CITY COUNCIL MEETING

MUNICIPAL COMPLEX, EILEEN DONDERO FOLEY COUNCIL CHAMBERS, PORTSMOUTH, NH
DATE: MONDAY, JUNE 1, 2015 **TIME: 6:30PM**

AGENDA

- **6:30 PM – AN ANICIPATED "NON-MEETING" WITH COUNSEL RE: Employment agreement of Superintendent-Elect Steve Zadravec in accordance with – RSA 91-A:2, I (b)**

I. CALL TO ORDER (6:30 PM)

II. ROLL CALL

III. INVOCATION
IV. PLEDGE OF ALLEGIANCE

PRESENTATIONS

1. Senior Subcommittee Report, Brinn Chute Senior Services Coordinator

2. Interim Report Re: Sagamore Creek Land Blue Ribbon Committee, David Moore, Community Development Director
   (Sample motion:
   a) To endorse the Vision and Guidelines document from the Blue Ribbon Committee on Sagamore Creek Land.
   b) To request the City Manager to make a report back, which addresses the goals of the Recreation Needs Study, including resurfacing existing fields with artificial turf, (e.g. adjacent High School Athletic Complex); and to also make a report back that addresses the acquisition of land and development of recreation fields in the City.)

V. ACCEPTANCE OF MINUTES – *There are no minutes on for acceptance*

VI. PUBLIC COMMENT SESSION

VII. PUBLIC HEARING

A. ORDINANCE AMENDING THE ZONING MAP BY REZONING THE FOLLOWING LOTS FROM INDUSTRIAL (I), OFFICE RESEARCH (OR) OR MUNICIPAL (M) TO GATEWAY (GW):
   - ASSESSORS MAP 163, LOTS 33, 34 AND 37;
   - ASSESSORS MAP 165, LOTS 1, 2 AND 14;
   - ASSESSORS MAP 172, LOTS 1 AND 3;
   - ASSESSORS MAP 173, LOTS 2 AND 10;

   AND INCLUDING CATE STREET BETWEEN HODGSON'S BROOK AND BARLETT STREET; AND AMENDING THE ZONING ORDINANCE AS FOLLOWS:
   - ARTICLE 7, SECTION 10.730 – GATEWAY PLANNED DEVELOPMENT:
     - AMEND SECTION 10.734.20 – LOT REQUIREMENTS, BY ESTABLISHING FRONT YARD STANDARDS RELATIVE TO STREETS OTHER THAN LAFAYETTE ROAD;

- AMEND SECTION 10.734.33 BY MODIFYING THE MAXIMUM BUILDING HEIGHT STANDARDS;
- INSERT A NEW SECTION 10.734.40 – WORKFORCE HOUSING INCENTIVES, TO ALLOW INCREASED BUILDING HEIGHT AND BUILDING LENGTH, AND TO ALLOW PARKING TO BE LOCATED IN A REQUIRED FRONT YARD OR BETWEEN A PRINCIPAL BUILDING AND A STREET, FOR A GATEWAY PLANNED DEVELOPMENT THAT CONTAINS 10% OR GREATER WORKFORCE HOUSING UNITS.

- ARTICLE 15 – DEFINITIONS:
  - AMEND SECTION 10.1530 – TERMS OF GENERAL APPLICABILITY, BY INSERTING DEFINITIONS OF "WORKFORCE HOUSING" AND "WORKFORCE HOUSING UNIT." ***(Public Hearing kept open from the May 18, 2015 City Council meeting)***

VIII. APPROVAL OF GRANTS/DONATIONS

(There are no items on under this section of the Agenda)

IX. CONSIDERATION OF RESOLUTIONS AND ORDINANCES

A. First reading of Proposed Ordinance amending Short-term Vacation Rentals and other Lodging Uses ***(Sample motion – move to pass first reading and schedule a public hearing and second reading of the proposed Ordinance at the June 15, 2015 City Council meeting, as presented)***

B. Second reading of Ordinance the Zoning Map by rezoning the following lots from Industrial (I), Office Research (OR) or Municipal (M) to Gateway (GW):

- Assessors Map 163, Lots 33, 34 and 37;
- Assessors Map 165, Lots 1, 2 and 14;
- Assessors Map 172, Lots 1 and 2;
- Assessors Map 173, Lots 2 and 10;

and including Cate Street between Hodgson's Brook and Bartlett Street; and amending the Zoning Ordinance as follows:

- Article 7, Section 10.730 – Gateway Planned Development:
  - Amend Section 10.734.20 – Lot Requirements, by establishing front yard standards relative to streets other than Lafayette Road;
  - Amend Section 10.734.33 by modifying the maximum building height standards;
  - Insert a new Section 10.734.40 – Workforce Housing Incentives, to allow increased building height and building length, and to allow parking to be located in a required front yard or between a principal building and a street, for a Gateway Planned Development that contains 10% or greater workforce housing units.
- Article 15 – Definitions:
  - Amend Section 10.1530 – Terms of General Applicability, by inserting definitions of "workforce housing" and "workforce housing unit."

(Sample motion:

1) Amend the proposed Ordinance as recommended by the Planning Board, and

2) Pass second reading and schedule a third and final reading of the proposed Ordinance, as presented, at the June 15, 2015)

X. CONSENT AGENDA

A MOTION WOULD BE IN ORDER TO ADOPT THE CONSENT AGENDA

A. Letter from Peter Newbury, Organizer, Open Streets Portsmouth, Seacoast Area Bicycle Riders Board of Directors, requesting permission to hold an Open Streets event on Saturday, September 12, 2015. ***(Anticipated action – move to refer to the City Manager with power)***

B. Request for License from Philip Saul, owner of Sault New England for property located at 10 Market Square for a projecting sign on a new bracket ***(Anticipated action – move to accept the recommendation of the Planning Director with the aforementioned stipulations and approve the request of Philip Saul, owner of Sault New England for a projecting sign at property located at 10 Market Square and, further, authorize the City Manager to execute License Agreements for this request)***

Planning Director's Stipulations:

- ***The license shall be approved by the Legal Department as to content and form;***
- ***Any removal or relocation of the projecting sign, for any reason, shall be done at no cost to the City; and***
- ***Any disturbance of a sidewalk, street or other public infrastructure resulting from the installation, relocation or removal of the projecting sign, for any reason, shall be restored at no cost to the City and shall be subject to review and acceptance by the Department of Public Works***

C. Request for License from Robin Miller, owner of Juliette Lovelys Boutique for property located at 65 Bow Street for 1 projecting sign on a new bracket ***(Anticipated action – move to accept the recommendation of the Planning Director with the aforementioned stipulations and approve the request of Robin Miller, owner of Juliette Lovelys for 1 projecting sign at property located at 65 Bow Street, and, further, authorize the City Manager to execute License Agreements for this request)***

Planning Director's Stipulations:

- ***The license shall be approved by the Legal Department as to content and form;***
- ***Any removal or relocation of the projecting sign, for any reason, shall be done at no cost to the City; and***
- ***Any disturbance of a sidewalk, street or other public infrastructure resulting from the installation, relocation or removal of the projecting sign, for any reason, shall be restored at no cost to the City and shall be subject to review and acceptance by the Department of Public Works***

D. Request for License to Install an Awning from Shore Gregory, owner of ROW 34 for property located at 5 Portwalk Place ***(Anticipated action – move to approve the aforementioned stipulations and approve the request of Shore Gregory, owner of ROW 34 for an Awning located at 5 Portwalk Place, as recommended by the Planning Director, and, further, authorize the City Manager to execute License Agreements for this request)***

Planning Director's Stipulations:

- ***The license shall be approved by the Legal Department as to content and form;***
- ***Any removal or relocation of the projecting sign, for any reason, shall be done at no cost to the City; and***
- ***Any disturbance of a sidewalk, street or other public infrastructure resulting from the installation, relocation or removal of the projecting sign, for any reason, shall be restored at no cost to the City and shall be subject to review and acceptance by the Department of Public Works***

E. Request for Approval of Pole License to install 4 poles located on Borthwick Avenue ***(Anticipated action – move to approve the aforementioned Pole License Agreement as recommended by the Public Works Department with the approval conditioned upon amendment of the license to allow for the collection of any lawfully assessed real estate taxes)***

F. Request for Approval of Pole License to install 1 new pole and guy wire located on Coakley Road ***(Anticipated action – move to approve the aforementioned Pole License Agreement as recommended by the Public Works Department with the approval conditioned upon amendment of the license to allow for the collection of any lawfully assessed real estate taxes)***

G. Request for Approval of Pole License to install 1 replacement pole located on Regina Road ***(Anticipated action – move to approve the aforementioned Pole License Agreement as recommended by the Public Works Department with the approval conditioned upon amendment of the license to allow for the collection of any lawfully assessed real estate taxes)***

H. Request for Approval of Pole License to install 1 replacement pole located on Lafayette Road on conjunction with recent reconstruction of Rte 1/ Rte 1 Bypass in front of Bowl-O-Rama ***(Anticipated action – move to approve the aforementioned Pole License Agreement as recommended by the Public Works Department with the approval conditioned upon amendment of the license to allow for the collection of any lawfully assessed real estate taxes)***

I. Request for Approval of Pole License to install 1 new pole and guy wire located on the northwest corner of the intersection of the Rte 1 Bypass and Borthwick Avenue ***(Anticipated action – move to approve the aforementioned Pole License Agreement as recommended by the Public Works Department with the approval conditioned upon amendment of the license to allow for the collection of any lawfully assessed real estate taxes)***

J. Request for Approval of Pole License to install 3 replacement poles located on Commerce Way across from the entrance to the strip mall ***(Anticipated action – move to approve the aforementioned Pole License Agreement as recommended by the Public Works Department with the approval conditioned upon amendment of the license to allow for the collection of any lawfully assessed real estate taxes)***

XI. PRESENTATION & CONSIDERATION OF WRITTEN COMMUNICATIONS & PETITIONS

A. Letter from Steve Couture, Manager, New Hampshire Coastal Program and Secretariat, Gulf of Maine Council on the Marine Environment, regarding the City of Portsmouth being selected to receive Gulf of Maine Council 2015 Sustainable Communities Award.

B. Letter from Fr. Robert J. Archon, Saint Nicholas Greek Orthodox Church regarding St. Nicholas Greek Orthodox Church Back Lot – Tax Map Lot 229-6A ***(Sample motion – move to refer to the Planning Board for a report back)***

XII. REPORTS AND COMMUNICATIONS FROM CITY OFFICALS

A. CITY MANAGER

Items Which Require Action Under Other Sections of the Agenda

1. First Reading of Proposed Ordinance:

    1.1 First reading of Proposed Ordinance amending Short-term Vacation Rentals and other Lodging Uses

2. Public Hearing and Second Reading of Proposed Ordinance:

    2.1 Ordinance the Zoning Map by rezoning the following lots from Industrial (I), Office Research (OR) or Municipal (M) to Gateway (GW):
    - Assessors Map 163, Lots 33, 34 and 37;
    - Assessors Map 165, Lots 1, 2 and 14;
    - Assessors Map 172, Lots 1 and 2;
    - Assessors Map 173, Lots 2 and 10;

    and including Cate Street between Hodgson's Brook and Bartlett Street; and amending the Zoning Ordinance as follows:
    - Article 7, Section 10.730 – Gateway Planned Development:
        - Amend Section 10.734.20 – Lot Requirements, by establishing front yard standards relative to streets other than Lafayette Road;
        - Amend Section 10.734.33 by modifying the maximum building height standards;
        - Insert a new Section 10.734.40 – Workforce Housing Incentives, to allow increased building height and building length, and to allow parking to be located in a required front yard or between a principal building and a street, for a Gateway Planned Development that contains 10% or greater workforce housing units.
    - Article 15 – Definitions:
        - Amend Section 10.1530 – Terms of General Applicability, by inserting definitions of "workforce housing" and "workforce housing unit."

City Manager's Items Which Require Action:

1. North End Character-Based Zoning

Informational items

1. Events Listing
2. Report Back Re: Enabling Legislation Regarding the Regulation of Plastic Bag Use within the City
3. Report Back Re: Peirce Island Non-resident Entrance Fee
4. Reminder Re: Special Meeting – Adoption of FY16 Budget
5. Update Re: Hanover Garage Structural Evaluation
6. Report Back Re: Fiber Line Upgrade for Channel 22
7. Timing of Proposed Charter Amendment Activity

B. ASSISTANT MAYOR SPLAINE

1. *Proposed Amendment to Transportation Services Ordinance

C. COUNCILOR LOWN

1. Acceptance of Temporary Action Item and Minutes of the May 14, 2015 Parking and Traffic Safety Committee Meeting – ***(Sample motion – move to accept the Temporary Action Item and Minutes of the May 14, 2015 Parking and Traffic Safety Committee Meeting)***

2. *Employee Gifts Bequest Ordinance Report Back

D. COUNCILOR MORGAN

1. *Speed enforcement in Portsmouth – pedestrian and bicyclist safety

E. COUNCILOR SPEAR

1. *Request for a Work Session Regarding Peirce Island Wastewater Treatment Facility Compliance Strategy

2. *Proposed Motion Re: Election of Mayor

MOVED: That the Legal Department be requested to draft the text and related documents necessary for the Council to consider placement on the ballot for referendum vote in November 2015 of a Charter Amendment which would accomplish the following:

1. The Office of Mayor would become an elected position.
2. Only candidates who are candidates for City Council would have the option of also becoming a candidate for Mayor.
3. To become Mayor a candidate would have to be duly elected to both the City Council and the Office of the Mayor.
4. The statutory authority and responsibility of the Mayor and the City Council would remain unchanged.
5. The Charter Amendment would become effective January 1, 2017.

XIII. MISCELLANEOUS/UNFINISHED BUSINESS

XIV. ADJOURNMENT

KELLI L. BARNABY, MMC, CMC, CNHMC
CITY CLERK

**Indicates Verbal Report*

INFORMATIONAL ITEMS

1. *Notification that the minutes of the April 29, 2015 meeting of the Historic District Commission are now available on the City's website

NOTICE TO THE PUBLIC WHO ARE HEARING IMPAIRED: Please contact Dianna Fogarty at 603-610-7270 one-week prior to the meeting for assistance.

M E M O R A N D U M

TO: John P. Bohenko, City Manager

FROM: Carl Diemer, Chair Senior Subcommittee of the Recreation Board

DATE: May 1, 2015

RE: 50+ Activity Center at the former Paul A. Doble U.S. Army Reserve

This memorandum includes recommendations from the senior subcommittee for a 50+ Activity Center at the 125 Cottage Street property known as the former Paul A. Doble U.S. Army Reserve Center.

Members appointed to the Senior Committee: Carl Diemer (Chair), Judith Bunnell, Todd Henley, Nancy Novelline Clayburgh (School Board Representative), Maureen O'Leary, Ron Poulin, Diane Share, Cindi Shanley, and Kory Sirmaian.

Senior Center History:

- Originally Portsmouth's senior center was housed in the Sam's Furniture store on Vaughn Street. It then moved to the Woodbury Manor housing development community center.
- 1974-2000: Operated at Henry Sherburne House on Deer Street by the Portsmouth Housing Authority.
- 2000-2009: Move to Parrott Ave. Portsmouth Housing Authority & Compass Care renovate space for medical adult day program and senior center.
- 2009: Mark Wentworth Home acquires Parrott Ave property and runs a medical adult day program while Living Innovation manages the senior center.
- Late 2011: Senior center on Parrott Avenue permanently closed.
- Following the closure, a steering committee of community members is formed to asses the situation and make recommendations. In May 2012, the Greater Portsmouth Area Senior Center Project report recommended the continued need for a new senior center location.
- During this time a partnership between the City and the Mark Wentworth Home is renewed to continue offering senior transportation to Portsmouth residents.
- August 2012: City staff submits a Report to the City Council on the Status of Senior Services and Recommendations which recommends the creation of a senior services city staff position.
- November 2012: Senior Services Coordinator is hired.
- July 2013: The Mayor appoints the Blue Ribbon Senior Committee with the charge to advise the City Council on developing a senior center including programming and location.
- December 2013: Blue Ribbon Senior Committee Report recommends preparing for the eventual reuse of the Doble facility as a 50+ activity center, creating a temporary senior center, and establishing a senior subcommittee.
- January 2014: Senior subcommittee is formed and begins meeting regularly to discuss the possibilities for the Doble facility as well as support the senior services department.
- May 2014: Temporary senior activity center at community campus opens.

Vision & Recommendation for the Reuse of the Doble Property:

Vision: Creation of a vibrant hub for a 50+ activity center/senior center focusing on the promotion of healthy aging including wellness, educational, recreational, cultural, social, multi-generational, and resource opportunities. Maximize both the indoor and outdoor space on the property. While maintaining the needs of the senior population as the top priority, meet the community-wide need for additional programming space.

Recommended Timeline: Renovation of building and construction of all purpose gym with walking loop completed in time for a June 1, 2016 opening.

Recommendations:

Accessibility:

- Ensure facility accessible to all members of community.
- Create an easily accessible, inviting and welcoming entrance and reception area.
- Restrooms modification for ADA as well as comfort for multiple populations.
- Ensure parking, walk-ways and entrance work in harmony. Ensure covered drop off area as part of front entrance.
- Ensure access to public transportation and accessibility to bus stop and waiting area at the stop.

General Building Features:

- Ensure climate control facility for all seasons.
- Special attention should be given to the doors and wind/weather control.
- Ensure modern amenities including technology friendly rooms with wifi, a/v, projectors, wiring, phones, etc. and proper/secure storage.
- Give special consideration to acoustics and lighting as well as flooring needs for each room.

Office Space:

- Ensure office space for senior service department.
- Ensure the potential extra office space that could be used for partnering agencies.

Programming Space:

- Create an inviting drop-in lounge area with kitchenette.
- Ensure a “Levenson-esque” room is created to offer an additional high quality event venue for the community.
- Ensure the facility has the kitchen facility to offer a daily meal program.
- Ensure rooms can transform easily to meet multiple needs and have adequate storage. Ex) movable furniture and securing it properly.
- Special attention should be considered with the large assembly area to meet multiple program needs: flooring, heat, acoustics, restrooms, room dividers, lighting, potential to rent the space for special events, storage, daily meal prep and serving, connection to kitchen, code requirements, etc. Additional thought given to creating a stage area with retractable seating in assembly area.
- Create outdoor garden and patio area.
- Build a comprehensive gym that meets the needs of seniors and the community. A gymnasium which includes an indoor walking loop and fitness equipment area. Gym courts would have line markings traditional activities but could also include senior aimed activities like Pickleball, indoor tennis, shuffleboard, and volleyball.

Additional Considerations:

- Consider the possibility that this facility could be a shelter and include that in the planning.
- Consider the garage outbuilding as additional program or storage space. For example store kayaks and bikes for program use.
- Consider space for potential revenue streams including special events.

Recommendation: Why 50+?

The senior subcommittee supports a vision for a 50+ activity center serving both the current senior population and the soon to be senior. This innovative and inclusive philosophy encourages a multigenerational environment which offers layers of support and creates a vibrant atmosphere.

While the center's first priority will be to serve the current senior population, the center will also strive to attract adults age 50+ through educational enrichment and fitness opportunities. Additionally, the 50+ participants can serve as volunteers, create workplace connections, bring their parents, and help redefine what aging looks like.

The stigma of aging persists; forging barriers for people attending. A 50+ model provides a comprehensive array of activities and services to promote healthy aging for the older adults in our community.

In Summary:

The City has taken a many steps in recent years to increase the level of service for the senior population. The acquisition of the Doble property is the next step in realizing the vision for creating a new and modern 50+ activity center.

The committee understands that this memo serves only as a preliminary recommendation prior to the actual acquisition of the property and is intended to serve as guiding points as the planning moves forward.

M E M O R A N D U M

TO:	Honorable Mayor Lister and Members of the City Council
FROM:	Eric Spear, City Councilor; Chair, Sagamore Creek Land Blue Ribbon Committee
DATE:	May 27, 2015
RE:	Interim Report Back on Sagamore Creek Land Blue Ribbon Committee

Please allow this memorandum and its attachments to serve as an interim report back to the City Council concerning the work to date of the Mayor's Blue Ribbon Committee on the Sagamore Creek Land. Since February, the Committee has been meeting to make progress on its charge from the Mayor: to create a plan for public usage of the city-owned land at Sagamore Creek. A final report back to the City Council is to be completed on or prior to September 21, 2015.

The Committee has adopted a *Vision and Guidelines* document on which it plans to continue its work moving forward. At this time, the Committee is seeking the City Council's endorsement of this Interim Report in order that the Committee can move forward with a more detailed plan for public usage at the parcel. Below is a summary of the process to date, a summary of public input opportunities, recommendations, and a discussion of issues the Committee would like to highlight for the City Council that were raised during the process. The Vision and Guidelines the Committee is seeking the Council's endorsement of, is attached along with a copy of this coming Monday evening's presentation.

The Committee's Process & Public Input

A. The Committee, which includes representatives from the community and the Recreation Board, Conservation Commission, and School Board has met six times to discuss and review the site's past usage and history; its environmental characteristics and natural resource value; its past use as a landfill; previous plans and studies associated with the parcel; and options for landfill reuses. In addition, we met with multiple representatives each of the City's School Board, Recreation Board, Conservation Commission and Sustainability Committee to discuss current uses of the site and asked the perspective of each on the future uses of the parcel.

B. On May 7th Committee held a public input session on a draft vision and guidelines for a plan for public use of the city-owned property. Nearly 20 people made public comments on the draft document. As a result of the comments (including another 25 written comments from the website) and committee discussion some changes were incorporated in the document and the Committee voted to pass it on to the City Council.

C. Many residents have attended the Committee meetings and others have submitted public comments via the online public comment form on the section of the City's website set-up for the Blue Ribbon Committee's work. At that web site, interested members of the Community can view presentations and documents reviewed by the Committee as well as link to each of the Committee's minutes and meeting notices. Materials reviewed by the Committee as well as a link to agendas and meeting minutes can be viewed at http://www.cityofportsmouth.com/sagamorecreek.html.

Interim Recommendations, Other Needs, Ideas, and Opportunities

Three recommendations prepared by the Committee at this time appear below.

1. **Endorsement of Vision and Guidelines Document from the Blue Ribbon Committee on Sagamore Creek Land.**

   The Committee has created a Vision and Guidelines document based on its work and feedback from the community. The document is attached to this memorandum and will be used to guide the next phase of the Committee's work of creating a more detailed plan for public usage of the parcel.

   A. Recommendation: To endorse the Vision and Guidelines document from the Blue Ribbon Committee on the Sagamore Creek Land.

2. **Addressing Recreation Fields Needs for Organized Team Sports**

   The Committee discussed and agreed with the conclusions of the Recreation Needs Study that additional multi-purpose rectangular and ballfields are needed in the City. However, addressing this need at the Sagamore Creek Land conflicted with the vision developed by the Committee as summarized in the Vision and Guidelines document. As a result the Committee has made additional interim recommendations to the City Council:

   B. Recommendation: That the City Council take action, such as requesting the City Manager to make a report back, which addresses the goals of the Recreation Need Study including resurfacing existing fields with artificial turf, (e.g. adjacent High School Athletic Complex); and to also make a report back that addresses the acquisition of land and development of recreation fields in the City.

In addition to these recommendations, a number of important ideas, needs, and opportunities were raised during the course of the Committee's work, which are not included in the *Vision and Guidelines*, however they were discussed at length by the Committee meeting. A brief summary of those issues also appear below.

Passive Recreation in the City. During the Committee's work it became familiarized with the diversity of public undeveloped lands (most with conservation or wetland restrictions), which may be available to help meet the demand for passive recreation in the City. More access and

awareness to lands already owned by the City will better ensure there is no overuse of any one City property.

Solar Power Generation. During the Committee's work members of the community advocated for potential use of the cap for solar arrays to promote the City's sustainability goals. During discussion of the solar issue there were many questions raised about the viability of the opportunity present at the Sagamore Creek Land. In the draft guidelines, the Committee felt this exclusive use any portion of the land would preclude a number of other uses benefitting the public and in general did not fit with the Committee's draft vision. It also noted the solar panels can be placed in many settings such as roofs and on top of parking structures, which are preferable to preventing other uses for valuable waterfront and open space lands.

Suggested Council Motions (from Recommendations above)

A. *To endorse the Vision and Guidelines document from the Blue Ribbon Committee on the Sagamore Creek Land.*

B. *To request the City Manager to make a report back, which addresses the goals of the Recreation Need Study, including resurfacing existing fields with artificial turf, (e.g. adjacent High School Athletic Complex); and to also make a report back that addresses the acquisition of land and development of recreation fields in the City.*

cc: John P. Bohenko, City Manager
David Moore, Community Development Director

Blue Ribbon Committee on the Sagamore Creek Land

Interim Report: Vision and Guidelines

Vision:

The Sagamore Creek Land is a unique and valuable community resource that should be conserved and made accessible to all in a balanced manner that promotes waterfront access, protection of invaluable natural features, and permits recreation opportunities that complement one another and which are sensitive to the overall vision of preserving the site's character.

	Proposes Uses and Activity From the Community	Does the proposed use/activity fit within the Vision described above	Explanation of the Committee's determination
1.	Outdoor Classroom and educational purposes; including interpretation of historical, cultural and environmental resources	Yes	Many of the uses provided by the School Department representatives (at left) are currently taking place at the site. Given that the land is adjacent to the high school, the Committee determined that educational uses should continue and the parcel should continue to be used in ways that provide experiential enrichment.
2.	Cross Country Trail System	Yes	This long established use has long benefited not only the Athletic program at the Portsmouth High School, but doubles as a trail network for the general public and has the added benefit of encouraging foot traffic to avoid ecologically sensitive areas.
3.	Middle School Mountain Biking Program	Yes	The existing use has complemented the Cross Country and general public use and the current level of activity is in keeping with the vision described above.
4.	Mountain Biking (General Public)	Yes	The Committee found that promotion of general mountain biking is consistent with the vision described above.

5.	Community Garden	No	The implementation of a Community Garden facility and use has many challenges at this particular site including (access and water amenities). However, the Committee is supportive of this use if sponsored as an educational program adopted and managed through the School system.
6.	Recreation Fields for organized team sports	No	The Committee explored at length the planning documents and input from the Recreation Board regarding the need for multi-purpose recreation fields for organized field sports in Portsmouth and agrees adding fields and capacity to meet demonstrated needs should be a high priority for the City Council. There are three reasons the Committee has found these uses inconsistent with the vision above. 1. There are many significant physical constraints that would limit the recreational value of the end product and consume large amounts of capital resources that could be better used in meeting the field needs in alternative locations. 2. Extensive alteration of the landscape to make the fields usable (grading changes, retaining walls, and extensive tree removal) that would negatively impact the natural resources present. 3. Development of access ways, field lighting, restrooms, and related amenities would negatively impact the character of the parcel.
7.	Passive Recreation and Informal Recreation Uses (i.e., kite flying, sledding, bird watching, cross country skiing, Frisbee, picnicking) on the landfill cap.	Yes	Many of these activities take place at the site currently. They are consistent with the vision above.
8.	Water Access for non-motorized water craft with defined entry	Yes	A major ongoing purity of the City as expressed in its planned documents and elsewhere is waterfront access. This parcel's unique and long frontage along Sagamore Creek is not only an invaluable vista for public enjoyment but holds the possibility of another low –impact access point for non-motorized watercraft.
9.	Solar panel array	No	The Committee determined that solar panels in this location would preclude the use of the site for a number of other attractive uses benefitting the public. It also noted the solar panels can be placed in many settings such as roofs and on top of parking structures, which are preferable to preventing other uses for valuable waterfront and open space lands.

10.	Access Improvements for pedestrians, vehicles, and bicycles; including universal access for people of all abilities. This item includes promoting linkages to other nearby passive recreation areas	Yes	Formalizing access to and providing signage at the site to ensure will ensure the public is welcomed and can safely access the Sagamore Creek Land. Access to the site is consistent with the vision above in that it can encourage access in ways that are sensitive to the natural resource values.
11.	Disc Golf	No	The Committee discussed the potential for siting a disc golf course at the parcel. The Committee noted the installation of single-purpose structures as well as the risk to off trail activities that could threaten natural resources present. It was noted that some publicly-owned undeveloped lands (identified in the PULA study) likely represent appropriate opportunities for this use.
12.	Dogs	Yes	The Committee discussed how the presence of dogs at the site were appropriate and welcome and recommended that they be on leash.

Sagamore Creek Land

Interim Report: Vision and Guidelines

Mayor's Blue Ribbon Committee on the
Sagamore Creek Land

June 1, 2015

Tonight's Presentation

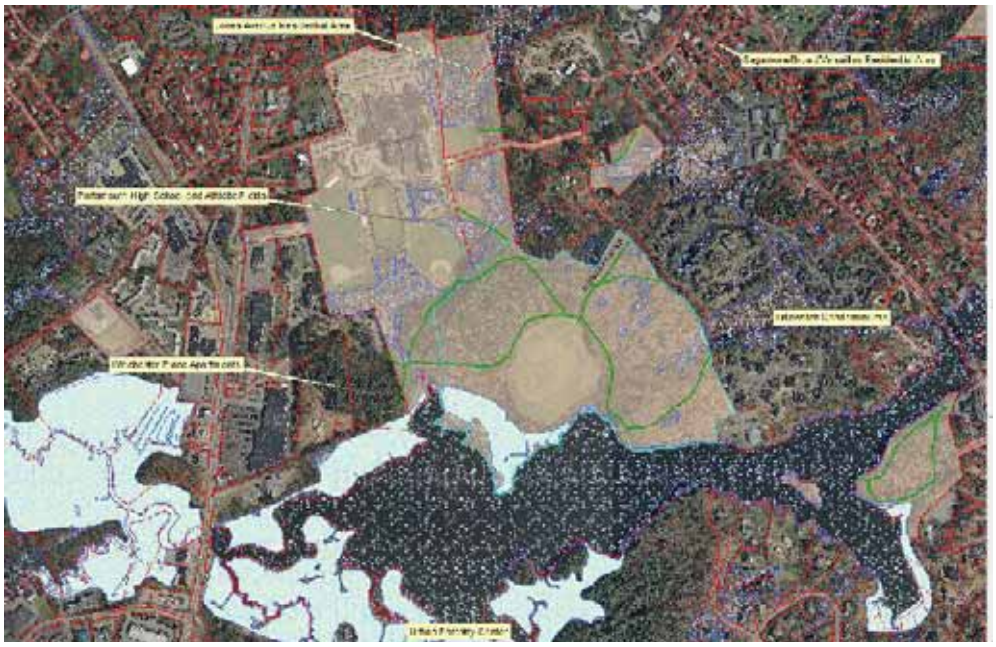
- Committee's Charge & Membership
- Process to Date
- Brief Orientation to the Parcel
- Description of Interim Report:
  - Vision and Guidelines
- Other Recommendations

Committee Charge & Membership

- To create a plan for public usage of the city-owned Sagamore Creek Land
- Report back by September 21, 2015
- Committee materials available at the City's website
- Membership includes:
  - Eric Spear, City Councilor and Chair
  - Chris Dwyer, City Councilor
  - John Mikolajcyk, Resident
  - Alison Pyott, Resident
  - Lennie Mullaney, School Board Representative
  - Kory Sirmaian, Recreation Board Representative
  - Allison Tanner, Conservation Commission Representative
  - Ex-officio, City Manager or his designee (non-voting)

Process to Date

- site's past usage
- natural resource values
- past use as a landfill and landfill cap reuses
- previous plans and studies associated with the parcel
- Public comment opportunities at meeting and via web
- met School Board, Recreation Board, Sustainability Committee, and Conservation Commission Representatives
- formulated a vision and developed guidelines
- held public comment session & collected public comments



Example:
Peirce Island Master Plan

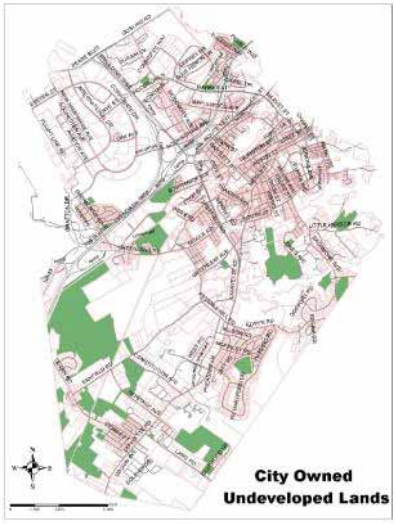
- 1999 - Plan Completed
- 2001 – New landscaped parking area next to pool
- 2001 - Shoreline Stabilization
- 2003 – Major aesthetic and capital improvements to outdoor pool
- 2003 – East End Trails Project completed
- 2006 – Boat Launch upgrades and installation of finger pier
- 2011 – Completion of signage upgrades
- 2015 – Ongoing upgrades and shore access improvements

Vision

The Sagamore Creek Land is a unique and valuable community resource that should be conserved and made accessible to all in a balanced manner that promotes waterfront access, protection of invaluable natural features, and permits recreation opportunities that complement one another and which are sensitive to the overall vision of preserving the site's character.

Related Findings and Recommendations

- **Passive Recreation in the City –**
- Other public undeveloped lands (most with conservation or wetland restrictions) for passive recreation in the City.
- More access and awareness to lands already owned by the City will better ensure there is no overuse of any one City property.



Related Findings and Draft Recommendations

- **Solar Power Generation –**
  - Committee advocated for potential use of the cap for solar arrays to promote the City's sustainability goals.
  - It also noted the solar panels can be placed in many settings such as roofs and on top of parking structures, which are preferable to preventing other uses for valuable waterfront and open space lands.
  - The Committee plans to recommend that the City Council support current efforts to site renewable energy technologies.

Related Findings and Draft Recommendations

- **Recreation Fields for organized team sports –**
  - The Committee discussed and agreed with the conclusions of the Recreation Needs Study that additional multi-purpose rectangular and ballfields are needed in the City.
  - As a result the Committee is preparing to recommend the City Council move forward with key recommendations in the Recreation Needs Study:
    - Resurface with artificial turf existing fields in the City's inventory, including at the adjacent High School Athletic Complex.
    - City Council take action to find, acquire, and develop recreation fields in the City to address this demonstrated need

M E M O R A N D U M

TO: John P. Bohenko, City Manager

FROM: Jessa Berna, Associate Planner JLB

DATE: May 26, 2015

RE: City Council Referral –
Request to Rezone Land on Cate St., Bartlett St. and Route 1 Bypass to the Gateway District, and to amend the Zoning Ordinance by providing for Workforce Housing Incentives in Gateway Planned Developments

Portsmouth Land Acquisition, LLC, has requested that the following lots be rezoned from Industrial (I), Office Research (OR) or Municipal (M) to Gateway (GW):

- Assessors Map 163, Lots 33, 34 and 37,
- Assessors Map 165, Lots 1, 2 and 14,
- Assessors Map 172, Lots 1 and 2,
- Assessors Map 173, Lots 2 and 10,

and including Cate Street between Hodgson's Brook and Bartlett Street, and that the Zoning Map be revised accordingly; and further that the Zoning Ordinance, Article 7, Section 10.730 – Gateway Planned Development, be amended by inserting a new Section 10.734.40 as follows:

10.734.40 Workforce Housing Incentives

If a GPD with a Residential Component contains 10% or greater Workforce Housing Units, the following shall apply:

10.734.41 The minimum lot area per dwelling unit shall be 1,000 square feet.
10.734.42 The maximum building length set forth in Article 5, Section 10.522 shall be increased to 350 feet.
10.734.43 Required off-street parking may be located in a required front yard or between a principal building and a street.

At its meeting on April 30, 2015, the Planning Board voted unanimously in favor of Portsmouth Land Acquisition's request to rezone the subject parcels to the Gateway district, and the staff recommendation to amend two provisions of the Zoning Ordinance relating to building setbacks and height. However, the Planning Board did not support Portsmouth Land Acquisition's request to insert a new Section 10.734.40 in the Ordinance regarding Workforce Housing Incentives. Board members were concerned about the considerable increases in residential density and building scale which the proposed amendments would allow in exchange for including a modest percentage of workforce housing.

Although the Board does not recommend the specific workforce housing incentives proposed by Portsmouth Land Acquisition, members are generally supportive of encouraging the provision of affordable housing in the Gateway district. Therefore, the Board requested the

Planning Department to draft alternative language to provide zoning flexibility for Gateway Planned Development projects that incorporate workforce housing; and voted to postpone this matter to its May meeting in order to consider this issue further.

At its meeting on May 21, 2015, the Planning Board voted to recommend that in place of the specific Workforce Housing Incentives requested by Portsmouth Land Acquisitions, Section 10.738.30 of the Zoning Ordinance be amended as follows (new text in **bold**):

> In granting a conditional use permit, the Planning Board may modify specific standards and requirements set forth in this Section (including development intensity and dimensional standards, and building design standards) provided that the Planning Board finds such modification will promote design flexibility and overall project quality, **or that such modification is required for the development to provide a proposed workforce housing component,** and that such modification is consistent with the purpose and intent set forth in Section 10.731.

This change would give the Planning Board the flexibility to modify standards as necessary to produce workforce housing on a case-by-case basis, rather than opening up a broad set of formula-based exemptions. It should be noted that Section 10.738.30 applies to all "flexible development" conditional use permits; therefore, this provision could be used to support workforce housing components of Planned Unit Developments (PUDs) as well as Gateway Planned Developments.

The amended ordinance recommended by the Planning Board is attached to this memorandum. There are two changes from the version advertised for second reading:

(1) The "workforce housing incentives" in the previous draft has been replaced by the new "modification of standards" language (item 2.C on page 2 of both versions) as discussed above; and
(2) A stand-alone definition of the term "affordable" has been added, where previously it was embedded in the definition of "workforce housing unit" (item 2.D on pages 2-3).

If the City Council supports the Planning Board's recommendation, it would be appropriate to amend the ordinance prior to passing second reading by substituting the attached version (dated 5/26/15) for the version advertised for second reading.

Proposed Amended Ordinance

ORDINANCE #

THE CITY OF PORTSMOUTH ORDAINS

1. That the following lots be rezoned from Industrial (I), Office Research (OR) or Municipal (M) to Gateway (GW):

- Assessors Map 163, Lots 33, 34 and 37;
- Assessors Map 165, Lots 1, 2 and 14;
- Assessors Map 172, Lots 1 and 2; and
- Assessors Map 173, Lots 2 and 10;

and including Cate Street between Hodgson's Brook and Bartlett Street, as shown on the attached exhibits titled "Areas Proposed To Be Rezoned to Gateway (GW)", dated 12-8-2014;

And that the Zoning Map referenced in Chapter 10, Article 4, Section 10.420 (District Location and Boundaries) of the Ordinances of the City of Portsmouth be revised accordingly.

2. That the Ordinances of the City of Portsmouth, Chapter 10 – Zoning Ordinance be amended as follows (deletions from existing language ~~stricken;~~ additions to existing language **bolded**; remaining language unchanged from existing)**:**

A. Amend Article 7, Section 10.734 – Gateway Planned Development Intensity and Dimensional Standards, subsection 10.734.20 – Lot Requirements, as follows:

~~Front yard, measured from the centerline of Lafayette Road~~

~~Minimum 70'~~
~~Maximum 90'~~

Front yard	**Minimum**	**Maximum**
Measured from the centerline of Lafayette Road	**70'**	**90'**
Measured from the sideline of the Route 1 Bypass	**30'**	**n.a.**
Measured from any other public or private street	**20'**	**40'**

B. Amend Article 7, Section 10.734 – Gateway Planned Development Intensity and Dimensional Standards, subsection 10.734.33, as follows:

10.734.33 No portion of a building shall have a height that is greater than its horizontal distance ~~to the centerline of Lafayette Road~~ **from a lot line adjoining a street** multiplied by ~~0.67~~ **1.5**, rounded to the nearest whole number. The following examples illustrate this requirement:

Distance from street right-of-way line	Maximum building height
~~56' (minimum front yard, 10' from front lot line)~~	~~38'~~
~~76' (maximum front yard, 30' from front lot line)~~	~~51'~~
~~86' (40' from front lot line)~~	~~58'~~
20'	**30'**
30'	**45'**
40'	**60'**
50'	**60' (max.)**

C. Amend Article 7, Section 10.738 – Review and Approval Process, subsection 10.738.30 – Modifications of Standards, as follows:

In granting a conditional use permit, the Planning Board may modify specific standards and requirements set forth in this Section (including development intensity and dimensional standards, and building design standards) provided that the Planning Board finds such modification will promote design flexibility and overall project quality, **or that such modification is required for the development to provide a proposed workforce housing component,** and that such modification is consistent with the purpose and intent set forth in Section 10.731.

D. Amend Article 15, Section 10.1530 – Terms of General Applicability, by inserting the following new terms and definitions in alphabetical order:

Affordable
Housing with combined rental and utility costs or combined mortgage loan debt service, property taxes, and required insurance that do not exceed 30% of a household's gross annual income.

Workforce housing

A dwelling, or group of dwellings developed as a single project, containing workforce housing units, provided that a housing development that excludes minor children from more than 20 percent of the units, or in which more than 50 percent of the dwelling units have fewer than two bedrooms, shall not constitute workforce housing for the purposes of this Ordinance.

Workforce housing unit

A housing unit which qualifies as "workforce housing" under RSA 674:58, IV, including:

(a) housing which is intended for sale and which is affordable to a household with an income of no more than 100 percent of the median income for a 4-person household for the Portsmouth-Rochester HUD Metropolitan Fair Market Rent Area (HMFA) as published annually by the United States Department of Housing and Urban Development (HUD), or

(b) rental housing which is affordable to a household with an income of no more than 60 percent of the median income for a 3-person household for the Portsmouth-Rochester HMFA as published annually by HUD.

To qualify as a workforce housing unit under this Ordinance, the unit must be subject to enforceable restrictions as to price and occupancy, such as a recorded land lease or deed restriction, as determined by the Planning Board, in order to ensure its long-term availability and affordability. A workforce housing unit is a specific type of affordable unit as defined in this Ordinance. (See also: affordable unit.)

The City Clerk shall properly alphabetize and/or re-number the ordinances as necessary in accordance with this amendment.

All ordinances or parts of ordinances inconsistent herewith are hereby deleted.

This ordinance shall take effect upon its passage.

APPROVED:

_____
Robert Lister, Mayor

ADOPTED BY COUNCIL:

_____
Kelli L. Barnaby, City Clerk

Original Ordinance

ORDINANCE #

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~~Front yard, measured from the centerline of Lafayette Road~~

~~Minimum 70'~~
~~Maximum 90'~~

Front yard	**Minimum**	**Maximum**
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Measured from the sideline of the Route 1 Bypass	**30'**	**n.a.**
Measured from the sideline of any other public or private street	**20'**	**40'**

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20'	**30'**
30'	**45'**
40'	**60'**
50'	**60' (max.)**

C. Amend Article 7, Section 10.734 – Gateway Planned Development Intensity and Dimensional Standards, by inserting a new Section 10.734.40 as follows:

10.734.40 Workforce Housing Incentives

If a GPD with a Residential Component contains 10% or greater Workforce Housing Units, the following shall apply:

10.734.41 The minimum lot area per dwelling unit shall be 1,000 square feet.

10.734.42 The maximum building length set forth in Article 5, Section 10.522 shall be increased to 350 feet.

10.734.43 Required off-street parking may be located in a required front yard or between a principal building and a street.

D. Amend Article 15, Section 10.1530 – Terms of General Applicability, by inserting the following new terms and definitions in alphabetical order:

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(b) rental housing which is affordable to a household with an income of no more than 60 percent of the median income for a 3-person household for the Portsmouth-Rochester HMFA as published annually by HUD.

For the purposes of this definition, "affordable" means housing with combined rental and utility costs or combined mortgage loan debt services, property taxes, and required insurance that do not exceed 30 percent of a household's gross annual income. To qualify as a workforce housing unit under this Ordinance, the unit must be subject to enforceable restrictions as to price and occupancy, such as a recorded land lease or deed restriction, as determined by the Planning Board, in order to ensure its long-term availability and affordability. A workforce housing unit is a specific type of affordable unit as defined in this Ordinance. (See also: affordable unit.)

The City Clerk shall properly alphabetize and/or re-number the ordinances as necessary in accordance with this amendment.

All ordinances or parts of ordinances inconsistent herewith are hereby deleted.

This ordinance shall take effect upon its passage.

APPROVED:

_____
Robert Lister, Mayor

ADOPTED BY COUNCIL:

_____
Kelli L. Barnaby, City Clerk

LEGAL NOTICE

NOTICE IS HEREBY GIVEN that a Public Hearing will be held by the Portsmouth City Council on Monday, March 16, 2015 at 7:00 p.m., Eileen Dondero Foley Council Chambers, Municipal Complex, 1 Junkins Avenue, Portsmouth, NH on a on a proposed Ordinance amending the Zoning Map by rezoning the following lots from Industrial (I), Office Research (OR) or Municipal (M) to Gateway (GW):

- Assessors Map 163, Lots 33, 34 and 37;
- Assessors Map 165, Lots 1, 2 and 14;
- Assessors Map 172, Lots 1 and 2;
- Assessors Map 173, Lots 2 and 10;

and including Cate Street between Hodgson's Brook and Bartlett Street; and amending the Zoning Ordinance as follows:

- Article 7, Section 10.730 – Gateway Planned Development:
  - Amend Section 10.734.20 – Lot Requirements, by establishing front yard standards relative to streets other than Lafayette Road;
  - Amend Section 10.734.33 by modifying the maximum building height standards;
  - Insert a new Section 10.734.40 – Workforce Housing Incentives, to allow increased building height and building length, and to allow parking to be located in a required front yard or between a principal building and a street, for a Gateway Planned Development that contains 10% or greater workforce housing units.
- Article 15 – Definitions:
  - Amend Section 10.1530 – Terms of General Applicability, by inserting definitions of "workforce housing" and "workforce housing unit."

The complete Ordinance is available for review in the Office of the City Clerk and Portsmouth Public Library, during regular business hours.

KELLI L. BARNABY, CMC/CNHMC
CITY CLERK

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KELLI L. BARNABY, CMC/CNHMC
CITY CLERK

PM-204331

M E M O R A N D U M

TO: John P. Bohenko, City Manager

FROM: Rick Taintor, Planning Director

DATE: May 1, 2015

RE: City Council Referral –
Request to Rezone Land on Cate St., Bartlett St. and Route 1 Bypass to the Gateway District, and to amend the Zoning Ordinance by providing for Workforce Housing Incentives in Gateway Planned Developments

Portsmouth Land Acquisition, LLC, has requested that the following lots be rezoned from Industrial (I), Office Research (OR) or Municipal (M) to Gateway (GW):

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10.734.42 The maximum building length set forth in Article 5, Section 10.522 shall be increased to 350 feet.
10.734.43 Required off-street parking may be located in a required front yard or between a principal building and a street.

The Planning Board previously considered this request at its meeting on October 16, 2014. At that time, planning for the Islington Street Corridor (West End) charrette was under way, and the Board determined that it would be premature to make a recommendation regarding rezoning to the Gateway district until residents had an opportunity to weigh in on a vision for the future of this area. Therefore, the Board voted "to report to the City Council that the Planning Board does not support re-zoning these parcels at this time and would recommend moving forward including them in the Charrette process currently scheduled for February." Attached to this memorandum is my memo of November 4, 2014, containing a detailed analysis of the rezoning requests and transmitting the initial Planning Board report.

After receiving the Planning Board's report on the rezoning request, the City Council voted on December 8, 2014, to schedule the public hearing and second reading on the proposed Zoning

Ordinance amendments for its meeting on March 16, 2015. At the March 16 meeting, the Council voted to keep the public hearing open to May 18, 2015, in order for the Planning Board to consider the rezoning request in the context of the West End Vision Plan and associated zoning proposals.

The Planning Board reconsidered the request at its meeting on April 30, 2015. The applicant's attorney made a presentation to the Board in support of the request and responded to questions from the Board. Members of the Board also reviewed the preliminary Vision Plan developed by TPUDC and raised a number of concerns about its appropriateness as applied to the parcels under consideration. The consensus of the Board was that Gateway zoning would be more appropriate than Character District 4 for the subject parcels.

Following the public hearing and discussion, the Planning Board voted unanimously in favor of (1) Portsmouth Land Acquisition's request to rezone the subject parcels to the Gateway district, and (2) the staff recommendations to amend two provisions of the Zoning Ordinance relating to building setbacks and height.

The Planning Board did not support Portsmouth Land Acquisition's request to insert a new Section 10.734.40 in the Ordinance regarding Workforce Housing Incentives. Board members were concerned about the considerable increases in residential density and building scale which the proposed amendments would allow in exchange for including a modest percentage of workforce housing.

Although the Board does not recommend the specific workforce housing incentives proposed by Portsmouth Land Acquisition, members are generally supportive of encouraging the provision of affordable housing in the Gateway district. Therefore, the Board requested the Planning Department to draft alternative language to provide zoning flexibility for Gateway Planned Development projects that incorporate workforce housing; and voted to postpone this matter to its next meeting on May 21, 2015, in order to consider this issue further.

COPY

M E M O R A N D U M

TO: John P. Bohenko, City Manager

FROM: Rick Taintor, Planning Director

DATE: November 4, 2014

RE: City Council Referral –
Request to Rezone Land on Cate St., Bartlett St. and Route 1 Bypass to the Gateway District, and to amend the Zoning Ordinance by providing for Workforce Housing Incentives in Gateway Planned Developments

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10.734.43 Required off-street parking may be located in a required front yard or between a principal building and a street.

The City Council received this request at its meeting on September 22, 2014, and voted to refer it to the Planning Board for a report. At the same time, the Council voted to continue its second reading and public hearing on the proposed rezoning to CD4 until after the Planning Board has submitted its report. The Planning Board held a public hearing on the requested amendments to the Zoning Map and Zoning Ordinance at its meeting on October 16, 2014.

Background

At its meeting on June 2, 2014, the City Council voted to request the Planning Board to consider rezoning the land on the east side of the Route 1 Bypass between the Islington Street bridge and the Traffic Circle. The Planning Department has also been considering zoning options for a portion of this study area, between the railroad line and Hodgson's Brook; and the

City has long been interested in establishing a new road connection from the Bypass to Bartlett Street, which would open this area up for redevelopment. Parcels within this latter area are currently constrained by being in the Industrial zoning district, which has restrictive use and dimensional standards and may not represent the best use of the land from the City's or the owners' perspectives.

The City Council has authorized a study for expanding Character-Based Zoning to include the area bounded by Bartlett Street, the railroad line, the Route 1 Bypass and Hodgson's Brook (the design charrette is currently planned to take place in February 2015). Therefore, the Planning Department proposed that the City consider as an interim measure the rezoning of this area to Character District 4 (CD4). On July 14, the City Council voted to pass first reading on this proposed rezoning, to schedule a public hearing and second reading for September 22, and to refer the proposal to the Planning Board for a report and recommendation.

The Planning Board held a public hearing on the proposed rezoning at its August meeting and voted "to report back to the City Council that this area should be rezoned from the existing Industrial and Office Research zoning, but that the proposed rezoning to Character District 4 (CD4) is not appropriate at this time. The Board recommends that further study is needed to determine the best zoning approach for these parcels."

On September 15, 2014, Attorney Bernard W. Pelech (representing Portsmouth Land Acquisition, LLC, owner of a majority of the subject parcels) submitted a request that the area previously proposed for rezoning to CD4 be instead rezoned to the Gateway district, along with modifications to several other zoning standards for Gateway Planned Development projects in which Workforce Housing constitutes at least 10% of the total dwelling units. The City Council considered this request at its meeting on September 22, 2014, and voted to refer it to the Planning Board for a report. At the same time, the Council voted to continue its second reading and public hearing on the proposed rezoning to CD4 until after the Planning Board has responded to Attorney Pelech's letter. Subsequently, Attorney Pelech submitted a letter to the Planning Board regarding this matter.

Effect of the Requested Amendments to the Zoning Map and the Zoning Ordinance

The request by Portsmouth Land Acquisition, LLC, has two components: an amendment to the Zoning Map to change the zoning for several parcels from their existing designations (Industrial, Office Research, and Municipal) to the Gateway district, and an amendment to the Zoning Ordinance to allow increased residential density and building size, and to relax off-street parking requirements, for Gateway Planned Development projects that include workforce housing.

Requested Zoning Map Amendment

The area proposed to be rezoned is shown on the two maps at the end of this memorandum. Note that these are the same maps originally proposed for rezoning to the CD4 district and therefore the map titles still refer to the CD4 district. Although Portsmouth Land Acquisition is now requesting a rezoning to Gateway, the proposed zoning boundaries are unchanged from the previous proposal.

Rezoning to the Gateway district would allow the following uses that are not permitted by the existing Industrial zoning (partial listing):

Use Group	Use
Residential Uses:	Townhouse
Institutional Residence or Care Facilities:	Assisted living center Residential care facility (S)
Educational, Religious, Charitable, Cultural and Public Uses:	Place of assembly (S) School Museum Performance facility
Medical Services and Health Care:	Medical offices and clinics (outpatient only) Clinics with inpatient care (S) Ambulatory surgical center (S)
Services, Other Than Health Care:	Group day care facility Personal services Consumer services Laundry and dry cleaning establishments – drop-off/pick-up or self-service
Retail Trade:	Convenience goods Retail sales Shopping center
Eating and Drinking Places:	Nightclub or bar Restaurant
Lodging Establishments:	Boarding house (S) Hotel or motel (S) Conference center
Motor Vehicle Related Uses:	Sales, renting or leasing of passenger cars, light trucks, motorcycles, etc. Motor vehicle service station (S) Sales, renting or leasing of trucks (S)

(S) = requires special exception from Zoning Board of Adjustment

Several industrial uses that are permitted in the Industrial district are prohibited in the Gateway district.

In addition to the basic use, dimensional and intensity standards, properties in the Gateway district are eligible to be considered for a Conditional Use Permit from the Planning Board to allow a “Gateway Planned Development” (GPD), the regulations for which are set forth in Section 10.730 of the Zoning Ordinance. The GPD option allows multifamily dwellings to be included in a mixed-use development, provided that residential uses comprise at least 30 percent and not more than 70 percent of the gross floor area of the development. The GPD also allows taller buildings (up to 60 feet, compared with a 40-foot limit in the Gateway district without a conditional use permit, increased building coverage (75% vs. 30%), reduced off-street parking requirements, and other changes designed to increase flexibility while encouraging a higher standard of design.

Proposed Zoning Ordinance Amendments

In addition to the proposed rezoning to the Gateway district, Portsmouth Land Acquisition is also requesting changes to three zoning provisions for Gateway Planned Development projects in which at least 10% of the dwelling units qualify as "workforce housing":

1. Reduce the minimum lot area per dwelling unit to 1,000 sq. ft.

   A Gateway Planned Development currently requires a minimum of 2,500 sq. ft. of lot area per dwelling unit. This is equal to the requirement in the Business (B) district, and permits a higher residential density than any other area of the City except for the downtown (Central Business A and B and Character Districts 4 and 5), in which there is no residential density limit.

   The proposed amendment would increase the allowable residential density from 17.4 units per acre to 43.6 units per acre, representing a potential 150% increase in density in exchange for designating 10% of the total dwelling units as workforce housing.

2. Increase the maximum building length to 350 feet.

   Section 10.522 of the Zoning Ordinance states that "The maximum building length of a multifamily dwelling shall not exceed 160 feet." This provision was added to the Ordinance in October 2010, partially in response to issues raised by a proposed multifamily development on Lang Road and Longmeadow Road. At that time, the following estimated building dimensions of were provided to the Planning Board for comparison:

Heritage Hill	90' x 33'
Riverbrook (Middle Rd.)	120' x 28'
Osprey Landing	145' x 30'
Cedars (1)	155' x 50'
Cedars (2)	180' x 50'
Beechstone	280' x 38'
Lang & Longmeadow (proposed)	160' x 90'

   The zoning amendment by Portsmouth Land Acquisition would allow buildings with substantially greater length than any of the existing multifamily dwellings in the City. On the other hand, the historic Button Factory complex on Islington Street, which consists of a group of connected industrial buildings that have been converted to mixed residential-nonresidential use, extends approximately 1,100 feet from end to end.

3. Allow required off-street parking to be located in a required front yard or between a principal building and a street.

   Section 10.1113.20 of the Zoning Ordinance provides, "Required off-street parking shall not be located in any required front yard, or between a principal building and a street (including on a corner lot)." This provision applies in all zoning districts and was added as part of the 2009 comprehensive revision of the Ordinance so that parking areas

would be located beside or behind buildings, in order to enhance the streetscape and encourage more pedestrian-friendly development.

The requested amendment would exempt a Gateway Planned Development with at least 10% workforce housing units from this City-wide provision, allowing off-street parking spaces to be (a) in front of a principal building and (b) closer to the street than the 30-foot front yard required in the Gateway District.

Additional Issues Not Addressed by the Requested Zoning Amendment

The requested amendments to the Zoning Map and Zoning Ordinance raise at least two additional sets of issues that will need to be addressed at the same time. These are (1) standards for maximum building height, and for minimum and maximum building setbacks from streets; and (2) definitions of "workforce housing" and mechanisms for administering the workforce housing requirements and ensuring long-term affordability.

Building Setbacks and Height

Because the Gateway Planned Development section was created specifically for the Lafayette Road corridor, it includes two dimensional standards that reference setbacks from Lafayette Road:

- Sec. 10.734.20 establishes the front yard as between 70 and 90 feet from the centerline of Lafayette Rd.
- Sec. 10.734.33 establishes the maximum building height in relation to the building setback from the centerline of Lafayette Rd.

These are two distinct provisions: the first supersedes the 30-foot front yard requirement in Article 5, but the second is a constraint on the 60-foot height limit in Sec. 10.734.31. In order to minimize ambiguity, Section 10.734.20 should be amended to define the front yard requirement for properties that do not front on Lafayette Road, and this may be different for parcels fronting on the Route 1 Bypass vs. those that front on another road (such as the new road to be constructed between the Bypass and Bartlett Street as part of a GPD project by Portsmouth Land Acquisition). Consideration should also be given to modifying Section 10.734.33 as regards maximum building height in relation to setback from the Route 1 Bypass.

Workforce Housing Definition and Price/Occupancy Controls

The requested amendment to the Zoning Ordinance uses the term "workforce housing" but does not define it. RSA 674:58, IV defines "workforce housing" separately for ownership and rental housing units, as follows:

> **Ownership Housing:** "Housing which is intended for sale and which is affordable to a household with an income of no more than 100 percent of the median income for a 4-person household for the metropolitan area or county in which the housing is located as published annually by the United States Department of Housing and Urban Development."

> **Rental Housing:** "Rental housing which is affordable to a household with an income of no more than 60 percent of the median income for a 3-person household for the metropolitan area or county in which the housing is located as published annually by the United States Department of Housing and Urban Development."

The statute further defines "affordable" as follows:

> "Housing with combined rental and utility costs or combined mortgage loan debt services, property taxes, and required insurance that do not exceed 30 percent of a household's gross annual income."

For the Portsmouth area, these definitions mean that a workforce housing unit must have a purchase price not exceeding **$284,000** or a monthly rent (including utilities) not exceeding **$1,140**. (The maximum purchase price is an estimate and would need to be confirmed based on actual mortgage terms and insurance costs, and the current property tax rate.)

In addition, the statute provides that a specified percentage of a housing development must be available for occupancy by families in order to qualify as "workforce housing":

> "Housing developments that exclude minor children from more than 20 percent of the units, or in which more than 50 percent of the dwelling units have fewer than two bedrooms, shall not constitute workforce housing …."

If the Zoning Ordinance is to be amended to include the proposed "workforce housing incentives", the amendment should also incorporate the above definitions and restrictions. In addition, the Ordinance (or regulations adopted by the Planning Board to implement the incentives) should include mechanisms for administering and enforcing the workforce housing provisions and for ensuring long-term affordability and compliance with the statutory definitions.

Planning Board Report and Recommendation

The Planning Board considered the requested zoning amendments at its meeting on October 16, 2014, and voted as follows:

> Voted to report to the City Council that the Planning Board does not support re-zoning these parcels at this time and would recommend moving forward including them in the Charrette process currently scheduled for February.

It was noted that the Planning Board's action did not imply any specific outcome of the charrette process, and that in fact the result of the visioning and planning process could be to recommend rezoning these parcels to the Gateway district rather than to a Character district.

