
11	Construction Contingency	\$121,400	5 to 10% of construction cost estimate
12	<b>Part A Subtotal</b>	<b>\$227,100</b>	

**Part B: Fees & Services**

13	Architect/Engineer Basic Services Fee	\$149,322	
14	Additional A/E Services Fees (Supplemental Agreements)	\$0	
15	A/E Reimbursables Expenses	\$1,000	
16	CM Preconstruction Fee (if used)	\$0	
17	CM Preconstruction Reimbursable Expenses (if used)	\$0	
18	Hazardous Materials Removal Design	\$0	
19	Environmental Phase I / Renovation Impact Study		Unknown
20	Survey	\$0	
21	Soils/Borings	\$5,000	
22	Preconstruction Testing	\$0	
23	Construction Testing	\$5,000	
24	Life Cycle Cost Analysis	\$0	
25	Hazardous Materials Removal		Unknown
26	Construction Clerk	\$45,000	
27	Owner's Representative	\$0	
28	<b>Part B Subtotal</b>	<b>\$205,322</b>	

**Part C: Construction**

29	Building Cost	\$1,174,000	
30	Site Development Cost	\$40,000	
31	<b>Part C Subtotal</b>	<b>\$1,214,000</b>	
32	<b>Total Project Cost</b>	<b>\$1,646,422</b>	Allocated Amount

<b>Building Areas</b>			
	New Construction	835 SF @	\$400 \$334,000
	Renovation	5,600 SF @	\$150 \$840,000
	Total	6,435 SF	

**Superior Court Existing Conditions Summary**

	Overall	Superior Court	Superior Court Addition
Date Constructed		1853	1900
Construction Summary			
Number of Floors	3	3	2 + Basement
Area Per Floor	5,250 GSF		
Structure			
Walls			Brick Bearing Walls
Wall Fire Rating			2 Hours
Floors		Wood Joist	Steel Beams / Brick Arches / Concrete Fill
Floor Fire Rating		0	Bottom Flanges Not Protected
Roof Structure		Timber Trussed-Beams / Rafters	Steel Purlins
Roof Deck		Wood Sheathing	Terracotta + Nailable Gypsum
IBC Construction Type		III-B	II-B
NFPA Construction Type		III (200)	II (000)
Sprinkler System?		Yes	Yes
Life Safety Summary			
Fire Rated Stair Enclosures?		No	Yes
Fire Rated Corridor Walls?		(Fully Sprinklered - N/A)	Yes
Fire Alarm System?			Yes
Emergency Lighting System?			Yes
Accessibility Summary			
Parking		On Street - Useable	
Route Into Building		OK	OK
Route To Other Floors		No	Stair Lift No Good
Water Fountains / Telephones			
Public Bathrooms		No	N/A
Staff Bathrooms		No	No
Listening System			
Judge's Bench Accessible		No	
Witness Box Accessible		No	
Jury Box Accessible		Yes	
Security Summary			
Motion Detection		No	No
Card Access		No	No
Space For Entry Screening?		Yes	No
Envelope Summary			
Brickwork Condition			Good
Openings and Lintels			Good
Windows / Glazing			PVC w/ Insulated Glass
Roofing			Asphalt Shingles: Deterioriated
Wall Insulation			R 4 +/-
Roof Insulation			12" Rock Wool Attic Floor Fill

**MECHANICAL SYSTEMS ENGINEERS, INC.**

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mechsyst@maine.rr.com

**Waldo County Superior Court**  
Belfast, Maine  
October 11, 2011

**Existing Mechanical Conditions**

1. Heating
  - a. One HB Smith 450 Mills Boiler. 10 section steam boiler, 1724 MBH capacity. The boiler is over 30 years old.
  - b. Mostly cast iron radiators. Approximately half the radiators are convertible to hot water heat. In general they are controlled by self-contained valves.
  - c. The lower level (Registry of Deeds) has been converted to hot water baseboard heat (one zone). There is an electric heater at the entry door.
  - d. The chimney is not lined and does not meet current Standards.
  - e. The boiler room combustion and ventilation air does not meet current Standards.
  - f. The control system is minimal and the Court Room is controlled by a dated pneumatic control system.
  - g. There is an indoor 5,000 gallon oil tank. Block shell with steel tank. No issues were noted; however, the tank can be a potential future issue as recent interpretations from the State Oil Board have considered this type of tank to have the same requirements as a buried outdoor tank.
  
