PROPOSAL FOR
WEBSITE REDESIGN SERVICES
TO
THE CITY OF ASHEVILLE
(Reference: Bid Number#: 298-websiteRFP)

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TABLE OF CONTENTS

1. Executive Summary

"City of Asheville" website is a service of city of Asheville and it has initiated plans to restructure and redesign their existing website with a new graphical rich website. The redesigned website should improve the City's ability to provide the community with an intuitive, functional, user-friendly and attractive website. The City is looking for a distinctive website that exemplifies the character and uniqueness of Asheville. The site currently operates on the DNN platform with administrators in the Information Technology Department and Communication and Public Engagement Division and content editors in each of the City's departments. The redesigned site must be accessible to persons of all abilities and designed to be responsive when viewed on mobile devices.

This proposal addresses the proposed solution, resource requirement, methodology, timelines and budget required to meet the requirement. ***The proposed solution will be executed out of Neumeric's office in Ohio at 470 Olde Worthington Rd, Ste 225, Westerville, OH 43082.***

1.1 Executive Profile of City of Asheville

The City of Asheville operates under a council-manager form of government, which is prescribed by its charter. More than 3,400 cities and 371 counties operate under this system, which means more than 89 million American citizens live in communities with this form of government. Since its establishment, the Council-Manager form has become the most popular form of government in the United States in communities with populations of 5,000 citizens or more.

City of Asheville supports Open government which means the citizens have the right to access the documents and proceedings of the government to allow for effective public oversight and seeks to actively engage the community in our governmental processes. The City recognizes transparency is important to good government and stands behind its record of providing access to public records.

The City of Asheville is looking for the new website as the main medium to deliver content and engage with their diverse group of stakeholders, including but not limited to:

- Residents
- Businesses
- Visitors
- Governments
- City of Asheville Students, Faculty, Staff.

1.2 Neumeric Company Profile

Started over a Decade ago, with primary focus on Delivering Niche IT Solutions to Automotive Industry, Neumeric separated itself from the rest of the solutions providers by constantly providing High Quality deliverables and meeting or exceeding customer expectations which have been accredited by the recognitions received. Neumeric has a staff of 80 employees with 2 offices located in Southfield, Michigan and Westerville, Ohio.

Over the years, Neumeric expanded to other verticals by replicating the same methodology which has reaped benefits both for Neumeric and its clients. The Disciplined and Analytical approach to problem solving owing to the Engineering background, Neumeric made significant contributions both in Architecture and Process Engineering aspects of the solution. Neumeric does more than 90% of the work for Private companies and between 5-10% of work for Government.

With the experience gained both in Execution and Process Engineering Neumeric ventured into Product Development, and has a strong suite of products catering to various diversified industries.

Neumeric's core areas of IT services include:

- **Technology Outsourcing:** Application development, Application maintenance, Product engineering and Testing services
- **Business Intelligence:** Data warehousing, Data mining, Analytics and Data processing
- **Process Outsourcing:** Knowledge Process Outsourcing (KPO) and Research

Neumeric has extensive experience in Web Development, Web Site Design, Redesign using multitude of Commercial and Open source Technologies. Neumeric Developed and actively manages the support and maintenance of Web sites for a host of companies in the various domains.

Neumeric's Expertise in Web Technologies:	
Microsoft	ASPX, Silverlight, Telerik
Java	JSP, Struts, GWT, Faces, AJAX
Open Source	PHP, Ruby on Rails,
	DotNetNuke, Umbrako, Rainbow, Drupal

1.3   Our Understanding

As the website is a representation of the administration of **The City of Asheville**, the newly designed website should adhere to the norms set forth by the World Wide Web Consortium (W3C) Web Content Accessibility Guidelines.

Some modest design improvements were made in 2010 and much has changed in the level of expectation of services provided by local government as well as the technology available to support online services. The website has become outdated both in terms of design and functionality, in particular, it is not mobile-friendly. The CMS interface used by town employees to maintain content no longer meets the needs.

The site currently operates on the DNN platform with administrators in the Information Technology Department and Communication and Public Engagement Division and content editors in each of the City's departments. The redesigned site must be accessible to persons of all abilities and designed to be responsive when viewed on mobile devices. The website will reflect the links between city services and subordinate sites, particularly geographic information systems, external database searches, online utility payments, citizen reporting tools, citizen engagement tools, activity registrations, and social networking sites. The City will consider options for both a traditional premises-based solution housed on city maintained servers and cloud based solutions which meet the required specifications.

1.4 Scope/Objectives

The main objective of **The City of Asheville** is to website redesign, hosting and content management solution to improve publishing, communication, design integrate with Asheville City Source blog which features news and events and management of the City's websites and employees Intranet. The City also seeks responsive website for mobile device that will integrate with the website hosting and content management solution and features meeting Federal Americans with Disabilities Act (ADA) requirements. **Neumeric will take care of the website hosting and maintain the website.**

Neumeric will design a website that will accomplish the following goals:

- Highly Secure and Reliable
- An easy to use Content management system
- Compliant with Americans with Disability Act (Conformance to XHTML as per W3 Standards and Guidelines)
- Perfect balance between Ease of Use and Esthetics
- Provide with latest manufacturer supported versions of the following browsers: Internet Explorer, Chrome, Firefox and Safari
- Capability to browse the site on mobile devices
- Provision of configurable site navigation menus on each page which provide quick access to all the key pages of the site.
- Integration with existing government web applications currently in use and provide for easy integration with future government applications.
- Integration with content from city social media sites such as Twitter, Facebook, YouTube and Instagram.
- Highly resourceful and provide access to most information in under 3 clicks
- Provide a Platform to disseminate information regarding the news and events of the community
- Provide content management capability for non-technically oriented The City of Asheville staff
- Engage visitors of all ages in sustainable relationships with the organization.
- Increase website readability, browse-ability and search-ability
- Increase the site conversion rate using customization and personalization
- Should be Optimized with SEO best practices, Social media integration (share buttons, follow buttons, etc.), Contact Form, site search, site map and printable version of pages.
- Website analytics & Advanced SEO for event and program registration.
- Training for the staff at The City of Asheville for updating and posting the content through admin controls of the new content management system.
- Functional and easy to use calendar feature.
- Ensuring site design is cross browser compatible.

2. Proposed Solution & Architecture

Neumeric has taken the several Commercial and Open Source Solutions for Content Management Systems for review before deciding on a proposed product to The City of Asheville. The proposed solution has been considered based on the requirements provided in the RFP and also considering current and future requirements of **The City of Asheville**, and its growing base of Residents, Visitors, businesses and third party vendors.

2.1 DotNetNuke Implementations in Government

Neumeric is recommending the use of **DotNetNuke** as a Content Management System, as it is the leading Open Source CMS in the market and has a very large number of installations including many Government agencies and Local governments. The table below shows some of the implementations of DotNetNuke in the area of public governance.