If the City Council wishes to proceed with consideration of the requested amendments to the Zoning Map and Zoning Ordinance, this can be done in parallel with the charrette process currently anticipated for late February 2015. Specifically, the Council may schedule first reading on the amendments for its December 8, 2014, meeting. In preparation for that meeting, the Planning Department can draft a revised ordinance incorporating the additional provisions necessary to address the building height/setback and workforce housing issues described above. At first reading the Council may vote to schedule a public hearing and second reading

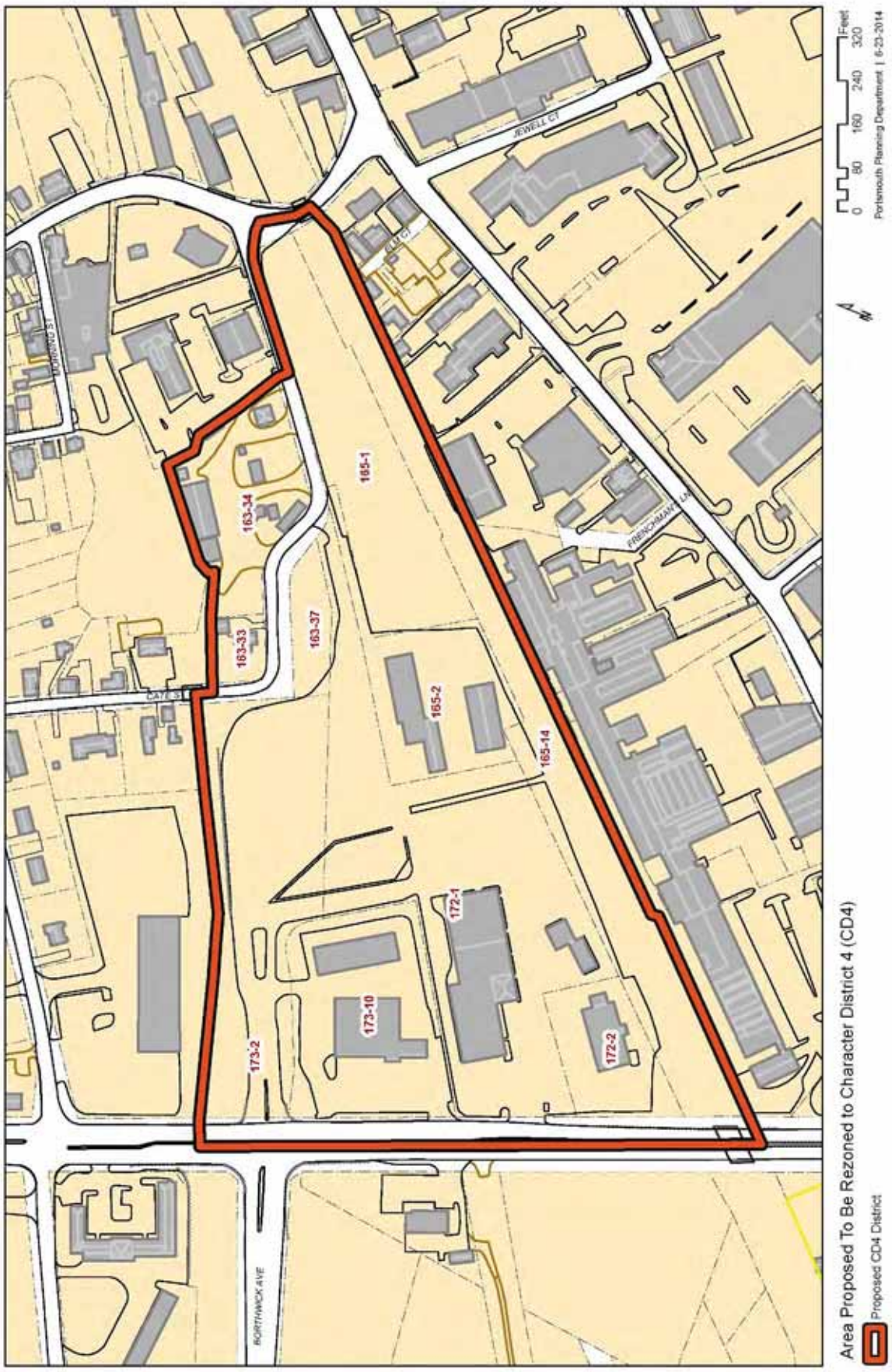
for a meeting in January 2015, which would allow the requested amendments to be considered in parallel with the charrette process.

Public Hearing Requirements

Effective July 10, 2014, RSA 675:7 now requires that municipalities send individual notices of proposed zoning amendments to owners of affected properties in certain cases:

> If a proposed amendment to a zoning ordinance would change a boundary of a zoning district and the change would affect 100 or fewer properties, notice of a public hearing on the amendment shall be sent by first class mail to the owners of each affected property. If a proposed amendment to a zoning ordinance would change the minimum lot sizes or the permitted uses in a zoning district that includes 100 or fewer properties, notice of a public hearing on the amendment shall be sent by first class mail to the owner of each property in the district. Notice by mail shall be sent to the address used for mailing local property tax bills, provided that a good faith effort and substantial compliance shall satisfy the notice by mail requirements of this paragraph.

As the requested amendment to the Zoning Map would affect fewer than 100 properties, notice of a public hearing on the amendment must be sent to all affected property owners in addition to the normal posting.


JEWELL CT
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165-14
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173-10
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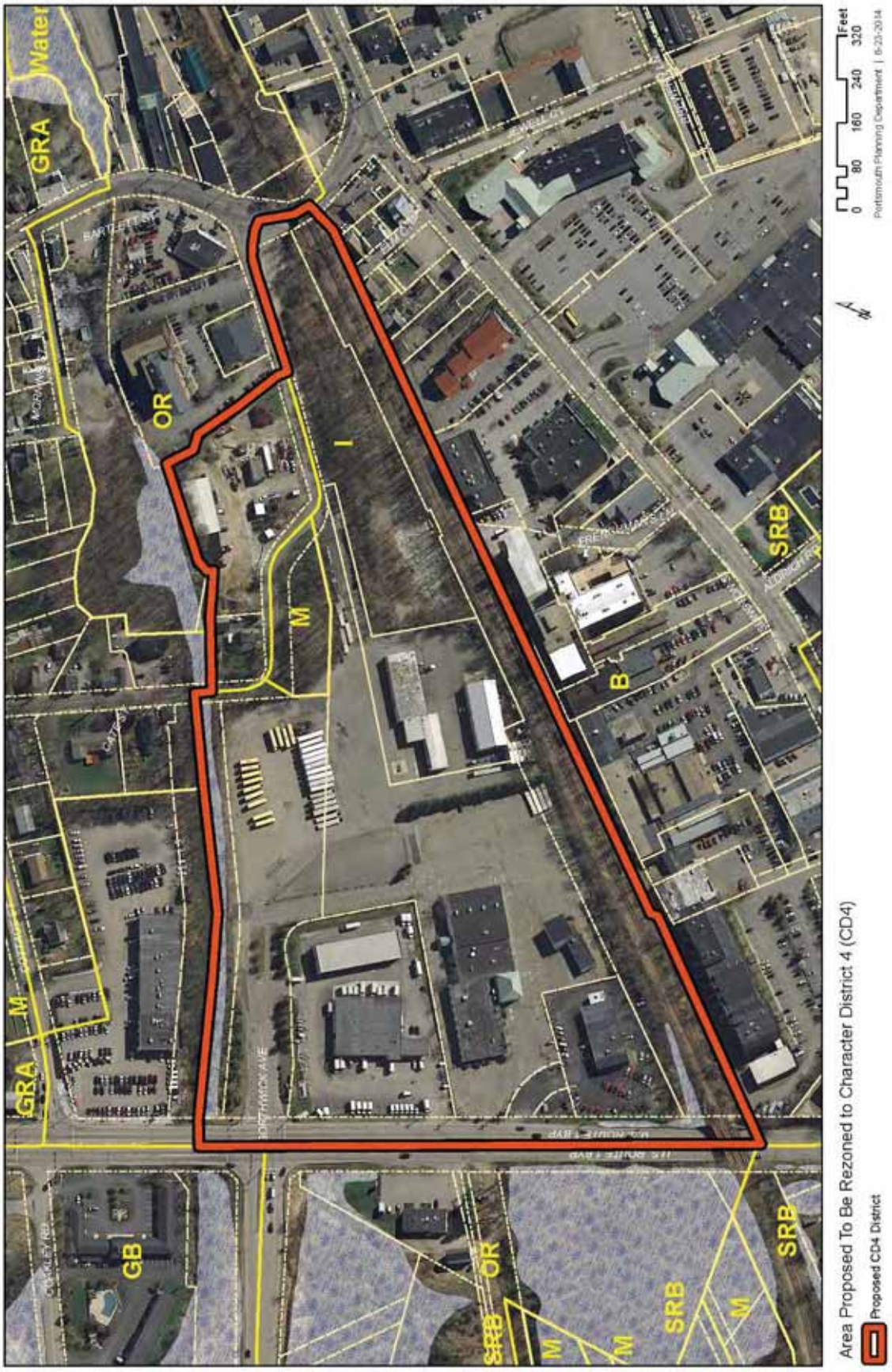
Portsmouth Planning Department | 6-23-2014
Area Proposed To Be Rezoned to Character District 4 (CD4)
Proposed CD4 District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Area Proposed To Be Rezoned to Character District 4 (CD4)
Proposed CD4 District
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Portsmouth Planning Department | 6-23-2014

M E M O R A N D U M

TO: John P. Bohenko, City Manager

FROM: Jessa Berna, Associate Planner JLB

DATE: May 26, 2015

RE: City Council Referral – Short-Term Vacation Rentals

At its meeting on March 2, 2015, the City Council voted to request the Planning Board:

> … to prepare proposed amendments to the zoning ordinance to address short-term rentals by home owners. Based on the Council-Planning Board work session discussion of February 17th, the Planning Board could take into account discussion points that emerged, including at least:
>
> a) Creating a definition that captures the short-term rental, perhaps a bed-breakfast 3 rather than attempting to force-fit one of current definitions;
> b) Addressing in the definition the requirements for number of rooms, parking, length of stay, life safety plan, health-food inspections, registration with the City;
> c) Considering which current zoning districts can allow the rental by special exemption.

The Planning Board considered this matter at its meeting on April 30 and May 21, 2015. Based on its review, the Board voted to recommend the attached amendment to the Zoning Ordinance. The proposed zoning amendments includes the following elements:

1. Define "short-term vacation rental" as a new use and allow it by special exception in the Rural, Single Residence A and B, General Residence A and B, and Mixed Residential districts, and as a permitted use in the CBA, CBB, CD4, CD5 and B districts.

2. Insert a new Section 10.837.20, "Short-Term Vacation Rentals," with the following provisions:
    - Occupancy shall be limited to no more than two persons per bedroom;
    - The dwelling shall comply with building and life safety codes;
    - The dwelling shall be provided with adequate off-street parking based on anticipated occupancy;
    - The dwelling shall have insurance coverage for the rental use;
    - The owner shall pay all state rooms taxes;
    - No tents, trailers or other temporary shelters shall be used for living or sleeping in connection with the short-term rental use.

3. Add “short-term vacation rental” to the table of off-street parking standards.

In addition, the proposed ordinance amends several other provisions of the Zoning Ordinance relating to transient accommodations:

- Change the definitions of “Bed and Breakfast,” “Bed and Breakfast 1” and “Bed and Breakfast 2” by reducing the number of guest rooms and the capacity of the dining facilities.

- Change the Table of Uses to allow Bed and Breakfast 1 by special exception in the Rural and Single Residence districts.

- Change the Table of Uses to prohibit hotels and motels with more than 250 rooms in the CBA and CD4 districts, and to require special exceptions in the CBB and CD5 districts.

ORDINANCE #

THE CITY OF PORTSMOUTH ORDAINS

That the Ordinances of the City of Portsmouth, Chapter 10 – Zoning Ordinance be amended as follows (deletions from existing language ~~stricken;~~ additions to existing language **bolded**; remaining language unchanged from existing)**:**

A. Amend Section 10.440, Table of Uses, as set forth in Attachment A: "Proposed Amendments to Zoning Ordinance, Section 10.440 – Short-Term Vacation Rentals and Other Lodging Uses."

B. Insert a new Section 10.837.20 – Short-Term Vacation Rentals, as follows

10.837.20 Short-Term Vacation Rentals

10.837.21 Occupancy of a short-term vacation rental shall be limited to no more than two persons per bedroom, as determined by the Code Official.

10.837.22 A dwelling that is used as a short-term vacation rental shall at all times comply with all applicable requirements of the Building Code and other codes adopted by or applicable within the City.

10.837.23 A dwelling that is used as a short-term vacation rental shall be provided with sufficient off-street parking based on anticipated occupancy.

10.837.24 A dwelling that is used as a short-term vacation rental shall at all times be covered by an insurance policy that permits such rental.

10.837.25 The owner of a dwelling used as a short-term vacation rental shall register for the State rooms and meals tax and shall pay all required taxes.

10.837.26 No recreational vehicle, travel trailer, tent or other temporary shelter shall be used on the premises for living or sleeping purposes.

C. In Article 11, Site Development Standards, insert the following new uses and requirements under "10. Lodging Establishments":

Use	Required Parking Spaces
Short-term vacation rental	**2 spaces (see also Sec. 10.837.23)**

D. In Article 15, Definitions, amend the definition of “Bed and breakfast” as follows:

Bed and Breakfast

The provision of short-term lodging ~~and breakfast~~ within an owner-occupied dwelling. ~~The capacity of the dining facilities shall accommodate no more than 25 persons.~~ (See also: hotel, motel, inn.)

Bed and Breakfast 1

A bed and breakfast with ~~between 1 and 5~~ **1 or 2** guest rooms**, which may or may not serve breakfast to guests (and their invited guests) in a common room that accommodates no more than 6 persons**.

Bed and Breakfast 2

A bed and breakfast with between ~~6 and 10~~ **3 and 5** guest rooms, **which provides breakfast to guests (and their invited guests) in a common room that accommodates no more than 15 persons**.

E. In Article 15, Definitions, insert the following terms and definitions in alphabetical order:

Short-term vacation rental

The rental of a dwelling unit for less than 30 consecutive days. Short-term rental does not include rooming houses, boarding houses, or bed and breakfast establishments, which are specifically addressed as separate uses in Section 10.440, Table of Uses.

Transient

A period of time less than 30 consecutive days.

The City Clerk shall properly alphabetize and/or re-number the ordinances as necessary in accordance with this amendment.

All ordinances or parts of ordinances inconsistent herewith are hereby deleted.

This ordinance shall take effect upon its passage.

APPROVED:

_____
Robert Lister, Mayor

ADOPTED BY COUNCIL:

_____
Kelli L. Barnaby, City Clerk

Attachment A: Proposed Amendments to Zoning Ordinance, Section 10.440 – Short-Term Vacation Rentals and Other Lodging Uses
(deletions from existing language ~~stricken;~~ additions to existing language **bolded**; remaining language unchanged from existing)

Use	R	SRA SRB	GRA GRB	GRC (A)	GA/ MH	MRO	MRB	CBA	CBB	GB	GW	B	WB	OR	I	WI	Supplemental Regulations
10. Lodging Establishments																	
10.10 Boarding house	N	N	N	N	N	N	N	N	N	S	S	S	N	N	N	N	
10.20 Bed and breakfast																	
10.21 Bed and Breakfast 1	~~N~~ **S**	~~N~~ **S**	S	N	N	S	P	P	P	N	N	P	N	N	N	N	
10.22 Bed and Breakfast 2	N	N	N	N	N	S	P	P	P	N	N	P	N	N	N	N	
10.30 Short-term vacation rental	**S**	**S**	**S**	**N**	**N**	**S**	**S**	**P**	**P**	**N**	**N**	**P**	**N**	**N**	**N**	**N**	**10.837.20 (Short-term vacation rentals)**
~~10.30~~ **10.40** Inn	N	N	N	N	N	N	S	P	P	P	P	P	N	N	N	N	
~~10.40~~ **10.50** Hotel or motel																	
~~9.51~~ **10.51** Up to 125 rooms	N	N	N	N	N	N	N	S	P	S	S	N	N	P	N	N	10.837 (Office Research districts)
~~9.52~~ **10.52** 126 to 250 rooms	N	N	N	N	N	N	N	S	P	S	S	N	N	S	N	N	10.837 (Office Research districts)
~~9.52~~ **10.53** 251 to 500 rooms	N	N	N	N	N	N	N	~~S~~ **N**	~~P~~ **S**	S	S	N	N	N	N	N	
~~9.53~~ **10.54** More than 500 rooms	N	N	N	N	N	N	N	~~S~~ **N**	~~P~~ **S**	S	S	N	N	N	N	N	
~~10.50~~ **10.60** Conference hotel **or conference center**	N	N	N	N	N	N	N	S	P	P	P	N	N	N	N	N	
~~10.60 Conference center~~	~~N~~	~~N~~	~~N~~	~~N~~	~~N~~	~~N~~	~~N~~	~~S~~	~~P~~	~~P~~	~~P~~	~~N~~	~~N~~	~~N~~	~~N~~	~~N~~	

Mr. John Bohenko, City Manager
Portsmouth City Hall
1 Junkins Ave
Portsmouth, NH 03801

26 May 2015

Open Streets Portsmouth

Dear Mr. Bohenko,

I am writing to ask permission to hold an Open Streets event on Saturday 12 September 2015. The event would completely open a small number of neighborhood streets to pedestrian and cycling activity by diverting motor vehicle traffic, and will run for approximately 4 hours. Open Streets Portsmouth is a division of SABR (Seacoast Area Bicycle Riders advocacy organization), and the event will be operated under the auspices of SABR. Please find details in the attached brief.

Please note that I discussed possible route options with Sustainable Portsmouth, CityWide Neighborhood Committee, City Hall staff, and although I would love to run Open Streets in a different neighborhood than last fall, the Lincoln Ave route seems the most appropriate for the second year.

The tone of the event will stay the same as last year with 'organized' activities, vendors, etc. constrained to parks at either end. An addition this year is a small stub towards the Farmers Market, but ending before Junkins.

I look forward to addressing whatever thoughts or comments the City and the councilors have.

Thank you for your time to read and introduce this idea to the approval process.

Regards,

Peter Newbury
Organizer, Open Streets Portsmouth
SABR Board of Directors

CC: Juliet Walker, Dave Allen

26 May 2015

Open Streets Portsmouth 2015

Dear Portsmouth City Council and Staff,

Thank you very much for your support and assistance with Open Streets Portsmouth this past September. The event was enjoyed by many people and ran smoothly and safely thanks to fantastic support from City Hall staff, friendly police offers, a cooperative host neighborhood and great volunteers.

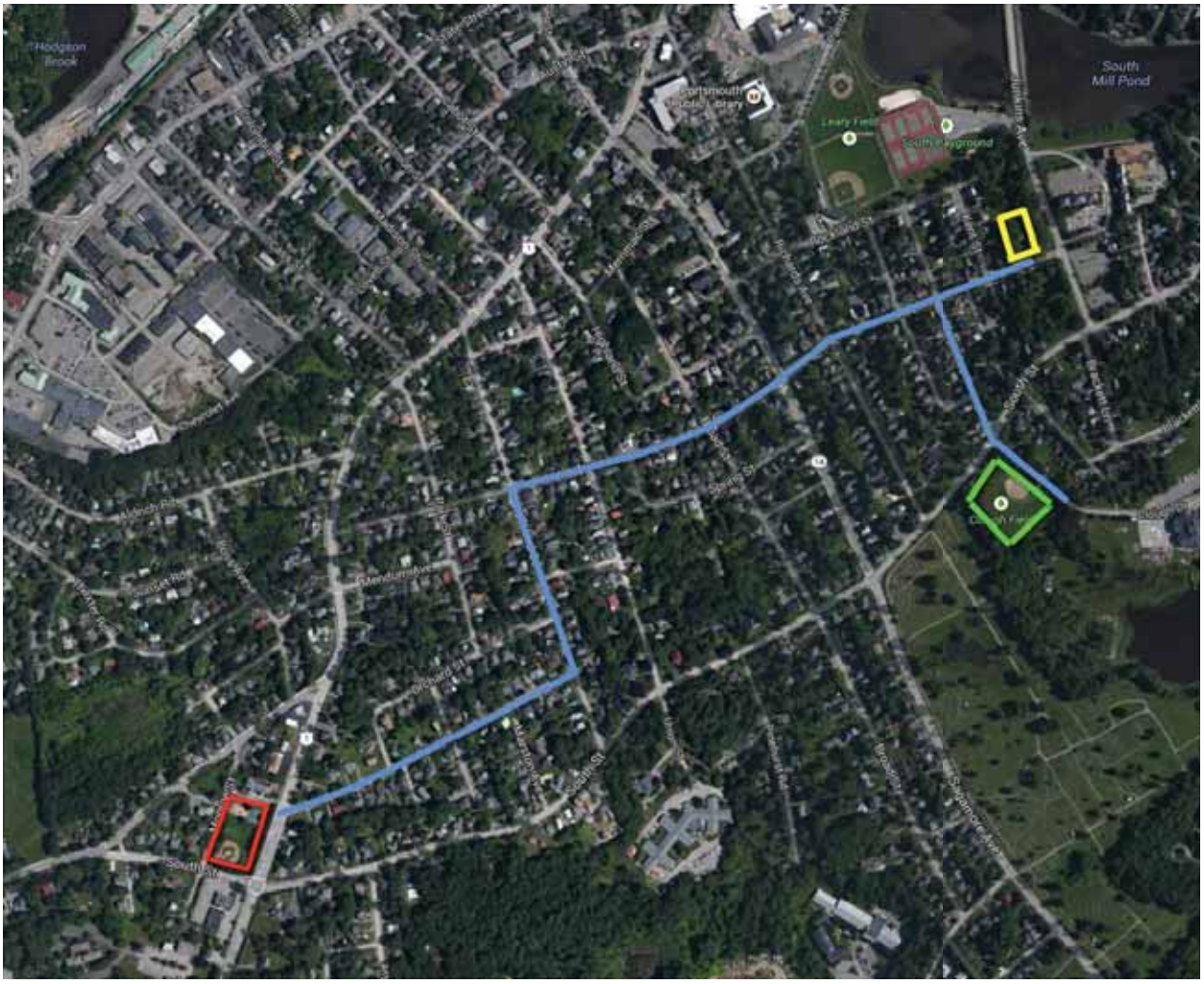
An important development of Open Streets from its initial proposal last winter to the actual event was the change from an organization and business-focused event (having booths on the streets) to a very community focused event (nothing but the public on the streets). This happened by request of attendees of the May public meeting, and although I was initially disappointed I came to truly appreciate the effect it had on the event. This Open Streets Portsmouth event will continue the community centric tone.

Please find below a proposed route and timeframe. Do note a few subtle changes from the 2014 event.

I believe the Portsmouth Criterium will be on the 13th September, and combined with Open Streets should make for an excellent weekend of bike and pedestrian friendly activities in Portsmouth.

I look forward to your feedback, and will happily meet in person to discuss your thoughts.

Peter Newbury, Open Streets Portsmouth organizer
PO Box 765, Portsmouth NH 03802
206-218-9134
OpenStreetsPortsmouth@gmail.com
www.OpenStreetsPortsmouth.org
www.facebook.com/OpenStreetsPortsmouth



1. Saturday 12 September, 10-2pm (Farmers Market operates 8-1pm)

2. Route change to Wibird Ave and stub added towards Farmer's Market. The stub ends between Kent and Junkins to encourage Open Streeters to transition to 'regular' rules. This should limit impact on street parking and Market traffic dynamics.

3. Bike parking (either self or valet) in the park north of Junkins and Lincoln (yellow) so the Farmer's Market isn't unduly affected.

4. Clough Field (green) and Lafayette Playground (red) utilized for Seacoast United and Seacoast Velokids, plus other suitable activities.

5. Vehicle Priority intersections at South, Miller, and Lafayette

6. Police at South & Elwyn, Lincoln & Miller, Lincoln & Union, Lafayette & Willard.

M E M O R A N D U M

TO: John P. Bohenko, City Manager

FROM: Rick Taintor, Planning Director RT.

DATE: June 1, 2015

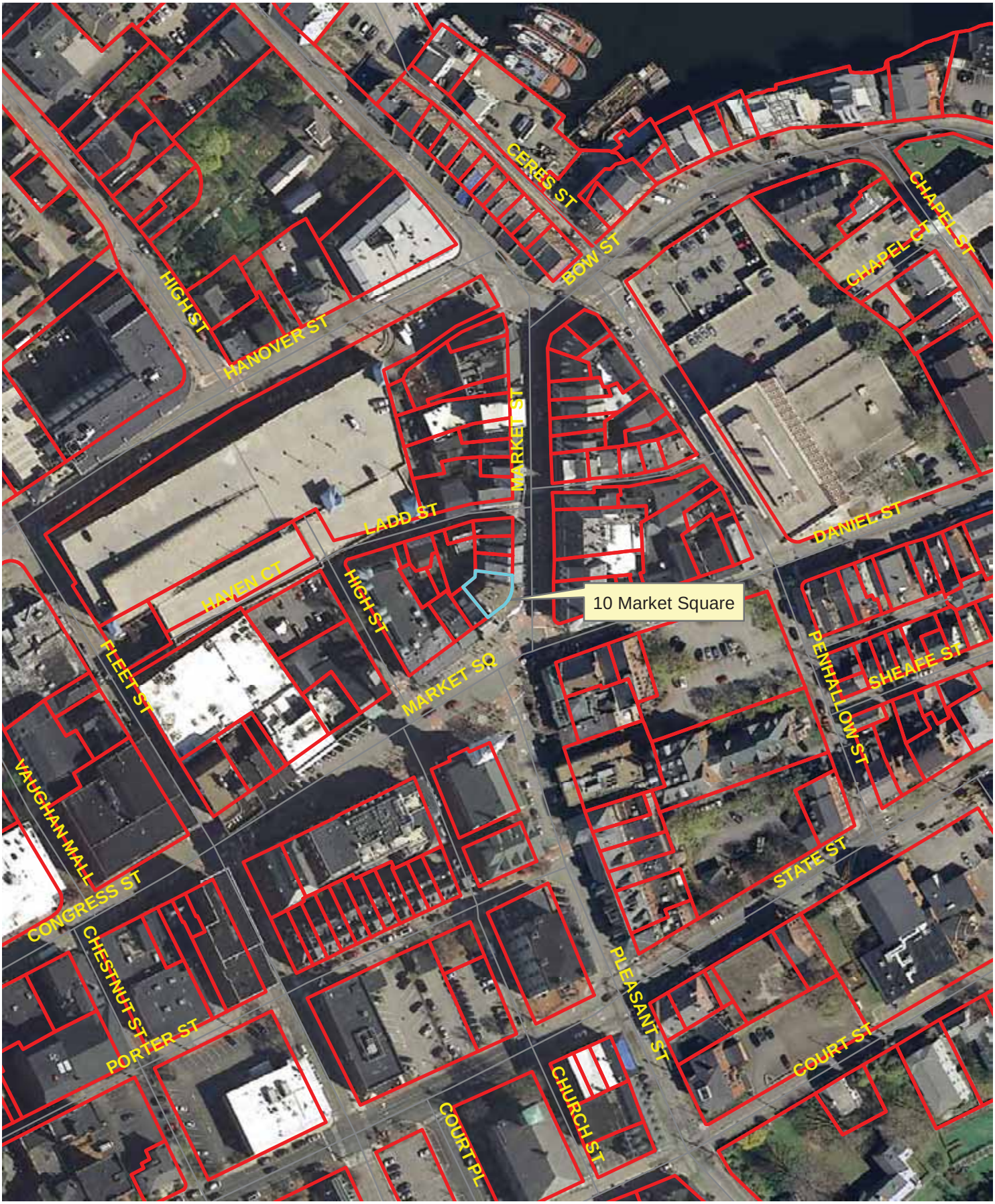
RE: City Council Referral – Projecting Sign
Address: 10 Market Square
Business Name: Sault New England
Business Owner: Philip Saul

Permission is being sought to install a projecting sign on a new bracket, as follows:

Sign dimensions: 31" x 24"
Sign area: 5.2 sq. ft.
Height from sidewalk to bottom of sign: 130"

The proposed sign complies with zoning requirements. If a license is granted by the City Council, no other municipal approvals are needed. Therefore, I recommend approval of a revocable municipal license, subject to the following conditions:

1. The license shall be approved by the Legal Department as to content and form;
2. Any removal or relocation of the projecting sign, for any reason, shall be done at no cost to the City; and
3. Any disturbance of a sidewalk, street or other public infrastructure resulting from the installation, relocation or removal of the projecting sign, for any reason, shall be restored at no cost to the City and shall be subject to review and acceptance by the Department of Public Works.



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Request for Projecting Sign License
10 Market Square

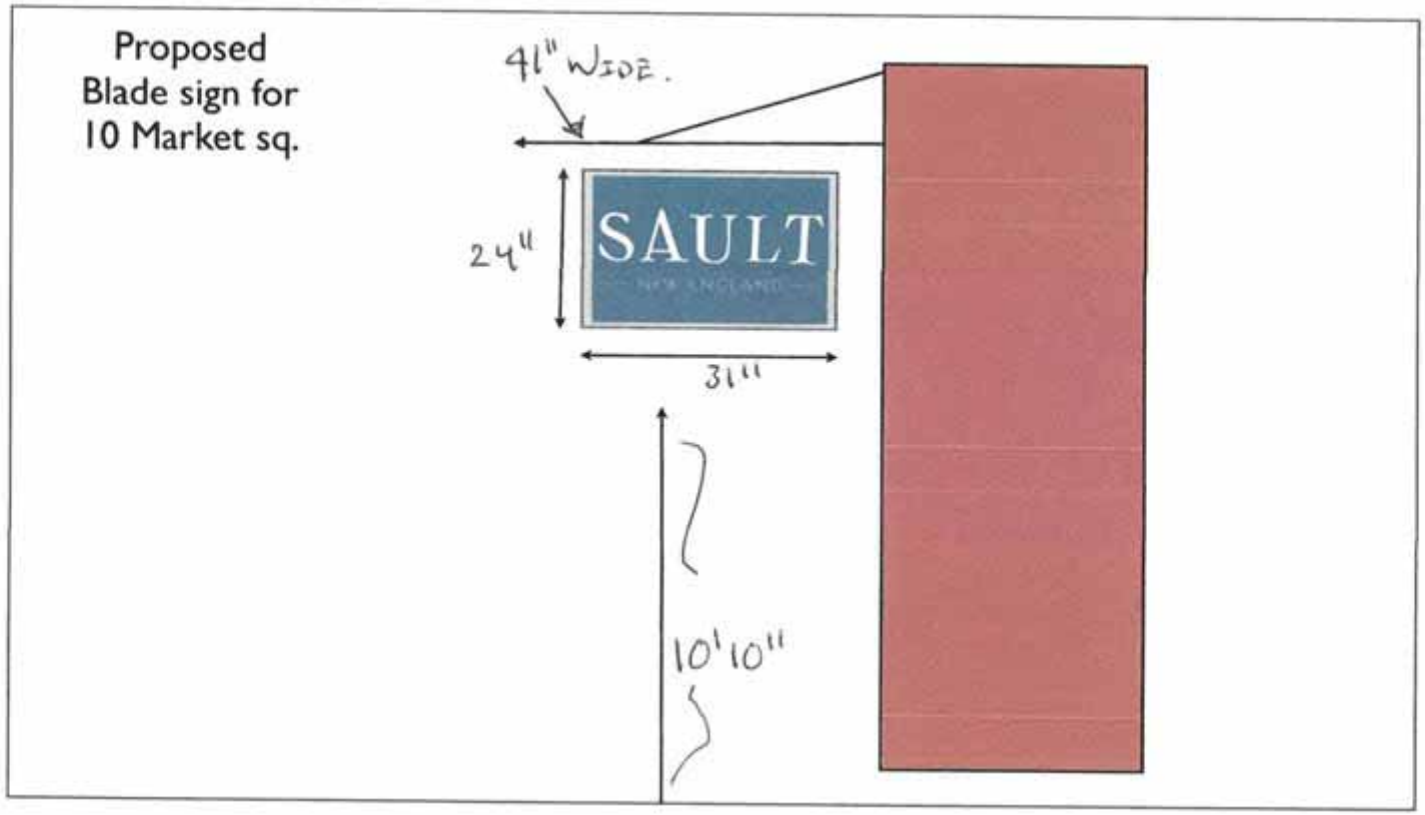
Map produced by Planning Department 5-20-2015

Sault, New England
10 Market Square
1 Projecting Sign

SAULT

NEW ENGLAND

Proposed
Blade sign for
10 Market sq.



STORE
current
NO SIGN
exists

M E M O R A N D U M

TO: John P. Bohenko, City Manager

FROM: Rick Taintor, Planning Director

DATE: June 1, 2015

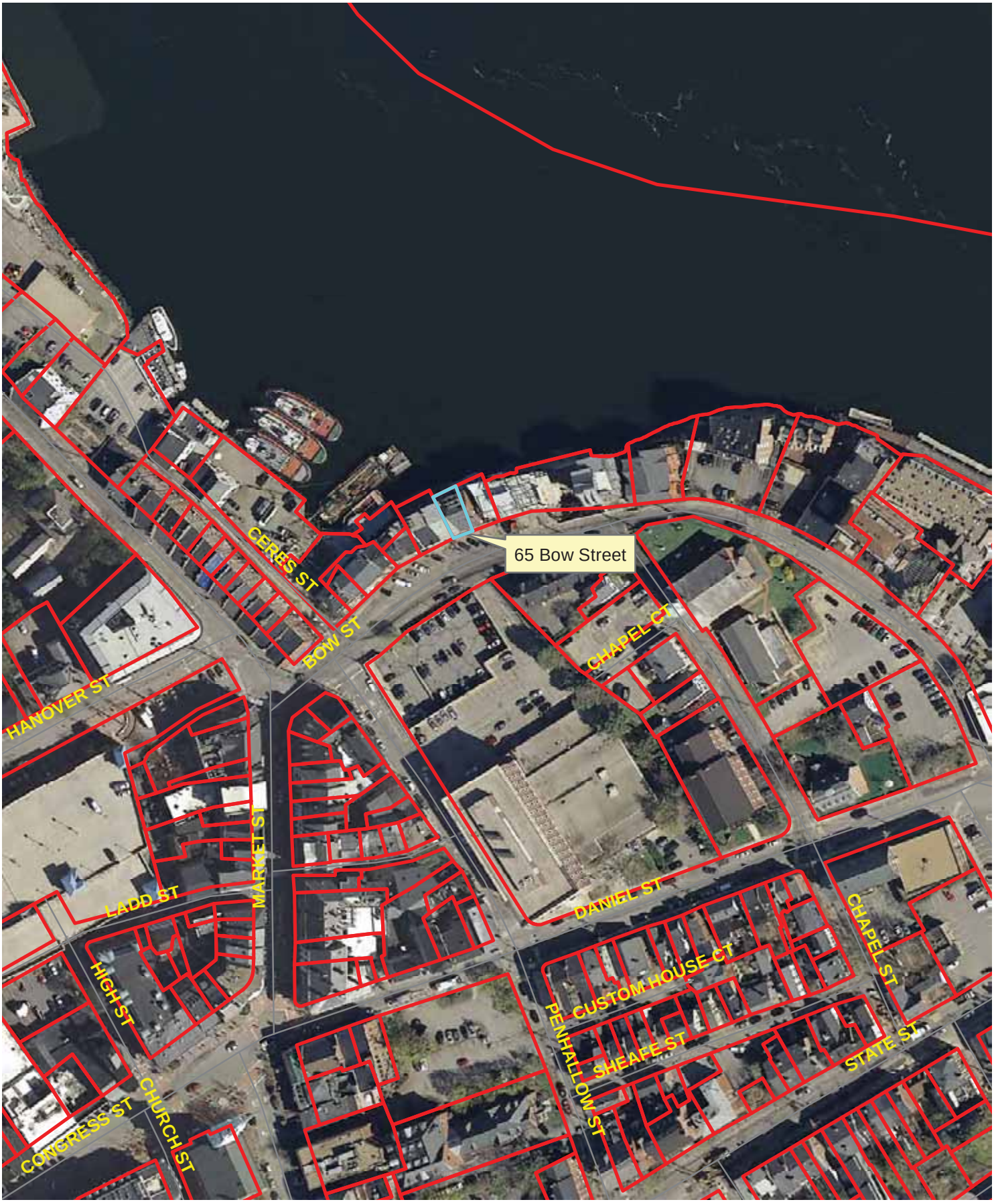
RE: City Council Referral – Projecting Signs
Address: 65 Bow Street
Business Name: Juliette Lovelys Boutique
Business Owner: Robin Miller

Permission is being sought to install two projecting signs, one below the other, on a new bracket, as follows:

Sign dimensions: 24” x 48” and 37” x 15”
Sign area: 8.0 sq. ft. and 3.9 sq. ft.
Height from sidewalk to bottom of sign: 84”

The proposed signs comply with zoning requirements. If a license is granted by the City Council, no other municipal approvals are needed. Therefore, I recommend approval of a revocable municipal license, subject to the following conditions:

1. The license shall be approved by the Legal Department as to content and form;
2. Any removal or relocation of the projecting signs, for any reason, shall be done at no cost to the City; and
3. Any disturbance of a sidewalk, street or other public infrastructure resulting from the installation, relocation or removal of the projecting signs, for any reason, shall be restored at no cost to the City and shall be subject to review and acceptance by the Department of Public Works.



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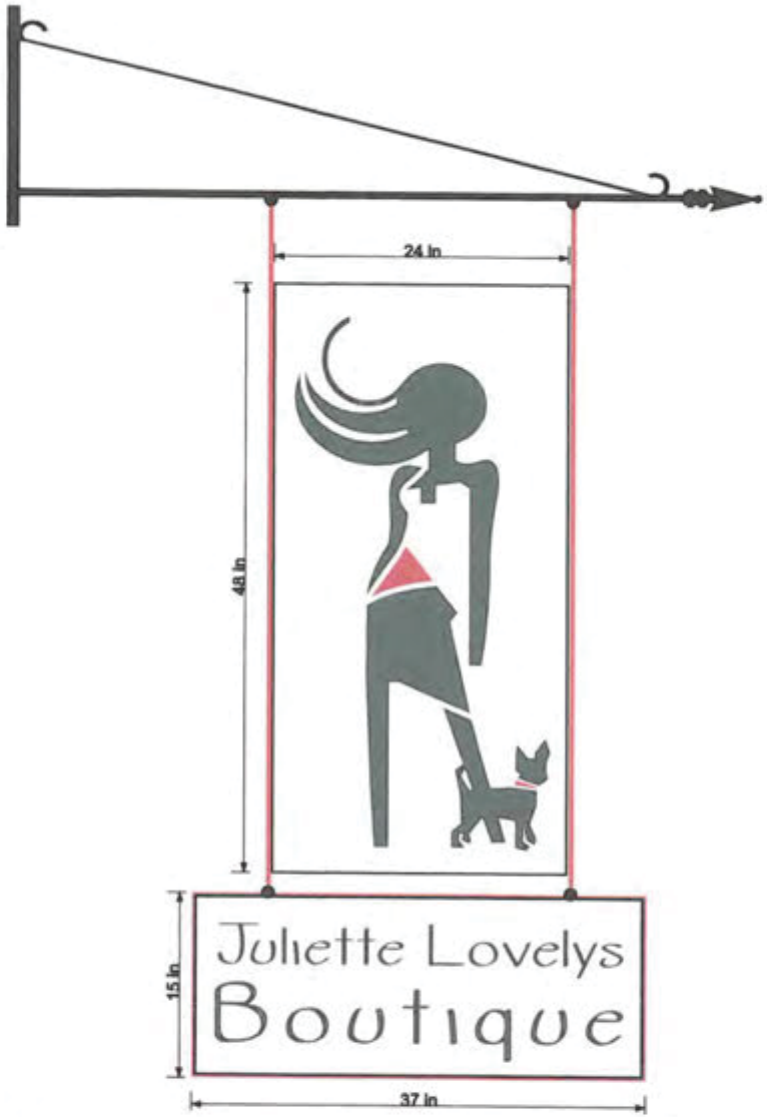
Request for Projecting Sign License
65 Bow Street

Map produced by Planning Department 5-20-2015

Juliette Lovelys Boutique
65 Bow Street
1 Projecting Sign



PORTSMOUTH SIGN COMPANY

PortsmouthSign.com
603-436-0047

REVISION:

All orders under $250 include 1 revision only.
All orders over $250 include 3 revisions only.
Additional revisions will be charged at $25 per revision.

PLEASE NOTE:

Designs are NOT actual size and color may vary depending on printer and/or monitor.

4/30/15

RETURN SIGNED TO: service@portsmouthsign.com

I understand this Order Form is the final production order and replaces all previous drawings, notes and verbal instructions to this job. Standard vinyl & paint colors will be used. Custom colors and specific matches to PMS colors will be an additional fee. I have carefully reviewed this form and verify that it contains all necessary specifications and represents my order. I authorize fabrication according to this approval.

SIGNATURE:_____ Date:_____

Member of:
Greater Dover
Greater Portsmouth Chamber of Commerce
the Greater York Region Chamber of Commerce

Shop Use Only

Qty: Materials: Background Color: Vinyl Color: Other:

SS ☐ DS ☐ HP ☐ Int ☐

CE

M E M O R A N D U M

TO: John P. Bohenko, City Manager

FROM: Rick Taintor, Planning Director RT.

DATE: June 1, 2015

RE: City Council Referral – Awning
Address: 5 Portwalk Place
Business Name: ROW 34
Business Owner: Shore Gregory

Permission is being sought to install an awning, as follows:

Awning dimension: 121" x 23"
Awning area: 38.5 sq. ft.
Height from sidewalk to bottom of awning: 10.4"

The proposed awning complies with zoning requirements. If a license is granted by the City Council, no other municipal approvals are needed. Therefore, I recommend approval of a revocable municipal license, subject to the following conditions:

1. The license shall be approved by the Legal Department as to content and form;
2. Any removal or relocation of the awning, for any reason, shall be done at no cost to the City; and
3. Any disturbance of a sidewalk, street or other public infrastructure resulting from the installation, relocation or removal of the awning, for any reason, shall be restored at no cost to the City and shall be subject to review and acceptance by the Department of Public Works.

CITY OF PORTSMOUTH
Community Development Department
(603) 610-7232
Planning Department
(603) 610-7216

PLANNING DEPARTMENT

HISTORIC DISTRICT COMMISSION

CERTIFICATE OF APPROVAL

Date: October 3, 2014

To: Hanover Apartments, LLC
c/o Cathartes Private Investments
11 Beacon Street, Suite 11
Boston, MA 02108

Re: 5 Portwalk Place

The Historic District Commission considered your proposal at its meeting of October 1, 2014 wherein permission was requested to allow exterior renovations to an existing structure (modifications to storefront window system) as per plans on file in the Planning Department.

After due deliberation, the Commission voted that the request be **approved** as presented.

Findings of Fact: The proposed application meets the following purposes of the Historic District ordinance (as applicable):

A. Purpose and Intent:

- ☐ Yes ☐ No - Preserve the integrity of the District
- ☐ Yes ☐ No - Maintain the special character of the District
- ☐ Yes ☐ No - Assessment of the Historical Significance
- ☐ Yes ☐ No - Complement and enhance the architectural and historic character
- ☐ Yes ☐ No - Conservation and enhancement of property values
- ☐ Yes ☐ No - Promote the education, pleasure & welfare of the District to the city residents and visitors

The proposed application also meets the following review criteria of the Historic District ordinance (as applicable):

B. Review Criteria:

☐ Yes ☐ No - Consistent with special and defining character of surrounding properties
☐ Yes ☐ No - Relation to historic and architectural value of existing structures
✓ Yes ☐ No - Compatibility of design with surrounding properties
☐ Yes ☐ No - Compatibility of innovative technologies with surrounding properties

PLEASE NOTE: Prior to the issuance of a building permit, the Building Inspector will need to review and approve construction drawings/sketches so work shall not commence until the review process is complete. Applicants should note that approvals may also be required from other Committees and/or Boards prior to the issuance of a Building Permit.

The minutes and tape recording of the meeting may be reviewed in the Planning Department.

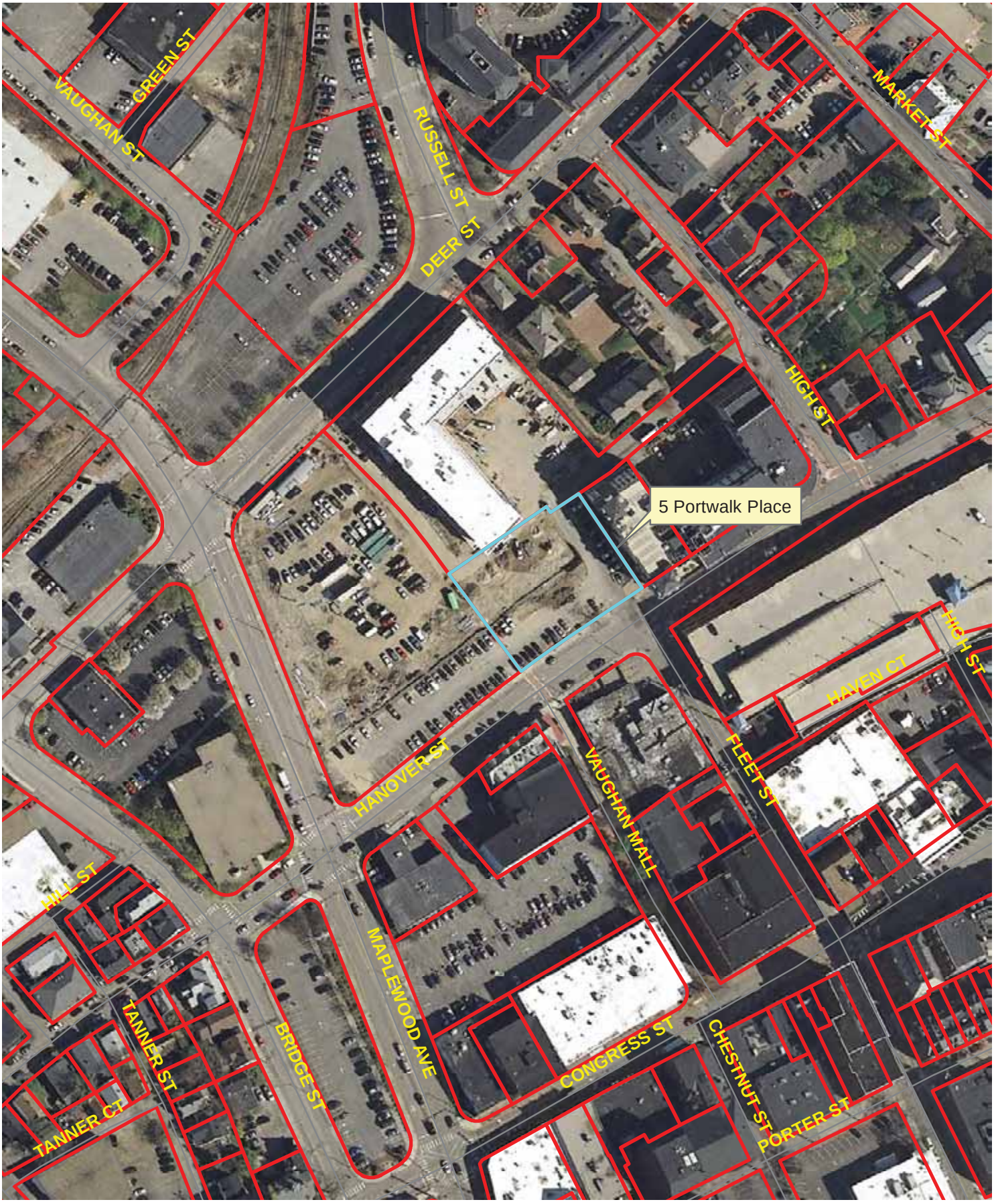
Respectfully submitted,

FOR

Joseph Almeida, Chairman
Historic District Commission

JA/lg

cc: Robert Marsilia, Building Inspector
Rosann Maurice-Lentz, Assessor
Rob Harbeson, DeStefano Architects



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Request for Projecting Sign License
5 Portwalk Place

Map produced by Planning Department 5-5-2015

PRO CON INCORPORATED
Design and Construction Management

PROPOSED RESTAURANT FIT UP

PORTWALK, PORTSMOUTH, NEW HAMPSHIRE

PREVIOUSLY APPROVED ELEVATION - HANOVER

NTS

1 OCTOBER 2014

D|A DeStefano Architects

PROPOSED RESTAURANT FIT UP

PORTWALK, PORTSMOUTH, NEW HAMPSHIRE

HANOVER ELEVATION - PROPOSED

1/4" = 1'-0"

1 OCTOBER 2014

DeStefano Architects

PROPOSED RESTAURANT FIT UP

PORTWALK, PORTSMOUTH, NEW HAMPSHIRE

PORTWALK ELEVATION

1/4" = 1'-0"

1 OCTOBER 2014

DA DiStefano Architects

Awning #1 Hanover St.

Awning #2 Hanover St.

Awning #3 Hanover St.

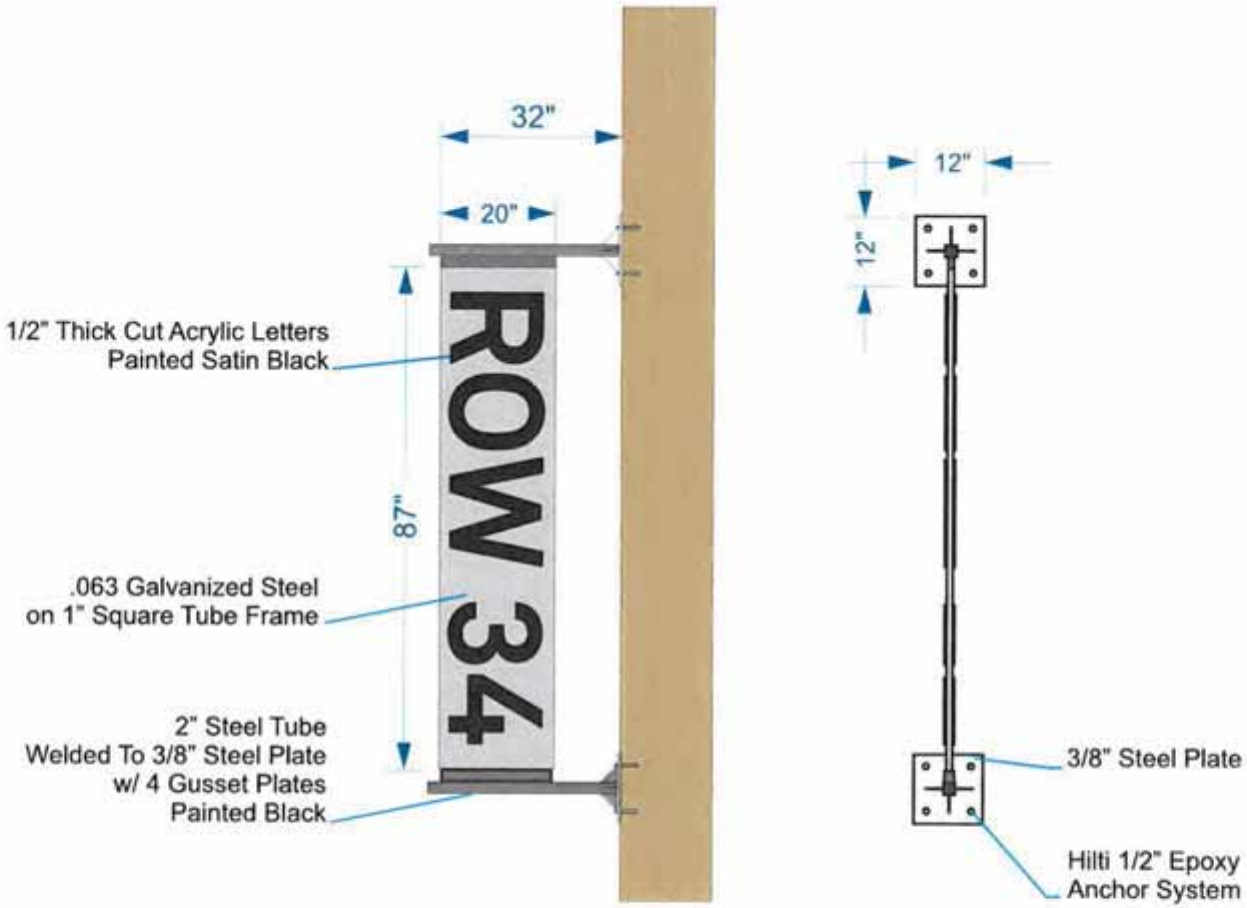
Awning #4 Hanover St. Copy = 20 sq. ft.

Note: Awnings are non-retractable open ends and non-illuminated.
Sunbrella Fabric (Black)
Painted 1" square welded galvanized tubing.

Awning #5 Portwalk Place Copy = 20 sq. ft.

NEON COMPANY INC
119 Herbert St. Framingham, MA 01702
508-879-2663

REVISIONS	PROJECT	DATE	SCALE	DRAWING TITLE	DRAWING NUMBER
	Row 34 5 Portwalk Place Portsmouth, NH 03801	04/14/15	1/4" = 1'-0"	**Awning Details**	2.00



Double Sided
Blade Sign

Qty: (2)
Sign Panel = 12 sq. ft.

NEON COMPANY INC
119 Herbert St. Framingham, MA 01702
508-879-2663

REVISIONS	PROJECT	DATE	SCALE	DRAWING TITLE	DRAWING NUMBER
	Row 34 5 Portwalk Place Portsmouth, NH 03801	04/14/15	3/8" = 1'-0"	**Exterior Blade Sign Details**	1.00

City of Portsmouth

Department of Public Works

MEMORANDUM

TO: John P. Bohenko, City Manager

FROM: Ryan Flynn, Construction Project Coordinator RAF

DATE: May 26, 2015

SUBJECT: PSNH License Agreement 63-0591

I have reviewed the pole location information provided by PSNH for Petition and Pole License 63-0591.

This request is to license four (4) poles on Borthwick Avenue in the area between the large cross-country transmission lines and the first hospital driveway on the right, coming from the Route 1 Bypass.

After examining the locations of these installations, I have determined they pose no impact to existing infrastructure, sight distances, or other City interests. The Public Works Department recommends approval of this license.

Attached are pictures of these poles. Please call with any questions you may have.

cc: Peter Rice, P.E. Director of Public Works
Kelli Barnaby, City Clerk

Department of Public Works
680 Peverly Hill Road
Portsmouth, New Hampshire 03801

Public Service of New Hampshire

60 W. Pennacook Street, Manchester, NH 03101

Public Service Company of New Hampshire
P.O. Box 330
Manchester, NH 03105-0330
(603) 669-4000

The Northeast Utilities System

January 13, 2015

Office of the City Clerk
City of Portsmouth
One Junkins Avenue
Portsmouth, NH 03801

Dear City Clerk,

Public Service of New Hampshire is hereby requesting permission to install/replace pole(s) located in City of Portsmouth, New Hampshire.

Enclosed for your review find three copies of PSNH Petition and Pole License number 63-0591 for City of Portsmouth review.

Upon approval, please have each copy of the Petition and Pole License signed by the proper authority.

Retain the Petition and Pole License copy labeled **"Portsmouth"** and mail the remaining signed copies along with any invoice for payment to PSNH in the enclosed self-addressed envelope.

If the Petition and Pole License is not approved, please return all copies to PSNH with an explanation.

Please contact me by telephone or e-mail with any questions you may have.

Thank you.

Lisa-Marie Pinkes

Lisa-Marie Pinkes
Customer Operations Support - Licensing
Public Service of New Hampshire
PO Box 330
Manchester, NH 03105-9989
Tel. 603-634-2218
E-Mail: lisa-marie.pinkes@nu.com

Enclosure(s)

PSNH#: 63-0591
Portsmouth

PETITION AND POLE LICENSE

PETITION

Manchester, New Hampshire

December 31, 2014

To the City Council **of the City of Portsmouth** New Hampshire.

PUBLIC SERVICE OF NEW HAMPSHIRE and Northern New England Telephone Operations LLC d/b/a FairPoint Communications-NNE, request a license to install and maintain underground conduits, cable and wires, and maintain poles and structures with wires, cables, conduits and devices thereon, together with such sustaining, strengthening and protecting fixtures as may be necessary along, and under the following public ways:

License four (4) pole(s), 3101X2/Y, 3101X2/1, 3101X2/2, 3101X2/3 located on Borthwick Avenue in the City of Portsmouth.

Northern New England Telephone Operations LLC
d/b/a FairPoint Communications-NNE

BY: _____

PUBLIC SERVICE OF NEW HAMPSHIRE

BY: _____
Sarah Dynia, PSNH CO Support/ Licensing

LICENSE

Upon the foregoing petition and it appearing that the public good so requires, it is hereby

ORDERED

This 31st day of December, 2014, that, PUBLIC SERVICE OF NEW HAMPSHIRE and Northern New England Telephone Operations LLC d/b/a FairPoint Communications-NNE be and hereby are granted a license to erect and maintain poles and structures, with wires, cables, conduits and devices thereon, together with sustaining, strengthening and protecting fixtures, in the public ways covered by said petition. All of said wires, except such as are vertically attached to poles and structures, shall be placed in accordance with the National Electrical Safety Code in effect at the time of petition and/or license is granted.

The approximate location of the poles and structures shall be shown on plan marked "PUBLIC SERVICE OF NEW HAMPSHIRE and Northern New England Telephone Operations LLC d/b/a FairPoint Communications-NNE No. 63-0591, dated 12/31/2014, attached hereto and made a part hereof.

City of Portsmouth, New Hampshire

BY: _____ BY: _____

BY: _____ BY: _____

BY: _____ BY: _____

Received and entered in the records of the City of Portsmouth, New Hampshire, Book _____, Page _____

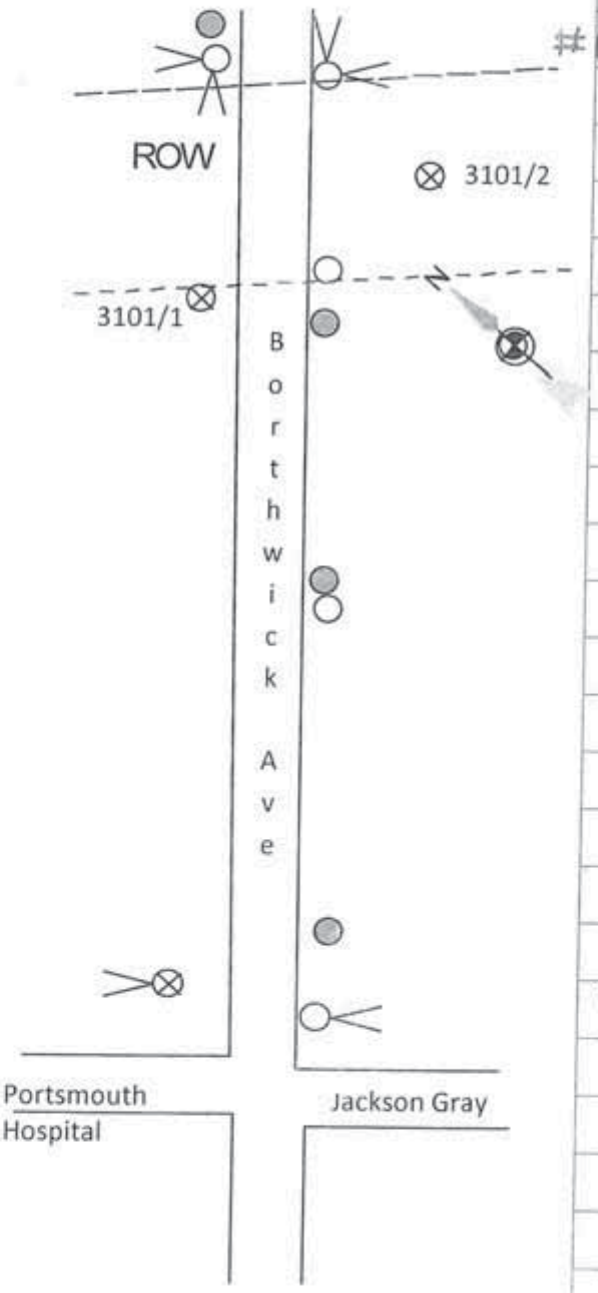
Date: _____ ATTEST: _____
Town Clerk

POLE LOCATION PLAN

PUBLIC SERVICE OF NEW HAMPSHIRE and
Northern New England Telephone Operations LLC d/b/a FairPoint Communications-NNE

DATE	12/31/2014	LICENSE NO.	63-0591
MUNICIPALITY:	Portsmouth	STATE HWY. DIV. NO.	6
STREET / ROAD:	Borthwick Avenue	STATE LICENSE NO.	
PSNH OFFICE:	Portsmouth	WORK REQUEST#	2444935
PSNH ENGINEER:	Nick Kosko	WORK FINANCIAL #	9P420945
TELCO ENGINEER:	Joe Considine	TELCO PROJECT #	

Pole Numbers LTS	Pole Numbers TEL	Pole Sz-Cl	Eq BH	Span	DIST. FROM	Remarks	DOC REQ
3101X1 1	7809 2	40-4 45-2	JO			Inst/Rmv JO Pole #63-236 43.066359, -70.785662	M
3101X2 Y		40-2	LTS	75		Inst new LTS Pole 43.066226, -70.785668	M
3101 2			LTS			Ref Pole	ROW
3101X2 1		50-2 35-4	LTS	200		Inst new LTS Pole 43.066024, -70.785840	M
3101 1							
3101X2 2		35-4 45-2	JO	100		Inst/Rmv JO Pole 43.065858, -70.786009	M
3101X2 3		35-4				Remove JO Pole	M
3101X2 3	7809 1A	45-2	JO	100		Inst/Rmv JO Pole LTS anc 43.065415, -70.786331	M
3171 47			LTS ROW			Ref Pole	ROW



ADDENDUM PER RSA 231:163

1) All licensee(s) and any other entity using and/or occupying property of the City pursuant to a license, lease or other agreement shall provide for the payment of properly assessed real and personal property taxes by the party using or occupying said property no later than the due date.

