

# Northport Transportation Study Final Report

Prepared For:

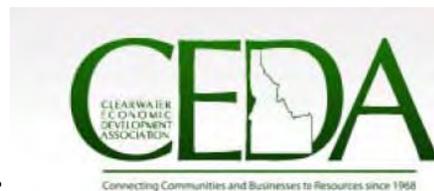
## Lewis-Clark Valley MPO

In Partnership With:



LEWIS-CLARK TERMINAL INC.

Prepared By:



In Association With:

**Adopted April 9, 2014**

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## INTRODUCTION

Lewis-Clark Valley Metropolitan Planning Organization (LCVMPO), in partnership with the Port of Lewiston and Lewis-Clark Grain Terminal, has undertaken a study to develop a multi-modal transportation plan for the Port of Lewiston's Northport area. The study is intended to identify transportation system improvements that will enhance connectivity and mobility between truck, rail, and barge entering or exiting the Northport area. The study is guided by Planning Advisory Committee (PAC) comprised of involved agencies and key stakeholders, with representatives from the following organizations and businesses:

- Port of Lewiston
- Lewis-Clark Valley MPO
- City of Lewiston
- Idaho Transportation Department
- Lewis Clark Grain Terminal
- Inland 465
- Watco/The Great Northwest Railroad

This report is a compilation of a series of Technical Memorandum. This report summarizes the existing condition of rail infrastructure in the Northport Area and potential rail improvement alternatives, as well as existing roadway infrastructure, traffic, and safety conditions, and potential roadway improvements. It includes an evaluation of roadway projects identified for further consideration, as based on public comments and Planning Advisory Committee input, in combination with the rail improvements. It also outlines potential implementation strategies for the recommended projects.

## EXISTING RAIL CONDITIONS

Northport has a number of existing rail tracks that serve (or formerly served) tenants at the Port of Lewiston's Northport site. The report will describe first the rail network, then the road crossings of the tracks, and finally, the general condition of the rail infrastructure and its ability to carry current and future rail traffic.

### Tracks

The tracks are connected to the national rail system by a turnout on Great Northwest Railroad's (GNWR) main line just north of where the GNWR crosses the mouth of the Clearwater River. This connection is at a location just east of the GNWR siding, named Transfer. The Northport Switch and Rail Line Location Map (**Figure 1**) identifies rail leads, lines, spurs, and switches within the Northport area by their commonly used names.

Figure 1. Northport Switch and Rail Locations



The turnout from the main track is a Number (No.) 9 track, as is the case with the turnouts within the Northport rail complex. Unlike the rail size within the Northport complex, the rail size at this turnout is 133RE (That is 133 pounds per yard of the “RE” dimensions). The diverging route of the turnout is to the left, making it generally referred to as a “left-hand No. 9 turnout.”

### Port of Lewiston Lead

From this point the track leading in to the Northport complete is known as the Port of Lewiston Lead (“Lead”). Immediately after the Lead track crosses over the private road access to the property located just south of the GNWR tracks, the rail size decreases to 90RE (90 pounds per yard) and has bolted joints. It continues to parallel the GNWR main track for about 600 feet, curving to the south, then reverses and curves back to the west, where it crosses three separate private road crossings as it pass the City of Lewiston Water Treatment plant.

The Lead track then crosses over the only railroad bridge in the Northport complex, and is a three-span, open deck girder bridge over a channel that that connects the river with a stormwater detention pond that forms the northwest corner of the Northport site. The rail on the bridge is 90RE with bolted joints. Each bridge span appears to consist of two to four painted steel rolled wide-flange beams. The substructure appears to consist of cast-in-place walls. No records were made available regarding the design, construction or condition of the bridge and an inspection was not made as part of this study.

Figure 2. Port of Lewiston Lead Bridge, looking NW



In all, the Port of Lewiston Lead is about 2,750 feet long, including the “straight” (aka non-diverging) route on the Pacific Steel turnout that is located east of the bridge, as described in the following section.

### Pacific Steel Spur Track

A westward-facing left-hand No. 9 turnout connects the Pacific Steel spur track to Lead, just east of the bridge. The turnout is comprised of 100RE rail. The slightly shorter 90RE rail in each rail on all three tracks adjoining it has had some weld material added to the rail head to ramp up the wheels of passing trains. Ideally, this change in rail section would be accommodated by special bolted joint bars, called compromise joint bars ('comp bars' for short) that are designed to align the top and flange side of the rail head with the ties. The comp bars are set at differing elevations to make for the differing rail heights. The addition of weld material to the shorter rail head is not uncommon in industrial settings.

The Pacific Steel spur track is intended to serve only that business and has an approximate capacity of three cars. It appears to be made of 90RE rail with bolted joints.

### Vandal 1

After the Pacific Steel turnout, the Lead track continues to a west-facing right-hand No. 9 turnout. This turnout is called Vandal 1 by the railroad and marks the end of the Port of Lewiston Lead and the beginning of both the Vandal 1 and Vandal 2 tracks. This turnout and the tracks connecting to it are composed of 90RE rail. The Vandal 1 track is on the "straight" route of the turnout and forms a shallow S-curve as it crosses 12<sup>th</sup> Street North and then parallels the north side of 6<sup>th</sup> Avenue North stopping just before 15<sup>th</sup> Street North. There are about 280 track feet (TF) of capacity west of the 12<sup>th</sup> Street crossing and about 895 TF of capacity east of the 12<sup>th</sup> Street crossing. It is comprised of only jointed 90RE rail.

Figure 3. Vandal 1 Looking West at 12<sup>th</sup> Avenue Crossing



### Vandal 2

The Vandal 2 track begins on the diverging route of the Vandal 1 Turnout. It continues and curves slightly to the south before the Vandal 2 Turnout. The Vandal 2 Turnout, like that of the Vandal 1 Turnout, is a west-facing

right-hand No. 9 turnout of 90RE rail. This track follows the straight route of the turnout, though immediately east of the Vandal 2 Turnout, Vandal 2 track crosses an improved private roadway that serves the Port's South Container Yard. The rail size through the road crossing is 115RE with comp joints to connect to the 90RE rail on either side of the crossing.

As the Vandal 2 track crosses the private road, it curves slightly to the north then straightens before reaching a second road crossing at 3<sup>rd</sup> Avenue North. Between these two crossings, and behind a yard office building, is where liquid shipments for controlling dust are received. There are approximately 256 TF of capacity for tanker cars.

**Figure 4. Close-up of Typical Rail Joint for Vandal 2 Track**



Vandal 2 curves back to the south as it crosses 3<sup>rd</sup> Avenue North and then continues into a parallel alignment with the Avenue. Continuing southeast along 3<sup>rd</sup> Avenue North Vandal 2 crosses an unused private timber service crossing and passes a concrete loading dock on the track's north side, before crossing 15<sup>th</sup> Street North. There are approximately 676 TF of capacity between the 3<sup>rd</sup> Avenue and 15<sup>th</sup> Street crossings.

Figure 5. Vandal 2, East of 15th Street Crossing (Looking Northwest)



After crossing 15<sup>th</sup> Street North, Vandal 2 continues southwest parallel to 3<sup>rd</sup> Street North, where it crosses another unused private timber service crossing and then crosses 18<sup>th</sup> Street North. Between 15<sup>th</sup> Street and 18<sup>th</sup> Street there are approximately 1119 TF of capacity. As it crosses 18<sup>th</sup> Street, Vandal 2 begins to curve back to the north and then ends only about 154 TF from the crossing.

### Inland 465 Lead

Returning back to the Vandal 2 turnout, the diverging route is the beginning of the Inland 465 Lead. Inland 465 turns to the south in a rather tight curve of about 11 degrees per 100 foot cord as it crosses the same improved private roadway that serves the South Container Yard as Vandal 2. The rail size through the road crossing is 112RE with comp joints to connect to the 90RE rail on either side of the crossing. After the track curves to the south, it straightens and crosses another unimproved crossing at the South Container Yard. There are 313 TF of capacity between these two private crossings. The LC West Switch is located directly south of this private crossing.

Figure 6. Inland 465 Lead, Looking South from Private Crossing to LC West Switch



### LC West Turnout

Directly south of the LC West Switch, there is a northwest-facing left-hand No. 9 turnout to the LC West track. After the LC West turnout, the Inland 465 Lead begins to turn back to the east for about 234 TF, where there is another northwest-facing left-hand No. 9 turnout, this one to the LC East track. The turnout is known as the LC West turnout. Here the Inland 465 Lead goes from 90RE rail to 100RE rail.

After the LC West turnout, the Inland 465 Lead curves to the east and roughly paralleling the dike for the Clearwater River. The track continues straight, including the southern turnout from a crossover track from the LC East, an unimproved private crossing and the covered loading dock for the Port's Inland 465 Warehousing and Distribution facility where the track ends. The turnout to the crossover track, like this segment of the Inland 465 Lead, is 100RE rail, but there are comp joints to the 90RE rail immediately after the turnout's frog. This turnout has been taken out of service due to the gravel crossing surface which interferes with the operation of the switch mechanism. The capacity of the Inland 465 Lead is about 992 TF between the LC West turnout and the crossover turnout and about 321 TF along the warehouse loading dock.

### LC East Track

The LC East track, as it diverges from the Inland 465 Lead, curves back to the east and along one of the two grain elevators before entering another turnout on the LC East Track. Much of the LC East track's 90RE rail is filled in with gravel to allow vehicles to use the same path. The LC East track has about 811 TF of capacity.

**Figure 7. Inland 465 Lead Looking North-South of LC East Turnout**



**LC Terminal Track**

The LC Terminal track, as it diverges from the Inland 465 Lead, curves to the east and then continues and very slightly curves to the south until it parallels the Inland 465 Lead. After about 486 TF, it then has an east-facing right-hand No. 9 turnout followed immediately by a west-facing right-hand No. 9 turnout to the crossover track back to the Inland 465 Lead. After this second right-hand turnout, the LC Terminal track continues to the southeast for about 286 TF. Like the LC East track, the LC Terminal track has 90RE rail.

**Figure 8. LC Terminal at Inland 465 Turnout (Looking East)**



While a thorough track inspection of the Northport complex was not performed, the track appears to be in fair condition. The FRA track condition may be as high as a Class II due to the high number of new ties seen. The ballast for the tracks is generally fair, appearing somewhat finer than is preferred. In some locations, the ballast appears to be insufficient to hold the ties from movement in the long-term. However, there is generally good drainage, with shallow ditches along many of the tracks.

### At-Grade Road Crossings

There are a total of four public and nine private crossings in the Northport complex. The public crossings are all on paved roadways, while the private crossings are over a variety of surface materials.

#### Public Crossings

1. The crossing surface at **12<sup>th</sup> Street North** on **Vandal 1 track** is a HMA (asphalt) driving surface with steel of some type protecting the flange ways. The surface appears to be in only fair condition, with the asphalt broken and patched. The only warning devices are passive signage composed of crossbucks, and “Idashield” reflective panels to help alert drivers to an approaching train. There are two lanes over the tracks.

Figure 9. 12th Avenue Crossing (Looking West)



2. The crossing surface at **3<sup>rd</sup> Avenue North** on **Vandal 2 track** is a HMA (asphalt) driving surface with steel of some type protecting the flange ways. The surface appears to be in good condition. The only warning devices are passive signage composed of crossbucks, and “Idashield” reflective panels. There are two lanes over the tracks.

Figure 10. Vandal 2 West of 3rd Avenue Crossing (Looking Northwest)



3. The crossing surface at **15<sup>th</sup> Street North** on **Vandal 2** track is a HMA (asphalt) driving surface with inter-rails protecting the flange ways. The surface appears to be in good condition. The only warning devices are passive signage composed of crossbucks, and “Idashield” reflective panels. There are two lanes over the tracks.

Figure 11. Vandal 2 East of 15th Street Crossing (Looking Southeast)



4. The crossing surface at **18<sup>th</sup> Street North** on **Vandal 2 track** is a HMA (asphalt) driving surface with steel of some type protecting the flange ways. The surface appears to be in good condition, though an asphalt overlay appears to have begun just outside the northern rail. The only warning devices are passive signage composed of crossbucks, and “Idashield” reflective panels. There are two lanes over the tracks.

### Private Crossings

The private crossings are scattered throughout the complex. They vary in the type of surface, but all have only signage to protect approaching vehicles.

There are three private crossings on the Port of Lewiston Lead track. The one near the connection to the GNWR main line has HMA surface with treated timbers protecting the flange way and rail. The surface appears to be in good condition. The only warning devices are passive signage composed of crossbucks, and “Idashield” reflective panels. There are no lane markings but the surface appears to be wide enough for two lanes.

**Figure 12. Port of Lewiston Lead at the GNWR Main Line Junction (Looking West)**



The three other private crossings on the Port of Lewiston Lead track are far more informal with only gravel over the ties to the top of the rails. The only warning devices these crossings are passive signage composed of crossbucks and “Idashield” reflective panels. The surfaces are only wide enough for a single vehicle to cross at any one time.

There are two private crossings for an improved private roadway to provide the main access to the South Container Yard. They are on the Vandal 2 and Inland 465 Lead tracks. On the Vandal 2 track, the crossing surface is an HMA (asphalt) driving surface without any flange way protections. The surface appears to be in

very good condition. On the Inland 465 Lead, there is an HMA driving surface with inter-rails protecting the flange ways. This surface also appears to be in good condition. The warning devices are passive signage protecting both crossings, composed of crossbucks, and “Idashield” reflective panels.

There are two other private crossing surfaces on the Vandal 2 track composed of timber surface. As these appear to be unused, with the southern roadway removed, their condition is only an issue of track maintenance.

On the Inland 465 Lead there are two other private crossings; one near the LC East turnout and one just before the Inland 465 warehouse. The crossing near the LC East turnout has a relatively new timber surface. The other crossing, next to the Inland 465 warehouse, is far more informal with only gravel over the ties to the top of the rails. In fact this crossing is also over the top of the 110RE right-hand turnout. There are no warning devices at these crossings. The surfaces are only wide enough for a single vehicle to cross at any one time.

**Figure 13. Inland 465 Lead at Crossover Turnout (Looking West)**



### **General Condition of Rail Infrastructure**

While a detailed inspection of the rail infrastructure was not performed, spot checks of the tracks and crossings were made in order to assess their ability to carry the existing level of rail traffic and future increases in traffic. From a geometric standpoint, the existing No. 9 turnouts and tight curves make the use of the track by larger 6-axle locomotives difficult, and increase the likelihood of rail car derailments. In discussion with GNWR operating staff, derailments on the Port of Lewiston Lead track in the vicinity of the Vandal 2 turnout have occurred in the past. Future revisions to the track configuration should try to address this by using No. 11 or larger turnouts and

avoiding curves tighter than 9 degrees-30 minutes per 100 foot cord. Reverse curves that can be created by placement of turnouts close to curves should also be avoided.

### **Rail**

The existing rail is in good-to-fair condition. No broken joints or excessively worn rail heads were observed. The 90RE rail that is prevalent within the Northport area is higher than would generally be used for industrial track today, but it does not preclude the movement of rail cars of up to 315,000 pound gross weight (assuming that the track is adequately supported).

### **Rail Ties**

The existing ties are generally in fair condition. There are signs that new replacement ties have been installed in various locations, which keeps the track serviceable at the current level of traffic of about 323 cars per year. The ties in the LC East track and at the grade crossings could not be seen as they are covered by gravel, asphalt, or timber. While some ties observed would not be considered to be effective by the FRA definition, there appears to be 14 to 18 serviceable ties per 39 feet which is within the FRA requirements for class I track. At current traffic levels, no major investment in the ties' renewal seems needed to keep the tracks in service.