Government Agencies & Local Governments	
Washington State Department of Agriculture	
US Navy	
County of Lehigh, Pennsylvania	
York County, Virginia	
Texas Online	
Public Works & Government Services Canada	

2.2 DotNetNuke Fitness to Requirements

Additionally, Neumeric has considered each of the requirements mentioned in the RFP and matched them with either the functionality provided by DotNetNuke or identified modules that implement these functionalities. Moreover, Neumeric has extensive knowledge in developing applications using Microsoft .Net Platform and can easily cater to the needs of **The City of Asheville** if there is a need for custom application development or module development.

The following tables show how DotNetNuke fits or exceeds the requirements as specified in the RFP. The Requirement column contains text from the original RFP referring to a specific feature in various parts of the document.

Feature	Requirement	Comments
Open Source	**The City of Asheville** prefers that the website be based upon an open source, database driven content management System. **The City of Asheville** requires the use of .Net compatible Advanced Server Pages (ASP) (when needed) versus jsp, cgi or perl	DotNetNuke is the leading Open Source CMS that has broad industry acceptance and is based on **Microsoft .Net Platform**.
ADA Compliance	As Per the Americans with Disabilities Act (ADA), **The City of Asheville** must provide the same level of service to individuals with visual, hearing, motor, or cognitive disability that we do to the general public.	The DNN framework **complies with the ADA** (American Disability Association) standards for accessible websites. The key deliverable for DNN is to try and ensure that out of the box DotNetNuke can pass common accessibility standards such as W3C WAI Level A, and ADA 508
Login / Self Registration	Users should be able to login into their respective accounts. New Users should also be able to register for an account.	The **Account Login** module permits users to log in to your portal after providing their credentials (username and password). It features a **Register** button that a user can use to become a registered user of your portal, and a **Forgot Password?** link.
Content Management by Non-Technical Staff	**The City of Asheville** preferred website content maintenance model calls for Authorized non-technical staff to have the ability to perform routine content management related to information such as the posting of meeting dates, agendas, minutes, news & events, removing old and outdated information and general noticing.	DotNetNuke modules and **Admin modules** make publication of most of the content completely hassle free and intuitive for any non-technical employee.

Content migration	City of Asheville needs content to be migrated to the new site.	**Content Migration** is the process of moving information stored on a Web **content** management system(CMS), Digital asset management(DAM), Document management system(DMS), or flat HTML based system to a new system.
Site Management by Technical Staff	The technical staff webmaster should have more comprehensive ability to provide quality control and the ability to update non-routine information	DotNetNuke has a well-defined set of **Admin modules** that would make the Site administration easy both for technical as well as non-technical staff
Menus and Breadcrumbs	For ease of use, the The City of Asheville website must provide consistent orientation and navigational aids, such as hierarchical menus that tell users how deep they are into a topic or subtopic as well as a homepage link or icon on each page in the same position	DNN has a built-in framework that displays the current page the user is in and allows the user to navigate to any level in that hierarchy.
Publishing Web Pages	The non-technical staff should be able to edit and create content on the web site. Users of the Site shall be able to contribute content to the site.	The **HTML Module** provides for the input of simple or HTML-formatted text. Simple text is input in a standard textbox and a filter converts carriage returns (paragraph breaks) to HTML breaks. HTML-formatted text can be input directly or generated by an alternative rich-text input utility that provides a number of advanced WYSIWYG features as well as a gallery of all uploaded images
Search & Results	The new system must use modern tools and techniques to intuitively take the user to the information they seek. A menu system must be the primary method of navigating the site, including an outline of how information flows from the main menu to secondary and tertiary levels. **Full site search** must be available.	The **Search Input** module displays a textbox to enter the search criteria and a button to execute the search. After clicking the button, the **Search Results** module displays a list of the pages containing the terms entered into the **Search Input** module. Additionally, DotNetNuke provides a **Search SkinObject** that can be used in custom skins.
Announcements	Some pages are dynamic, which The City of Asheville staff maintains and updates in-house (Calendars, links, **news stories**, lost/found pets, photo gallery pages, etc.)	The **Announcements** module produces a list of simple or HTML-formatted text announcements consisting of a title and a brief description. Options include a **Read More** link to a file, tab on your site, a

		user of the site or other site, the ability to associate an image, ability to order the items, announcement publish date, and expiration date.
Blogs		The **Blog** module is a collection of related modules, which comprise all the working parts of a blog. These presently include: **New Blog**: List of blog-related actions that a user can take, based on permissions (for example, changing settings, adding a post, and so on) **Search Blog**: Utility for searching blog content **Blog List**: List of blogs on the site (or in some logical grouping) **Blog Archive**: Calendar indicating dates when blogs have been posted **View Blog**: Display of the lists and content of the blogs
Links	Some pages are dynamic, which The City of Asheville staff maintains and updates in-house (calendars, **links**, news stories, lost/found pets, photo gallery pages, etc.)	The **Links** module produces a list of hyperlinks to any tab, image, or file on the portal or to a web page, image, or file on the Web. The links can be set to display as a vertical or horizontal list or as a drop-down box. The links appear alphabetically by default. An indexing field facilitates custom sorting. A supplemental description can be set to appear either on mouse rollover or on the click of a dynamically generated link
News & Events	Some pages are dynamic, which The City of Asheville staff maintains and updates in-house (**Calendars**, links, news stories, lost/found pets, photo gallery pages, etc.)	The **News & Events** module produces a display of upcoming news & events as a list in chronological order, in a weekly view or in a monthly calendar view. Each event can be set to automatically expire on a particular date or to reoccur after a specified number of days, weeks, months, or years
FAQ		The **FAQs** module produces a list of linked frequently asked questions. The corresponding answer is displayed when a question is clicked

Contacts	Some pages are dynamic, which The City of Asheville staff maintains and updates in-house (Calendars, links, news stories, lost/found pets, photo gallery pages, etc.)	
Social Media Integration	Share buttons, Follow buttons, etc.	Social Media plugins / widgets available in DotNetNuke will provide the required social media integration
Site Search / Site Map		DotNetNuke provides its own custom Site Search and Site Maps that can be integrated into the The City of Asheville website for easy search and navigation

Apart from these there are several other modules that would definitely add new capability to the site and cater to the needs of the current and future citizens. **These modules include but not limited to Wiki, Maps, Media, Self Help, Surveys, Dynamic Forms, Documents (repository), News Feed, Reports, etc.**

## 2.3 DotNetNuke Administration Modules

Additionally, DotNetNuke has a significant collection of Administration modules both for the Host and Site Admin. The following table shows a summary of some of these modules.