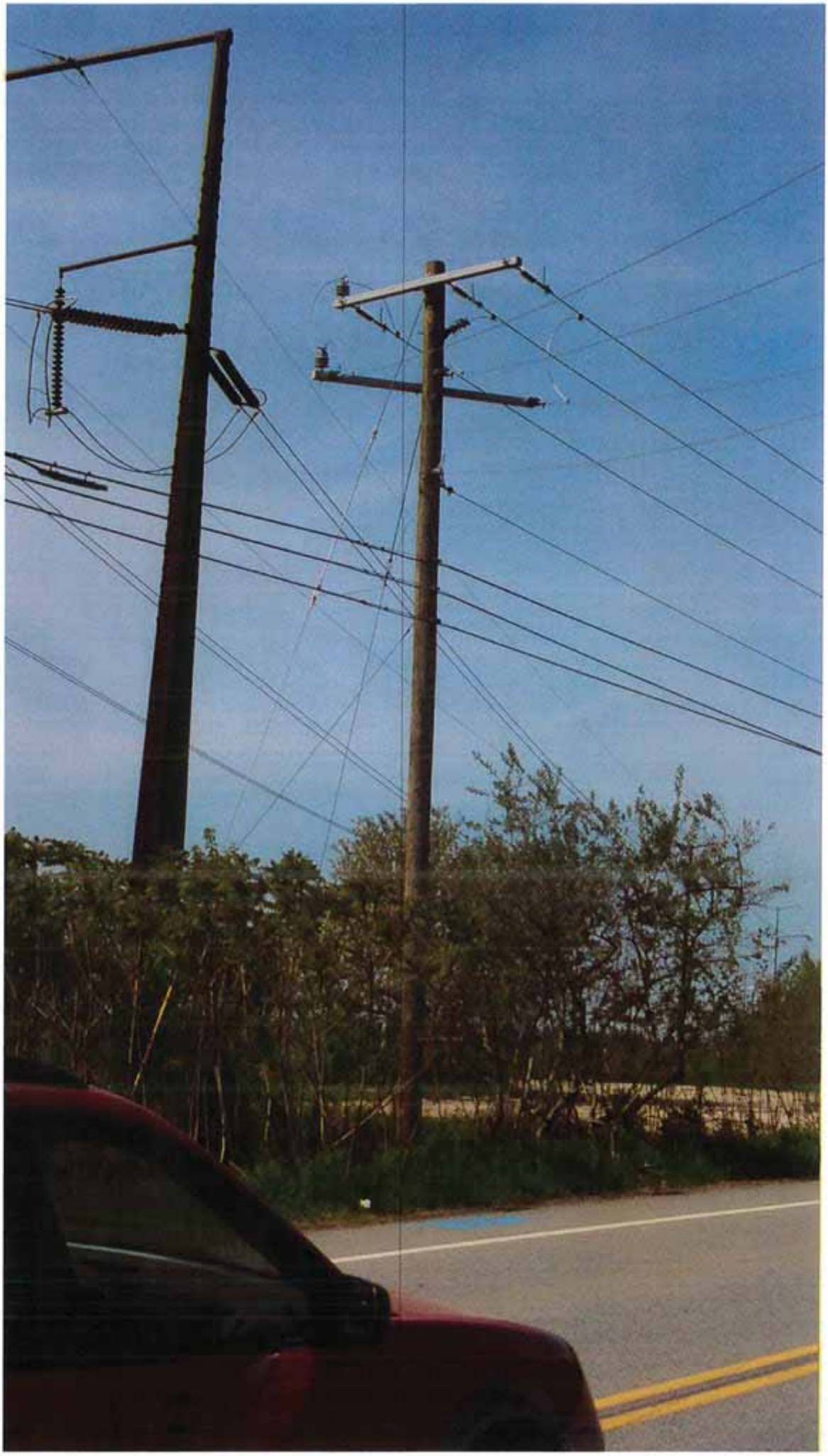
2) All licensee(s) and any other entity using and/or occupying property of the City shall provide for the payment of properly assessed real and personal property taxes on structures or improvements added by the licensee(s) or any other entity using or occupying property of the city; and

3) Failure of the licensee(s) and any other entity using and/or occupying property of the City to pay duly assessed personal and real taxes when due shall be cause to terminate said agreement by the lessor.

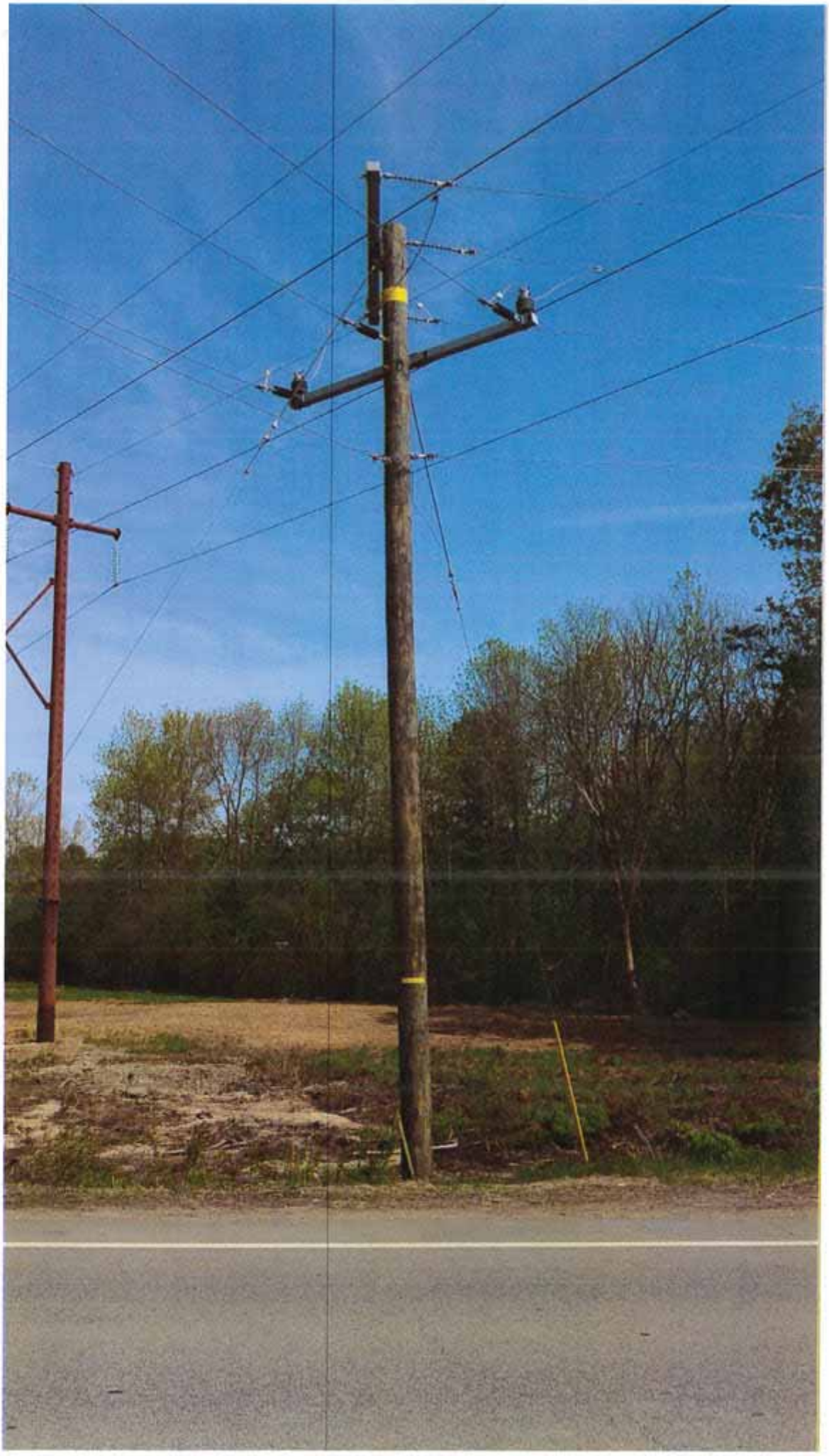
The changes to the licenses, leases and other agreements set forth in the preceding paragraphs shall remain in effect until changed in accordance with the requirements of RSA 231:163.

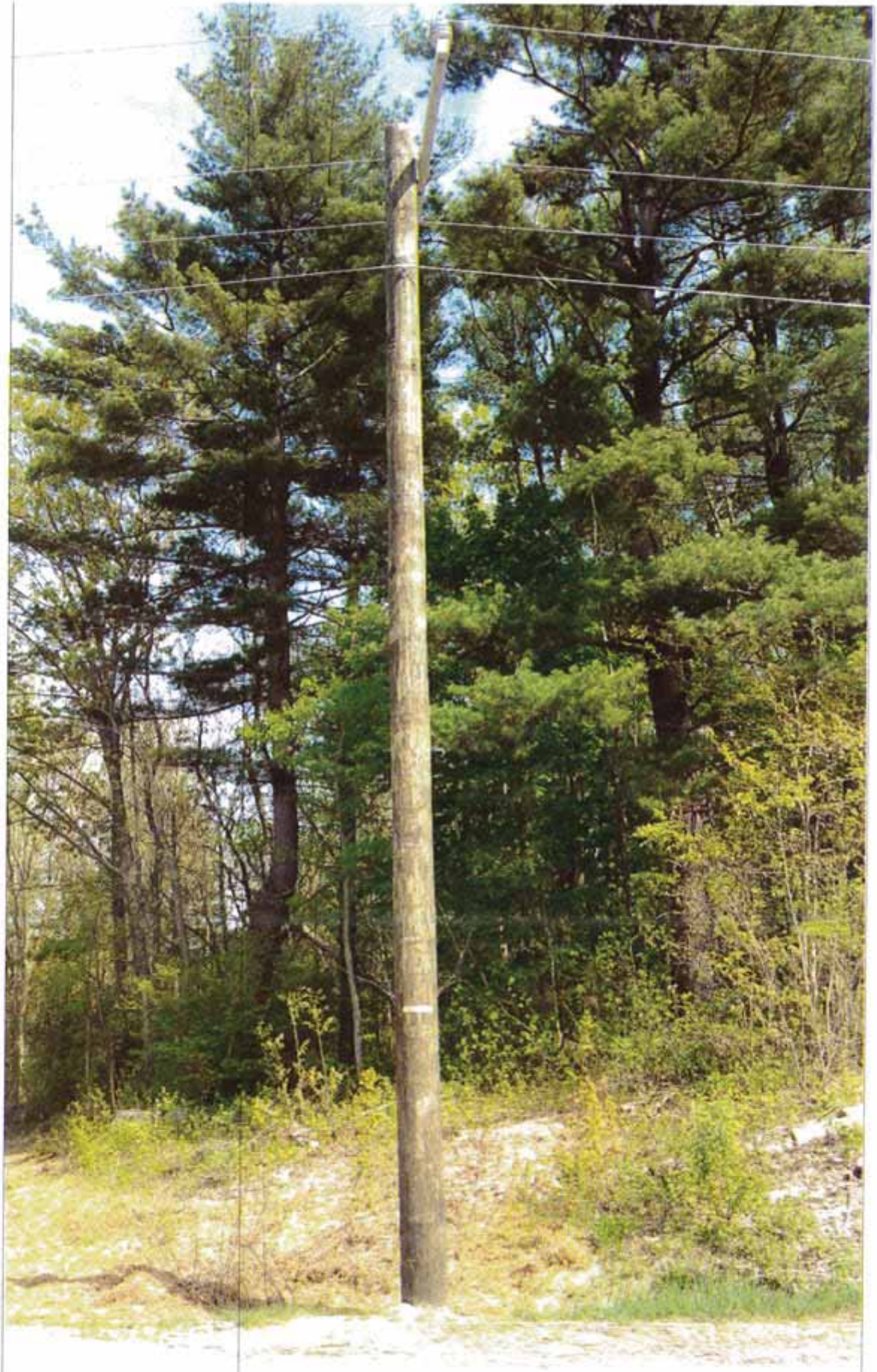
Approved by City Council:

3101x1
1



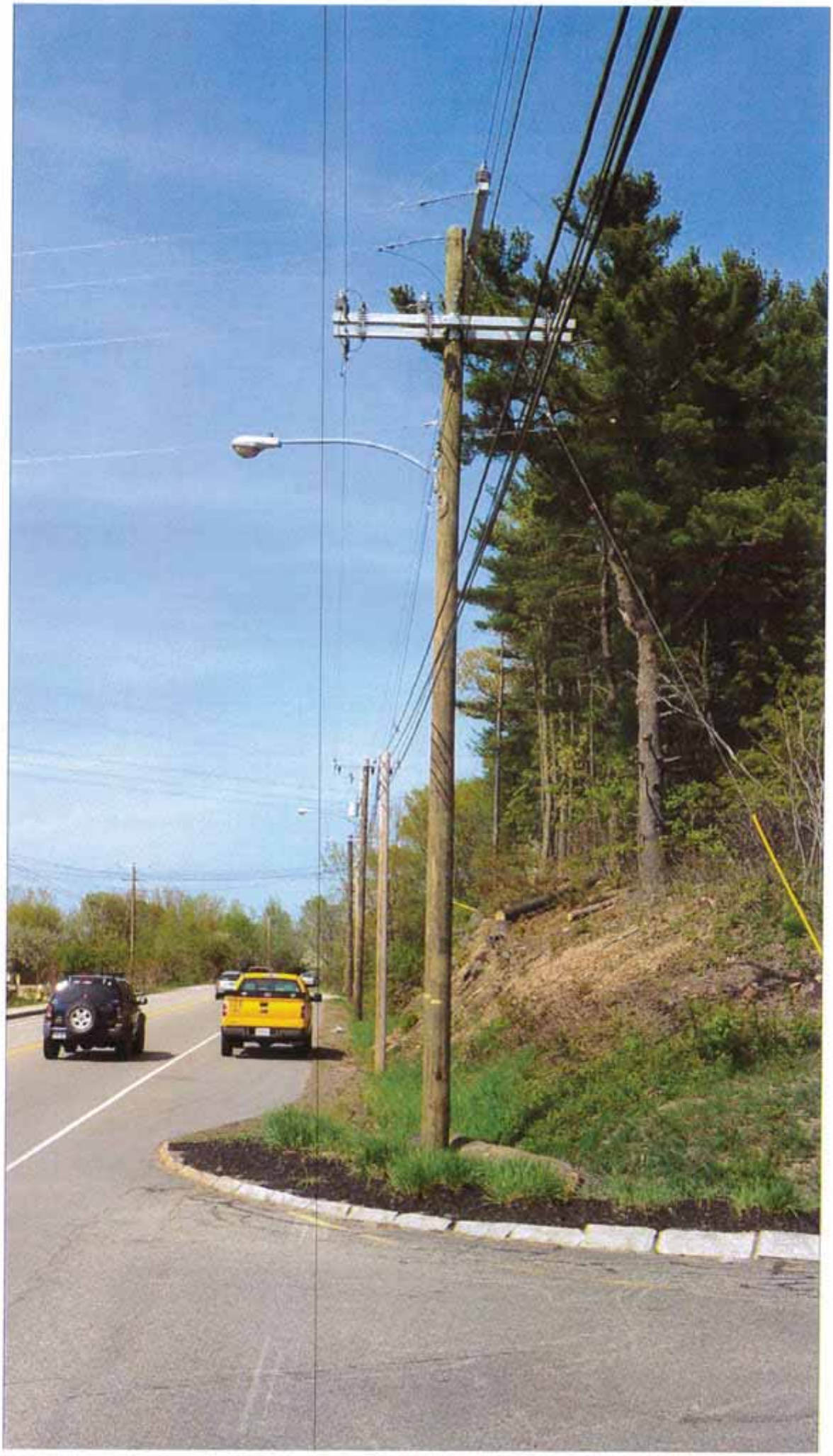
3101X2
Y





3101X2
1

3101X2
3



City of Portsmouth

Department of Public Works

MEMORANDUM

TO: John P. Bohenko, City Manager

FROM: Ryan Flynn, Construction Project Coordinator RAF

DATE: May 26, 2015

SUBJECT: PSNH License Agreement 63-0592

I have reviewed the pole location information provided by PSNH for Petition and Pole License 63-0592.

This request is to license one (1) new pole and guy wire on Coakley Road across from The Granite Group. The new pole is in line with the existing row of poles on the north side of the road.

The installation of this pole poses no impact to existing infrastructure, sight distances, or any other City interests. The Public Works Department recommends approval of this license.

Attached is a picture of the pole. Please call with any questions you may have.

cc: Peter Rice, P.E. Director of Public Works
Kelli Barnaby, City Clerk

Department of Public Works
680 Peverly Hill Road
Portsmouth, New Hampshire 03801

Public Service of New Hampshire

60 W. Pennacook Street, Manchester, NH 03101

Public Service Company of New Hampshire
P.O. Box 330
Manchester, NH 03105-0330
(603) 669-4000

The Northeast Utilities System

February 2, 2015

Office of the City Clerk
City of Portsmouth
One Junkins Avenue
Portsmouth, NH 03801

Dear City Clerk,

Public Service of New Hampshire is hereby requesting permission to install/replace pole(s) located in City of Portsmouth, New Hampshire.

Enclosed for your review find three copies of PSNH Petition and Pole License number 63-0592 for City of Portsmouth review.

Upon approval, please have each copy of the Petition and Pole License signed by the proper authority.

Retain the Petition and Pole License copy labeled **"Portsmouth"** and mail the remaining signed copies along with any invoice for payment to PSNH in the enclosed self-addressed envelope.

If the Petition and Pole License is not approved, please return all copies to PSNH with an explanation.

Please contact me by telephone or e-mail with any questions you may have.

Thank you.

Lisa-Marie Pinkes

Lisa-Marie Pinkes
Customer Operations Support - Licensing
Public Service of New Hampshire
PO Box 330
Manchester, NH 03105-9989
Tel. 603-634-2218
E-Mail: lisa-marie.pinkes@nu.com

Enclosure(s)

PSNH#: 63-0592
Portsmouth

PETITION AND POLE LICENSE

PETITION

Manchester, New Hampshire

January 13, 2015

To the City Council **of the City of Portsmouth** New Hampshire.

PUBLIC SERVICE OF NEW HAMPSHIRE and Northern New England Telephone Operations LLC d/b/a FairPoint Communications-NNE, request a license to install and maintain underground conduits, cable and wires, and maintain poles and structures with wires, cables, conduits and devices thereon, together with such sustaining, strengthening and protecting fixtures as may be necessary along, and under the following public ways:

License one (1) pole(s), 271/4Y located on Coakley Road in the City of Portsmouth.

Northern New England Telephone Operations LLC
d/b/a FairPoint Communications-NNE

BY: Paige F. Floyd

PUBLIC SERVICE OF NEW HAMPSHIRE

BY: Lisa-Marie Pinkes

Lisa-Marie Pinkes, PSNH CO Support/ Licensing

LICENSE

Upon the foregoing petition and it appearing that the public good so requires, it is hereby

ORDERED

This 13rd day of January, 2015, that, PUBLIC SERVICE OF NEW HAMPSHIRE and Northern New England Telephone Operations LLC d/b/a FairPoint Communications-NNE be and hereby are granted a license to erect and maintain poles and structures, with wires, cables, conduits and devices thereon, together with sustaining, strengthening and protecting fixtures, in the public ways covered by said petition. All of said wires, except such as are vertically attached to poles and structures, shall be placed in accordance with the National Electrical Safety Code in effect at the time of petition and/or license is granted.

The approximate location of the poles and structures shall be shown on plan marked "PUBLIC SERVICE OF NEW HAMPSHIRE and Northern New England Telephone Operations LLC d/b/a FairPoint Communications-NNE No. 63-0592, dated 8/26/2014, attached hereto and made a part hereof.

City of Portsmouth, New Hampshire

BY: _____ BY: _____

BY: _____ BY: _____

BY: _____ BY: _____

Received and entered in the records of the City of Portsmouth, New Hampshire, Book _____, Page _____

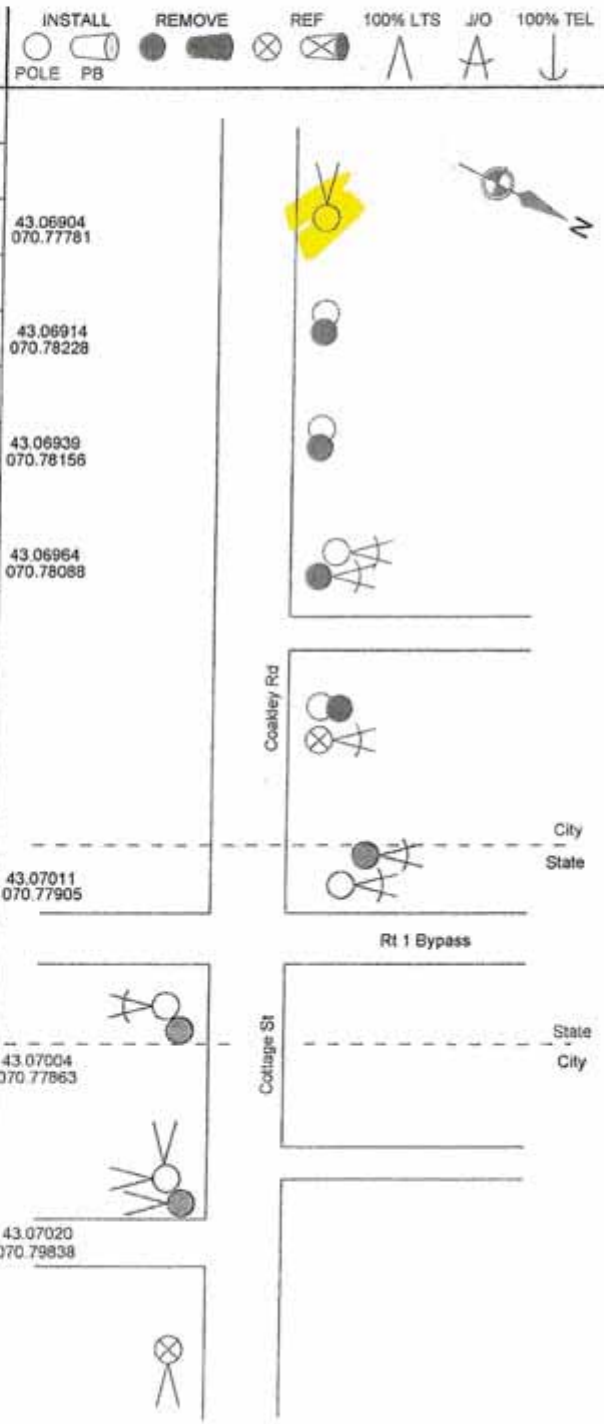
Date: _____ ATTEST: _____
Town Clerk

POLE LOCATION PLAN

PUBLIC SERVICE OF NEW HAMPSHIRE and
Northern New England Telephone Operations LLC d/b/a FairPoint Communications-NNE

DATE	08/26/2014	**LICENSE NO.**	63-0592
MUNICIPALITY:	Portsmouth	**STATE HWY. DIV. NO.**	6
STREET / ROAD:	Coakley Road	**STATE LICENSE NO.**	
PSNH OFFICE:	Portsmouth	**WORK REQUEST#**	2375568
PSNH ENGINEER:	Jim Osburn	**WORK FINANCIAL #**	9P420569
TELCO ENGINEER:	Joe Considine	**TELCO PROJECT #**	

Pole Numbers LTS	Pole Numbers TEL	Pole Sz-Cl	Eq BH	Span	Dist. from:	Remarks	DOC REQ
271/4Y		45/2				inst JO pole/ Lts anc	M
271/4	3191/4	45/2				inst/rmv JO pole Lic.# 1570	
271/3	3191/3	45/2				inst/rmv JO pole Lic.# 1570	
271/2	3191/2	45/2				inst/rmv JO pole/anc Lic.# 1570	
271/1Y	N/A	50/2				inst/rmv temporary pole	
271/1	3191/1					reference pole	
183/9	319/9	55/2				inst/rmv JO pole/anc	
						inst/rmv JO pole/anc Lic.# 1106	
183/8Y	319/8.5	55/2					
183/8	319/8	50/2				inst/rmv JO pole/Lts anc's Lic.# 1106	
183/7	319/7					reference pole	



ADDENDUM PER RSA 231:163

1) All licensee(s) and any other entity using and/or occupying property of the City pursuant to a license, lease or other agreement shall provide for the payment of properly assessed real and personal property taxes by the party using or occupying said property no later than the due date.

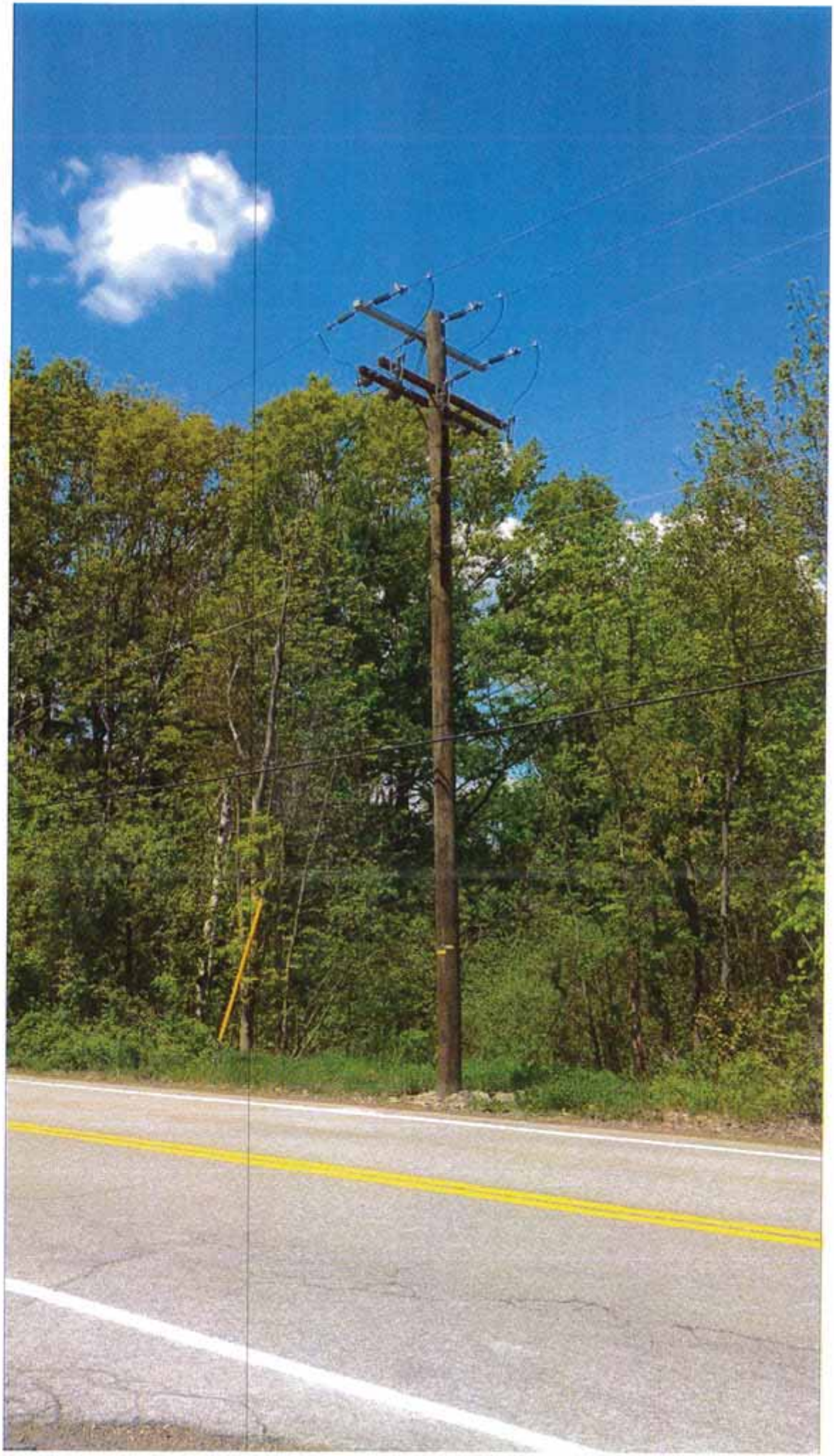
2) All licensee(s) and any other entity using and/or occupying property of the City shall provide for the payment of properly assessed real and personal property taxes on structures or improvements added by the licensee(s) or any other entity using or occupying property of the city; and

3) Failure of the licensee(s) and any other entity using and/or occupying property of the City to pay duly assessed personal and real taxes when due shall be cause to terminate said agreement by the lessor.

The changes to the licenses, leases and other agreements set forth in the preceding paragraphs shall remain in effect until changed in accordance with the requirements of RSA 231:163.

Approved by City Council:

271/48



City of Portsmouth

Department of Public Works

MEMORANDUM

TO: John P. Bohenko, City Manager

FROM: Ryan Flynn, Construction Project Coordinator RAF

DATE: May 26, 2015

SUBJECT: PSNH License Agreement 63-0594

I have reviewed the pole location information provided by PSNH for Petition and Pole License 63-0594.

This request is to license one (1) replacement pole on Regina Road.

This replacement pole is in the same location, but is 5 ft taller than the original. The installation of this pole poses no impact to existing City infrastructure, sight distances, or other City interests. The Public Works Department recommends approval of this license.

Attached is a picture of the pole. Please call with any questions you may have.

cc: Peter Rice, P.E. Director of Public Works
Kelli Barnaby, City Clerk

Department of Public Works
680 Peverly Hill Road
Portsmouth, New Hampshire 03801

Public Service of New Hampshire

60 W. Pennacook Street, Manchester, NH 03101

Public Service Company of New Hampshire
P.O. Box 330
Manchester, NH 03105-0330
(603) 669-4000

The Northeast Utilities System

February 18, 2015

Office of the City Clerk
City of Portsmouth
One Junkins Avenue
Portsmouth, NH 03801

Dear City Clerk,

Public Service of New Hampshire is hereby requesting permission to install/replace pole(s) located in City of Portsmouth, New Hampshire.

Enclosed for your review find three copies of PSNH Petition and Pole License number 63-0594 for City of Portsmouth review.

Upon approval, please have each copy of the Petition and Pole License signed by the proper authority.

Retain the Petition and Pole License copy labeled **"Portsmouth"** and mail the remaining signed copies along with any invoice for payment to PSNH in the enclosed self-addressed envelope.

If the Petition and Pole License is not approved, please return all copies to PSNH with an explanation.

Please contact me by telephone or e-mail with any questions you may have.

Thank you.

Lisa-Marie Pinkes

Lisa-Marie Pinkes
Customer Operations Support - Licensing
Public Service of New Hampshire
PO Box 330
Manchester, NH 03105-9989
Tel. 603-634-2218
E-Mail: lisa-marie.pinkes@nu.com

Enclosure(s)

PSNH#: 63-0594
Portsmouth

PETITION AND POLE LICENSE

PETITION

Manchester, New Hampshire

January 30, 2015

To the City Council **of the City of Portsmouth** New Hampshire.

PUBLIC SERVICE OF NEW HAMPSHIRE and Northern New England Telephone Operations LLC d/b/a FairPoint Communications-NNE, request a license to install and maintain underground conduits, cable and wires, and maintain poles and structures with wires, cables, conduits and devices thereon, together with such sustaining, strengthening and protecting fixtures as may be necessary along, and under the following public ways:

License one (1) pole(s), 257/4 located on Regina Road in the City of Portsmouth.

Northern New England Telephone Operations LLC
d/b/a FairPoint Communications-NNE

BY: Jaye Floyd

PUBLIC SERVICE OF NEW HAMPSHIRE

BY: Lisa-Marie Pinkes
Lisa-Marie Pinkes, PSNH CO Support/ Licensing

LICENSE

Upon the foregoing petition and it appearing that the public good so requires, it is hereby

ORDERED

This 30th day of January, 2015, that, PUBLIC SERVICE OF NEW HAMPSHIRE and Northern New England Telephone Operations LLC d/b/a FairPoint Communications-NNE be and hereby are granted a license to erect and maintain poles and structures, with wires, cables, conduits and devices thereon, together with sustaining, strengthening and protecting fixtures, in the public ways covered by said petition. All of said wires, except such as are vertically attached to poles and structures, shall be placed in accordance with the National Electrical Safety Code in effect at the time of petition and/or license is granted.

The approximate location of the poles and structures shall be shown on plan marked "PUBLIC SERVICE OF NEW HAMPSHIRE and Northern New England Telephone Operations LLC d/b/a FairPoint Communications-NNE No. 63-0594, dated 1/30/2015, attached hereto and made a part hereof.

City of Portsmouth, New Hampshire

BY: _____ BY: _____

BY: _____ BY: _____

BY: _____ BY: _____

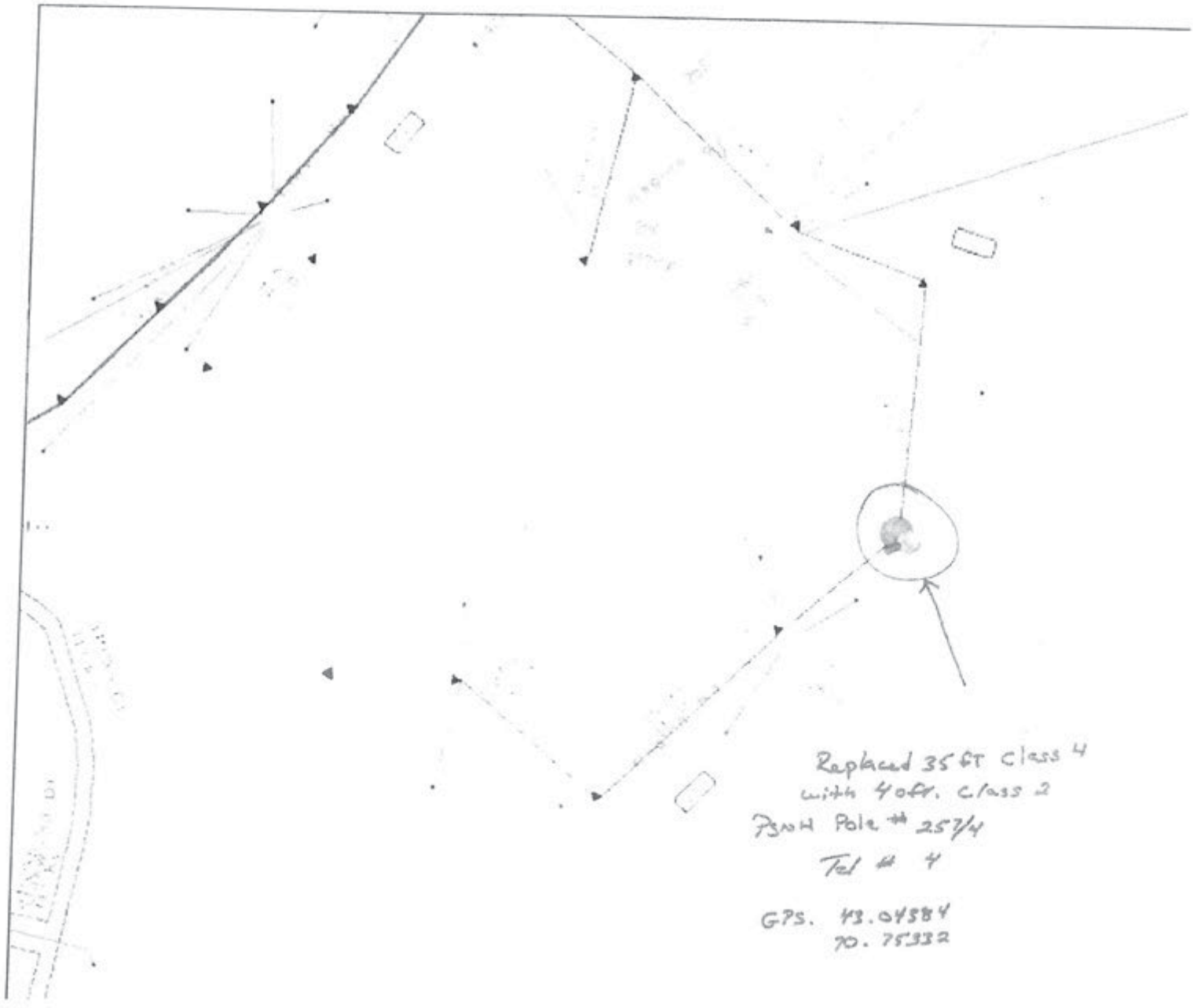
Received and entered in the records of the City of Portsmouth, New Hampshire, Book _____, Page _____

Date: _____ ATTEST: _____
Town Clerk

POLE LOCATION PLAN

PUBLIC SERVICE OF NEW HAMPSHIRE and
Northern New England Telephone Operations LLC d/b/a FairPoint Communications-NNE

DATE	01/30/2015	LICENSE NO.	63-0594
MUNICIPALITY:	Portsmouth	STATE HWY. DIV. NO.	6
STREET / ROAD:	Regina Road	STATE LICENSE NO.	
PSNH OFFICE:	Portsmouth	WORK REQUEST#	2250744
PSNH ENGINEER:	Richard St Cyr	WORK FINANCIAL #	9P321061
TELCO ENGINEER:		TELCO PROJECT #	



ADDENDUM PER RSA 231:163

1) All licensee(s) and any other entity using and/or occupying property of the City pursuant to a license, lease or other agreement shall provide for the payment of properly assessed real and personal property taxes by the party using or occupying said property no later than the due date.

2) All licensee(s) and any other entity using and/or occupying property of the City shall provide for the payment of properly assessed real and personal property taxes on structures or improvements added by the licensee(s) or any other entity using or occupying property of the city; and

3) Failure of the licensee(s) and any other entity using and/or occupying property of the City to pay duly assessed personal and real taxes when due shall be cause to terminate said agreement by the lessor.

The changes to the licenses, leases and other agreements set forth in the preceding paragraphs shall remain in effect until changed in accordance with the requirements of RSA 231:163.

Approved by City Council:

257/4

City of Portsmouth

Department of Public Works

MEMORANDUM

TO: John P. Bohenko, City Manager

FROM: Ryan Flynn, Construction Project Coordinator RAF

DATE: May 26, 2015

SUBJECT: PSNH License Agreement 63-0595

I have reviewed the pole location information provided by PSNH for Petition and Pole License 63-0595.

This request is to license one (1) replacement pole in conjunction with the recent reconstruction of the Rt. 1 / Rt.1 Bypass intersection in front of Bowl-O-Rama.

The installation of this pole poses no impact to existing City infrastructure, sight distances, or other City interests. The Public Works Department recommends approval of this license.

Attached is a picture of the pole. Please call with any questions you may have.

cc: Peter Rice, P.E. Director of Public Works
Kelli Barnaby, City Clerk

Department of Public Works
680 Peverly Hill Road
Portsmouth, New Hampshire 03801

Public Service of New Hampshire

60 W. Pennacook Street, Manchester, NH 03101

Public Service Company of New Hampshire
P.O. Box 330
Manchester, NH 03105-0330
(603) 669-4000

The Northeast Utilities System

February 18, 2015

Office of the City Clerk
City of Portsmouth
One Junkins Avenue
Portsmouth, NH 03801

Dear City Clerk,

Public Service of New Hampshire is hereby requesting permission to install/replace pole(s) located in City of Portsmouth, New Hampshire.

Enclosed for your review find three copies of PSNH Petition and Pole License number 63-0595 for City of Portsmouth review.

Upon approval, please have each copy of the Petition and Pole License signed by the proper authority.

Retain the Petition and Pole License copy labeled **"Portsmouth"** and mail the remaining signed copies along with any invoice for payment to PSNH in the enclosed self-addressed envelope.

If the Petition and Pole License is not approved, please return all copies to PSNH with an explanation.

Please contact me by telephone or e-mail with any questions you may have.

Thank you.

Lisa-Marie Pinkes

Lisa-Marie Pinkes
Customer Operations Support - Licensing
Public Service of New Hampshire
PO Box 330
Manchester, NH 03105-9989
Tel. 603-634-2218
E-Mail: lisa-marie.pinkes@nu.com

Enclosure(s)

PSNH#: 63-0595
Portsmouth

PETITION AND POLE LICENSE

PETITION

Manchester, New Hampshire January 30, 2015

To the City Council **of the City of Portsmouth** New Hampshire.

PUBLIC SERVICE OF NEW HAMPSHIRE and Northern New England Telephone Operations LLC d/b/a FairPoint Communications-NNE, request a license to install and maintain underground conduits, cable and wires, and maintain poles and structures with wires, cables, conduits and devices thereon, together with such sustaining, strengthening and protecting fixtures as may be necessary along, and under the following public ways:

License one (1) pole(s), 146/28 located on Lafayette Road in the City of Portsmouth.

Northern New England Telephone Operations LLC
d/b/a FairPoint Communications-NNE

BY: Jay Flynt

PUBLIC SERVICE OF NEW HAMPSHIRE

BY: Lisa-Marie Pinkes

Lisa-Marie Pinkes, PSNH CO Support/ Licensing

LICENSE

Upon the foregoing petition and it appearing that the public good so requires, it is hereby

ORDERED

This 30th day of January, 2015, that, PUBLIC SERVICE OF NEW HAMPSHIRE and Northern New England Telephone Operations LLC d/b/a FairPoint Communications-NNE be and hereby are granted a license to erect and maintain poles and structures, with wires, cables, conduits and devices thereon, together with sustaining, strengthening and protecting fixtures, in the public ways covered by said petition. All of said wires, except such as are vertically attached to poles and structures, shall be placed in accordance with the National Electrical Safety Code in effect at the time of petition and/or license is granted.

The approximate location of the poles and structures shall be shown on plan marked "PUBLIC SERVICE OF NEW HAMPSHIRE and Northern New England Telephone Operations LLC d/b/a FairPoint Communications-NNE No. 63-0595, dated 1/30/2015, attached hereto and made a part hereof.

City of Portsmouth, New Hampshire

BY: _____ BY: _____

BY: _____ BY: _____

BY: _____ BY: _____

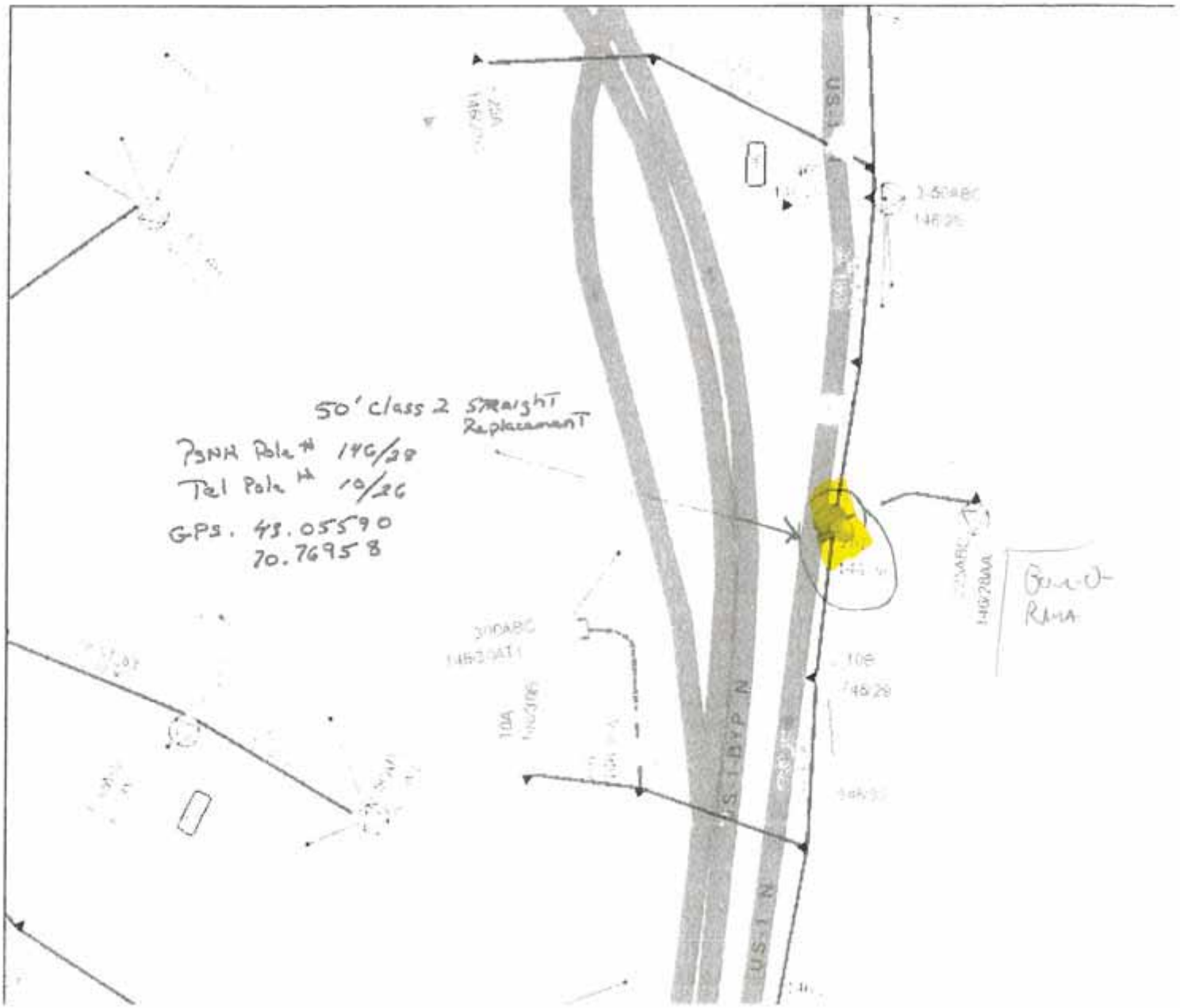
Received and entered in the records of the City of Portsmouth, New Hampshire, Book _____, Page _____

Date: _____ ATTEST: _____
Town Clerk

POLE LOCATION PLAN

PUBLIC SERVICE OF NEW HAMPSHIRE and
Northern New England Telephone Operations LLC d/b/a FairPoint Communications-NNE

DATE	01/30/2015	**LICENSE NO.**	63-0595
MUNICIPALITY:	Portsmouth	**STATE HWY. DIV. NO.**	6
STREET / ROAD:	Lafayette Road	**STATE LICENSE NO.**	
PSNH OFFICE:	Portsmouth	**WORK REQUEST#**	2281189
PSNH ENGINEER:	Richard St Cyr	**WORK FINANCIAL #**	9P420049
TELCO ENGINEER:		**TELCO PROJECT #**	



ADDENDUM PER RSA 231:163

1) All licensee(s) and any other entity using and/or occupying property of the City pursuant to a license, lease or other agreement shall provide for the payment of properly assessed real and personal property taxes by the party using or occupying said property no later than the due date.

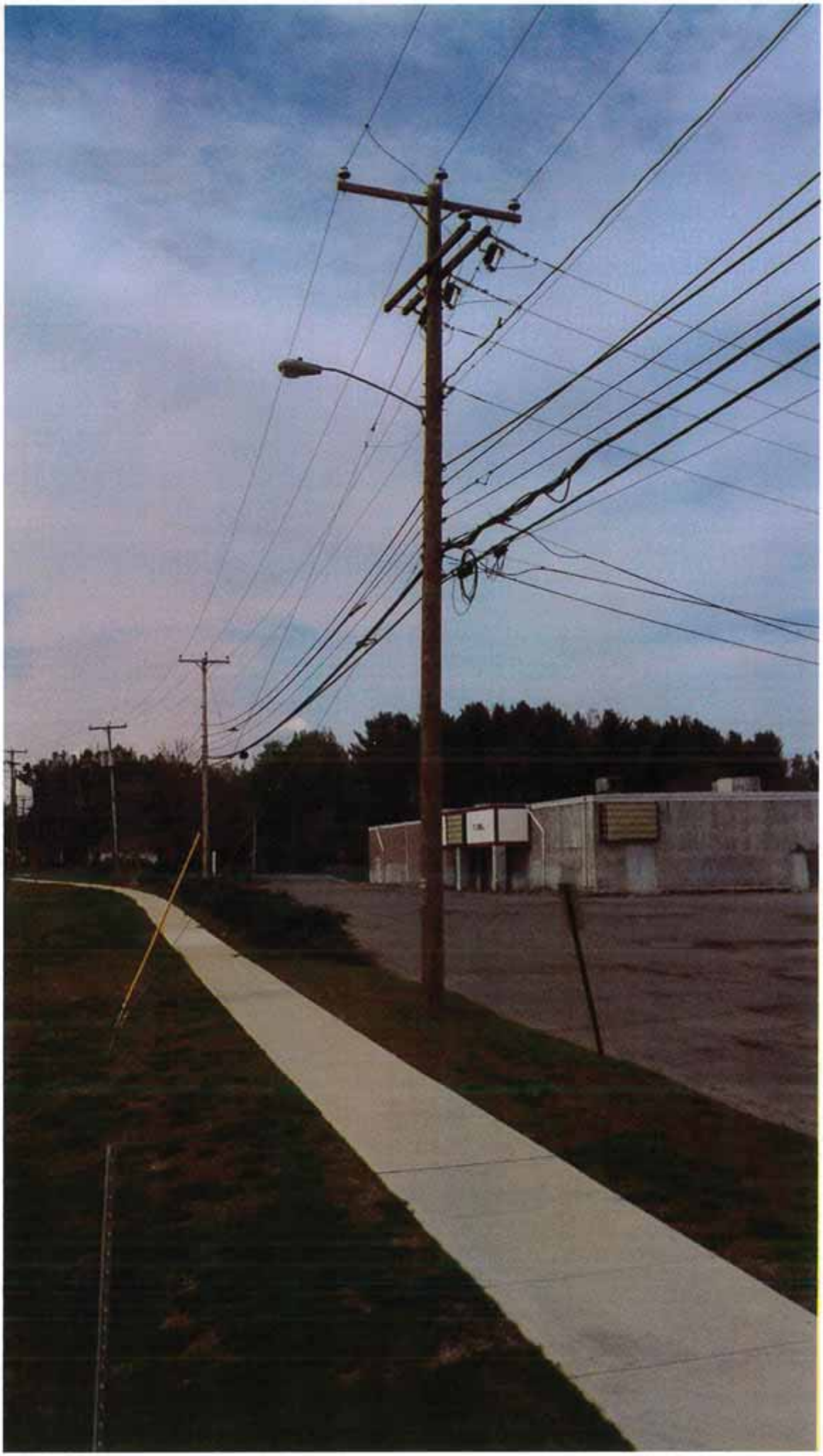
2) All licensee(s) and any other entity using and/or occupying property of the City shall provide for the payment of properly assessed real and personal property taxes on structures or improvements added by the licensee(s) or any other entity using or occupying property of the city; and

3) Failure of the licensee(s) and any other entity using and/or occupying property of the City to pay duly assessed personal and real taxes when due shall be cause to terminate said agreement by the lessor.

The changes to the licenses, leases and other agreements set forth in the preceding paragraphs shall remain in effect until changed in accordance with the requirements of RSA 231:163.

Approved by City Council:

146/28



City of Portsmouth

Department of Public Works

MEMORANDUM

TO: John P. Bohenko, City Manager

FROM: Ryan Flynn, Construction Project Coordinator RAF

DATE: May 26, 2015

SUBJECT: PSNH License Agreement 63-0596

I have reviewed the pole location information provided by PSNH for Petition and Pole License 63-0596.

This request is to license one (1) new pole and guy wire on the northwest corner of the intersection of the Rt. 1 Bypass and Borthwick Ave, across from the Mill Pond electrical sub station.

The installation of this pole poses no impact to existing City infrastructure, sight distances, or other City interests. The Public Works Department recommends approval of this license.

Attached is a picture of the pole. Please call with any questions you may have.

cc: Peter Rice, P.E. Director of Public Works
Kelli Barnaby, City Clerk

Department of Public Works
680 Peverly Hill Road
Portsmouth, New Hampshire 03801

Public Service of New Hampshire

60 W. Pennacook Street, Manchester, NH 03101

Public Service Company of New Hampshire
P.O. Box 330
Manchester, NH 03105-0330
(603) 669-4000

The Northeast Utilities System

February 11, 2015

Office of the City Clerk
City of Portsmouth
One Junkins Avenue
Portsmouth, NH 03801

Dear City Clerk,

Public Service of New Hampshire is hereby requesting permission to install/replace pole(s) located in City of Portsmouth, New Hampshire.

Enclosed for your review find two copies of PSNH Petition and Pole License number 63-0596 for City of Portsmouth review.

Upon approval, please have each copy of the Petition and Pole License signed by the proper authority.

Retain the Petition and Pole License copy labeled **"Portsmouth"** and mail the remaining signed copies along with any invoice for payment to PSNH in the enclosed self-addressed envelope.

If the Petition and Pole License is not approved, please return all copies to PSNH with an explanation.

Please contact me by telephone or e-mail with any questions you may have.

Thank you.

Lisa-Marie Pinkes

Lisa-Marie Pinkes
Customer Operations Support - Licensing
Public Service of New Hampshire
PO Box 330
Manchester, NH 03105-9989
Tel. 603-634-2218
E-Mail: lisa-marie.pinkes@nu.com

Enclosure(s)

PSNH#: 63-0596
Portsmouth

PETITION AND POLE LICENSE
PETITION

Manchester, New Hampshire

February 11, 2015

To the City Council of the City of Portsmouth, New Hampshire.

PUBLIC SERVICE OF NEW HAMPSHIRE requests a license to install and maintain underground conduits, cable and wires, and maintain poles and structures with wires, cables, conduits and devices thereon, together with such sustaining, strengthening and protecting fixtures as may be necessary along, and under the following public ways:

License one (1) pole(s), 264/2S on Route 1 Bypass in the City of Portsmouth.

PUBLIC SERVICE OF NEW HAMPSHIRE

BY: Lisa-Marie Pinkes
Lisa-Marie Pinkes, PSNH CO Support / Licensing

LICENSE

Upon the foregoing petition and it appearing that the public good so requires, it is hereby

ORDERED

This 11st day of February, 2015, that, PUBLIC SERVICE OF NEW HAMPSHIRE be granted a license to erect and maintain poles and structures, with wires, cables, conduits and devices thereon, together with sustaining, strengthening and protecting fixtures, in the public ways covered by said petition. All of said wires, except such as are vertically attached to poles and structures, shall be placed in accordance with the National Electrical Safety Code in effect at the time of petition and/or license is granted.

The approximate location of the poles and structures shall be shown on plan marked "PUBLIC SERVICE OF NEW HAMPSHIRE" No. 63-0596, dated 12/10/2014, attached to and made a part hereof.

Town of Portsmouth, New Hampshire

BY: _____

BY: _____

BY: _____

Town of Portsmouth, New Hampshire

BY: _____

BY: _____

BY: _____

Received and entered in the records of the Town of Portsmouth, New Hampshire, Book _____, Page _____

Date: _____

ATTEST: _____
Town Clerk

POLE LOCATION PLAN

DATE	12/10/2014	LICENSE NO.	63-0596
MUNICIPALITY:	Portsmouth	STATE HWY. DIV. NO.	6
STREET / ROAD:	Route 1 Bypass	STATE LICENSE NO.	
PSNH OFFICE:	Portsmouth	WORK REQUEST#	2445072
PSNH ENGINEER:	Jim Osburn	WORK FINANCIAL #	9P420885
TELCO ENGINEER:		TELCO PROJECT #	

Pole Numbers LTS	Pole Numbers TEL	Pole Sz-Cl	Eq BH	Span	Dist. from:	Remarks	DOC REQ
264A/1	N/A	50/2				Lts inst 100% pole/anc	PVT
264/1A	N/A	50/2				Lts inst 100% pole	PVT
264/1	N/A	50/2				Lts inst 100% pole/anc	PVT
old 264/5 new 264/3	7803/7					restencil pole	
264/2	7809/12	55/2				FP inst JO pole/rmv FP pole	
264/2S	N/A	40/2				Lts inst Lts pole/anc	M
264/2A	7809/11	50/2				FP inst JO pole/rmv FP pole FP inst Lts anchor	

INSTALL: POLE, PB — REMOVE — REF — 100% LTS — J/O — 100% TEL

ADDENDUM PER RSA 231:163

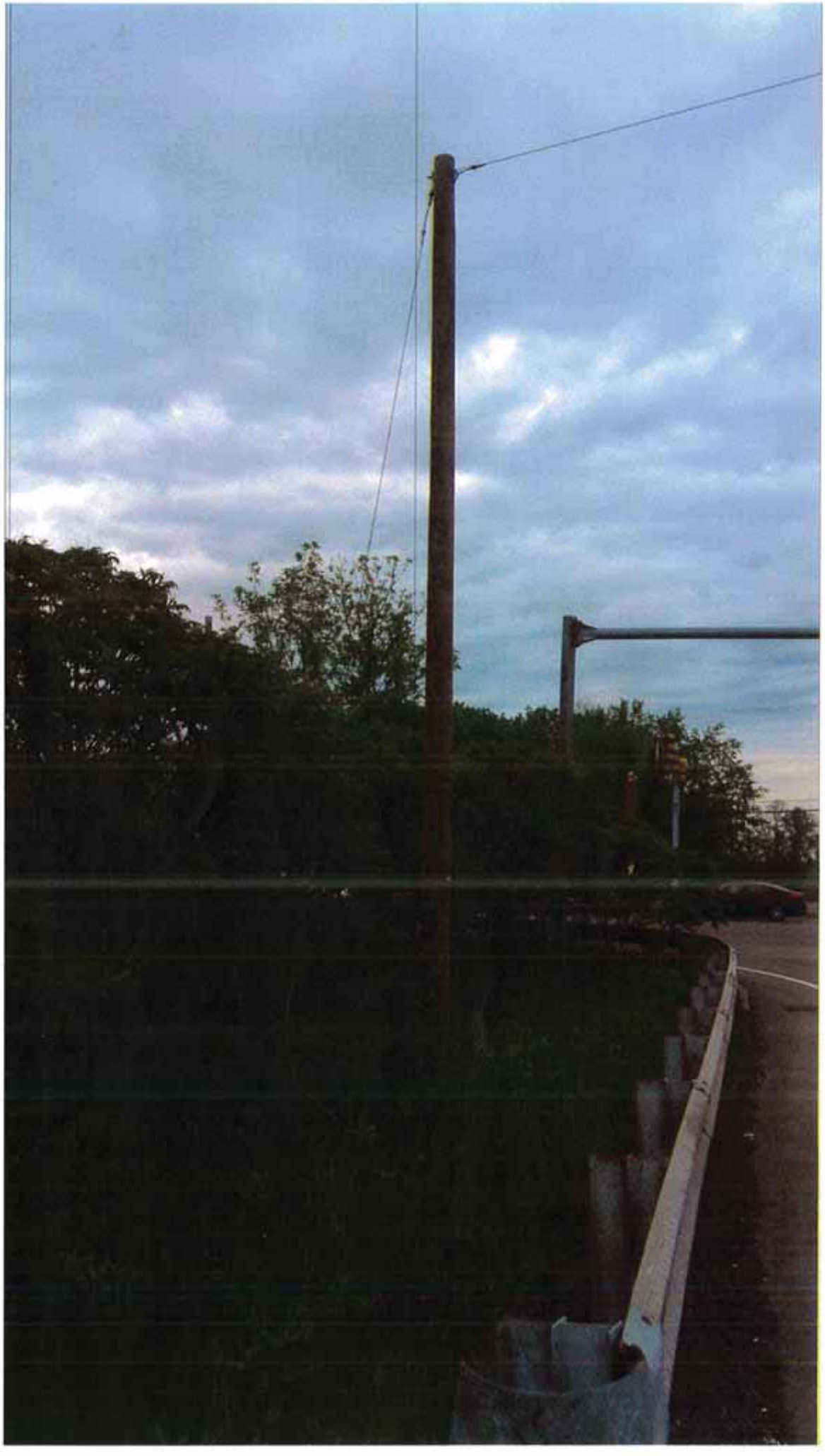
1) All licensee(s) and any other entity using and/or occupying property of the City pursuant to a license, lease or other agreement shall provide for the payment of properly assessed real and personal property taxes by the party using or occupying said property no later than the due date.

2) All licensee(s) and any other entity using and/or occupying property of the City shall provide for the payment of properly assessed real and personal property taxes on structures or improvements added by the licensee(s) or any other entity using or occupying property of the city; and

3) Failure of the licensee(s) and any other entity using and/or occupying property of the City to pay duly assessed personal and real taxes when due shall be cause to terminate said agreement by the lessor.

The changes to the licenses, leases and other agreements set forth in the preceding paragraphs shall remain in effect until changed in accordance with the requirements of RSA 231:163.

Approved by City Council:



City of Portsmouth

Department of Public Works

MEMORANDUM

TO: John P. Bohenko, City Manager

FROM: Ryan Flynn, Construction Project Coordinator RAF

DATE: May 26, 2015

SUBJECT: PSNH License Agreement 63-0597

I have reviewed the pole location information provided by PSNH for Petition and Pole License 63-0597.

This request is to license three (3) replacement poles on Commerce Way, in the area across from the entrance to the strip mall. One (1) of these poles is a pole brace.

These upgrades do not change the locations of the poles, but do increase their heights. These installations pose no impacts to existing City infrastructure, sight distances, or other interests of the City. The Public Works Department recommends approval of this license.

Attached are pictures of these poles. Please call with any questions you may have.

cc: Peter Rice, P.E. Director of Public Works
Kelli Barnaby, City Clerk

Department of Public Works
680 Peverly Hill Road
Portsmouth, New Hampshire 03801

Public Service
of New Hampshire

60 W. Pennacook Street, Manchester, NH 03101

Public Service Company of New Hampshire
P.O. Box 330
Manchester, NH 03105-0330
(603) 669-4000

The Northeast Utilities System

March 18, 2015

Office of the City Clerk
City of Portsmouth
One Junkins Avenue
Portsmouth, NH 03801

Dear City Clerk,

Public Service Company of New Hampshire, dba Eversource Energy is hereby requesting permission to install/replace pole(s) located in City of Portsmouth, New Hampshire.