### **Ballast Stone**

The ballast stone that supports and anchors the ties appears to be fair to poor. Along with supporting and anchoring the ties, the open grading of ballast allows water to drain away from the ties, which improves the support provided to the ties, thus prolonging their life. In some areas, finer rock was used as ballast, and other areas where the ballast is "fouled" with dirt or other fines. In some locations, the ballast is not deep enough to surround the sides of the ties, which could allow the track structure to move sideways as a train moves over it. Since the number of cars is relatively small, and the climate is relatively dry, leaving the ballast in its current condition will not cause a significant increase in future maintenance or rehabilitation costs, but should be improved on tracks where service is expected to increase.

### **Ditching and Drainage**

Related to ballast is ditching and drainage. Like the open grading of the ballast, allowing water to drain off the track structure keeps the rail and ties properly supported, while preventing soft spots from forming when mud is pumped up from the subgrade as trains pass. As is common in industrial facilities, drainage on many of the tracks is absent, specifically in the area of the South Container Yard and along the LC East track. The ditching, if it existed at the time of construction, has since been filled in with gravel. Because the area is relatively flat, it appears that much of the storm water that does not fall on the roadways is simply allowed to infiltrate into the ground. As new facilities are built, and the amount of impervious surface increases, the drainage systems for those facilities should be designed so the water is diverted from the adjacent tracks.

### **Growth in Rail Traffic**

As rail traffic increases, incremental investment in the ties and ballast should be considered. Based on the observed conditions, a projected increase of approximately 1000 cars per year (a 3-fold increase) could be accommodated for a 1 to 2 year period without a major investment in ties or rail. That said, since all rail traffic uses the Port Lead, investment in that track should be the first priority.

If a level of approximately 1000 cars per year is sustained, or if a higher level is anticipated, replacing between 300 and 500 ties and adding between 200 and 300 tons of ballast in the Port of Lewiston Lead track should be considered. Ditches or other drainage work should be included with any improvements project.

Should a longer period of increased traffic be sustained, or if an even greater immediate increase in traffic is expected, the 90RE rail in the Port of Lewiston Lead track should be replaced with 115 RE or heavier rail. As part of that replacement, continuously welded rail (CWR), removing all ineffective (or “bad”) ties, and installing 300 tons or more of ballast should be included. While replacing the Lead track is a major investment, on-going maintenance costs can be kept to a minimum by eliminating joints and improving drainage throughout.

If one of the other existing tracks (e.g. LC Terminal or Vandal 2) were being used for these hypothetical increases in rail traffic, similar rehabilitation of the track should also be considered.

## **RAIL ALTERNATIVES**

In order to expand existing facilities and attract new facilities to the Port of Lewiston’s Northport site, some revisions to the rail system will be needed. Some of the desired features envisioned by the PAC as an outcome of future rail improvements included:

- Long-range plan for a unit train (as a potential contingency)
- Bulk loading facility
- Expanded rail access (increase sidings and/or team track)
  - 30-car siding for container yard
  - 50-car loading and storage capability for grain terminal
- Access to both sides of rail
- Rail-oriented incubator
- Transloader capabilities
- Upgrades to track size
- Rehabilitation of existing tracks to current standards
- Switch improvements/upgrades

Potential improvements and revisions to the rail system will vary depending on the type of facility the rail system will serve and the volume of rail service required for the facility to be viable. This document will discuss four options that have been developed with varying facilities and rail volumes targeted.

A key consideration when developing these options is the way the rail industry will provide service. The North American rail industry freight services can generally be separated into two main categories: “unit train” service and “carload” service.

Unit train service is a highly desirable service as it is the most efficient way for railroads to move freight. A unit train is a train with cars of one type of cargo in which all the cars have a common origin and destination. This reduces the cost of handling the cars for the railroad. In addition, the cars can be used more efficiently, which reduces the equipment costs for the railroad. These aspects translate into lower shipping rates for the commodity.

The number of cars in a unit train varies with the weight and density of the commodity being shipped, and thus the train length that a facility needs to accommodate varies. For example, a unit train of grain is usually limited to 110 66-foot long cars (about 7,500 feet with locomotives), while a heavier aggregate unit train could be as little as 60 49-foot long cars (about 3,400 feet with locomotives). The length of a specific unit train can also be limited by the length of sidings along the railroad corridors over which the train most travel.

Carload service is basically any freight rail service that is not considered unit train service. Smaller “cuts” of cars are moved in general merchandise trains that are assembled at a terminal of the railroad. This provides the most flexibility for the shipper and receiver. The facility does not need to accommodate a large number of cars at one time. The rail infrastructure in a new facility can be built in small phases as the need increases.

The cars in this type of service are handled by railroad crews at both the shipping and receiving facility. They are usually switched between trains at yards in the railroad system before they reach their destination. The cars typically take longer to move to the destination and, when they are empty, might not be needed right away by a shipper, reducing the amount the cars are used. The higher handling costs and lower car utilization result in railroads charging higher shipping rates. In the last decade, larger Class I railroads, such as Union Pacific Railroad (UPRR) and Burlington Northern Santa Fe Railway (BNSF), have tried to reduce the number of cars in non-unit train service they handle, thus reducing their staffing and traffic congestion at terminals such as in Pasco, Washington and in Hinkle (near Hermiston), Oregon.

The type of service also has an effect on the design geometry that is used at facilities. These are more detailed in the American Railway Engineering and Maintenance-of-way Association (AREMA) Manual of Railroad Engineering Chapter 16. The key differences are in the tightness of the curves and the angle of the turnout. For unit train service, the desired curvature is 7 degrees 30 minutes (measured at the chord of the curve, a 764-foot radius). For carload service, the desired curvature is 9 degrees 30 minutes, a 604-foot radius). Similarly, the desired diverging angle of the turnouts for train service is a ratio of 15 to 1, commonly called a Number 15 turnout, while the desired diverging angle for a carload service is 11 to 1, or a Number 11. With curves that are 26 percent broader and turnouts that are 36 percent longer, the space dedicated to the rail infrastructure could easily be 50 percent more for facilities served by unit train, as compared to facilities with carload service.

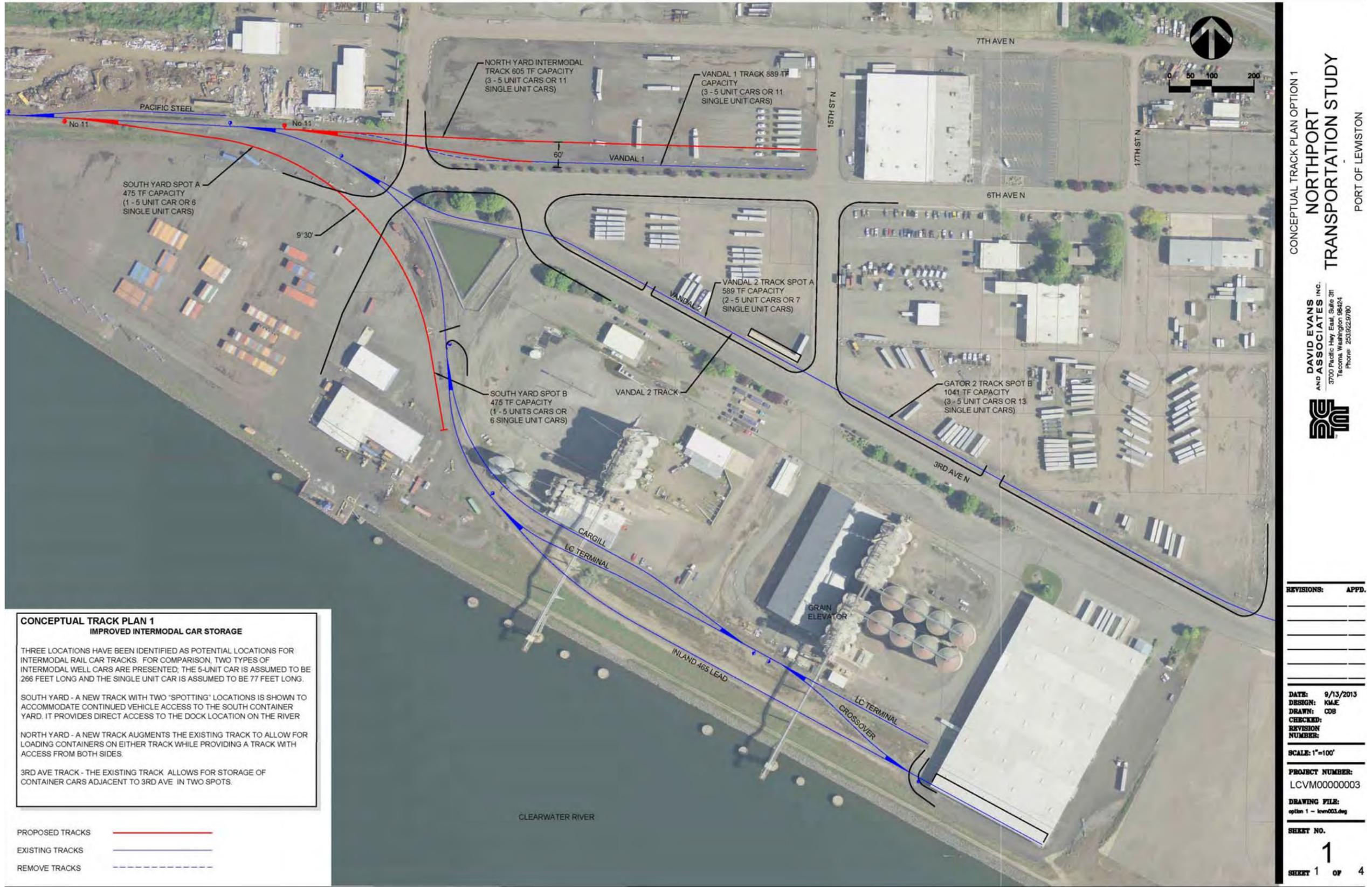
### Conceptual Track Plan 1

This concept, depicted in **Figure 14**, is designed to improve capacity for intermodal car storage in a “carload” service. Three locations have been identified as potential locations for intermodal rail car tracks. Two of these locations require some improvements, but the improvements at either location could be built without building improvement at the other.

For comparison, two types of intermodal well cars are presented: the 5-unit car is assumed to be 266 feet long and the single unit car is assumed to be 77 feet long.

The South Yard improvements include a new track with two “spotting” locations to accommodate continued vehicle access to the south container yard. It provides direct access to the dock location on the river for two 5-unit well cars or a combined total of twelve single-unit well cars.

Figure 14. Rail Concept 1



The North Yard improvements includes a new track augmenting the existing track to allow for loading containers on either track while providing a track with access from both sides. When included with the existing Vandal 1 track, the North Yard tracks can hold five 5-unit well cars or 18 single-unit well cars.

The 3rd Ave Track (known as Vandal 2) is an existing track. In this concept, this track would be used for storage of container cars in two spots on either side of 15<sup>th</sup> Street North. This track can hold five 5-unit well cars or 20 single-unit well cars.

## Conceptual Track Plan 2

This concept, depicted in **Figure 15**, is designed to provide improved grain loading service. The improvements are in two locations. It creates a single-ended staging yard along 3rd Avenue N, and it extends a tail track along the back of the Clearwater River dike.

This concept assumes the empty cars to be loaded at the elevators can be separated into strings of no more than 28 cars, 61 feet each over the couplers.

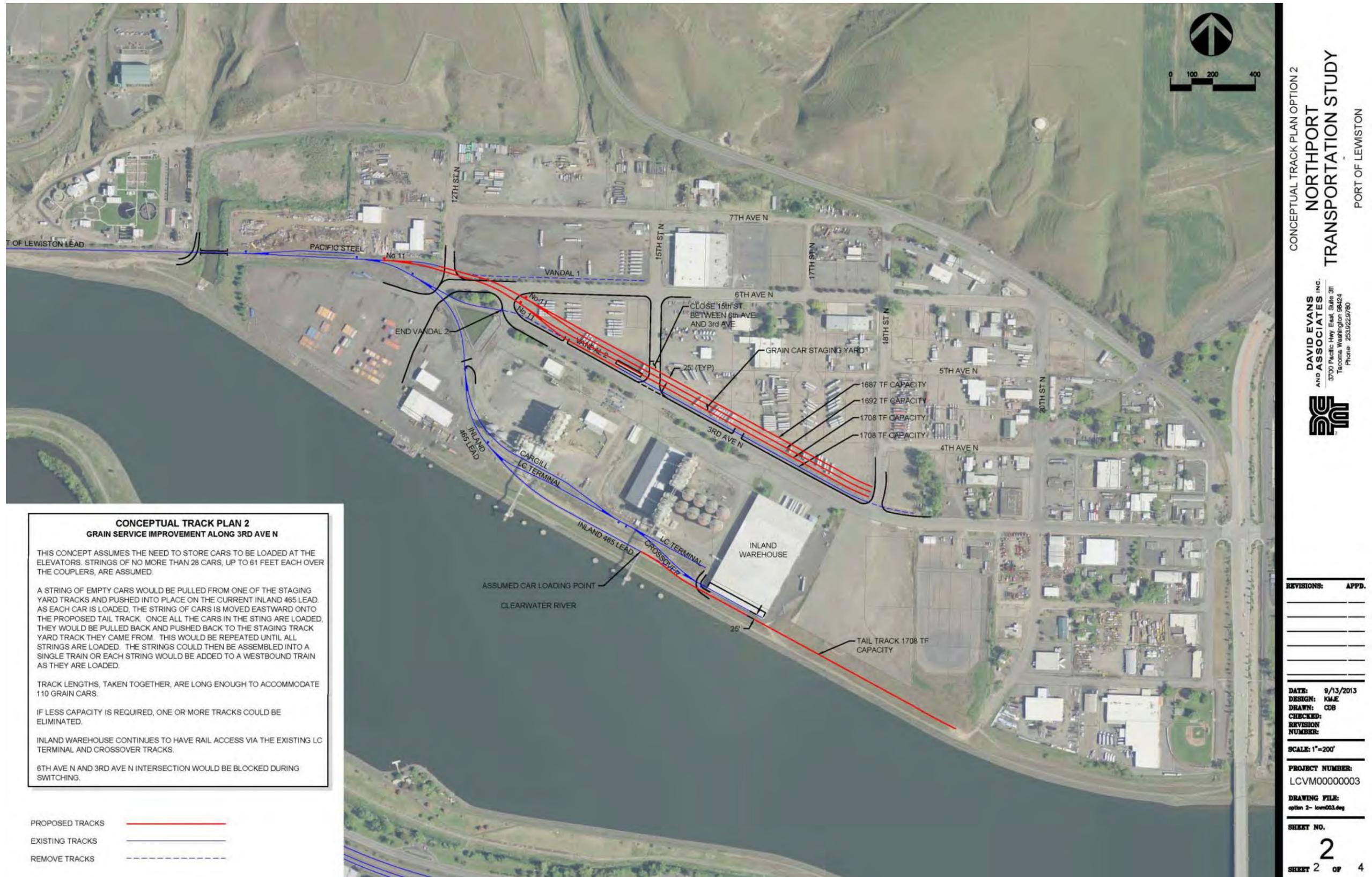
A loading location is assumed at the Lewis-Clark Terminal, Inc. dock. A tail track beyond this eastern-most location is proposed that accommodates a 28 car string. This tail track is proposed to be configured so that the existing Inland warehouse continues to have rail access via the existing LC Terminal track and Crossover track.

The four staging yard track lengths vary between 26 and 28 cars, but taken together they are long enough to accommodate 110 61-foot grain cars. If less capacity is required, one or more tracks could be eliminated. In order to avoid breaking the strings of cars at 15<sup>th</sup> Street North and to allow for the capacity required of each track, that segment of the 15<sup>th</sup> Street roadway is proposed to be closed. The existing rail line commonly referred to as Vandal 2 is proposed to terminate at 18<sup>th</sup> Street North to maintain roadway circulation.

