



# SKAGIT COUNTY DEPARTMENT OF PUBLIC WORKS

## 2017 ANNUAL BRIDGE REPORT



*South Skagit Highway at Finney Creek Deck Rehabilitation Project*

**SUBMITTED MARCH 2018**



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This bridge report is prepared annually by the Transportation Section of Skagit County Public Works' Engineering Division to fulfill the requirements of the Washington Administrative Code (WAC) 136-20-060 which requires the County Engineer to report on the bridge inspections as follows:

*"Each county engineer shall furnish the county legislative authority with a written resume of the findings of the bridge inspection effort. This resume shall be made available to said authority and shall be consulted during the preparation of the proposed six-year transportation program revision. The resume shall include the county engineer's recommendations as to replacement, repair or load restriction for each deficient bridge. The resolution of adoption of the six-year transportation program shall include assurances to the effect that the county engineer's report with respect to deficient bridges was available to said authority during the preparation of the program."*


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## **ACRONYMS**

The following are a list of common acronyms widely used in the Bridge Inspection field:

|       |   |
|-------|---|
| ADT   | Average Daily Traffic                                 |
| BRAC  | Bridge Replacement Advisory Committee                 |
| CFR   | Code of Federal Regulations                           |
| FEMA  | Federal Emergency Management Agency                   |
| FHWA  | Federal Highway Administration                        |
| FO    | Functionally Obsolete                                 |
| HBRRP | Highway Bridge Replacement and Rehabilitation Program |
| NBIS  | National Bridge Inspection Standards                  |
| RCW   | Revised Code of Washington                            |
| SHV   | Specialized Haul Vehicle                              |
| SD    | Structurally Deficient                                |
| SID   | Structure Identification Number                       |
| SR    | Sufficiency Rating                                    |
| UBIT  | Under Bridge Inspection Truck                         |
| WAC   | Washington Administrative Code                        |
| WSDOT | Washington State Department of Transportation         |
| TIP   | Transportation Improvement Program                    |



***North Fork Bridge (Best Road)***

## EXECUTIVE SUMMARY

The 2017 Annual Bridge Report complies with WAC 136-20-060, which requires that each County Road Engineer furnish a written resume of the findings of the previous year's inspection effort. This report summarizes Skagit County's bridge inspection program, focusing on the Engineer's recommendations as to replacement, rehabilitation, repair, and load restrictions on the County's deficient bridges. This makes the Annual Bridge Report an important resource in the preparation of the Six Year TIP and other short and long term planning tools. Bridge replacement, rehabilitation, and repair projects are prioritized by a rating system that's based on a combination of factors including, but not limited to, structural deficiency, functional obsolescence, sufficiency rating, ADT, safety factors, accident history, and funding availability.

To qualify as a Structurally Deficient (SD) bridge, an element of the bridge must have a condition rating of 4 (Poor Condition) in one of the following elements: deck, superstructure, substructure, culvert and retaining walls, or have an appraisal rating of 2 or less of the structural evaluation or waterway adequacy.

To qualify as a Functionally Obsolete (FO) bridge, an appraisal rating of 3 or less must be given for deck geometry, under clearance, approach roadway alignment, structural evaluation, or waterway adequacy.

There are four goals the report strives to attain:

1. Provide inspection findings ensuring safe use by the public.
2. Present proactive maintenance recommendations for maximizing the life of County assets.
3. Identify bridges that may need to be replaced or rehabilitated.
4. Satisfy the reporting requirements set forth by other government agencies.

**HIGHLIGHTS** from this bridge inspection season include:

- 47 routine inspections of Skagit County bridges
- 3 underwater inspections performed by the State
- 13 routine inspections and 3 high cost inspections performed for local agencies
- Burlington Northern Overpass Replacement Project on Old Hwy 99 commenced
- Currently, Skagit County has 6 structurally deficient bridges:
  - Anacortes Ferry Dock: sufficiency rating – 23.02
    - Superstructure – Rated Poor (condition of girders 1H, 1J, 1I)
  - Guemes Island Ferry Dock: sufficiency rating – 23.02
    - Superstructure – Rated Poor (apron lift gusset hole is elongated)
  - Samish River Bridge: sufficiency rating - 63.18
    - Deck – Rated Serious
  - Friday Creek Bridge: sufficiency rating – 64.60

- Deck – Rated Poor
- Bay View-Edison at Joe Leary:  
sufficiency rating – 84.62
  - Deck – Rated Poor
- **ADDED** - F&S Grade Road at Samish  
River: sufficiency rating – 94.30
  - Deck – Rated Poor



***Demolition of the Burlington Northern Overpass (Old Hwy 99)***

- **REMOVED** from Structurally Deficient list
  - Burlington Northern Overpass – Decommissioned
  - Old Hwy 99 at Thomas Creek – Upgraded condition rating
  - South Skagit Hwy at Finney Creek – Deck rehabilitated (Cover page)
- Currently, Skagit County has 15 Functionally Obsolete bridges – these bridges no longer meet the standard for either roadway design or waterway adequacy.
- Skagit County received Highway Bridge Replacement/Rehabilitation Program (HBRRP) funds from the Bridge Replacement Advisory Committee (BRAC) to rehabilitate three of our structurally deficient bridges with poor deck ratings:
  - The South Skagit Highway at Finney Creek Bridge Deck Rehab was completed in September (featured on the cover).
  - Samish River Bridge on Old Hwy 99 is scheduled for deck rehab in 2019.
  - Friday Creek Bridge on Old Hwy 99 is scheduled for deck rehab in 2018.