2. Air Conditioning and Ventilation
  - a. There is no mechanical ventilation in the building. The ventilation requirements are being met by operable windows.
  - b. The Record Rooms have dehumidification units. These units would not be reusable in a major renovation.
  - c. The Second Floor Courtroom has four split-system air conditioning systems (heat pumps with electric auxiliary heat). These systems are nearing the end of their useful life. The roof-mounted portions of these systems are installed in a very precarious position and raise safety concerns for servicing technicians and do not meet Standards. There would not be any value in reusing these units in a major renovation of the building.
  - d. Distributed throughout the building are window-mounted air conditioning units. There would not be any value in reusing these units in a major renovation of the building.



3. Fire Protection (Sprinklers)

The building is protected by a dry sprinkler system installed in 1950. In a major renovation this system should be converted to a mostly wet system and would probably need replacement of the majority of the piping and the sprinkler heads.

4. Plumbing.

- a. The majority of the plumbing fixtures are dated and would probably have no value in a major building renovation. The toilets are tank-type and probably would not be reused, regardless of condition.
- b. There is a 1-1/2" water entrance into the building – static pressure 65psi.

**Comments Concerning Future Building Plans**

1. There is an existing report by Carpenter Associates dated January 22, 2009 that details existing conditions of the heating systems in more detail than the summary above. This report also suggests renovations to the heating system that can be made – these recommendations are still valid if the intention is to update the heating systems but not expand the space or repurpose any or the existing building. The comments below assume that the building will be expanded in size and the will undergo an extensive renovation of the existing structure including repurposing most of the existing spaces.

2. Heating

- a. The existing boiler, piping and heat distribution are not suitable for reuse in a major expansion of the building or a repurposing of the existing space.
- b. The oil tank will need extensive renovation or replacement and the chimney will need to be relined in a major renovation.

3. Air Conditioning and Ventilation

- a. There is no air conditioning or ventilation equipment that has value in a major renovation of this building.
- b. Window air conditioning units can be considered in a renovation; however, operating cost, as well as, appearance would make this an undesirable option.

4. Fire Protection (Sprinklers)

If a major renovation is undertaken of the existing building, it would also be the time to replace this existing piping and sprinkler heads.

5. Plumbing

It is unlikely that any of the plumbing fixtures would be reused in a renovation. Some of the piping may be reuseable.

5. Possible Future Heating, Ventilating and Air Conditioning System

Because of changing technologies and the changing potential for natural gas and renewable energy sources, it is not be practical to determine the best solution until design/construction documents are prepared. Most likely the system that will be selected to heat, cool and ventilate will use the heat pump process with geo-exchange or air-exchange. Ventilation air will be provided on a demand basis with heat recovery from the exhaust air of the building.

A handwritten signature in black ink, appearing to read 'Kurt Magnusson', with a stylized flourish at the end.

Kurt Magnusson, P.E.



**MECHANICAL SYSTEMS ENGINEERS, INC.**

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**Belfast District Court**  
Belfast, Maine  
October 11, 2011

**Existing Mechanical Conditions**

1. Heating

- a. Two Weil-McLain Model #380 3-section oil-fired boilers. Efficiency tested at approximately 85%. These boilers were installed in approximately 2002, are in good condition, and are not in need of replacement.
- b. The heating distribution is to perimeter hot water baseboard and cabinet unit heaters at the entries. Ten Taco pumps zone the heat as follows:
  - First Floor Court Room
  - Court Rooms and Commissioner's Office
  - Probate Office and east perimeter
  - Attorney's Office First Floor
  - Clerk of Court, perimeter and Office First Floor
  - First Floor Judge's Chambers
  - Ground Floor Maintenance and Microfilm
  - First Floor Hallway
  - First Floor Clerk's Office
  - Superstor domestic hot water heaterAll the pumps appear in good condition and are not in need of replacement.
- c. There is an electric hot water heater for summer use and an indirect hot water heater for winter use – both are in good condition.
- d. There are two 330 gallon indoor oil tanks that are UL listed and appear to be properly installed and in good condition.
- e. There are two 20"x8" combustion air intakes.
- f. A Johnson Controls Metasys system controls the two injection pumps and the boilers.