Module	Description
Skins	This module allows you to browse through all of the skins and containers that have been uploaded to your portal. This becomes useful to change the skin based on seasonality to provide a special look during selected periods of the year.
Roles, User Accounts	The module allows the admin to create/manage roles and user accounts and assign specific roles to users.
News Letters	As an administrator, you can send out bulk e-mails to your users. The **Newsletters** section contains all that you need to send newsletters to your users.
Site Log	The **Site Log** gives you access to log files that keep track of most things that happen on the portal. **Detailed Site Log**: This report gives you the name of the user, the date and time they entered your site, the website they came from (referrer), the type of browser they are using (user agent), their IP address (**UserHostAddress**), and the name of the tab they entered on.
Event Viewer	The **Event viewer** gives an administrator of the portal or allowed users the ability to monitor all events that occur on the portal.
File Manager	The **File Manager** allows the users to manage files and folders on the portal. This is one of the modules that you are now able to add

	to other pages and allow users to access. This feature can be very helpful when the need to **delegate file and folder management** arises
Google Analytics	DotNetNuke allows users to enable Google's Analytics on the portal. **Google Analytics** provides advanced site traffic analysis that includes metrics such as search keywords used to find your site, the length of time a visitor spent on your site, and much more

2.4   DotNetNuke Architecture

DotNetNuke is a .Net based Content Management System using Microsoft ASPX technology and Telerik Rad Controls for ASP.NET to provide Rich AJAX functionality. The core platform provides Security, Localization, Content Publishing, and provide a rich framework of modules and skins that will make each of the implementations of DotNetNuke rich and unique. Each of the modules provide for customization and administration. Since the Localization is built in to the core, the site can easily be converted to different languages.
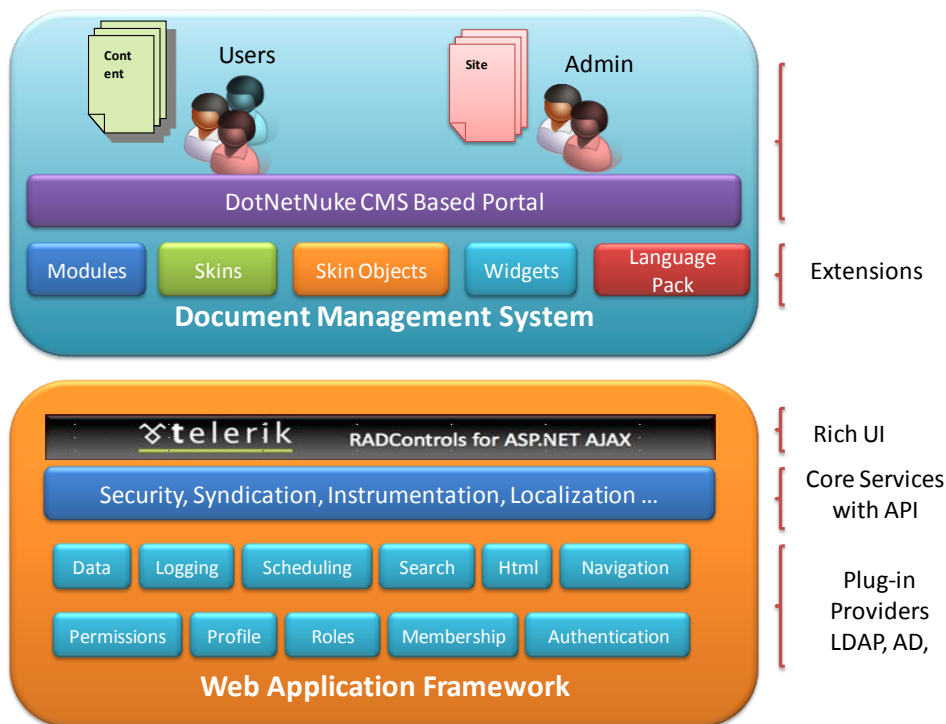
3. Execution Methodology

Neumeric will use a methodology-based approach consisting of structured process and tools to automate the process. Neumeric has successfully executed many large development/re-engineering engagements using its time tested and proven methodologies. Neumeric methodology is highly flexible and can be tailored and mapped to specific engagement requirements.

Neumeric proposes to execute the project consisting of the following phases:
1. **Phase I -** Assessment & Planning
2. **Phase II -** Site Architecture
3. **Phase III -** Site Development
4. **Phase IV -** Implementation
5. **Phase V -** Content Development & Migration
6. **Phase VI -** Integration Testing
7. **Phase VII -** Training
8. **Phase VIII -** Deployment
9. **Phase IX -** Transition
10. **Phase X -** Warranty
11. **Phase XI -** Support & Maintenance

Neumeric has a matured Application Delivery Model (ADM) to provide the high quality deliverable to the customer including all phases of analysis, design, and implementation and testing. For the overall execution of the project, Neumeric proposes the following cost and resources. Neumeric's proposal for the web-site design is broken down into the following resource estimates:

Phase	Resource	No. of Resources	Man days	Duration
Phase I - Assessment and planning	Project manager	1	2 days	5 days
	Business analyst	1	5 days	
	Systems analyst	1	1 day	
Phase II - Site architecture	Project Manager	1	1 days	4 days
	Business Analyst	1	1 days	
	Architect	1	4 days	
	Systems analyst	1	2 days	
Phase III – Site Development	Project Manager	1	5 days	20 days
	Business Analyst	1	3 days	
	Web Designer	2	15 days	
	DBA	1	4 days	
	Software developer	3	20 days	
	Architect	1	3 days	
Phase V - Content development	Business analyst	1	4 days	5 days
	Web Designer	2	4 days	
	Software Developer	3	4days	
	Project manager	1	1days	
Phase VI - Content Migration	Business analyst	1	1 days	5 days
	Web Designer	2	1 days	
	Software Developer	3	1 days	
	Project manager	1	1 days	
Phase VII – Integration Testing	Project Manager	1	2 days	5 days
	Quality Assurance	2	5 days	
Phase VIII – Training	Project manager	1	4 days	5 days
	Business Analyst	1	5 days	
Phase IX – Deployment	Business analyst	1	1 days	2 days
	Network Admin	1	2 days	
Phase X – Transition	Project Manager	1	2 days	4 days
	Database Admin	1	2 days	
	Network Admin	1	1 day	
Warranty	System Maintenance (Combination of Software Developer, Web Designer, and others in the team)	1	180 days	180 days
Support & Maintenance	System Maintenance (Combination of Software Developer, Web Designer, and others in the team)	1	3 Years	3 Years

Table: Resource Estimates

Details activities of the each of the phases are listed below.

3.1 Phase I – Assessment & Planning

This phase begins when the project is awarded and the contract is signed. It ends when **The City of Asheville** signs off on the requirements document(s). Once the project has been awarded, the first step is to organize the team and make the team available for system study at **The City of Asheville** site i.e. on-site.

During this period, formal discussion sessions are arranged between the Neumeric team and the various stakeholders to clearly understand the business and technical requirements. Project Manager (PM) will prepare a project plan in consultation with **The City of Asheville'** PM.