***Friday Creek Bridge on Old Highway 99 N, deck covered in concrete patch repairs.***



# BRIDGE INVENTORY

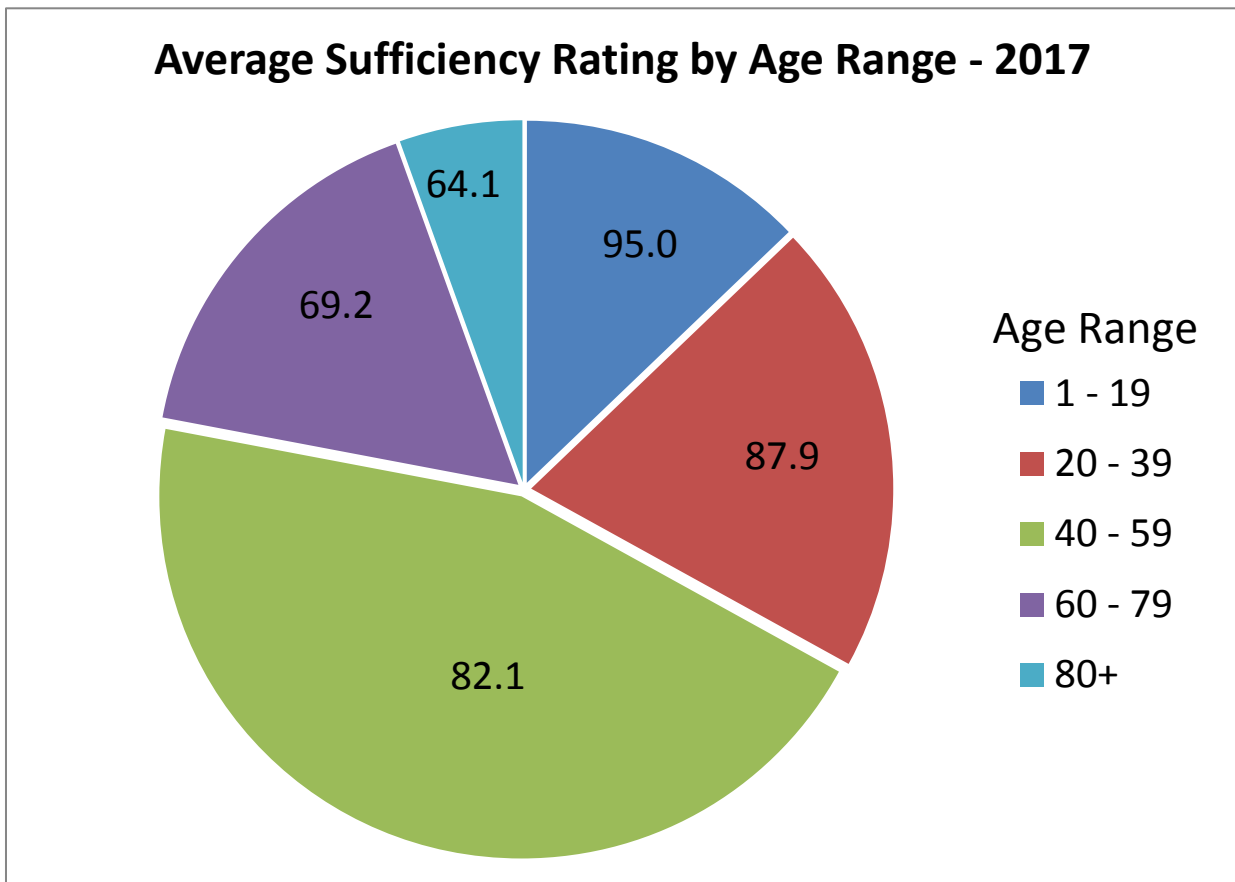
## Skagit County Road Bridges:

As of December 31, 2017, Skagit County has 107 bridges in the National Bridge Inventory System (NBIS). NBIS identified structures are required to be inspected every 24 months. The current inventory includes:

- 3 predominately made of timber (2.8%)
- 13 predominately made of steel (12.2%)
- 91 predominately made of concrete (85%)
- 11 of the 107 bridges are “High Cost Inspection” Bridges requiring a UBIT
- 6 of the 11 “High Cost Inspection” bridges are fracture critical

To see a full listing of the Skagit County Bridge Inventory and their statistics, please refer to “Appendix A – Bridge Inventory”.

Skagit County has 49 bridges that are 40-59 years old, 18 bridges that are 60-79 years old and 6 bridges that are over 80 years old. The chart below shows the age distribution of the bridge inventory and the average sufficiency rating in that age range. Note the steady decline in the average sufficiency rating with age and the majority of bridges in the 40-59 range. However, during 2017, the total average sufficiency rating increased by 18 points, including an 8 point increase in the 80+ age range, which can mostly be attributed to the destruction of the Burlington Northern Overpass. Overall, we are pleased with the durability and longevity of our older concrete bridges and hope to continue the steady ratings.



### **Local Agency Bridges:**

Skagit County Public Works provides inspection services to cities upon request. The County works under agreements with cities within the conditions set forth in RCW Chapter 39.34, the Interlocal Cooperation Act. The County's services are provided primarily to cities that lack resources and expertise to inspect and maintain their bridge inventory. The County provided routine inspection services on 13 city bridges in 2017 and helped coordinate 2 high cost inspections performed by the state.

#### **No. of Local Agency Bridges Served by Skagit County:**

1. City of Burlington – 2
2. Town of Concrete – 1
3. City of Mount Vernon – 12

### **High Cost and Fracture Critical Bridges:**

If the underside of the bridge deck cannot be given close or adequate inspection from the ground (the bridge crosses a deep ravine, for example) or from the shore (the bridge crosses a wide body of water), then a special inspection using a boat or an **Under-Bridge Inspection Truck (UBIT)** is required.

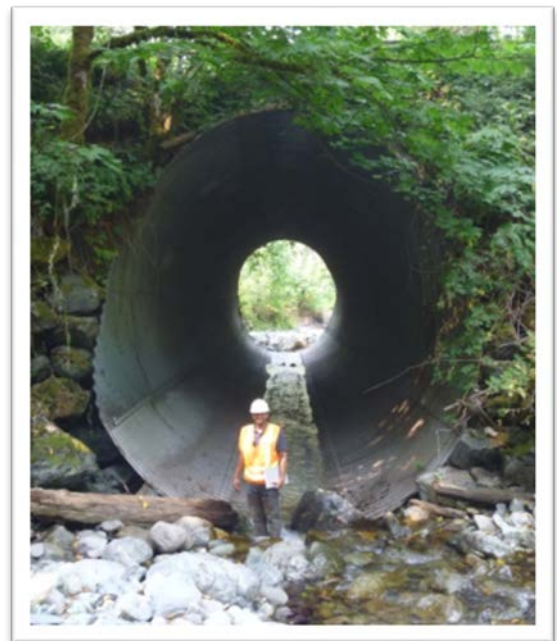


***UBIT inspection on Riverside Bridge  
(City of Mount Vernon)***

Skagit County contracted with the State Bridge Preservation Office to perform six high cost inspections in 2017 including four underwater inspections for the Anacortes Ferry Dock, Guemes Island Ferry Dock, North Fork Bridge and Riverside Bridge for City of Mount Vernon and Burlington. (See "Appendix B – Routine & Special Inspection Schedule" for details on inspection frequencies and schedules for all of our UBIT and special bridge inspections).

### **Short Span Bridges:**

Short span bridges are defined as spans that are 20-feet or less in length and over 6-feet for timber structures and over 8-feet for steel and concrete structures. Two short span structures are already in the inventory and Public Works staff identified fifteen more this past season to include in next years' inventory. Since Short Spans are not yet considered NBIS reportable bridges they do not require a 24 month routine inspection. However, concern about their deterioration and performance remains so staff will treat these short spans similar to NBIS bridges and continue to inspect and report on a recurring basis. Consequently, because these short span bridges are not NBIS bridges, they are also not eligible for HBRRP funding.