In order for the Great Northwest Railroad to deliver these cars to the four staging tracks, they would have to use the siding track that extends west from where the Port Lead track meets the main line to move the locomotives from the east end of the train and place them on the west end to then push the train into the Northport facility. Spotting the string of cars into the storage tracks would block 6th Ave N and 3rd Ave N intersection for up to 10 minutes per move. These activities would be repeated in reverse when the loaded cars were pulled out of the storage tracks and assembled into a single train for departure.

The loading operations would start with a string of empty cars being pulled from one of the staging yard tracks and pushed into place on the current Inland 465 Lead. As each car is loaded, the string of cars is moved eastward onto the proposed tail track. Once all the cars in the string are loaded they would be pulled back and pushed into the staging track they had come from. This would be repeated until all the cars are loaded. The strings of cars could then be assembled into a single train or each string would be added to a westbound train as they are loaded. During these switching moves, the 6th Avenue N and 3rd Avenue N intersection would be blocked for a few minutes at a time.

Figure 15. Rail Concept 2



**CONCEPTUAL TRACK PLAN 2  
GRAIN SERVICE IMPROVEMENT ALONG 3RD AVE N**

THIS CONCEPT ASSUMES THE NEED TO STORE CARS TO BE LOADED AT THE ELEVATORS. STRINGS OF NO MORE THAN 28 CARS, UP TO 61 FEET EACH OVER THE COUPLERS, ARE ASSUMED.

A STRING OF EMPTY CARS WOULD BE PULLED FROM ONE OF THE STAGING YARD TRACKS AND PUSHED INTO PLACE ON THE CURRENT INLAND 465 LEAD AS EACH CAR IS LOADED, THE STRING OF CARS IS MOVED EASTWARD ONTO THE PROPOSED TAIL TRACK. ONCE ALL THE CARS IN THE STRING ARE LOADED, THEY WOULD BE PULLED BACK AND PUSHED BACK TO THE STAGING TRACK YARD TRACK THEY CAME FROM. THIS WOULD BE REPEATED UNTIL ALL STRINGS ARE LOADED. THE STRINGS COULD THEN BE ASSEMBLED INTO A SINGLE TRAIN OR EACH STRING WOULD BE ADDED TO A WESTBOUND TRAIN AS THEY ARE LOADED.

TRACK LENGTHS, TAKEN TOGETHER, ARE LONG ENOUGH TO ACCOMMODATE 110 GRAIN CARS.

IF LESS CAPACITY IS REQUIRED, ONE OR MORE TRACKS COULD BE ELIMINATED.

INLAND WAREHOUSE CONTINUES TO HAVE RAIL ACCESS VIA THE EXISTING LC TERMINAL AND CROSSOVER TRACKS.

6TH AVE N AND 3RD AVE N INTERSECTION WOULD BE BLOCKED DURING SWITCHING.

PROPOSED TRACKS ————

EXISTING TRACKS ————

REMOVE TRACKS - - - - -

CONCEPTUAL TRACK PLAN OPTION 2  
**NORTHPORT**  
TRANSPORTATION STUDY  
PORT OF LEWISTON

**DAVID EVANS  
AND ASSOCIATES INC.**  
3700 Pacific Hwy East, Suite 311  
Tacoma, Washington 98424  
Phone: 253.922.9790

REVISIONS:    APPD.


DATE: 9/13/2013  
DESIGN: KME  
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SCALE: 1"=200'

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**2**  
SHEET 2 OF 4

### Conceptual Track Plan 3

This concept, depicted in **Figure 16**, is designed to demonstrate how a unit train loop track might be placed in the Northport area. The proposed track curvature and turnouts (aka switches) comply with BNSF and UPRR requirements for unit trains, except at the far west end where the rock bluff would make a flatter curve very difficult.

The layout of the track is assumed to load or unload grain or other bulk commodities at the existing Lewis-Clark Terminal elevator. Unfortunately, as proposed, the distances on either side of the elevator are less than 7000 which is the typical length of a unit grain train.

While the existing carload service to Pacific Steel is maintained, it would be difficult to maintain carload service to Inland 465 Warehouse, as the curvature to move around the existing track might be tighter than might be acceptable. As such, the Inland 465 Warehouse track is assumed eliminated in this drawing.

Since the loop track will be well shorter than a typical unit train and appears to very disruptive to the area outside the North Port property, this concept is not recommended to be pursued.

### Conceptual Track 4

This concept, depicted in **Figure 17**, is designed to demonstrate how a unit grain train loading operation using a tail track might be placed in the Northport area. This concept presumes that it will be used for loading of grain or other bulk commodities into 110 car trains, but can also be used for unloading of bulk commodities on one of the receiving and departure tracks for transfer to barge.

A tail track is a single ended track, similar to the one discussed in the Option 2, which would allow the cars to be moved in a string under the loading or unloading location a few cars at a time. The longer the tail track, the longer the string of cars that can be handled at one time and the more efficient the operation.

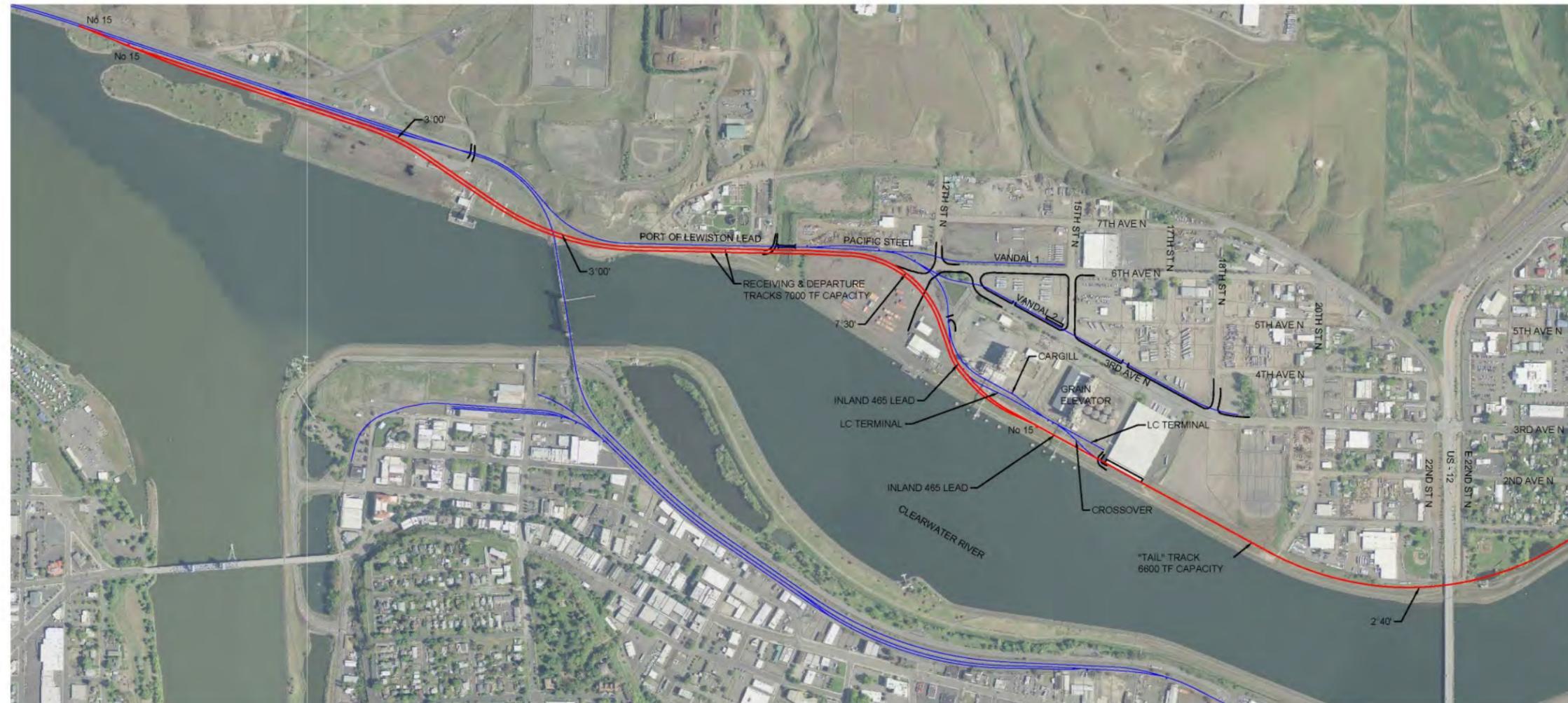
Along with a tail track long enough for 110 grain cars, the concept includes adding two tracks for receiving incoming trains, and for holding departing trains. These are slightly longer than the tail track to accommodate locomotives that would not need to pass the loading area and onto the tail track.

The track would operate in this way:

1. Trains of empty cars would arrive from the west.
2. Empty cars are loaded at the elevator with the loaded cars being pushed onto the eastern "tail" track as one section.
3. The now loaded cars can then be pulled back to the west and readied for departure.
4. The two receiving and departure tracks west of the grain elevator allow a train to be waiting to load or depart while another train is loaded.



Figure 17. Rail Concept 4



**CONCEPTUAL TRACK PLAN 4**  
**UNIT GRAIN TRAIN LOADING - SINGLE TAIL TRACK**

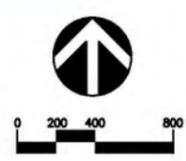
INTENDED FOR LOADING OF GRAIN OR OTHER BULK COMMODITIES INTO 110 CAR TRAINS, BUT CAN BE USED FOR UNLOADING OF BULK COMMODITIES ON ONE OF THE RECEIVING & DEPARTURE TRACKS FOR TRANSFER TO BARGE.

1. EMPTY TRAINS ARRIVE FROM THE WEST
2. CARS ARE LOADED AT THE ELEVATOR WITH THE LOADED CARS BEING PUSHED ONTO THE EASTERN "TAIL" TRACK AS ONE SECTION.
3. THE LOADED CARS CAN THEN BE PULLED BACK TO THE WEST AND READIED FOR DEPARTURE.
4. THE TWO RECEIVING & DEPARTURE TRACKS WEST OF THE GRAIN ELEVATOR ALLOWS A TRAIN TO BE WAITING TO LOAD OR DEPART WHILE ANOTHER TRAIN IS LOADED.
5. THE RECEIVING & DEPARTURE TRACKS CAN ACCOMMODATE A 110 CAR GRAIN TRAIN WITH LOCOMOTIVES.

PROPOSED TRACKS —

EXISTING TRACKS —

REMOVE TRACKS - - -



CONCEPTUAL TRACK PLAN OPTION 4  
**NORTHPORT**  
**TRANSPORTATION STUDY**  
 PORT OF LEWISTON

**DAVID EVANS**  
**AND ASSOCIATES INC.**  
 3700 Pacific Hwy East, Suite 301  
 Tacoma, Washington 98424  
 Phone: 253.922.9780



REVISIONS: **APPD.**

DATE: 9/13/2013  
 DESIGN: KMAE  
 DRAWN: COB  
 CHECKED:  
 REVISION NUMBER:

SCALE: 1"=400'

PROJECT NUMBER:  
 LCVM00000003

DRAWING FILE:  
 option 4 - lcvn003.dwg

SHEET NO.

**4**  
 SHEET 4 OF 4

Because this is a unit train facility, the design used the same broader curves and lengthier turnouts as the loop track in Option 3. As was the case with Option 3, it would be difficult to maintain carload service to Inland 465 Warehouse with this option, as the curvature to move around the existing track likely is tighter than is generally acceptable. As such, the Inland 465 Warehouse track is assumed eliminated in this drawing.

This design concept would also extend the tail track along the back of Clearwater River dike, which will disrupt some recreational facilities. The tail track also extends under the US-12 Bridge over the river using a span currently used for a recreational trail; the vertical clearance under the bridge would be a key design consideration for the tail track.

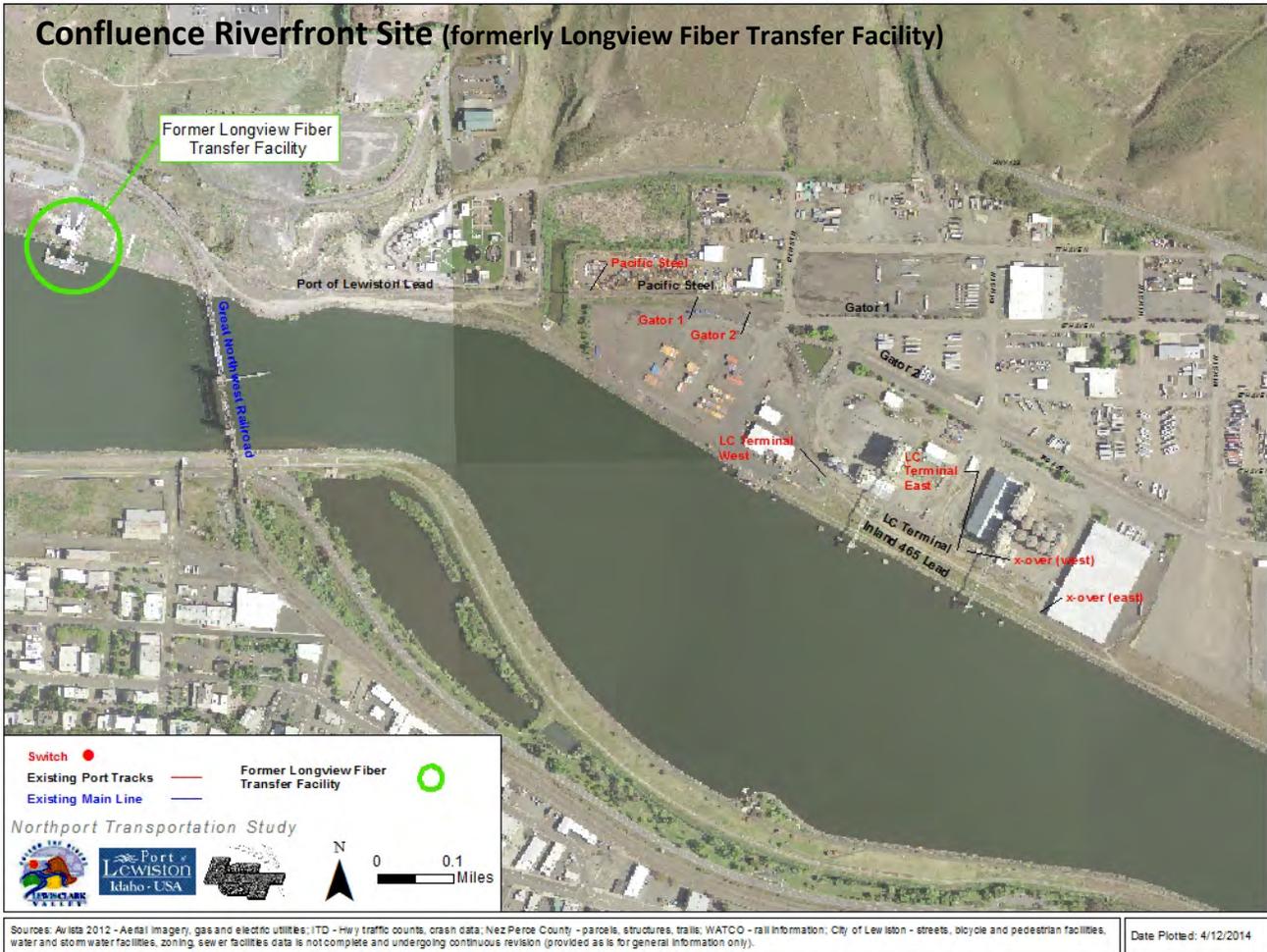
The Receiving and Departure tracks would require a bridge structure under the existing Great Northwest Railroad main line just before it crosses the Clearwater River. These tracks also would cut the South Container Yard off from the road network and would pass over the contaminated site at the mouth of the Clearwater. Further, they would require some filling of the Snake River along the existing rail embankment before connecting to the Great Northwest Railroad main line.

Since the tail track appears disruptive to the area outside the North Port property, and the environmental impacts of the two receiving and departure tracks appear to be high, this concept is not recommended to be pursued.