Typical activities carried out during this period include review of any documentation available with **The City of Asheville'** technical team such as requirements documents, development standards documents, and available design document for existing systems and interfaces.

3.1.1 Primary Tasks in Assessment & Planning

Typical tasks carried out in this period include:

- Project initiation and preparation of a detailed project plan, in consultation with **The City of Asheville'** team members
- Establish the project scope and priorities
- Study and review existing systems architecture and business processes
- Study existing documentation and manuals, discuss with stakeholders
- Identify opportunities for process re-engineering, as appropriate
- Identify data flow between applications and common data formats
- Identify important process flows:
    - Activities performed in a process
    - Trigger events for a process or activity
    - Start condition for an activity
    - End condition for an activity
    - Transition rules for moving from one activity to another
    - Staff assignment rules
    - Input data requirements of an activity
    - Output data requirements of an activity
- Identify the business rules and interfaces
- Identify data migration requirements and planning for data migration
- Identify performance requirements of the system
- Identify dependent processes and how to simulate them
- Identify external dependencies
- Perform gap analysis and document dependencies that can be simulated and those that cannot be simulated

- Determine the requirements for security, scalability and availability
- Prepare the requirements and conceptual architecture and review it for completeness and consistency
- Discuss the requirements document with users (**The City of Asheville**' stakeholders) and identify any changes or additional requirements
- Confirm design standards and development procedures with **The City of Asheville**

3.1.2 *Establishing Communication Protocols*
Establish the following protocols for communication:
- Project communication mechanism: Weekly conference schedules and status reporting formats
- Delivery schedule
- Handling change requests (for development and maintenance), and problem reports (for maintenance)

3.1.3 *Deliverables*
Typical deliverables during this phase include:
- Functional requirements document
- Technical requirements documents
- Conceptual architecture document
- Detailed project plan
- Timelines

Since this phase requires a lot of interaction and analysis with **The City of Asheville** and the review board, this phase is completely done on-site and there is no difference between the GDC model and an on-site model.

3.2   Phase II – Site Architecture

Neumeric has very strong experience in the area of Web Application Development and Web Site Development and Deployment, both static and Database Driven Content Management Systems, and has proven track records of increasing both site visits and conversion rates by increasing the customer experience by customization and following proven templates for the site layout and navigation. Typical tasks in this phase include:
- Complete study of the website layout, navigational themes and design themes
- Interview of the review board to understand the rational for layout and porting the important aspects to the proposed layout
- Review of Neumeric's standard Site concepts
    - Landing page (home page)
    - Self-Registration Page
    - Header/footer
    - Search box and location
    - Alerts, Notifications
    - Special Events
    - Site navigation
    - Personalization
    - Administration

- Consolidation of a site layout, navigation design based on feedback and best practices

3.2.1 Deliverables

Typical deliverables of this phase are:
- Finalization of a CMS Product/Framework
- Wire-frame model of the proposed site
- Image snapshots for the proposed site
  - Home page
  - Admin Page
  - Back Office – Page for a new Page creation for Content developers.

3.3   Phase III – Site Development

In this phase Neumeric's web design team works closely with the review board to convert the output of the previous phase, namely the wire-frames to html mock-up pages into a proxy site that is capable of navigation to get an overall idea of the customer experience.

3.3.1 Deliverables

Typical output of this phase is:
- A mock web site with mostly static data to provide an idea of overall customer experience

3.4   Phase IV – Implementation

This phase begins when **The City of Asheville** approves the requirements document. It ends when the architecture/design documents are reviewed and approved by **The City of Asheville**' team.

This phase begins when:
- Requirements and design documents are approved and available
- Development environment is available

This phase involves the development of integration components as specified in the design documents. It also involves: building of common frameworks/ process models, building of integration logic to handle data transformations and validations, custom building, and testing. Various applications and systems are integrated as specified in the integration requirements. A testing strategy and plan is drawn to facilitate the testing processes.

During this phase the requirements and conceptual architecture are taken as inputs and the solution design activities are carried out. The activities include identification of various components such as flow services, adapter services, transformation and rules and of various interactions among them. The design process also involves:
- Identification of application interfaces
- Identification of business events
- Identification of data transformation services

This step ends when the code is unit-tested.

3.4.1 *Primary Tasks in Detailed Design & Coding*

- Review the functional & technical requirements
- Develop the solution topology and the integration architecture
- Design the integration process in terms of the integration components — prepare sequence diagram, interaction diagrams, etc., as appropriate)
- Design the integration components — object design, flow services design, database design, etc.
- Design common components like error handling and logging
- Design data conversion mechanisms and backup and recovery mechanisms
- In the case of data migration, design for the migration components
- Begin working on the test plans
- Update project plan and times as appropriate
- At the end of this phase, start setting up the development environment
- Complete setup of the development environment
- Formulate version control procedures and code deployment procedures
- Review the code
- Unit/integration testing the developed components
- Performance testing, if required
- Prepare the rollout plan
- Prepare operations manual, deployment manual, help files, etc.

3.4.2 *Deliverables*

Typical output of this phase is:

- Architecture documents
- Design documents (sequence diagrams, completed design templates, database design models, etc.)
- Tested components
- Test documentation
- Manuals (operation, deployment, installation, configuration, and tuning help)

3.5 Phase V – Content Development

Content management is a collaborative process. It consists of the following basic roles and responsibilities:

- **Creator –** Responsible for creating and editing content
- **Editor –** Responsible for tuning the content message and the style of delivery, including translation and localization
- **Publisher –** Responsible for releasing the content for use
- **Reviewer –** Responsible for creating standard content
- **Administrator –** Responsible for managing access permissions to folders and files, usually accomplished by assigning access rights to user groups or roles. Administrators may also assist and support users in various ways
- **Consumer, viewer or guest –** The person who reads or otherwise takes in content after it is published or shared

A critical aspect of content management is the ability to manage versions of content as it evolves. Authors and editors need to restore older versions of edited products due to a process failure or an undesirable series of edits.

Another equally important aspect of content management involves the creation, maintenance, and application of review standards. Each member of the content creation and review process has a unique role and set of responsibilities in the development and/or publication of the content. Each review team member requires clear and concise review standards which must be maintained on an ongoing basis to ensure the long-term consistency and the knowledge base.

A content management system is a set of automated processes that may support the following features:

- Import and creation of documents and multimedia material
- Identification of all key users and their roles
- The ability to assign roles and responsibilities to different instances of content categories or types
- Definition of workflow tasks often coupled with messaging so that content managers are alerted to changes in content
- The ability to track and manage multiple versions of a single instance of content
- The ability to publish the content to a repository to support access to the content. Increasingly, the repository is an inherent part of the system, and incorporates enterprise search and retrieval

3.6 Phase VI – Integration Testing

Neumeric considers this phase the most significant phase of the project, as the final outcome is dependent on the rigor with which testing is executed and how quality is assured not in just the final product, but in every artifact that is delivered.