2. Air Conditioning and Ventilation

- a. Window air conditioning unit for the Registry of Probate.
- b. Sanyo 2-ton cooling unit with an air handler in the County Office and Conference.
- c. Window air conditioning unit for the Ground Floor courtroom.
- d. For the First Floor, a York 2-ton split system air conditioning unit and two 5-ton split system air conditioning units cool the First Floor Courtroom, Judge's Office, Clerk of Courts and misc. support areas.

Bartlett Design  
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Waldo County Superior Court  
 Belfast District Court  
 Belfast, Maine  
 August 24, 2011

### ELECTRICAL SYSTEMS REPORT

The following electrical information has been prepared from observations made at a site visit on June 20, 2011.

#### Executive Summary

The electrical service entrances for both the Waldo Superior Court and the Belfast District Court should be upgraded to provide for additional capacity. In the case of the existing Superior Court building, the service should be designed to accommodate a full renovation as well as a building addition. In the case of the existing District Court building, the service should be designed to accommodate a full renovation. Consideration should be given to the provision of a standby generator to serve essential loads at the expanded Superior Court building.

Both facilities should have existing branch circuit wiring and panelboards replaced. New energy efficient lighting should also be provided at both locations. Consideration should be given to the provision of intrusion detection and surveillance systems to be added to the expanded Superior Court facility.

The existing fire alarm systems should be modified as required at both facilities to accommodate plan changes. Additionally, the existing telecommunications systems at each location should be expanded to accommodate the new space plan.

#### WALDO COUNTY SUPERIOR COURT - Existing Electrical Site Service and Distribution

The building electrical service is currently fed from a *Central Maine Power Company* overhead secondary service line that extends from a utility pole that is located at the corner of Church Street and High Street. The overhead service is received at a *CMP* meter (# 05 287 733) that is located on the west side of the building. The service entrance conductors are extended into the basement of the building to an electrical service room that contains a *CMP* service box and a 600-ampere, 120/240 volt, 1-phase 3-wire fused service switch. Secondary distribution is accomplished through a wireway that connects to three circuit breaker panelboards.

##### Basement Electrical Room Panelboards

*Cutler-Hammer* 120/240 volt, 1-phase, 3-wire, 125-ampere bus  
 100-ampere, 2-pole main circuit breaker

##### Branch Circuit Breakers

(1) 20A/2P  
 (12) 20A/1P  
 (1) 15A/1P  
 (16) 1P blank

*General Electric* 120/240 volt, 1-phase, 3-wire, 125-ampere bus  
 100-ampere, 2-pole main circuit breaker

##### Branch Circuit Breakers

(4) 20A/2P  
 (2) 15A/2P

- (6) 20A/1P  
Westinghouse 120/240 volt, 1-phase, 3-wire, 100-ampere bus  
100-ampere, 2-pole main circuit breaker
- Branch Circuit Breakers
- (18) 20A/1P
- (1) 60A/2P

In addition to the basement electrical panelboards in the basement electrical room there are also four 100-ampere, 2-pole fused switches that serve heat pumps, as well as an enclosed 70-ampere, 2-pole circuit breaker.

There is an electrical branch circuit panel on the second floor in the Conference Room that is adjacent to the main staircase.

- Square D 120/240 volt, 1-phase, 3-wire, 100-ampere bus  
main lugs only
- Branch Circuit Breakers
- (5) 20A/1P
- (14) 1P blank

There is a six pole plug fuse panel located on the second floor in the hall that leads to the rear stair behind the Courtroom. There is also an electrical panelboard in the Attic.

- General Electric 120/240 volt, 1-phase, 3-wire, 125-ampere bus  
main lugs only
- Branch Circuit Breakers
- (4) 20A/1P
- (2) 15A/1P
- (6) 1 blank

**WALDO COUNTY SUPERIOR COURT - Existing Electrical Branch Circuit Wiring**

Electrical branch circuit wiring generally consists of building wire in Electrical Metallic Tubing (EMT), as well as Type MC armored cable.