Enclosed for your review find three copies of PSNH Petition and Pole License number 63-0597 for City of Portsmouth review.

Upon approval, please have each copy of the Petition and Pole License signed by the proper authority.

Retain the Petition and Pole License copy labeled **"Portsmouth"** and mail the remaining signed copies along with any invoice for payment to PSNH in the enclosed self-addressed envelope.

If the Petition and Pole License is not approved, please return all copies to PSNH with an explanation.

Please contact me by telephone or e-mail with any questions you may have.

Thank you.

Lisa-Marie Pinkes

Lisa-Marie Pinkes
Customer Operations Support - Licensing
Public Service Company of New Hampshire, dba Eversource Energy
PO Box 330
Manchester, NH 03105-9989
Tel. 603-634-2218
E-Mail: lisa-marie.pinkes@nu.com

Enclosure(s)

PSNH#: 63-0597
Portsmouth

PETITION AND POLE LICENSE

PETITION

Manchester, New Hampshire March 11, 2015

To the City Council **of the City of Portsmouth** New Hampshire.

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE, dba EVERSOURCE EVERGY and Northern New England Telephone Operations LLC, dba FairPoint Communications-NNE, request a license to install and maintain underground conduits, cable and wires, and maintain poles and structures with wires, cables, conduits and devices thereon, together with such sustaining, strengthening and protecting fixtures as may be necessary along, and under the following public ways:

License three (3) pole(s), 367A/8, 367A/8PB, 367A/9 located on Commerce Way in the City of Portsmouth.

Northern New England Telephone Operations LLC
dba FairPoint Communications-NNE

BY: Faye Lloyd

Public Service Company of New Hampshire,
dba Eversource Energy

BY: Lisa-Marie Pinkes
Lisa-Marie Pinkes, PSNH CO Support/ Licensing

LICENSE

Upon the foregoing petition and it appearing that the public good so requires, it is hereby

ORDERED

This 11st day of March, 2015, that, PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE, dba EVERSOURCE ENERGY and Northern New England Telephone Operations LLC, dba FairPoint Communications-NNE be and hereby are granted a license to erect and maintain poles and structures, with wires, cables, conduits and devices thereon, together with sustaining, strengthening and protecting fixtures, in the public ways covered by said petition. All of said wires, except such as are vertically attached to poles and structures, shall be placed in accordance with the National Electrical Safety Code in effect at the time of petition and/or license is granted.

The approximate location of the poles and structures shall be shown on plan marked EVERSOURCE and Northern New England Telephone Operations LLC, dba FairPoint Communications-NNE No. 63-0597, dated 3/11/2015, attached hereto and made a part hereof.

City of Portsmouth, New Hampshire

BY: _____ BY: _____

BY: _____ BY: _____

BY: _____ BY: _____

Received and entered in the records of the City of Portsmouth, New Hampshire, Book _____, Page _____

Date: _____ ATTEST: _____
Town Clerk

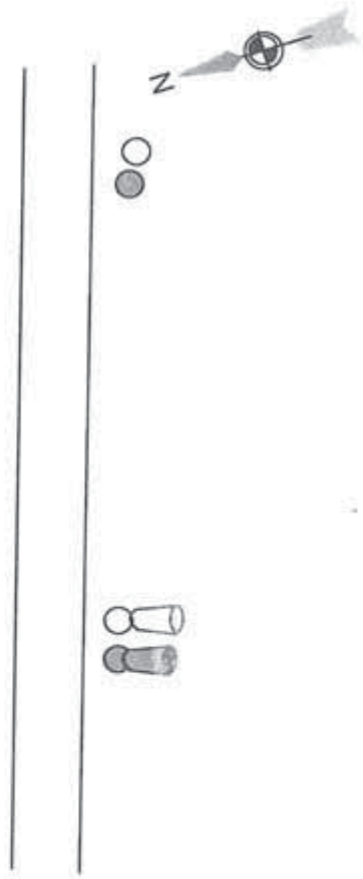
POLE LOCATION PLAN

EVERSOURCE and

Northern New England Telephone Operations LLC, dba FairPoint Communications-NNE

DATE	03/11/2015	**LICENSE NO.**	63-0597
MUNICIPALITY:	Portsmouth	**STATE HWY. DIV. NO.**	6
STREET / ROAD:	Commerce Way	**STATE LICENSE NO.**	
PSNH OFFICE:	Portsmouth	**WORK REQUEST#**	2476715
PSNH ENGINEER:	Nick Kosko	**WORK FINANCIAL #**	9P520050
TELCO ENGINEER:	Kevin Mackenzie	**TELCO PROJECT #**	

Pole Numbers LTS	Pole Numbers TEL	Pole Sz-Cl	Eq BH	Span	DIST. FROM	Remarks	DOC REQ
367A 9	940 2	45-2 40-4	JO			Inst/Rmv JO Pole 43.08969, -70.78951	M
367A 8		45-2 40-4	JO			Inst/Rmv JO Pole 43.09908, -70.78915	M
367A 8PB		35-4 45-2	LTS			Inst/Rmv LTS pole	M



ADDENDUM PER RSA 231:163

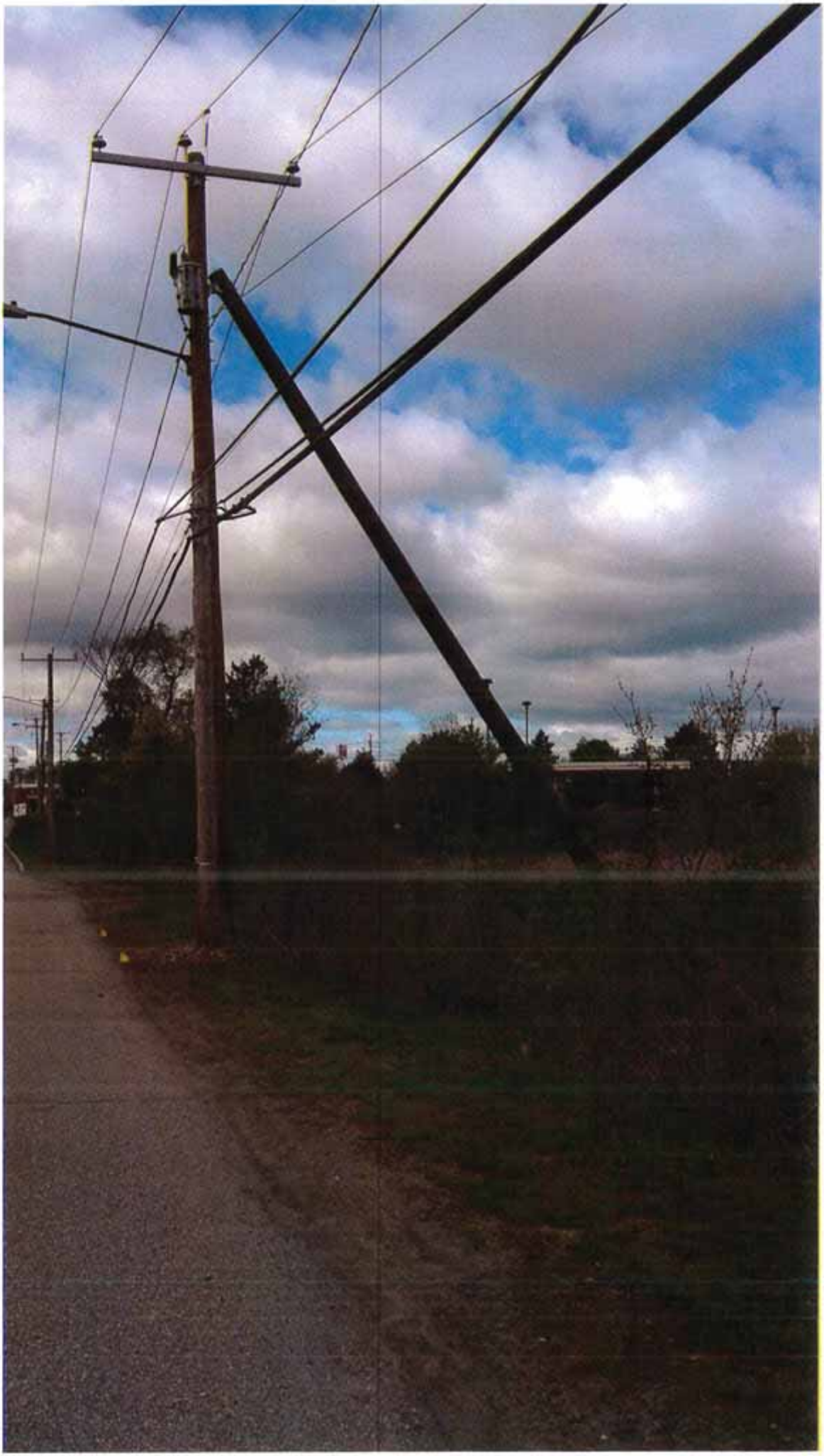
1) All licensee(s) and any other entity using and/or occupying property of the City pursuant to a license, lease or other agreement shall provide for the payment of properly assessed real and personal property taxes by the party using or occupying said property no later than the due date.

2) All licensee(s) and any other entity using and/or occupying property of the City shall provide for the payment of properly assessed real and personal property taxes on structures or improvements added by the licensee(s) or any other entity using or occupying property of the city; and

3) Failure of the licensee(s) and any other entity using and/or occupying property of the City to pay duly assessed personal and real taxes when due shall be cause to terminate said agreement by the lessor.

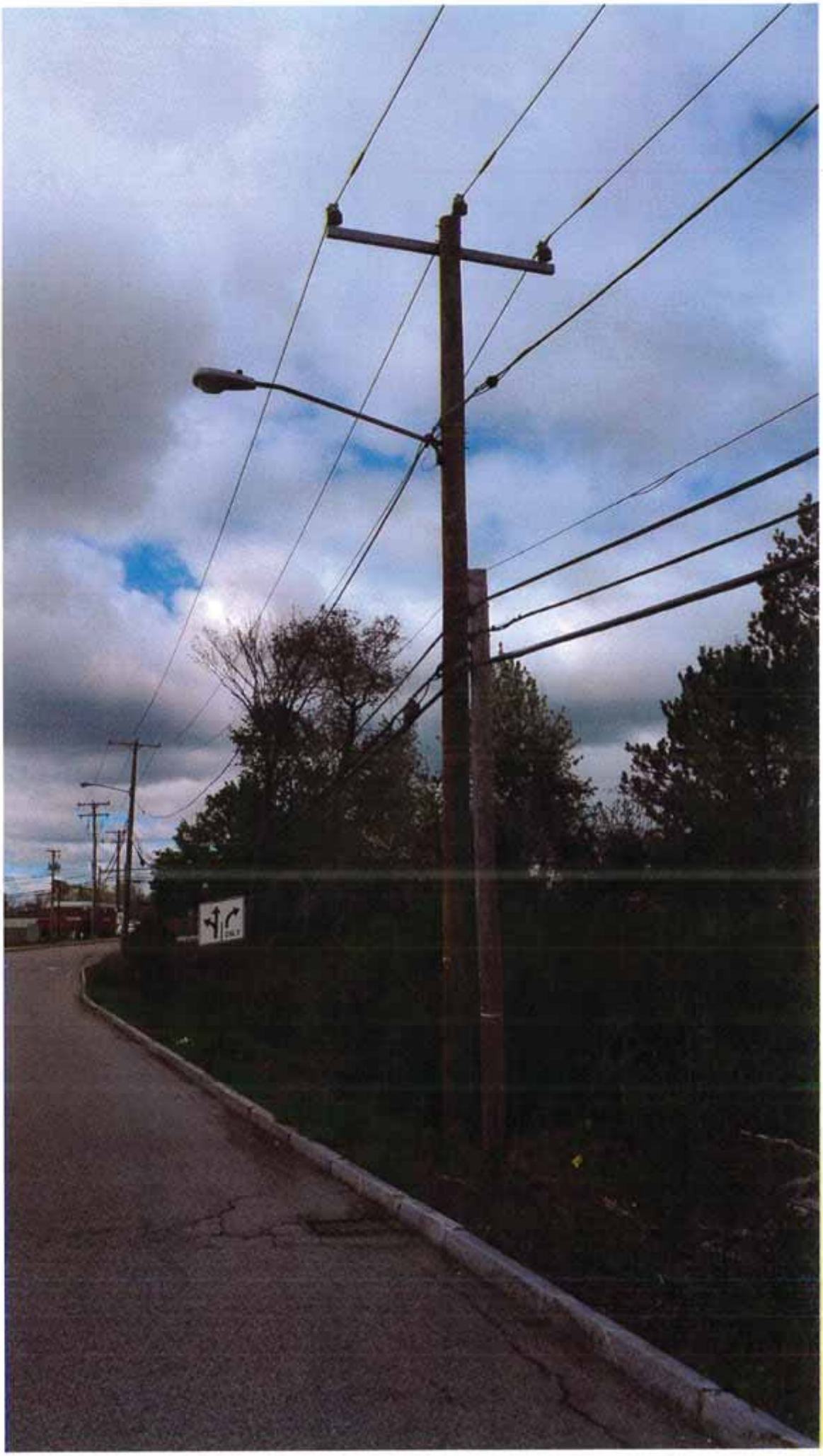
The changes to the licenses, leases and other agreements set forth in the preceding paragraphs shall remain in effect until changed in accordance with the requirements of RSA 231:163.

Approved by City Council:



367A
8

367A
8PB



Gulf of Maine Council on the Marine Environment

Celebrating 25 years of action for a healthy environment

received
5-15-15

Council Coordinator
Joan LeBlanc
leblanc@gulfofmaine.org

May 13, 2015

Mayor Robert J. Lister
City of Portsmouth
1 Junkins Avenue
Portsmouth, NH 03801

Dear Mayor Lister:

On behalf of the Gulf of Maine Council on the Marine Environment, I am pleased to inform you that the City of Portsmouth, New Hampshire has been selected to receive a *Gulf of Maine Council 2015 Sustainable Communities Award.* This Award is presented to a community or group within one of the five Gulf of Maine jurisdictions of Massachusetts, New Hampshire, Maine, New Brunswick, and Nova Scotia. The Award recognizes community-based innovation and leadership in efforts to promote sustainable outcomes for the Gulf of Maine ecosystem and the communities that call it home.

The Gulf of Maine Council is pleased to recognize the City of Portsmouth for your innovative approach to integrating sustainability throughout municipal governance, management and public services. We sincerely appreciate the City's proactive approach to developing climate preparedness and adaptation strategies. As the first effort of its kind in New Hampshire, the City of Portsmouth's Coastal Resilience Initiative is now a model for similar projects throughout the seacoast region. Your efforts are truly making a difference in the Gulf of Maine!

We are pleased to invite you and your guests to our Reception and Awards Ceremony which will be held Wednesday, June 17th 2015 at the Seashell Oceanfront Pavilion, Hampton Beach State Park, Hampton, NH. The reception begins at 5:00 PM followed by awards ceremony at 6:00 PM. To RSVP, please send your list of attendees to Joan Leblanc, Council Coordinator, at jleblanc@gulfofmaine.org. We hope to see you in June.

Congratulations!

Sincerely,

Christian Williams

FOR Steve Couture, Manager, New Hampshire Coastal Program; and
Secretariat, Gulf of Maine Council on the Marine Environment

METROPOLIS
OF BOSTON

Saint Nicholas Greek Orthodox Church

Rev. Fr. Robert J. Archon, Protopresbyter

May 21, 2015

Mayor Robert Lister &

Portsmouth City Councilors

City Hall

Junkins Avenue

Portsmouth, NH 03801

Re: St. Nicholas Greek Orthodox Church Back Lot -Tax Map Lot 229-6A

Dear Mayor Lister & City Councilors:

As you may be aware, the St. Nicholas Greek Orthodox Church owns a vacant lot on Ledgewood Drive which is Tax Map Lot 229-6A. The back corner of the vacant property touches the rear corner of the Church property that has frontage on Andrew Jarvis Drive. Over the years, we have been looking for the productive development of this lot in a way that will benefit the Church and community. Now that Ledgewood Drive has been redone, we are investigating the possibility of building housing, including a component of affordable housing, on the lot.

Before we can even consider development possibilities, there are two issues that we are requesting City action on. First, although Ledgewood Drive has been redone, it is our understanding that it has not been "accepted" by the City. Ledgewood Drive is now located completely on City property and the Church back lot abuts the City property. The St. Nicholas Greek Orthodox Church is, therefore, respectfully requesting that the City "accept" Ledgewood Drive as a public street.

Second, the edge of Ledgewood Drive is parallel to and approximately 25 feet from the Church vacant lot front boundary. It is our understanding that to access Ledgewood Drive, the Church needs an easement from the City permitting it access to Ledgewood Drive. We are asking the City to grant the Church an easement appurtenant to the back lot permitting the Church to cross over the property to for the purpose of ingress and egress. We assume that the exact location and width of access can be deferred until the development process and site plan approval by the Planning Board.

The Church does not anticipate selling off the property. It expects to own, develop and manage the property directly or through a Church-related entity. This will be a benefit to the community because the lot will be taxable and we fully expect to include a component of affordable housing on this lot.

40 Andrew Jarvis Dr., Portsmouth, NH 03801 TEL. (603) 436-2733 FAX (603) 436-2943

METROPOLIS
OF BOSTON

Saint Nicholas Greek Orthodox Church

Rev. Fr. Robert J. Archon, Protopresbyter

Should you have any questions or concerns, please do not hesitate to contact me or Church legal counsel, James G. Noucas, Jr. Thank you for your consideration in this matter.

Sincerely,

Fr. Robert J. Archon

40 Andrew Jarvis Dr., Portsmouth, NH 03801 TEL. (603) 436-2733 FAX (603) 436-2943

CITY OF PORTSMOUTH
PORTSMOUTH, NH 03801

Office of the City Manager

Date: May 28, 2015

To: Honorable Mayor Robert J. Lister and City Council Members

From: John P. Bohenko, City Manager

Re: City Manager's Comments on June 1, 2015 City Council Agenda

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6:30 p.m. Non-meeting with counsel regarding employment agreement of Superintendent-Elect Steve Zadravec in accordance with RSA 91-A:2, I (b)

For details on this matter, please refer to the confidential envelope inserted in the inside pocket of your binder.

Presentations:

1. **Senior Subcommittee Report.** On Monday evening, Brinn Chute, Senior Services Coordinator, will make a presentation to the City Council regarding the Senior Subcommittee progress. For your information, attached is a memorandum from Carl Diemer, Chair of the Senior Subcommittee of the Recreation Board.

2. **Interim Report Re: Sagamore Creek Land Blue Ribbon Committee.** David Moore, Community Development Director, and Councilor Eric Spear, Chair of the Blue Ribbon Committee, will update the City Council regarding the Sagamore Creek Land Study.

   The Committee is requesting the following actions from the City Council:

   a) To endorse the Vision and Guidelines document from the Blue Ribbon Committee on the Sagamore Creek Land.

   b) To request the City Manager to make a report back, which addresses the goals of the Recreation Need Study, including resurfacing existing fields with artificial turf, (e.g. adjacent High School Athletic Complex); and to also make a report back that addresses the acquisition of land and development of recreation fields in the City.

Items Which Require Action Under Other Sections of the Agenda:

1. **First Reading of Proposed Resolution and Ordinance Amendments.**

1.1 **First Reading of Proposed Ordinance amending Short-term Vacation Rentals and Other Lodging Uses.** As you will recall, at the May 4th City Council meeting, the Council was provided a report back regarding the attached proposed Ordinance amending Chapter 10 – Zoning Ordinance – Section 10.440, Table of Uses, as set forth in Attachment A: "Proposed Amendments to Zoning Ordinance, Section 10.440 – Short-Term Vacation Rentals and Other Lodging Uses" and inserting Section 10.83720. Under Section IX of the Agenda, I am bringing back for first reading the proposed Ordinance.

As you will recall, at the March 2, 2015 City Council meeting, the Council voted to request the Planning Board prepare proposed amendments to the zoning ordinance to address short-term rentals by home owners. Based on the Council-Planning Board work session discussion of February 17th, the Planning Board could take into account discussion points that emerged, including at least:

a) creating a definition that captures the short-term rental, perhaps a bed-breakfast 3 rather than attempting to force-fit one of current definitions;
b) addressing in the definition the requirements for number of rooms, parking, length of stay, life safety plan, health-food inspections, registration with the City; and
c) considering which current zoning districts can allow the rental by special exception.

For your information, attached is a memorandum from Jessa Berna, Associate Planner, outlining the amendments to the proposed Ordinance. The Planning Board considered these draft amendments at its meeting on April 30, 2015 and May 21, 2015 meetings. The Board voted to recommend the attached amendment to the Zoning Ordinance.

I recommend the City Council move to pass first reading and schedule a public hearing and second reading of the proposed Ordinance at the June 15, 2015 City Council meeting, as presented. Action on this matter should take place under Section IX of the Agenda.

2. **Public Hearing/Second Reading for Proposed Ordinance.**

2.1 **Public Hearing/Second Reading of Proposed Ordinance Amending the Zoning Map by Rezoning Lots Outlined in the Ordinance from Industrial (I), Office Research (OR) or Municipal (M) to Gateway (GW) and including Cate Street Between Hodgson's Brook and Bartlett Street; and Amending the Zoning Ordinance Article 7, Section 10.730 Gateway Planned Development and Article 15 – Definitions (Public Hearing continued and second reading was postponed from the May 18, 2015 City Council meeting).** As you will recall, at the May 18th City Council meeting, the Council continued the public hearing and postponed second reading until your June 1, 2015 meeting.

Portsmouth Land Acquisitions, the owner of several parcels of land on the Route One Bypass and Cate Street, has requested that the area generally bounded by Hodgson's Brook, Bartlett Street, the Pan Am Railroad line and the Route One Bypass be rezoned to the Gateway district, and that the Zoning Ordinance be amended to provide incentives for developments that include workforce housing. The Council opened its public hearing on this matter at its meeting on March 16, 2015, and then voted to continue the public hearing and second reading to May 18, 2015, and to refer the proposed zoning amendments to the Planning Board for a report back.

At its meeting on April 30, 2015, the Planning Board considered the proposed zoning changes and voted unanimously in favor of (1) the request to rezone the subject parcels to the Gateway district, and (2) the staff recommendations to amend two provisions of the Zoning Ordinance relating to building setbacks and height. However, the Board did not support the workforce housing incentives proposed by Portsmouth Land Acquisitions because of the considerable increases in residential density and building scale that would be allowed. The Board requested the Planning Department staff to draft alternative language to provide zoning flexibility for projects that incorporate workforce housing, and postponed the matter to its next meeting on May 21, 2015.

At its meeting on May 2, 2015, the Planning Board voted to recommend that in place of the specific Workforce Housing Incentives requested by Portsmouth Land Acquisitions, Section 10.738.30 of the Zoning Ordinance be amended as follows (new text is highlighted).

> In granting a conditional use permit, the Planning Board may modify specific standards and requirements set forth in this Section (including development intensity and dimensional standards, and building design standards) provided that the Planning Board finds such modification will promote design flexibility and overall project quality, **or that such modification is required for the development to provide a proposed workforce housing component,** and that such modification is consistent with the purpose and intent set forth in Section 10.731.

This change would give the Planning Board the flexibility to modify standards as necessary to produce workforce housing on a case-by-case basis, rather than opening up a broad set of formula-based exemptions. It should be noted that Section 10.738.30 applies to all "flexible development" conditional use permits; therefore, this provision could be used to support workforce housing components of Planned Unit Developments (PUDs) as well as Gateway Planned Developments.

The amended ordinance recommended by the Planning Board is attached under Section VII of the Agenda. There are two changes from the version advertised for second reading:

(1) The "workforce housing incentives" in the previous draft has been replaced by the new "modification of standards" language (item 2.C on page 2 of both versions) as discussed above; and

(2) A stand-alone definition of the term "affordable" has been added, where previously it was embedded in the definition of "workforce housing unit" (item 2.D on pages 2-3).

If the City Council supports the Planning Board's recommendation, it would be appropriate to amend the ordinance prior to passing second reading by substituting the attached version (dated 5/26/15) for the version advertised for second reading.

Attached is a memorandum from Jessa Berna, Associate Planner, regarding this matter.

I recommend that the City Council move the following motions:

1) *Amend the proposed Ordinance as recommended by the Planning Board, and,*
2) *Pass second reading and schedule a third and final reading of the proposed Ordinance, as presented, at the June 15, 2015 City Council meeting.*

Action on this matter should take place under Section IX of the Agenda.

Consent Agenda:

1. **Request for License to Install Projecting Signs.** Attached under Section X of the Agenda are requests for a projecting sign licenses (see attached memorandums from Rick Taintor, Planning Director):

   - Philip Saul, owner of Sault New England for property located at 10 Market Square.

   - Robin Miller, owner of Juliette Lovelys Boutique for property located at 65 Bow Street.

I recommend the City Council move to approve the aforementioned Projecting Sign Licenses as recommended by the Planning Director and, further, authorize the City Manager to execute this License Agreements for these requests. Action on this item should take place under Section X of the Agenda.

2. **Request for License to Install an Awning.** Attached under Section X of the Agenda is a request for a License to install an awning (see attached memorandum from Rick Taintor, Planning Director):

   - Shore Gregory, owner of ROW 34 for property located at 5 Portwalk Place.

   I recommend the City Council move to approve the aforementioned License as recommended by the Planning Director and, further, authorize the City Manager to execute this License Agreement for this request. Action on this item should take place under Section X of the Agenda.

City Manager's Items Which Require Action:

1. **North End Character-Based Zoning.** On April 20, 2015, the City Council voted to authorize the City Manager to bring back for first reading the proposed amendments to the Zoning Ordinance and the Zoning Map, as presented, at the June 1, 2015 City Council meeting, and further, to refer the proposed amendments to the Planning Board for recommendations.

   At the May 21, 2015 Planning Board meeting, they voted to schedule a public hearing for June 18, 2015. The Planning Department is planning to bring forward additional changes to the proposal in advance of that public hearing, therefore, they recommend that the City Council postpone first reading until July 13, 2015.

   I recommend the City Council move to postpone first reading of the aforementioned proposed Ordinance to the July 13, 2015 City Council meeting.

Informational Items:

1. **Events Listing.** For your information, attached is a copy of the Events Listing updated after the last City Council meeting on May 18, 2015. In addition, this can be found on the City's website.

2. **Report Back Re: Enabling Legislation Regarding the Regulation of Plastic Bag Use Within the City.** As you will recall at the February 3, 2015 City Council meeting, Councilor Lown introduced a proposed Plastic Bag Ordinance. The matter was referred for further review to the City Manager, Recycling Coordinator, Mayor's Blue Ribbon Committee on Sustainability, and City Attorney Robert Sullivan. For your information, attached is a memorandum from City Attorney Robert Sullivan regarding enabling legislation for the regulation of plastic bag use in New Hampshire.

3. **Report Back Re: Peirce Island Non-resident Entrance Fee.** As you will recall at the April 20, 2015 City Council meeting, the Council voted to request that the Peirce Island Committee study the feasibility of an entrance fee for the use of Peirce Island for non-residents. For your information, attached is a copy of the Peirce Island Committee vote to not recommend charging an entrance fee for non-residents at Peirce Island.

4. **Reminder Re: Special Meeting – Adoption of FY16 Budget.** Just a reminder that on Monday, June 8, 2015 at 6:30 p.m., in the Eileen Dondero Foley Council Chambers is a Special Meeting regarding the Adoption of the FY16 Budget.

5. **Update Re: Hanover Garage Structural Evaluation.** For your information, attached is a memorandum from Eric Eby, Parking and Transportation Engineer, as well as a copy of the High/Hanover Street Parking Facility Report regarding the structural evaluation.

6. **Report Back Re: Fiber Line Upgrade for Channel 22.** City staff are proceeding with upgrading Channel 22 from Coax to Fiber, which will improve the quality of Channel 22. The upgrade will cost $14,782.47, and the work will be carried out by Comcast. This upgrade should be complete within the next couple of months. Once the fiber line is installed and tested, staff will review the current Channel 22 equipment and plan on upgrading what needs to be upgraded.

7. **Timing of Proposed Charter Amendment Activity.** Attached is a memorandum from City Attorney Robert Sullivan, regarding the timing of proposed Charter amendment activity.

Event Listing by Date

Starting Date: 5/18/2015
Ending Date: 12/31/2015

Start / End	Type / Description	Location	Requestor	Vote Date
5/20/2015 5/20/2015	ART EXH David Moore is the contact for this event. He may be reached at 610-7226. This event is with African Burial Ground Sculptor and Students	Chestnut Street	African Burying Ground	/ /
5/22/2015 5/22/2015	VIGIL David Moore, Community Development Director is the contact. Contact #610-7226 This is the overnight African Burying Ground Ancestral Vigil.	New Hope Baptist Church - 236 Peverly Hill Road	African Burying Ground	/ /
5/23/2015 5/23/2015	ART EXH David Moore, Community Development Director is the contact for this event. This unveiling is at 8:30 a.m. Contact # 610-7226	Chestnut Street - Street Artwork Unveiling at Afri	African Burying Ground	/ /
5/23/2015 5/23/2015	CELEBRATIC David Moore, Community Development Director is the contact for this event. Contact #610-7226 This event begins at 10:30 a.m.	Portsmouth Middle School	African Burying Ground	/ /
5/23/2015 5/23/2015	MEMORIAL David Moore, Community Development Director is the contact for this event. Contact #610-7226 This reburial ceremony begins at 8:30 a.m. This is being combined with the ArtWork unveiling.	Chestnut Street - Reburial Ceremony	African Burying Ground	/ /
5/24/2015 5/24/2015	ROAD RACE Jeanine Sylvester is the contact for this event. Telephone Number 603-430-1212 This event begins at 11:00 a.m.	Redhook Ale Brewery	Runner's Alley	1/20/2015
5/25/2015 5/25/2015	PARADE Memorial Day Parade steps off from the corner of Junkins and Pleasant Street at 1:00 p.m. goes through Market Square, turns onto Middle Street to Richards Avenue up into the South Cemetery.	Junkins Avenue	Central Veterans Council	/ /
5/30/2015 5/30/2015	WALK Cynthia Rybczyk, Heart Walk Director, New Hampshire is the contact for this event. The event registration is at 8:30 a.m. and the walk begins at 10:00 a.m. Contact info: (603) 518-1557 or via e-mail at Cynthia.rybczyk@heart.org	Little Harbour School	American Heart/Stroke Associat	3/ 2/2015
5/31/2015 5/31/2015	WALK Shamera Simpson, Community Director is the contact for this event. This event begins at 8:00 a.m. until 12:00 p.m.	Little Harbour School	March of Dimes	4/ 6/2015
6/13/2015 6/13/2015	FAIR Barbara Massar is the contact for this event. This event begins at 9:00 a.m. to 4:00 p.m. throughout downtown	Downtown	38th Market Square Day - Pro P	9/22/2014
6/13/2015 6/13/2015	ROAD RACE Barbara Massar is the contact for this event. This event begins at 9:00 a.m. with roving closures for race course	Market Square	38th 10K Road Race - Pro Ports	9/22/2014
6/20/2015 6/20/2015	FUND Alyssa Salmon is the contact of this event. Contact No. 430-1140 x14.	Pleasant Street	Big Brothers Big Sisters of th	8/ 4/2014

Starting Date: 5/18/2015
Ending Date: 12/31/2015

Start / End	Type / Description	Location	Requestor	Vote Date
6/21/2015 6/21/2015	MARCH	March to William Pitt Tavern	St. John's Lodge, No. 1	5/ 4/2015
6/27/2015 6/27/2015	FILM EXPO	Chestnut Street Ashleigh Tucker, Special Events Manager is the contact for this event. She can be reached at 433-3100 ex. 6014	The Music Hall	2/17/2015
6/27/2015 6/27/2015	FUND	Market Square - MDA Boot Drive Tim Dame is the contact for this event. Contact #603-834-1896 This event is from 8:00 a.m. to 5:00 p.m.	Portsmouth Professional Fire F	/ /
6/27/2015 6/27/2015	MUSIC	Market Square - Pleasant Street Barbara Massar is the contact for this event. This event begins at 5:00 p.m. to 9:30 p.m.	Summer in the Street Music Ser	9/22/2014
6/27/2015 6/27/2015	PRIDE	Market Square Contact: Chuck Rhoades (603) 502-4192. Close off Porter to Congress Streets. Six walk routes proposed: City Hall on Junkins; HOtel Portsmouth to Middle to State; Little Harbour School onto South, Richards, Parrott, Court; Peirce Island to Marcy, State; Cross Memorial Bridge from Kittery Harbour Place, Daniel Street; and Portsmouth High School onto Middle Street, Congress Street. All routes end up on Pleasant Street.	Seacoast Outright	4/20/2015
7/ 4/2015 7/ 4/2015	MUSIC	Market Square - Pleasant Street Barbara Massar is the contact for this event. This event begins at 5:00 p.m. to 9:30 p.m.	Summer in the Streets Music Se	9/22/2014
7/ 4/2015 7/ 4/2015	RACE	Strawbery Banke This race is part of the Run Portsmouth Road Race Series 5K Races for 2015. David Hampson is the contact for this event. david.hampson@willis.com; Tel. 334-3032	Easter Seals Veteran's Count	12/22/2014
7/11/2015 7/11/2015	MUSIC	Market Square - Pleasant Street Barbara Massar is the contact for this event. This event begins at 5:00 p.m. to 9:30 p.m.	Summer in the Street Music Ser	9/22/2014
7/18/2015 7/19/2015	BIKE TOUR	Coastline and Mainland from Kittery, ME Chris Vlangas, Development Director and Thomas MacLennan, Logistics Specialists are the contacts for this event.	Cystic Fibrosis Foundation	12/22/2014
7/18/2015 7/18/2015	MUSIC	Market Square - Pleasant Street Barbara Massar is the contact for this event. This event begins at 5:00 p.m. to 9:30 p.m.	Summer in the Street Music Ser	9/22/2014
7/25/2015 7/25/2015	MUSIC	Market Square - Pleasant Street Barbara Massar is the contact for this event. The event begins at 5:00 p.,m. to 9:30 p.m.	Summer in the Street Music Ser	9/22/2014
8/ 1/2015 8/ 1/2015	MUSIC	Market Square - Pleasant Street Barbara Massar is the contact for this event. This event begins at 5:00 p.m. to 9:30 p.m.	Summer in the Streets Music Se	9/22/2014

Event Listing by Date

Starting Date: 5/18/2015

Ending Date: 12/31/2015

Start / End	Type / Description	Location	Requestor	Vote Date
8/ 1/2015 8/ 1/2015	RACE This is part of the Run Portsmouth Road Race Series 5K Races for 2015 Justin Finn is the contact for this event. justinf@secureplanninginc.com; Tel. 433-5515	Strawbery Banke Museum	Portsmouth Rotary Club - Thund	12/22/2014
8/ 8/2015 8/ 8/2015	FUND Tim Dame is the contact for this event. Contact #603-834-1896 This event is from 8:00 a.m. to 5:00 p.m.	Market Square - MDA Boot Drive	Portsmouth Professional Fire F	5/ 4/2015
8/22/2015 8/22/2015	BIKE TOUR Emily Christian is the Logistics Associate This event begins in Stratham Hill, over to Kittery, back through Portsmouth by way of Marcy Street to 1B.	Through the City to and from Stratham Hill Park	National Multiple Sclerosis So	1/ 5/2015
9/ 7/2015 9/ 7/2015	ROAD RACE Contact: Sister Mary Agnes	Pease International Tradeport	St. Charles Children's Hme	5/ 4/2015
9/13/2015 9/13/2015	ROAD RACE This is part of the Run Portsmouth Road Race Series 5K Races for 2015 Wendy McCoole is the contact for this event. wendy@mybreakfastcancersupport.org Telephone No. 759-5640	Portsmouth Middle School	Celebrate Pink 5K Road Race &	12/22/2014
9/19/2015 9/19/2015	WALK Ken La Valley is the contact for this event. This event is from 10:00 a.m. to Noon Registration begins at 8:30 a.m.	Peirce Island	American Foundation for Suicid	3/ 2/2015
9/26/2015 9/27/2015	BIKE TOUR Donna Hepp is the contact for this event. dhepp3@gmail.com or 414-258-3287	Rte. 1B over Memorial Bridge	Granite State Wheelmen	11/17/2014
9/26/2015 9/27/2015	FESTIVAL David Hallowell is the contact for this event.	Pleasant Street	Portsmouth Maritime Folk Festi	12/ 8/2014
9/26/2015 9/27/2015	TOUR This event is for two days. Caroline Amport Piper is the contact. Tel. (603) 686-4338	South End	Friends of the South End	11/17/2014
10/10/2015 10/10/2015	RACE This is part of the Run Portsmouth Road Race Series 5K Races for 2015. Catherine Edison of Community Child Care Center of Portsmouth is one of the contacts. CEdison@communitycampus.org and Ben Anderson or Meghan Toner of Prescott Park Arts Festival Tel. 436-2848	Start Memorial Bridge Portsmouth - Finish Prescott	Memorial Bridge Road Race	12/22/2014
10/17/2015 10/17/2015	FUND Mary-Jo Monusky, Executive Director is the contact for this event. This event is a 5k walk/fundraiser. Starts and ends at 11 Jewell Court from 9:00 a.m. to 11:00 a.m.	11 Jewell Court - start and finish	Arts in Reach	4/ 6/2015

Event Listing by Date

Starting Date: 5/18/2015
Ending Date: 12/31/2015

Start / End	Type / Description	Location	Requestor	Vote Date
11/ 8/2015 11/ 8/2015	ROAD RACE Jay Diener is the contact for this event. This event begins at 8:00 a.m.	Portsmouth, New Castle and Rye	Seacoast Half Marathon	4/20/2015
11/26/2015 11/27/2015	RACE Matt Junkin of Seacoast Rotary Club is the contact for this event. mrjunkin@gmail.com; Tel. 591-0083	Strawbery Banke	Seacoast Rotary Club - Turkey	12/ 8/2014

CITY OF PORTSMOUTH
LEGAL DEPARTMENT
MEMORANDUM

DATE: May 26, 2015

TO: JOHN P. BOHENKO, CITY MANAGER

FROM: ROBERT P. SULLIVAN, CITY ATTORNEY

RE: ENABLING LEGISLATION REGARDING THE REGULATION OF PLASTIC BAG USE WITHIN THE CITY

Pursuant to your request I have recently forwarded to the NHMA the question of whether or not there exists sufficient enabling legislation in New Hampshire for the adoption by the City of a plastic bag regulatory ordinance such as that suggested by the NH Surfrider Foundation. As you know there is an unresolved question of law concerning that issue. Attached you will find memoranda from Jane Ferrini of this office dated June 6, 2013 and Michael Quinn of the McLane firm dated April 17, 2015 illustrating the different viewpoints. These memoranda were forwarded to NHMA to assist that entity in response to our inquiry.

NHMA in turn provided us with an opinion dated May 6, 2015 (also attached) which addresses the several legal issues, including the enabling law question. However, believing that the City Council required a more direct response to the enabling law question I requested NHMA to provide the most specific possible response to that question. To this inquiry Stephen Buckley and Margaret Byrnes, attorneys at NHMA, responded as follows:

> "Steve and I have conferred further and have reached the following conclusion. While we maintain that the city might have the authority to adopt the plastic bag ordinance under the purview of solid waste regulation, without a clear source of enabling legislation, we are inclined to conclude that it is more likely the city does not have that authority. Because New Hampshire is not a home rule state, without clear enabling legislation, we err on the conservative side to protect the city against potential litigation or other backlash that may result from potentially ultra vires legislation." (e-mail, May 11, 2015)

Insofar as the NHMA opinion agrees with that opinion originally formed by Attorney Ferrini, the more prudent position would seem to be that the City lacks sufficient enabling legislation to adopt the propose ordinance.

attachment

cc: Judy Silva, Esq.
Stephen Buckley, Esq.
Margaret M.L. Byrnes, Esq.
Michael Quinn, Esq.
Jane Ferrini, Esq.

h\rps\city council\memo to cm re-plastic bag ordinance

[redacted]

DATE: June 6, 2013

TO: JOHN P. BOHENKO, CITY MANAGER

FROM: JANE FERRINI, ASSISTANT CITY ATTORNEY, ROBERT P. SULLIAN, CITY ATTORNEY

RE: PLASTIC BAG ORDINANCE

You have requested a memorandum addressing the issue of whether there is enabling authority by statute for the City to prohibit or regulate the use of plastic bags by stores in the City.

I. STATE STATUTES

A. RSA 31:39

The legislature has granted general police powers to towns and municipalities within the State. See RSA 31:39. However, this statute has been interpreted as one that does not stand alone as a grant of legislative authority to the municipality but "rather the language is more suggestive of merely granting those powers that are 'necessary and proper' in the execution of powers that have been specifically granted." Girard v. Allentown, 121 N.H. 268, 270 (1981). One of the general police powers municipalities have is to abate and remove nuisances.

B. RSA 47:17

RSA 47:17, XIV provides that City Councils shall have the power to abate and remove nuisances as follows:

> ...to authorize and provide for the collection, removal, and destruction of garbage and other waste material, to make necessary regulations relative thereto, and to provide for payments therefor by assessment, or appropriation, or both. A municipality may create fines for violations related to garbage and other waste material regulations and a procedure for the administrative enforcement of such violations and collection of

penalties as provided in RSA 48-A:8, VI or in any other manner authorized by law.

Reading these two statutes together, an argument can be made that the City has the authority to ban or regulate the use of plastic bags as a necessary regulation relative to the removal of waste. However, before the City can enact such an ordinance, it must analyze State law to see if there are any State laws that preempt this type of local regulation.

II. PREEMPTION

A. PREEMPTION DOCTRINE

The "basis of the doctrine of preemption is that local regulation is invalid when it expressly contradicts state law or is contrary to the legislative intent that underlies a statutory scheme". Loughlin, *New Hampshire Practice, Local Government Law*. Volume 13, Chapter 4, § 68.

This analysis is necessary because the "supreme legislative power ...(is) vested in the senate and house of representatives..." (N.H. Const. pt. II, art. 2. See also N.H. Const. pt. I, art. 29) and towns and municipalities "are but subdivisions of the state and have only the powers the state grants to them." Piper v. Meredith, 110 N.H. 291 (1970).

Over the last several decades, the State has preempted local regulations on a variety of issues: burying transmission lines (Public Service, Co. of NH v. Hampton, 120 N.H. 68 (1980)); pesticides (Salisbury v. NE Power, Co., 121 N.H. 983 (1981); hazardous waste (Stablex Corp. v. Town of Hooksett, 122 N.H. 1091 (1982)); sale of alcohol (Casico, Inc. v. City of Manchester, 142 N.H. 312 (1997)); term limits (Town of Hooksett v. Baines, 148 N.H. 625 (2002); smoking in public places (JTR Colebrook v. Town of Colebrook, 149 N.H. 767 (2003); regulation of air pollution (Bio Energy, LLC v. Town of Hopkinton, 153 N.H. 145 (2005)). These local regulations were preempted by State statute because they were inconsistent with the State's legislative schemes.

Preemption may be expressed or implied. See Koor Communication v. City of Lebanon, 148 N.H. 618 (2002). When the State has expressly preempted the entire regulatory field in a specific area, all local laws relative to the same subject matter are prohibited, even when the local ordinance does not conflicts with the State statute. See Casico v. City of Manchester, 142 NH 312, 315 (1997).

Preemption is implied when "the comprehensiveness and detail of the State statutory scheme evinces legislative intent to supersede local regulation... or occupy the entire filed to the exclusion of local legislation." See N. Country Envtl. Servs. v. Town of Bethlehem, 150 N.H. 606, 611 (2004) (citation omitted). The Court in *N. Country* outlines specific questions to frame the analysis of whether the State has preempted the field as follows:

> [T]he following questions are pertinent in determining whether the state has preempted the field: does the ordinance conflict with state law; is the state law, expressly or impliedly, to be exclusive; does the subject matter reflect a need for uniformity; is the state scheme so pervasive or comprehensive that it precludes coexistence of municipal regulation; and does the ordinance stand as an obstacle to the accomplishment and execution of the full purposes and objectives of the legislature.

Id at 611-612

B. RSA 149-M

The State has created a statutory scheme to regulate solid waste management in RSA 149-M. Although a ban on plastic bags would be consistent with the State's primary goal of source reduction (RSA 149-M: 3,I), the statute is comprehensive and detailed. The State's authority to establish an integrated system of solid waste management throughout the state derives from "the police power granted to the general court under part II, article 5 of the New Hampshire Constitution." RSA 149-M:11. The Department of Environmental Services has the responsibility and authority to administer and enforce the statute. See 149-M:6. There is, within this statutory scheme, a specific provision that addresses a town's responsibility and authority under RSA 149-M:17, II (a). This provision of the statute provides, among other things:

> A town may make bylaws governing its facility and fixing reasonable rates for its use, and governing the separation and collection of refuse within the municipality, all in a manner not inconsistent with this chapter. Furthermore a town may make bylaws requiring residents to deposit their refuse in specifically designated bags or containers, or in bags or containers that have attached to them a disposal sticker. Such bags, containers, or disposal stickers shall be sold or made available by the own at a reasonable price.

C. PREEMPTION ANALYSIS

The City must now evaluate whether this State law preempts any local ordinance regarding the ban or regulation of plastic bags.

1. Does the proposed ordinance conflict with State law. No. A ban or regulation regarding the use of plastic bags would reduce the waste stream and be consistent with the State's goal of source reduction. See RSA 149-M:3, I.

2. Is RSA 149-M expressly or impliedly exclusive. Yes. The statute reserves to the state the establishment and enforcement of solid waste policy, plans

and facilities throughout the state. "The very nature of the regulated subject matter may demand exclusive state regulation to achieve the uniformity necessary to serve the state's purpose or interest." See *N.Country at 611.* Implied preemption is found when the statutory scheme is comprehensive in scope and detail, manifesting legislative intent to supersede local regulation. Given the comprehensive scope of the statute, and the limited authority ascribed to towns set forth in RSA 149-M:17, it is likely that the statute would be interpreted as impliedly exclusive.

3. Does the subject matter need uniformity. Yes. The State must oversee the solid waste plans of towns to achieve its policies and goals. Without a uniform application the State could not inspect, permit and review or modify town or district solid waste plans.

4. Is the State scheme so pervasive or comprehensive that it precludes coexistence of municipal regulations. Yes. The best example of the comprehensive nature of the statute is in RSA 149-M:17, II (a), which provides that:

> [A] town may make bylaws requiring residents to deposit their refuse in specifically designated bags or containers, or in bags or containers that have attached to them a disposal sticker. Such bags, containers, or disposal stickers shall be sold or made available by the town at a reasonable price.

If the statute was less detailed, an argument could be made that municipal or town regulations could coexist. However the statute makes specific references to the types of bylaws a town or municipality may make. The specific reference to allowable bylaws reflect a statutory scheme that would likely be interpreted to evidence legislative intent to supersede local regulations.

5. Is the ordinance an obstacle to the state statute. No.

III. CONCLUSION

If the City enacted an ordinance banning or restricting the use of plastic bags in the City such an ordinance may not survive a challenge on the ground of state preemption of lack of specific and enabling legislation. Given the analysis provided in paragraphs 2, 3, and 4 above, an argument could be made that RSA 149-M preempts any local ordinance to ban plastic bags. Although not inconsistent with the statutory scheme as a whole, such a regulation would be outside of the scope of the types of bylaws allowed by RSA 149-M:17. The subject matter of solid waste management is set forth in great detail in RSA 149-M. The nature of the detail, specifically towns and municipalities ability to enact bylaws in RSA 149-M:17, II (a), would likely be interpreted as evidence of legislative intent to supersede local regulations. Moreover, as noted, there is no specific enabling legislation.

IV. MISCELLANEOUS

There are various types of plastic bag ordinances throughout the country. The four types are:

1. Outright ban on all plastic bags;
2. Use of recycled bags only;
3. Restriction on use of plastic bags by larger merchants only; or
4. Charge per bag passed on to consumer

Many of these ordinances have been challenged as a taking (outright ban), equal protection (restriction on larger merchants only) or an unauthorized tax (charge per bag). Some of these ordinances have survived these legal challenge. Samples of ordinances and further research can be provided upon request.

There is a federal law pending and proposed legislation banning or restricting the use of plastic bags in Maine and Massachusetts. One possible approach would be for the City to discuss with our legislative delegation to sponsor legislation to ban or regulate the use of plastic bags by proposing an amendment to RSA 149-M.

l/jferrini/legal/plasticbag/memo

McLane, Graf,
Raulerson & Middleton
Professional Association

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Admitted in NH

April 17, 2015

Jamie McCallum, Chairperson
Surfrider Foundation
New Hampshire Chapter
P.O. Box 686
Portsmouth, NH 03802-0686

Re: New Hampshire Solid Waste Regulation, R.S.A. 149-M

Dear Mr. McCallum:

I am writing to follow up on my memorandum to Surfrider Foundation – New Hampshire Chapter of March, 2014 concerning the issue of whether the City of Portsmouth, if it chooses, can approve an ordinance to limit single-use carry-out plastic bags within City limits to encourage the use of reusable bags by shoppers. We understand that an issue has arisen whether the New Hampshire Solid Waste statute, RSA. 149-M authorizes such an ordinance. Our review of the applicable statute indicates that New Hampshire law would allow such an ordinance, which advances the clearly enunciated legislative preference favoring source reduction and recycling and reuse that are described as priorities in the of the hierarchy the State's solid waste management methods. Consequently, it appears that RSA 149-M constitutes adequate enabling legislation for such an ordinance.

New Hampshire statutory authority and regulations are established to implement the express policy of the New Hampshire Legislature has articulated in RSA 149–M to safely and efficiently manage solid waste. As stated in RSA 149-M:

> The General Court supports integrated solid waste disposal solutions which are environmentally safe and economically sound. The General Court endorses, *in order of preference*, the following waste management methods:
>
> I. Source reduction;
> II. Recycling and reuse;
> III. Composting;

IV. Waste to energy technologies (including incineration);
V. Incineration without resource recovery; and
VI. Landfilling.

(emphasis added.) It is obvious from the hierarchical list of solid waste management practices provided by the Legislature, that new and creative means of managing solid waste will be encouraged by the Division, while traditional methods of solid waste disposal, such as landfilling, will be less favored.

Subject to this hierarchy, each town and city in New Hampshire is given the responsibility for the continued and on-going planning of solid waste management within its borders. *See* RSA 149-M:5; R.S.A. 149-M:23. The statute directs that when cities develop their solid waste management plans, they are to consider:

I. Environmental Impact;
II. Economic Impact; and
III. Area Impact including the Planning, Processes, Plans, and Solid Waste management practices of other area towns.

R.S.A. 149-M:23. Although this statute does not list specific products and their preferred method of disposal, which presumably would be impractical in a statute, the statute clearly allows for the prohibition of products which have been proven to be harmful to the environmental or residents of the State. *See e.g.* RSA 149-M:28.

The ordinance bearing on single-use carryout plastic bags provided at the point of sale of retail establishments within the City of Portsmouth clearly satisfies and is in alignment with the first two items in the hierarchy of preference set forth in RSA 149-M:3; namely source reduction and recycling and reuse, and should be a favored response to the solid waste management under the hierarchy articulated by the legislature and established in the statute. It appears the plastic bag ordinance proposed by Surfrider Foundation - New Hampshire Chapter is a reasonable step toward conforming the City of Portsmouth's management of solid waste with New Hampshire's hierarchy of solid waste management goals.

Should you have additional questions, please feel free to contact me.

Yours truly,

Michael J. Quinn

MJQ:sli
cc: Rebecca R. O'Brien
Kevin Lucey

May 6, 2015

VIA EMAIL ONLY
Robert P. Sullivan, Esquire
City Attorney
City of Portsmouth
1 Junkins Avenue
Portsmouth, NH 03801

Mr. Sullivan:

Per your request dated April 13, 2014, NHMA has reviewed the "Single-Case Carryout Plastic Bags" ordinance proposed by representatives of the Surfrider Foundation. Our review was undertaken to advise the Portsmouth City Council on the enabling authority for the adoption of such an ordinance and whether state law might preempt the local regulation of carryout plastic bags.

I. ENABLING AUTHORITY

The starting place to assess local enabling authority is RSA 47:17, which lays out the ability that cities have to make bylaws and ordinances. RSA 47:17, XIV specifically provides cities the following authority with regard to nuisances:

> XIV. Nuisances. **To abate and remove nuisances**; to regulate the location and construction of slaughterhouses, tallow chandlers' shops, soap factories, tanneries, stables, barns, privies, sewers, and other unwholesome or nauseous buildings or places, and the abatement, removal or purification of the same by the owner or occupant; **to prohibit any person from bringing, depositing, or having within the city any dead carcass or other unwholesome substance**; to provide for the removal or destruction, by any person who shall have the same upon or near such person's premises, of any such substance, or any putrid or unsound beef, pork, fish, hides, or skins, and, on such person's default, to authorize the removal or destruction thereof by some officer of the city; **to authorize and provide for the collection, removal, and destruction of garbage and other waste material**, to make necessary regulations relative thereto, and to provide for payment therefor by assessment, or appropriation, or both. **A municipality may create fines for violations related to garbage and other waste material regulations and a procedure for the administrative enforcement of such violations and collection of penalties as provided in RSA 48-A:8, VI, or in any other manner authorized by law.**

In addition, RSA 47:17, XV provides a broad authority to enact ordinances for the "well-being" of the city:

> XV. Miscellaneous. Relative to the grade of streets, and the grade and width of sidewalks; to the laying out and regulating public squares and walks, commons, and other public grounds, public lights, and lamps; to trees planted for shade, ornament, convenience, or use, and the fruit of the same; to trespasses committed on public buildings and other public property, and in private yards and gardens; in relation to cemeteries, public burial grounds, the burial of the dead, and the returning and keeping records thereof, and bills of mortality, and the duties of physicians, sextons and others in relation thereto; relative to public wells, cisterns, pumps, conduits, and reservoirs; the places of military parade and rendezvous, and the marching of military companies with music in the streets of the city; relative to precautions against fire; relative to oaths and bonds of city officers, and penalties upon those elected to such offices refusing to serve; and relative to licensing and regulating butchers, petty grocers, or hucksters, peddlers, hawkers, and common victualers; dealers in and keepers of shops for the purchase, sale or barter of junk, old metals or second-hand articles, and pawnbrokers; under such limitations and restrictions as to them shall appear necessary. **They may make any other bylaws and regulations which may seem for the well-being of the city; but no bylaw or ordinance shall be repugnant to the constitution or laws of the state; and such bylaws and ordinances shall take effect and be in force from the time therein limited, without the sanction or confirmation of any other authority whatever.**

In reading these two sections, we can see that cities have the authority to do the following:

1) Prohibit a person from bringing "unwholesome substances" into the city;
2) Make necessary regulations relative to the collection, removal, and destruction of garbage and other waste material, and providing for payment of such through assessment, appropriation, or both; and
3) Make bylaws or regulations for purposes not explicitly stated in RSA 47, as long as they do not conflict with the constitution or state law.

First, it is possible that the plastic bags qualify as an "unwholesome substance." If the plastic bags could qualify as an unwholesome substance, the City could prohibit the bags and also levy a fee on those who violate that prohibition. In the absence of case law interpreting that term differently, "unwholesome" is defined in the following ways: *detrimental to physical, mental, or moral well-being; unhealthy; offensive to the senses; not wholesome; unhealthful; deleterious to health or physical or moral well-being; not sound in health; unhealthy, especially in appearance; suggestive of disease*. Additionally, there are two canons of statutory interpretation that may be worth considering. The first is "it is known from its associates" (Noscitur a Sociis), which suggests that one can determine the definition of ambiguous terms by referencing the specific terms they are associated with. Here, "unwholesome substance" is an ambiguous term directly connected to "any dead carcass." At first blush, it may be difficult to form an association between "dead carcass" and "plastic bag"; however, there could be a connection if both substances are injurious to public health. The second canon—"of the same kind, class, or nature" (Ejusdem Generis)—is similar to the first, and essentially means that where general terms follow specific terms, the general terms should be interpreted to embrace other objects similar in nature to those objects expressed in the specific terms. If "unwholesome substance" is a general term and "dead carcass" is a specific term, then, through this form of statutory interpretation, "unwholesome substance"

should embrace only those substances that are congruent with "dead carcass." Again, if the legislature's intent was to give cities the power to ban all substances that are injurious to public health, then an argument could be made that plastic bags, if injurious to public health, could be prohibited, like dead carcasses.

Second, the proposed ordinance could fall under the garbage and waste collection, removal, and destruction regulatory authority. However, it is unlikely that the authority for "collection" or "destruction" embraces imposing a ban or fine on a particular form of waste. Therefore, the City would likely need to construe this as a form of a "removal," conceptualizing that the limitations and fees associated with plastic bags are intended to eliminate or remove plastic bags with the City's limits. Even if such an interpretation has merit, the question remains whether the plastic bags, at point-of-sale, are "garbage" or "other waste material" as contemplated by the statute.

Finally, we reach RSA 47:17, XV, which appears to provide very broad "miscellaneous" authority to cities to regulate on behalf of the city's "well-being," which certainly could include regulation and/or prohibition of plastic bags. However, this seemingly broad authority is clearly limited by inconsistent statutes or constitutional provisions, as will be discussed in the next section. *See State by City of Rochester v. Driscoll,* 118 N.H. 222, 224, 385 A.2d 218, 220 (1978)("Local legislation is repugnant to State law when an ordinance or bylaw either expressly contradicts a statute, . . . or else runs counter to the legislative intent underlying a statutory scheme, ...") and *Stablex Corp. v. Town of Hooksett*, 122 N.H. 1091, 1104, 456 A.2d 94, 101 (1982)("Towns may not regulate a field that the State has preempted.").

II. PREEMPTION

In order to determine whether the proposed Single Use Carryout Plastic Bag ordinance is preempted by existing state law, reference must be made to the analytical rubric provided by the NH Supreme Court in *North Country Environmental Services, Inc. v. Town of Bethlehem*, 150 N.H. 606 (2004):

> [T]he following questions are pertinent in determining does the ordinance conflict with state law; is the state law, expressly or impliedly, to be exclusive; does the subject matter reflect a need for uniformity; is the state scheme so pervasive or comprehensive that it precludes coexistence of municipal regulation; and does the ordinance stand as an obstacle to the accomplishment and execution of the full purposes and objectives of the legislature.

The language of the proposed Single Use Carryout Plastic Bag ordinance establishes that it is intended to be a solid waste disposal bylaw through a point of sale regulation. The ordinance will prohibit the use of single use carryout plastic bags at essentially all retail operations in the City of Portsmouth. *See* §3.203F-4 (a). The last "Whereas clause" states that the reduction of solid waste through the proposed ordinance will decrease greenhouse gases and protect public health and welfare. That this proposed ordinance is a solid waste regulation is evident by the fact that it is proposed to be adopted as an amendment to Chapter 3, Article II of Portsmouth's ordinances, labeled "Solid Waste, Yard Waste and Recycling." The proposed ordinance would have to be characterized as a prohibition on the disposal of single use carryout plastic bags in the solid waste management system maintained by the City.

One possible source of the City's ability to regulate the disposal of single use carryout plastic bags is RSA 149-M:17 (II)(a), where it is provided that the City may make

> bylaws governing its facility and fixing reasonable rates for its use, and governing the separation and collection of refuse within the municipality and the registration of haulers collecting or disposing of refuse within the municipality, all in a manner not inconsistent with this chapter. Furthermore, a town may make bylaws requiring residents to deposit their refuse in specifically designated bags or containers, or in bags or containers that have attached to them a disposal sticker. Such bags, containers, or disposal stickers shall be sold or made available by the town at a reasonable price.

It is reasonable to assume that this statute is the source for the City's Solid Waste, Yard Waste, and Recycling of bylaw, since the City does prohibit the disposal of hazardous waste and radioactive waste, §3.204(1), and mandates recycling, §3.203 (B).

Employing the rubric described in *North Country*, it must be determined whether the Single Use Carryout Plastic Bag ordinance barring plastic bag disposal is a judgment reserved exclusively to the State of New Hampshire. RSA 149-M:5 states that the Department of Environmental Services (NHDES) is named as the state agency for the planning and regulating solid waste management. In furtherance of that authority, NHDES is authorized to adopt rules for the criteria of all solid waste facilities, RSA 149-M:7 (II), and the standards and procedures for the treatment and disposal of special waste, RSA 149-M:7 (VIII). NHDES has adopted a rule that prohibits the disposal of the following items at landfills: untreated infectious waste; contained gaseous waste; liquid wastes; wet cell batteries; leaf or yard waste; video display devices, central processing units from computers, or non-mobile video display media recorders or players; mercuric oxide batteries; and mercury-added products. NH Admin. Code Env-Sw 806.12. These statutory and regulatory provisions all point to the NHDES as the sole regulator of what substances may disposed of in the City's solid waste management system.