- **Types of Testing**
    - Sanity/smoke testing
    - Functional testing
    - Regression testing
    - Performance testing (Page Load, and Refresh)
    - Compliance Testing (ADA Compliance for Web Standards)
    - Compatibility testing (Browsers)
- **Results** – Generated by tool and analyzed whether expected value is equal to actual value and results as pass/fail. Further, results will be customized as in separate files.

Typical output of this phase is:
- Documented Test Results
- Tested components
- Comprehensively Tested System
- Documented Issues with Prioritization

3.7 Phase VII – Training

Training is a very important component of the implementation process. A training plan should be mutually agreed upon during the initial stages of the project. Training programs should be devised in such a manner that users gain confidence in the new system in a short time, thus reducing the need for extended implementation support.

The Training Work Group (TWG) will create a plan for training the impacted users of the new system. TWG then will present the training plan and achieve project team approval. Included in the training plan are the following:

- Impacted users list
- Skill set criteria per user group
- Policies and procedures
- Training materials
- Training rooms scheduling
- Train the trainer
- On-going training
- Training assignments including timelines

Knowledge transfer is achieved in the following manner:

- Neumeric shares analysis and design documents during the appropriate phases of the project for review with the customer, to ensure the proper approvals are obtained and **The City of Asheville** is familiar with the features of the application.
- Once development and testing is completed Neumeric delivers all components, along with appropriate documentation.
- When the User Acceptance Testing (UAT) is being carried out, the Neumeric team supports the UAT by imparting relevant details of the application to **The City of Asheville**.

3.8 Phase VIII – Deployment

Implementation is the final stage of a project or the initial development, where the software is put into production and is used by the actual business. Types of implementation:

- Documentation
- Training
- Pilot implementation (testing environment)
- Production implementation

Rollout step ends when the new enterprise system goes live according to the rollout plan.

- Setup the environment for deployment (including security), scalability and availability
- Package code
- Set up the database, load data, install batch programs, install code, etc

3.8.1 *Deliverables*
Deliverables will be the live system to **The City of Asheville**.

3.9 Phase IX – Transition

This is the period where Neumeric is working with **The City of Asheville** closely to do a proper hand off both for the content development, Site Administration, User Administration etc. This phase can be shortened if Neumeric were to do the ongoing support and Maintenance of the site.

3.10 Warranty

Neumeric provides a 180-day warranty period, during which any identified issues (not feature requests) would be addressed and resolved in a timely manner at no additional cost to **The City of Asheville**. These issues are addressed based on the prioritization provided by **The City of Asheville**.

3.11 Support & Maintenance

If Neumeric were chosen to provide ongoing support and maintenance, Neumeric will follow our proven methodology for Issue Reporting, Tracking and Resolution, by providing an online Issue Reporting mechanism integrated into the portal. After reviewing each Issue, Neumeric would qualify them as Issues or Feature requests and address them accordingly.

3.11.1 *Issue Reporting*
Neumeric will provide an online tool integrated into the website, where users are provided with a functionality to report issues. Various attributes of the issues captured are
   a. Title
   b. Description
   c. Module (Gallery, Forum, Events, General ….)
   d. User Details
   e. Severity
   f. Steps to Reproduce the issue
   g. Attachments (Optional)
   h. Additional comments (Optional)

3.11.2 *Issue Tracking*
Neumeric shall provide **The City of Asheville** with online tools to search, view and find details about the status of Issues reported. Neumeric shall provide a dashboard of issues reported/resolved to get a quick snapshot of the progress. Neumeric and **The City of Asheville**, review the current state of issues periodically at a mutually agreed time and frequency.

3.11.3 *Issue Resolution*

Neumeric shall resolve the issues based on prioritization provided by **The City of Asheville**. Neumeric will review each Issue in detail and if identified as Feature Requests, would work with **The City of Asheville** to address them differently as it is considered out of scope for this document.

4. Project Management

Neumeric follows its time tested methodologies to ensure the success of the project. Based on our understanding of the scope of the project and assumptions, Neumeric proposes to execute this engagement using its On-site/Near-Shore delivery model. This model ensures that the work gets done where it makes the most economic sense.

4.1 Roles and Responsibilities

The following section describes the roles and responsibilities of Neumeric team and **The City of Asheville** team:

4.1.1 *Neumeric's Roles and Responsibilities*
- Neumeric shall be responsible for ensuring that competence level for the project is met
- Neumeric shall assign PM who shall be single point of contact for smooth running of the project
- Neumeric PM shall participate in project steering meetings and update status on deliverables
- Neumeric PM shall send status report on deliverables to **The City of Asheville**' PM on the frequency that will be agreed upon
- Before start working on the deliverables, Neumeric PM shall work with **The City of Asheville**' PM to identify dependencies of each deliverable on various project activities and also work with **The City of Asheville** to resolve the dependencies to ensure smooth deliverables
- Neumeric shall follow its defined and provided processes, methodologies, tools, and templates for assigned activities and deliverables
- Neumeric shall follow its own quality standard processes and ensure all the deliverables meets the quality criterion
- Neumeric shall be responsible for project estimation, planning, scheduling, and delivery
- Neumeric shall be responsible for configuration management or version control of deliverables

4.1.2 *The City of Asheville' Roles and Responsibilities*
- **The City of Asheville** shall provide all the toolkits and required third party software along with requisite licenses for the engagement at no cost on Neumeric
- **The City of Asheville** shall appoint a single point of contact to interact with Neumeric PM for all the project related matters
- **The City of Asheville** shall discuss the estimations, plans, schedule, and milestones of Neumeric's deliverables with Neumeric's PM and Neumeric will work upon a mutually agreed plan

4.2 Status Reporting

A weekly status report will be sent to **The City of Asheville**' PM with the following information:
- Milestones/activities achieved during the week
- Milestones/activities missed during the week and the reasons for them
- Milestones/activities planned for the upcoming week

- Issues requiring clarifications
- Escalations (if any)

The list is indicative and the actual status report content will be finalized in consultation with **The City of Asheville**' PM. **The City of Asheville** can get a status update on the project from Neumeric PM on need basis through teleconference or email communication.

4.3   Escalation Procedure

Neumeric PM will resolve all engagement-related issues in agreement with **The City of Asheville**. In case a satisfactory response is not obtained from either side, issues may be escalated according to a predefined escalation hierarchy defined below. This process also applies to any change request approvals.