**WALDO COUNTY SUPERIOR COURT - Existing Lighting**

The existing lighting in most areas is comprised of recessed and suspended lighting fixtures that utilize fluorescent lamps. Although much of the existing fluorescent lighting utilizes T8 lamps, there are a number of lighting fixtures that utilize T12 lamps. In addition to fluorescent luminaires there are a number of locations that have luminaires that utilize incandescent lamps. Emergency egress lighting fixtures and exit signs are currently installed at various locations around the facility. The emergency lights consist of battery units with incandescent lighting heads.

**WALDO COUNTY SUPERIOR COURT - Existing Fire Alarm System**

A new intelligent, addressable fire alarm system was being installed at the time of the survey.

**WALDO COUNTY SUPERIOR COURT - Existing Telephone/Data Network Systems**

An overhead telephone service is received from the utility pole across Church Street in front of the building. Telephone wiring is terminated at 110 wiring blocks in a basement room. The telephone system includes a Nortel Norstar head end. The basement telephone room includes a network rack that contains three 48-port patch panels as well as network switching equipment. The network service includes a fiber optic entrance. Local network cable wiring generally consists of CAT 5e cable.

**WALDO COUNTY SUPERIOR COURT - Recommendations**

The existing electrical service entrance is rated 600 amperes, 120/240 volts, single phase. This very likely would not have sufficient capacity for a renovation and building expansion. An upgrade of the electrical service would consist of a new three-phase service with increased capacity from the existing overhead utility line that presently extends along High Street. This would include an underground primary service to a new CMP pad mounted service transformer to be located adjacent to the building. A new underground secondary 120/208 volt, 3-phase, 4-wire service would then be extended into the basement. A new electrical service room would be required to allow for new service/distribution switchgear while maintaining the existing service equipment in operation until the new service is made operational.

New circuit breaker type branch circuit panelboards should be provided not only in the addition, but also as replacements for existing panels in the existing building to provide additional spare circuit capacity. New power panelboards should be provided to serve new HVAC equipment.

New energy efficient lighting should be provided for the building addition along with new automatic lighting controls. The lighting in the existing building should also be replaced with current technology equipment to maximize energy savings.

The fire alarm system that is presently being installed would have to be expanded to serve the building addition.

Consideration should be given to the provision of new security systems including intrusion detection and surveillance for the existing facility and building addition.

A new telecommunications room should be considered in the building addition to serve as a main server room for both the existing building as well as the building addition. This room should be environmentally conditioned.

Consideration should be given to providing a standby emergency generator to supply power in the event of the loss of normal utility power to heating systems, fire alarm and security systems, and telecommunications systems.

**BELFAST DISTRICT COURT - Existing Electrical Site Service and Distribution**

The building electrical service is currently fed from a *Central Maine Power Company* overhead secondary service line that extends from a utility pole that is located across Church Street from the courthouse. The overhead service is received at five *CMP* meters (# 108 650 502, #108 650 501, #108 650 503, #108 650 504, and #108 652 283) that are located on the east side of the building. The service entrance conductors are extended into the ground floor of the building to an electrical service room that contains a 200-ampere, 120/240 volt, 1-phase 3-wire fused service switch. Secondary distribution is accomplished through a wireway that connects to various enclosed circuit breakers and fused switches.

Ground Floor Electrical Room Enclosed circuit breakers and fused switches

- GTE* 240 volt, 1-phase, 3-wire, 30-ampere, 2-pole circuit breaker
- ITE* 240 volt, 1-phase, 3-wire, 100-ampere, 2-pole fused switch
- ITE* 240 volt, 1-phase, 3-wire, 100-ampere, 2-pole circuit breaker
- ITE* 240 volt, 1-phase, 3-wire, 60-ampere, 2-pole fused switch
- ITE* 240 volt, 1-phase, 3-wire, 60-ampere, 2-pole fused switch
- ITE* 240 volt, 1-phase, 3-wire, 60-ampere, 2-pole fused switch

The ground floor electrical room also includes two electrical panelboards.

Ground Floor Electrical Room Panelboards

- General Electric* 120/240 volt, 1-phase, 3-wire, 125-ampere bus main lugs only

Branch Circuit Breakers

- (8) 20A/1P
- (16) 1P blank

*General Electric* 120/240 volt, 1-phase, 3-wire, 225-ampere bus  
main lugs only

Branch Circuit Breakers

- (3) 15A/2P
- (1) 20A/2P
- (1) 25A/2P
- (1) 30A/2P
- (2) 50A/2P
- (26) 20A/1P

In addition to the ground floor electrical panelboards in the electrical room there is also an electrical branch circuit panelboard in the Registry of Deeds Office on the ground floor, as well as in a toilet room on the first floor.