In *North Country*, the NH Supreme Court made an important observation about the authority of municipalities to adopt complementary solid waste rules regarding the licensing of landfills:

> Given the breadth of the State regulatory scheme and the important State purpose it seeks to achieve, local regulation cannot "amount to an impermissible veto over the State's exercise of its authority." *Town of Pelham*, 141 N.H. at 363, 683 A.2d 536 (quotation and citation omitted). As required by the spirit and objectives of RSA chapter 149-M, State law preemption of local regulation of solid waste management facilities must be the norm, not the exception. Accordingly, when evaluating whether a particular local regulation conflicts with the State scheme, courts should err on the side of finding State law preemption, unless the local regulation concerns where, within a town, a facility may be located.

Id. at 617.

Although this conclusion by the Court was aimed at the a town's attempt to regulate the operation of a landfill, it does answer the other issues raised by the preemption rubric when considering the proposed Single Use Carryout Plastic Bag ordinance; that solid waste regulation is a subject matter reflecting a need for uniformity and that the state scheme is so pervasive or comprehensive that it precludes coexistence of municipal regulation.

An argument could be made that the plastic bag ordinance is consistent with two highest goals of RSA Chapter 149-M, source reduction and recycling and reuse. *See* RSA 149-M:3 (I) (II). However, it must be observed that the method of point of sale regulation has only been implemented under RSA Chapter 149-M for Mercury-Added Thermostats. *See* RSA 149-M:58-a. This was apparently adopted to support the ban on the disposal of mercury added products. *See* RSA 149-M:58. Mercury is a pernicious contaminant that bio-accumulates in the environment. Whether carryout plastic bags could be equated with mercury added thermostats and thus justify the point of sale regulations in the Single Use Carryout Plastic Bag ordinance is unclear. The proposed ordinance may not be an obstacle to the accomplishment of the full purposes and objectives of the legislature, but it would make plastics bags subject to a level of intervention into retail businesses not sanctioned except for virulent pollutants like mercury.

III. CONCLUSION

Since the proposed Single Use Carryout Plastic Bag ordinance does not directly intrude into the definition of what may be deposited into the solid waste management system, a duty reserved to NHDES, and the ordinance does further important solid waste management goals, the ordinance may survive preemption scrutiny. However, in light of the special point-of-sale regulation of mercury-laden thermostats, and the less-than-precise language in RSA 47:17 that would allow for the "removal" of plastic bags from the waste stream, the proposed ordinance may be subject to challenge as ultra vires. Accordingly, if the Council does decide to move forward, a research study detailing the environmental and other deleterious public health effects caused by plastic bags may support the City's authority to pass the proposed ordinance.

Very Truly Yours,

Margaret M. L. Byrnes, Staff Attorney

Stephen C. Buckley, Legal Services Counsel

TO: CITY MANAGER
JOHN BOHENKO

THE PEIRCE ISLAND COMMITTEE HAS VOTED TO DISAPPROVE THE REQUEST OF THE IDEA OF CHARGING FEES FOR NONRESIDENTS. BUT DID NOTE THE WEEKEND PROBLEMS OF PARKING DURING PRESCOTT PARK EVENT. PEOPLE PARK AT THE BOAT LAUCH AND FISHING COOP AND THE LAWNS.

THANK YOU
STEVEN MARISON
CHAIRMAN

City of Portsmouth

Department of Public Works

MEMORANDUM

TO: John Bohenko, City Manager

FROM: Eric Eby, P.E., Parking and Transportation Engineer

DATE: May 18, 2015

SUBJECT: High Hanover Parking Facility Condition Appraisal Report Summary

In October 2014 the City of Portsmouth hired Walker Restoration Consultants to conduct a Condition Appraisal of the High Hanover Parking Facility. The appraisal encompassed both the original facility constructed in 1985 and the expansion constructed in 1999. The report states that the 1985 structure is considered to be in "fair" condition while the 1999 addition is in "fair to good condition".

The condition assessment identified numerous conditions that have resulted in the deterioration of the floor slabs, structural steel framing, and masonry façade. Failure to address these conditions will impact the long-term performance of the facility and reduce its service life expectancy. Walker's opinion is that the service life of the facility can be extended by a minimum of 20 years with the implementation of a restoration program to repair identified deterioration and to address the conditions that caused the deterioration.

Walker developed three conceptual restoration program alternatives for the City's consideration. Each program alternative provides an incremental increase in scope and costs. Alternative A, at a construction cost of $3.8M, is a baseline approach of selective repair of deteriorated concrete and masonry elements, including an application of a water repellant sealer. Alternative B, at a construction cost of $4.9M, increases the amount of concrete removal to include pre-emptively removing select areas that are likely to deteriorate and require repair in future years. A waterproof membrane, instead of a water repellant sealer, would be applied. Alternative C, at a construction cost of $8.6M, would remove and replace all concrete topping, and would have a significantly greater impact on parking operations. Engineering and design costs are not included in these cost estimates. These cost estimates for Alternatives A and B also assume closing a third of the garage at one time to allow the completion of the work at a cost effective rate while still operating the garage. Alternative C assumes closure of 60 percent of the garage during the work. Walker has determined that a six year construction plan would provide the most cost efficient approach to restoring the structure.

Walker recommends that the City proceed with Alternative B, as it is the most cost efficient alternative. While Alternative A would have lower initial costs, it provides less protection against future deterioration and would require greater frequency, scope and costs of future periodic maintenance and repairs. The incremental improvements of Alternative C do not justify the higher capital cost and impacts on the parking operations. Deferring the start of the restoration program will likely increase the cost of the program due to continued deterioration and inflation of construction prices.

The complete report is available on-line at http://www.parkportsmouth.com/highhanoverinfo.htm.

Department of Public Works
680 Peverly Hill Road
Portsmouth, New Hampshire 03801

CONDITION APPRAISAL REPORT LEVEL III

HIGH/HANOVER STREET PARKING FACILITY

PORTSMOUTH, NEW HAMPSHIRE

PREPARED FOR:
CITY OF PORTSMOUTH, NEW HAMPSHIRE
PUBLIC WORKS

MAY 12, 2015

WALKER
RESTORATION CONSULTANTS

WRC PROJECT NO. 16-2575.00

CONDITION APPRAISAL REPORT LEVEL III

HIGH / HANOVER ST. PARKING FACILTIY

PORTSMOUTH, NEW HAMPSHIRE

Prepared for:
CITY OF PORTSMOUTH, NH
PUBLIC WORKS

MAY 12, 2015

WALKER
RESTORATION CONSULTANTS

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EXECUTIVE SUMMARY

Walker Restoration Consultants completed a Condition Appraisal of the High / Hanover Street Parking Facility located in Portsmouth, New Hampshire in accordance with RFP #7-15 submission and our agreement with the City of Portsmouth.

The High/Hanover Street Parking Facility was built in two phases and currently provides 909 parking spaces. The original structure was constructed in 1985, using a hybrid floor design comprised of filigree precast concrete panels with field cast composite concrete topping supported on structural steel framing. The structural steel framing had a protective paint system applied to it to deter corrosion. The parking facility was horizontally expanded in 1999 utilizing a similar structural system design. The 1999 addition utilized a pre-topped precast concrete filigree plank system floor design supported on hot-dipped galvanized structural steel framing. The façade of the structure consists of precast concrete panels, field installed masonry and miscellaneous metal components. Walker's condition assessment scope encompasses the original 1985 and 1999 addition construction. This assessment effort forms the basis for the restoration program alternatives proposed herein and our recommendations.

Walker's condition assessment findings indicate that the original 1985 structure is in "*fair*" overall condition while the 1999 addition is in "*fair to good condition*". The types of deterioration observed are typical of this structure system while the extent of that deterioration is indicative of facilities where original construction materials do not meet current day durability standards and/or regular maintenance and repair have been deferred.

The condition assessment identified numerous conditions that have facilitated the deterioration of the floor slabs, structural steel framing and masonry façade. Failure to address these conditions will impact the long-term performance of the facility and reduce its service life expectancy. Key conditions contributing to the deterioration include:

- Marginal quality/durability characteristics in the 1985 vintage floor system topping concrete,
- Chloride contamination that promotes corrosion of the floor system reinforcement and subsequent concrete delamination,

- Lack of adequate waterproofing protection for the floor system and masonry walls.
- Widespread surface moisture slab leaks that have promoted significant corrosion on the supporting structural steel framing,
- Moisture infiltration of the façade elements and interior masonry walls.
- Construction deficiencies contributing to slab system moisture infiltration and related deterioration (inadequate drainage profile, inadequate slab control joints, inadequate cover for concrete slab reinforcement, etc…)
- Deferred waterproofing system maintenance that has promoted concrete deterioration.

It is Walker's opinion that the service life of the High Hanover Parking Facility can be extended by a minimum of 20 years with the implementation of a restoration program to repair identified deterioration and to address the conditions that facilitated that deterioration to the extent possible. A 20 year extension of the facility's service life will require regular and periodic maintenance in that time frame as well as the end of serve life replacement of specific systems such as sealants and membranes. Other systems not addressed in this report (i.e. lighting, elevators etc…) will require attention within the 20 year extension time frame as well.

Walker has developed three conceptual restoration program alternatives (A, B, C) for the City of Portsmouth's consideration. The intent of these programs is to address the effects and causes of the observed deterioration as well as to address miscellaneous other conditions that were observed. Each program alternative approach provides an incremental increase in scope and associated construction costs. The program alternatives provide different outcomes that have varying operational impacts during construction and associated future repair/maintenance requirements to reach the service life extension. A summary of the program alternatives with a concentration on significant differences is as follows:

Alternative A: This program provides a baseline approach that includes selective repair of deteriorated concrete topping and masonry elements. This program includes the application of a

water repellant (sealer) and replacement of sealants to reduce the rate of future deterioration.

Alternative B: This program provides an increased scope of concrete topping removal/replacement to pre-emptively remove select areas that are likely to continue to deteriorate and require repair in the next several years. In addition this program includes the application of a traffic bearing waterproofing membrane over all field cast concrete floor areas in lieu of a water repellant to further reduce future deterioration.

Alternative C: This program includes complete removal and replacement of all field cast concrete topping. The intent is to remove the concrete with the greatest potential for future deterioration and replace it with a material that meets current quality and durability standards. This improved material will allow for proper control joint installation and sealant application as well as allow the use of water repellant in lieu of a membrane. It should be noted that this program will have a significantly greater impact on parking operations than the other program alternatives.

Additional discussion of each program alternative is presented in the body of this report and Appendix D "Repair Strategies"

The opinion of probable construction costs associated with each program alternative is summarized in Table I below.

TABLE I – RESTORATION PROGRAM ALTERNATIVE COSTS - 2015

Program Alternative(s)	**'A'**	**'B'**	**'C'**
Structural Repairs - Concrete	*$1,221,000*	*$1,446,000*	*$472,000*
New Concrete Overlay	*N/A*	*N/A*	*$5,302,000*
Structural Repairs - Framing	*$20,000*	*$20,000*	*$20,000*
Waterproofing	*$859,000*	*$1,455,000*	*$859,000*
Mechanical/Electrical/Plumbing	*$149,000*	*$149,000*	*$202,000*
Architectural/ Masonry.	*$465,000*	*$465,000*	*$465,000*
Misc. Metals	*$55,000*	*$55,000*	*$55,000*
Painting	*$245,000*	*$245,000*	*$245,000*
SUBTOTAL	***$3,014,000***	***$3,835,000***	***$7,620,000***
General Cond. / Mobilization.	$207,000	$280,000	$420,000
QA Testing	$15,000	$20,000	$30,000
Construction Contingency @10%	$321,000	*$413,000*	*$565,000*
GRAND TOTALS	***$3,557,000***	***$4,548,000***	***$8,635,000***

A multiple year construction plan for implementation of program Alternatives A and B is presented in Table 2. Further discussion on the Implementation process is presented the following sections of this report and Appendix A.

TABLE 2 – BASE REPAIR PROGRAM COSTS – 6-YEAR IMPLEMENTATION PLAN

Construction Plan	CY 1	CY 2	CY3	CY4	CY 5	CY 6	TOTAL
Alternative A	*$1,124M*	*$846k*	*$628k*	*$636k*	*$392k*	*$332k*	***$3,958M***
Alternative B	*$1,275M*	*$1,271M*	*$1,269M*	*$502k*	*$371k*	*$234k*	***$4,922M***
Alternative C							***$8,635M***

It is Walker's recommendation that the City of Portsmouth implement Program Alternative B. It is our opinion that this program will return the facility to a serviceable condition and provide for the 20 year service life extension with routine periodic repair and maintenance. Our recommendation for the implementation of Program Alternative B is based on the following:

- The proposed limits of concrete topping replacement will help minimize the future incidence, cost and service impacts of floor repairs resulting from existing chloride contamination.

- The application and maintenance of a membrane system will block surface moisture intrusion of the field cast concrete topped floor areas. This is intended to extend the service life expectancy of the proposed repairs and existing to remain construction that includes concrete topping/planks, structural steel framing/coatings and soffit supported MEP systems.

In summary, it is Walker's opinion that Program Alternative B is more cost efficient than Program Alternatives A or C from the standpoint of extending the service life of the facility 20 years and beyond. Program Alternative A could be considered if capital budget constraints will not allow the implementation of Program Alternative B. However, Program Alternative A provides less protection against deterioration causing moisture intrusion of the floor system. Therefore, it is Walker's opinion that the implementation of Program Alternative A will lead to a greater frequency, scope and cost of future periodic maintenance and repairs. Further, Walker does not recommend the implementation of Program Alternative C at this time. It is our opinion that the

capital cost and parking operation impacts of this program are not justified by the incremental improvements that this program alternative offers in the coming 20 years of service life. This program may be appropriate in the future when the full replacement of the slab system is warranted to further extend the service life of the facility

Walker understands that the City of Portsmouth is considering the deferral of implementing a restoration program to the High Hanover Facility for a period of three years so not to adversely impact the City's parking supply while other parking projects are implemented. It is Walker's opinion that this deferral is feasible if all parties understand that interim repairs will be required in that three year period to address ongoing conditions that may have impacts on public safety and parking operations. Walker recommends that the City budget $150K per year for a construction allowance to address those interim repairs. This is in addition to the cost for repairs identified in the program alternatives. Also, deferral of the recommended restoration program alternatives will increase the cost of those programs by approximately 6% to 8% per annum to account for increased deterioration and price escalation. If an implementation deferral of a restoration program goes beyond three years it is recommend that the facility be reassessed at that time.

Please see the following report for a detailed discussion of our assessment and recommendations for restoring this structure for the purpose of providing a 20 year service life extension for the facility.

Mark Zelepsky, Project Manager MAY 12, 2015

Christopher E. Brennan, PE, Principal MAY 12, 2015

HIGH/HANOVER STREET PARKING FACILITY

CONDITION APPRAISAL REPORT – LEVEL III

WRC PROJECT NO. 16-2575.00 MAY 12, 2015

INTRODUCTION

Walker Restoration Consultants performed a condition assessment on the High/Hanover Street Parking Facility located on Hanover Street, Portsmouth, New Hampshire in accordance with "RFP #7-15 Request For Engineering Services" and our agreement with the City of Portsmouth, New Hampshire.

OBJECTIVE

The condition assessment completes a structural evaluation and overall study that focuses on symptoms and causes of observed deterioration and adverse conditions that are affecting the structures service life. The appraisal also develops alternative approaches under a comprehensive restoration program in order to cost-effectively realize additional service life extension of the structure over the long-term. Construction costs as presented for budgeting and funding a capital Improvement plan to restore and maintain service life extension to this public structure while ensuring efficient use of public funds.

Our investigation of this structure is based upon the field examination, nondestructive survey and material testing, experience with this type of structure system, and predicted performance. In particular this report will:

- Identify types and causes of deterioration forms present in the structure,
- Present a qualitative and quantitative analysis of deterioration,
- Define structural repair alternative approaches,
- Provide repair program alternatives and associated capital costs for comparison over the programing life cycle.
- Provide probable construction costs for restoration,
- Assess non-structural service systems for maintenance repairs or replacement,
- Summarize our findings and testing results, and make recommendations for selecting a restoration program,
- Present the City with a Capital Improvement implementation plan for phasing the work over a multi-year plan.

FACILITY DESCRIPTION

The High/Hanover Street Parking Facility was built in 1985 with three supported level single thread helix with grade level providing approximately 680 vehicle spaces. The structure is a hybrid system comprised of a painted structural steel framing supporting composite concrete slabs consisting of 2¼" filigree wide slab precast planks with a 3¾" bonded reinforced topping concrete. The garage footprint is approximately 443 feet by 122 feet overall. The gross square foot of supported garage floor area is 158,500 gross square feet. Two stair towers and one stair/elevator tower provide pedestrian access to all levels.

The facility was horizontally expanded in 1999 with four levels of a single ramp added to south elevation increasing the garage capacity by 229 spaces. The expansion footprint is approximately 336 feet by 60 feet overall with a partial floor expansion on the top level (level 4) over the existing structure. The expansion uses galvanized structural steel framing which

supports a full thickness 5" thick pre-topped filigree wide slab plank system. The expansion also provided a new stair tower built in the southwest corner which serves all floor levels.

BACKGROUND INFORMATION

Limited background information was made available from the City during this evaluation. Documentation on the past engineering and repair history is represented below with a brief explanation of services performed on this structure:

ENGINEERING REPORTS:

December 1993 – Inspection/Recommendation Report for High/Hanover Street Parking Garage prepared by Fay, Spofford & Thorndike, LLC. Burlington, MA

Work consisted of a limited walk-through inspection of each of the floor levels. With recommended repair and maintenance work that included:
Application of water repellants on exterior stair tower masonry, repaint interior stair tower walls, re-seal crack and joints on supported levels, paint repairs to rusting framing; spalling concrete repairs, and replacement of expansion joint seals with an estimated value of $96k.

August 2001 - "Letter Report Condition Appraisal on High/Hanover St. Parking Facility" prepared by Fay, Spofford & Thorndike, LLC. Burlington, MA

Report provided recommendations for performing repair and maintenance work on the structure with a repair cost estimate ranging from $793k to $1.458M.

March 2005 - "Technical specifications, plans and details for work at High/Hanover Street Parking Facility prepared by Fay, Spofford & Thorndike, LLC. Burlington, MA

Work consisted of spall repairs; crack joint repairs, joint sealant replacement, supplemental drain installations, and coping repairs.

September 2009 – "Portsmouth Parking Garage, Evaluation of beam Failure at Fleet St. Stairwell Stair tower #1 level 5) "by PE Paradigm Engineering, LLC, York Maine

Work consisted of investigation into the cause of failure of bearing seat supporting a steel beam on level #5 at stair tower #1. Solutions were presented to rebuild masonry corner, add new steel column, install cross-bracing, install new beam to support slab edge, inspect all welds and bolts in affected areas, and recommended material testing of bolts and welds used in the framing to evaluate capacity in the 1999 addition.

December 2009 – "Portsmouth Parking Garage – Concrete Chloride Testing by PE Paradigm Engineering, LLC, York Maine

Work consisted of obtaining concrete powder samples at depths of 1" and 2" in the concrete topping at various locations to establish the chloride concentration in the concrete topping relative to established threshold levels that would support corrosion of reinforcing steel embedded in the concrete. Samples were taken by Miller Engineering & Testing, Inc. Manchester NH and sent to Modern Industries Inc., materials research division for analytical testing.

PROGRAM REPAIRS

2002 Garage repairs and maintenance (masonry repairs, expansion joint seals, crack joint sealant) approximate total of $50,000
2007 Garage repairs and maintenance by G. S. Bolton Rochester, NH (exp. Joint replacement replace sealant, paint beams, misc.) approximate value of $30,000
2010 Repair solutions to stair tower #1 addressed in the September 2009 report was reportedly implemented.
2013 Garage relighting program (Fluorescent, LED) completed through PSNH
2013 Elevator system improvements to maintenance mechanical components (new brakes, guides, communication, etc.)

CONCLUSIONS AND RECOMMENDATIONS

Our condition survey, evaluation, and analysis performed on the High/Hanover Street Parking facility finds the original structure (1985) to be currently in fair condition while the 1999 horizontal expansion remains in fair to good condition. The stated condition gives consideration to the extent of significant findings, structural age, construction materials, past maintenance practices, and other factors which have influenced the performance of this structure over time.

The garage structure which has remained in continuous operation for over 29 years is continuously being subjected to harsh environmental conditions consistent to the climate in the northeast region. The survey identified significant concrete deterioration, poor drainage, and failing waterproofing methods as key contributing factors to the cause to corrosion damage on the structural framing, deterioration on the filigree slabs, and corrosion of the utility systems supported below the floors.

Our review of the maintenance history of this structure indicates deferred structural and preventative maintenance and ineffective repairs have led to a need for a comprehensive restoration program that can extend service life to this structure. The absence of timely maintenance becomes more critical in the later part of the service life cycle as it can affect economical solutions in recovering the service life extension. In order to achieve the desired service life of 20 Years+, consideration must be given to restoration alternatives that can provide long-term repairs and comprehensive waterproofing protection to the structure. Other service related components such as drain systems, safety barrier guard railings, barrier masonry walls and facade, and other operational items will also require repair and replacement maintenance due to the current deterioration levels. Safety systems within the structure such as vehicle barrier guardrails should also be given consideration for upgrades to meet current building codes.

Restoration program alternatives for this structure differ greatly in their approach for concrete restoration and waterproofing protection to the floor system. Further explanations to these repair program approaches being proposed for this structure can be found in the "*Restoration Base Program Alternatives & Opinion of Construction Costs*" section, Appendix A Cost Tables, and in Appendix D "Repair Strategies".

The service life requirements for the structure can be achieved with each alternative provided preventative maintenance is performed at cyclic intervals. Given the objective of the City to obtain a cost economical solution that provides a 20 year service life extension, it is our opinion and recommendation that Alternate "B' will provide the City with the most beneficial and economical solution towards achieving the desired service life extension while reducing future repair and maintenance costs. Refer to the section "Capital Improvement Program Implementation" and Appendix A of this report for further information regarding the capital cost outlay for programming the work over the next several years.

IMMEDIATE REPAIRS

Our survey encountered a few significant conditions which pose potential hazards to patrons and public. Therefore we recommend the following work undergo immediate action to reduce potential risk of incident.

a. Remove loose material from façade capstone on south elevation where delamination exist along the exterior exposed edge,
b. Provide interim barrier guardrail protection to existing wall where masonry deterioration has compromised the wall's ability to resist vehicular impact. Also, the as-constructed conditions do not appear adequate to resist vehicular impact loading nor does it provide proper barrier guardrail height (42" a.f.f.). This occurs on level 5 south elevation at grid line A.2/15 – 17 line.

RESTORATION BASE REPAIR PROGRAM ALTERNATIVES

Deterioration and construction deficiencies as encountered during this structural evaluation have significantly affected the supported floors, structural framing, and façade masonry and they will require corrective repairs and preventative maintenance measures that are affective against further deterioration. Each alternative will correct the causes to deterioration wherever achievable. The comprehensiveness of each of the base repair alternatives will vary and all will require preventative maintenance cycles in order to achieve a cost effective program that achieves a service life extension of 20+ years.

Walker's experiences in successful capital improvement planning and construction implementation combined with industry proven methods were incorporated into three alternatives (A, B, & C) which represent an increasing level of comprehensive restoration while reducing structural maintenance over time. Optional enhancements are available to improve and modernize the structure and are presented separately following this section.

The probable construction cost associated with each program alternate are shown in Tables **A, B,** and **C.** Costs have been developed using pricing from our database of similar repair projects completed in the New England area during 2012 through 2014 by restoration general contractors with experience in structural restoration and capable of managing the project through completion.

The cost tables represent an opinion of probable construction costs which do not include certain ancillary costs associated with:

- Extensive construction work phasing and sequencing to reduce impact on garage operations,
- Season of the year and weather conditions,
- Contractor management,

- Night or weekend shift work and overtime differential for labor costs to increase production levels,

- Abatement of any hazardous materials that may be encountered during construction.

A construction contingency is provided in each alternative to address unforeseen conditions that may be encountered and require change during construction. Refer to Appendix A for a more detailed cost breakdown of each program alternative.

BASE REPAIR PROGRAM ALTERNATIVE A

Alternative A represents a "base-line" spot patch repair approach for existing deteriorated areas on the floors. In addition waterproofing elements are replaced and applied to slow te infiltration of that surface moisture which is the primary cause of the deterioration noted in the field assessment. Further explanation of this repair methodology can be found in Appendix A "Repair Alternate Costs & Phasing Plan" of this report.

Table A below offers an "Opinion of Probable Construction Cost" for Base Repair Program Alternative 'A' implementation.

Concrete Repairs:

- Topping concrete repairs are made at random and isolated locations where deterioration is present and where topping bond failures exist in large scale areas. Repairs are provided with tooled construction joints and prepared for sealant application.
- Surface applied thin set materials that have failed on the top level floor will be removed and repaired by installing profiled concrete washes for improved drainage,
- Deteriorated raised concrete curbing and walkways located near the entrances and at stair tower doorways are removed and replaced with new concrete curbs that provide sufficient step out area and are configured to comply with ADA dimensions.
- Concrete washes are provided to reduce and eliminate certain areas where ponding occurs,
- Concrete repairs are completed on the pre-topped filigree planks where broken corners exist and deterioration appears on field topped areas,

Structural Framing Repairs:

- Severely corroded areas on the steel framing will be abrasively cleaned, sectional losses recorded, and repairs made to strengthen the framing where required,
- The exposed paint system on the framing is abrasively cleaned and prepared to receive a high performance paint protection system,
- Spandrel panel connections to the framing are cleaned, inspected, and a zinc rich organic rust inhibitive primer and aliphatic urethane top coat are applied, damaged connectors are replaced where required,
- Filigree plank shear connectors will be re-welded where required, .

Waterproofing / Protection:

- All sealant in cracks and joints (control, construction, cove)are systematically removed and replaced with new flexible sealant, unsealed new joints and existing repairs are sealed with sealant,

- The garage expansion area precast filigree floor sealants (panel to panel, beam lines) are systematically removed and replaced with new flexible sealant,
- All topping concrete and pre-topped filigree surfaces areas are cleaned and degreased for an application of protective penetrating sealer,
- A penetrating sealer is applied to all horizontal concrete surfaces to slow the infiltration of surface moisture.
- Expansion joint seals are replaced on each floor level and ramp crossovers,
- Floor penetrations are re-sealed and flashings provide where possible,
- Isolation joint sealant at all stair towers are removed and replaced with flexible sealant or compression seals and properly terminated,
- Diverter angles on level 5 are resealed with new sealant.

Drainage Improvements:

- Deteriorated and damaged segment of the existing floor drain system are partially removed and replaced with new drain and lines levels 3 through 1,
- Supplementary drains and lines are added to remove large ponding areas on levels 3 and 2,
- Concrete profiling is incorporated into topping concrete work to eliminate poor drainage area and where some ponding occurs near column framing.

Architectural:

- Deteriorated/and displaced masonry on the roof level barrier walls are repaired, damaged areas are reconstructed with proper vents, through wall flashings, capstone coping and cap flashings to proper height,
- Deteriorated/and displaced masonry brick veneer on South elevation will be repaired,
- Cracked and damaged CMU units on the top level façade masonry will replaced or reconstructed to restore wall integrity,
- Masonry joint control joint sealant is replaced on all elevations,
- Cornices and sills that are displaced in their position are reset, grouted joints that are cracked or bond separated are replaced,
- Façade capstones on levels 5/4 that are deteriorating or not properly flashed will be removed, new top of wall flashing provided and new precast capstones properly secured onto the wall top,
- Floor penetration /openings in excess of four inches are covered for fall protection,
- Openings on interior wire cable barrier guardrails are covered with a fence fabric to eliminate climbing and fall through openings to below.
- Interior repairs are made to concrete deterioration inside the stair towers, existing waterproofing is restored to steps and landings,
- The exterior stairway steps from level 5 to 4 will be repaired and protected by a waterproofing membrane system,
- Roof leaders are re-directed away from slab to wall joint lines,
- An application of elastomeric coating is applied to the CMU on the interior side top level only,
- Precast spandrel panels are cleaned and protected by a clear sealer,
- Glazing gaskets on storefront at west stair tower will be replaced, and metal covers repaired where required.

Miscellaneous Maintenance:

- New parking striping and graphics are applied to all floor levels,
- Missing light pole and light fixture is replaced, maintenance is performed on non-operable lights, repairs are made to corrosion damaged conduit.
- Barrier cable guardrails will be repaired where required at select locations.
- Repair bollards, snow gates and miscellaneous metal items.
- Provide system testing and repairs by mechanical contractor to fire protection system,

TABLE A

ALTERNATE A - OPINION OF PROBABLE COSTS

Spot patch topping repairs, limited strip patch topping repairs at joint lines, unbonded topping replacement, joint sealant replacement, and protective sealer application, architectural / upgrades.

Repair Type	Estimated Cost
1. Concrete Repairs – Random Repairs Floor/Curbs/, Precast.	$1,221,000
2. Structural Repairs – Structural Framing, Flange Conn.	$20,000
3. Waterproofing / Protection – Floor Sealer, E.J, Joint Sealant	$859,000
4. Mechanical - Drain System Repairs& Supp. Drains, FP Line	$134,000
5. Electrical – Repairs / Maintenance	$15,000
6. Architectural – Masonry Facade, Precast Concrete Panels, Stairway Interior,	$465,000
7. Misc. Metals (barrier cable, shear conn., stairs, etc.)	$55,000
8. Painting – Framing, Façade Connections, Floor Striping, etc.	$245,000
Subtotal	**$3,014,000**
General Conditions & Mobilization @ 7%	$207,000
Site QA Testing	$15,000
Construction Contingency @ 10%	$321,000
Probable Construction Costs	**$3,557,000**

Notes:

1. *Construction costs shown above are rounded to the nearest $1,000 and based on 2014 dollars for single construction season.*
2. *Construction costs are based on historical data of similar types of work.*
3. *Costs are based on a normal daytime workweek and may vary due to time of year, local economy, or other factors.*
4. *The above table does not include all "Soft Costs" such as, Financial Costs.*
5. *Costs related to engineering and design development of construction documents, bidding, and construction administration are not included in the table above.*
6. *Total construction costs are representative of construction phase work areas utilizing of 30% of the garage parking area at any time to allow the completion of work while under operations. Phasing requirements will require further development during the design documents phase based upon other enabling work that may be undertaken during that time.*

BASE REPAIR PROGRAM ALTERNATIVE B

ALTERNATIVE B Incorporates the concrete repairs represented in Alternative A into a more comprehensive restoration approach by expanding the repair zones into form spot patches to strip removal and replacement of topping along the beam framing lines on levels 3 and 2. The strip removal is provided only at select locations where the presence of deterioration and cracking is dominant within the primary reinforcing steel zone. Reinforcing steel in the strip repair zones is completely removed and replaced with new epoxy coated reinforcement. The cast topping concrete is also provided with corrosion inhibitive admixtures to provide added protection to the reinforcement. Repair strips are properly jointed with tooled joints and filled with flexible sealant to provide watertight floors.

Field cast concrete topping areas, at Levels 4, 3, and 2 in the original structure, are then be protected by an application of a traffic bearing waterproofing membrane coating that will halt surface moisture and chloride absorption /penetration through the floor slabs. Pre-topped plank areas, on levels 5 through 2 floors within the 1999 expansion, are cleaned and protected with a clear penetrating floor sealer. Drainage improvements are made to ponding areas by adding supplementary drain and lines where possible. Alternative B represents a comprehensive restoration program that greatly reduces the potential of future concrete deterioration. Please note that periodic preventative maintenance is required to maintain the effectiveness of the waterproofing systems. Further explanation of this repair methodology and service life application can be found in Appendix D "Repair Alternatives" of this report.

Table B below offers an "Opinion of Probable Construction Cost" for Base Repair Program Alternative 'B' implementation.

Concrete Repairs:

- Topping concrete is removed in existing deteriorated areas and selectively beyond by strip repairs along the beam framing lines. This encompasses the majority of deteriorated and bond failed topping areas with widespread pattern cracking. New epoxy coated reinforcing steel and high quality concrete are provided in the repair zones and cast with tooled and sealed construction joints for positive watertight control.
- Existing failed thin set materials present on the roof level are repaired and those areas are selectively increased to allow for drainage profile improvements,
- Deteriorated raised concrete curbing and walkways located near the entrances and at stair tower doorways are removed and replaced with new concrete curbs that provide sufficient step out area and are configured to comply with ADA dimensions,
- Concrete washes are provided to reduce select areas of ponding,
- Concrete repairs are completed on the pre-topped filigree planks where broken corners exist and deterioration appears on field topped areas,

Structural Framing Repairs:

- Severely corroded areas on the steel framing will be abrasively cleaned, sectional losses recorded, and repairs made to strengthen the framing where required,
- The exposed paint system on the framing is abrasively cleaned and prepared to receive a high performance paint protection system,

- Spandrel panel connections to the framing are cleaned, inspected, and a zinc rich organic rust inhibitive primer and aliphatic urethane top coat are applied, damaged connectors are replaced where required,
- Filigree plank shear connectors will be re-welded where required, .

Waterproofing / Protection:

- All sealant in cracks and joints (control, construction, cove)are systematically removed and replaced with new flexible sealant, unsealed new joints are sealed with sealant,
- The garage expansion area precast filigree floor sealants (panel to panel, beam lines) are systematically removed and replaced with new flexible sealant,
- All topping concrete surface areas are cleaned and degreased for an application of a traffic bearing waterproofing membrane system or traffic topping,
- Pre-topped filigree surface areas are cleaned and degreased for an application of protective penetrating sealer,
- Expansion joint seals are replaced on each floor level and ramp crossovers,
- Floor penetrations are re-sealed and flashings provide where possible,
- Isolation joint sealant at all stair towers is removed and replaced with flexible sealant or compression seals and properly terminated,
- Diverter angles on level 5 are resealed with new sealant.

Drainage Improvements:

- Deteriorated and damaged segment of the existing floor drain system are partially removed and replaced with new drains and lines levels 3 through 1,
- Supplementary drains and lines are added to reduce large ponding areas on levels 3 and 2,
- Concrete profiling is incorporated into topping concrete work to eliminate poor drainage area and where some ponding occurs near column framing.

Architectural:

- Deteriorated/and displaced masonry on the roof level barrier walls are repaired, damaged areas are reconstructed with proper vents, through wall flashings, capstone coping and cap flashings to proper height,
- Deteriorated/and displaced masonry brick veneer on South elevation will be repaired,
- Cracked and damaged CMU units on the top level façade masonry will replaced or reconstructed to restore wall integrity,
- Masonry joint control joint sealant is replaced on all elevations,
- Cornices and sills that are displaced in their position are reset, grouted joints that are cracked or bond separated are replaced,
- Façade capstones on levels 5/4 that are deteriorating or not properly flashed will be removed, new top of wall flashing provided and new precast capstones properly secured onto the wall top,
- Floor penetration /openings in excess of four inches are covered for fall protection,
- Openings on interior wire cable barrier guardrails are covered with a fence fabric to eliminate climbing and fall through openings to below.
- Interior repairs are made to concrete deterioration inside the stair towers, existing waterproofing is restored to steps and landings,
- The exterior stairway steps from level 5 to 4 will be repaired and protected by a waterproofing membrane system.
- Roof leaders are re-directed away from slab to wall joint lines.
- An application of elastomeric coating is applied to the CMU/interior side top level only,

- Precast spandrel panels are cleaned and protected by a clear sealer,
- Glazing gaskets on storefront at west stair tower will be replaced, and metal covers repaired where required.
- Corrosion and efflorescence staining on level 1 foundation walls will be cleaned and coated with an elastomeric breathable paint.

Miscellaneous Maintenance:

- New parking striping and graphics are applied to all floor levels,
- Missing light pole and light fixture is replaced, maintenance is performed on non-operable lights, repairs are made to corrosion damaged conduit.
- Barrier cable guardrail will be repaired where required,
- Repair bollards, snow gates and miscellaneous metal items.
- Provide system testing and repairs by mechanical contractor to fire protection system

TABLE B

ALTERNATE B - OPINION OF PROBABLE COSTS

Topping concrete strip patch repairs, unbonded topping replacement, joint sealant replacement, Traffic Topping application levels 4, 3, 2, penetration sealer application to pretopped filigree, architectural Façade Repairs/ Misc. Maintenance.

Repair Type	Estimated Cost
1. Concrete Repairs – Strip & Random Repairs, /Curbs/, Precast.	$1,446,000
2. Structural Repairs – Structural Framing, Flange Conn.	$20,000
3. Waterproofing / Protection – Traffic Topping, E.J, Joint Sealant	$1,455,000
4. Mechanical - Drain System Repairs& Supp. Drains, FP Line	$134,000
5. Electrical – Repairs / Maintenance	$15,000
6. Architectural – Masonry Facade, Precast Concrete Panels, Stairway Interior,	$465,000
7. Misc. Metals (barrier cable, shear conn., stairs, etc.)	$55,000
8. Painting – Framing, Façade Connections, Floor Striping, etc.	$245,000
Subtotal	**$3,835,000**
General Conditions & Mobilization @ 7%	$280,000
Site QA Testing	$20,000
Construction Contingency @ 10%	$413,000
Project Total Cost	**$4,548,000**

Notes:

1. *Construction costs are rounded to the nearest $1,000 and based on 2014 dollars for single construction season.*
2. *Costs are based on historical data of similar types of work.*
3. *Costs are based on a normal daytime workweek and may vary due to time of year, local economy, or other factors.*
4. *Costs do not include all "Soft Costs" such as, Financial Costs.*
5. *Costs related to engineering and design development of construction documents, bidding, and construction administration are not included in the table above*
6. *Total construction costs are representative of construction phase work areas utilizing 30% of the garage parking area at any time to allow the completion of work while under operations. Phasing requirements will require further development during the design documents phase based upon other enabling work that may be undertaken during that time.*

BASE REPAIR PROGRAM ALTERNATIVE C

ALTERNATIVE C provides the most comprehensive solution by removal of the topping concrete to a depth of 3"+ thus removing all chloride and concrete contamination and deterioration. The partial removal technique for concrete demolition known as hydro-demolition (also known as, hydro blasting, Hydro-milling, water blasting, and water jetting) is a technique which utilizes high-pressure water to cut into and remove sound and unsound concrete. This option eliminates the heaviest layer of chloride contaminated concrete and deterioration and allows the new surface to incorporate improvements in pitch and profiling to improve gravity drainage. Bond failed concrete areas are also removed down to sound substrate. More importantly the demolition method reduces the rate of fracturing or bruising of the precast and provides a suitable prepared substrate to accommodate the new concrete overlay. The concrete overlay is completed with dense high performance concrete and jointed at all precast lines to allow for proper maintenance of watertight joinery. Flexible sealant is installed in all tooled control construction and cove joints to retain watertight control of the overlay. A clear penetrating sealer is applied to reduce moisture and chloride diffusion and improve upon maintenance wash-downs and cleaning. Further explanation of this repair methodology and service life application can be found in appendix D "Repair Alternatives" of this report.

Table C below provides an "Opinion of Probable Construction Cost" for implementation of this program.

Concrete Repairs:

- Topping concrete in the original structure is completely removed and replaced on level 4, 3, and 2 using the hydro-demolition process to remove and prepare the precast floor planks to receive a new bonded concrete overlay. New epoxy coated reinforcing steel is provided in the overlay.
- Deteriorated filigree slab areas below the topping are repaired full depth during the new overlay installation.
- Tooled construction joints are cast in the overlay at all precast joint and structural framing lines for proper sealant application.
- Raised curbs located at perimeter columns, entrance ramp, and stair tower locations are removed and replaced with concrete transitions,
- Deteriorated raised concrete curbing and walkways located near the entrances and at stair tower doorways are removed and replaced with new concrete curbs that provide sufficient step out area and are configured to comply with ADA dimensions
- Concrete repairs are completed on the pre-topped filigree planks where broken corners exist and deterioration appears on field topped areas,

Waterproofing / Protection:

- Tooled control and construction joints (control, construction, cove) cast into the overlay are prepared and flexible sealant installed in them,
- All floor surfaces (excluding traffic bearing waterproofing membrane coated areas)are prepared for an application of a protective penetrating sealer,
- The garage expansion area precast filigree floor sealants (panel to panel, beam lines) are systematically removed and replaced with new flexible sealant,

- Pre-topped filigree surface areas are cleaned and degreased for an application of protective penetrating sealer,
- Expansion joint seals are replaced on each floor level and ramp crossovers,
- Floor penetrations are re-sealed and flashings provide where possible,
- Isolation joint sealant at all stair towers is removed and replaced with flexible sealant or compression seals and properly terminated,
- Diverter angles on level 5 are resealed with new sealant.

Drainage Improvements:

- Deteriorated and damaged segment of the existing floor drain system are partially removed and replaced with new drains and lines levels 3 through 1,
- Supplementary drains and lines are added to areas where overlay profiling will provide positive drainage to floor areas,

Architectural:

- Deteriorated/and displaced masonry on the roof level barrier walls are repaired, damaged areas are reconstructed with proper vents, through wall flashings, capstone coping and cap flashings to proper height,
- Deteriorated/and displaced masonry brick veneer on South elevation will be repaired,
- Cracked and damaged CMU units on the top level façade masonry will replaced or reconstructed to restore wall integrity,
- Masonry joint control joint sealant is replaced on all elevations,
- Cornices and sills that are displaced in their position are reset, grouted joints that are cracked or bond separated are replaced,
- Façade capstones on levels 5/4 that are deteriorating or not properly flashed will be removed, new top of wall flashing provided and new precast capstones properly secured onto the wall top,
- Floor penetration /openings in excess of four inches are covered for fall protection,
- Openings on interior wire cable barrier guardrails are covered with a fence fabric to eliminate climbing and fall through openings to below.
- Interior repairs are made to concrete deterioration inside the stair towers, existing waterproofing is restored to steps and landings, exterior stairway steps from level 5 to 4 will be repaired and protected by a waterproofing membrane system.
- Roof leaders are re-directed away from slab to wall joint lines.
- An application of elastomeric coating is applied to the CMU on the interior side top level only,
- Precast spandrel panels are cleaned and protected by a clear sealer,
- Glazing gaskets on storefront at west stairtower will be replaced, and metal covers repaired where required.
- Corrosion and efflorescence staining on level 1 foundation walls will be cleaned and coated with an elastomeric breathable paint.

Miscellaneous Maintenance:

- New parking striping and graphics are applied to all floor levels,
- Missing light pole and light fixture is replaced, maintenance is performed on non-operable lights, repairs are made to corrosion damaged conduit.
- Barrier cable guardrail will be repaired where required,
- Repair bollards, snow gates and miscellaneous metal items.
- Provide system testing and repairs by mechanical contractor to fire protection system

TABLE C

ALTERNATE C - OPINION OF PROBABLE COSTS

Topping concrete removal and replacement with new bonded topping concrete overlay on levels 4, 3, 2, joint sealant replacement, penetrating sealer application all levels, architectural repairs / upgrades.

Repair Type	Estimated Cost
1. Concrete Repairs –Random Repairs, /Curbs/, Precast.	$472,000
2. Concrete Overlay – Floor Levels 4, 3, 2	$5,302,000
3. Structural Repairs – Structural Framing, Flange Conn.	$20,000
4. Waterproofing / Protection – Floor Sealer, E.J, Joint Sealant	$859,000
5. Mechanical - Drain System Repairs& Supp. Drains, FP Line	$187,000
6. Electrical – Repairs / Maint.	$15,000
7. Architectural – Masonry Facade, Precast Concrete Panels, Stairway Interior,	$465,000
8. Misc. Metals (barrier cable, shear conn., stairs, etc.)	$55,000
9. Painting – Framing, Façade Connections, Floor Striping, etc.	$245,000
Subtotal	**$7,620,000**
General Conditions & Mobilization @ 5%	$420,000
Site QA Testing	$30,000
Construction Contingency @ 7%	$565,000
Probable Construction Costs	**$8,635,000**

Notes:

1. *Construction costs are rounded to the nearest $1,000 and based on 2014 dollars for single construction season.*
2. *Costs are based on historical data of similar types of work.*
3. *Costs are based on a normal daytime workweek.*
4. *Costs may vary due to time of year, local economy, or other factors.*
5. *Costs related to engineering and design development of construction documents, bidding, and construction administration are not included the table above.*
6. *Total construction costs are representative of construction phase work areas utilizing of 50% of the garage parking area at any time to allow the completion of work while under operations. Phasing requirements will require further development during the design documents phase based upon other enabling work that may be undertaken during that time.*

CAPITAL IMPROVEMENT PROGRAM IMPLEMENTATION

Recommendations were established using work prioritization based upon the following order: (1) structural importance, (2) overall protection to the structure, and (3) preventative maintenance to ensure system function and performance.

Base repair program alternatives presented in Tables A, B, and C represent total "single" construction year cost for each program. Although a single year projects generally obtain the greatest cost efficiency, a multi-year construction plan may be needed to allow time for budgeting and funding this project under a Capital Improvement Plan. The parking facility reportedly operates at or near capacity year round and serves the neighboring community, businesses, and visitors to the area. Based upon the high user demand placed on this structure, single year construction which could require substantial closure would not be a practical consideration. It is our opinion that the economic costs associated with each program alternative will necessitate development of a Capital Improvement Plan that will involve multiple year construction.

Our economic analysis of Alternates A and B indicate a six (6) year construction plan as providing the most cost efficient approach to restoring the structure. Further evaluation into Alternate 'C' indicates this option will create the greatest disruption to parking operations as the restoration process will require a majority of the garage floor area (approx.60%) to be closed during construction to facilitate the work. Given the operational issues and the impact on parking capacity, a multiple year construction for Alternate C would not provide a cost effective option.

Multi-year construction implementation requires adjustments and modification to the single year costs that include:

- Cost escalation for yearly Inflation affecting contractor labor, materials and OH,
- Multiple mobilization and demobilizations on site which translate into additional costs,
- Escalation increases in deterioration growth,
- Construction sequencing and work phasing through the structure during each year of construction.

Construction phasing will also make limited floor areas inaccessible to parking/circulation and can limit the pedestrian pathways through the stairways. Therefore, phasing plans will require provisions for maintaining life/safety egress requirements at all times during construction. This element is developed into the work phasing sequences that apply appropriate construction controls to accommodate both uninterrupted construction work activity and parking operations.

Cost efficient work phasing will require imposing construction limits. A specific minimum number of vehicles per phase will allow the contractor to maintain efficient production while maintaining low impact on garage usage during the construction period. Our review of the garage operations, and circulation and current parking trends indicate work phasing will require approximately 90 to 120 vehicle spaces or 30% of a given floor area per phase to obtain cost efficient construction pricing and minimize construction duration. This is reflected

in Alternatives A and B and presented in "Base Repair Program Implementation Plan" provided in Appendix A.

ENHANCEMENT OPTIONS

Garage enhancements represent optional upgrades that can provide beneficial improvements to the aesthetical and operational characteristics of this structure. These items are not considered to be essential in restoring the structure to gain service life extension; therefore costs are separated from the base restoration program alternatives. Probable construction costs are provided within a range since they are usually influenced by the design objectives and features. The following enhancements were given consideration for this structure:

New Interior Signage & Graphics

The current graphics inside the parking facility uses varying painted stencils and limited signage posting that provide poor visual identity of user location and direction. The design of a new signage and graphics program can complement the interior finishes and architecture while enhancing the brand experience. New signage and graphics plan would benefit this structure by improving the user experience in way finding and traffic circulation. The design could include attractive graphics provided at strategic locations on each level to identify the path of travel provide directional information, allow for City branding image, address parking regulations and reminders, recognize featured area such as ADA, and other user information that aides in pleasant and safe travel to and from the structure. It is our understanding that the City has acquired the services of a designer "Merje Design" to provide new signage and graphics package for the garage exterior. Therefore exterior graphic and signage are not included in this report.

Precast Façade Panel Color Coat Enhancement

The precast spandrel panels on this structure can benefit from cleaning and application of color pigmented protectants that provide improved architectural appearance and environmental protection. This would be performed on the exterior and interior surfaces to unify the color and improve upon the architectural appearance of this façade component.

Bird Abatement

The garage has several bird roosting areas that continue to be problematic to maintenance. The roosting generally creates nesting's and considerable droppings that are unhealthy and in turn require frequent maintenance cleaning. Bird deterrents such as objects that prevent bird landing and roosting are available and can sufficiently reduce if not eliminate the problem.

TABLE D

ENHANCEMENT OPTIONS- OPINION OF PROBABLE COSTS

Repair Type	Construction Cost Range	
	LOW	HIGH
1. New Signage & Graphics – Interior	$130,000	$230,000
2. Precast Façade Panel Color Coat Enhancement	$70,000	$95,000
3. Bird Abatement	$10,000	$20,000
Subtotal	$210,000	$345,000
General Conditions & Mobilization @ 9%	$19,000	$31,000
Construction Contingency @ 10%	$21,000	$35,000
Probable Construction Costs	***$250,000***	***$411,000***

Notes:

1. *Estimated costs are provided in a range due to varying options available for design selection.*
2. *Estimated cost ranges were provided from historical cost data of similar types of work.*
3. *Costs are based on a normal daytime workweek and may vary due to time of year, local economy, or other factors.*

DISCUSSION

The following discussion provides further explanation into the primary causes of deterioration and deficiencies, the extent of these conditions, and their impact on service life. Repair implementation is addressed in general to offer a systematic approach to restoring the parking structure. Detailed explanation of deterioration mechanisms and terminology used in this report can be found in Appendix H.

CONCRETE DETERIORATION – SUPPORTED FLOOR LEVELS

Our survey and testing results indicate the topping concrete has significant variability in quality and durability characteristics which continue to be affected by cyclic environmental exposure to moisture and chlorides. The environmental conditions combined with other construction deficiencies such as poor drainage slope, cracking, and minimal concrete cover over reinforcement and lack of corrosion protection will continue to impact the service life and performance of the floor slabs, and place an increasing maintenance demand on this structure.

It is important to understand the benefit of good durability characteristics in concrete. Material properties that greatly influence the susceptibility of concrete to deteriorate are freeze-thaw resistance, compressive strength, and permeability or porousness. Concrete is naturally porous which allows the concrete to absorb significant free water during exposure to rain or snow. Concrete that becomes super saturated and combined with the water soluble chlorides penetrate deep into the pore structure eventually reaching the reinforcing steel zone. The corrosion mechanism disrupts the molecular structure of the concrete caused by the expansive forces created from the corrosion process and results in concrete spalling and delaminations.

Significant topping bond failures ranging from 10 to 350 square foot in area was recorded and observed with spalling and delaminations intermixed in these large areas that are contributing to the corrosion induced deterioration on the precast filigree slabs. Bond failure is significant because it affects structural performance and durability. The slab capacity relies upon composite bond action between the cast and precast concrete to reduce overstress and transfer live loads between them. This void separation reduces the slabs load capacity and creates a reservoir which attracts moisture that penetrates through the topping concrete. The entrapped moisture in turn usually leads to corrosion of the embedded reinforcement, and salt laden moisture saturation into the precast filigree planks that further creates spalling and delaminations. Contributing factors to the concrete deterioration also include unsealed cracks, and failing joint sealants and expansion joints that allow water penetration through the slab composition. These conditions are a direct cause to the damage and deterioration seen on the structural framing.

Concrete topping deterioration in general appears to have increased over the prior 2001 assessment report. The magnitude of deterioration extrapolated from survey field data indicates a combined deterioration rate (factored) of approximately 34% over the gross floor area. Field findings identified progressive deterioration extending through and beyond prior

repair boundaries as well as new random formations and they can be expected to increase over time. Appropriate repair methods will need to take into consideration both random repair and selective strip removal and replacement of concrete to effectively eliminate progressive deterioration growth.

Crack lines in the topping concrete align themselves with the framing lines and panel joints. The topping concrete doesn't appear to have the conventional tooled joints that are installed during construction to control shrinkage stresses and deflection during cast concrete placement. Crack lines pose a greater challenge in achieving watertight sealed joint over replacement cycles. In addition, further cracking can occur over time. Joint sealant maintenance will be key and integral part in providing an effective protection system to the floors.

STRUCTURAL FRAMING CORROSION

Corrosion of the structural steel is an electrochemical process that requires the simultaneous presence of moisture and oxygen. In the absence of either, corrosion does not occur. Essentially, the iron in the steel is oxidized to produce rust which occupies 6 times the volume of the original material consumed in the process. The rate at which the corrosion progresses depends on a number of factors relating to the "micro-climate" immediately surrounding the structure, principally the time of wetness and the atmospheric pollution level. The location of this structure near the coast and the moisture driven exposure from salts and deicers penetrating through floor system, places the structure in a medium to high risk category to atmospheric corrosion attack.

The original painted structural framing exhibits widespread conditions of pitting and corrosion, oxidation, peeling, chalking, holidays, discoloration, uneven gloss that has compromised the integrity of the paint protection system to a point where it no longer performs as intended. The extent and severity of corrosion was documented in order to determine where steel repairs may be warranted. Field observations made of the existing paint system indicate the extent of deterioration affecting the paint is widespread and repairs to the paint would not provide long-term protection without repeated maintenance.

In order to provide long-term paint protection to the steel framing, a full and complete paint process will be required. It is being pointed out that the top of steel in contact with the slab cannot be cleaned and repainted which can in turn cause rust staining on the newly protected surface if the slabs are not effectively sealed and waterproofed. The paint process will require abrasive cleaning, primer, intermediate/build coat and finish coat. High performance coating systems such as organic zinc rich primers, epoxy polyimide build coat and aliphatic urethane top coat systems are recommended for long-term protection. With proper application, service life is estimated at 18 to 20 years based upon the aforementioned environmental conditions.

FAÇADE - MASONRY DETERIORATION & DISTRESS

The façade exterior on both the original and expansion structures are similar in masonry construction. Exterior walls are designed as a non-load bearing system comprised of brick veneer with CMU (concrete masonry unit) backup walls, precast stone cornice, precast coping with standard mortar coursing. The façade on the original structure includes precast spandrel panels attached to the structural framing. A visual survey of the façade interior and exterior identified deterioration and distress present on the masonry at varying and random locations.

The precast spandrels are generally in good condition with limited locations showing hairline cracking at mid-span. The panel crack has led to some efflorescence stains. As these cracks do not pose a structural impairment, cracking processes using epoxy can be performed to stop moisture movement through the cracks.

Examination of masonry wall deterioration found numerous conditions of moisture infiltration and damage affecting the integrity of the masonry and cast stone components on the façade and interior barrier walls. The findings indicate areas of loose and broken mortar joints, brick masonry displacement, cracking in the brick and block, brick face spalling, efflorescence staining, and bulged sections of wall and capstone coping occurring on the top of the masonry walls. The precast capstones on top of the façade walls show signs of a material freeze-thaw durability problem. Several conditions where warping, expansive growth, craze cracking, freeze thaw deterioration appear on the walls also pose a safety concern from falling objects. These deficient conditions are identified as requiring "Immediate Repairs and are stated so in this report.

Primary causes to the above deterioration and failure mechanisms appear to be created by moisture penetration and absorption combined with inadequate provisions to accommodate water management, masonry growth, and framing movement. Design and construction methods such as omitted base flashings below the coping, rowlock coursing of masonry atop interior barrier walls, lack of ties between brick veneer and CMU backup, and voids inside the CMU cells are key contributing factors to the masonry damage and distress. It is recommended that the repair design consider performing exploratory openings into the CMU to determine the extent of reparability versus replacement.

The extent of the observed deficiencies point to poor masonry workmanship and materials that will require a substantial effort to resolve these problems. In order to correct these deficiencies and damage, the restoration process will require some reconstruction and replacement. The compromised condition of the coping and lack of cap flashings in most of the wall top will require replacement with new durable units to mitigate the problem. The repair process will also include re-setting on some of the precast stone cornice and headers and sills where displacement exists. The interior walls show staining and a protectant can be applied to treat the interior with a wall coating that can reduce absorption and infiltration but allows vapor transmission to pass through the wall.

WATERPROOFING PROTECTION

Restoration repairs can correct the present deterioration, but the program approach needs to include an effective protection of the slabs to reduce or eliminate continuing deterioration. Protection system have become an essential part of the restoration process due to their ability to reduce and eliminate moisture and salt intrusion that leads to expensive corrosion induced concrete deterioration. The initial steps for protecting the floors in all of the base repair alternatives will require complete crack and joint sealant replacement. Based upon the survey findings, the vast amount of existing sealants have reached the end of service and the significant failure rate now dictates require replacement. The expansion joints also come under replacement as repairs are not practicable based upon the extent of failure and their age.

Selection of waterproofing treatments generally takes into consideration; the extent and significance of deterioration, cracking, chloride content, concrete quality and durability, and the severity of environmental exposure. Each base repair alternative is matched with a level of protection that increases in effectiveness based upon the comprehensive repair process being undertaken.

Clear penetrating sealers can slow the rate of moisture and chloride penetration in the topping but cannot bridge cracks or stop moisture from entering pores in the concrete. The continued migration of both elements reaching the reinforcing steel zone will create new deterioration formations. Sealer performance also diminishes over time and reapplication is critical in maintaining a low rate of deterioration over time. Traffic bearing elastomeric waterproofing membranes also referred to as traffic topping can provide a cost effective level of protection by reducing oxygen, moisture which supports the corrosion process. More importantly the traffic topping stops chloride ion penetration more effectively than penetrating sealers since it blocks the entire concrete pore structure on the surface.

Concrete overlays provide a greater level of protection than topical protection systems by having a dense chloride free concrete matrix provided with corrosion inhibiting admixtures to stop the corrosion process. In addition, the new overlay combined with new epoxy coated reinforcing steel will provide sufficient redundancy in arresting future corrosion from occurring for 20 years.

SUMMARY

The field survey and structural evaluation of the High/Hanover Parking structure was performed during the week of October 27th 2014. The assessment included a physical and visual examination of the existing conditions affecting the structure, obtaining concrete material samples for testing, and a review of prior repair and engineering documentation provide by the City. Destructive testing of concrete material samples was performed to obtain information on concrete quality and baseline conditions to aide in determining proper restoration solutions.

OBSERVATIONS

A chain drag survey was completed on approximately 90% of the field cast topping concrete situated on levels 4, 3, and 2 of the original structure. The survey also included the field cast concrete area in the newer expansion levels to gain a reasonable estimate of floor deterioration in the entire facility. The chain drag sounding technique is used to locate and quantify the limits of deteriorated (spalled, delaminated, debonded, etc.) concrete that exists on and below the surface on each supported floor level. Visual examination of the structural framing, exterior façade, stair towers, and other ancillary components and utilities is made to address adverse conditions and necessary maintenance requirements to retain service life extension.

The following abbreviated summary of key observations and findings are presented below. Further clarification of these and other conditions are provided in Appendix D. A limited inventory of photographs representative of the site conditions are provided in Appendix A at the end of this report.

SUPPORTED FLOORS

Cast Topping Concrete – Levels 4, 3, 2

- The chain drag survey completed on levels 2 and 3 indicate the presence of large areas where concrete bond failure exists. Quantitative data collected during the survey indicates a combined rate of deterioration affecting approximately 9% of the total gross area for these two levels.
- Larger bond-failure areas (>50sf) exhibit random areas of spalling, delamination, exposed and corroded reinforcement, and failing repair patches.
- Pattern cracking running parallel to the beam framing exists in the cast topping in areas of where deterioration exists and in unaffected areas.
- Spalled concrete was noted with reinforcement near the surface (<1").
- Floor profiling on the flat ramps show depressions in varying size attributing to ponding on the floors primarily in parking area and near floor framing penetrations.
- Levels 4, 3 and 2 has linear crack lines in the topping concrete that outline the precast filigree plank joints and structural framing below. Most of these crack joints appear with joint sealant. New unsealed crack formations also appear to extend from these joints and many are unsealed.

- Most of the tooled construction joints on each level are provided with sealant.
- The chain drag survey performed on level 4 revealed a minimal amount of spalling, delaminations, and concrete bond failure.
- Level 4 or roof level has several large areas where a thin set cementitious material is applied to the concrete surface. Some of these areas exhibit extensive cracking and partial bond failure between the precast planks and the cast-in-place topping. Repairs made using this material are usually done to address surface deterioration or to eliminate water ponding.

Pre-topped Filigree Floors – Levels 5, 4, 3, 2

- The pre-topped filigree floor planks provided in the garage expansion area are in sound and satisfactory condition. Several locations were noted with damage at the corners of the floor planks.
- The floor plank joints are provided with flange to flange and flange to steel weldments that provide load transfer. The weldments and connection appear to be stainless steel and no broken connections were detected during the survey.
- Plank joints were noted with intermittent edge splintering and sealant failures mostly at the flange connection pockets between filigree planks. The edge slivers are cause to leakage as evidenced by wetting and efflorescence stains observable from below on the galvanized framing.
- Floor framing penetrations were noted with loose fill and failing sealant at many locations. Utility penetrations such as drain line also show poor seal installation with leakage and rust staining below.

Waterproofing Systems

- Waterproofing protection on each of the supported levels relies on flexible joint sealant provided on cracks and joints. Visual assessment of the existing sealant and several materials sample taken at random locations indicate significant deterioration (adhesion loss, cracking, hardening, ageing, chalking) and degradation is affecting most of the installed material. The majority of floor joint sealant is installed along crack joints that outline the steel and precast framing lines in the original structure. Leakage was recorded at many of the sealed and unsealed cracks joints on each floor during rainfall events. Evidence of long-term leakage problems bears evidence along the steel framing lines at many locations where corrosion appears on the top flanges and column to beam framing connections.
- Construction and cove joints show considerable material deterioration and intermittent adhesion failures.
- Sealant provided along the precast joint lines within the garage expansion area exhibits significant intermittent sealant adhesion failures along many of these joint lines on each level. The leakage is evidenced by water and efflorescence staining that appears on the filigree underside on the galvanized structural framing below.
- Several utility line penetrations through the floor exhibit moderate to severe corrosion on the drain lines and fire protection standpipe lines located on levels 2 and 1 in the original garage area.
- Isolation joint sealant (2" joint sealant) provided along the boundaries of the interior stair tower have adhesion failure. The roof rain leader also discharges over the seal and along the wall exacerbating the leakage problem.