Level	Unresolved for
PMO Head	2 days

Table: Escalation order in Neumeric

Level	Unresolved for
Project Manager	2 days
Project Sponsor	4 days

*Table: Escalation order in **The City of Asheville***

4.4   Change Management

A stringent change management regime is necessary to ensure delivery on time and within budget. Statement of Work (SOW) for the engagement will serve as the baseline for the change management process. The following is an indicative list of sources of change requests:

- New requirements, changes in requirements, changes to deliverables that have been accepted by **The City of Asheville**
- Delays in reviews/signoffs/issue resolution
- Delays in the resolution of dependencies
- Delays and defects on part of external systems
- Revision of project timelines

The change management process is applicable to all stages of this engagement. Any change in required effort or schedule will be addressed by adding additional staff to the project, after the impact analysis has been approved by **The City of Asheville**, as per the change management process described below:

4.4.1   *The Process*

The Change Control Committee (CCC) will be constituted with **The City of Asheville**' project sponsor/ PM and the Neumeric PM. CCC will be the forum to form a consensus on changes. Once

the CCC decides to adopt a change, the consequences of the change will be assessed and documented by Neumeric team using the scope/requirement change management process.

- Neumeric PM registers a change request
- Each change request from **The City of Asheville** must include:
    - Issue/rationale behind the requested change
    - Alternatives
    - Importance of requirement and impact if the request is not implemented
    - Release in which the request should be accommodated
- Neumeric team will analyze the received request and determine the impact of each request on the overall business process/system and an impact analysis report will be given to the CCC
- The analysis determines the impact of the request on the following:
    - Overall project schedule
    - Project effort
    - Budget
    - Risks
- Changes impacting project deadlines, resource plans or project budget will be discussed during the weekly status meeting
- If the CCC approves the changes, Neumeric PM will log the change request and obtain a sign off
- Neumeric PM will update the project plan, budget, quality goals, and staffing plan to include the change request

4.4.2 Assumptions on Change Management

- All change requests will be subject to the above process regardless of impact on the effort, cost, schedule, and risk.
- The SOW has been signed-off
- When a request impacts a work product in progress (say a piece of code), incorporate the change if it is pertinent to the work being done right then. If not, consider allowing the work to progress to a logical milestone or conclusion before including the change

4.5   Risk Management

The objective of risk management is to identify the conditions, prioritize them based on their impact on project goals, plan, execute mitigation steps, and track risks during the entire project life.

Detailed risk identification, monitoring, and mitigation plan will be put together as part of project planning. This will encapsulate the risks (measured for their impact & severity) faced by the project at any point in time as well as the steps identified to mitigate those risks.

During project execution the mitigation steps are executed, the risks and the effectiveness of the mitigation are continuously tracked. If any additional risks appear during the project lifecycle, they are put through the same cycle as described above. The status of risks is continuously tracked/reviewed using a regular, standardized status-reporting mechanism.

The risk management plan will be dynamic in nature. The risks faced by the project may keep changing with time; new risks emerge, the severity of identified risks may increase or decrease, and so on. Therefore, the risk management plan cannot be static. It has to be continually modified to reflect the changing realities of the project. A first cut risk management plan has been put together as outlined below:

RISKS	Mitigation Plan
Changes to requirements.	• Requirements to be gathered and signed off before initiating down-stream activities • Formal change management procedures will be implemented
Addition of new requirements after the sign-off of requirements.	• This will be handled through the change management process. Extra time will be budgeted for accommodating the requirement changes • Ramp up of resources
Timely resolution of dependencies due from **The City of Asheville**.	• Neumeric PM will coordinate the effort • Neumeric will proactively communicate the impact on schedule and budget due to delay in resolving dependencies on **The City of Asheville**
Turnaround time taken by **The City of Asheville** for clarification of issues raised.	• **The City of Asheville** will ensure that the issues raised by Neumeric are duly addressed and clarified at the earliest.
Communication.	• PM as the primary contact for the project • Predefined formats, content, and frequency of status reports
Non-Availability of documentation.	• **The City of Asheville** to ensure that SME's are available to provide the appropriate inputs to the Neumeric team • Neumeric team will gather the requirement details from the SME's and document the same wherever necessary

Table: Risk Management Assumptions

Project estimates suggested by Neumeric for this engagement are based on the following specific and general assumptions:

4.6   Specific Assumptions

Specific assumptions related to this engagement are the following:

- **The City of Asheville** will provide photos, company logo files, and information on appropriate company logo use and logo color Pantones.
- **The City of Asheville** will provide all the available documentation related to the project at the start of the engagement

- **The City of Asheville**' Subject Matter Expert (SME) will be available for consultation to the Neumeric team on a need basis for any clarification during the project

4.7 General Assumptions

General assumptions related to this engagement are the following:
- Neumeric will not be responsible for delayed project delivery dates because of the delayed approval of documents such as BRD, HLD by **The City of Asheville**. If and then this happens Neumeric will provide revised estimates
- Database/schema design will be a collaborative effort between Neumeric and **The City of Asheville** whereby **The City of Asheville** explains business needs, and Neumeric develops the corresponding technical design, which **The City of Asheville** approves. It includes:
  - Attributes
  - Data types
  - Functional dependencies (primary key, foreign key, etc.)
  - Synchronization rules
  - Audit log details
- **The City of Asheville** will resolve issues (if any) in a timely manner.
- Proposed cost and timelines are not considering scope creep. If at all any scope creep is identified, timelines will be revisited and new timelines will have proposed by Neumeric

Any changes to the above listed assumptions will have impact on timeline & cost and will be handled as change requests.

4.8 Neumeric's Delivery Model

Neumeric has a proven and efficient delivery methodology that addresses various aspects of project startup, requirements analysis, design and development, execution and testing, user acceptance and production support.

4.8.1 Highlights of Neumeric Delivery Model

- A core team of leads/analysts work at **The City of Asheville**' location
- Core team is responsible for interacting with **The City of Asheville** to develop high-level plan and design for the project
- Core team sends coding instructions Neumeric Delivery Center (NDC)
- Critical work requiring high degree of interaction with **The City of Asheville** is executed at **The City of Asheville**' location
- Work requiring less **The City of Asheville**' interaction and security is performed at the NDC
- Transparency and Visibility to **The City of Asheville**

4.8.2 *Visibility*

Neumeric Delivery model ensures visibility to our clients in all areas of the application development including Quality, Resources, Schedules, Costing and Processes.
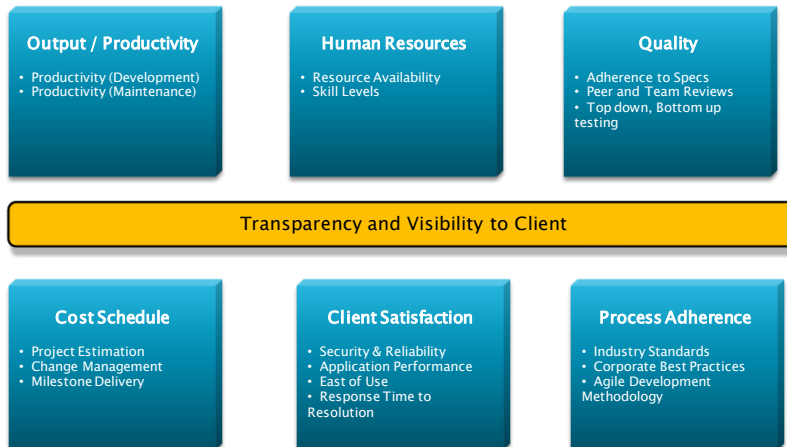