Ground Floor Registry of Deeds Office Panelboard

*Square D* 120/240 volt, 1-phase, 3-wire, 100-ampere bus  
main lugs only

Branch Circuit Breakers

- (24) 20A/1P
- (6) 1P blank

**Existing Electrical Branch Circuit Wiring -- BELFAST DISTRICT COURT**

Electrical branch circuit wiring generally consists of Type NM non-metallic sheathed cable and Type MC armored cable.

**BELFAST DISTRICT COURT - Existing Lighting**

The existing lighting in most areas is comprised of recessed and surface ceiling mounted lighting fixtures that utilize fluorescent lamps with T8 lamps. The Registry of Deeds Office also includes ten recessed downlights that utilize incandescent lamps. Emergency egress lighting fixtures and exit signs are currently installed at various locations around the facility. The emergency lights consist of battery units with incandescent lighting heads.

**BELFAST DISTRICT COURT - Existing Fire Alarm System**

A new intelligent, addressable fire alarm system was being installed at the time of the survey.

**BELFAST DISTRICT COURT - Existing Telephone/Data Network Systems**

An overhead telephone service is received from the utility pole at the corner of Church Street and Spring Street in front of the building. Telephone wiring is terminated at 110 wiring blocks in the ground floor Boiler Room. The telephone system includes a *Nortel Norstar* head end. A ground floor Maintenance Room includes a network rack that contains two 48-port patch panels as well as network switching equipment. Local network cable wiring generally consists of CAT 5e and CAT 6 cable.

**BELFAST DISTRICT COURT - Recommendations**

The existing electrical service entrance is rated 200 amperes, 120/240 volts, single phase. This very likely would not have sufficient capacity for a renovation that includes new HVAC equipment. An upgrade of the electrical service would consist of a new three-phase service with increased capacity from the existing overhead utility line that presently extends along Church Street. This would include an underground secondary service from the existing utility pole at the corner of Church and Spring Streets. The new

underground secondary 120/208 volt, 3-phase, 4-wire service would be extended into the basement. A new electrical service room would be required to allow for new service/distribution panelboards.

New circuit breaker type branch circuit panelboards should be provided to provide additional spare circuit capacity. New power panelboards should be provided to serve new HVAC equipment.

New energy efficient lighting should be provided with new automatic lighting controls. The existing lighting should also be replaced with current technology equipment to maximize energy savings.

A new telecommunications room should be considered to serve as a main server room. This room should be environmentally conditioned.



- e. For the majority of the Ground Floor and First Floor there is no mechanical ventilation. The ventilation requirements for these spaces is met by operable windows.
- f. A Lennox HRVI-200 heat recovery unit exhausts and supplies outside air to the Registry of Probate.
- g. All restrooms are exhausted directly to the outdoors by ceiling-mounted exhaust fans.

3. Fire Protection (Sprinklers)

The building is not protected by a sprinkler system.

4. Plumbing.

The plumbing fixtures were replaced in 1997 and appear to be in good condition.

**Comments Concerning Future Building Plans**

1. Heating

The existing boilers, pumps, oil-tanks and heating distribution system are suitable for reuse and can be adapted for any combination of future space need, as well as, the addition of additional floor space.

2. Air Conditioning and Ventilation

- a. The three existing First Floor York air conditioning systems are suitable for reuse. An additional air conditioning system would be required and humidity control would be needed in the new county archives. Also, there is no mechanical ventilation existing – a heat recovery unit to bring in outside air to the indoor air handlers would need to be added.
- b. None of the existing Ground Floor air conditioning or ventilation systems would be reusable in a renovation. Recommendation would be to add systems similar to the split systems that presently cool the First Floor

3. Fire Protection (Sprinklers)

A NFPA 13 automatic sprinkler system should be added to the building if an extensive renovation of the building is being done.

4. Plumbing

The present plumbing fixtures could remain in place.

A handwritten signature in black ink, appearing to be 'Kurt Magnusson', written in a cursive style.

Kurt Magnusson, P.E.