***Gilligan Creek crossing (short span) under  
South Skagit Hwy***

### **Parks Department Bridges:**

The County Parks and Recreation Department has approached Public Works and requested assistance with a growing inventory of pedestrian bridges (24 total). These have been acquired either through new trail construction or by acquisition of abandoned railroad rights-of-way. Due to staffing issues and work load, Public Works has not been able to provide inspection services at this time. Public Works will continue to work with the Parks and Recreation Department to inventory and inspect as staffing and work load allows.

### **Load Restricted Bridges:**

The North Fork Bridge is a viable route for legal limit loads. However, due to fracture critical status, like the County's other pin and hanger and steel truss structures, overweight load permits are reviewed on a case by case basis. County staff (and occasionally contracted consultants) review axle loading, number of axles, and how the load is distributed among those axles to determine if the load is safe to cross the bridge. New software was acquired in 2016 to help evaluate overweight loads and reduce the need for outside consultant help.



*Example of a superload that would require bridge loading analysis.*

In the Town of Concrete, the Baker River Bridge is restricted to loads based on the AASHTO Vehicle Types ranging from 10 tons to 28 tons.

The Upper Finney Creek Bridge was damaged in 2012 due to a suspected overweight load crossing the bridge. A shear crack was found in one of the two girders at the mid-span of the bridge. The bridge girder was repaired and re-opened to traffic but remains restricted to loads of no greater than 60,000 LBS or 30 tons. Efforts to acquire funding, including Federal Lands Access Program and HBRRP, are being made to modify the bridge to increase its service life and load carrying capacity.

Federal guidelines on Bridge Load Ratings have added Specialized Hauling Vehicles (SHV) to the list of vehicles that need to be evaluated, as well as two new Emergency Vehicles (EV). Bridge owners have been ordered to classify their bridge inventory into two categories. Category 1 shall consist of bridges that have a Type 3 Vehicle Rating Factor of less than 1.3. Skagit County has identified 28 bridges that will require their load rating to be rerated in 2017. We currently have completed 15 and should have the rest completed by the end of March. Category 2 bridges include all bridges not in Category 1 and are required to be rerated by the end of 2022. These will be prioritized by the load rating factor



*Example of a specialized hauling vehicle*

from lowest to highest and spread out over the next 5 years to minimize cost impacts to the budget.

### Future Skagit County Bridges

#### Burlington Northern Overpass

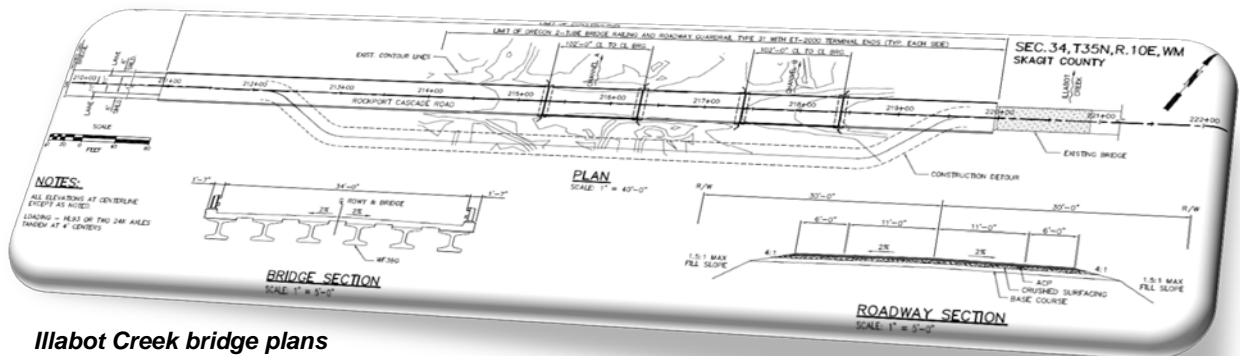
Completely reconstructed, the new Burlington Northern Overpass will replace the 1,182' long, 24' wide timber structure with a concrete girder and mechanically stabilized earth wall structure that will be 1900' long and 44' wide. Construction is underway and on schedule to be completed in September of 2018.



**Construction of the new Burlington Northern Overpass**

Minkler Road at Hansen Creek Bridge Project - Located on Minkler Road, a new 70' long single span will replace two existing culverts that convey Hansen Creek. This is a stream channel restoration project that will provide flood relief to nearby residents. The Engineering Division is the contract administrator for the Washington State Recreation Conservation Office funding. The design is complete, and Salmon Recovery Funding Board money will be sought out for construction.

Rockport Cascade Road at Illabot Creek – Construction is underway and consists of channel work and the construction of two new bridges, in addition to the current bridge over Illabot Creek. The project is scheduled to be open to traffic in August of 2018. This project is being funded by the Salmon Recovery Funding Board via the Skagit River Systems Cooperative with the goal of it being restored to the natural process of an alluvial fan setting rather than the constructed straightened and steepened main channel that exists now.



**Illabot Creek bridge plans**

## INSPECTION PROGRAM, FINDINGS & RECOMMENDATIONS

Bridge inspections are performed in accordance with the National Bridge Inspection Standards (NBIS) and with 23 CFR 650.3. All bridges inspected to the NBIS in the United States are issued a structure identification number (SID). The standards mandate that all public agencies with a bridge inventory inspect and report the findings at a minimum of once every 24 months (routine inspection). The inspector uses these standards to document the current condition of each bridge element listed. The deficiencies are coded to the NBIS and show degree of deterioration in various elements. The three primary elements are the deck, superstructure, and substructure. As deterioration accelerates, the coding values will drop. Work orders for repairs may be issued. In the case where the coding factors are extremely low, recommendations are made for replacement or rehabilitation. Bridges with identified deficiencies may be inspected or monitored at more frequent intervals.

The results of our inspection program are forwarded on to the Washington State Department of Transportation (WSDOT) for review. Once the report has been accepted by WSDOT, it is available for the Federal Highway Administration (FHWA) and Washington division bridge engineers to use. A copy of all final inspection reports are kept on file with Skagit County Public Works.

There are other factors that go into developing the overall health of a bridge. Sufficiency Rating (SR) is a score calculated based on a multitude of factors that are reviewed by the inspector. The SR is a number from 0 to 100, with 100 being an entirely sufficient bridge, and 0 being an entirely insufficient or deficient bridge, as defined by FHWA. Items that go into the determination of the SR include load bearing capacity, average daily traffic, availability and length of detour, the geometry of the bridge, and the scour action of bridges passing over a waterway, among others. Bridges with a SR less than 40 and are listed as Structurally Deficient (SD) are eligible for federal replacement funds. Bridges with a SR less than 80 and have a coding of 4 (poor) or less for one of the primary elements are eligible for rehabilitation. As of December 31, 2017, the County has six bridges that meet these criteria (previously mentioned on Pg 5).