### **Confluence Riverfront Site**

Located adjacent to the Great Northwest Railroad mainline, west of the river crossing, the Port-owned Confluence Riverfront Site (formerly the site of Longview Fiber, depicted in **Figure 18**) is a prime candidate for some type of rail service, due in large part to the existing rail load out facility. The potential for either a unit train or car-load based service is dependent in part on the type of commodity, and will require additional study if a potential tenant and specific commodity is identified.

Figure 18. Confluence Riverfront Site



## Alternatives for Further Consideration

A full unit train facility at Northport, as demonstrated in Conceptual Track Plans 3 and 4, does not appear to be feasible without large disruptions and environmental impacts. This leaves Concepts 1 and 2 as viable options for possible expansion of rail facilities. Either of the two improvements in Conceptual Track Plan 1 could be built without the other. Based on comments from the Port staff, it appears that the new South Yard track in Option 1 shows promise in bringing immediate benefit to operations. The 3<sup>rd</sup> Avenue Rail Yard and North Yard track improvements could be held in reserve until they are needed. The capital cost estimates summarized below include earthwork, 15 percent for engineering costs, and 20% for contingency and unanticipated project costs. More detail on this estimate is included in **Appendix 1** of this report.

### CAPITAL COST ESTIMATE FOR EACH ELEMENT OF CONCEPT 1:

South Yard track:	\$745,000
North Yard tracks:	\$890,000
<b>Concept 1 Total:</b>	<b>\$1,635,000</b>

The improvements envisioned in Conceptual Track Plan 2 are designed to give a shipping option to the grain elevators that normally ship by barge. This concept may not be needed unless volumes increase dramatically, or the cost of shipping by river increases dramatically. If the existing Vandal 2 track along 3rd Ave N is needed to provide access to the undeveloped property southeast of the Inland 465 Warehouse, this concept could be modified to add one additional track to keep four tracks available for the strings of grain cars. It should be noted that this option includes significant excavation for the tail track extending east of Inland 465. The capital cost estimates summarized below include earthwork, 15% for engineering costs, and 20% for contingency and unanticipated project costs. More detail on this estimate is included in **Appendix 1** of this report.

CAPITAL COST ESTIMATE FOR EACH ELEMENT OF CONCEPT 2:

3rd Avenue Yard tracks and leads:	\$3,256,000
<u>Grain Loading Tail track:</u>	<u>\$823,000</u>
<b>Concept 2 Total:</b>	<b>\$4,079,000</b>

Either or both of the two improvements in Conceptual Track Plan 1 could be built along with Conceptual Track Plan 2 with only minor modification, if future need so dictated. The ability of these concepts to be built in combination and in a flexible manner, with phasing dependent upon the needs of the Port and its tenants over time, reinforces the recommendation that they be carried forward for further evaluation as part of the Scenario Analysis Task.

## EXISTING ROADWAY CONDITIONS

The Northport area can be accessed via State Highway 128 (SH-128, also known as Down River Road), located along its northern border, and from US-12, located along its eastern boundary. The Northport area is bordered to the south by the Clearwater River and to the west by the City of Lewiston Sewage Treatment Plant. City of Lewiston streets providing east-west internal circulation on the Northport site include 3<sup>rd</sup> Avenue North, 4<sup>th</sup> Avenue North, North and South Highway, 6<sup>th</sup> Avenue North, and 7<sup>th</sup> Avenue North; City streets providing north-south internal circulation include 12<sup>th</sup> Street North, 18<sup>th</sup> Street North, 20<sup>th</sup> Street North, and 22<sup>nd</sup> Street North. A map of the road network serving the Northport area is provided as **Figure 19**.

Within the Northport area, an existing bike-ped trail fronts the river along the dike. The City of Lewistown Bike-Ped Plan identifies a potential future bike path in the Northport area along the Spiral Highway and connecting to the Dike Bike-Ped Path via SH-128 and 20th Street N. A map of existing and planned bike-ped facilities in the Northport area is included in **Figure 20**. **Figure 21** details the location of stormwater, water, and sewer infrastructure within road right-of-way (ROW) within the study area, as provided by the City of Lewiston (it should be noted that sewer data is not complete, and is provided for general information purposes only). **Figure 22** identifies the general location of Avista gas and electric utility infrastructure within the Northport area ROW.

Figure 19. Road Network in the Northport Area

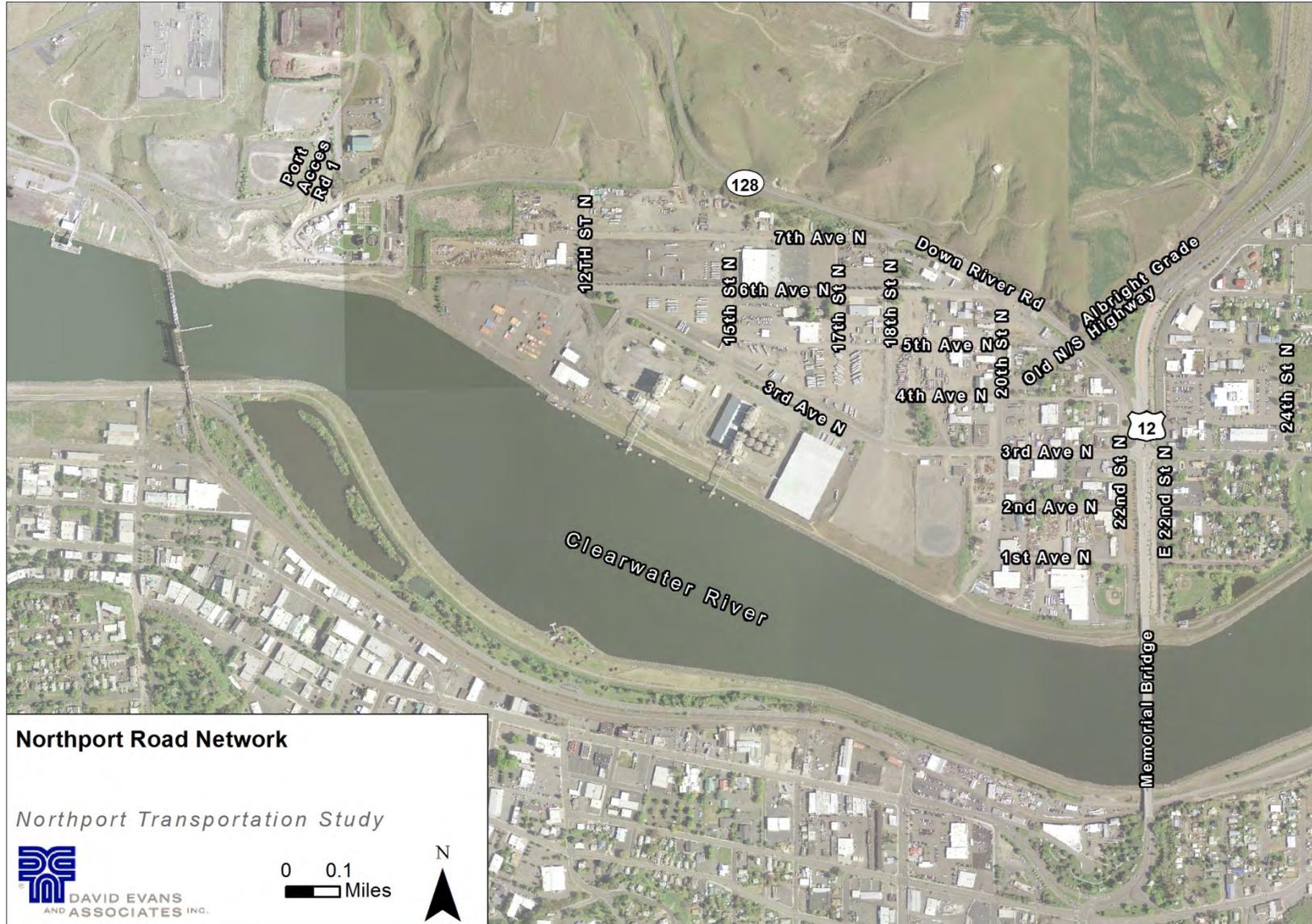


Figure 20. Existing & Proposed Bike Network

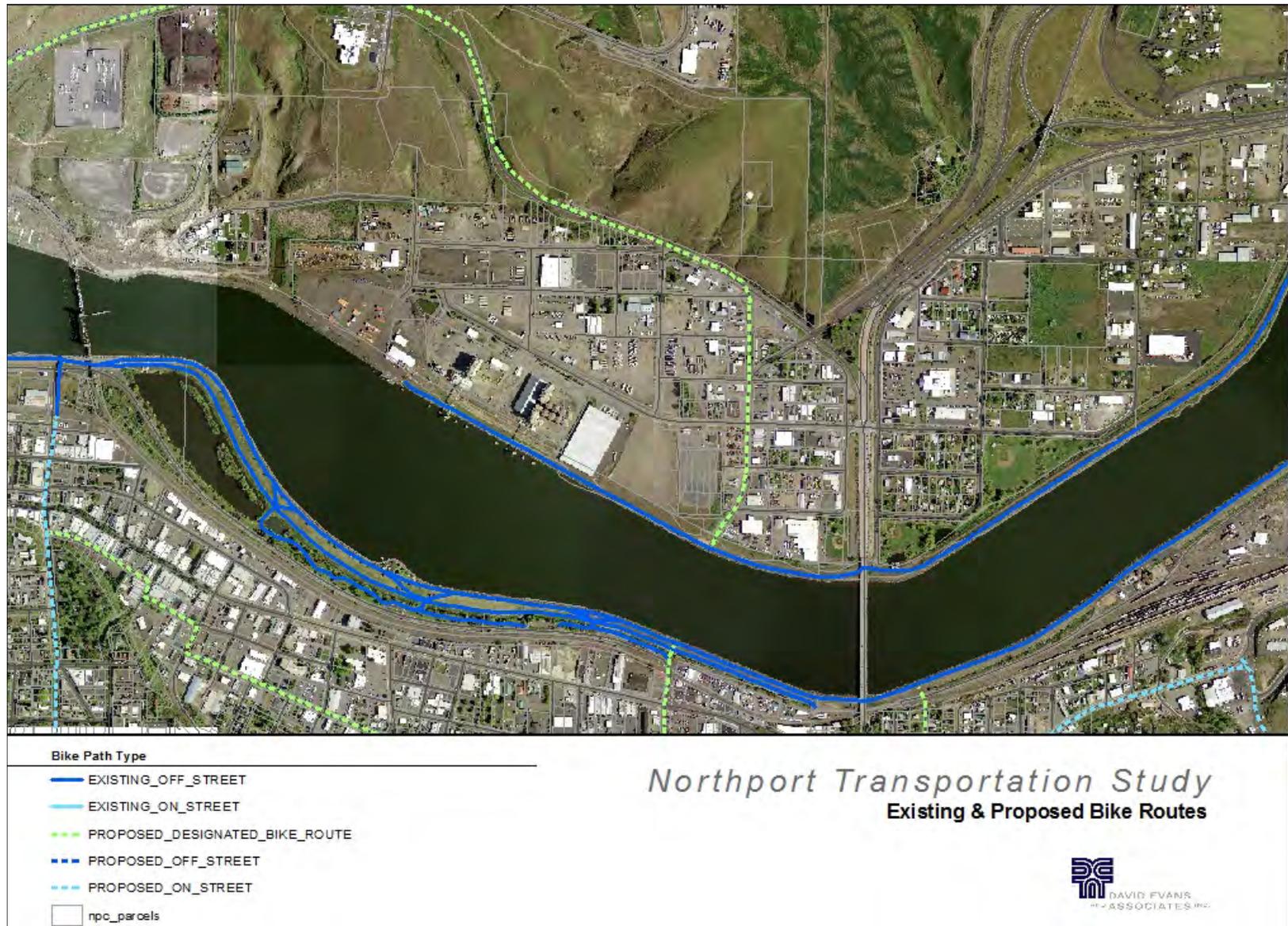


Figure 21. Stormwater, Water and Sewer Utilities

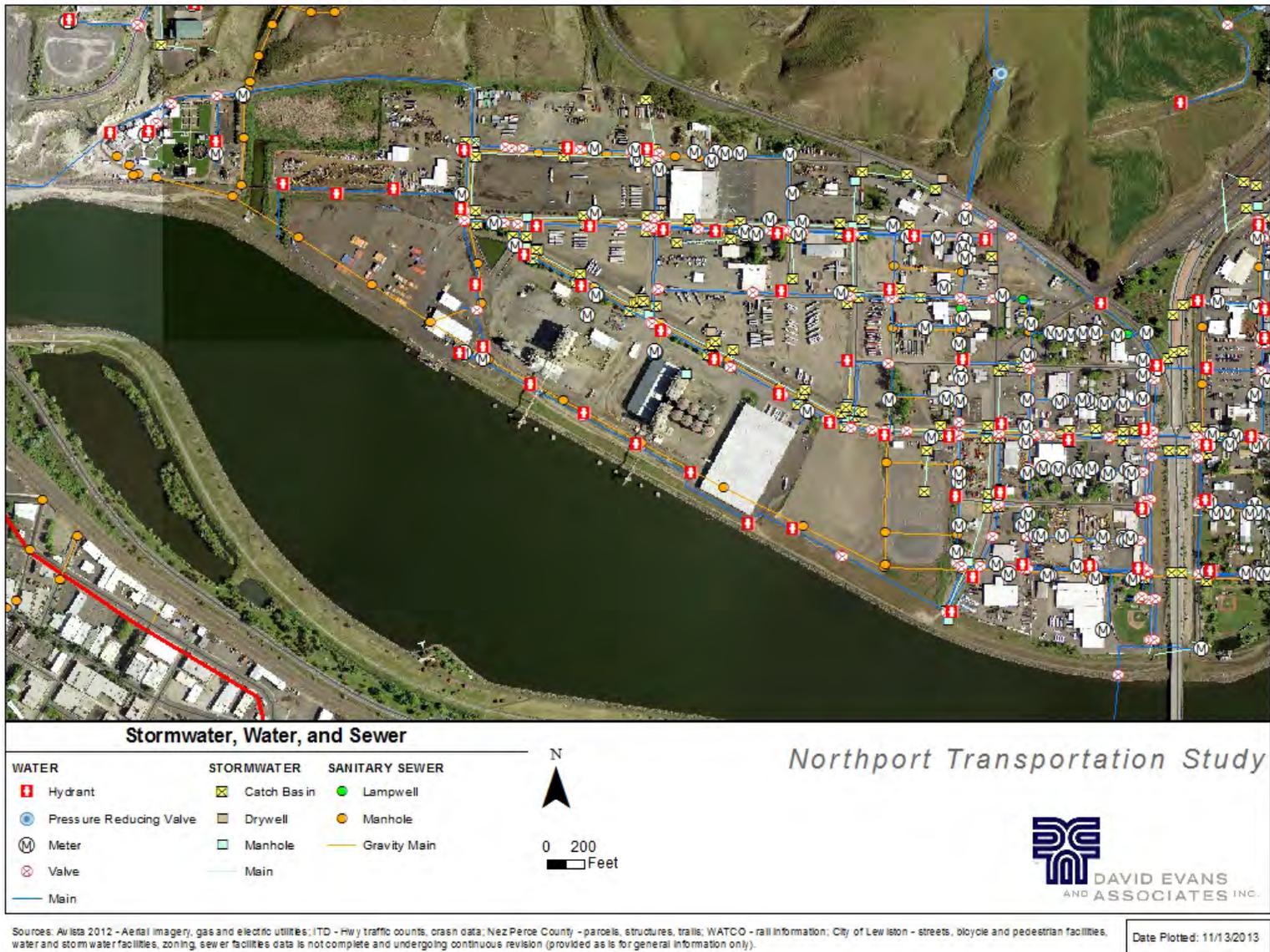
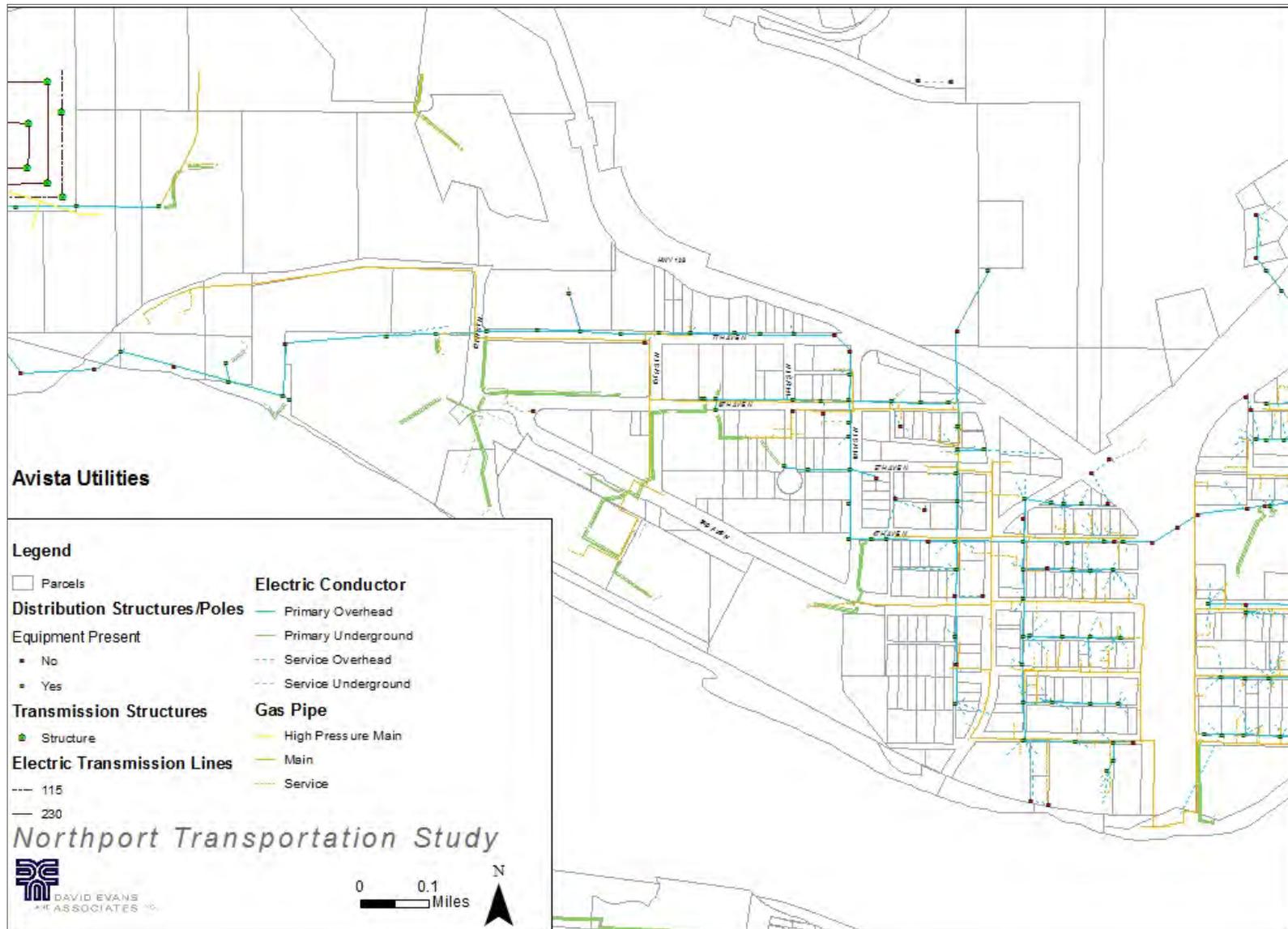