- The new stair tower built at the southeast corner of the garage expansion also has isolation joint sealant provided at the walls abutting the slab. The sealant is deteriorating and failing. Efforts to stop water entry along the roof level stair tower wall noted a unique 4" buildup of cove sealant material in as a preventative to stop water buildup and leakage against the wall.
- A compression type adhered rubber expansion joint seal is provided on each level across the floor width and between the two structured areas. Examination of the seals found significant deterioration and damage on the concrete edge, the nosing material and rubber gland in the original structure on levels 4,3, and 2.
- The compression type adhered rubber expansion joint seals located in the garage expansion area (levels 4, 3, and 2) are in satisfactory condition.

FAÇADE - MASONRY / PRECAST & INTERIOR BARRIER WALLS

- The interior masonry barrier walls, provided in the original structure on level 4, exhibit significant deterioration and distress (cracking, mortar bond separation, mortar deterioration, volume change growth and displacement of masonry construction) in both the brick veneer and CMU block backup wall. Reparability is limited to certain areas.
- The interior side of the masonry barrier walls which are part of façade have been coating with a material in efforts to preserve them. The CMU block along parts of the wall shows considerable reflective cracking through the coating. Deterioration of the mortar joints were also noted in the top coursing where several areas show shifting and displacement.
- Exterior brick veneer coursing in the wall shows several areas of mortar joint erosion and brick veneer displacement. The southwest corner of the structure was observed with further shifting and displacement of the top rowlock coursing of brick.
- Precast sills and cornice units are generally in good condition. Some dislodgement of the precast occurs in several locations where they have dislodged or shifting from vertical alignment and position. Mortar cracking and bond separation occurs between these precast elements primarily along the south elevation.
- Some scaling of the brick veneer was noted on the interior and exterior sides of the north elevation where arched openings are featured on the roof level. The scaling shows moisture drive through the brick and mortar with efflorescence staining.
- Precast spandrel panels are generally appearing in satisfactory condition with darkened mildew staining from the environmental exposure at most locations. Several panels were noted with hairline transverse cracks exhibiting some light efflorescence along the crack lines.
- Precast panel to framing is done with mechanical connections. The metal rods hardware and some of the attachment angles have corrosion present at many locations.
- Vertical masonry building joints and precast sill joints are provided with a flexible sealant. The joint sealants show significant deterioration and failure mostly occurring on the south elevation.

STAIRTOWERS

- The original structure is provided with three stair towers that facilitate access to all levels. The stair towers were reported to have undergone restoration a few years ago. General observations indicate the interior stairs, landings and walls are in good condition as a result of past restoration work. Some evidence of minor concrete deterioration was detected on the stair steps and landings. Corrosion appears on the underside of the metal decked landings as a result of leakage through the concrete fill provided on the landings.
- The southeast stair tower located in garage expansion area is similar to the other three stair towers in its construction. The stair steps and landings in this stair tower are protected by a waterproofing membrane coating or urethane traffic topping material. Deterioration was found present on several areas of the waterproof coating and concrete in the stair steps and landing.

ELEVATOR

- The garages elevator is provided with a single elevator assembly located at the interior center stair tower. Maintenance repairs were reportedly completed on the elevator system. Evaluation of the system was not performed and is not within the current scope of this report.

VEHICULAR BARRIER GUARDRAIL SYSTEM

- The garage internal floor ramps are provided with a braided wire cable barrier railing system that is strung through the columns. The barrier cable guardrail system is provided with cable tensioning to resist impact loads and would likely comply with the original building code during construction. Today, current design requirements for vehicular barrier impact resistance and for barrier railing fall protection require greater capacities than may currently exist in the structure. Structural evaluation of the guardrail system capacity and adequacy was not within the report scope. However, a provision to improve upon fall protection by closing off the cable spacing can be accomplished by installation of a wire fence to the cables to prevent pass through.

- Hanover Street north elevation is provided with a similar barrier cable guardrail system as used in the garage interior but has either precast or CMU wall construction beyond the cabling. In addition, two locations on level 4 which are provided with arched masonry wall openings have greater openness spacing between the top cable and exterior façade and would not comply with spacing and openness criteria in current code required barrier guardrail systems.

Code upgrades are often considered during major renovation projects to address life/safety items such as barrier guardrail systems and are sometimes mandated during major renovation projects. The particular aspects of compliance should be further studied and determined if the system requires alteration during the capital improvement planning phase.

NON-STRUCTURAL COMPONENTS

- *Floor Drain System*
  The floor drain system was visually examined during the survey. There were several floor drains that may need replacement due to corrosion damage. Drain lines on the lower level (level 2 and 1) exhibited several locations where moderate to severe corrosion and evidence of leakage appear on the drain lines. Cracking is present on these lines at several locations. Drain line cleaning should be performed yearly as debris was noted accumulating inside several of the drain bodies.
- *Stair Roof Drain Leaders*
  The stair tower drain leaders are discharging onto and along the masonry walls where joint seals are provided in the floor. These drain leaders should be diverted away from the wall to slab juncture.
- *Fire Protection Stand pipe*
  The fire protection standpipe system is suspended below the steel framing. Visual inspection indicates significant corrosion on the pipe at many locations. The operability of the system was not within the report scope. However, based upon the severity of corrosion on the exterior of these lines, the system should be tested to determine the extent of repairs or if system replacement is necessary.
- *General Lighting & Power*
  Garage lighting was reportedly changed a few years ago to strip tube fluorescent and LED roof top lighting to gain energy incentives from the power supplier. The general lighting was evaluated during the evening hours of this survey and were found adequate in most all locations. Entry and exit portals which generally provided with greater illumination levels to adjust light levels for vehicles approaching the ambient outdoor light appeared to be less than adequate. The roof level has one location where the light pole has corroded and the pole and light are gone. Replacement of the pole and light are necessary to maintain proper lighting for safety.

MATERIAL TESTING

A material testing program was developed for this structure in order to determine the concrete quality characteristics and the potential impact it may have on service life prediction. Information obtained from the testing reports is summarized below with our interpretation. Copies of the testing reports and results and floor plan locations may be found in Appendix E and F respectively.

Petrographic or microscopic examination can establish baseline concrete quality parameters in the unaffected and affected floor areas supporting corrosion induced deterioration. Petrographic analysis or "microscopic examination" provides information which helps in evaluating the potential for future concrete deterioration due to inherent quality deficiencies that may exist in the concrete mix. The analysis measures; air content, carbonation, cement content, water/cement ratios, paste to aggregate bond, voids, porosity, aggregate composition, and other factors that influence concrete performance.

Concrete core samples were obtained from five (5) locations and tested in accordance to ASTM C-42 for in-situ comprehensive strength testing.

Water soluble Chloride Ion testing of the topping concrete was performed in accordance to ASTM C1218 on varying floor levels and locations by removal of drilled concrete power samples at 1", 2" and 3" depths from five (5) test point locations. Chloride ion testing indicates the potential for future corrosion due to concentrated chloride contamination. Sample identification and locations are shown in the table below:

TABLE 3 - Sample Classification

Sample ID	*Location*	*Testing Program*
P-1	Level 3 grid E16	Petrographic – ASTM C856
C-1	Level 3 grid E12	Compressive – ASTM C42
C-2a	Level 2grid B 3	Compressive – ASTM C42
C-3	Level 2 grid C 16	Compressive – ASTM C42
C-4	Level 2 grid F 5	Compressive – ASTM C42
C-5	Level 2 grid B 3	Compressive – ASTM C42
CL-1	Level 3 grid C 14	Chloride ion ASTM C1218
CL-2	Level 3 grid C 14	Chloride ion ASTM C1218
CL-3	Level 2 grid 8 (garage addition)	Chloride ion ASTM C1218
CL-4	Level 2 grid D 18	Chloride ion ASTM C1218
CL-5	Level 2 grid E 18	Chloride ion ASTM C1218

ANALYSIS

PETROGRAPHIC EXAMINATION

Petrographic analysis was performed on cores P-1, topping concrete by Universal Construction Testing (UCT) Elk Grove, Il., in accordance to ASTM procedure C856-11. General concrete composition and quality indicate no distress or major abnormalities in the sample. Entrained air content by today's standard set forth in the American Concrete Institute (ACI) standard practices recommends concrete exposed to harsh environments and being subjected to freeze-thaw cycles have entrained air content in the range of 5 to 9%. Core sample P-1 was reported with a total air content of 10.8% with a good paste and aggregate volume by percent of sample. The topping concrete which has endured service exposure for 30+ years does not bear significant evidence of any freeze-thaw damage.

Sample P-1 also showed good fine and course aggregate gradation characteristics with fairly uniform distribution. Aggregates used in both the topping concrete appear sound, exhibiting no evidence of deleterious reaction with the cement paste. Paste to aggregate bond was also measured to be moderately tight with freshly fractured surfaces of concrete pass through a majority of aggregate particles indicating good interlocking mechanism.

Concrete topping bond was acknowledged by visual examination of the bond between the topping and precast tee. Bond line interphase was acknowledged with minor irregularity in the profile generally providing marginal interlock for mechanical bond. Several discontinuities were also identified in the form of micro-cracking, entrapped air, and wire mesh deformation

was present at or near the bond line. Bond line separation was acknowledged during core extraction. Bond line characteristics remain important retain good mechanical interlock and composite bond action thereby reducing overstress to the precast filigree members.

CHLORIDE TESTING

Chloride ion testing indicates the potential for continuing and accelerated corrosion induced concrete deterioration growth initiated by calcium chloride or salt and deicer contamination in the topping concrete. Concrete powder samples were taken at various locations and depths of 0" to 1", 1" to 2", and 2" to 3" to establish chloride content as a function of depth. High chloride ion concentrations at the level of steel reinforcement correlate well with the presence of active corrosion. Research by the Federal Highway Administration (FHWA) has established that water soluble chloride concentrations of 280 to 410 parts per million (PPM) (threshold levels for normal weight concrete) at the reinforcement along with the presence of moisture and oxygen will result in accelerated corrosion.

TABLE 4 - Chloride Testing Data

Sample ID	1" ppm	2" ppm	3" ppm	Cum. Ave.
CL-1 Level 3	740	560	190	497
CL-2 Level 3	470	380	70	307
CL-3 Level 2	360	70	40	157
CL-4 Level 2	2140	2050	1200	1797
CL-5 Level 2	1650	1490	1280	1473
Cumulative Average / depth	**1,072**	**910**	**556**	**846**

Chloride Ion Analysis

- ✓ *Very high concentrations Above threshold levels,*
- ✓ *High corrosion potential*

Testing results indicate high chloride levels well above the threshold to support corrosion and they will continue to penetrate into the concrete and create further corrosion and deterioration.

COMPRESSIVE STRENGTH TESTING

TABLE 5 - Compressive Strength Data

Core ID.	Location	Compressive Strength (psi)
C-1a	Level 3 / E 12	4,230
C-2a	Level 2 / B 3	4,980
C-3	Level 2 / C 16	5,610
C-4	Level 2 / F 5	5,690
C-5	Level 2 / B 3	5,600
	Average PSI	**5,222 psi**

Compressive Strength of Concrete

- ✓ *Good Consistent Strength Values*
- ✓ *Consistent values within statistical deviation range*

Compressive strength results were consistently above the design strength of 4,000 psi.

In conclusion the material testing laboratory results indicate adequate concrete quality with generally good material characteristics for entrained air content and comprehensive strength consistent with freeze-thaw resistance. The high chloride concentration combined with the concrete permeability (density) can be expected to continue to cause corrosion of the reinforcing steel and produce concrete deterioration. We have also determined that the existing concrete quality is adequate for implementation of a comprehensive rehabilitation and protection program as represented in Alternatives A and B to achieve serviceability and extend long-term service life.

Refer to Appendix E for further information on materials analysis presented on the laboratory report.

LIMITATIONS

This report contains the professional opinions of Walker Restoration Consultants based on the conditions observed as of the date of our site visit and documents available to us. This report is believed to be accurate within the limitations of the stated methods for obtaining information.

We have provided our opinion of probable costs from visual observations, limited testing, and field survey work. The opinion of probable repair costs is based on available information at the time of our evaluation and from our experience with similar projects. There is no warranty to the accuracy of such cost opinions as compared to bids or actual costs. This condition assessment and the recommendations therein are to be used with additional fiscal and technical judgment.

It should be noted that our renovation recommendations are conceptual in nature and do not represent changes to the original design intent of the structure. As a result, this report does not provide specific repair details or methods, construction contract documents, material specifications, or details to develop the construction cost from a contractor.

Based on the proposed scope of services, the evaluation was based on certain assumptions made on the existing conditions. Some of these assumptions cannot be verified without expanding the scope of services or performing more invasive procedures on the structure.

The recommended repair concepts outlined represents current available technology for parking facilities and other structures. This report does not provide any kind of guarantee or warranty on our findings and recommendations. Our evaluation was based on and limited to the proposed scope of work. We do not intend to suggest or imply that our appraisal has discovered or disclosed all latent conditions or has considered all possible improvement or repair concepts. .

A review of the facility for compliance with the Americans with Disabilities Act (ADA) requirements was not part of the scope of this project. However, it should be noted that whenever significant repair, rehabilitation or restoration is undertaken in an existing structure, ADA design requirements may become applicable if there are currently unmet ADA requirements.

Similarly, we have not reviewed or evaluated the presence of, or the subsequent mitigation of, hazardous materials including, but not limited to, asbestos, lead, and PCB.

This report was created for the use of **City Of Portsmouth, New Hampshire** and use of this report by others is at their own risk.

APPENDIX A
BASE REPAIR PROGRAM COSTS / IMPLEMENTATION PLAN

WALKER
RESTORATION CONSULTANTS

APPENDIX A
TABLE A-1

ALTERNATE A
REPAIR COSTS

BASE REPAIR PROGRAM
ALTERNATE 'A'

Description		W.I. Cost	Total Amount
Base Repair Program - Alternate A			
Structural Repairs			$1,241,000
1.1	Floor Repair - Topping Concrete	$1,022,000	
1.2	Floor Repair - Full Depth (Topping and Precast)	$10,000	
1.3	Floor Repair - Curbs/Walks	$166,000	
1.4	Floor Repair - Precast Filigree - Shallow	$23,000	
1.5	Floor Repair - Structural Framing	$20,000	
Waterproofing / Protection			$859,000
2.1	Seal Cracks/Joints (Original Structure)	$312,000	
2.2	Seal Precast Joints (Expansion Structure)	$176,000	
2.3	Cove/Isolation Joint Sealant	$23,000	
2.4	Expansion Joint Replacement (Both Structures/All Levels)	$177,000	
2.5	Penetrating Floor Sealer - Levels 5 through 2 - ALL	$165,000	
2.7	Traffic Topping Repair (SE stair, over Restrooms)	$6,000	
Architectural Repairs			$465,000
3.1	Tuckpioint/ Brick Repair/Stone Joint Repairs	$33,000	
3.2	Masonry Wall Reconstruction / Repairs (CMU+Brick)	$315,000	
3.3	Capstone Replacement w/ Flashings	$57,000	
3.4	Vertical Joint Sealant Replacement	$8,000	
3.5	Clear Sealer - Precast	$32,000	
3.6	Elastomeric Coating - CMU - Level 5	$20,000	
Mechanical/Electrical			$149,000
4.1	Replace Floor Drains	$16,000	
4.2	Supplementary Drains	$28,000	
4.3	Pipes & Hangers	$73,000	
4.4	Floor Drain Cleaning	$7,000	
4.5	Mechanical Allowance - FP Testing/Repair	$10,000	
4.6	Electrical / Lighting Repairs/Maint.	$15,000	
Painting/Protection			$245,000
5.1	Paint Traffic Markings	$17,000	
5.2	Paint Structural Framing & Panel Connections	$228,000	
Misc Work			
6.1	Precast Conn. Repairs, Stairway Repairs	$23,000	$55,000
6.2	Barrier Cable Repairs/ add Fenestration, Floor Opening	$32,000	
Mobilization/Contingency			$543,000
5.1	7% Mobilization	$207,000	
5.2	Site QA Testing	$15,000	
5.3	10% Owner Contingency (Rounded)	$321,000	
	Program Cost Total		$3,557,000

APPENDIX A
TABLE A-2

ALTERNATE B
REPAIR COSTS

BASE REPAIR PROGRAM
ALTERNATE 'B'

Description		W.I. Cost	Total Amount
Base Repair Program - Alternate B			
Structural Repairs			$1,466,000
1.1	Floor Repair - Topping Concrete / Spot Patch	$226,000	
1.2	Floor Repair - Topping Concrete Strip Replacement	$905,000	
1.2	Floor Repair -Partial / Full Depth (Precast Filigree)	$15,000	
1.3	Floor Repair - Curbs/Walks	$277,000	
1.4	Floor Repair - Precast - Shallow	$23,000	
1.5	Floor Repair - Structural Framing	$20,000	
Waterproofing / Protection			$1,455,000
2.1	Seal Cracks/Joints (Original Structure)	$364,000	
2.2	Seal Precast Joints (Expansion Structure)	$224,000	
2.3	Cove/Isolation Joint Sealant	$23,000	
2.4	Expansion Joint Replacement (Both Structures/All Levels)	$177,000	
2.5	Traffic Topping Waterproofing System - Levels 4 through 2	$601,000	
2.6	Traffic Topping Repair (SE stair, over Restrooms)	$6,000	
2.7	Penetrating Floor Sealer - Levels 5 through 2 (Expansion	$60,000	
Architectural Repairs			$465,000
3.1	Tuckpioint/ Brick Repair/Stone Joint Repairs	$33,000	
3.2	Masonry Wall Reconstruction / Repairs (CMU+Brick)	$315,000	
3.3	Capstone Replacement w/ Flashings	$57,000	
3.4	Vertical Joint Sealant Replacement	$8,000	
3.5	Clear Sealer - Precast	$32,000	
3.6	Elastomeric Coating - CMU - Level 5	$20,000	
Mechanical/Electrical			$149,000
4.1	Replace Floor Drains	$16,000	
4.2	Supplementary Drains	$28,000	
4.3	Pipes & Hangers	$73,000	
4.4	Floor Drain Cleaning	$7,000	
4.5	Mechanical Allowance - FP Testing/Repair	$10,000	
4.6	Electrical / Lighting Repairs/Maint.	$15,000	
Painting/Protection			$245,000
5.1	Paint Traffic Markings	$17,000	
5.2	Paint Structural Framing & Panel Connections	$228,000	
Misc Work			
6.1	Precast Conn. Repairs, Stairway Repairs	$23,000	$55,000
6.2	Barrier Cable Repairs/ add Fenestration, Floor Opening Closeure	$32,000	
Mobilization/Contingency			$713,000
5.1	7% Mobilization	$280,000	
5.2	Site QA Testing	$20,000	
5.3	10% Owner Contingency (Rounded)	$413,000	
	Program Cost Total		$4,548,000

APPENDIX A
TABLE A-3

ALTERNATE 'A'
IMPLEMENTATION PLAN

Description	Estimated Cost Line Item Amounts	Without Phasing System Amounts	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Estimated Line Item Amounts	Phasing Cost System Amounts
Phasing allowance factor			1.00	1.05	1.05	1.05	1.05	1.05		
Inflation allowance factor			1.00	1.03	1.06	1.09	1.12	1.15		
Total Allowance Factor			1.00	1.08	1.11	1.14	1.17	1.20		
High/Hanover Street Garage - Alternate A										
#										
Base Repair Program - Alternate A										
Structural Repairs		$1,241,000								$1,307,830
1.1 Floor Repair - Topping Concrete	$1,022,000		$500,000	$358,560	$68,820	$121,980	$12,870	$12,000	$1,074,230	
1.2 Floor Repair - Full Depth (Topping and Precast)	$10,000		$5,000	$3,240	$1,110	$1,140	$0	$0	$10,490	
1.3 Floor Repair - Curbs/Walks	$166,000		$57,000	$47,520	$35,520	$17,100	$11,700	$9,600	$178,440	
1.4 Floor Repair - Precast Filigree - Shallow	$23,000		$14,000	$5,400	$3,330	$1,140	$0	$0	$23,870	
1.5 Floor Repair - Structural Framing	$20,000		$10,000	$10,800	$0	$0	$0	$0	$20,800	
Waterproofing / Protection		$859,000								$940,910
2.1 Seal Cracks/Joints (Original Structure)	$312,000		$60,000	$75,600	$74,370	$51,300	$35,100	$48,000	$344,370	
2.2 Seal Precast Joints (Expansion Structure)	$176,000		$42,000	$0	$37,740	$38,760	$39,780	$38,400	$196,680	
2.3 Cove/Isolation Joint Sealant	$23,000		$5,000	$5,400	$5,550	$4,560	$4,680	$0	$25,190	
2.4 Expansion Joint Replacement (Both Structures/All Levels)	$177,000		$53,000	$57,240	$58,830	$20,520	$0	$0	$189,590	
2.5 Penetrating Floor Sealer - Levels 5 through 2 - ALL	$165,000		$46,000	$41,040	$39,960	$39,900	$11,700	$0	$178,600	
2.7 Traffic Topping Repair (SE stair, over Restrooms)	$6,000		$0	$6,480	$0	$0	$0	$0	$6,480	
Architectural Repairs		$465,000								$516,390
3.1 Tuckpioint/ Brick Repair/Stone Joint Repairs	$33,000		$0	$0	$36,630	$0	$0	$0	$36,630	
3.2 Masonry Wall Reconstruction / Repairs (CMU+Brick)	$315,000		$60,000	$21,600	$77,700	$85,500	$58,500	$48,000	$351,300	
3.3 Capstone Replacement w/ Flashings	$57,000		$30,000	$29,160	$0	$0	$0	$0	$59,160	
3.4 Vertical Joint Sealant Replacement	$8,000		$0	$0	$0	$9,120	$0	$0	$9,120	
3.5 Clear Sealer - Precast	$32,000		$0	$0	$0	$13,680	$11,700	$12,000	$37,380	
3.6 Elastomeric Coating - CMU - Level 5	$20,000		$0	$0	$0	$22,800	$0	$0	$22,800	
Mechanical/Electrical		$149,000								$157,440
4.1 Replace Floor Drains	$16,000		$7,000	$7,560	$2,220	$0	$0	$0	$16,780	
4.2 Supplementary Drains	$28,000		$11,000	$11,880	$6,660	$0	$0	$0	$29,540	
4.3 Pipes & Hangers	$73,000		$27,000	$29,160	$21,090	$0	$0	$0	$77,250	
4.4 Floor Drain Cleaning	$7,000		$0	$0	$7,770	$0	$0	$0	$7,770	
4.5 Mechanical Allowance - FP Testing/Repair	$10,000		$0	$0	$11,100	$0	$0	$0	$11,100	
4.6 Electrical / Lighting Repairs/Maint.	$15,000		$15,000	$0	$0	$0	$0	$0	$15,000	
Painting/Protection		$245,000								$285,020
5.1 Paint Traffic Markings	$17,000		$5,000	$4,320	$4,440	$4,560	$0	$0	$18,320	
5.2 Paint Structural Framing & Panel Connections	$228,000		$0	$0	$0	$87,780	$88,920	$90,000	$266,700	
Misc Work		$55,000								$62,970
6.1 Precast Conn. Repairs, Stairway Repairs	$23,000		$0	$0	$25,530	$0	$0	$0	$25,530	
6.2 Barrier Cable Repairs/ add Fenestration, Floor Opening Closeure	$32,000		$0	$0	$0	$0	$37,440	$0	$37,440	
Mobilization/Contingency		$543,000								$588,060
5.1 7% Mobilization	$207,000		$70,000	$51,840	$34,410	$34,200	$18,720	$14,400	$223,570	
5.2 Site QA Testing	$15,000		$4,000	$4,320	$4,440	$3,420	$0	$0	$16,180	
5.3 10% Owner Contingency (Rounded)	$321,000		$103,000	$74,520	$51,060	$58,140	$31,590	$30,000	$348,310	
Program Cost Total	$3,557,000	$3,557,000	$1,124,000	$845,640	$608,280	$615,600	$362,700	$302,400	$3,858,620	$3,858,620

Description	Estimated Cost Line Item Amounts	Without Phasing System Amounts	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Estimated Line Item Amounts	Phasing Cost System Amounts
Phasing allowance factor			1.00	1.05	1.05	1.05	1.05	1.05		
Inflation allowance factor			1.00	1.03	1.06	1.09	1.12	1.15		
Total Allowance Factor			1.00	1.08	1.11	1.14	1.17	1.20		
High/Hanover Street Garage - Alternate B										
#										
Base Repair Program - Alternate A										
Structural Repairs		$1,466,000								$1,556,770
1.1 Floor Repair - Topping Concrete / Spot Patch	$226,000		$98,000	$71,280	$67,710	$1,140	$0	$0	$238,130	
1.2 Floor Repair - Topping Concrete Strip Replacement	$905,000		$325,000	$351,000	$283,050	$0	$0	$0	$959,050	
1.2 Floor Repair -Partial / Full Depth (Precast Filigree)	$15,000		$8,000	$4,320	$3,330	$0	$0	$0	$15,650	
1.3 Floor Repair - Curbs/Walks	$277,000		$80,000	$73,440	$66,600	$57,000	$22,230	$0	$299,270	
1.4 Floor Repair - Precast - Shallow	$23,000		$14,000	$5,400	$3,330	$1,140	$0	$0	$23,870	
1.5 Floor Repair - Structural Framing	$20,000		$10,000	$10,800	$0	$0	$0	$0	$20,800	
Waterproofing / Protection		$1,455,000								$1,572,540
2.1 Seal Cracks/Joints (Original Structure)	$364,000		$70,000	$86,400	$85,470	$62,700	$47,970	$49,200	$401,740	
2.2 Seal Precast Joints (Expansion Structure)	$224,000		$55,000	$62,640	$64,380	$37,620	$23,400	$0	$243,040	
2.3 Cove/Isolation Joint Sealant	$23,000		$5,000	$5,400	$5,550	$4,560	$4,680	$0	$25,190	
2.4 Expansion Joint Replacement (Both Structures/All Levels)	$177,000		$53,000	$57,240	$58,830	$20,520	$0	$0	$189,590	
2.5 Traffic Topping Waterproofing System - Levels 4 through 2	$601,000		$201,000	$216,000	$222,000	$0	$0	$0	$639,000	
2.6 Traffic Topping Repair (SE stair, over Restrooms)	$6,000		$0	$6,480	$0	$0	$0	$0	$6,480	
2.7 Penetrating Floor Sealer - Levels 5 through 2 (Expansion Area)	$60,000		$0	$16,200	$16,650	$17,100	$17,550	$0	$67,500	
Architectural Repairs		$465,000								$516,390
3.1 Tuckpioint/ Brick Repair/Stone Joint Repairs	$33,000		$0	$0	$36,630	$0	$0	$0	$36,630	
3.2 Masonry Wall Reconstruction / Repairs (CMU+Brick)	$315,000		$60,000	$21,600	$77,700	$85,500	$58,500	$48,000	$351,300	
3.3 Capstone Replacement w/ Flashings	$57,000		$30,000	$29,160	$0	$0	$0	$0	$59,160	
3.4 Vertical Joint Sealant Replacement	$8,000		$0	$0	$0	$9,120	$0	$0	$9,120	
3.5 Clear Sealer - Precast	$32,000		$0	$0	$0	$13,680	$11,700	$12,000	$37,380	
3.6 Elastomeric Coating - CMU - Level 5	$20,000		$0	$0	$0	$22,800	$0	$0	$22,800	
Mechanical/Electrical		$149,000								$157,440
4.1 Replace Floor Drains	$16,000		$7,000	$7,560	$2,220	$0	$0	$0	$16,780	
4.2 Supplementary Drains	$28,000		$11,000	$11,880	$6,660	$0	$0	$0	$29,540	
4.3 Pipes & Hangers	$73,000		$27,000	$29,160	$21,090	$0	$0	$0	$77,250	
4.4 Floor Drain Cleaning	$7,000		$0	$0	$7,770	$0	$0	$0	$7,770	
4.5 Mechanical Allowance - FP Testing/Repair	$10,000		$0	$0	$11,100	$0	$0	$0	$11,100	
4.6 Electrical / Lighting Repairs/Maint.	$15,000		$15,000	$0	$0	$0	$0	$0	$15,000	
Painting/Protection		$245,000								$285,020
5.1 Paint Traffic Markings	$17,000		$5,000	$4,320	$4,440	$4,560	$0	$0	$18,320	
5.2 Paint Structural Framing & Panel Connections	$228,000		$0	$0	$0	$87,780	$88,920	$90,000	$266,700	
Misc Work		$55,000								$62,970
6.1 Precast Conn. Repairs, Stairway Repairs	$23,000		$0	$0	$25,530	$0	$0	$0	$25,530	
6.2 Barrier Cable Repairs/ add Fenestration, Floor Opening Closeure	$32,000		$0	$0	$0	$0	$37,440	$0	$37,440	
Mobilization/Contingency		$713,000								$771,360
5.1 7% Mobilization	$280,000		$79,000	$78,840	$78,810	$30,780	$22,230	$13,200	$302,860	
5.2 Site QA Testing	$20,000		$7,000	$7,560	$6,660	$0	$0	$0	$21,220	
5.3 10% Owner Contingency (Rounded)	$413,000		$115,000	$114,480	$114,330	$45,600	$36,270	$21,600	$447,280	
Program Cost Total	$4,115,000	$4,548,000	$1,275,000	$1,271,160	$1,269,840	$501,600	$370,890	$234,000	$4,922,490	$4,922,490

Table A-3 & A-4 Notes:
1 Costs for Immediate repairs and enhancements not included.

Description	Estimated Cost Without Phasing	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Estimated Cost Including Phasing
High/Hanover Street Parking Facility - Alternate A								
Description		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Estimated Cost Including Phasing
Base Repair Program - Alternate A								
Structural Repairs	$1,241,000	$586,000	$425,520	$108,780	$141,360	$24,570	$21,600	$1,307,830
Waterproofing / Protection	$859,000	$206,000	$185,760	$216,450	$155,040	$91,260	$86,400	$940,910
Architectural Repairs	$465,000	$90,000	$50,760	$114,330	$131,100	$70,200	$60,000	$516,390
Mechanical/Electrical	$149,000	$60,000	$48,600	$48,840	$0	$0	$0	$157,440
Painting/Protection	$245,000	$5,000	$4,320	$4,440	$92,340	$88,920	$90,000	$285,020
Misc Work	$55,000	$0	$0	$25,530	$0	$37,440	$0	$62,970
Mobilization/Contingency	$543,000	$177,000	$130,680	$89,910	$95,760	$50,310	$44,400	$588,060
Program Cost Total	$3,557,000	$1,124,000	$845,640	$608,280	$615,600	$362,700	$302,400	$3,858,620

TABLE A-5
ALTERNATE A
PHASING COST SUMMARY

Description	Estimated Cost Without Phasing	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Estimated Cost Including Phasing
High/Hanover Street Parking Facility - Alternate B								
Description		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Estimated Cost Including Phasing
Base Repair Program - Alternate A								
Structural Repairs	$1,466,000	$535,000	$516,240	$424,020	$59,280	$22,230	$0	$1,556,770
Waterproofing / Protection	$1,455,000	$384,000	$450,360	$452,880	$142,500	$93,600	$49,200	$1,572,540
Architectural Repairs	$465,000	$90,000	$50,760	$114,330	$131,100	$70,200	$60,000	$516,390
Mechanical/Electrical	$149,000	$60,000	$48,600	$48,840	$0	$0	$0	$157,440
Painting/Protection	$245,000	$5,000	$4,320	$4,440	$92,340	$88,920	$90,000	$285,020
Misc Work	$55,000	$0	$0	$25,530	$0	$37,440	$0	$62,970
Mobilization/Contingency	$713,000	$201,000	$200,880	$199,800	$76,380	$58,500	$34,800	$771,360
Program Cost Total	$4,548,000	$1,275,000	$1,271,160	$1,269,840	$501,600	$370,890	$234,000	$4,922,490

TABLE A-6
ALTERNATE B
PHASING COST SUMMARY

APPENDIX B
PHOTOGRAPHS

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Photo 1 General view – Garage North Elevation

Photo 2 General view – Garage North Elevation

Photo 3 General view – Garage South Elevation

Photo 4 Level 3 – Deterioration in topping concrete. Note patching and spalls.

Photo 5 Typical concrete spalling with exposed corroded reinforcing steel near the surface.

Photo 6 Level 3 – Large area of delaminated/debonded concrete topping along steel girder framing.

Photo 7 Level 2 – Large area of delaminated/debonded concrete topping.

Photo 8 Typical flexural pattern cracking in topping concrete above girder framing.

Photo 9 Concrete deterioration (spalling) in flexural crack zone along steel framing.

Photo 10 Level 4 – Thinset overlay material applied on floor. Note cracking and bond separation.

Photo 11 Level 2 – Large area where floor ponding exists.

Photo 12 Level 2 – Deterioration on concrete walkway.

Photo 13 Level 2 – Landing area at stairtower/elevator. Note non-standard walkway drop and ponding near this area.

Photo 14 View of corrosion appearing on filigree planks, steel framing, and drain lines.

Photo 15 View of moisture saturation and deterioration on filigree planks. Note corrosion on fire protection pipe.

Photo 16 Expansion joint seal deterioration and damage.

Photo 17 Level 5 – Precast filigree joint sealant with intermittent sealant adhesion failures.

Photo 18 View of garage expansion area with efflorescence staining and rusting on galvanized framing.

Photo 19 Level 2 – Floor underside expansion area. View shows leakage and staining along filigree plank joint lines.

Photo 20 Level 4 – Floor expansion area. View of floor penetrations lacking proper seal.

Photo 21 Typical corrosion formation on painted structural framing.

Photo 22 Sever corrosion formation (hot spots) on painted structural framing.

Photo 23 Severe corrosion on fire protection lines.

Photo 24 South Elevation. View shows brick masonry deterioration and displacement.

Photo 25 South Elevation. Interior view of CMU masonry wall at "A" line with damage and deterioration.

Photo 26 South Elevation. Close view of CMU masonry wall in Photo 25.

Photo 27 West Elevation. Stone cornice with mortar bond separation (typical)

Photo 28 North elevation. Masonry brick and CMU wall showing deterioration (cracking, bond separation).

Photo 29 North Elevation. Interior view of cracking in CMU masonry façade.

Photo 30 Interior Barrier Wall. View of significant damage and deterioration.

Photo 31 Level 5 South Elevation – South Barrier Wall. Shows capstone deterioration and CMU deterioration. Note missing flashing below capstone.

Photo 32 Level 5 – South Elevation. Interior view of CMU wall. Note staining and detractive appearance on wall surface.

Photo 33 Barrier wall masonry damage.

Photo 34 Typical barrier cable guardrailing between floor levels. Note spacing between openings.

Photo 35 View of stairway access on Level 4. Note short landing slab at doorway.

Photo 36 Level 5 – Missing Light Pole. Note corrosion at light pole base.

APPENDIX C
VISUAL OBSERVATIONS

WALKER
RESTORATION CONSULTANTS

WRC PROJECT NO. 16-2575.00 MAY 12, 2015

VISUAL OBSERVATIONS

SUPPORTED FLOORS – CONCRETE TOPPED FILIGREE (1985)

The supported intermediate (levels 2 and 3 and top level 4 of the original structure are constructed using a hybrid design that is comprised of composite filigree wide slab planks supported on steel framing. The precast filigree planks form the bottom half of the slab and are comprised of precast pre-stressed concrete panels which are prefabricated and installed with a conventionally reinforced cast-in-place topping concrete placed over the entire supported floor areas to create a composite slab system with the structure steel framing.

A visual and chain drag sounding survey was completed on over 90% of the gross floor area of supported levels 2, 3 and 4 gross floor areas to identify deterioration formations. The survey efforts identified corrosion induced concrete deterioration in the form of spalling, delaminations, cracking, and topping bond failure present on each level. The formations were mapped and range in size from 1 to 400 square foot in area as noted on levels 2 and 3 and to a significantly lessor extent on level 4 or top level. Visual deterioration (spalls, exposed and corroded reinforcement, failed patch repairs) also appears in scattered formation within sizable areas where bond failure exists.

Longitudinal pattern cracking appears on the topping concrete primarily above and along main girder framing and in areas where visual indications of deterioration (spalling, delaminations) are at the initial stages of forming and increasing in area. Examination of several open spalls and cracking patterns indicate the reinforcing steel is near the concrete surface and may be cause to the cracking. The cracking formations in this slab of steel frame can also be caused by flexural action in slab and shortening of the deck due to concrete shrinkage and creep.

Several areas on the floor ramps show ponding on level 3 and 2 in the parking areas and near structural column framing where evidence of poor floor drainage exists. The survey also took note of several conditions where a detectable lack of floor slope is cause to ponding in areas where the steel framing penetrate the floor. Many of the floor column penetrations show concrete deterioration on the top, underside, and on the structural beam to column framing as seen below.

The roof level has several large areas where a thin-set applied cementitious material is applied to the topping concrete. The material is exhibiting shrinkage cracking and bond separation over partial areas of application. Thin set material applications are often applied to remedy surface defects such as scaling on the concrete surfaces or used to fill in surface depressions in efforts to elevate water ponding. Performance of thin set materials is variable and generally rated poorly for bond adhesion and freeze-thaw resistance.

Examination of the underside of the filigree plank system found random formations of deterioration in the form of incipient spalls, and delaminations observable along the planks joints where they bear onto the steel framing. These areas generally exhibit moisture staining, rust, and efflorescence and appear at floor areas where they are sloped towards the garage interior for floor drainage.

Random cracking through a few of the filigree planks was observable from below. Water stains and evidence of active leakage was noted along the cracks during rainfall occurrence.

SUPPORTED FLOORS – PRETOPPED FILIGREE (1999)

The 1999 expansion to the original structure extended over a partial area of the top (level 4) floor creating a level 5 that interconnected the structures on the west side and provided internal circulation between all levels with the exception of grade level. The new addition addressed several design changes to the floor and framing system. The precast filigree planks are a solid single or "pre-topped" precast unit that is connected to the steel framing by welded connections. The plank to plank flanges are also connected to each other by welded connections which form the floors diaphragm. All of the panel joints are then sealed with a flexible exterior joint sealant.

Visual examination of the floor planks indicated that they are in good condition overall. Several of the planks show some repairs at the corners resulting from breakage probably during erection. These repairs show failure and leakage below. Other joint lines show repairs made with an excess of flexible sealant to compensate for the loss of the plank joint edge.

Some cracking running across the planks was noted at several locations on level 2 and to a lesser extent on the upper levels. The cracking bears evidence of active leakage and efflorescence stains.

Steel framing that passes through the floors are provided with concrete fill and jointed with sealants. Many of these penetrations fall along the drainage lines and are showing moisture leakage and concrete deterioration.

Cast concrete topping is provided along floor boundaries and at floor crossovers. The cast concrete topping was found to be in good condition overall with minor areas of deterioration.

Ponding was acknowledged on the level 4 where additional supplementary drain has been added to alleviate the condition. These drains which are set at the surface provide limited effective relieve of surface water due to flat floor grade in this area.

WATERPROOFING

The field cast concrete topped floors have an exposed broom textured surface. Primary waterproofing mechanism on each of the supported level relies on joint sealants installed along irregular crack lines to control moisture through the floor topping. Post construction crack joints have also formed in the topping along the panel to panel joints and steel framing lines with many having been routed and sealed with flexible sealant. The irregular shape in alignment makes it difficult to ensure proper sealant installation centered over the crack lines. Typically, cast concrete is provided with tooled joints during placement to relieve shrinkage stresses during concrete hardening and allow for proper sealant installation. More importantly, a linear shaped joint allows for proper sealant replacement during preventative maintenance. Close examination and material samples taken from several joint lines indicates substantial

material degradation in the form of adhesion loss, elastic loss, chalking and hardening of the material through the garage. Joint leakage as observed from below revealed significant failure on many of these sealed and unsealed joint lines on levels 4, 3, and 2.

The pre-topped filigree floor planks rely on sealed panel to panel joints to provide watertight floor conditions. Examination of the floor joint sealants on levels 5 through 2 revealed a significant rate of intermittent failure in the form of adhesion loss along many of the plank joint lines, beam framing, and at column penetrations. The sealant material appears to be original installation except on the partial ramp (level 5) covering the original level 4 ramp where replacement was reportedly completed a few year ago. Overall joint sealants on all levels show characteristic signs of degradation consistent with ageing. Water leakage observable on levels 5 and 4 during a rainfall occurrence confirmed loss of watertight floor conditions.

Expansion joint seals are provided on each floor level dividing the floor at grid line 13/14 and 'A' line. The expansion joint seal is comprised of a winged compression type neoprene seal embedded to the slab edges with and elastomeric nosing material. Examination of the joint seals on each level recognized deterioration of the elastomeric nosing material, seal displacement and failure, and physical damage along most of the joint lines. The extent of conditions is not conducive to repairs and replacement of the seals should be performed in their entirety. Vertical displacement of the floor slab expansion joint at 13/14 line was noted during vehicle travel. As excessive vertical displacement can affect seal performance, this condition should be evaluated for beam deflection during the development of restoration documents to ensure that the replacement seal can be properly maintained.

The pretopped filigree floor on level 5 and 4 are provided with a series of aluminum angles fastened and sealed on top of the floor near the perimeter to divert drainage flow from entering openings along the perimeter barrier walls and near column penetrations. The diverters were found intact with some sealant deterioration noted.

STRUCTURAL FRAMING

Structural steel framing in the original structure is painted carbon steel. Visual evaluation of the structural steel framing on all floor levels reveals significant corrosion present on the framing where continual leakage occurs through the floor slab concrete and at slab penetrations. The beam framing exhibits light to moderate corrosion along the top flanges at many locations where drainage flows off the slab edge and where joint sealant and concrete deterioration exist above. Heavy corrosion which appears with rust scaling and delaminations were noted on levels 3 and 2 along beam top and web sections. Several areas where severe corrosion appears on the beam framing will require repair strengthening prior to application of paint protection. Steel columns also exhibit moderate to severe corrosion at several locations where floor drainage problems above allow salt laden water to continuously saturate the columns. Other column locations show light corrosion generally at the floor penetrations.

The pre-topped filigree structural expansion built in 1999 is framed with galvanized steel. Visual review of the framing found minor surface rusting on beam flanges where embedment connections are welded to the framing. The framing also bears evidence of continual floor slab leakage where white efflorescence stains appear from water streaking.

EXTERIOR FACADE – PRECAST & MASONRY WALLS

The majority of the exterior façade is comprised of masonry walls and precast spandrel panels at varying locations on each elevation. The Hanover Street or North elevation has arched masonry wall openings and precast panels that form the architecture of the façade. The masonry construction is consists of a brick veneer attached to CMU backup wall. Precast copings, cornices, and sills are provided accentuate the architectural features on each elevation. Interior brick barrier walls are of similar masonry composition but the wall cap is provided with a rowlock course of masonry brick.

The exterior masonry façade components (coping, cornice, brick veneer, CMU block, etc.) show varying degrees of deterioration related to volume-change movement and moisture saturation that has led to freeze-thaw damage. The conditions mostly occur on the North and South elevation on the top or roof level of the structure.

The precast spandrel panels are attached to the floors and framing by threaded rods and hardware. The connection does not appear to be galvanized or adequately protected. Corrosion can be seen on many of these panel connections. Panels are generally found to be in sound condition with no signs of deterioration or damage. Several panels have transverse cracking visible on the exterior side. The cracking is hairline in width and bears evidence of moisture entry with efflorescence stains along the crack outline. Many of the panels were observed with environmental staining which detracts from the aesthetical appearance.

STAIRTOWERS- SW, SE, NE, CENTER INTERIOR STAIRTOWER

General review of the stair tower interior and exterior was performed by visual examination. The exterior of the masonry walls that enclose the stair towers were found to be in satisfactory condition. The stair tower interiors walls and stairways were observed to be painted and in generally good condition. A few locations were noted to exhibit corrosion on the underside of the metal decking that forms the landings and on a few areas of the steel framing.

Inspection inside the SE stair tower (garage expansion area) found a few locations where deterioration of the concrete appearing on the steps and landings has affected the waterproofing membrane.

The southwest stair tower has a glazed curtain wall on the west elevation. Examination of the glazing found missing gaskets and trim pieces on the framing missing. The stairway interior was noted with some rusting on the metal deck (landing underside) at several of the floor elevations.

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VEHICULAR BARRIER GUARDRAIL SYSTEM

The garage floor ramps are provided with a braided wire cable barrier guard railing system that is strung through the columns. Hanover street elevation is provided with the wire cable system where arched masonry wall openings and precast panels form the exterior façade.

Barrier guardrailing cable spacing on the interior grid lines is 10"apart with overall height under 40". The guardrailing system as it exists does not comply with the current building code for barrier guardrailing height, spacing, and potentially for impact resistance. It is assumed that the current system was complaint to the building code during its construction.

NON-STRUCTRAL COMPONENTS

- Floor drains
  The floor drain system shows some corrosion of the floor drain bowels and corrosion and damage to some of the drain lines primarily on the lower two levels. Some of the drains and lines will require repairs to properly maintain the system. Several locations were also noted where floor ponding occurs and supplemental drains should be considered for installation to properly drain the supported floors.

- Fire protection stand pipe
  The standpipe lines as observed on levels 4 through 1 show signs of surface corrosion. The corrosion is caused by the extensiveness of leakage through the floor levels. The lines which are painted on the exterior also lack from routine maintenance to paint and protect them. An assessment of the operating condition of the system is not within the report scope. The system should be tested by a mechanical contractor to determine the extent of needed repairs or replacement of the system.

- Power and lighting conduit system were observed in operating condition. Some corrosion was noted on conduit passing through the structural framing where leakage and heavy corrosion occurs on the framing.

- Elevator System (not surveyed) general conditions acknowledged during the survey.

APPENDIX D
REPAIR STRATEGIES

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REPAIR STRATEGIES

GENERAL

There is a significant amount of literature on concrete repair methods and materials that has been published during the past several years. Many committees of the American Concrete Institute (ACI) and International Concrete Repair Institute (ICRI) have now published reports and manuals that directly relate to the repair and restoration of concrete structures. The results of research and the application of repair methods and materials have been reported in publications presented by the Federal Highway Administration research programs, the Portland Cement Association, the Corps of Engineers, and in articles presented in various trade journals. Therefore, in this section we will only attempt to summarize the basic requirements for durable repair techniques we commonly use to restore a parking structure. Other less frequently used techniques have not been included. The restoration of parking facilities requires the use of several repair methods to address existing deterioration of structural members and provide effective protection to "*extend the service life*" of the restored structure. Table D.1 summarizes the repair objectives and the methods we commonly utilize to repair various structural elements. The horizontal floor-slabs generally experience the most deterioration and usually require implementing a combination of repair methods to develop an approach that will effectively restore the structure. For instance, the approach might consist of a combination of repair methods that includes patching to restore floor-slab integrity and membrane protection to effectively waterproof and minimize future corrosion induced concrete deterioration.

TABLE D.1 – REPAIR OBJECTIVES AND METHODS

Repair Objective	Repair Method	Primary Applications
Restore integrity	Patching	
	a. Partial-depth	Floor-slab, beam, column, wall, etc.
	b. Full-depth	Floor-slab
	c. Replacement	Floor-slab, beam, columns
Provide protection		
Abrasion	Coating	Floor-slab
Freeze-Thaw	Replacement	Floor-slab
	a. Partial-depth	
	b. Full-depth	
	Coating	Floor-slab
Corrosion	Cathodic protection	Floor-slab

BASIC REQUIREMENTS FOR CONCRETE REPAIRS

	Replacement	Floor-slab
	Coating	Floor-slab, beam, columns, wall
Waterproofing	Sealing	Floor-slab, joints, cracks

A repair is generally successful if the repair material is compatible with the original substrate and has the required strength and durability. Other considerations are appearance and economy. The four basic requirements for a satisfactory concrete repair are:

- Concrete removal and surface preparation
- Application of bonding medium
- Proper selection of repair material
- Proper material application

CONCRETE REMOVAL

For all concrete repair situations, regardless of the type of structural member, a basic requirement is to remove all the deteriorated, delaminated, and unsound concrete prior to placing any new patch material. When complete removal of the deteriorated concrete is not accomplished, there is a good probability of patch failures.

Concrete removal in parking structures is more commonly performed by light (15 lbs. maximum) chipping hammers. These light chipping hammers are very convenient for concrete removal around and below the existing reinforcement. The size of the chipping hammer is limited to minimize damage to the surrounding area.

Removal of relatively thin layers of concrete over large areas, such as shallow concrete removal from the surface in preparation for placement of an overlay, may be more effectively done with a scabbler, scarifier or planer, than with chipping hammers. These machines are particularly effective in cleaning the surface by removing the top surface contamination of traffic oils and greases. In addition, high-pressure sand and water blasters are capable of removing deteriorated concrete and many surface contaminants. Scarification of concrete surfaces using an abraded metal-shot-rebound method has also been used in the preparation of surfaces for installing a membrane or overlay. Some other methods utilized for very extensive full-

depth slab removals include saw cutting and large, mechanically operated breakers.

An alternative to the manual methods of concrete demolition can be accomplished by Hydrodemolition also known as "Hydromilling" to remove concrete to a prescribed depth. This process requires specialized equipment and skilled operators to accomplish the concrete removal. The concrete removal technique utilizes high pressure water to remove deteriorated and sound concrete.

Hydrodemolition is not used as much for demolition as it is for surface restoration and protection projects. When concrete has deteriorated or the reinforcing steel has begun to corrode, it is necessary to remove any unsound concrete and reinforcing bars (rebar) in order to replace it with new concrete and maintain the integrity of the structure. This process has also been used to remove sound concrete that is not compromised in any way. This may be done to install a preventive cathodic protection system, or to remove concrete in structures in which vibration is a concern. Unlike jackhammers, hydrodemolition does not produce vibrations throughout a structure and therefore does not introduce micro fractures.

Partial depth removal involves the selective removal of deteriorated concrete to a certain depth or for a concrete overlay to a depth exceeding 3/4". It is usually done in the case of concrete restoration projects where embedded objects such as rebar are substantial and need to be preserved.

SURFACE PREPARATION

Another important step in the repair of concrete structures is the preparation of the surface to be repaired. The repair is only as good as the surface preparation, regardless of the repair method or materials selected. For reinforced concrete structures, repairs must include proper preparation of the reinforcing steel in order to develop a bond with the replacement concrete.

BONDING MEDIUM

Bonding of the new patch or overlay to the concrete substrate is essential for a durable repair. An adequate bond between the patch or overlay material is required to resist stresses due to differential volume change between the patching material and the substrate. The failure can occur either at the bond interface or adjacent to the interface within the section of the lower strength material.

Once debonding is initiated, the effects of freeze-thaw cycling and dynamic impact of vehicle wheel loads can contribute to the progressive deterioration of the repaired area. Debonded areas are generally prone to cracking. The cracking is usually through the entire thickness of the patch or overlay material, which can permit water leakage to the interface and the underlying substrate.

MATERIAL APPLICATION

Concrete repair materials must be properly placed, consolidated, and cured. A good repair specification will include specific requirements for concrete placement, consolidation, and curing for patches and overlay. The most common application and placement methods include the following:

- Cast-in-place concrete for patches, overlays, and floor-slab replacements.
- Shotcrete repairs for overhead and vertical patches.
- Formed and pumped concrete or mortar for deep repairs to slab, beam and columns sections.
- Trowel applied mortars for shallow overhead and vertical patches.

PATCHING

Patching replaces deteriorated concrete on the surface of horizontal and vertical members. When properly implemented, patching will restore structural integrity, as well as improve serviceability or correct cosmetic damage.

Patching can be referred to as "partial-depth" or "full-depth" based on the extent of concrete removed. Quite often, for thin slab sections (less than 5 inches thick) it is difficult to

perform shallow concrete removals and usually results in full-depth concrete removal.

As a general rule of thumb, a full-depth patch is specified when concrete removal equals or exceeds half the slab's thickness.
Patching consists of removing the unsound concrete, cleaning the reinforcing steel exposed by removals, preparing the exposed surface, and installing a specialty concrete patching material. Patch edges for partial-depth removals are often chipped or saw-cut to near vertical to a depth of at least 3/4-inch, as opposed to leaving a "feather-edge".

Although patches of high-quality (low permeability) material are installed, the adjacent surface tends to have lower durability. In chloride-contaminated slabs, the durability of this repair system is adversely affected by delamination and spalling of floor-slab areas due to continuing corrosion of reinforcement beyond the patch limits. Patching can, however, rapidly restore the structural integrity of the member and limit further damage to embedded reinforcement. The emphasis is on repairs that address only existing damage.

REPLACEMENT

When a floor slab is extensively deteriorated, removal and replacement of the slab may be a viable repair alternative, provided the underlying members are in relatively good condition. This is referred to as "partial-depth" replacement. Floor-slabs that are less than 5 inches thick are difficult to repair. Concrete removals on pan-joist, waffle-slab, and one-way slab systems usually result in complete removal of the thin slab. The existing underlying beams and waffle or pan-joist ribs are used to support the new slab, provided adequate measures are taken to ensure composite behavior of the rebuilt floor system. The new slab can be reconstructed with durable concrete and epoxy-coated reinforcement and other internally-built corrosion protection systems to extend the service life of the facility. However, the new slab is susceptible to cracking due to volume-change restraint offered by the existing underlying members. In extreme cases, "full-depth" replacement of the floor system (slab and underlying elements) may be necessary.

CATHODIC PROTECTION

In concept, the only method that will effectively stop the corrosion of embedded reinforcement in chloride-contaminated slabs is cathodic protection. Cathodic protection works by putting energy in the form of electrical current into the concrete to be protected. The introduced energy prevents corrosion in the steel reinforcement. Corrosion of metal is, put simply, a loss of energy from that metal. Feeding in more energy prevents that corrosion. Cathodic protection is the only protective measure that prevents corrosion from starting. If corrosion has already started before cathodic protection is introduced, it is the only protective measure, which will stop corrosion. All other measures described are but delaying actions, though some are very effective; they will slow corrosion, but not stop it.

Application of cathodic protection can only mitigate corrosion; repairs to restore structural integrity and serviceability must still be performed. Therefore, a cathodic protection system is more cost-effective when it is applied to structures with limited concrete deterioration, such as floor-slabs in the initial stages of deterioration. Also, a cathodic protection system is not economical when applied to structures with less than 10 years of planned or anticipated life expectancy. Presently, only conventionally reinforced concrete structures have been cathodically protected. Cathodic protection of prestressing steel is still in a developmental stage. The concern is due to evolution of hydrogen ions as a result of application of cathodic protection to concrete structures. Hydrogen ions can potentially contribute to embrittlement of the high strength prestressing steel and abrupt tendon failures. Hydrogen embrittlement is not a concern for conventional mild steel reinforcement.

SEALING

Sealing consists of performing repairs that will reduce water leakage through floor-slab cracks and joints. Since sealing by itself cannot be considered a repair method, it must always be performed in conjunction with the other repair methods described earlier. Potential sources of water leakage are:

1) expansion joints,
2) construction joints,

3) control or isolation joints, and
4) construction- or service-related cracks.

Under certain circumstances, cracks can be repaired by epoxy injection. The material and its application are described in ACI 224.1R. Epoxy injection of service-related (active) cracks usually results in cracking adjacent to previously injected cracks. Active cracks should be treated with a flexible joint sealant material.

Surface or pattern cracks that are inactive can be treated by application of high molecular weight methacrylate (HMWM). The concrete surface is soaked to fill and heal the cracks. These "crack healers" have a viscosity slightly greater than water. Surface cracks can also be treated with a traffic bearing elastomeric membrane. In addition, these membranes also have the ability to bridge and protect the surface from active cracks. Application of silane sealer is also sometimes effective in keeping moisture out of fine hairline surface cracks that are not active.

SUMMARY

The intent of these sections was to discuss our commonly used repair approaches and methods for restoring parking structures. Construction and design deficiencies, along with errors in design or construction, may require strengthening or stiffening of the structural element. Also, severely deteriorated structural elements in a parking facility may require strengthening. In these instances, the primary cause of the distress must be first determined, and the appropriate corrective actions taken. These situations are generally uncommon. If construction and design deficiencies are present, then repair and/or strengthening methods must address the specific conditions encountered.

PATCHING MATERIALS

REPAIR MATERIALS

The selection of patching and concrete material is based on the consideration of the following five characteristics, as they relate to the member being repaired:

- Thermal compatibility or incompatibility
- Shrinkage
- Strength of repair material and the substrate
- Durability of the repair material and the substrate
- Ability to permit vapor transmission

The compatibility of the repair materials with the existing concrete is an important concern in the selection of appropriate repair materials. Since parking structures are exposed to temperature extremes, a difference in thermal properties of the repair material and the existing concrete will contribute to the debonding and failure of repaired areas. For parking structures, Portland cement-based patching and overlay materials generally perform better than any other material. Portland cement-based materials also reduce failures associated with a difference in the modulus of elasticity between the repaired material and existing concrete.

The differential shrinkage between the original concrete and the repair material can also contribute to debonding and cracking due to development of shear stresses along the interface. Reducing the shrinkage potential of the concrete repair material is particularly important for full-depth patches and floor-slab replacements. Cracking of full-depth patching and floor-slab replacements is a common occurrence.

For horizontal floor-slab surfaces, low-slump high-density and microsilica modified concrete patching materials that are properly proportioned and adequately air entrained tend to perform well. Also, latex-modified concrete patching materials perform well since they are not as susceptible to freeze-thaw damage. For full-depth floor-slab replacements we specify a concrete mix with low potential for shrinkage.

The patching material used for overhead and vertical surfaces is less susceptible to freeze-thaw deterioration than that used for the floor-slab or horizontal surface. For areas that are protected from direct exposure to moisture, such as the ceiling, rapid-setting prepackaged Portland cement-

based repair materials have been used successfully. Other successfully, but not widely used patching materials are various epoxy and polymer concretes. Polymer concretes are classed as thermosetting and hydrating. Examples of thermosetting polymer concretes are those containing epoxy and those containing methyl methacrylate. Examples of hydrating polymer concretes are those containing styrene-butadiene ("latex") additives which enhance the bond and reduce permeability. Limit the use of thermosetting polymer concrete materials for cosmetic or aesthetic repairs. For large shallow areas, pneumatically applied concrete (shotcrete) has also been used effectively. We specify the wet process with air-entrainment when there is a potential for saturation of the surface by moisture.

SEALERS

Concrete sealer is a liquid that is sprayed, squeegeed, or brushed onto the concrete surface. A sealer makes the concrete less permeable to keep chloride ions, moisture and water out of the concrete. However, it cannot completely screen out the chloride ion or moisture like a traffic topping. Many generic types and brands of sealers are available with considerable variation in effectiveness and performance. It is important to select a sealer that will perform. Silanes are considered to be most effective because of their ability to penetrate deeper into the concrete. However, all silanes do not perform equally. The desirable properties of a good sealer are:

- Reduce water absorption
- Effective chloride ion screen and chemical stability when exposed to road salt
- Ability to "breath" which permits moisture vapor transmission
- Resist ultraviolet exposure
- Provide a skid resistant surface after application
- Ability to penetrate to the concrete surface

The better performance of silanes is due to their smaller molecular structure. These sealers can penetrate as much as 1/8 inch into the concrete surface. Depth of penetration is obviously related to the concrete porosity and permeability. Concrete with a higher water-to-cement ratio is more porous and will permit greater sealer penetration than a concrete that is less porous. Also, the sealer

effectiveness is influenced by the sealer application rate and the concrete porosity. Some other factors that can affect sealer performance are condition of the surface at the time of sealer application, surface preparation, moisture content of the concrete and sealer concentration. The effectiveness of the sealer under service condition and/or frequency of reapplication can be monitored.

One recent development is the use of water-based solvents for silanes. The more volatile alcohol based solvent carriers that were traditionally required have been replaced by water-based solvents. This is due to the very stringent regulations for Volatile Organic Compounds (VOC) that have been imposed by several states. These state standards exceed the current Environmental Protection Agency's Clean Air Act Amendment standards. Therefore, some manufacturers have already developed solvent-free 100% silane sealers. This highly concentrated sealer is obviously more expensive than current sealers packaged at 20 to 40% silane content. The new sealers can potentially last longer due to greater penetration into the concrete surface and provide better corrosion protection due to their high solids content.

MEMBRANES (TRAFFIC TOPPING)

The present ASTM test methods for testing properties of traffic-bearing membranes are not adequate to evaluate the performance and the abrasion resistance of systems. There are many manufactures that supply the membrane but all membrane systems do not perform equally. Some basic characteristics that help to evaluate the systems are:

- Impermeability - Should be impermeable to water under normal use.
- Tear Resistance - Membrane should be capable of bridging cracks under normal as well as cold-weather conditions.
- Adhesion - Intercoat as well as adhesion to the substrate.
- Moisture Vapor Transmission - The membrane should be capable of breathing.
- Material Stability - Stability under service-exposure conditions to perform over extended time period.
- Chemical Resistance - Should be resistant to gasoline, oil, and antifreeze spills.