The bridge inspection program recognizes that with limited funding, it is important to identify trends that are affecting the deficiencies of our bridge structures, such as age and materials used in construction. Skagit County Public Works will continue to apply for available funds to assist with deficient bridges that are eligible for Federal Highways Bridge Program funds and Surface Transportation Program funds. County bridges not eligible for Federal funds, such as short-span bridges 20-feet in length or less), will have their replacement/rehabilitation needs prioritized by Public Works staff, based on structural deficiency, resource availability, and the Board of Skagit County Commissioners authorization to fund the project in the Annual Construction Program. Similarly, for maintenance, repair, and minor rehabilitation work, prioritization is based on County bridge maintenance funds and staff availabilities.

This report also points out projects that have been completed, those that are in the current Six Year Transportation Improvement Program, and those bridges that are candidates for future replacement/rehabilitation.

## REPLACEMENT, & REHABILITATION PLAN FOR DEFICIENT BRIDGES

The County's current focus is to replace or rehabilitate bridges that are classified as Structurally Deficient or Functionally Obsolete per NBIS. Public Works staff received or are currently seeking funding for a number of bridges that are in need of replacement, rehabilitation and/or resurfacing including, but not limited to:

### Replacement

- Currently there are no bridges proposed for replacement.

### Rehabilitation

- Samish River Bridge on Old Hwy 99 #40114
  - Due to frozen rocker bearings, the bridge deck experiences compression stress which results in failing joint headers, cracks and spalling with exposed rebar in the concrete deck
  - BRAC awarded Skagit County \$824,000 in Federal funding to replace the bearings, expansion joints, and resurface the deck/driving surface
  - Work is scheduled to begin in summer of 2019
- Friday Creek Bridge on Old Hwy 99 #40115
  - The bridge deck is deteriorating due to age and wear resulting in spalling and exposed rebar
  - BRAC awarded Skagit County \$360,000 in Federal funding to resurface the deck and level the approaches
  - Work is scheduled to begin in summer of 2018
- Upper Finney Creek Bridge #40093
  - Public Works repaired a damaged girder on the Upper Finney Creek Bridge but it still does not have the load carrying capability to handle today's logging industry vehicles
  - Applied to Federal Lands Access Program (FLAP) and Highway Bridge Replacement/Rehabilitation Program (HBRRP) to add a third girder that would strengthen the superstructure and increase the load carrying capabilities but funding was not awarded. Plan to apply again for FLAP in March
- Bay View-Edison at Joe Leary #40029
  - The bridge deck is deteriorating due to age and wear resulting in spalling and exposed rebar
  - Applied for 2017 HBRRP funding but was not awarded. Plan to apply again in 2019



*Samish River Bridge deck during inspection*

## MAINTENANCE AND REPAIRS

The majority of bridge repair and maintenance work is done by County crews. This includes cleaning, minor painting, deck repairs, and rehabilitation of bridges. The major maintenance projects being worked on now include:

### Debris Management:

This past year, the Public Works Environmental Services Team cleared debris that was impeding conveyance and causing scour around several culverts and bridges including:

- S Skagit Hwy at Day Cr
- S Skagit Hwy at Finney Cr
- Farm-to-Market at Samish R
- Minkler Rd at Wiseman Cr

These actions require a Hydraulic Project Approval from Fish & Wildlife and can be time consuming. This spring, staff will be working to acquire a 5-year Programmatic HPA from WDFW that will enable them to respond quicker to debris blockages. The HPA will target all County bridges that have piers/piles in the channel and high flow velocities.



*Debris under S. Skagit Hwy at Day Creek*



*Debris on the North Fork Bridge*

For the second time in two years, debris has collected on the North Fork Bridge. The first blockage was cleared by a contractor out of Portland but the second time the WSDOT maintenance crew was available. They came up in December with a couple boats and removed the blockage between Pier 4 and Pier 5. These piers have already undergone scour repairs in 2005 so it's very important that we clear these blockages before problems occur. Because WSDOT's crew was able to respond quickly, the blockage was still relatively small and easier to clear. With the increased frequency of these blockages, we'll be monitoring the North Fork Bridge closely next fall.

### Conveyance under Lyman Hamilton Highway at Childs Creek:

County staff is pursuing both immediate and long-term solutions to sediment aggradation at the Lyman Hamilton Highway Bridge over Childs Creek. During the 2017 allowable work window, the County completed an in-stream sediment removal project to increase conveyance and reduce flood risk. For the longer term solution, the County acquired 3.43 acres of land adjacent to Childs Creek that could serve as a future sediment management site. The residential structures on that property were demolished in 2017



***Before and after of Lyman Hamilton Highway at Childs Creek***

### General Maintenance:

In addition to the above mentioned repairs, Skagit County's Bridge Crew performs various minor repairs and maintenance throughout the year.

These repairs and maintenance include, but are not limited to:

- Patching decks due to spalling or material loss
- Replacing the loss of armor/rock around the abutments
- Repairing bridge rail and guardrail
- Leveling approaches
- Spot painting
- Removal of vegetation encroaching or blocking access to the bridge for inspection purposes
- Replacing damaged or worn signage

2017 has been a productive period for our bridge crew in regards to maintenance and deserve a lot of credit for the continued longevity and high sufficiency ratings of our bridges. Please refer to "Appendix C – Bridge Maintenance List" for a full listing of outstanding and recently completed repairs.



## GLOSSARY OF BRIDGE TERMINOLOGY

**Abutment**—a substructure supporting the end of a single span, or the extreme end of a multi-span super-structure and, in general, retaining or supporting the approach fill.

**Backwall**—the top-most portion of an abutment functioning *primarily* as a retaining wall to contain approach roadway fill.

**Bent**—a supporting unit of the beams of a span made up of one or more column or column -like members connected at their top-most ends by a cap, strut, or other horizontal member.

**Bracing**—a system of tension or compression members, or a combination of these, connected to the parts to be supported or strengthened by a *truss* or frame, It transfers wind, dynamic, impact, and vibratory stresses to the substructure and gives rigidity throughout the complete assemblage. Can also refer to diagonal members that tie two or more columns of a bent together.

**Cap**—the horizontally-oriented, top-most piece or member of a bent sewing to distribute the beam loads upon the columns and to hold the beams in their proper relative positions.