Figure 22. Gas & Electric Utilities



## Traffic Review & Analysis

### Traffic Data

Tube counts were collected within the Northport Study Area in mid-August to capture harvest season traffic volumes, and identify am and pm peak periods. Counts were collected at 3<sup>rd</sup> Avenue North and 18<sup>th</sup> Street by the City of Lewiston, with counts taken at SH-128, and SH-128 Spur by ITD.

Tube counts were taken for 3<sup>rd</sup> Ave North between 22<sup>nd</sup> Street North and 20<sup>th</sup> Street North on August 13<sup>th</sup> through August 15<sup>th</sup>, 2013, with Average Daily Trips (ADT) for those days calculated to be 2,059 vehicle trips per day. Tube counts were taken for 18<sup>th</sup> Street during that same period, with ADT calculated for that period at only 267 vehicle trips per day. Counts were taken for SH-128 Spur from August 12 through August 19, 2013, with an ADT during that period of 3,022 for that roadway segment. Due to mechanical issues, the tube counter on SH-128 (on the northern leg of the intersection of the SH-128/N-S Highway Intersection) failed to register data, and the count had to be retaken during the period of August 26 through September 2, 2013, with ADT during that period calculated to be 5,209 vehicle trips per day.

In mid-September, the Port of Lewiston contracted with WorkSource to collect turning movement counts at key intersections, with the work supervised by John Watson of Riedesel Engineering. Turning movements were collected mid-week during the am peak period of 7 am to 9am, and the pm peak period of 2 pm to 5 pm (as were determined by the tube counts taken in August). Turning movement counts were collected at the following intersections:

- US-12 & 3<sup>rd</sup> Avenue N
- N –S Highway & SH-128
- 20<sup>th</sup> Street N & SH-128
- 20<sup>th</sup> Street N & 6<sup>th</sup> Avenue N
- 20<sup>th</sup> Street N & 3<sup>rd</sup> Avenue N
- 18<sup>th</sup> Street N & SH-128
- 18<sup>th</sup> Street N & 7<sup>th</sup> Avenue N
- 18<sup>th</sup> Street N & 3<sup>rd</sup> Avenue N

Turning movement data was used to create a SYNCHRO model to assess levels of service in the Northport area. Overall, traffic volumes were generally low in comparison to intersection capacity, with the highest volumes seen at the intersection of 3<sup>rd</sup> Avenue North and US-12, followed by the intersection of SH-128, and the N-S Highway. All intersections evaluated in the study had a level of service (LOS) of C or better during AM and PM peak periods. Detailed traffic count data is included in **Appendix 2** of this report, with intersection level observations included in the following section.

Geocoded crash data for the Northport area was provided by ITD for the period 2008 through 2012. **Figure 23** depicts the location of crashes occurring within the study area during this period. During this five year period, a total of twelve (12) documented crashes occurred in the vicinity of the intersection of US-12 and 3<sup>rd</sup> Avenue N

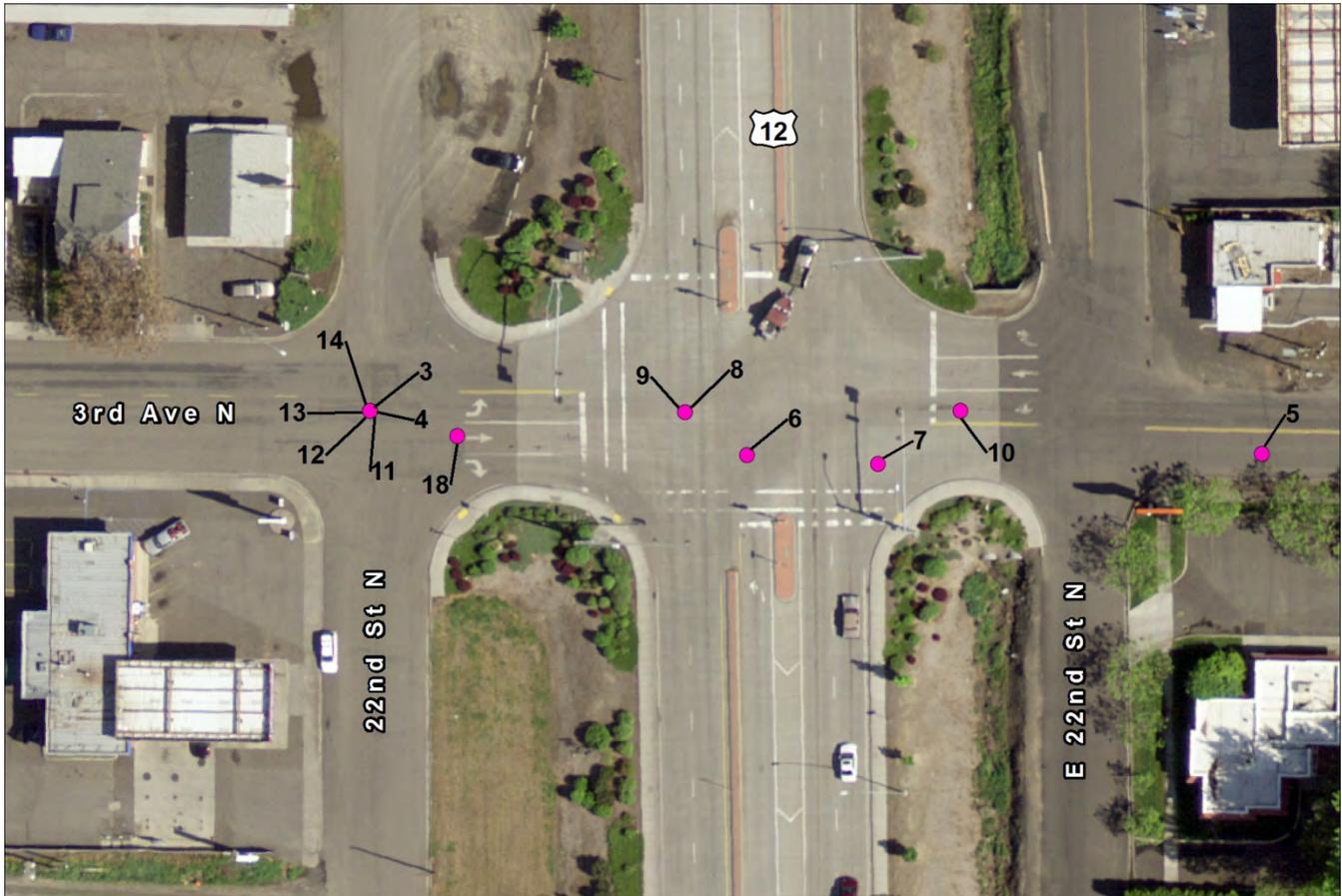
Figure 23. Crash Locations within Study Area<sup>1</sup>, 2008 to 2012



<sup>1</sup>Note: Some crash locations identified reflect multiple crashes in the same location (see Figures 24 and 25 for more detail).

(including the intersection of 3<sup>rd</sup> Avenue and 22nd Street N), as depicted in **Figure 24**. In 2003, CH2M Hill prepared a highway safety analysis within the Northport area entitled *State Highway 128-18<sup>th</sup> Street to US-12 Lewiston Safety Study Corridor Initial Assessment and Alternative Recommendation*. The reported crashes in the period 2008 to 2012 represent a significant reduction from observations contained in the CH2M Hill Report, which identified 46 crashes from the period 1998 to 2003.

**Figure 24. Mapped Crash Data<sup>2</sup>, Intersections of US-12/3rd Ave N, and 3rd Ave N/22nd St N**



<sup>2</sup> Note: Crash numbering corresponds to numbering in crash data table included in **Appendix 3** of this report.

The number of crashes occurring at the SH-128 and N-S Highway intersection totaled nine (9) from 2008 to 2012, as compared to 35 from 1998 to 2003. **Figure 25** depicts the location of all accidents occurring in the general vicinity of that intersection, including crashes on the north leg of the intersection, and crashes on the SH-128 Spur, outside of the intersection influence area.

Figure 25. Mapped Crash Data<sup>3</sup>, Intersection of N-S Highway and SH-128



<sup>3</sup> Note: Crash numbering corresponds to numbering in crash data table included in **Appendix 3** of this report.

Crash data for the entire project area, sorted by corridor for the period 2008 through 2012, is detailed in **Appendix 3** of this report, along with crash data and diagrams summarizing accident data at the major intersections of SH-128 and N-S Highway, and US-12 and 3<sup>rd</sup> Avenue North.

### Intersection Controls and Safety Observations at Key Intersections

#### Major Highway Intersections

##### US-12 and 3<sup>rd</sup> Avenue North

The intersection of 3<sup>rd</sup> Avenue North and US-12, a signalized intersection, is the highest volume intersection in the Northport area. At this intersection, US-12 has two-lanes of traffic moving in either direction, with left turn bays striped. 3<sup>rd</sup> Avenue North is also striped with turn bays, though queuing space is limited due to the location of the intersection of 22<sup>nd</sup> Street North and 3<sup>rd</sup> Avenue North within less than 100 feet to the stop bar on the western leg of the US-12/3<sup>rd</sup> Avenue North intersection, as seen in **Figure 26**. The intersection of 22<sup>nd</sup> Street

North and 3<sup>rd</sup> Avenue North is two-stop controlled, with stop signs on the northern and southern legs of 22<sup>nd</sup> Street North.

**Figure 26. Aerial View of US-12/3rd Ave N Intersection**



Observed intersection volumes during AM peak hour were 2,004, with PM peak hour volumes totaling 2,478. Of note, during PM peak hour, this intersection was operating at an LOS of C, with average intersection delays of only 22.9 seconds. Observed intersection volumes have dropped by nearly 16% in the AM peak period, and nearly 18% in the PM peak period from those observed in 2003 CH2M Hill Safety Study.<sup>1</sup>

Twelve (12) crashes in the vicinity of this intersection were identified in the ITD crash data base for the period 2008 through 2012, including seven that occurred at the intersection of 22<sup>nd</sup> Street North and 3<sup>rd</sup> Avenue North. Two of the four accidents that occurred at the intersection of US-12 and 3<sup>rd</sup> Avenue north involved trucks backing in the intersection.

Four (4) of the seven crashes at the intersection of 3<sup>rd</sup> Avenue North and 22nd Street North involved left-turning movements. While crash rates and patterns at this intersection do not appear to warrant additional safety improvements at this time, the close proximity of the two stop controlled upstream and downstream intersections at 3<sup>rd</sup> Avenue North and 22<sup>nd</sup> Avenue North have the potential to hamper safe traffic operations if volumes increase dramatically in the future. A right-in, right-out access control at 22<sup>nd</sup> Street North may be considered for future implementation to eliminate left-turning conflicts, should traffic volumes or crash rates warrant such control in the future. **Table 1** summarizes intersection traffic observations at the intersection of US-12 and 3<sup>rd</sup> Avenue North.

<sup>1</sup> This drop may be correlated with a reduction of approximately in freight tonnage being shipped via the Port in 2012 as compared to 2003.

**Table 1. 3rd Avenue N/US-12 Intersection Observations**

<b>Intersection Name:</b>	<b>3<sup>rd</sup> Ave and US-12</b>
<b>Intersection Control Type</b>	Signalized
<b>Intersection PM Peak Hour Traffic</b>	2,469
<b>Intersection AM Peak Hour Traffic</b>	1,764
<b>Intersection PM Peak Hour Truck Traffic</b>	148
<b>Intersection AM Peak Hour Truck Traffic</b>	166
<b>Percentages of PM Truck Traffic</b>	6%
<b>Percentages of AM Truck Traffic</b>	9%
<b>Intersection PM Peak Hour LOS</b>	C (Average Intersection Delays 22.9 Sec)
<b>Intersection AM Peak Hour LOS</b>	B (Average Intersection Delays 16.9 Sec)
<b>Total Number of Crashes (2008-2012)</b>	12 <sup>4</sup>
<b>Intersection Geometry Issue</b>	Length of approach on 3 <sup>rd</sup> Ave between 22 <sup>nd</sup> N and US 12, and between E 22 <sup>nd</sup> Ave N and US 12
<b>Traffic Operational Issue</b>	No major traffic operational issues (i.e. traffic delays) have been identified.
<b>Intersection Safety Issue/Observations</b>	The close proximity of the two stop controlled upstream and downstream intersections on 3 <sup>rd</sup> Ave have potential to hamper safe traffic operations.
<b>Possible Crash Countermeasures</b>	Access control (right-in, right out) for 22 <sup>nd</sup> Ave N and E 22 <sup>nd</sup> Ave N, if future traffic volumes and/or future accident rates so warrant

<sup>4</sup> Note: Includes 7 crashes at the proximate intersection of 3<sup>rd</sup> Avenue North & 22<sup>nd</sup> Street North.