Figure: Ensuring Visibility to our Clients

4.9   Neumeric's Application Development Methodology

Neumeric is a mature software development organization and has processes and polices in place to enforce the management and governance of these to ensure a successful implementation and project delivery. The following diagram depicts clearly how the **The City of Asheville** representatives and Neumeric team interact to deliver a project/product to the customer.
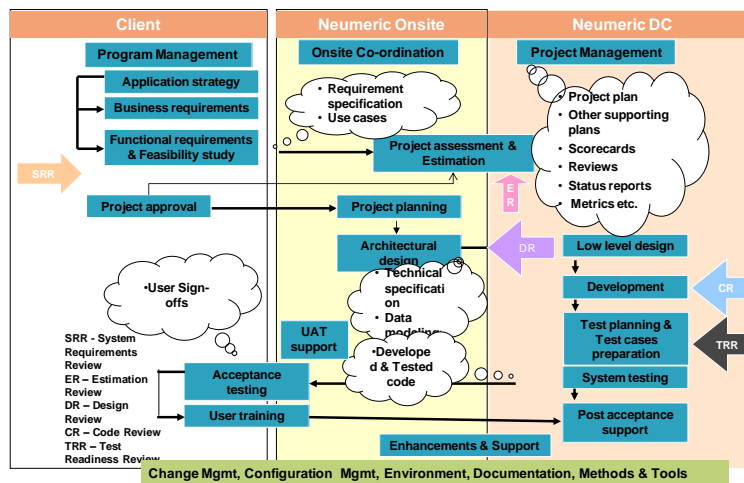

Figure: Application Development Methodology

4.10 Neumeric's Testing Methodology

Neumeric employs thorough and proven processes when it comes to quality assurance and is striving hard to improve the overall **The City of Asheville** experience by delivering high quality products on-time and under budget. This is only possible because of Neumeric's dedicated testing team and the processes and policies are depicted in the following diagram.
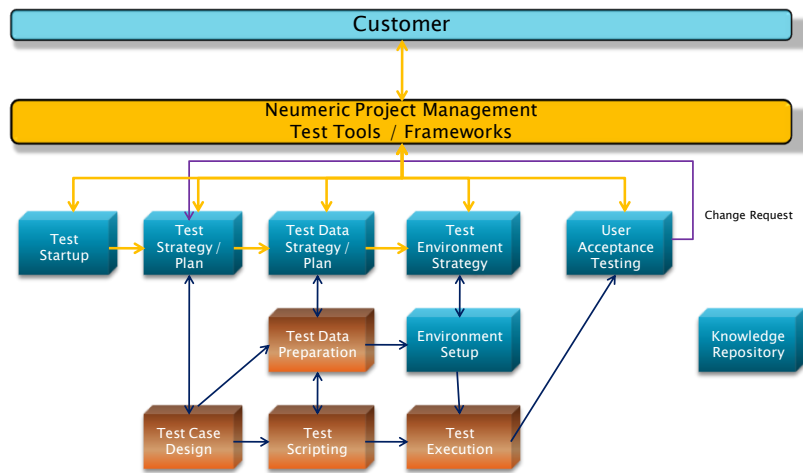
Figure: Testing Methodology

4.11 Neumeric's Integrated Quality Assurance Methodology

The following diagram depicts our integrated quality assurance methodology. Starting with Stakeholder requirements, all phases of life cycle (Analysis, Design, Development, Testing, Deployment, Training, Support & Maintenance) place utmost emphasis on Quality and this is achieved through our tested processes and procedures.

These practices gain even more significance in a Product Development as there is a constant feedback flowing from development through analysis and design
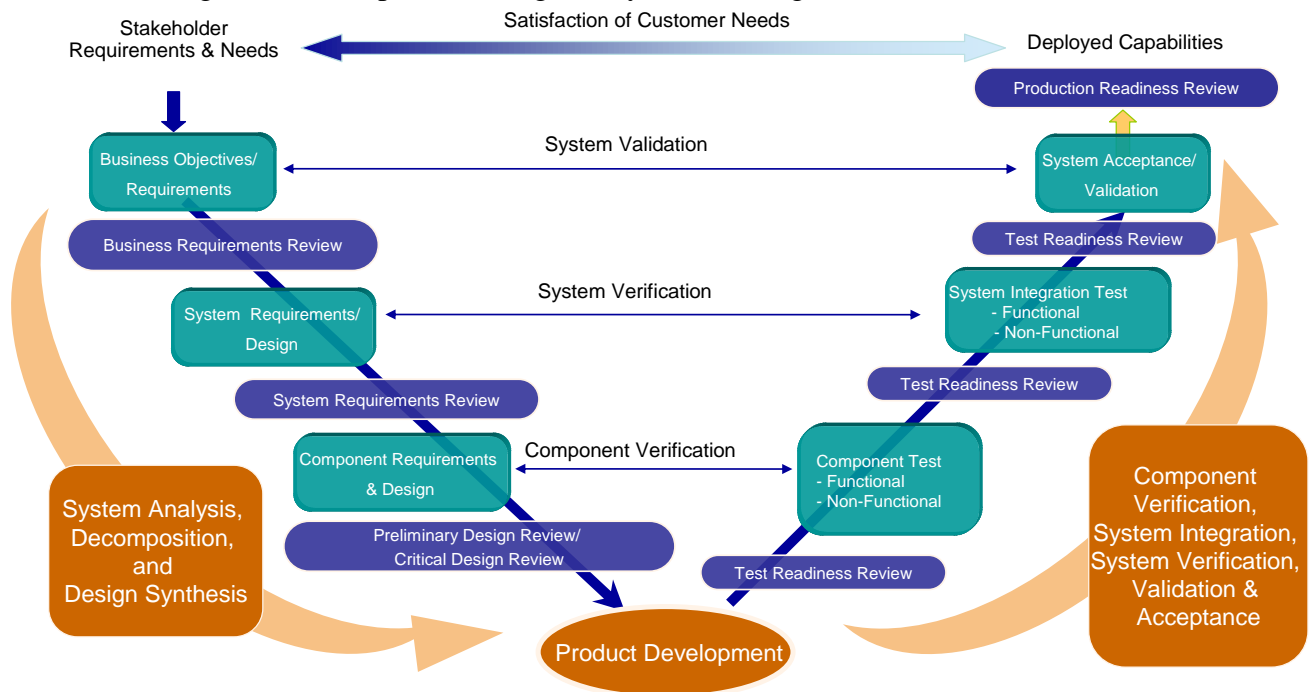