**Chord**—in a truss, the upper-most and the lower-most longitudinal members, extending the full length of the truss.

**Compression**—a type of stress involving pressing together; tends to shorten a member; opposite of tension.

**Culvert**—a pipe or small structure used for drainage under a road, railroad or other embankment. A culvert with a span length greater than 20-feet is included in the National Bridge Inventory and receives a rating using the NBI scale.

**Deck**—portion of a bridge that provides direct support for vehicular and pedestrian traffic.

**Elastomeric pads**—rectangular pads made of neoprene, found between the substructures and superstructure, that bears the entire weight of the superstructure. Elastomeric pads can deform to allow for thermal movements of the superstructure.

**Endwall**—the wall located directly under each end of a bridge that holds back approach roadway fill. The endwall is part of the abutment.

**Fracture critical member**—a member in tension or with a tension element whose failure would probably cause a portion of or the entire bridge to collapse.

**Pier**—a structure comprised of stone, concrete, brick, steel, or wood that supports the ends of the spans of a multi-span superstructure at an intermediate location between abutments. A pier is usually a solid structure as opposed to a bent, which is usually made up of columns.

**Pile**—a rod or shaft-like linear member of timber, steel, concrete, or composite materials driven into the earth to carry structure loads into the soil.

**Pinpile**—a series of two-inch-diameter pipes driven in a line into the ground to support the timber planks of a small retaining wall, typically used to prevent erosion under a bridge abutment.

**Post or column**—a member resisting compressive stresses, in a vertical or near vertical position.

**Scour**—erosive action of removing streambed material around bridge substructure due to water flow. Scour is of particular concern during high-water events.

**Short span bridge**—these bridges span less than 20 feet, have a single span and are typically supported by timber piles or shallow concrete footings.

**Soffit**—the underside of the bridge deck or sidewalk.

**Spall**—a concrete deficiency wherein a portion of the concrete surface is popped off from the main structure due to the expansive forces of corroding steel rebar underneath. This is especially common on older concrete bridges.

**Stringer**—a longitudinal beam (less than 30' long) supporting the bridge deck, and in large bridges, framed into or upon the floor beams.

**Sufficiency rating**—the sufficiency rating is a numeric value from 100 (a bridge in new condition) to 0 (a bridge incapable of carrying traffic). The sufficiency rating is the summation of four calculated values: Structural Adequacy and Safety, Serviceability and Functional Obsolescence, Essentiality for Public Use, and Special Reductions.

**Substructure**—the abutment, piers, grillage, or other structure built to support the span or spans of a bridge superstructure, and distributes all bridge loads to the ground surface. Includes abutments, piers, bents, and bearings

**Superstructure**—the entire portion of a bridge structure which primarily receives and supports traffic loads and in turn transfers the reactions to the bridge substructure; usually consists of the deck and beams or, in the case of a truss bridge, the entire truss.

**Tension**—type of stress involving an action which pulls apart.

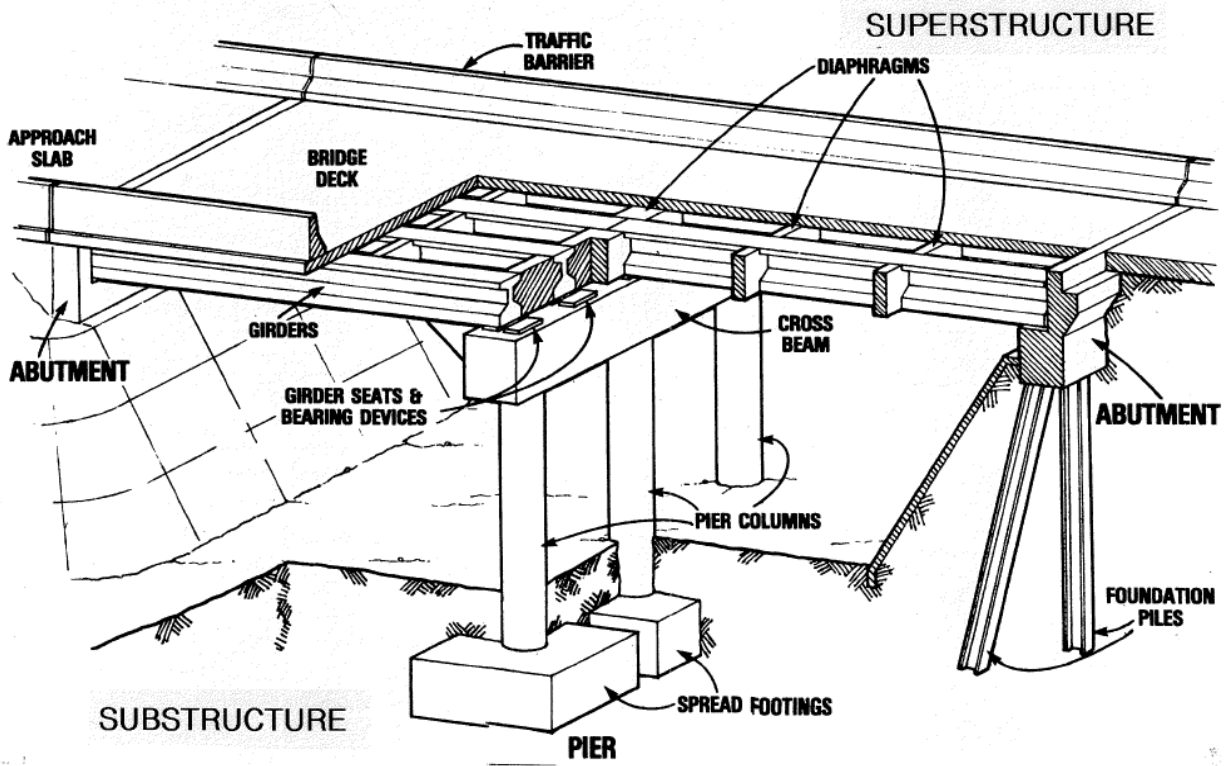
**Trestle**—a bridge structure consisting of beam spans supported upon bents. Trestles are usually made of timber and have numerous diagonal braces, both within each bent and from bent to bent.

