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| Albion Design Group | September 27  2012 | |
| This Document will list and describe the proposed requirements for the PAAC’s North East Extension Project. | | SRS Proposal for PAAC |

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| List Of Revisions | | |
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| 9/21/12 | Albion Group | Creating the SRS |
| 9/27/12 | Ben Long | Create Cover Page and Format |
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# Introduction

This document describes the specifications and requirements of the Albion Train Control system. Clause 1 describes a general introduction to the project and its purpose, Clause 2 describes the project features and constraints, Clause 3 outlines the requirements of all of the separate modules of the system, and Clause 4 contains any relevant additional materials.

## Product Overview

The product that Albion will be creating is a fully automated Train Control System for the North Shore Extension Transit System for the Port Authority of Allegheny County.

## Purpose

The purpose of this document is to lay-out and describe the functional and non-functional requirements of the Albion Train Control System. In addition, we will be describing what the system ***will not*** do.

## Scope

This document is an SRS for the entire Albion Train Control System. All modules will adhere to the specifications and requirements to be listed in this document.

## References

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## Definitions and Abbreviations

ATCS: Albion Train Control System

PAAC: Port Authority of Allegheny County

NSE: North Shore Extension

# Overall Description

In the following sections, we will be describing a general overview of the functions, characteristics, constraints and dependencies of the **ATCS.**

## Product Perspective

The ATCS will be a standalone system. The only required modules for the ATCS are the five modules that come in the ATCS package, and the 4.0 Microsoft .Net Framework. The ATCS shall be designed to operate on a **windows 64** bit machine. Framework to program the track layout and train operations shall be provided. However, it is left to the customer to create their own designs for the track and the train operations.

## Product Functions

### Trains

For the train components the ATCS shall:

* Safely control and model the movement of trains throughout the track systems.
* Simulate trains’ positions through physics and input about weather conditions
* Keep the train’s speed in an acceptable range according to its speed authority
* Route the train to keep all trains safely moving without collision
* Control when the train doors will open and close
* Control when the Train’s lights will turn off and on

### Track

For the track components the ATCS shall:

### Train Controller

### Track Controller

#### CTC Office

## User Characteristics

## General Constraints

## Assumptions and Dependencies

# Specific Requirements

# External Interface Requirements

### User Interfaces

### Hardware Interfaces

### Software Interfaces

### Communications Protocols

### Memory Constraints

### Operation

### Product function

### Assumption and Dependency

## Software Product Features

## Software System Attributes

### Reliability

### Availability

### Security

### Maintainability

### Portability

### Performance

## Database Requirements

## Other Requirements

# Additional Materials