### North- South Highway and SH-128

One of the highest volume intersections in the Northport area, SH-128, SH-128 Spur, and the N-S Highway intersect at skewed angle, and are controlled by stop signs on the northeastern and southwestern legs of the intersection (reference **Figure 27**, Aerial of SH-128 and North-South Highway Intersection).

Observed intersection volumes during AM peak hour totaled 508 vehicle trips, as compared to an observed volume of 475 in 2003 (a growth rate of approximately 6%); insufficient data was collected to assess intersection volumes in the PM peak hour.

In the period 2008 through 2012, a total of nine accidents were recorded at this intersection. Five of the nine accidents involved a failure to yield or failure to obey the stop sign. **Table 2** summarizes relevant intersection observations.

Figure 27. Aerial View of SH-128/N-S Highway Intersection



Table 2. N - S Highway /SH-128 Intersection Observation Summary

Intersection Name:	N & S Hwy and SH-128
Intersection Control Type	Two-Way (North-South) Stopped Control
Intersection PM Peak Hour Traffic	Insufficient Data
Intersection AM Peak Hour Traffic	508
Intersection PM Peak Hour Truck Traffic	Insufficient Data
Intersection AM Peak Hour Truck Traffic	111
Percentages of PM Truck Traffic	Insufficient Data
Percentages of AM Truck Traffic	22%
PM Peak Hour LOS	Insufficient Data
AM Peak Hour LOS	B (Northbound Average Delay of 12.8 Sec). A (Southbound Average Delays 9.9 Sec).
Total Number of Crashes (2008-2012)	9
Intersection Geometry Issue	<ol style="list-style-type: none"> <li>1. Grade on northern leg intersection.</li> <li>2. Intersection Sight Distance – trees and vegetation located along the SH-128 ROW on the Rose Garden site partially obscuring view to east from northern leg of the intersection.</li> </ol>
Traffic Operational Issue	No Major traffic operational issues (i.e. traffic delays) have been identified.

<b>Intersection Name:</b>	<b>N &amp; S Hwy and SH-128</b>
<b>Intersection Safety Issue/Observations</b>	<ol style="list-style-type: none"> <li>1. Trucks were significantly involved with most of the observed crashes.</li> <li>2. Half of the crashes involved truck traffic failing to yield or to obey the stop.</li> </ol>
<b>Possible Crash Countermeasures</b>	<ol style="list-style-type: none"> <li>1. Potential to improve sight distance for the northern leg of N and S Highway by trimming or removing trees.</li> <li>2. Improve driver awareness by adding solar/led flashing "Stop Sign Ahead" north of the intersection.</li> <li>3. Potential to improve sight distance by removing a portion of the basalt rock outcrop.</li> </ol>

### 22<sup>nd</sup> Street North and N-S Highway Intersection

22<sup>nd</sup> Street North intersects N-S Highway approximately 30 feet southeast of the intersection on N-S Highway and SH-128 (reference **Figure 27**). This low-volume road is stop controlled at the intersection, and there were no reported accidents at this intersection in the period 2008 through 2012. Because of its close proximity to the N-S Highway/SH-128, this intersection has the potential to negatively impact safe operations at higher traffic volumes, though no evidence of impacts were observed in the existing condition.

### 6<sup>th</sup> Avenue North and 20<sup>th</sup> North at SH-128

6<sup>th</sup> Avenue North intersects with 20<sup>th</sup> Street North approximately 60 feet south of the SH-128, as measured centerline to centerline, as seen in **Figure 28**.

**Figure 28. Aerial View of 6<sup>th</sup> Avenue/ 20<sup>th</sup> North at SH-128 Intersection**



This effectively creates a four-legged intersection with SH-128 at a skew, with stop sign controls on 6<sup>th</sup> Avenue North and 20<sup>th</sup> Street North. Observed combined intersection volumes during AM peak hour totaled 574 vehicle trips, with volumes observed to be 612 vehicle trips in the PM peak hour. No crashes were reported at this intersection in the period 2008 to 2012.

#### 7<sup>th</sup> Avenue North & 18<sup>th</sup> Street North at SH-128

Also effectively a four-legged intersection with SH-128 at an acute angle to 18<sup>th</sup> Street North, with 7<sup>th</sup> Avenue North intersects with 18<sup>th</sup> Street North approximately 63 feet south of SH-128, as measured center-line to centerline (reference **Figure 29**). Observed volumes at these combined intersections totaled 475 vehicle trips in the AM peak and 625 vehicle trips in the PM peak hour.

**Figure 29. Aerial View of Intersection of 7<sup>th</sup> Avenue North & 18<sup>th</sup> Street North at SH-128**



Stop controls are in place on the 7<sup>th</sup> Avenue North and 18<sup>th</sup> Street North legs of the intersection. While no accidents were reported at this intersection in the period 2008 to 2012, there are sight distance issues at the intersection looking west on SH-128, caused by grade differences, as well as trees and shoulder parking along SH-128 right-of-way, as depicted in **Figure 30**.

Figure 30. Looking West at the Intersection of 18th Street North and SH-128



### *Other Key Intersections*

#### 6<sup>th</sup> Avenue North and 18<sup>th</sup> Street North

6<sup>th</sup> Avenue North serves as one of the main east/west routes for internal circulation within the Northport area. 18<sup>th</sup> Street North is one of the primary access points into the Port from SH-128. The 6<sup>th</sup> Avenue North/18<sup>th</sup> Street North intersection has 2-way stop controls on 18<sup>th</sup> Street North. One accident was reported at this intersection during the period 2008 to 2012. It was observed that the tree located on the southeast corner of this intersection limits sight distance from the southern leg of the intersection looking east. **Figure 31** shows the aerial view of this intersection.

Figure 31. Aerial View 6<sup>th</sup> Avenue North /18th Street North Intersection



### 6<sup>th</sup> Avenue North and 3<sup>rd</sup> Avenue North

6<sup>th</sup> Avenue North and 3<sup>rd</sup> Avenue North are the major internal circulation routes within the Northport area, and the intersection supports traffic in and out of the Port's south container yard. This is an uncontrolled, three-legged intersection, with an at grade railroad crossing for the Vandal 2 rail line approximately 100 feet south of the intersection on 3<sup>rd</sup> Avenue North. The rail crossing is signed, with no lights or arms.

Figure 32. Aerial View of the Intersection of 6<sup>th</sup> Avenue North and 3<sup>rd</sup> Avenue North



### 3<sup>rd</sup> Avenue North and 18<sup>th</sup> Street North

This intersection is significant to trucking operations for Inland 465 and Lewis-Clark Terminal, two significant Port industries. Observed intersection volumes were 42 vehicles in the AM peak hour, with 76 vehicles during

the PM peak hour. Truck traffic during peak periods represented more than 50% of the total intersection volume. This three-legged intersection has a stop control on 18<sup>th</sup> Street North. Vandal 2 rail line has an at-grade crossing on 18<sup>th</sup> Street North, just north of the 3<sup>rd</sup> Avenue North intersection. The rail crossing is signed, with no lights or arms, though sight distance is very good in this area.

**Figure 33. Aerial View of the Intersection of 3rd Avenue North and 18th Street North**



### 3<sup>rd</sup> Avenue North and 20<sup>th</sup> Street North

The intersection of 3<sup>rd</sup> Avenue North and 20<sup>th</sup> Street North is also significant to trucking operations. Observed intersection volumes in the AM peak hour totaled 103 vehicles, with nearly 30% of that volume attributed to trucks. In the PM peak hour, intersection volume totaled 162 vehicle trips, with truck traffic accounting for nearly 20% of the PM peak period intersection volumes.

Figure 34. Aerial View of the Intersection of 3<sup>rd</sup> Avenue North and 20<sup>th</sup> Street North



## ROADWAY IMPROVEMENT ALTERNATIVES

In order to identify and evaluate potential roadway system improvements that will enhance connectivity and freight mobility within the Northport area, the following concepts were identified as “desired roadway features”:

- Maintain principal internal circulation pattern via 6<sup>th</sup> Avenue North and 3<sup>rd</sup> Avenue North
- Plan for infrastructure capacity to accommodate anticipated increased truck traffic during harvest period in the next 3 to 5 years
- Consider safety issues
- Accommodate bike-ped connectivity and access
- Accommodate design standards for longer and heavier trucks, as per new state legislation
- Consolidate access points from SH-128 into Port
- Where feasible, eliminate or realign angled access points to and from SH-128.

These desired features were considered in the evaluation of existing conditions, in order to develop two roadway improvement scenarios for further evaluation, each of which contain a number of individual improvements that can be implemented as stand-alone projects. Both roadway improvement scenarios include concepts specifically intended to complement potential future rail improvements, as identified in the Rail Alternatives Technical Memorandum.

## Concept A

Roadway Concept A, as depicted in **Figure 35**, includes the following improvement concepts:

- Reduction of access points on SH-128
- Modifications to the intersections of 18<sup>th</sup> Street North/SH-128, and 20<sup>th</sup> Avenue North/SH-128
- Improvements to 18<sup>th</sup> Street North and 20<sup>th</sup> Street North

Additionally, the following improvements are included in both concepts to support and enhance proposed rail network improvements, and reduce conflicts between vehicular and rail traffic.

- Closure of 7<sup>th</sup> Avenue North between 18<sup>th</sup> Street North and 17<sup>th</sup> Street North
- 12<sup>th</sup> Street North modifications
- Closure of 15<sup>th</sup> Street North between 6<sup>th</sup> Avenue North and 3<sup>rd</sup> Avenue North
- New access road connecting 7<sup>th</sup> Avenue North with 6<sup>th</sup> Avenue North, between 12<sup>th</sup> Street North and the vacated 15<sup>th</sup> Street North
- Improved south container yard access

Descriptions of these improvement concepts, their purpose, and anticipated benefits are detailed below.

### Reduction of Access Points on SH-128

One strategy for improved safety is to limit access points on SH-128, particularly in areas where points of access are broad, undefined expanses of pavement. Suggested improvements include eliminating the west vehicular driveway access to the Shell gas station from SH-128, and consolidating the two easterly truck driveway accesses from SH-128 to a single driveway to reduce the overall driveway width. Secondary access to the Shell station can be provided from 18<sup>th</sup> Street North or from 6<sup>th</sup> Avenue North. This is to reduce conflict points along SH-128.

Also considered was the elimination of Pacific Pride gas station's driveway access from SH-128, with provision of access from 20<sup>th</sup> Street, and secondary access from N and S Highway. This will reduce conflict points along SH-128, and increase the effectiveness of the proposed 20<sup>th</sup> Street realignment, discussed below.

### Modification to the intersections of 18<sup>th</sup> and SH-128

Realignment of 18<sup>th</sup> Street North, as it intersects SH-128, is considered in this alternative to create less of a skewed intersection, in order to improve safety, as well as the geometry of the intersection for freight movement. By reducing the skew, vehicles are better positioned when exiting onto SH-128, by allowing them to stop closer to the travel lane and better sight visibility to the west. This concept also considers the installation of a stop bar and stop signs into the intersections design, and that 7<sup>th</sup> Avenue North be closed between 17<sup>th</sup> Street North and 18<sup>th</sup> Street North, to reduce congestion and conflicting movements at the intersection. This section of 7<sup>th</sup> Avenue North could become a private drive, as it only services one business, which currently has access from 17<sup>th</sup> Street North and 18<sup>th</sup> Street North.



### **Modification to the Intersection of 20<sup>th</sup> Street and SH-128**

This scenario contemplates a revised alignment of 20<sup>th</sup> to create an offset intersection of 20<sup>th</sup> Street with 6<sup>th</sup> Avenue. This will reduce the throat width of the intersection significantly and provide for better, more controlled channelization at the intersection. It also considers the installation of stop bars, in addition to stop signs, on both 6<sup>th</sup> Avenue North and at the intersection with SH-128.

### **Improvement to 18<sup>th</sup> and 20<sup>th</sup> Streets**

In this scenario, improvements are proposed for both 18<sup>th</sup> Street North and 20<sup>th</sup> Street North. 18<sup>th</sup> Street North, as main north/south access for port traffic and freight coming from SH-128, is proposed to be widened to a consistent paved width, with installation of curbing and sidewalk. 20<sup>th</sup> Avenue North would serve as the primary north/south access for area businesses and residences, and as such, is proposed to be widened, with the addition of curbing and sidewalk. The addition of sidewalks to both of these corridors will provide better pedestrian circulation through the port and connections to the area trail system.

### **7<sup>th</sup> Avenue Modifications**

7<sup>th</sup> Avenue North between 17<sup>th</sup> Street North and 18<sup>th</sup> Street North provides access to only one business, which is also served by both 17<sup>th</sup> and 18<sup>th</sup> Streets. The 7<sup>th</sup> Avenue North intersection with 18<sup>th</sup> Street North at SH-128 creates unnecessary complexity and potential driver confusion at this intersection, and introduces the potential for conflicting traffic movements. Because the adjacent property is well served by other public streets, it is proposed in both scenarios to close 7<sup>th</sup> Avenue North between 17<sup>th</sup> Street North and 18<sup>th</sup> Street North. It is proposed that this roadway segment be converted to a local business access, with the connection to 18<sup>th</sup> Street North eliminated.

### **12<sup>th</sup> Street Modifications**

Both concepts contemplate modifications to 12<sup>th</sup> Street to be considered for implementation with potential rail network improvements identified the North Container Yard. In order to provide free rail car movement if improvements to Vandal 2 are implemented, it is contemplated that 12<sup>th</sup> Street be closed between 6<sup>th</sup> Avenue and 7<sup>th</sup> Avenue to allow for rail switching for north container yard. It is recommended that this segment of 12<sup>th</sup> Street be vacated as a private drive access serving Pacific Steel Recycling south of 7<sup>th</sup> Avenue North. If the southern leg of 12<sup>th</sup> Avenue was to close, it would require either a hammerhead or a bulb-out be constructed at the west end of 7<sup>th</sup> to provide a turnaround. Connectivity to 12<sup>th</sup> Street, north of 7<sup>th</sup> Avenue would be maintained.

### **Closure of 15<sup>th</sup> Street**

15<sup>th</sup> Street North, between 7<sup>th</sup> Avenue North and 6<sup>th</sup> Avenue North has already been vacated by the City of Lewiston. 15<sup>th</sup> Street North between 3<sup>rd</sup> Avenue and 6<sup>th</sup> Avenue is currently underutilized and not necessary for circulation within the Port. Closure of this street section allows for installation of rail sidings and rail car staging/storage along 3<sup>rd</sup> Avenue North. In this event, it is recommended that this be maintained as a driveway access for the parking lot to the east, and as an access to the north storage yard.

### **New Access Road Between 12<sup>th</sup> Avenue North and Vacated 15<sup>th</sup> Avenue North**

With proposed modifications to 12<sup>th</sup> Avenue North, and the closure of the eastern end of 7<sup>th</sup> Avenue North, a new access road is proposed to connect 7<sup>th</sup> Avenue North with 6<sup>th</sup> Avenue between 12<sup>th</sup> Street North and the vacated 15<sup>th</sup> Avenue North to provide adequate circulation to properties located on 7<sup>th</sup> Avenue North.

### South Container Yard Access

Revisions to the existing access to the South Container Yard will provide improved roadway access for freight into and out of the South Container yard, providing continuous access into the container yard, while reducing conflict with rail operations on existing and proposed rail infrastructure in the vicinity.