**Wheelrail**—a timber curb fastened directly to the deck, most commonly found on all-timber bridges.

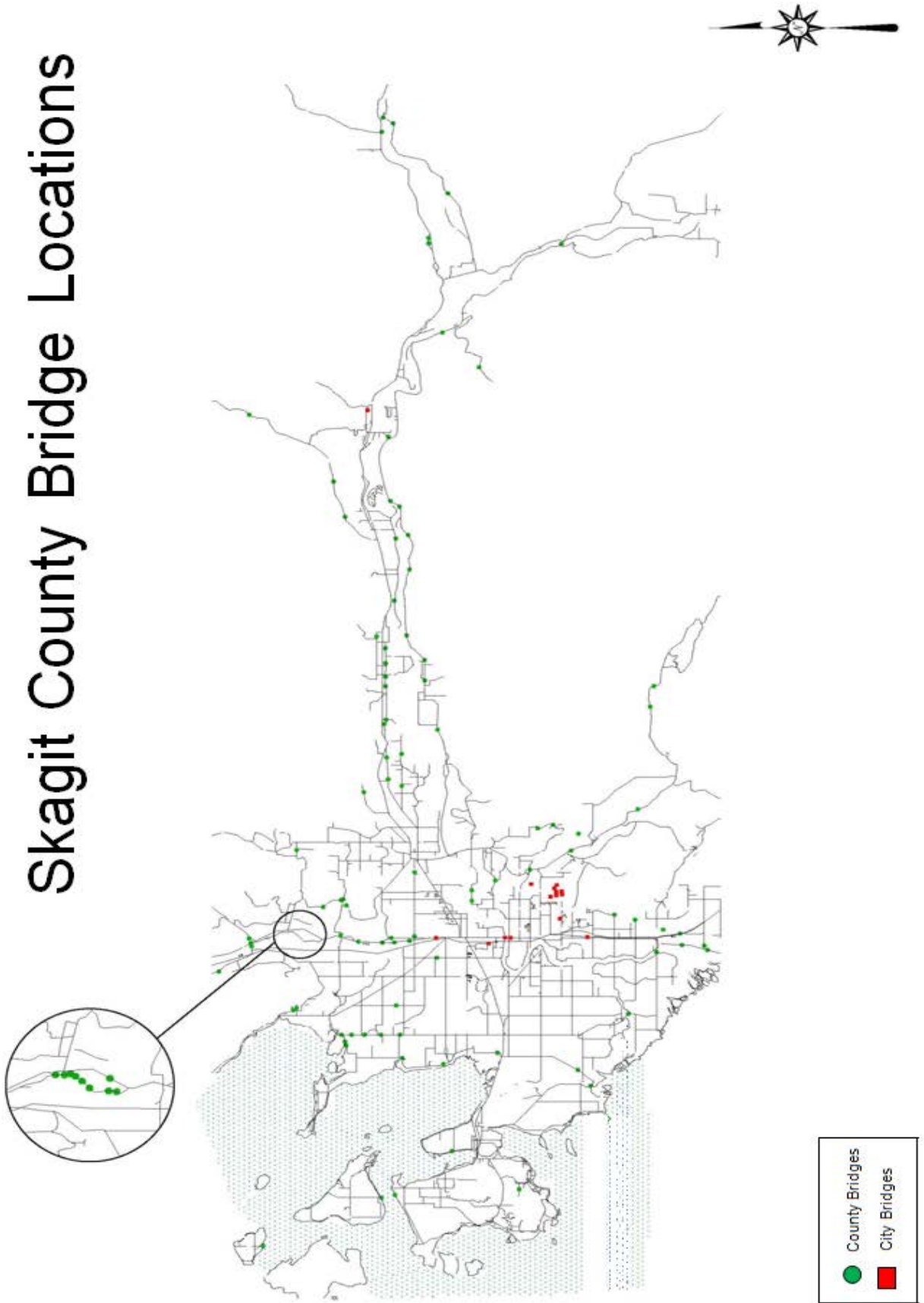
**Wingwall**—walls that slant outward from the corners of the overall bridge that support roadway fill of the approach.