Figure: Integrated Quality Assurance Methodology

5. **Appendix A – Neumeric's Website Portfolio**

http://www.sudhi-infomatics.com/

http://bhishak.net/

http://www.espacentral.com/

6. Appendix B – Neumeric's Principals, Staff and Facilities Profiles

Not knowing if the proposal will be put in public, we have not included the actual names of the people who will work on the project, but we have an assigned team who will work on the assignment. Attached are profiles of people that will be assigned to the Project:

Name	Role	Responsibilities
PM	Project Manager	15 years of experience in .Net Development and Project Management
AR	Architect	20 years of experience in Product Development
BA	Business Analyst	7 years of Business Analysis experience with expertise in writing specifications and gathering requirements from business users and developing Business Requirement Documents
SA	System Analyst	8 Years of experience in System Analysis and documentation. Excellent Documentation skills to ensure proper communication channels between Business sponsors and technical teams
SE1	Software Engineer	7 years of experience in the design and development of web-based solutions using Microsoft technologies
SE2	Software Engineer	Microsoft Certified Professional with 4 years of experience in System Design, Development and Implementation of Web based and Client/Server Applications
SE3	Software Engineer	Over 5 years of IT experience in developing Web applications using DotNet Framework
WD1	Web Designer	8 years of web design experience using various Web technologies and CMS (DotNetNuke etc)
WD2	Web Designer	5 years of web design experience with multiple Content management systems (Drupal,DotNetNuke etc) and web technologies (XML,XHTML etc)
QA1	Quality Assurance	Over 8 years of experience in IT with emphasis on Software Testing/Quality Assurance. Experience in testing of Standalone, Client Server and Web based applications using Manual and Automation testing tools

QA2	Quality Assurance	4 Years QA Analyst experience and expertise in Black Box testing , writing test plans, test cases, GUI Automation testing, Integration testing, Regression testing, Load testing, Stress testing, and Performance testing of Web-Based applications
DA	Database Administration	12 years of Database Administration
NA	Network Administration	8 years of Network administration

The Organization Structure for the team will be as follows:
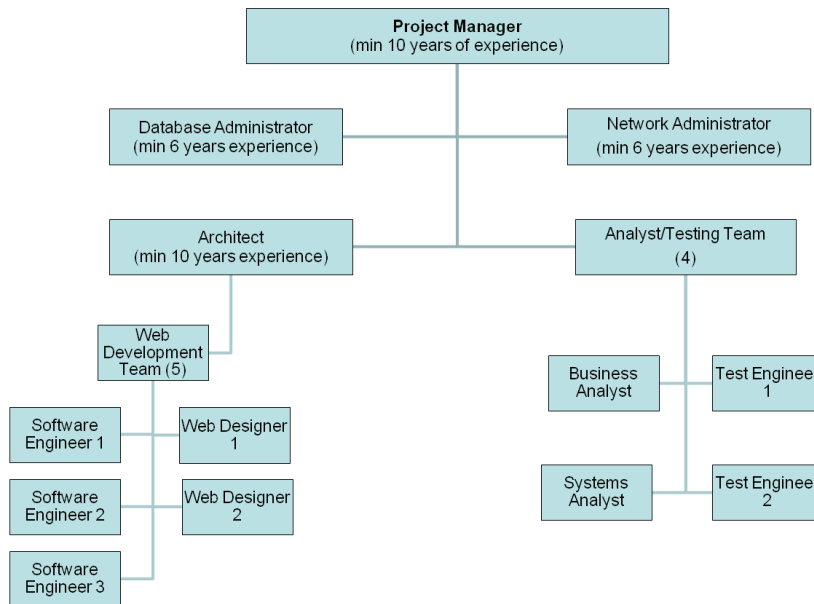
7. Appendix C – Scope of Services – Proposed Timeline

Attached is the Proposed Timeline for the implementation that we put together for the project. The project timeline is split into following sections:

1. Design and Development of the Website
2. Warranty for the Deployed Website
3. Continuous Maintenance of Website

Task	Step	Delivery
	Contract/Budget Approval	T
T1	Product Requirement (Project Plan)	T + 2 Days
T2	Project Definition Meeting	T1 + 2 Days
T3	Project Specification + Time line Discussion	T2 + 2 Days
T4	Wireframe Model and Design Approval	T3 + 1 Week
T5	Site Development and Database Schema	T4 + 3 Weeks
T6	Content Development	T5 + 3 Days
T7	Integration Testing	T6 + 3 Days
T8	Server Set-Up / Deploy on Beta Server	T7 + 1 Days
T9	Alpha Testing (Staging)	T8 + 3 Days
T10	Bug Fixing and Modifications	T9 + 3 Days
T11	Beta Testing (Staging)	T10 + 3 Days
T12	Training	T11 + 3 Days
T13	Go Live / Deploy on Prod Server	T12 + 2 Days
T14	Project Review	T13 + 1 Week
T15	Admin/Support	3 Yrs. continuous

* Note – actual days and development days have some discrepancy to accommodate weekends, and holidays. The proposed schedule is assuming no delay in feedback from The Saint Louis Public School District to approve, fixes, and sign-off. Delays caused at the client side, may cause additional delays development side due to scheduling issues within the development team's job queue. Every effort will be made to provide appropriate priority for this project so as to minimize such delays. In any event, significant delays resulting from such scheduling interruptions will be communicated to the client at the earliest possible occasion.

8.   Financial Proposal

8.1   Validity of Proposal

This proposal is valid for a period of 180 days from the closing date for receipt of proposals agreeing to all the terms and conditions mentioned in the RFP.

8.2   Proposed Financial Bid

Neumeric's overall cost estimates are as follows:

Phase	Cost
Assessment & Planning	$2,438.00
Site Architecture	$3,446.00
Mock-ups	$2,310.00
Implementation	$3,459.00
Content Development	$3,166.00
Content Migration	$486.00
Integration Testing	$2,450.00
Training	$1,336.00
Deployment	$1,156.00
Transition	$2,106.00
Hosting (120 $ / Month) for 36 Months	$4,320.00
Warranty (180Days)	Included
Support & Maintenance (3 Yrs. INcluded)	FREE
Total Cost	**$26,673.00**

9.   Appendix D - Why Choose Neumeric – Additional Value Added

- ISO 9001:2008 Certified Company

- Experienced in Developing **Custom DNN Plugins**

- Expertise in Integrations of **E-commerce** and **CRM** Applications

- Proficiency in **Social Media** and Collaboration Tool Integration/Development.

- Follows **Agile Methodology** and design reviews are incorporated into Scrums.

- Development in Compliance with ADA Guidelines (Americans for Disability Act)

- 3 years' continuous support without any additional cost

- Charges include hosting (99.9% uptime guarantee)

- Charges include all third party integrations, e-commerce integration for event/program registration

- Charges include all additional plugins (Covered for 3 years)

10.   Appendix E – Contact Information

For any clarification on this proposal, please feel free to contact:

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