### Concept B

Roadway Concept B, as depicted in **Figure 36**, includes the following improvement concepts:

- Realignment of 6<sup>th</sup> Avenue North between 17<sup>th</sup> Street North and the current 18<sup>th</sup> Street North/SH-128 intersection
- Creation of an eastbound deceleration lane on SH-128
- North- South Highway Modifications
- Improvements to realigned 18th Street North and 20th Street North

Descriptions of these improvement concepts, their purpose, and anticipated benefits are detailed below. As previously indicated, Concept B also includes the following improvement concepts detailed in Concept A:

- Reduction of access points on SH-128
- Modifications to the intersection of 20<sup>th</sup> Avenue North/SH-128
- 7<sup>th</sup> Avenue North closure between 18<sup>th</sup> Street North and 17<sup>th</sup> Street
- 12<sup>th</sup> Street North modifications
- 15<sup>th</sup> Street North closure
- New access road connecting 7<sup>th</sup> Avenue North with 6<sup>th</sup> Avenue North
- South container yard access improvements

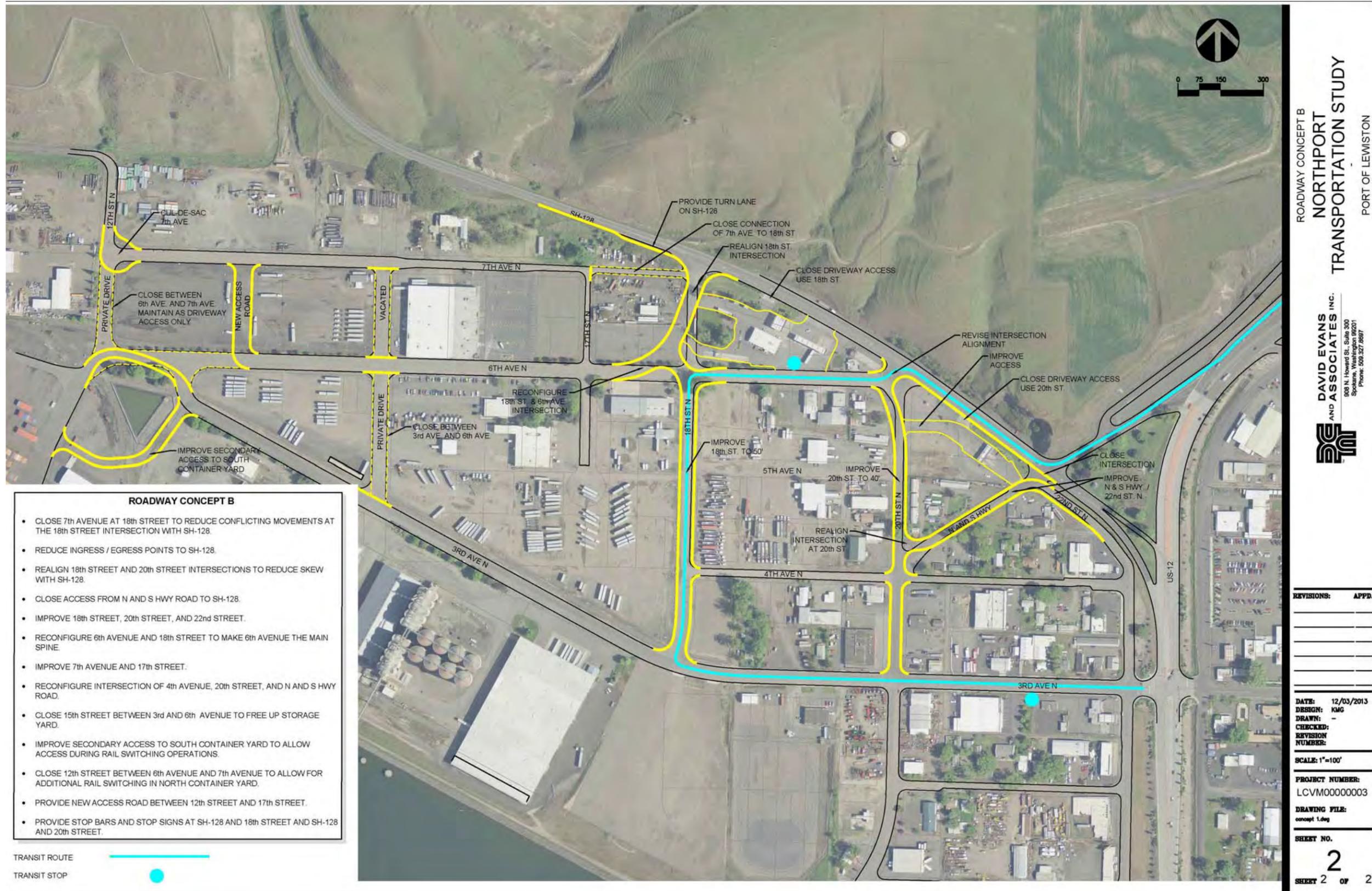
### Realignment of 6<sup>th</sup> Avenue between 17<sup>th</sup> and 18<sup>th</sup> Streets

This concept provides for a realignment of 6<sup>th</sup> Avenue to intersect SH-128 at the current 18<sup>th</sup> Street and SH-128 intersection location. 6<sup>th</sup> Avenue would serve as main access into the Port and south container yard. This would improve safety and sight distance, as well as providing an improved geometry for freight movement by realigning the intersection at a right angle. This concept would also require the reconfiguration of the existing intersection of 18<sup>th</sup> Street and 6<sup>th</sup> Avenue with the realigned 6<sup>th</sup> Avenue to create a tee intersection. Stop signs and stop bars would be necessary controls on 18<sup>th</sup> Street, and the eastern leg of 6<sup>th</sup> Avenue at 18<sup>th</sup> Street.

### Creation of an Eastbound Deceleration Lane on SH-128

This scenario contemplates the installation of a deceleration lane at the current 18<sup>th</sup> Street and SH-128 intersection to allow for unobstructed east bound through traffic, and improved safety for right-turning traffic on SH-128.

Figure 36. Roadway Concept B



### **N and S Highway Modifications**

This scenario contemplated closing off access to SH-128 from N and S Highway as a means to eliminate conflict points along SH-128, and improve safety. This improvement also eliminates movement across traffic to the existing on/off ramp for US-12N, which has been identified as one of the higher collision locations. This improvement would include the realignment of N and S Highway as it intersects 20<sup>th</sup> Street. This will allow for better north bound turning movements from N and S Hwy to 20<sup>th</sup>. It is also recommended to improve N and S Hwy and 22<sup>nd</sup> Street North to provide a consistent roadway width.

### **Improvements to 18<sup>th</sup> and 20<sup>th</sup> Streets**

Similar to the improvements in Concept A, this concept considers the widening 20<sup>th</sup> Street North to a consistent pavement width, with installation of curbing and sidewalk, as 20<sup>th</sup> Street will serve as the primary north/south access for the area residence and businesses. In this concept, 18th Street south of 6<sup>th</sup> Avenue would also be widened, with installation of curbing and sidewalk.

As in Concept A, the addition of sidewalks along 18<sup>th</sup> and 20<sup>th</sup> Street, along with the realigned 6<sup>th</sup> Avenue proposed in this scenario, will provide better pedestrian circulation through the Port, and better connections to the area trail system.

## **SCENARIO EVALUATION**

The scenario evaluation process provides a framework for evaluating and prioritizing potential roadway improvements within the Northport area. Viable rail improvement projects, as previously identified, were combined with roadway projects identified for further consideration, as based on public comments and Planning Advisory Committee input. Those roadway improvement projects were then evaluated systematically, based on evaluation criteria established by the PAC. This section describes the scenario evaluation process, and summarizes the results of that evaluation.

### **Roadway Projects for Further Consideration**

The prior section considered a number of potential roadway improvements for consideration within the Northport area, including stand-alone roadway improvement projects, as well as projects intended to support the Rail Projects identified previously in this report. Based upon review and feedback from the PAC, stakeholders, and the public, the following projects have been refined and brought forward for further evaluation. Stakeholder and public input is summarized in **Appendix 4**.

Roadway projects identified are depicted in **Figure 39**, Combined Scenario Map, located on **page 51** of this document. Estimated costs, exclusive of ROW acquisition, are summarized below for each identified project. More detailed cost estimates for these projects are included in **Appendix 5**.

### **Reduction in Access Points on SH-128**

Reduction in access points along SH-128 to improve safety was brought forward for further consideration, particularly in approach locations characterized by broad, undefined expanses of pavement. Improvements considered included eliminating Shell gas station's west approach on SH-128, and consolidating the two easterly truck driveway accesses from SH-128 to a single driveway to reduce the overall driveway width, with secondary access being provided via 18<sup>th</sup> Street North or from 6<sup>th</sup> Avenue North. In addition, this project proposes

providing access to Pacific Pride gas station via 20<sup>th</sup> Street, with secondary access from N and S Highway, in order to eliminate its approach from SH-128.

Reducing access points on SH-128 will also allow for the construction of a separated, multi-modal pathway along the southern right-of-way (ROW) in conjunction with improvements identified for 20th Street North, detailed below. The estimated cost for this project, exclusive of ROW acquisition, is \$64,800.

### 18<sup>th</sup> Street North/ SH-128 Intersection Improvements

Realignment of 18<sup>th</sup> Street North, as it intersects SH-128, as proposed, creates less of a skewed intersection in order to improve safety, as well as improving the geometry of the intersection for freight movement. This project would also incorporate stop bar and stop signs in the intersections design. The estimated cost for this project is \$105,000.

### Close 7<sup>th</sup> Avenue North at 18<sup>th</sup> Street North

It is proposed that 7<sup>th</sup> Avenue North be closed between 17<sup>th</sup> Street North and 18<sup>th</sup> Street North, in conjunction with 18th Street North/SH-128 intersection improvements, to reduce congestion and conflicting movements at the intersection. The estimated cost for this improvement is a little over \$6,000.

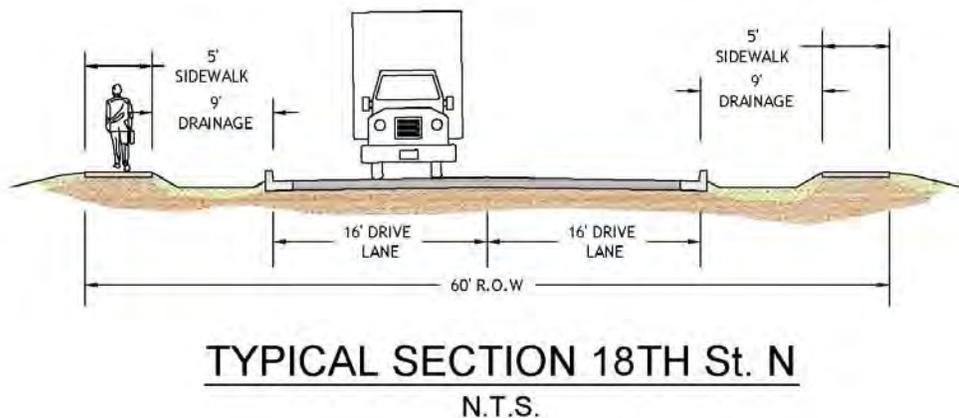
### 20<sup>th</sup> Street North/ SH-128 Intersection Improvements

Realignment of 20<sup>th</sup> Street North is proposed, in order to create an offset intersection of 20<sup>th</sup> Street with 6<sup>th</sup> Avenue. This proposal includes the installation of stop bars and stop signs on both 6<sup>th</sup> Avenue North and at the intersection with SH-128. The estimated cost of this improvement is \$128,800.

### 18<sup>th</sup> Street North Improvements

Improvements proposed for 18<sup>th</sup> Street North, as the main north/south access for port traffic and freight coming from SH-128, include widening the pavement section to a consistent 32' paved width serving two 16' lanes, with installation of curbing, drainage, and five-foot sidewalks, all within the existing ROW. The typical section proposed for this segment is depicted in **Figure 37**. The estimated cost for these improvements is \$712,000.

**Figure 37. Typical Section - 18<sup>th</sup> Street North**

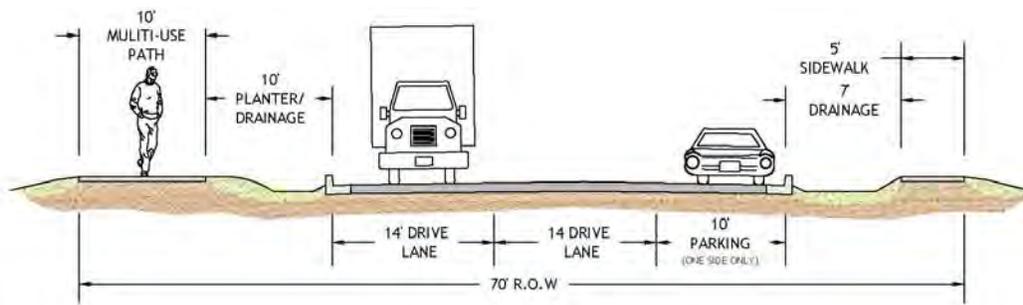


### 20<sup>th</sup> Street North Improvements

Improvements are also proposed for 20<sup>th</sup> Street North, as the access for area businesses and residences. The improvements proposed include the widened to a consistent 38' pavement width, allowing two 14' lanes, as well as a 10-foot on-street parking aisle on one side, with curbing and a sidewalk on one side. The section also includes a 10-foot multi-modal path along 20<sup>th</sup> Street within the existing ROW, as well as an extension of the multi-modal path along the south side of SH-128, between 18<sup>th</sup> and 20<sup>th</sup> Streets North. The multi-modal path extension along SH-128 is premised on the reduction of access points along that section of highway, and is intended to channelize bicyclists onto the multi-modal path provided on 20<sup>th</sup> Street North, and away from the primary freight route on 18th Street North. The addition of sidewalk and a multi-modal path provides better pedestrian access to 20<sup>th</sup> Street North businesses, and connectivity through the port to the park and dike trail system.

The typical section for this segment of roadway is depicted in **Figure 38**. Estimated cost for this project is \$557,000.

**Figure 38. Typical Section - 20th Street N**



**TYPICAL SECTION 20TH St. N**  
N.T.S.

### 3<sup>rd</sup> Avenue South Container Yard Entry

Improvements to the existing entry to the South Container Yard from 3<sup>rd</sup> Avenue North are premised on the construction of the 3<sup>rd</sup> Avenue rail yard improvements, with the intent to maintain open access to the primary entrance to the south container yard during switching operations serving the expanded 3<sup>rd</sup> Avenue rail yard. The improvements include the reconfiguration of the access road, along with a minor relocation of the shipping yard office trailer, to provide for improved roadway geometrics for freight along the improved entry. It is envisioned that the Port will maintain its secondary access easement into the South Container yard to provide access during switching operations on the existing Lewis-Clark Lead. The proposed improvements are intended to provide continuous access into the container yard in conjunction with improvements proposed for the 3<sup>rd</sup> Avenue rail yard, while reducing conflict with rail operations on existing and proposed rail infrastructure in the vicinity. The estimated cost of this improvement is \$178,100, including the cost of relocating the shipping yard modular office.

### **12<sup>th</sup> Street North Modifications**

Potential modifications to 12<sup>th</sup> Street North are premised on the construction of potential improvements to the 3<sup>rd</sup> Avenue rail yard and the expansion of Vandal 2 into multiple spurs. In order to provide free rail car movement if these improvements are implemented, it is recommended that 12<sup>th</sup> Street be vacated 150 south of the 7<sup>th</sup> Avenue North intersection, with the balance of the roadway north of the rail crossing being maintained as a private drive. 12<sup>th</sup> Avenue would be vacated and closed to all vehicular traffic from north of the proposed rail lines to 3<sup>rd</sup> Avenue. Though the cost for this would be nominal (signage), implementation of this modification should only be considered if the improvements proposed for Vandal 2 and/or the 3<sup>rd</sup> Avenue rail yard are constructed.