- Ease of Installation - The waterproofing material and installation procedures must be tolerant of site conditions, as opposed to ideal laboratory conditions.

We select membrane systems based on performance history, compatibility with other sealant systems, cost and the manufacturer's reputation to properly install and service the topping. Improper application of polyurethane membranes can result in localized imperfections, such as blistering and pinholes. Therefore, the performance of the membrane systems is affected by the care taken to install the systems. These systems require more frequent maintenance in high traffic areas. The service life and the level of maintenance are affected by the abrasion resistance of the system.

The stricter VOC regulations imposed by several states have led to the recent development of some solvent-free (100% solids) membrane systems. Currently, most of the urethane membrane systems are solvent based. Also, low-odor systems are offered by many manufacturers for membrane installation in enclosed areas or areas adjacent to occupied spaces in buildings. Presently, there are no standards to measure or compare the odor characteristics. After all, odor is a very subjective issue and cannot be defined.
The life expectancy of a properly applied and maintained state-of-the-art traffic topping is approximately 15 years, requiring top coat reapplication to the entire surface to further extend the service life. For surfaces exposed to direct sunlight and ultraviolet lights, the life expectancy is reduced to 10 years.

Traffic topping has a high initial application cost that is 6 to 8 times the cost of a protective concrete sealer. The membrane is susceptible to traffic abrasion and wear, requiring more frequent maintenance in heavy traffic areas such as entry/exit points, drive aisles and turn areas. Also, traffic topping will require use of mechanized scrubbers and sweepers to clean the surface. It is normal for the traffic topping to gradually discolor when directly exposed to sunlight. Black or dark membranes will reduce the light levels within the facility, particularly in the lower covered levels.

OVERLAYS

The most widely used specialty concrete overlay systems that have demonstrated a satisfactory long-term performance history are latex-modified concrete (LMC) and low-slump high-density concrete (LSDC). LMC is more effective at preventing additional water and salt penetrations into the base slab than LSDC. However, the long-term durability of both systems appears to be equivalent. Polymer-concrete overlays have been used only on a limited scale and have not been fully evaluated. Such systems, whether referred to as polymer or epoxy concrete, can offer solutions to surface deterioration problems and should not be excluded from consideration. Another specialty concrete overlay utilizing silica-fume-modified, high-density concrete is currently available. The installation cost of the silica-fume modified overlay is lower than that of the LMC system.

GENERAL

The selection of repair schemes to restore a parking structure is related to the following six basic issues:

- Nature of distress
- Extent of deterioration
- Type of structure
- Repair alternatives
- Life expectancy of the repaired structure
- Economics

The same repair approach cannot be used for all structures. The approach selected to restore a structure damaged by corrosion of embedded reinforcement will be different from that selected for a slab damaged by freezing and thawing. In addition, the repair approach selected must address the adverse effect of other contributing factors, such as the quality of the concrete, poor drainage, floor-slab cracking, shallow concrete cover over reinforcement, and lack of adequate air-entrainment.

The extent of the deterioration and type of structural system will also influence the selection of the repair scheme. For instance, if a 4-inch thick slab of a pan-joist system is extensively damaged due to corrosion, then patching, sealing, or cathodic protection may not be an acceptable

solution. The appropriate repair scheme in this instance is probably going to be the replacement of the slab of the floor system. Slab replacement will be required, since it is difficult to perform partial-depth repair of slabs that are less than 5 inches thick. On the other hand if the 4-inch slab is damaged by surface scaling, an elastomeric-waterproofing membrane or an overlay may be acceptable solutions. However, if the extent of the freeze-thaw damage extends 1-2 inches below the surface, replacement may be a more appropriate repair method.

In summary, from a technical standpoint, we consider the nature and extent of the deterioration, the pros and cons of the repair methods that are technically acceptable, and the impact of the repair on factors contributing to the deterioration. Also, we make certain that the structure can be repaired (as opposed to replaced), and that all elements of the structure will support additional loads imposed by the repair work.

LIFE EXPECTANCY OF REPAIRS

The life expectancy of repair methods is at best an estimate. Also, estimating the service life of repaired structures is only an educated opinion, based on experience gained from conditions observed in structures with a similar framing system. Therefore, difficulty in estimating the service life of repaired structures complicates the selection of a cost effective repair method. Removal of sound, but chloride contaminated concrete has a significant impact on the life expectancy of repairs. The impact of concrete removal on the various repair methods can be best illustrated by considering the life expectancy of structures repaired by patching.

A distinction can sometimes be made between temporary and permanent repair patches. However, because of the progressive nature of corrosive processes, the service life of even a "permanent" patch is limited. In a temporary patch the concrete is removed only to the level of reinforcement. This situation contributes to progressive deterioration within and adjacent to the patch. Also, the life expectancy of the patch may be limited to only 1 or 2 years. This method of patch repair may be appropriate for structures when serviceability is to be maintained for a limited time, or when

constraints are imposed due to available funds or weather conditions.

In the instance of a relatively permanent patch, the concrete is removed below the existing reinforcement to minimize potential for corrosion within the patch boundary. Also, to control corrosion adjacent to the patch boundary, the existing reinforcement may be epoxy coated. The entire floor surface is then sealed to reduce the deterioration rate of areas beyond the patch boundary. Under these conditions, the life expectancy of the patch repairs is 3 to 5 years.

In certain instances, where longer life expectancy is desirable, concrete removal along the entire length of reinforcement can be specified. The life expectancy of the "strip-patch" repair may be estimated at 10 - 20 years, limited primarily by other contributing factors, such as cracking, lack of air-entrainment and poor drainage that may adversely affect the service life of the structure. However, it is not feasible to implement the strip-patch-repair approach in structures with relatively thin slabs (less than 5 inches thick). Therefore, considerations, such as the structural system involved and the existing reinforcement, size, placement and pattern, will limit the ability to implement this repair approach.

At present, the only way to be assured of a "permanent" repair requiring little maintenance is to remove all concrete that contains chlorides in excess of the corrosion threshold. The emphasis should be on selective, but cost-effective, removals of chloride-contaminated concrete, based on consideration of overall repair strategies and the desired life expectancy of the repairs.

Based on the extent of concrete removals, the structural system involved, and the concrete cover over existing reinforcement, patching and then coating the floor-slab with a waterproofing membrane is likely to extend the service life of the structure 5 - 10 years. An overlay can extend the service life of structures 10 - 20 years. In concept, the only method that will mitigate corrosion of the embedded reinforcement without removal of sound concrete is cathodic protection. Application of cathodic protection is estimated to extend the service life of structures beyond 20 years. Full-depth slab and floor removal can be designed to be rebuilt with a life expectancy of 20 - 40

years. A probable estimate of repair service life of various repair approaches is summarized in Table A3.2. As previously mentioned, estimating the service life of repairs is not easy. Currently there is no industry standard or guide to assess service life of repairs. The only avenue we rely on is experience gained from past performance of the repairs under actual service conditions. Therefore, the table should only serve as a guide. Some of the factors that can influence the service of the repairs include:

- Age of the facility
- Type of structural system and pattern of reinforcement
- Quality of material specified for the original construction and for the repairs
- Extent of deterioration
- Degree of chloride contamination
- Nature of the deterioration
- Adverse conditions
- Geographic location of the structure
- Exposure conditions
- Preventive maintenance

TABLE D.2 – ESTIMATE OF REPAIR SERVICE LIFE

Repair Approach	Service Life (Years)
Patching (shallow)	1 - 2
Patching (deep)	3 – 5
Patching and Sealer	3 – 5
Patching and Traffic Topping	5 – 8
Strip Patching and Sealer	10 - 15
Strip Patch and Traffic Topping	15 – 20
Partial Depth Slab Removal and Concrete Overlay	20 – 25
Full-depth Slab Removal and Replacement	25 – 35+

The table suggests that it is possible to match the service life of the repairs to meet the strategic objectives of the Owner. For instance, patching cannot be considered as the primary repair method if the strategic objective is to keep the structure in service for long term (20 years or more). It is also apparent that repair schemes with longer service life will incur higher repair costs. The repair methods also tend to get more aggressive and disruptive with increased service life expectancy. Therefore, the selection of the repair approach will have an impact on the repair budget, construction schedule, and operations of the facility.

REPAIR ALTERNATIVES

It is not uncommon that we develop several technically acceptable repair alternatives for a structure based on the following overall repair strategies:

1) Do nothing and use up the remaining useful life of the structure.
2) Perform repairs to address only potentially unsafe conditions that presently exist. This approach amounts to performing only "band-aid type" repairs either prior to implementing a comprehensive restoration program or demolishing the structure.
3) Perform necessary repairs to extend the life of the structure 5 - 10 years.
4) Perform necessary repairs to extend the life of the structure 10 - 20 years.
5) Perform repairs to extend the life of the structure 25 years or more.

We have select repair alternatives based on the overall strategies. This process assists in selecting schemes that will address future plans for use of the structure based on funds that are presently available or obtainable. However, we do not consider technically unacceptable alternatives primarily to limit restoration costs.

The nature and the extent of the deterioration will also limit the selection of repair alternatives. For instance, it may not be appropriate to extend the life of a structure 5 - 10 years simply by patching, if the slab is likely to undergo progressive damage due to freezing and thawing. Also, it may not be possible to assure safe operating conditions by performing only limited repairs to a structure that is extensively damaged.

Two important objectives to restore parking structures are:

- Restore structural integrity, and
- Provide protection to extend the life of the repairs and the service life of the structure.

The above objectives provide an opportunity to generate repair alternatives, individually and in combination.

SELECTION OF REPAIR APPROACH

The mechanics of selecting the repair approach involves generating technically feasible repair schemes that are applicable to the structure. This will require the understanding and knowledge of the following:

- Existing Conditions
- Repair methods
- Repair materials
- Advantages and Disadvantages of Repair Methods
- Repair Alternatives
- Life Expectancy of Repairs

The information covered by the items shown above can be conveniently qualified to assist in the selection of a technically appropriate repair approach by using a decision matrix as shown in Table 9. The concept of the decision matrix was developed by the Ontario Ministry of Transportation, Research and Development Branch. This decision matrix concept has been used for selection of bridge-deck rehabilitation methods. The decision matrix presented in Table 9 has been adapted from the material published in the Ministry of Transportation's manual. The table assists in the selection of a repair approach with the least amount of technically unfavorable elements. Note that patching or sealing, as a repair approach by itself, will be ineffective in restoring the slab. Patching and sealing is usually done in conjunction with application of a surface sealer, traffic topping, or an overlay. The exception could be the use of patching and sealing by itself for the purpose of preventive maintenance.

The decision matrix leads, by elimination, to the selection of repair approaches with the least disadvantages. In some cases, most of the schemes considered may be inappropriate. For instance, a structure that is extensively cracked, consisting primarily of active cracks and delaminated over 30% of the floor area, will necessitate working through the selection process and examining the implication of violating each criterion in turn for the selected alternatives. If the structure is considered to be important, then the scheme may consist of slab replacement with a traffic topping to minimize leakage through active floor-slab cracks. The criteria contained in Table B.3 is not rigid, but serves only as a useful starting point from a technical standpoint. Repair strategies, life expectancy, and

economic issues usually influence the selection of the final repair scheme.

ECONOMICS

The selection of a cost-effective repair method consists of:

1) Preparing cost estimates of technically acceptable repair alternatives, and
2) Estimating the service life of the repaired structure.

Repair costs can vary significantly even for the same method of repair. Factors contributing to cost variations are geographic location of the structure, scope of the overall contract, size and volume of the repair work, and availability of materials and qualified contractors. Constraints associated with maintaining traffic during construction and the overall volume of construction work at the time of bidding can also vary the overall repair costs. Realistic estimates are obtained by using costs from an historical record and assigning appropriate contingency factors to the total cost of the work.

In some instances life cycle cost analysis of repair methods is also performed to select an economical repair method. Once again, the economics are difficult to estimate due to the possible inaccuracy in assessed costs and assumed service life of the repaired structure.

Criterion	Patching (Partial or Full-Depth)	Protective Coatings			Replacement (Partial or Full-Depth)	Cathodic Protection [1,2]
		Sealer	Traffic Topping	Overlay		
1. Corrosion-induced deterioration --- > 10% of the floor area	No	No				
2. Corrosion-induced deterioration --- > 30% of the floor area	No	No	No	No		No
3. Moderate scaling --- 10% of the floor area	No	No				Yes/No
4. Non air-entrained concrete	No	No	No			Yes/no
5. High concrete permeability	No	No				
6. Need to improve drainage	No	No	No			Yes/no
7. Shallow concrete cover	No	No	No			Yes/no
8. Limited structural capacity				No		Yes/no
9. Limited floor clearance				No		Yes/no
10. Remaining life less than 10 yrs.				No	No	No
11. Active cracks	No	No		No	No	

[1] Items 3, 4, and 7 are appropriate if the C.P. system selected consists of anode embedded in a concrete overlay.
[2] Items 8 and 9 will be appropriate if the C.P. system consists of anode embedded in slots cut in the structure.
Adapted from: "Bridge Deck Rehabilitation Manual," Part Two: Contract Preparation, Ontario Ministry of Transportation.

TABLE D.3- SELECTION OF A FLOOR-SLAB REPAIR APPROACH

APPENDIX E
TESTING

WALKER
RESTORATION CONSULTANTS

UNIVERSAL CONSTRUCTION TESTING
a Radarvase company

CHICAGO
61 Garlisch Dr.
Elk Grove Village, IL 60007
P 847-459-9090
F 847-459-9015

DALLAS / FT WORTH 972.432.6666
SAN ANTONIO / SO. TEXAS 210.775.1637
AUSTIN / WACO 512.551.0336
HOUSTON 281.446.7363
MIAMI 954.676.4147

Mr. Austin T. Cowles austin.cowles@walkerparking.com
Walker Restoration Consultants
Design Engineer
20 Park Plaza, Suite 1202
Boston, MA 02116

Re: Laboratory Studies of Concrete Samples
High Hanover Parking Facility
Portsmouth, New Hampshire
WRC Project No. 16-2575.00

Dear Mr. Cowles:

Universal Construction Testing, Ltd. (UCT) has completed laboratory studies of six (6) concrete core samples and fifteen (15) concrete powder samples from the referenced project which were delivered to our laboratories on November 7, 2014.

The scope of our work, as outlined in your transmittal letter of November 5, 2014, consisted of compressive strength testing, chloride content analysis profile: 0 to 1 in. (0 to 25 mm), 1 to 2 in. (25 to 51 mm) and 2 to 3 in. (51 to 76 mm) depths and petrographic examination with air-void system analysis.

LABORATORY STUDIES

Compressive Strength Test

Compressive strength testing was determined in accordance with ASTM C42, *Standard Test Method for Obtaining and Testing Drilled Cores of Concrete*.

Chloride Content Analysis

Chloride content analysis was determined in accordance with ASTM C1218, *Standard Test Method for Water-Soluble Chloride in Mortar and Concrete*.

Air-Void System Analysis

Air-void system analysis was performed in accordance with modified point-count method of ASTM C457, *Standard Test Method for Microscopical Determination of Parameters of the Air-Void System in Hardened Concrete*.

Petrographic Examination

Petrographic examination was conducted in general accordance with ASTM C856, *Standard Practice for Petrographic Examination of Hardened Concrete*.

Refer to Table 1 below for individual sample identification, location and testing performed.

Table 1. Core Sample Identification, Location and Test Program

Core ID	**Location**	**Petrographic Examination** (ASTM C856)
P-1	Level 3 Grid Location E 16	X
Core ID	**Location**	**Compression Test** (ASTM C42)
1	Level 3 Grid Location E 12	X
2	Level 2 Grid Location B 3	X
3	Level 2 Grid Location C 16	X
4	Level 2 Grid Location F 5	X
5	Level 2 Grid Location B 3	X
Sample ID	**Location**	**Chloride Content Analysis** (ASTM C1218)
CL-1	Level 3 Grid Location C 14	X
CL-2	Level 3 Grid Location C 14	X
CL-3	Level 2 Grid Line 8 in Garage Addition	X
CL-4	Level 2 Grid Location D 18	X
CL-5	Level 2 Grid Location E 18	X

SUMMARY OF FINDINGS

The test results obtained indicate that the in-situ compressive strength of concrete ranges between approximately 4,000 psi and 6,000 psi.

The chloride content analysis revealed excessively high chloride ion content in the top 1 in. of concrete. There is a drop off in chloride levels below this depth which is an indication that there may have been an external source for the chloride; a likely source would be de-icing salts.

The Chloride content in the concrete ranges from 0.24% to 1.35% at the top surface. These levels exceed the American Concrete Institute's (ACI) acceptable corrosion threshold of 0.15% for reinforced concrete. At the depth of 2" to 3" (51-76 mm), the chloride levels are found to be below the corrosion threshold in three core samples, however, the chloride content in other two core samples still dramatically exceeds the corrosion threshold.

Based on petrographic findings of the single core sample examined petrographically, no distress or major abnormalities are observed; particularly for 30-year-old concrete.

Both ends (surfaces) of the core appear similar in general appearance. Prolonged wear has removed surface paste exposing aggregate particles. The exposed sand grains appear somewhat polished (smooth with slick surface texture).

The concrete was produced using a relatively well graded, 1/2-in. top size, crushed siliceous rock coarse aggregate and a natural sand fine aggregate dispersed fairly uniformly in a hardened paste of portland cement. No signs of supplementary cementitious material, fly ash for example, are observed in hardened paste matrix. The aggregate appears sound and in good condition.

The paste is carbonated to a depth of up to 0.70 in. (18 mm) on one end of the core and 0.50 in. (13 mm) on the other end. Carbonation is a normal chemical reaction that occurs when hydrated portland-cement concrete paste is exposed to carbon dioxide from the atmosphere. The reaction process that takes place is portland cement hydrates forming calcium hydroxide, ($Ca(OH)_2$) in the presence of moisture; portions of this hydration product are converted during carbonation into calcium carbonate, ($CaCO_3$) when exposed to carbon dioxide (CO_2).

A nearly horizontal (to somewhat diagonal) fracture is located approximately 2.5 in. (64 mm) from one end of the core and approximately 2 in. (38 mm) from the other end. The fracture passes through and around aggregate particles. The origin of this crack is unknown and could have been induced during the coring process or during shipment or handling.

A 0.2-in. (5 mm) diameter wire impression has approximately 2.5 in. (64 mm) of concrete cover from one end of the core and approximately 2 in. (38 mm) of concrete cover from the other end. The relatively clean impression of the reinforcement is located in the fracture or just off-center of core midsection.

Refer to Table 2 below for the measured proportions of major components, by volume of concrete, as determined for the core sample (constituents rounded to the nearest whole number).

Table 2. Major Concrete Constituents

Aggregate Volume, %	Paste Volume, %	Total Air Content, %
57	32	11

Due to the age of the concrete (circa early 1980's) and continued hydration since placement, interpreting the original water-cement ratio is highly speculative; therefore a numeric estimation will not be reported. Based on physical paste properties and compressive strength results, the water-cement ratio for this concrete is most likely moderate.

Refer to Table 3 below for the results of compression testing as determined for the cores.

Table 3. Compressive Strength Test Results

Core No.	Length L (in.)	Diameter D (in.)	L/D K	Total Load (lbs)	Uncorrected Compressive Strength (psi)	**Corrected Compressive Strength (psi)**
1	1.72	1.77	0.97 / 0.86	12,090	4910	**4230**
2	2.13	1.77	1.20 / 0.92	13,320	5410	**4980**
3	2.25	1.77	1.27 / 0.93	14,830	6030	**5610**
4	2.34	1.77	1.32 / 0.94	15,740	6050	**5690**
5	2.32	1.77	1.31 / 0.94	14,650	5960	**5600**

Remarks: The cores were tested in air-dry conditions.

Refer to Table 4 below for the results of chloride analysis as determined for the samples.

Table 4. Chloride Content Analysis Results

Sample ID	Level tested, inch from top	Chloride ion (CL^-) Content		
		by weight of concrete %	by weight of cement* %	by weight of concrete (PPM)*
CL-1	0-1	0.074	**0.50**	740
	1-2	0.056	**0.37**	560
	2-3	0.019	**0.13**	190
CL-2	0-1	0.047	**0.31**	470
	1-2	0.038	**0.25**	380
	2-3	0.007	**0.04**	70
CL-3	0-1	0.036	**0.24**	360
	1-2	0.007	**0.04**	70
	2-3	0.004	**0.03**	40
CL-4	0-1	0.214	**1.35**	2140
	1-2	0.205	**1.30**	2050
	2-3	0.120	**0.76**	1200
CL-5	0-1	0.165	**1.04**	1650
	1-2	0.149	**0.94**	1490
	2-3	0.128	**0.81**	1280

Remarks: *cement content = 600 pcy and unit weight = 3800 pcy (141 pcf).

Refer to Table 5 below for the parameters of the air-void system as determined for the core.

Table 5. Parameters of Air-Void System

Parameters \ Core ID	P-1	**Recommended Parameters** (ACI 318/201)
Total Air Content (%)	**10.8**	6.0% (-1 to +2%)
Spacing Factor (in.)	**0.014**	0.008 in. or less
Specific Surface (in^2/in^3)	**390**	600 (in^2/in^3) or greater
Void Frequency (voids per in.)	**9.3**	1.5 to 2 times air content

The core sample is composed of improperly air-entrained concrete. The air content is measured at approximately 11%, by volume of concrete. Properly air-entrained concrete with 1/2-in. (13 mm) coarse aggregate is expected to have an air content of approximately 7%.

Spacing factor is the shortest distance to an air void. Properly entrained concrete should have a maximum spacing factor of 0.008 in. The spacing factor of the concrete represented by the core sample examined is calculated to be 0.014 in.

Specific surface gives an indication of the surface area or size of the air voids. Given the same air content, concrete that contains many small air voids has a higher specific surface than concrete that contains a few large air voids. For properly air-entrained concrete, specific surface is usually above 600 in^2/in^3, whereas the specific surface of the core examined was calculated to be 390 in^2/in^3. This value for specific surface is an indication that the air-void system is coarse with some entrapped air.

Number of voids/inch, which is expected to be 1.5 to 2 times the determined air content, was found to be 9.3.

Air-void distribution is non-uniform. The air content is significantly lower at the top surface as compared to the air-void volume at core depth. Below the zone of reduced air content noted surficially, voids are observed in clusters or coalesced and some are slightly deformed. A reduction in air content at the surface is most often related to finishing of the surface.

Individual results of the petrographic examination are summarized below.

Core Sample P-1

General

The core sample is 1.75 in. (44 mm) diameter and approximately 4.80 in. (122 mm) long; full deck thickness. The ends of the core sample are worn surfaces exhibiting exposed aggregate particles; the exposed sand grains appear polished (smooth and slick surface texture). Water droplets applied to the existing surface in the laboratory tend to bead. The consolidation of the concrete is good with no signs of segregation.

Reinforcement

An impression from what appears to have been a single 0.2-in.- (5-mm) diameter steel wire is located approximately 2.5 in. (64 mm) from one end of the core and approximately 2 in. (51 mm) from the other end (impression is in the fracture); the impression is relatively clean.

Cracks

A nearly horizontal/diagonal fracture is located just off center of the core sample passing through and around aggregate particles; fracture has the same distance from core ends as wire impression.

A short sub-surface microcrack is observed at a depth of approximately 0.10 in. (3 mm); microcrack seems to interconnect a few air voids.

Other cracking is present in this core sample; microcracks were observed and are randomly oriented in the body of the concrete, or extend from the surface; depth of surface cracks is approximately 0.20 in. (5 mm).

Unit Weight

Sample size was insufficient (too small) to acquire reliable density results; although, it appears that the core sample was produced using normal-weight concrete.

Air Content

The air content is 10.8% and the concrete is considered to be air-entrained, however, air-void distribution is non-uniform. The air voids are locally non-existent at the surface and occurring in clusters or coalesced and deformed. The air-void system is considered coarse.

The following parameters of the air-void system were determined:

Spacing factor	-	0.014 in.
Specific surface	-	390 in^2/in^3
Void frequency (voids/inch)	-	9.3

Secondary Deposits

No secondary deposits, such as ettringite, are observed in air voids, cracks or other available surfaces.

Carbonation

The paste is carbonated to a depth of up to 0.70 in. (18 mm) on one end of the core and 0.50 in. (13 mm) on the other end.

Depth of carbonation; phenolphthalein method:

- high alkalinity (pH), noncarbonated paste turns magenta
- low alkalinity (pH), carbonated paste remains unaffected

Water-Cement Ratio

The water-cement ratio is probably moderate.

Paste Properties

Color	*Medium-light gray; darker surface*
Hardness	*Moderately hard to hard*
Luster	*Dull to subvitreous*
Paste Volume	*Paste content is 32.2%*
Morphology of Calcium Hydroxide	*Medium-size crystals*
Mineralogy of the Cement	*Portland cement (C-S-H)*
Hydration	*Normal*
Residual Portland Cement Grains	*3% to 6% clinker particles*
Supplementary Cementitious Materials	*None observed*

Paste-Aggregate Bond

The paste-aggregate bond is moderately tight.

Aggregate

The aggregate is relatively well graded and distribution is fairly uniform. Aggregate volume is 57%. The aggregate appears sound, exhibiting no evidence of deleterious reactions with the paste.

The coarse aggregate is 1/2-in. (13 mm) top size crushed volcanic and metamorphic rocks (i.e. granite, granodiorite and gabbro). Visual estimation of roundness: angular to sub-rounded; and sphericity: bladed to elongate.

The fine aggregate is natural sand composed mainly of quartz, feldspar, mica, amphibole, granite and small amounts of various other rocks and minerals. Individual sand grains are angular to rounded and elongate or bladed to equidimensional.

Photographs and Photomicrographs of the core sample examined petrographically.

Figure 1 – Side view of core sample as-received for examination. The quality and integrity of the concrete appears relatively good; arrow clearly indicates the general characteristics of the open fracture.

Figure 2 – One core end of the sample as-received for examination; the opposing end exhibits similar features (worn surface with little to no texture; smooth and polished sand grains). Scale is marked in 1/16-in. increments.

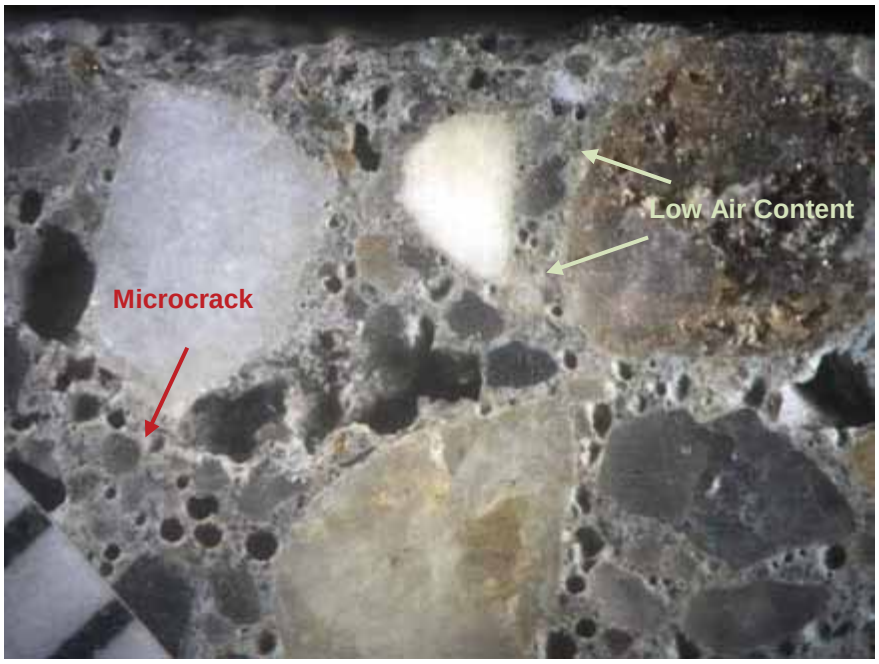


Figure 3 – Photomicrograph showing the air-void system in the near-surface region (millimeter scale). Note coalesced and deformed air voids just below the zone of low air content concrete at the surface; the paste of the low air-content concrete is darker gray (denisified). A sub-surface microcrack appears to interconnect a few voids.

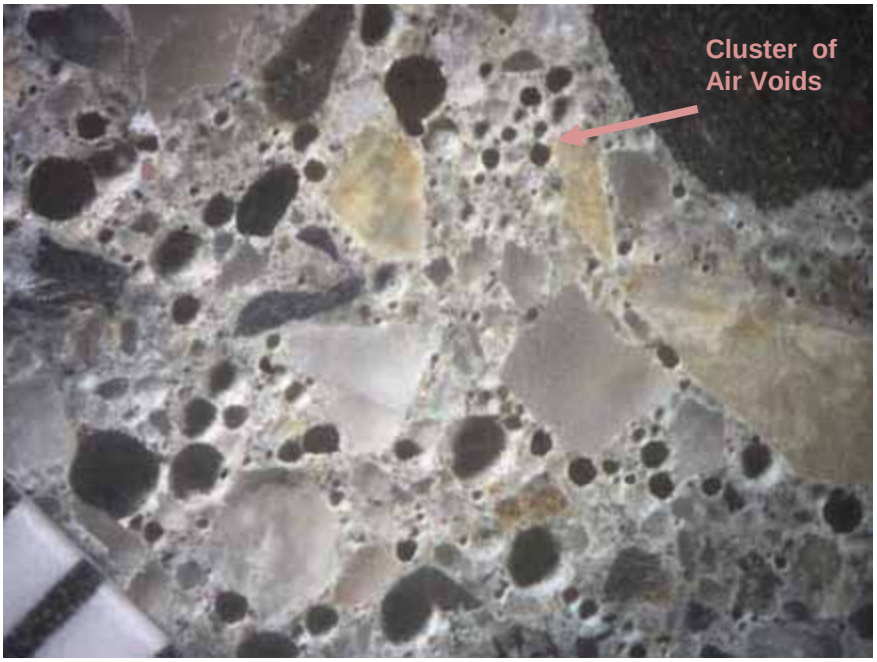


Figure 4 – Photomicrograph showing the air-void system at depth (millimeter scale). Air-void distribution is non-uniform, occasionally occurring in clusters surrounded by concrete paste where air voids are scarce. Overall the air-void system is coarse.

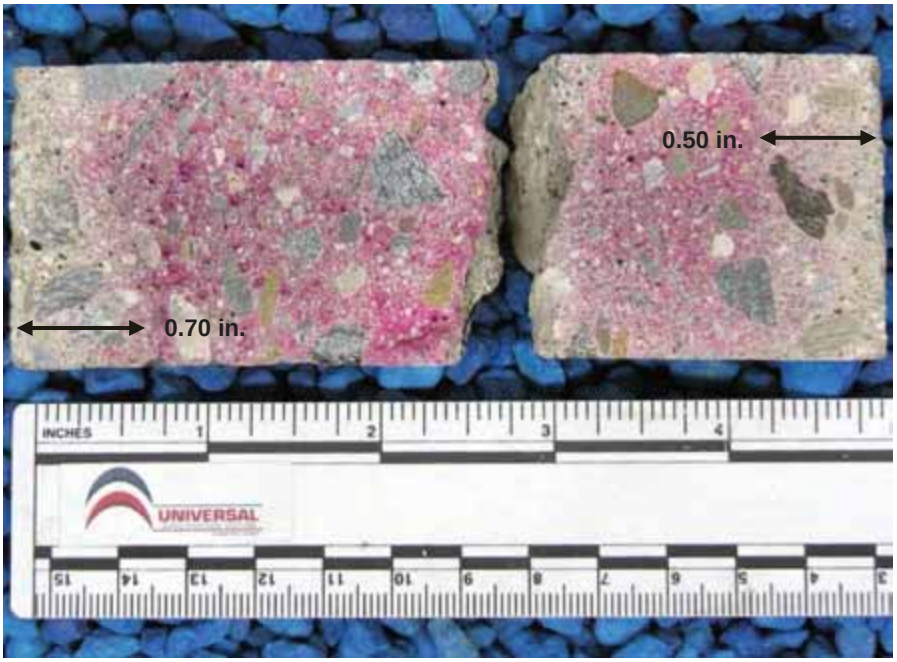


Figure 5 – Cross section showing the depth of carbonation at both ends of the core.

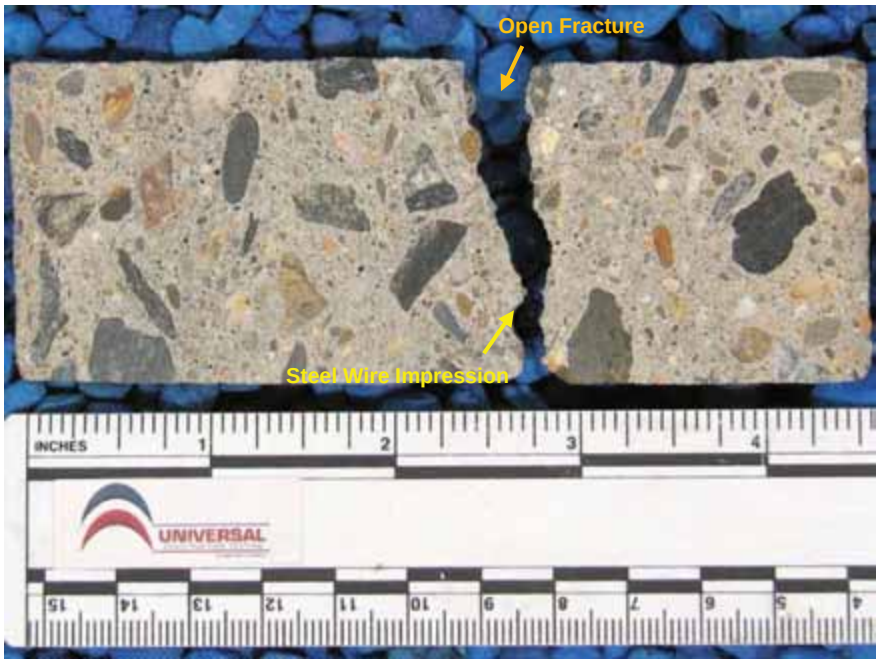


Figure 6 – Cross section of the core sample showing the general characteristics of the concrete. Coarse aggregate content is slightly low and paste content is slightly high.

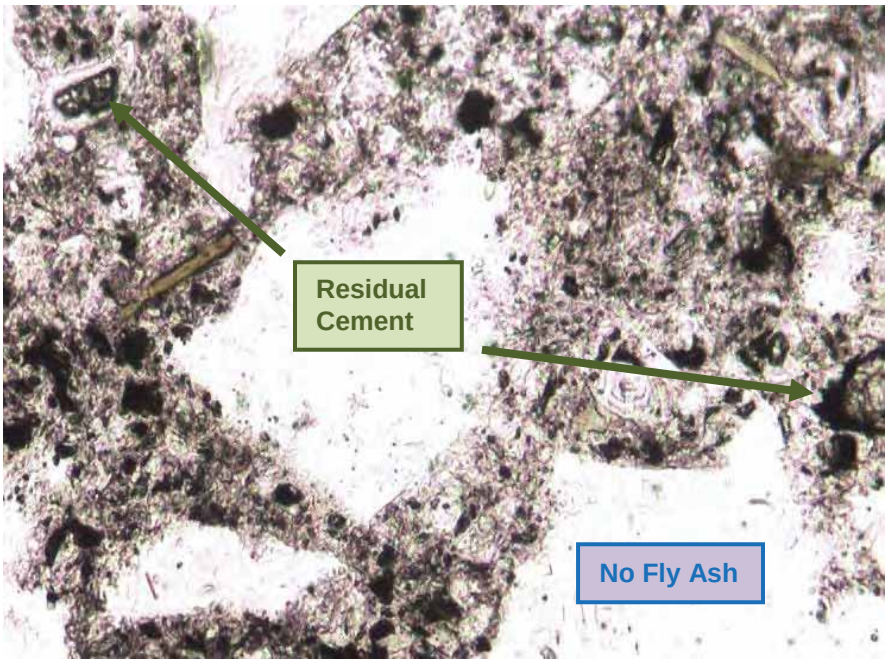


Figure 7 – Thin-section photomicrograph showing the cement-paste microstructure. 100X, plane light. The concrete was produced using portland cement; no supplementary cementitious material, such as fly ash, is present.

****

We appreciate the opportunity to be of service to you. Should you have any questions, please do not hesitate to contact us.

Sincerely yours,
Universal Construction Testing, Ltd.

Elena Emerson
Director of Laboratory

David B. Vollmer
Senior Consultant - Petrographic Services

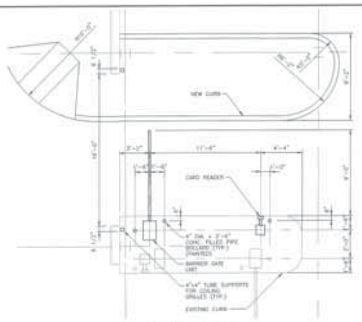
Mark E. Hughes, P.E.
General Manager

mh-dv-ee / Report 14254

Samples will be discarded after ninety (90) days unless other disposition is requested by you.

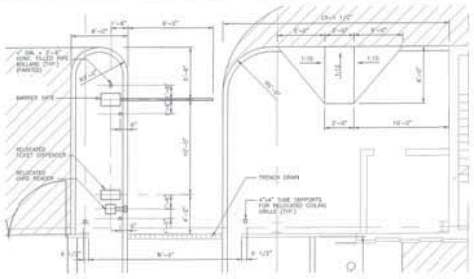
APPENDIX F
TYPICAL FLOOR PLAN DRAWINGS

WALKER
RESTORATION CONSULTANTS

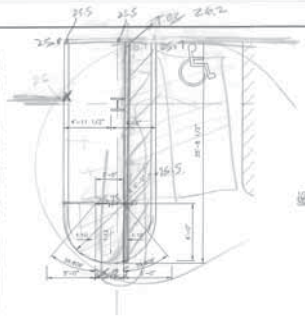


ADD ALTERNATE #2

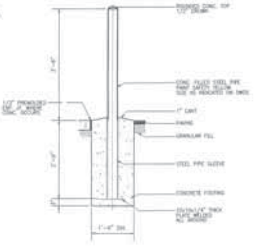
1 REVISED ENTRANCE AT FLEET STREET
SCALE: 1/4"=1'-0"



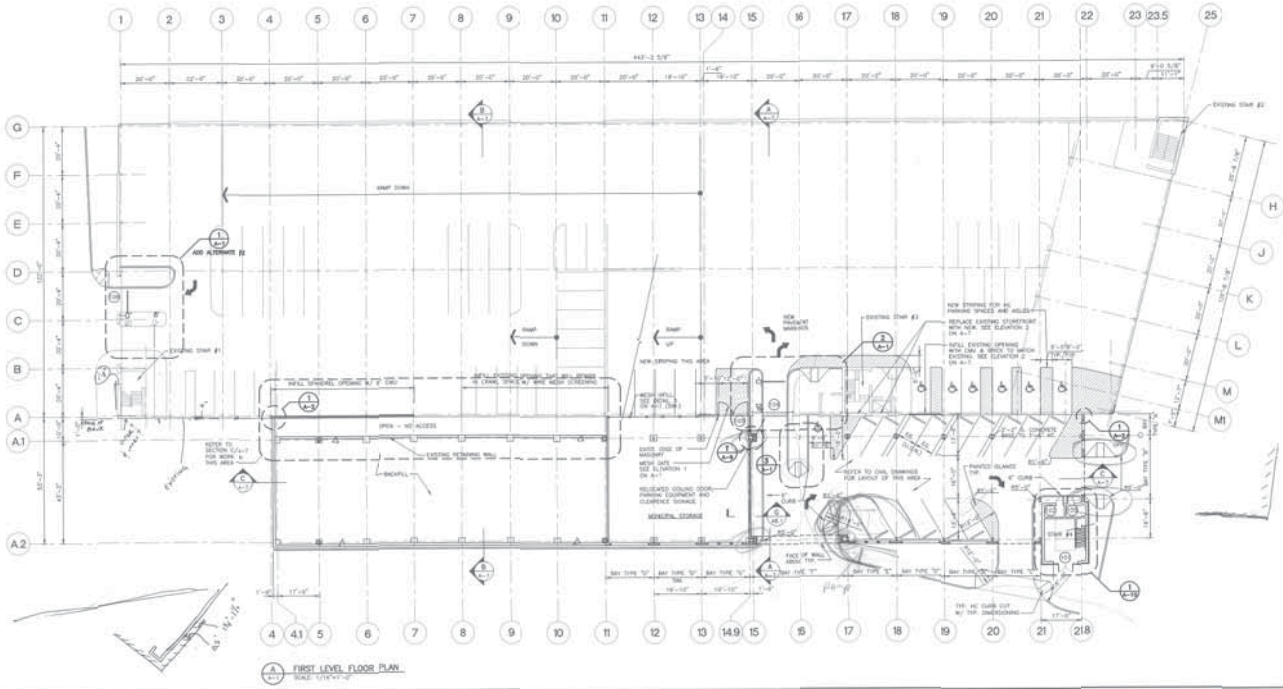
2 ENLARGED PLAN OF ENTRANCE AT LADD STREET
SCALE: 1/4"=1'-0"



3 TYPICAL HANDICAPP CURP RAMP
SCALE: 1/4"=1'-0"



4 TYPICAL PROTECTIVE BOLLARD DETAIL
SCALE: 1/4"=1'-0"



A FIRST LEVEL FLOOR PLAN
SCALE: 1/16"=1'-0"

100% SUBMITTAL - ISSUED FOR GMP OCT. 29, 1999

Revisions	
Approved	

NORTH

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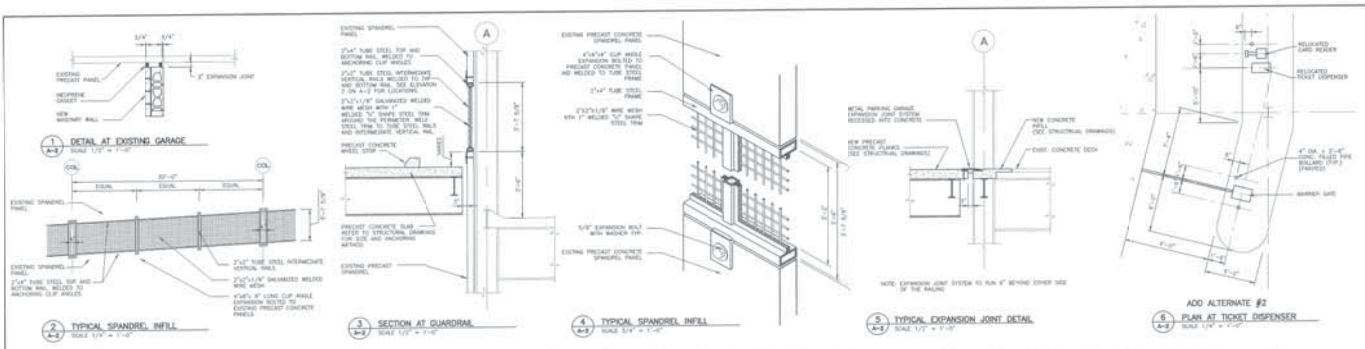
Proj. Mgr. HS
Designed EF
Drawn FC
Checked RCS
Scale 1/16"=1'-0"
Date 10-29-99

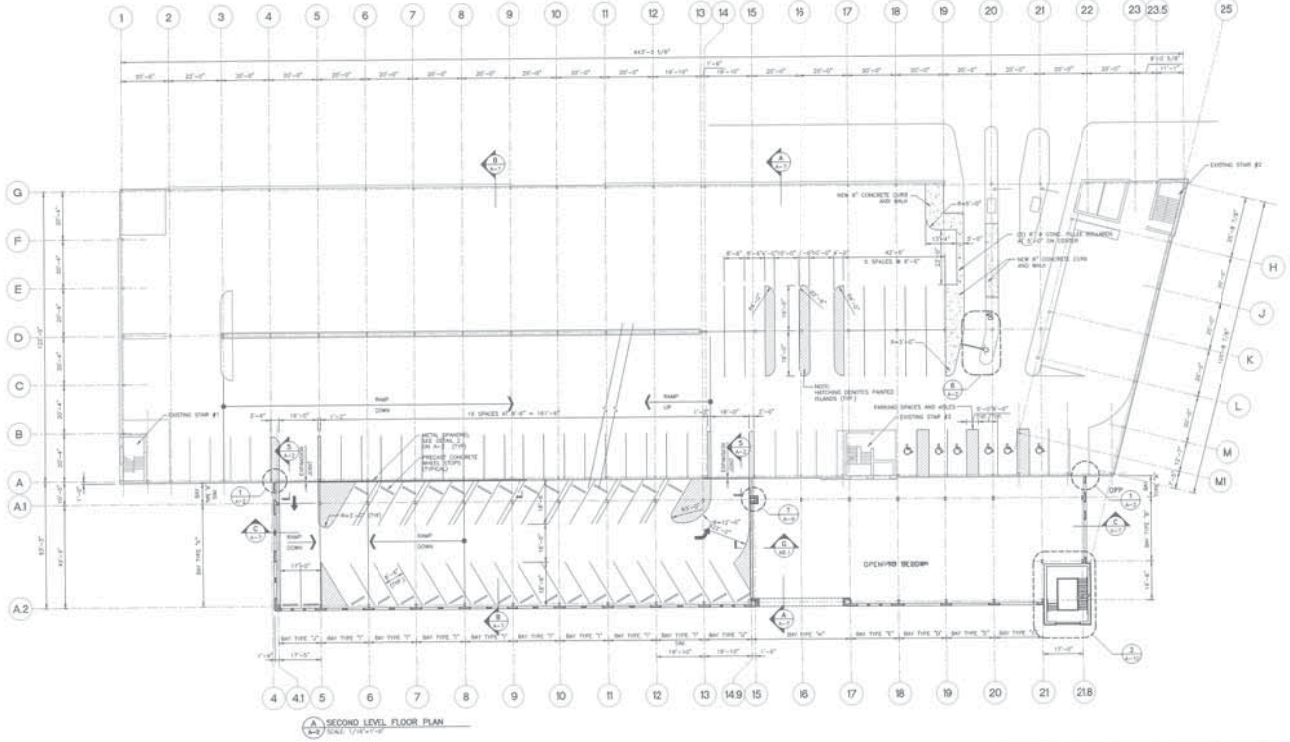
CITY OF PORTSMOUTH
HIGH-HANOVER PARKING FACILITY EXPANSION
PORTSMOUTH, NEW HAMPSHIRE

ARCHITECTURAL
FIRST LEVEL PLAN

Proj. No. 15154

Dwg. No.
A-1





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CITY OF PORTSMOUTH
HIGH-HANOVER PARKING FACILITY EXPANSION
PORTSMOUTH, NEW HAMPSHIRE

ARCHITECTURAL
SECOND LEVEL PLAN

Proj. No. 15159

Dwg. No.
A-2

DOOR SCHEDULE

LEVELS 1,2,3,4 & 5

NUMBER	SIZE	DOORS TYPE	DOORS MAT.	DOORS FIN.	FRAMES TYPE	FRAMES MAT.	FRAMES FIN.	U.L. LABEL	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	REMARKS
101	PAIR - 3'-0"x7'-0"x1-3/4"	D1	ALUM.	FAC/FIN.	F1	ALUM.	FAC/FIN.	-	H-1	J-1	S-1	FIELD VERIFY HEIGHT
102	3'-0"x7'-0"x1-3/4"	D2	METAL	PAINT	F2	METAL	PAINT	-	H-2	J-2	S-1	
103	3'-0"x7'-0"x1-3/4"	D2	METAL	PAINT	F2	METAL	PAINT	-	H-2	J-2	S-1	
104	16"-0"x	D3	STL.	-	-	STL.	-	-	-	-	-	RELOCATED EXISTING DOOR
105	PAIR - 6'-0"x7'-0"	E4	GAL. STL.	-	-	GAL. STL.	-	-	-	-	-	
106	16'-0"x10'-0"	D3	STL.	-	-	STL.	-	-	-	-	-	
201	3'-0"x7'-0"x1-3/4"	D1	METAL	PAINT	F2	METAL	PAINT	-	H-2	J-2	S-1	
401	3'-0"x7'-0"x1-3/4"	D1	METAL	PAINT	F2	METAL	PAINT	-	H-2	J-2	S-1	
501	3'-0"x7'-0"x1-3/4"	D1	METAL	PAINT	F2	METAL	PAINT	-	H-3	J-3	S-1	

PRESSED METAL DOOR FRAME PROFILES
SCALE: 3"=1'-0"

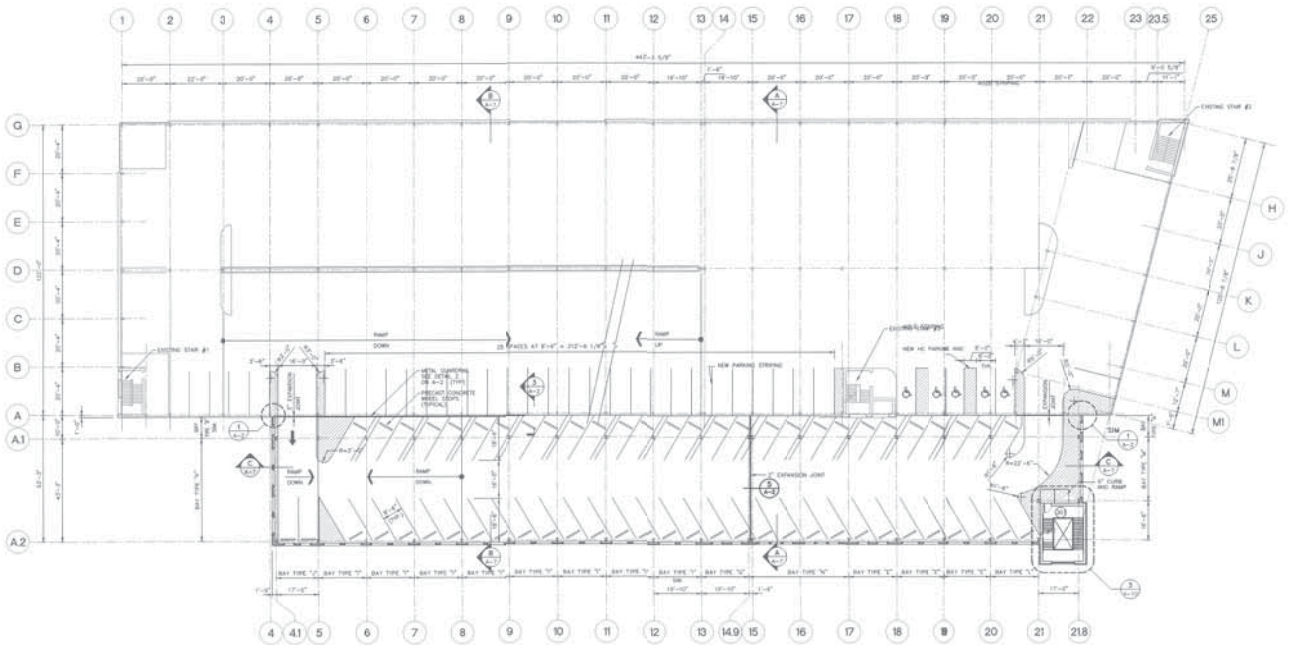
DOOR SILL DETAILS
SCALE: 1 1/2"=1'-0"

DOOR HEAD DETAILS
SCALE: 1 1/2"=1'-0"

DOOR JAMB DETAILS
SCALE: 1 1/2"=1'-0"

DOOR TYPES
SCALE: 1/4"=1'-0"

FRAME TYPES
SCALE: 1/4"=1'-0"



A THIRD LEVEL FLOOR PLAN
A-3 SCALE: 1/16"=1'-0"

100% SUBMITTAL - ISSUED FOR GMP OCT. 29, 1999

Revisions / Approved

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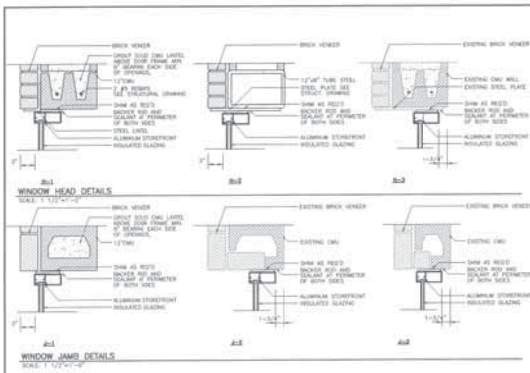
Scale 1/16"=1'-0"
Date 10-29-99

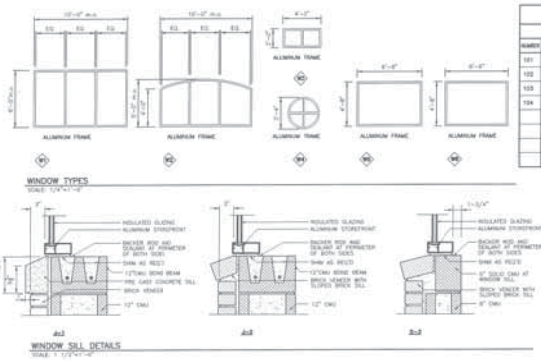
CITY OF PORTSMOUTH
HIGH-HANOVER PARKING FACILITY EXPANSION
PORTSMOUTH, NEW HAMPSHIRE

ARCHITECTURAL
THIRD LEVEL PLAN

Proj. No. 15159

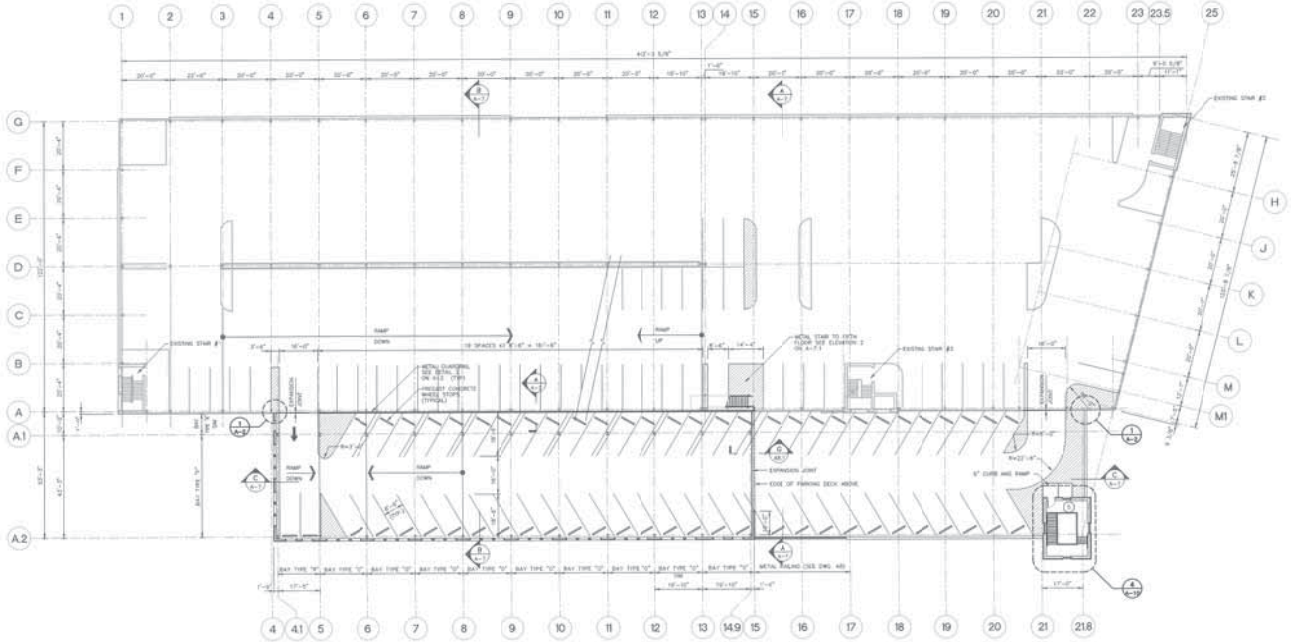
Dwg. No.
A-3





ROOM FINISH SCHEDULE

ROOM		FLOOR	BASE	WALLS		CEILING			REMARKS
NUMBER	NAME	MAT.	FIN.	MATERIAL	MAT.	FIN.	MAT.	FIN.	HGT.	
101	STAIR #4	CONC.	SEALER	CMU	CMU	PAINT	EXP.	PAINT	-	
102	ELECTRICAL ROOM	CONC.	SEALER	CMU	CMU	PAINT	G.W.B.	PAINT	-	
103	FUTURE ELEVATOR MACHINE RM	CONC.	SEALER	CMU	CMU	PAINT	G.W.B.	PAINT	-	
104	STAIR #1– FIFTH FLOOR	CONC.	SEALER	CMU	CMU	PAINT	EXP.	PAINT	-	



A FOURTH LEVEL FLOOR PLAN
SCALE: 1/16"=1'-0"

100% SUBMITTAL - ISSUED FOR GMP OCT. 29, 1999

CITY OF PORTSMOUTH
HIGH-HANOVER PARKING FACILITY EXPANSION
PORTSMOUTH, NEW HAMPSHIRE
ARCHITECTURAL
FOURTH LEVEL PLAN

Proj. Mgr. H.S.
Designed T.C.
Drawn T.C.
Checked H.S.
Scale As noted
Date 10-29-99

Proj. No. 15159

Dwg. No.
A-4

Revisions
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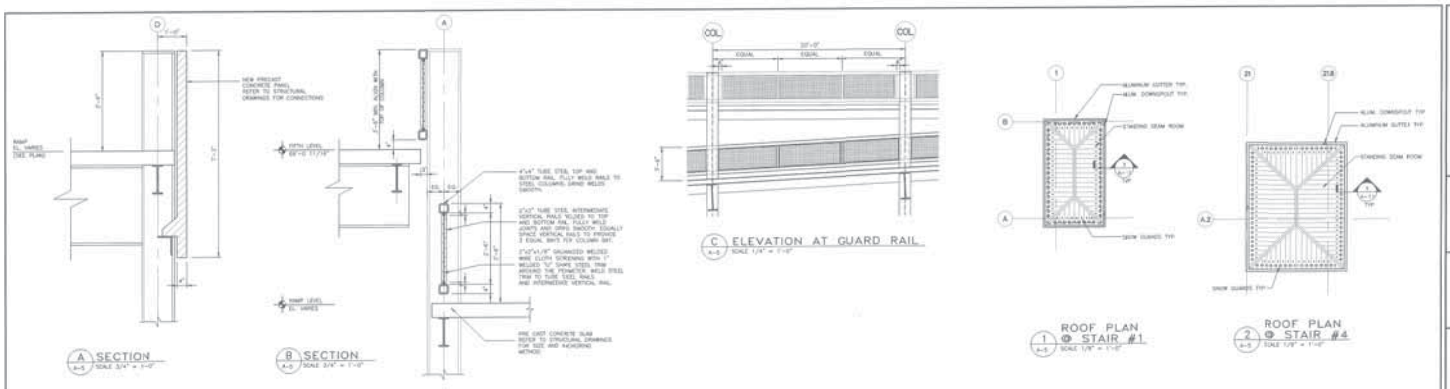

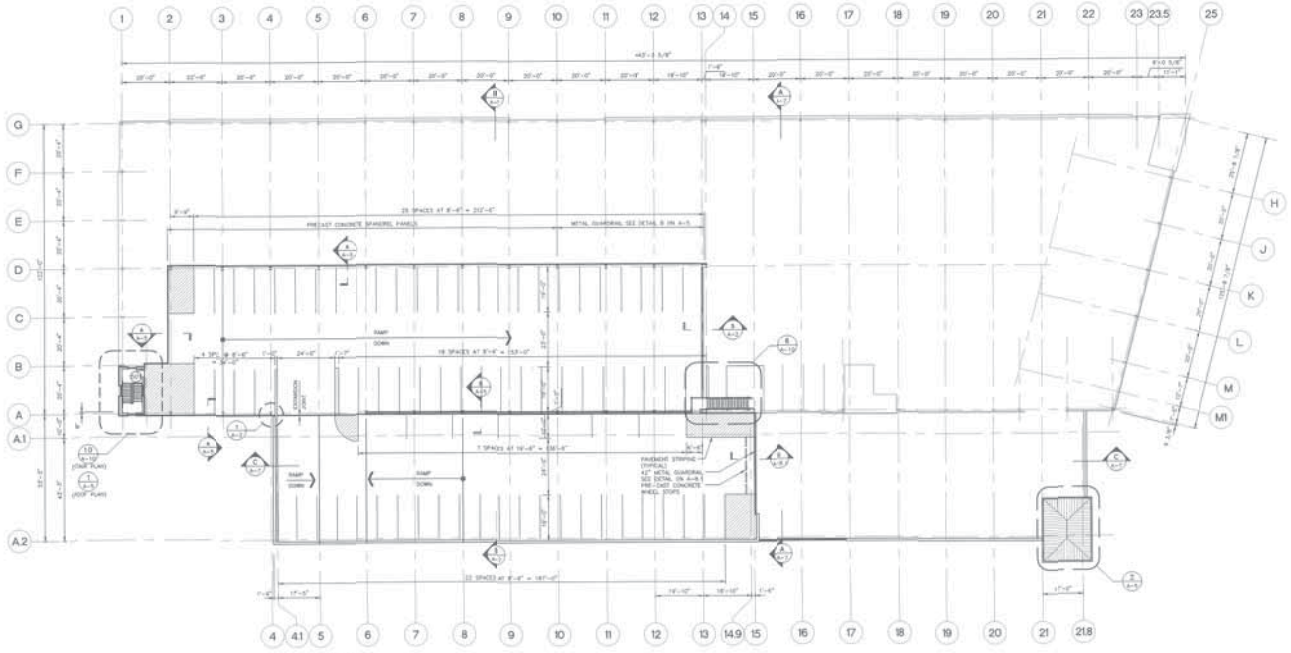

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Remarks
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CITY OF PORTSMOUTH
HIGH-HANOVER PARKING FACILITY EXPANSION
PORTSMOUTH, NEW HAMPSHIRE

ARCHITECTURAL
FIFTH LEVEL PLAN

Proj. No. 15159

Dwg. No.
A-5

APPENDIX G
SCOPE OF SERVICES

WALKER
RESTORATION CONSULTANTS

PHASE I – STRUCTURAL EVALUATION AND CONDITION APPRAISAL

1. The Walker team will meet with City representatives to discuss your observations and concerns and to finalize the project requirements and schedule.