# ELEMENTS OF A BRIDGE

## BASIC BRIDGE PARTS



# Skagit County Bridge Locations



APPENDIX A - BRIDGE INVENTORY

| BRIDGE NUMBER | BRIDGE NAME              | BRIDGE LENGTH | BRIDGE WIDTH | AVG DAILY TRAFFIC | TRUCK % | MAIN MATERIAL | YEAR BUILT / REBUILT | SUFFICIENCY RATING |
|---------------|--------------------------|---------------|--------------|-------------------|---------|---------------|----------------------|--------------------|
| 40152         | ANACORTES FERRY DOCK     | 205           | 15.0         | 502               | 10      | Steel         | 1976                 | 23.02 (SD)         |
| 40153         | GUEMES ISLAND FERRY DOCK | 165           | 15.0         | 502               | 10      | Steel         | 1981                 | 23.02 (SD)         |
| 40093         | UPPER FINNEY CREEK BR.   | 217           | 14.9         | 38                | 10      | Concrete      | 1952                 | 48.27 (FO)         |
| 40113         | OLD HWY 99 at THOMAS CK  | 52            | 30.0         | 4,976             | 8       | Timber        | 1934                 | 54.9               |
| 40070         | SKAGIT RIVER MARBLEMOUNT | 662           | 20.0         | 585               | 5       | Steel         | 1930                 | 55.65 (FO)         |
| 40039         | RAINBOW BRIDGE           | 797           | 24.0         | 4,967             | 3       | Steel         | 1957                 | 56.42 (FO)         |
| 40063         | LYMAN HWY at CHILDS CK   | 32            | 24.0         | 557               | 7       | Concrete      | 1948                 | 57.88              |
| 40037         | NORTH FORK BRIDGE        | 726           | 24.0         | 4,645             | 10      | Steel         | 1959                 | 58.44 (FO)         |
| 40031         | PULVER ROAD at JOE LEARY | 39            | 24.0         | 840               | 10      | Concrete      | 1955                 | 59.15              |
| 40047         | LK CAVANAUGH at PILCHUCK | 56            | 28.0         | 522               | 14      | Concrete      | 1970                 | 59.77              |
| 40156         | CEDARDALE RD at CARPENTR | 83            | 36.0         | 533               | 8       | Timber        | 1934                 | 60.65              |
| 40018         | FRIDAY CREEK 1ST BRIDGE  | 61            | 20.0         | 134               | 9       | Concrete      | 1962                 | 61.83              |
| 40131         | LYMAN HWY at MANNSEY CK  | 52            | 26.0         | 254               | 5       | Concrete      | 1954                 | 61.83              |
| 40055         | PRAIRIE RD E at SAMISH R | 75            | 24.4         | 823               | 7       | Concrete      | 1956                 | 62.05              |
| 40020         | FRIDAY CREEK 3RD BRIDGE  | 61            | 20.0         | 134               | 9       | Concrete      | 1961                 | 62.83              |
| 40021         | FRIDAY CREEK 4TH BRIDGE  | 61            | 20.0         | 134               | 9       | Concrete      | 1961                 | 62.83              |
| 40114         | SAMISH RIVER BRIDGE      | 385           | 24.0         | 3,894             | 12      | Steel         | 1934                 | 63.18 (SD)         |
| 40001         | LAKE VIEW BLVD at NCHMPS | 77            | 25.5         | 643               | 7       | Concrete      | 1954                 | 64.21              |
| 40151         | NICHOLSON at CHILDS CR   | 29            | 15.0         | 33                | 5       | Concrete      | 1979                 | 64.23              |
| 40115         | FRIDAY CREEK BRIDGE      | 122           | 26.0         | 1,974             | 9       | Concrete      | 1956                 | 64.6 (SD)          |
| 40090         | DALLES BRIDGE            | 506           | 26.0         | 2,365             | 6       | Steel         | 1952                 | 65.73 (FO)         |
| 40084         | S SKAGIT HWY at O'TOOLE  | 66            | 24.0         | 524               | 9       | Concrete      | 1959                 | 66.09              |
| 40142         | CAMPBELL LAKE OUTLET     | 19            | 20.0         | 78                | 4       | Concrete      | 1962                 | 66.37              |
| 40042         | MILLTOWN at BIG DITCH    | 50            | 24.2         | 327               | 9       | Concrete      | 1957                 | 67                 |
| 40060         | BURMASTER RD at COAL CK  | 26            | 24.0         | 265               | 5       | Concrete      | 1958                 | 67.37              |
| 40008         | SOUTH FORK BRIDGE        | 908           | 28.0         | 4,385             | 8       | Steel         | 1972                 | 67.96              |
| 40004         | FRANCIS RD at SLOUGH     | 50            | 24.0         | 3,970             | 6       | Concrete      | 1958                 | 68.4 (FO)          |
| 40099         | GOVERNMENT BR            | 304           | 14.0         | 135               | 5       | Steel         | 1930                 | 69.37 (FO)         |
| 40130         | LYMAN HWY at RED CABIN   | 22            | 26.0         | 274               | 6       | Concrete      | 1954                 | 69.47              |
| 40072         | CASCADE R RD at MONOGRAM | 22            | 26.0         | 120               | 5       | Concrete      | 1979                 | 69.55              |
| 40132         | LYMAN HWY at JONES CK    | 52            | 26.0         | 274               | 6       | Concrete      | 1955                 | 70.47              |
| 40011         | GREEN RD at THOMAS CK    | 51            | 24.0         | 124               | 4       | Concrete      | 1958                 | 70.96              |
| 40082         | S SKAGIT HWY at LORETTA  | 85            | 24.0         | 962               | 9       | Concrete      | 1961                 | 71.43              |
| 40076         | CASCADE R RD at HARD CR  | 46            | 17.7         | 280               | 11      | Concrete      | 2016                 | 72.64 (FO)         |
| 40023         | FRIDAY CREEK 6TH BRIDGE  | 61            | 24.0         | 170               | 4       | Concrete      | 1963                 | 72.83              |
| 40024         | FRIDAY CREEK 7TH BRIDGE  | 61            | 24.0         | 170               | 4       | Concrete      | 1964                 | 72.83              |
| 40077         | CASCADE R RD at MINERAL  | 71            | 18.0         | 120               | 1       | Concrete      | 1986                 | 72.97 (FO)         |
| 40109         | LAKE SAMISH RD at FRIDAY | 53            | 26.0         | 4,925             | 6       | Concrete      | 1965                 | 73.83 (FO)         |
| 40101         | BAKER LK RD at BEAR CK   | 85            | 26.0         | 289               | 21      | Concrete      | 1966                 | 74.07              |
| 40116         | OLD HWY 99 at SILVER CK  | 38            | 25.0         | 1,974             | 9       | Concrete      | 1934                 | 76.99              |
| 40038         | LACONNER WHITNEY at SL   | 68            | 26.0         | 5,084             | 5       | Concrete      | 1962                 | 77.01 (FO)         |
| 40075         | CASCADE R RD at SIBLEY   | 23            | 24.0         | 120               | 1       | Concrete      | 1997                 | 77.13              |
| 40003         | FRANCIS at NOOKACHAMPS   | 130           | 28.0         | 3,970             | 6       | Concrete      | 1979                 | 77.16              |
| 40081         | S SKAGIT HWY at DAY CR   | 160           | 24.0         | 962               | 9       | Concrete      | 1961                 | 78.17              |
| 40036         | FARM-TO-MARKET JOE LEARY | 72            | 26.0         | 1,760             | 8       | Concrete      | 1950                 | 79.31              |