### **New Roadway between 6<sup>th</sup> & 7<sup>th</sup> Avenues North (14<sup>th</sup> Street)**

With 15<sup>th</sup> Avenue North vacated north of 6<sup>th</sup> Avenue, in the event that the section off 7<sup>th</sup> Avenue North between 17<sup>th</sup> and 18<sup>th</sup> Street is vacated, and the 3<sup>rd</sup> Avenue North rail yard improvements are constructed, it will be necessary to create a connection between 6<sup>th</sup> Avenue North and 7<sup>th</sup> Avenue North. Because the potential improvements to the 3<sup>rd</sup> Avenue North rail yard involve major switching operations occurring at the intersection of 6<sup>th</sup> Avenue North and 3<sup>rd</sup> Avenue North, it will be necessary to construct a new roadway between the vacated 15<sup>th</sup> Street North, and 12<sup>th</sup> Street North, or re-open the vacated 15<sup>th</sup> Street North, between 6<sup>th</sup> and 7<sup>th</sup> Avenue, depending upon the status of improvements on the parcel north of 6<sup>th</sup> Avenue North at the time of the rail yard improvements.

If the 3<sup>rd</sup> Avenue North rail yard improvements are constructed, and it is necessary to construct a new roadway (14<sup>th</sup> Street North) at an exact location yet to be determined, the estimated cost is \$169,400. If it is an option to reopen the vacated section of 15<sup>th</sup> Avenue North in lieu of constructing a new road segment at the time of the rail yard improvements, the cost will depend on the condition of the road section at that time, but would not likely exceed the cost of construction of a new roadway section.

### **Close 15<sup>th</sup> Street North between & 6<sup>th</sup> Avenues North**

15<sup>th</sup> Street North, between 7<sup>th</sup> Avenue North and 6<sup>th</sup> Avenue North has already been vacated by the City of Lewiston. 15<sup>th</sup> Street North between 3<sup>rd</sup> Avenue and 6<sup>th</sup> Avenue proposed to be closed if 3<sup>rd</sup> Avenue Rail Yard improvements are constructed, to allow for installation of rail sidings and rail car staging/storage along 3<sup>rd</sup> Avenue North. It is recommended that this be maintained as a driveway access for the parking lot to the east, and as an access to the north storage yard. Cost of implementing this element is nominal (cost of signage).

Figure 39. Combined Scenario



## Evaluation Criteria

Early in the process, the Planning Advisory Committee identified a set of desired features for the rail and road network, as detailed in **Table 3**. These were vetted through public engagement process, and served as a basis for the development of criteria used in the evaluation of individual projects identified in the combined scenario.

<b>Rail</b>	<b>Roadway</b>
<ul style="list-style-type: none"> <li>➤ Long-range plan for a unit train</li> <li>➤ Bulk loading facility</li> <li>➤ Access to both sides of rail</li> <li>➤ Transloader capability</li> <li>➤ Rehab of existing tracks</li> <li>➤ Track/switching upgrades &amp; improvements, where needed</li> <li>➤ Drainage</li> </ul>	<ul style="list-style-type: none"> <li>➤ Accommodate increased truck traffic during harvest period</li> <li>➤ Consider safety issues</li> <li>➤ Accommodate bike-ped connectivity and access</li> <li>➤ Accommodate design standards for longer and heavier trucks, as per new state legislation</li> <li>➤ Consolidate access points from SH-128 into Port</li> <li>➤ Where feasible, eliminate or realign angled access points from SH-128</li> <li>➤ Accommodate internal circulation patterns via 6<sup>th</sup> and 3<sup>rd</sup> Avenues</li> </ul>

<sup>1</sup>Order of items is *NOT* indicative of relative importance.

Criteria identified for project evaluation are listed in **Table 4**. Recognizing that the criteria had varying degrees of importance, the PAC undertook an exercise to prioritize and weight the criteria to be used in the evaluation of the project. Results of that weighting exercise are also detailed in **Table 4**.

<b>Criteria</b>	<b>Composite Score</b>	<b>Criteria Weighting Factor</b>
Safety	31	4
Truck Movement	26	3
Cost	24	3
Rail Access	22	3
Business Access	19	2
Capacity Congestion	18	2
ROW Acquisition	16	2
Impact to Bus Service	9	1
Bike Ped Connectivity	6	1

## Evaluation Matrix

Each roadway improvement project identified for further evaluation was rated for its impact on each of the ten criteria. A score of “positive” was assigned a point value of 2; “somewhat positive” was assigned a point value of 1; “neutral” was assigned a point value of 0; “somewhat negative” was assigned a point value of -1; and, “negative” was assigned a point value of -2. For the criteria “Cost”, projects under \$75,000 were rated “neutral”; projects from \$75,000 to \$200,000 were rated “somewhat negative”; and, projects over \$200,000 were rated “negative”. Project ratings for each criterion were then multiplied by the criteria weighting factor. **Table 3** summarizes the of the scenario evaluation. Projects are listed in the table by order of ranking. Tables detailing the raw scoring for each project (unweighted), and the weighted scoring for each project (adjusted by the criteria weighting factors), are included in **Appendix 6** of this report.

**Table 3. Scenario Evaluation Matrix**

Rank	Project	Safety	Impact to Bus Service	Rail Access	Truck Movement	Business Access	Bike-Ped Connectivity	Capacity/ Congestion	ROW Acquisition	Cost	Overall Rating
	<b>Criteria Weighting Factor:</b> Point values for each rating are multiplied by the criteria weighting factor.	4	1	3	3	2	1	2	2	3	
1	Improvement to 18 <sup>th</sup> Street N										13
1	3 <sup>rd</sup> Avenue South Container Yard Entry										13
3	Modification to the Intersection of 18 <sup>th</sup> and SH-128										12
3	Reduction of Access Points on SH-128										12
5	Improvement to 20 <sup>th</sup> Street N										11
6	Modification to the Intersection of 20 <sup>th</sup> and SH-128										10
6	Closure of 7 <sup>th</sup> Avenue at 18 <sup>th</sup> Street N										10
6	15 <sup>th</sup> Street Closure (South of 6 <sup>th</sup> Avenue N)										10
7	New Access Road Connecting 6 <sup>th</sup> & 7 <sup>th</sup> Avenues (14 <sup>th</sup> Street)										9
10	12 <sup>th</sup> Street Modifications										7

= Positive (+2 points)    = Somewhat Positive (+1 point)    = Neutral (0 points)    = Somewhat Negative (-1 point)    = Negative (-2 points)

Based on the scenario evaluation, the highest ranked roadway projects are the improvements to 18th Street North, and the 3<sup>rd</sup> Avenue South container yard entry, although it should be noted that the south container yard entry improvements would only be necessary in the event that the 3<sup>rd</sup> Avenue rail yard improvements were constructed. Also highly ranked were the intersection improvements for 18th Street North and SH-128 (which should be paired with the 18th Street North improvements), and the reductions in access points on SH-128.

Improvements to 20<sup>th</sup> Street North, modifications to the intersection of 20<sup>th</sup> Street North and SH-128, and closure of 7<sup>th</sup> Avenue at 18<sup>th</sup> Street North appear to be secondary priorities. Closing access points on SH-128, which was identified as a high priority, becomes a particularly important project in conjunction with improvements to 20<sup>th</sup> Street North, to allow for the construction of a multi-use path along the south side of SH-128, as a means to channel bicyclists off of 18<sup>th</sup> Street North and onto the 20<sup>th</sup> Street multi-modal path. Closure of 15<sup>th</sup> Street, south of 6<sup>th</sup> Avenue North also ranked as a secondary priority, but would only be necessary if the 3<sup>rd</sup> Avenue rail yard improvements were constructed.

The new access road connecting 6<sup>th</sup> and 7<sup>th</sup>, and the 12<sup>th</sup> Street North modifications ranked the lowest, and would only be necessary if the 3<sup>rd</sup> Avenue North rail yard improvements were constructed. In the case of the new road connecting 6<sup>th</sup> and 7<sup>th</sup>, the actual alignment would need to be determined at that time, and might well be located where 15<sup>th</sup> Avenue was vacated between 6<sup>th</sup> and 7<sup>th</sup>, depending upon the development that may occur on the parcel north between 6<sup>th</sup> and 7<sup>th</sup> Avenue.

## RECOMMENDATIONS AND IMPLEMENTATION STRATEGIES

### Rail Improvements

As noted previously, the following are rail improvements that should be considered for future implementation, based upon the demands for existing users, as may be needed in support of economic development opportunities, and as funding becomes available:

- The construction of a new track to serve the South Container Yard, and a new track serving the North Container Yard, to be constructed in parallel with Vandal 1, would expand the Port's intermodal freight capabilities (as seen in Rail Concept 1).
- The construction of 3 new tracks within the 3<sup>rd</sup> Avenue Rail Yard, to be constructed in parallel with Vandal 2, and an extended tail track off the Inland 465 Lead, to provide for a grain unit train loading operation.

Additional study is also recommended to evaluate the potential to service a unit train from the Confluence Riverfront site, looking at available lands to the west of the Confluence site. That potential will significantly improve the marketability of that site for industrial shipping operations.

Proposed rail improvements could potentially be funded through one or more of the following sources:

- **Railroad Rehabilitation and Improvement Financing Program (RRIF)**

Offered through the Federal Rail Administration (FRA), the RRIF program provides direct federal loans and loan guarantees to finance development of railroad infrastructure. The program authorizes the FRA Administrator to provide direct loans and loan guarantees up to \$35 billion. The funding may be used to acquire, improve, or rehabilitate intermodal or rail equipment or facilities, including track, components of track, bridges, yards, buildings, and shops; or, to develop or establish new intermodal or railroad facilities. Direct loans can fund up to 100 percent of a railroad project, with repayment periods of up to 35 years and interest rates equal to the government's cost of borrowing. Eligible borrowers include railroads, state and local governments, government sponsored authorities and corporations, joint ventures that include at least one railroad, and limited option freight shippers that intend to construct a new rail connection.

- **Economic Development Administration (EDA) Grants**

The EDA provides discretionary grants to leverage strategic investments that foster job creation and attract private investment to support development in economically distressed areas of the United States. To be competitive for EDA funds, the infrastructure project proposed generally should be tied to a project that will directly generate new jobs for the area.

- **Rural Economic Development and Integrated Freight Transportation Program (REDIFIT)**

REDIFIT is a revolving loan fund for assisting qualified short line rail or intermodal freight shippers to upgrade, expand, rehabilitate, purchase or modernize equipment and facilities for Idaho's freight shipping infrastructure. ITD plans this program, while the Idaho Department of Agriculture administers it. Funding through this program is contingent upon appropriate private sector partnerships with the participation and cooperation of state and local governments. Eligible projects include planning and feasibility studies, rail line rehabilitation, equipment purchase, and construction of reloading facilities. It does not cover purchase of land or buildings. A match of 100 percent is required.

## Roadway Improvements

### 18<sup>th</sup> Street North Improvement Package

The 18<sup>th</sup> Street North corridor is recommended for improvements to include widening the pavement section to a consistent 32 foot paved width serving two 16 foot lanes, with installation of curbing, drainage, and two five-foot sidewalk along the west side of the street, all within the existing ROW. City street standards call for sidewalks on both sides of the street, however, given the industrial nature of this area, this project may be a candidate for payment in lieu of improvements, at the City's discretion. Cost estimates provided in Appendix 5 include sidewalks on both sides of the street, however, if the City approved a payment in lieu of improvements proposal, the funds for sidewalks on the east side of 18<sup>th</sup> Street North could potentially be reinvested on 20<sup>th</sup> Street North to provide for the construction of the 10 foot Class 1 multi-modal path described below. Because

of 18<sup>th</sup> Street North's role as a freight corridor, the investment in 20<sup>th</sup> Street North would actually benefit the functionality of 18<sup>th</sup> Street North by providing a separate corridor for bike traffic through the Port.

Also included in this recommendation is the realignment of the intersection of 18<sup>th</sup> Street North and SH-128 to reduce the skew and provide improved roadway geometries for freight, and the closure of 7<sup>th</sup> Avenue North at 18<sup>th</sup> Street North, to reduce conflicting movements at this intersection. This would require the re-dedication of 15<sup>th</sup> Street North, or the construction of a new 14<sup>th</sup> Street North to the west of the vacated 15<sup>th</sup> Street North, as well as way-finding signage to Pacific Steel, the Waste Water Treatment Plant and other potentially impacted businesses on 7<sup>th</sup> Avenue North or west of 12<sup>th</sup> Street North.

Potential funding sources for these improvements include

- Idaho Community Choices Grant to fund proposed sidewalks along the transit route (and possibly the multi modal path on 20<sup>th</sup> Street North as a means to separate bike traffic from freight);
- City of Lewiston payment in lieu of sidewalk improvements to fund the sidewalk along the transit route;
- Surface Transportation Program for roadway improvements; and,
- Urban Renewal Funding (this is tax increment financing that would be dependent upon anticipated improvements to taxable property, most often providing infrastructure improvements related to a specific., large development or funding for a catalyst to development).

### **Roadway Projects Supporting 3<sup>rd</sup> Avenue Rail Yard Improvements**

If potential improvements to the 3<sup>rd</sup> Avenue Rail Yard are constructed to allow for a grain unit car loading operation, the following roadway improvements are recommended to maintain good freight movement through the Northport area with these intensive rail operations:

- Reconfiguration of the South Container Yard entrance from 3<sup>rd</sup> Avenue, with a minor relocation of the existing modular serving as the Shipping Yard Office, to allow for continuous access to the South Container Yard during switching operations.
- Closure of 15<sup>th</sup> Street North, south of 6<sup>th</sup> Avenue North, though this would be maintained as a private drive and emergency access.
- Vacating a portion of 12<sup>th</sup> Street North (150 feet south of the 7<sup>th</sup> Avenue north intersection), with the vacated portion of the roadway maintained as a private driveway north of the 3<sup>rd</sup> Avenue North switch.

While the cost for closure of 15<sup>th</sup> Street North, and the vacation of a portion of 12<sup>th</sup> Street North are nominal, the cost of improvements for the reconfiguration of the South Container Yard access and the relocation of the shipping yard office should be bundled with potential funding for the 3<sup>rd</sup> Avenue Rail Yard improvements.

### **Other Projects Important to the Development of North Lewiston**

#### ***20<sup>th</sup> Street North Improvements***

20<sup>th</sup> Street North is an important corridor for non-Port businesses and residences in the Northport Area. Improvements to 20<sup>th</sup> Street North should include widening the road way to a consistent 38 foot pavement width, allowing two 14 foot lanes, as well as a 10 foot on-street parking aisle on one side, with curbing and a sidewalk on one side. The section also includes a 10-ft multi-modal path along 20<sup>th</sup> Street within the existing

ROW, as well as an extension of the multi-modal path along the south side of SH-128, between 18<sup>th</sup> and 20<sup>th</sup> Streets North, to channelize bicyclists onto the multi-modal path provided on 20th Street North, and away from the primary freight route on 18<sup>th</sup> Street North. Potential funding for the bike-ped improvements on this corridor would be a good candidate for funding through Idaho's Community Choices Grant program, or the City of Lewiston's payment in lieu of improvements funds (or potentially bundled with funding for 18<sup>th</sup> Street North improvements). Funding sources considered for 18<sup>th</sup> Street improvements would also be applicable to this project.

### ***Restricting Access on SH-128***

Reducing existing access point, and restricting future access onto SH-128, is a safety improvement that should be implemented as new private development, redevelopment, and expansions occur, and as improvement projects on the state ROW occur. Funding for these changes would likely occur as part of the private development project costs, or as part of the total funding project for state-sponsored improvements to SH-128. Revisions to existing approaches could also potentially occur as part of the 20<sup>th</sup> Street North multi-modal improvements, if grant funding was secured and property owner agreements could be negotiated.