2. Review available construction plans and specifications, previous repair documents, reports and other information provided by the City regarding any maintenance or repairs that have been completed to the Facility.

3. Conduct a comprehensive field examination of the physical condition of the structural elements of the facility as follows:

    a. Review supported floors, columns, beams and ceilings, through visual observation to locate and document concrete spalling, cracking, leaching, leaking, joint conditions, and similar deterioration on the concrete portions of the parking structure.
    b. Structural steel framing members will be reviewed to determine the extent of corrosion and possible loss of cross-sectional area of steel.
    c. Perform a chain drag delamination survey of the cast concrete areas of the supported floors to detect sub-surface corrosion induced delaminations which may not yet be visible. Document areas of deterioration.
    d. Perform a visual examination of the framing members for the stair-elevator towers.

4. Perform a visual examination of non-structural systems of the facility including:

    a. The exterior façade, bumper walls, and similar construction
    b. General condition of floor drains, drain leaders, and fire protection piping
    c. General review of the condition of the electrical system
    d. Stair and elevator towers, handrails, guardrails, and other architectural features for visible deterioration that should be corrected
    e. Waterproofing components such as expansion seals, joint sealants and any waterproofing membranes
    f. A general review for ADA compliance

5. Extract samples of concrete from the floor slabs for laboratory testing. Testing will include:

    a. Petrographic analysis
    b. Chloride Ion testing
    c. Compressive strength testing

Following the completion of our field examination, Walker Restoration Consultants will issue a draft report that outlines our findings and recommendations to the City of Portsmouth. The reports will include the following:

1. Observations and findings
2. Discussion of repair requirements and the cause of the deterioration
3. Comparison of alternatives repair methods including their life expectancy, relative costs and cost effectiveness, if appropriate
4. Opinion of probable construction costs for the recommended repairs and repair alternatives
5. Priorities of the recommended repairs so that higher priority repairs can be attended to first.
6. Recommended schedule for implementation of the repairs including methods for phasing the repair work over a multi-year plan
7. Recommendations for typical maintenance activities designed to extend the useful services life of the structure and protect your investment

Walker will meet with the DPW to review the draft. Appropriate changes will be made based on our meeting with DPW, and Walker will make a presentation of our draft report to the City Council. After final comments are received, Walker will issue a final report and presentation to the City.

APPENDIX H
DETERIORATION MECHANISMS

WALKER
RESTORATION CONSULTANTS

The following discussion provides information describing typical types of reinforced concrete deterioration. Concrete deterioration generally falls into one of several major categories: corrosion induced spalling, scaling, cracking, and leaching. Concrete deterioration caused by corrosion of reinforcement steel is prevalent throughout the country. The information regarding scaling deterioration due to freeze-thaw cycling is most applicable to the northern tier states, whereas weathering deterioration due to moisture and temperature cycling is applicable in the southern or mild climate states. Joint deterioration is also included in this discussion because it generally contributes to concrete distress. These deterioration mechanisms are, to varying degrees, the cause of the durability problems experienced by many of today's parking structures.

Spalls in reinforced concrete surfaces are usually dish shaped cavities with varying depths and surface areas. Spalls can occur individually or in-groups covering several hundred square feet.

Spalling is preceded by fractures called delaminations. Delaminations are horizontal splitting, cracking or separation of the concrete slab in a plane roughly parallel to, and generally near the upper surface of the concrete. Delaminations are found frequently in bridge deck and parking facilities. The delamination is generally caused by the corrosion of reinforcing steel or by freezing and thawing. Fractures originate at corrosion damaged reinforcement or other embedded metal and migrate to the nearest surface. Freeze-thaw, traffic action and additional corrosion influence the rate of fracture migration and spall development.

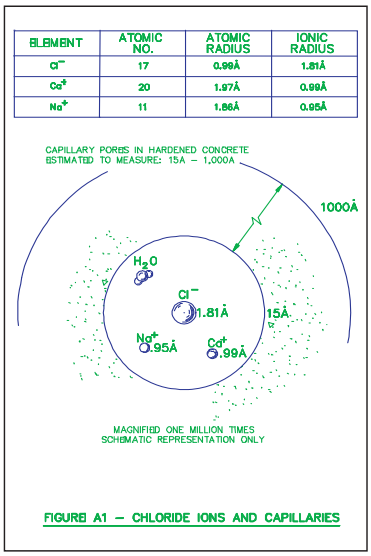


FIGURE A1 – CHLORIDE IONS AND CAPILLARIES

CONTAMINATION

Concrete is a naturally porous material. Excess water, not required for hydration, eventually dries leaving behind an interconnected network of pores. Concrete pores have diameters ranging from 15 to 1,000 Angstroms. See Figure A1.

The chloride ion diameter is less than 2 Angstroms. Penetration of chloride ions into concrete, and subsequent accumulation, occurs readily on surfaces exposed to deicing salts, wetting and drying and freeze-thaw cycles.

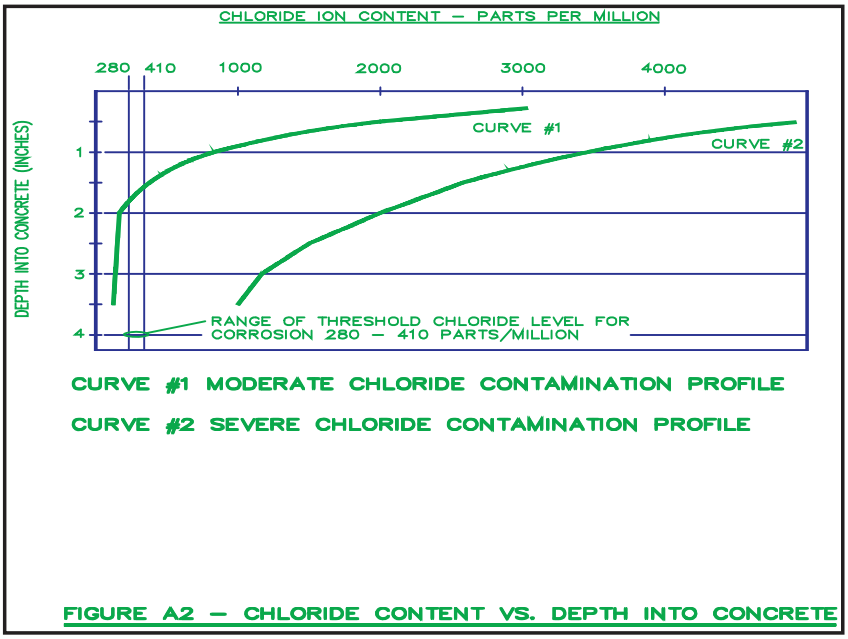


FIGURE A2 – CHLORIDE CONTENT VS. DEPTH INTO CONCRETE

Essentially all concrete is susceptible to chloride ion contamination by virtue of its natural porosity.

A thin oxide film remaining after manufacturing and the passive effect of highly alkaline concrete usually protects reinforcement embedded in concrete. Chloride ions can penetrate all types of concrete and accumulate in sufficient quantities to initiate corrosion of embedded reinforcement. Research indicates that corrosion begins when water soluble chloride ion accumulation exceeds 280 to 410 parts per million in the concrete (or 375 to 550 parts per million of acid soluble). See Figure A2.

CORROSION

Metallic corrosion is a dynamic electro-chemical process and induces progressive deterioration. Corrosion by-products (rust) occupy a volume at least 2.5 times that of the parent metal. The expansion causes high tensile stress, which cracks ("delaminates") the surrounding concrete. Initial cracking can occur when section loss of the parent metal is five percent or less. Cracks first appear vertically over the reinforcement nearest the exposed surface. These cracks allow direct access of moisture and additional chloride to the reinforcement, causing accelerated corrosion and subsequent delamination.

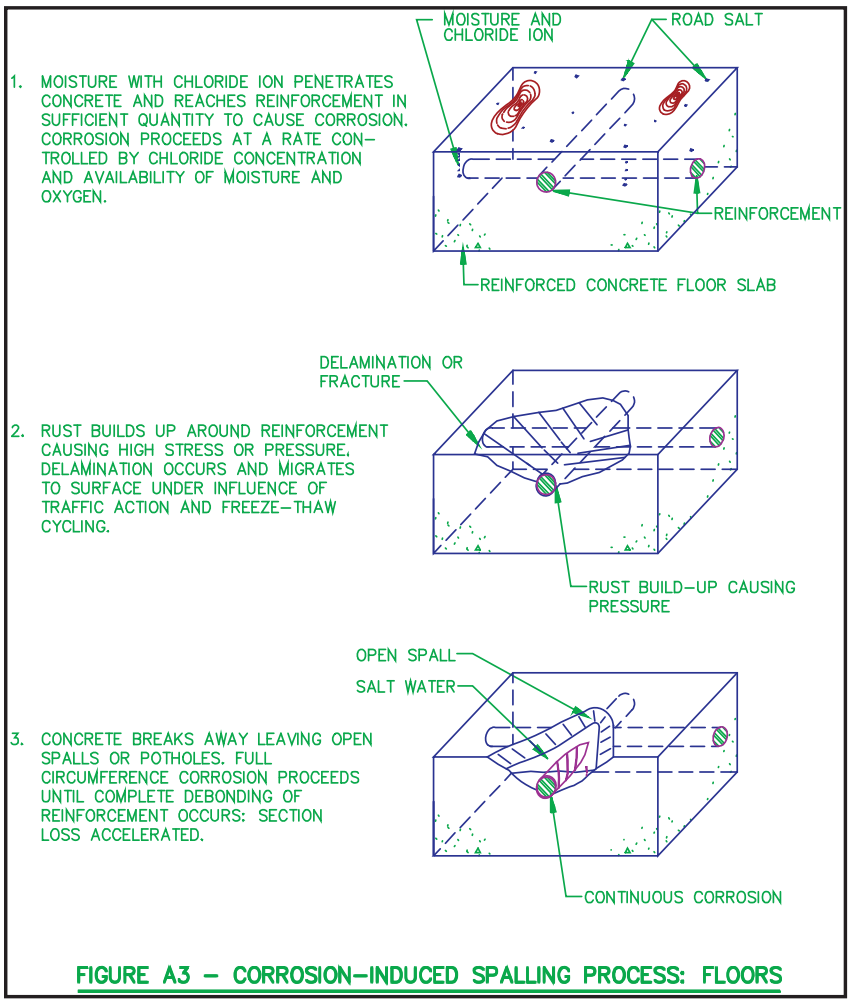


FIGURE A3 – CORROSION–INDUCED SPALLING PROCESS: FLOORS

EXTENSIVE FLOOR SLAB SPALLING

CORROSION INDUCED DISTRESS

The impact that corrosion has on a structural member is variable. Three things happen, all of which are detrimental to the structural integrity:

a. Surface spalling causes maintenance and serviceability problems. See Figure A3.

b. Corrosion results in loss of cross-sectional area of the reinforcing steel. When significant area is lost due to corrosion, the load carrying capacity of the structural member (floor, beam, column) is reduced.

c. Corrosion of reinforcement results in debonding from the concrete causing loss of monolithic interaction. The progressive movement of reinforcement as a result of corrosion induced jacking, especially on columns, can reduce load carrying capacity. See Figure A4.

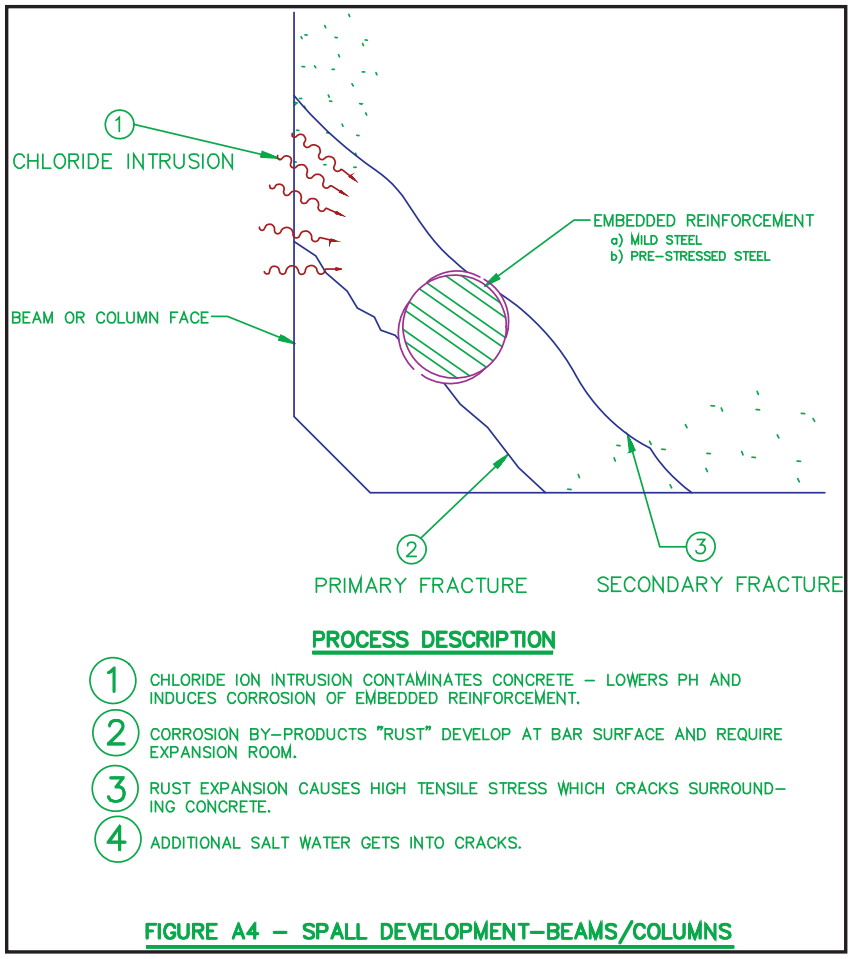


FIGURE A4 – SPALL DEVELOPMENT–BEAMS/COLUMNS

The bottom reinforcement corrodes similar to the top. Surface spalling near mid-span reduces the concrete section as a function of spall depth. Concrete section reduction at mid-span can significantly reduce the structural capacity of the concrete member. At the same time, severe corrosion of bottom reinforcement can result in over stressing and possible reinforcement yielding or failure.

SCALING

Scaling is characterized by progressive deterioration of the concrete surface through paste (sand/cement) failure. It results from the disruptive forces generated in the paste when the concrete freezes. Scaling is common in those areas of the continent subject to freeze/thaw cycling. See Figure A5.

Scaling begins with a slight surface flaking, which becomes deeper with continuing exposure. Initially, only the surface texture and small amounts of paste are eroded. Eventually,

FIGURE A5 – CONCRETE SURFACE SCALING

CORROSION OF REINFORCING STEEL IN/THROUGH CONCRETE BEAM

however, coarse aggregate is exposed, and larger surface areas are affected.

Scaling is continuous network of pores and capillaries. This network gives concrete its porosity. Porosity or "permeability" is generally high for concrete mixes with a high water/cement ratio and low for mixes with a low water/ cement ratio.


SURFACE SCALING

High porosity allows the concrete to absorb significant free water during exposure to rain or snow. If concrete becomes saturated during a freeze cycle, ice accumulates in the pore structure.

The destructive mechanism is not ice accumulation itself, but rather pressure generated during ice development. Water migration through the pore network exerts significant pressures during freezing. It has been substantiated that water pressures cause the paste to significantly impair the serviceability of concrete intended as driving or walking surfaces.


HEAVY SURFACE SCALING

Concrete is naturally porous. Excess water not required for hydration (hardening), but needed for workability during mixing, placement, consolidation and finishing eventually dries, leaving behind a continuous network of pores and capillaries. This network gives concrete its porosity. Porosity, or "permeability" is generally high for concrete mixes with a high water/cement ratio and low for mixes with a low water/cement ratio.

INFLUENCING FACTORS

There are a number of factors that influence the nature and extent of scaling on concrete surfaces. The following discussion is not intended to convey any particular order of importance for the factors reviewed. There are two categories of influencing factors.

The first category defines and describes those factors related to the service environment. Factors associated with the environment are number and intensity of freeze-thaw cycles, presence of deicer chemicals and degree of saturation.

NUMBER AND INTENSITY OF FREEZE-THAW CYCLES

As previously discussed, freezing is the principal cause of

scaling. If there were no freeze-thaw cycles, scaling could not occur. It has been established that the number of freeze-thaw cycles directly influences the deterioration rate. For similar concretes subjected to equivalent degrees of saturation, concrete exposed to the higher number of freeze-thaw cycles will disintegrate earlier and more severely than concrete subjected to fewer freeze-thaw cycles.

In addition to the number of cycles, the rate or cycle intensity is also significant. Rapid freeze-thaw cycling is far more destructive to concrete than slow freeze-thaw cycling owing to redistribution of pressures in the concrete matrix. Concrete surfaces exposed to direct sunlight during winter periods are subject to more frequent and rapid cycling than concrete that is exposed to ambient temperatures, but shaded from direct sunlight.

PRESENCE OF DEICER CHEMICALS

The impact which deicer chemicals (salt) have on scaling is both mechanical and chemical. High concentrations of salt depress the pore water freezing point and increase the osmotic pressures that cause paste failure. In addition, high salt concentrations can set up a counter system of pressures caused by the alkaline/acid relationships between the concrete and pore water, respectively. It has also been speculated that desiccation of the salt water occurs. In a typical freezing cycle, the fresher (less salty) water tends to rise toward the surface of the concrete and freezes first, trapping the more heavily salted water below the surface, where it freezes later. Because it is trapped, the salt water exerts increased pressure when it does freeze.

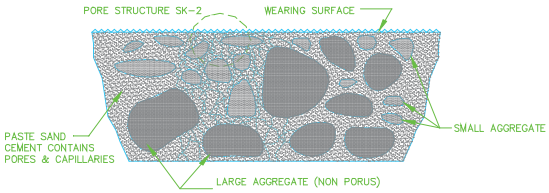
DEGREE OF SATURATION

As previously discussed, excess water is required within the pore network during freezing to induce disruptive pressures. Concrete that is relatively dry and subject to freeze-thaw cycling experiences minimal disruption. Continually moist concrete will disintegrate rapidly during freeze-thaw cycling because the water cannot escape without generating disruptive pressures.

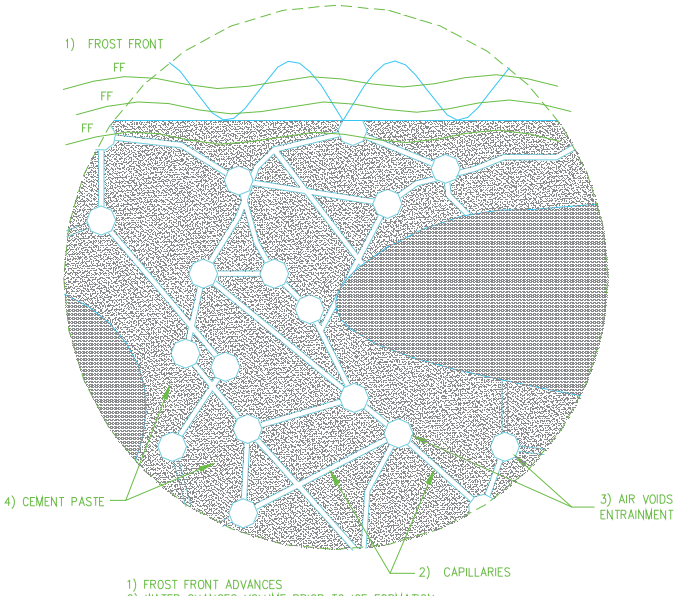
The second category of influencing factors is that associated with the particular concrete and its design features. Material properties that greatly influence the susceptibility of concrete to scaling are air entrainment, strength, water/cement ratio and the mix design.

AIR ENTRAINMENT

Air entrainment has been used successfully for the past 40 years to protect concrete against scaling. Air entrainment consists of a uniform dispersion of small bubbles in the paste matrix. These bubbles compete with the pore network for water during freezing and thus relieve the destructive pressures. Research has shown that the bubbles must have a particular size and spacing to be effective at protecting concrete.



CONCRETE SECTION @ WEARING SURFACE



1) FROST FRONT ADVANCES
2) WATER CHANGES VOLUME PRIOR TO ICE FORMATION AND APPLIES PRESSURE TO CAPILLARIES IN CONCRETE
3) AIR BUBBLE IN PORE OF SATURATED CONCRETE ABSORBS HYDRAULIC SHOCK DURING WATER MOVEMENT
4) CEMENT PASTE STRUCTURE THAT PROVIDES STRENGTH TO CONCRETE REMAINS INTACT AND DURABLE

PORES
(AIR VOIDS & CAPILLARIES SHOWN ENLARGED FOR CLARITY)

STRENGTH

In addition to air entrainment, the development of minimum strength prior to the first frost exposure is needed to insure adequate resistance against freeze-thaw damage. Concrete strength must be at least 3500 psi prior to exposure to the freezing cycle if it is to remain durable in service. Properly air entrained concrete that has not gained sufficient strength before freezing will be subject to premature freeze-thaw deterioration.

WATER-CEMENT RATIO

As previously discussed the water-cement ratio directly influences concrete porosity (permeability). Highly permeable concretes are more susceptible to rapid saturation than are those of lower permeability. Concrete has a certain tolerance for moisture. Moisture diffusion within a relatively dry matrix can influence the concentrations of water and can minimize saturation, thus preventing premature deterioration.

MIX DESIGN

Design of the concrete mix, especially the cement factor, water-cement ratio and use of maximum size coarse aggregate fraction can enhance long term durability. The mix design should be tested prior to concrete placement in order to insure that the air system specified is achieved during construction. It is common to find differences between the specified and measured air entrainment in the plastic concrete and in the air content of the finished hardened slab.

Concrete design details and concepts also influence susceptibility to scaling. Concrete floor surfaces or pavements subjected to frequent freezing and deicer chemical application can be designed to drain rapidly, minimizing critical saturation potential. Parking facility floor slabs designed with a minimum one-and-one-half percent grade will rapidly drain and will be inherently less susceptible to scaling due to the limited potential for saturation. Well-designed gradients for drainage and an adequate number of surface drains will eliminate excess water and keep the pavement fairly dry. Floor slabs that are unusually flat or have few drains will experience rapid destruction due to their high potential for saturation.

The above discussion is intended to provide an overview of the scaling process and familiarize the reader with those conditions that impact upon this distress mechanism and its influence on structural members. A more detailed discussion is provided in the American Concrete Institute (ACI) Committee Report entitled "Guide to Durable Concrete", ACI 201.2R-77. Please refer to that document for additional information.

CRACKING

Concrete cracking is caused by stress. This stress is either construction or service related. Cracking commonly attributed to construction is caused by improper concrete placement, consolidation, and/or curing; premature removal of forms; or by plastic shrinkage of the concrete. Service related cracking is usually due to the temperature changes, load, settlement, or internal stresses. Corrosion of reinforcement and aggregate chemical reaction are common causes of internal stress.


CRACKS RADIATING FROM COLUMN

Not all cracking is detrimental to the concrete member. In many cases, cracks are anticipated and reinforcement is provided to transfer stress across the cracks. Properly positioned reinforcement arrests crack development by keeping cracks short and tightly closed. Cracking can be detrimental when it occurs to an extent and with a frequency not expected. If this happens, steps are necessary to minimize the effect cracking has on long-term structure durability.

Leaching is caused by frequent water migration through cracks. As water migrates through, it carries along part of the cementing constituents, depositing them as a white film, stain, or in extreme cases, stalactites on the ceiling below. This process will weaken the concrete over a period of years and is accelerated by porous or perpetually moist concrete. Leaching frequently occurs from cracks at gutter lines.

JOINT DETERIORATION

The two most common provisions made for crack control (relief of restraint) in concrete slabs are control joints and expansion joints. Such joints have long been a cause of maintenance problems. Joints on supported floor slabs must be sealed against water leakage and against intrusion of sand and dirt. Both situations are damaging to the joint system.


FAILED JOINT SEALANT

Construction joints deteriorate for several reasons, which are usually associated with failure of the sealant or the adjacent concrete. Joint sealants may not have the required degree of flexibility, bond, strength, or durability for a particular application. If concrete adjacent to the joint is not sufficient durable, then local scaling will cause joint sealant adhesion failure.

Expansion joints are also susceptible to premature deterioration. The most common causes of early deterioration are joint design or sealant material selection, incorrect installation of the expansion device, and/or in-service damage from traffic, snowplows or vandalism.

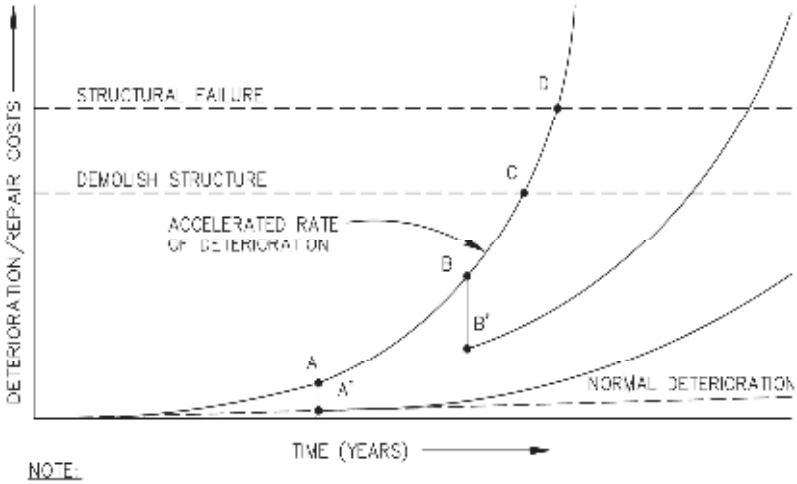
FAILED EXPANSION JOINT

PARKING STRUCTURES

Parking structures are somewhat similar to the human body in that if they are properly constructed and cared for from the beginning, they will with few exceptions, provide a long and useful service life. Figure A6 below illustrates this point.

The first curve illustrates the difference between a parking structure's normal life span if no maintenance/repair is done versus a parking structure that receives proper and appropriate maintenance/repair over the course of its life span (normal deterioration). Points A and B represent the affect that an effective program of maintenance and repair has on a parking structure's useful service life. Points C and D represent the extreme results of the absence of an appropriate maintenance/repair program.

FIGURE A6 – PARKING STRUCTURE DETERIORATION CURVE



NOTE:

1. Points A – D represent stages of accelerated deterioration in parking structures.
2. Structures repaired at point A cost less overall and last longer than structures repaired at point B. [Compare curve A' to B']

APPENDIX I
ROUTINE MAINTENANCE

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WHAT IS MAINTENANCE?

Parking facility maintenance includes actions to extend the service life, support the operation, or upkeep the appearance of a facility. With this definition, we separate these actions into three main categories:

- Structural
- Operational
- Aesthetics

Maintenance performed at regular intervals provides the full benefit of the effort. The schedule and procedures change for the specific facility based on factors such as:

- Age and geographic location of the facility
- Structural system and the design details
- Quality of construction materials
- Construction quality or deficiencies
- Existing distress in structural elements, such as spalling, cracking, scaling, or excessive deformations
- Corrosion protection system specified or implemented
- Operational elements of the facility

COMPUTING MAINTENANCE COST

Many factors influence the cost of maintaining a parking facility. Maintenance budgets include items from the three categories of structural, operations, and aesthetic maintenance. Three types of items need to be included in a comprehensive maintenance approach:

- Preventive maintenance
- Routine maintenance
- Replacement maintenance

PREVENTIVE MAINTENANCE

Preventive maintenance includes items to extend the service life of the facility. These items include the following:

- Corrosion protection,
- Structural protection and waterproofing,
- Traffic membrane,

- Joint sealants,
- Expansion joints.

Preventive maintenance does not usually entail the major disruptions associated with the structural repairs.

ROUTINE MAINTENANCE

Routine maintenance actions include periodic repairs and/or corrective actions that are necessary to maintain serviceability and facility operations. These items include daily or routine maintenance. Routine maintenance may include repairing leaking joint sealant, clearing plugged drain lines, replacing damaged light fixtures, periodic maintenance of sealers and traffic toppings, small area repairs to spalled or delaminated concrete, replacing expansion joint seals, and other similar work. The guidelines referenced are minimum levels of effort. More frequent cleaning, washing down of the floor surfaces when weather permits, and prompt repair of early signs of problems can have a significant return.

REPLACEMENT MAINTENANCE

Replacement maintenance includes replacing structural and operation items at the end of their service life. These items include lighting, elevators, plumbing, and parking access and control equipment.

MAINTENANCE COSTS

For a specific facility, the maintenance cost will include the cost for preventive actions, routine (day to day actions), and replacement costs. Costs based on regular, timely maintenance results in favorable long-term maintenance costs. Deferring maintenance can result in shorter service life, early replacement costs, expensive repairs, additional maintenance requirements, and higher maintenance costs.

Maintenance should be based on selecting maintenance alternatives with current technology to control or mitigate long term deterioration. This approach does not eliminate long term repairs, but instead helps to keep long term repair costs manageable. After a structure has been repaired, more aggressive maintenance alternatives are usually recommended.

The following is a list of some important factors that can impact the cost of future repairs and maintenance:

- The type of corrosion protection of the existing facility
- The type of waterproofing system installed
- The level of chloride contamination and extent of concrete removals specified during construction of repairs
- Existing structural system, design deficiencies, and adverse conditions related to drainage, water leakage, joint deterioration, and concrete quality.

Based upon extrapolation from the quantitative data used in the development of the report and predicted materials performance for products such as sealants, penetrating sealers, and traffic topping, costs were derived for preventative and replacement maintenance relevant to maintaining the supported floor slabs over the next 15 year maintenance cycle at five (5) year intervals as shown in the tables below.

PREVENTATIVE / REPLACEMENT MAINTENANCE PROGRAM COSTS

TABLE 5: OPINION OF PROBABLE MAINTENANCE COSTS ALTERNATE A -

Work Category	**Year 10**	**Year 15**	**Year 20**
Concrete Repairs – Floor / Soffit.	$30,000	$70,000	$100,000
Waterproofing – Sealants/Sealers Floors **	$100,000	$300,000	$680,000
Expansion Seal Repairs / Replacement	$25,000	$110,000	$50,000
SUBTOTAL	*$155,000*	*$480,000*	*$830,000*
Mobilization & General Requirements	*$10,000*	*$35,000*	*$58,000*
Cost Escalation factor @ 3%	*$5,000*	*$15,000*	*25,000*
GRAND TOTALS	***$170,000***	***$530,000***	***$913,000***
FUTURE MAINTENANCE COSTS -		***$1,613,000***	

TABLE 6 OPINION OF PROBABLE MAINTENANCE COSTS ALTERNATE B -

Work Category	**Year 10**	**Year 15**	**Year 20**
Concrete Repairs – Floor / Soffit.	$10,000	$20,000	$50,000
Waterproofing – Sealants/Sealers/ Traffic Topping Recoat/Repairs - Floors *	$130,000	$470,000	$420,000
Expansion Seal Repairs / Replacement	$25,000	$110,000	$50,000
SUBTOTAL	*$165,000*	*$600,000*	*$520,000*
Mobilization & General Requirements	*$15,000*	*$42,000*	*$35,000*
Cost Escalation factor @ 3%	*$5,000*	*$18,000*	*15,000*
GRAND TOTALS	***$185,000***	***$660,000***	***$570,000***
FUTURE MAINTENANCE COSTS -		***$1,415,000***	

Notes:

* Costs derived based upon traffic topping performance requiring repairs in year 10 and recoat application (partial areas) in years 15 and 20.

** Costs reflect complete a majority of floor joint sealant replacement (original structure, expansion) and floor sealer reapplication in year 20.

ADDITIONAL OPERATING COSTS

Operating a parking facility requires other procedures and costs in addition to the maintenance items presented. We have not attempted to show the soft costs of operating the facility or the daily operating procedures and costs (such as housekeeping, cleaning, security, utilities, etc.) and other essential that may become necessary but cannot be accurately predicted over time.

The following maintenance checklists are provided to plan for proper inspection of the parking facility into the future.

Table 1 – Operational and Structural Maintenance Checklists

	Daily	Weekly	Monthly	Quarterly	Semi-Annual	Annual	Spring	Fall	Initial	Completion Date
1. Housekeeping Requirements										
Remove graffiti	X									
Sweep localized areas	X									
Sweep all areas and curbs		X								
Empty trash cans	X									
Empty dumpster		X								
De-grease parking area floors			X							
Wash parking area floors										
Clean restroom floor/fixtures										
Clean restroom walls										
Clean cashier booth floor										
Clean cashier booth windows	X									
Clean cashier booth walls	X									
Clean elevator floor/door	X									
Clean elevator walls			X							
Clean public area floors	X									
Clean public area windows		X								
Clean stairway floor/handrails		X								
Clean stairway windows			X							
Clean lobby/office floors	X									
Clean lobby/office windows	X									
Clean parking control equip		X								
Clean expansion joints			X							
2. Landscaping										
Remove trash	X									
Cut grass and trim		X								
Edge walkways			X							
Weed planted areas			X							
Check plant box drainage			X							
Pruning plants and shrubs								X		
Cultivate planting areas			X							
Fertilize grass and plantings			X							
Reseed damages gross areas			X							
3. Inspection										
Parking concessionaire				X						
Consultants					X					
4. Sealants and Roofing										
Check roofs			X							
Check windows			X							
Check doors			X							
Check concrete walls			X							
Check window gaskets/ glaze			X							

	Daily	Weekly	Monthly	Quarterly	Semi-Annual	Annual	Spring	Fall	Initial	Completion Date
5. Doors and Hardware										
Lubricate mechanized doors			X							
Agreement for specialty doors				X						
Inspect latches	X									
Inspect panic hardware	X									
Inspect closer	X									
Inspect hinges		X								
Inspect locks		X								
Inspect mechanized doors	X									
Inspect threshold/tracks		X								
Inspect weatherproofing		X								
Inspect window/glazing		X								
6. Painting										
Touch up paint				X						
Repaint						X				
Inspect concrete					X					
Inspect masonry					X					
Inspect metal										
Inspect striping					X					
Inspect signage				X						
Inspect walls					X					
Inspect curbs				X						
7. Check for Rust on Metal										
Structural steel				X						
Doors and door frames				X						
Pipe and pipe guards				X						
Handrails				X						
Guardrails				X						
Conduit				X						
8. Graphics and Signage										
Check sign placement		X								
Check sign cleanliness				X						
Check sign visibility	X									
Check sign legibility				X						
Check sign illumination	X									
Check roadway signage	X									
9. Fire Extinguishers & Cabinets										
Maintenance Agreement						X				
Check for normal operation			X							
Check extinguisher charge			X							
Check required tests						X				
Check indicator & other lights	X									
10. Parking Control Equipment										
Spare parts inventory				X						

		Daily	Weekly	Monthly	Quarterly	Semi-Annual	Annual	Spring	Fall	Initial	Completion Date
	Maintenance agreement						X				
	Inspect control booth				X						
	Inspect ticket dispenser/gates			X							
	Inspect fee computer system				X						
	Inspect detectors and loops				X						
11.	Vertical Transportation										
	Elevator and Shafts										
	Code required tests						X				
	Preventive maintenance					X					
	Check for normal operation	X				X					
	Check indicator & other lights	X									
	Check equipment room				X						
	Check sump pump					X					
	Clean windows	X									
	Clean outside face of cab					X					
	Clean inside face of shaft					X					
	Clean elevator pit					X					
	Clean pit					X					
12.	Plumbing System										
	Test fire protection system						X				
	Squeegee water to drains	X									
	Inspect sanitary facilities	X									
	Inspect irrigation system			X							
	Inspect domestic water system	X									
	Check/leaks floor drains					X					
	Check/leaks inlet grates					X					
	Check/leaks leaders					X					
	Check/leaks downspouts					X					
	Check/leaks support brackets					X					
	Check/leaks floor sleeves					X					
	Check oil and grit separator			X							
	Check sump pump										
13.	Mechanical Equipment										
	Check dry standpipe: pipes (including rust)			X							
	Check dry standpipe: sprinkler head (including rust)			X							
	Check dry standpipe: code required tests						X				
	Check dry standpipe: flow switch			X							
	Check dry standpipe: tamper switch			X							
	Check dry standpipe: backflow preventer			X							
	Check dry standpipe: standpipe valve			X							
	Check dry standpipe: test drains						X				
	Check dry standpipe: air compressor			X							
	Check dry standpipe: alarm devices			X							

		Daily	Weekly	Monthly	Quarterly	Semi-Annual	Annual	Spring	Fall	Initial	Completion Date
	Check dry standpipe: Siamese connection			X							
	Check dry standpipe: lubricate Siamese connection						X				
14.	Electrical System										
	Relamp fixtures		X								
	Clean light fixtures						X				
	Spare list inventory				X						
	Inspect parking facility interior lights		X								
	Inspect parking facility exterior lights		X								
	Inspect elevator tower lights	X									
	Inspect stair tower lights	X									
	Inspect exit lights	X									
	Inspect emergency lights	X									
	Inspect light battery packs	X									
	Inspect pedestrian walkway lights	X									
	Inspect restroom lights	X									
	Inspect office lights	X									
	Inspect cashier booth lights	X									
	Inspect elevator cab lights	X									
	Inspect roadway lights	X									
	Inspect roadway signage	X									
	Inspect control equipment	X									
	Inspect specialty lights		X								
	Inspect informational pylons	X									
	Inspect emergency pylons	X									
	Inspect elevator lights	X									
	Check distribution panels					X					
	Check emergency power generator				X						
	Check transfer switches				X						
	Check maintenance agreement				X						
	Check electrical outlets				X						
	Check electrical switches				X						
	Check junction boxes				X						
	Check cover plates				X						
	Check raceways/mountings				X						
	Check timers					X		X	X		
	Check photocells					X		X	X		
	Check ground fault				X						
	Check motor controllers				X						
	Check transformers						X				
	Check smoke detectors			X							
	Check heat detectors			X							
	Check fire extinguisher alarm				X						
	Check elevator switch, fuse, feeder				X						

		Daily	Weekly	Monthly	Quarterly	Semi-Annual	Annual	Spring	Fall	Initial	Completion Date
15.	Fire Detection & Alarm System										
	Maintenance agreement				X						
	Check for normal operation	X									
	Check code required tests					X					
	Check indicator & other lights	X									
	Check heat detectors				X						
	Check smoke detectors				X						
	Check fire extinguisher alarms				X						
16.	Security Monitoring Equipment										
	Agreement for CCTV					X					
	Inspect closed circuit television	X									
	Inspect audio surveillance	X									
	Inspect assistant buttons	X									
	Inspect telephones	X									
	Inspect intercoms	X									
	Inspect elevator cab communications	X									
	Inspect parking equipment	X									
	Inspect panic buttons	X									
	Inspect stair door alarms	X									
	Inspect cashiers booth	X									
1.	Inspection										
	Walkthrough observation					X		X	X		
	Chloride ion testing						X	X			
	Concrete testing						X				
2.	Concrete Floor Systems										
	Check concrete for cracks					X					
	Check concrete for deterioration					X					
	Check conventional reinforcing steel for deterioration					X					
	Check corrugated metal decking for deterioration					X					
	Check welded wire fabric for deterioration					X					
3.	Beams										
	Check concrete for cracks					X					
	Check cast-in-place concrete for deterioration					X					
	Check precast concrete for deterioration					X					
	Check conventional reinforcing steel for deterioration					X					
4.	Masonry										
	Inspect for cracks					X					
	Inspect mortar joints					X					
	Inspect expansion joints					X					
	Inspect control joints					X					

		Daily	Weekly	Monthly	Quarterly	Semi-Annual	Annual	Spring	Fall	Initial	Completion Date
5.	Facades										
	Inspect structural steel for rust					X					
	Inspect architectural tile for cracking					X					
6.	Exposed Steel										
	Inspect structural steel for rust					X					
	Inspect connections for rust					X					
	Inspect guardrails for damage					X					
	Inspect handrails for damage					X					
7.	Bearing Pads										
	Inspect structural bearings					X					
	Inspect bearing surface condition					X					
8.	Sealer System										
	Check for water leakage				X						
	Check for waterproofing damager					X		X	X		
	Check expansion joints					X					
	Check construction joints					X					
	Check control joints					X					
	Check traffic topping membrane							X	X		
	Check floor sealer						X	X			

[redacted]

DATE: May 27, 2015

TO: JOHN P. BOHENKO, CITY MANAGER

FROM: ROBERT P. SULLIVAN, CITY ATTORNEY

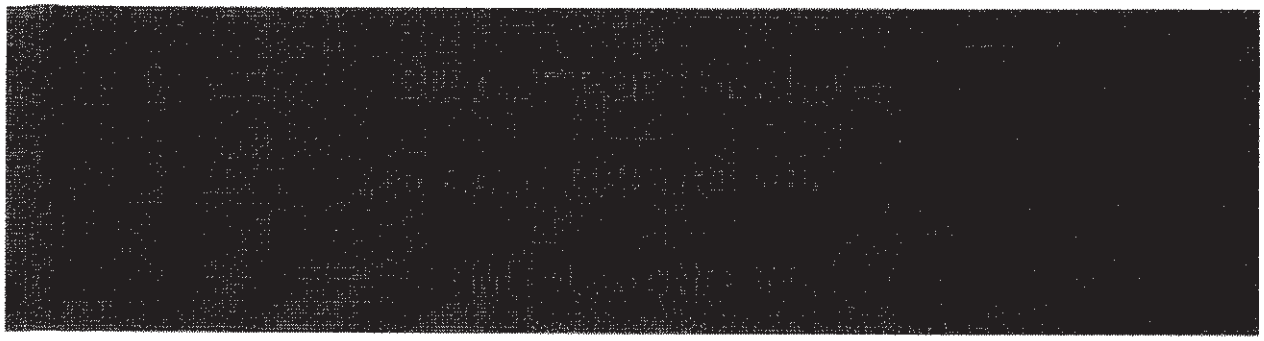
RE: TIMING OF PROPOSED CHARTER AMENDMENT ACTIVITY

In recognition of the fact that the City Council may consider possible Charter amendments for placement on the November ballot, I requested that the Legal Department's summer intern, a second year law student at the University New Hampshire School of Law, Joshua Harrison review the statute and outline its mandated timeline. Attached you find a copy of his memorandum dated today.

Please note that the conclusion reached in the memorandum is that in order to be assured of compliance with the timeline contained in RSA 49-B, the City Council would need to take its vote establishing a public hearing on a particular charter amendment or amendments no later than July 9, 2015.

attachment

h\rps\mayor\2015 charter amd info\memo re-potential amds



DATE: MAY 27, 2015

TO: ATTORNEY ROBERT SULLIVAN, CITY ATTORNEY

FROM: JOSHUA C. HARRISON, SUMMER INTERN JCH

RE: DATE FOR CITY COUNCIL TO DECIDE WHETHER TO PLACE CHARTER AMENDMENTS ON BALLOT

Issue

Under New Hampshire's "Home Rule" statute (N.H. RSA 49-B), when is the last possible date that the City Council may decide to place a charter amendment[1] referendum on the November 3, 2015 municipal election ballot?

Summary

It would be most effective if the decision to order the placement of the charter amendment referendums became effective immediately upon the approval of the preliminary report by the Secretary of State, Attorney General, and Commissioner of the Department of Revenue Administration. Because N.H. RSA 49-B:5, V(c) requires the City Council to make its

[1] N.H. REV. STAT. ANN. § 49-B:4-f (LexisNexis 2015) ("'amendment'" to a municipal charter shall mean any change to an existing charter that does not constitute a revision under RSA 49-B:4-d"); N.H. REV. STAT. ANN. § 49-B:4-d (LexisNexis 2015) (a "revision" to a municipal charter is one that changes the "municipality's form of government to any of the following forms: I. Traditional town meeting. II. Official ballot town meeting. III. Town council. IV: Official ballot town council. V. Budgetary town meeting. VI. Representative town meeting. VII. City under mayor-alderman plan. VIII. City under council-manager plan. IX. Any other form hereafter expressly authorized by statute).

decision within seven days of the state departments' approval, it could occur that the approval and the following seven day period would fall during a gap in the City Council meeting schedule and the Council would be unable to make a decision in time. Therefore, making the ballot placement decision effective upon preliminary report approval avoids the timing difficulty created by the statute. However, because there is a seven day notice period, one day for a public hearing, a 45 day maximum approval period, and because the City Clerk requires the ballot information no later than August 31st, the charter amendment process should begin no later than the week of July 6th, which does not include the preliminary report revision period in the event of state department disapproval.

Discussion

Under the New Hampshire "Home Rule," in order for a City Council to place charter amendments on a ballot it must hold a hearing and provide public notice for that hearing, file a preliminary report with the Secretary of State, the Attorney General, and the Commissioner of the Department of Revenue Administration, and upon their approval, order the charter amendments to be placed on the ballot within seven days. N.H. Rev. Stat. Ann. § 49-B:5 (LexisNexis 2015); N.H. Rev. Stat. Ann. § 49-B:4-a (LexisNexis 2015). Additionally, the City Clerk requires the ballot information no later than August 31st to create and manufacture the ballots.

Notice and Hearing

Under N.H. RSA 49-B:5.I., before a city council can file a report for charter amendments, it must hold a public hearing and provide notice for that hearing. The notice of the hearing "shall be published in a newspaper having general circulation in the municipality at least 7 days prior to

the hearing, and shall contain the text of the proposed amendment and a brief explanation." RSA § 49-B:5,V(a).

The significance of the notice and hearing period under the statute is that the proposed amendments have to be in a detailed form and distributed to the public. It is important for the purpose of resolving this issue to consider the time it requires for drafting the amendments and obtaining a newspaper to appropriately circulate the information to the public. In addition to the seven day notice period, there is an additional day in which the hearing occurs. In total, there are eight days to account for under the notice and hearing requirement plus the time required to obtain a newspaper for publishing notice.

Preliminary Report, Approval, and City Council Decision

RSA 49-B:5 details the charter amendment process and utilizes the same state department review and approval protocol found in the charter adoption statute, RSA 49-B:4-a. Under the review and approval requirement, a City Council must file a preliminary report with the Secretary of State, Attorney General, and Commissioner of the Department of Revenue Administration. RSA § 49-B:4-a, I(a). These state departments then have 14 days to notify the City Clerk of receipt of the preliminary report. RSA §49-B:4-a, I(d) The departments also have 45 days from receipt to review the report to "insure that it is consistent with the general laws of this state" and either approve or disapprove accordingly. *Id.* In the event the preliminary report is not approved, the state departments will file their objections and the council will have thirty days to file a supplemental report with corrections. RSA § 49-B:4-a, II-III. Failure by the state departments to reply within 45 days constitutes an approval. RSA § 49-B:4-a, II. Approval by the state departments or approval by default immediately begins a seven day period in which the City Council must decide whether to place the charter amendments on the ballot. RSA §49-B:5,

V.(c). Finally, after state department approval, the charter commission must file a final report with the City Council. RSA § 49-B:4-b.

Under the preliminary report period, there are 45 days when the state departments are considering whether to approve charter amendments. One of the difficulties with this statute is in the burden it puts on the scheduling of municipal affairs. The state departments could approve within a week or, alternatively, ignore it and allow the charter amendments to be approved after 45 days, by default. In either scenario, the City Council would have seven days to either attend a scheduled meeting and decide or schedule an emergency meeting and make the decision whether to place the charter amendments on the ballot. Depending on the speed of the state departments, the City Council could be faced with making the decision in July or August, for example, and not necessarily within a period in which there is already a meeting scheduled. This makes it difficult to appropriately determine which days or even which month the City Council must make the decision or whether a schedule change is necessary to accommodate the seven day decision requirement.

Conclusion

In order to avoid the imprecise nature of the charter amendment statute, it would be in the City Council's best interest, with regard to scheduling and certainty of outcome, to make the decision whether the charter amendment referendums should be placed on the ballots after the notice and hearing period, but before the filing of the preliminary report to the state departments. Doing so would allow the City Council to operate their agenda smoothly, avoid unwanted surprises, and avoid the possibility of having to hold an emergency City Council meeting in the event the state departments approve the report at an inopportune time.

In consideration of the eight days necessary to hold the notice and public hearing and the 45 days allotted to the state departments for their approval, not including interim time necessary to carry out the filing of the reports, there is a maximum of 53 days from the beginning of the notice period until approval of the report by state departments. Additionally, the City Council must deliver the final information that the City Council intends to place on the ballots to the City Clerk no later than August 31, 2015. 53 days prior to August 31st is July 9th, which would be the last possible day to begin the notice and hearing process period, followed immediately by the filing of the preliminary report with the state departments. Lastly, in the interest of being cautious, it is worth consideration that in the event of state department disapproval, the City Council has a maximum of 30 days to file corrections with the state departments for a second round of approval. RSA § 49-B:4-a, III.

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MINUTES
PARKING and TRAFFIC SAFETY COMMITTEE MEETING

8:00 A.M. – Thursday, May 14, 2015
City Hall – Eileen Dondero Foley Council Chambers

Temporary Action Item requiring an ordinance during the annual omnibus
VI. B. - Bike Corral on Market Street

I. CALL TO ORDER:

Chairman Lown called the meeting to order at 8:00 a.m.

II. ROLL CALL:

Members Present:
Councilor, Brad Lown
City Manager, John Bohenko
Public Works Director, Peter Rice
Deputy Fire Chief, James Heinz
Captain, Frank Warchol, Police Department, arrived at 8:10 a.m.
Parking and Transportation Engineer, Eric Eby
Member, Ted Gray
Member, Shari Donnermeyer
Member, Ronald Cypher
Alternate Member, Mary Lou McElwain

Staff Advisors Present:
Transportation Planner, Juliet Walker

Absent:
Member, Harold Whitehouse

III. ACCEPTANCE OF THE MINUTES:

Moved to accept PTS Meeting Minutes of April 9, 2015.
Mary Lou McElwain motioned to accept minutes. City Manager, John Bohenko, seconded.
Motion passed 8-0

IV. FINANCIAL REPORT:

Moved to accept April 2015 Financial Report and place on file.
Ted Gray motioned to accept April 2015 Financial Report. Peter Rice seconded.
Motion passed 8-0

Mrs. McElwain requested information on the percentage of parking tickets paid that were issued. Staff will provide a report.

V. NEW BUSINESS:

A. Valet parking renewals, Atlantic Parking Services and 100 Club – Atlantic Parking Services submitted three requests for renewals and the 100 Club requested one renewal. Mr. Eby stated that all are current valet parking agreements with the City and they expire at the end of June. Peter Rice confirmed that the relationship with the valet companies has been positive. Mrs. McElwain expressed concern over the use of tents due to weather and sandwich boards blocking sidewalks. City Manager, John Bohenko, also had questions for the company representatives. However, there were no Atlantic Parking Services representatives in attendance.

City Manager, John Bohenko, motioned to table Atlantic Parking Services valet parking renewals. Shari Donnermeyer seconded. **Vote 8-0, to table the item until next meeting for Atlantic Parking Services representative to be present.**

City Manager, John Bohenko, motioned to table 100 Club valet parking renewal. Shari Donnermeyer seconded. **Vote 8-0, to table the item until next meeting for 100 Club representative to be present.**

B. Two-way downtown traffic study – This item was referred to the Parking and Traffic Safety Committee by the City Council. Staff will make a report back at a later time. City Manager, John Bohenko, motioned to approve request. Ted Gray seconded. **Vote 8-0, approving request for staff to report back.**

C. New diagonal parking locations – Eric Eby referred to Rick Chellman's presentation where he suggested several locations in the downtown where diagonal parking could increase the parking supply. City Manager, John Bohenko, suggested a site visit or providing Rick Chellman's presentation to the PTS in order to fully understand the consequences of diagonal parking. Staff to report back. City Manager, John Bohenko, motioned for staff to report back and provide two areas of pilot programming for the next meeting. Shari Donnermeyer seconded. **Vote 8-0, to have staff report back with two pilot programming areas next meeting.**

D. Water Country exit signing for I-95 and Route 1 –
E. No truck signs on Constitution Avenue at Banfield Road –
Combined items for discussion.
Residents living on Banfield Road brought the issue to the attention of the committee. Traffic leaving Water Country to access I-95 and Route 1 is problematic for Banfield Road residents. The current issue is the traffic pattern where vehicles exit Water County taking a right onto Constitution and a left or right onto Banfield. Peter Rice and Eric Eby suggested that staff review current signage and report back at next meeting.

City Manager, John Bohenko, motioned to suspend the rules, to allow public comments. Peter Rice seconded. **Vote 9-0, to suspend the rules.** Captain Frank Warchol joined meeting increasing the vote count.

Kelly Shaw, 892 Banfield Road, and Andrea Amico, 820 Banfield Road, spoke regarding the traffic patterns. They are seeking interstate signs to direct traffic to Peverly Hill, not to Ocean Road, and then move traffic to Route 1. Another suggestion is to direct traffic to West Road and right on Peverly Hill with direct access to Route 1. This would decrease traffic in the neighborhood.

City Manager, John Bohenko, agrees that more signage is needed.
No action item. Staff to review current signage and report back at next meeting.

Mary Lou McElwain requested clarification of name suffix for Constitution. Is it Constitution Lane or Constitution Avenue? **Staff to confirm at next meeting.**

F. Crosswalk near Sanders Market on Marcy/South/Pleasant Street -
The committee conducted a site visit on Tuesday, May 12th. Eric Eby said that there is an old faded crosswalk at the location near the market. It does not serve pedestrians well because it leads directly into a parking space. The crosswalk is not handicap accessible. There is also an existing crosswalk at the north end of the intersection at Pleasant Street.

The best option could be to put a crosswalk on Marcy Street as it curves in from South Street. This option has the shortest crossing distance and would not require removal of any parking spaces on the south side. The crosswalk would require eliminating one parking space on the north side and handicap ramps to be ADA compliant on each side. Staff requested additional time to review traffic and pedestrian volumes and traffic speed before making a final recommendation.

Brad Lown suggested proposing this site as one of the pilot study spots for diagonal parking. Peter Rice explained that confluence of roads is very challenging due to sight distance and an in-depth analysis and review are needed to provide a thorough study for safety issues. Ronald Cypher emphasized that diagonal parking would negatively impact sight distance for pedestrians.

No action item. Staff granted additional time for comprehensive study.

G. Crosswalk on Lafayette Road at White Cedar Boulevard – This request was sent via letter by a resident of White Cedars. This is the signalized intersection at the Wal-Mart entrance on Route 1. There are no sidewalks, crosswalks or pedestrian signals at this intersection. It is a State owned location.

Juliet Walker, Transportation Planner, mentioned that the entire Route 1 corridor was identified as needing bike and pedestrian amenities. Because this site has been identified as a need, when an opportunity arises at the State level for a conversation, the City will pursue it.

Peter Rice explained that due to declines in state and federal funding, challenges in getting projects funded will continue.

No action item.

VI. OLD BUSINESS:

A. Sheafe Street Pay and Display Meter Installation – This request was presented by the Friends of Sheafe Street.

City Manager, John Bohenko, motioned to suspend the rules, to allow public comments. Peter Rice seconded. **Vote 9-0, to suspend the rules.**

Jonathan Sobel, 49 Sheafe Street, spoke on the confluence between the commercial interest for parking and the committee suggestion to place meters on the street. He states this is in direct conflict with interest of residences because most of the homes do not have on-site parking. The petition requests protection to the homeowners on Sheafe Street who need parking and would be displaced to other areas for parking needs. He estimates that restaurant employees take 50 percent of evening parking. Dr. Sobel emphasized the uniqueness and historic aspects of the area.

City Manager, John Bohenko, states that a residential parking program is under evaluation. The second garage is an important component because once a program is established it will provide the additional parking needed for those who cannot park on residential streets. Also, a universal sticker for the residential parking is needed.

Marie Bodi, 121 State Street (main egress on Sheafe Street), states that committee members met with the City's engineers and design consultant on February 11, 2015, where they were informed of improvements to be made on Sheafe Street. Two main concerns expressed at the meeting were the width of the new sidewalks and if metered parking would be introduced. Ms. Bodi states they were told there would be no metered parking. She specifically identified other streets in the city that do not have metered parking and requests the same consideration be given to Sheafe Street residents.

Ms. Bodi also discussed problematic issues with a local utility using resident water during utility construction.

Ms. Bodi stated her concern that residents were only notified the afternoon prior to the last meeting. Peter Rice clarified there was no intent to vote on this item at the last meeting. The intent was to provide more than a month's notice of this action item in order that residents could participate in the process. The gas company is an independent entity and the City does not have control over their public communication.

Eric Eby clarified that the parking restriction would be enforced from 9:00 a.m. – 7:00 p.m. Parking would be free after 7 p.m.

Ted Gray expressed his support for the metered parking stating the street is public.
Mary Lou McElwain expressed her opposition to the metered parking because it changes the character of Sheafe Street.

City Manager, John Bohenko, stated if a meter was not installed it would be inconsistent with policy due to the downtown location. Brad Lown expressed the idea that metering might manage the space and improve the issue.

George Dodge, 14 and 16 Sheafe Street, said he would like the City to leave Sheafe Street as it is until the City adopts a comprehensive residential parking plan. City Manager, John Bohenko, motioned for the matter to be tabled. Ron Cypher seconded. **Vote 9-0, to table the item until staff review is completed.**

Staff to review all the metered spaces in the area of Sheafe Street. Present data in a map format. Provide a PowerPoint presentation on where meters start and stop. Staff will also investigate making Sheafe Street a pedestrian way.

B. Proposed Bike Corral siting for Summer 2015 – Juliet Walker provided details on the new bike corral location. If approved, it will be located in front of the Portsmouth Gas Light. The business is very supportive. It will occupy one parking space. It would be for the peak demand biking season. Dates are flexible and if necessary the committee can put defined dates on project. The proposed location in a metered space is considered a pilot project. No specific design identified, but the standard design allows for 10 bikes.

Mary Lou McElwain expresses support for bike plan. Brad Lown expresses support in order to encourage bike use. Ron Cypher opposes the use of a parking space for this project. Mr. Cypher stated that Harold Whitehouse, who is absent, also opposes the use of a parking space and asked him to convey his opinion.

City Manager, John Bohenko, motioned to support the bike corral as presented. Peter Rice seconded. **Vote 7-1, to approve the bike corral as presented. Ron Cypher opposing.** James Heinz, Deputy Fire Chief, was not present for vote.

VII. PUBLIC COMMENT:

Doug Roberts, 247 Richards Ave, discussed adding parking in ways discussed by Rick Chellman. By adding spaces, the City will have more money for other improvements related to streets. He experienced road rage because of the unmarked left-turn lane at Maplewood and the railroad tracks. Islington Street section near White Heron is in need of sidewalks, crosswalks and traffic calming device.

Peter Rice stated that the Public Works Department is currently negotiating a design scope with an engineering firm to look at the Islington Street corridor.

Peter Vandermark, 86 Ridges Court, speaking on behalf of RiverRun Bookstore, would like Fleet Street to be considered as a pilot spot for parking. There may be three or four parking spaces available.

Kelly Shaw, 892 Banfield Road, expressed concern for the need for a crosswalk at the Wal-Mart intersection. In regard to the Banfield and Ocean Road matter, residents would like the speed limit to be 25 mph, install blinking lights at Heritage and Constitution, more of a police presence, electronic speeding sign, guard rails, reflectors, and shoulders on the roads. Ms. Shaw restated signage recommendations for the Water Country exiting traffic.

Captain Frank Warchol responded that the electric speeding sign could not be dedicated to a specific road and the police presence must be in areas of safety for the officers.

VIII. INFORMATIONAL:

A. Status update on new informational signs for handicap parking time restrictions in High Occupancy Meter (HOM) zone- The signs have been fabricated and will be installed soon. Then warnings will be issued before ticketing begins.

B. Traffic signal malfunction at Lafayette Road/Springbrook Circle/Southgate Plaza intersection – The traffic signal at this location is state owned and is not working properly. State is responsible to fix signal.

C. Guiding Parking Principles for Central Business Districts- Eric will be compiling this information for committee members. City Manager, John Bohenko, suggested staff compile documentation into binders that are available for committee use at each meeting. Parking principles and parking ordinances should be included in materials.

D. Resident parking – City is addressing the issue in a methodical way and will report back on the process.

E. Ceres Street- Mary Lou McElwain expressed traffic concerns on Ceres. Peter Rice stated the most impacted section of Ceres Street is privately owned with public access. These issues will be handled through the Construction Management and Mitigation Plan by the Legal and Planning Departments.

IX. ADJOURNMENT - At 9:28 a.m., voted to adjourn.

Respectfully submitted by:

Amy Chastain
Secretary to the Committee