APPENDIX A - BRIDGE INVENTORY

| BRIDGE NUMBER | BRIDGE NAME              | BRIDGE LENGTH | BRIDGE WIDTH | AVG DAILY TRAFFIC | TRUCK % | MAIN MATERIAL | YEAR BUILT / REBUILT | SUFFICIENCY RATING |
|---------------|--------------------------|---------------|--------------|-------------------|---------|---------------|----------------------|--------------------|
| 40028         | BAYVIEW ED at SAMISH R   | 223           | 26.0         | 789               | 10      | Concrete      | 1965                 | 79.4               |
| 40043         | CONWAY HILL at CARPENTER | 58            | 14.0         | 61                | 2       | Concrete      | 1980                 | 79.78              |
| 40088         | S SKAGIT HWY at PRESSENT | 85            | 27.0         | 524               | 9       | Concrete      | 1966                 | 80.97              |
| 40026         | FARM-TO-MARKET N DITCH   | 32            | 26.0         | 1,206             | 8       | Concrete      | 1951                 | 81.12              |
| 40083         | S SKAGIT HWY at CUMBERLA | 50            | 24.0         | 524               | 9       | Concrete      | 1961                 | 81.26              |
| 40141         | BAYVIEW STATE PARK       | 62            | 26.0         | 686               | 7       | Concrete      | 1969                 | 81.61 (FO)         |
| 40052         | TAYLOR RD at WALKER CK   | 42            | 16.0         | 64                | 13      | Concrete      | 1985                 | 81.81 (FO)         |
| 40034         | FARM-TO-MARKET SAMISH R  | 158           | 26.0         | 1,189             | 8       | Concrete      | 1963                 | 82.16              |
| 40106         | LAKE SAMISH at BEAR CK   | 50            | 24.0         | 306               | 6       | Concrete      | 1959                 | 82.49              |
| 40140         | BAKER LK RD at E GRANDY  | 41            | 28.0         | 324               | 13      | Concrete      | 1968                 | 83.55              |
| 40046         | LK CAVANAUGH RD at BEAR  | 51            | 28.5         | 522               | 14      | Concrete      | 1967                 | 84.32              |
| 40002         | SWAN ROAD BRIDGE         | 126           | 28.0         | 1,011             | 9       | Concrete      | 1976                 | 84.32              |
| 40120         | BAKER LK RD at W GRANDY  | 61            | 28.0         | 324               | 13      | Concrete      | 1968                 | 84.73              |
| 40029         | BAY VIEW-EDISON J.LEARY  | 101           | 30.0         | 796               | 8       | Concrete      | 1955                 | 84.9 (SD)          |
| 40017         | PRAIRIE RD FRIDAY CK     | 78            | 28.0         | 2,406             | 9       | Concrete      | 1975                 | 85.65              |
| 40032         | FARM-TO-MARKET S DITCH   | 21            | 26.0         | 1,331             | 6       | Concrete      | 1950                 | 86.16              |
| 40033         | FARM-TO-MARKET at NEUMAN | 60            | 26.0         | 1,189             | 8       | Concrete      | 1950                 | 86.22              |
| 40065         | CONRAD RD at SUTTER CK   | 73            | 15.7         | 91                | 3       | Concrete      | 2011                 | 86.23              |
| 40027         | BAYVIEW ED at SAMISH SL  | 38            | 26.8         | 847               | 8       | Concrete      | 1965                 | 86.27              |
| 40086         | S SKAGIT HWY at MILL CR  | 41            | 28.0         | 524               | 9       | Concrete      | 1969                 | 86.68 (FO)         |
| 40061         | MINKLER RD at WISEMAN CK | 40            | 28.0         | 891               | 7       | Concrete      | 1967                 | 86.73 (FO)         |
| 40157         | BENSON RIDGE LN          | 52            | 30.0         | 33                | 17      | Timber        | 1983                 | 87.15              |
| 40089         | S SKAGIT HWY at FINNEY   | 120           | 26.0         | 524               | 9       | Steel         | 1954                 | 87.19              |
| 40126         | MARCHS POINT PIPELINE    | 44            | 28.0         | 1,134             | 15      | Concrete      | 1960                 | 87.49              |
| 40066         | HAMILTON CEM at MUDDY CK | 50            | 26.0         | 145               | 16      | Concrete      | 1965                 | 87.72              |
| 40161         | FLINN ROAD BRIDGE        | 48            | 19.5         | 20                | 0       | Concrete      | 2006                 | 87.8               |
| 40016         | PRAIRIE RD W at SAMISH R | 104           | 28.0         | 1,559             | 10      | Concrete      | 1975                 | 89.04              |
| 40015         | PRAIRIE RD S at SAMISH R | 83            | 28.0         | 1,559             | 10      | Concrete      | 1974                 | 89.16              |
| 40117         | ALGER CAIN LK at SILVER  | 102           | 34.2         | 5,113             | 6       | Concrete      | 1992                 | 89.33              |
| 40035         | BAY VIEW-EDISON (Indian) | 71            | 34.1         | 1,155             | 8       | Concrete      | 1992                 | 89.68              |
| 40062         | UTOPIA RD at BLACK SL    | 141           | 28.0         | 89                | 14      | Concrete      | 1984                 | 90.13 (FO)         |
| 40067         | CAPE HORN RD at ALDER CK | 41            | 28.0         | 186               | 4       | Concrete      | 1972                 | 90.26              |
| 40073         | LOOKOUT CRK BRIDGE       | 191           | 28.0         | 120               | 5       | Steel         | 1981                 | 90.88              |
| 40041         | E PETER JOHNSON RD       | 54            | 24.0         | 58                | 8       | Concrete      | 1981                 | 92.46              |
| 40074         | CASCADE R RD at MARBLE   | 120           | 26.0         | 120               | 1       | Concrete      | 1982                 | 92.87              |
| 40005         | NOOKACHAMPS HILL CULVERT | 30            | 0.0          | 220               | 4       | Steel Culvert | 2008                 | 92.95              |
| 40163         | HELMICK RD at RED CK     | 150           | 36.0         | 759               | 7       | Concrete      | 2007                 | 93.47              |
| 40045         | PIONEER HWY at FISHER SL | 114           | 37.2         | 8,383             | 8       | Concrete      | 1987                 | 93.98              |
| 40013         | F&S GRADE SAMISH RIVER   | 102           | 28.0         | 500               | 8       | Concrete      | 1974                 | 94.3 (SD)          |
| 40009         | COOK RD at DD14 DITCH    | 38            | 40.0         | 12,296            | 9       | Concrete      | 2000                 | 94.33              |
| 40112         | NEFFS CROSSING           | 108           | 41.0         | 4,384             | 11      | Concrete      | 2006                 | 94.34              |
| 40080         | S SKAGIT HWY at PARKER   | 26            | 0.0          | 1,418             | 8       | Concrete      | 1996                 | 94.36              |
| 40012         | COOK RD at BRICKYARD CK  | 54            | 44.0         | 10,863            | 8       | Concrete      | 2000                 | 94.4               |
| 40094         | ROCKPORT CASC at ILLABOT | 93            | 28.0         | 210               | 11      | Concrete      | 1970                 | 94.63              |
| 40044         | PIONEER HWY at BIG DITCH | 81            | 37.0         | 8,383             | 7       | Concrete      | 1987                 | 94.78              |

**APPENDIX A - BRIDGE INVENTORY**

| BRIDGE NUMBER | BRIDGE NAME              | BRIDGE LENGTH | BRIDGE WIDTH | AVG DAILY TRAFFIC | TRUCK % | MAIN MATERIAL | YEAR BUILT / REBUILT | SUFFICIENCY RATING |
|---------------|--------------------------|---------------|--------------|-------------------|---------|---------------|----------------------|--------------------|
| 40129         | LYMAN HWY at MUDDY CK    | 65            | 30.0         | 194               | 9       | Concrete      | 1997                 | 94.88              |
| 40068         | CAPE HORN RD at GRANDY   | 51            | 28.0         | 338               | 7       | Concrete      | 1967                 | 95.34              |
| 40030         | THOMAS RD at SAMISH R    | 91            | 28.0         | 221               | 15      | Concrete      | 1973                 | 96.29              |
| 40092         | CONC-SAUK VLY at MILLER  | 25            | 0.0          | 975               | 7       | Concrete      | 1999                 | 97.16              |
| 40071         | CASCADE RIVER BRIDGE     | 180           | 26.0         | 241               | 10      | Concrete      | 1967                 | 97.6               |
| 40025         | FRIDAY CREEK 8TH BRIDGE  | 59            | 28.0         | 170               | 4       | Concrete      | 1977                 | 97.61              |
| 40019         | FRIDAY CREEK 2ND BRIDGE  | 74            | 28.0         | 134               | 9       | Concrete      | 1979                 | 97.63              |
| 40085         | S SKAGIT HWY at DAVIS SL | 63            | 34.9         | 524               | 9       | Concrete      | 2014                 | 97.71              |
| 40051         | BEAVER LK RD at NOOKACHM | 73            | 28.6         | 167               | 11      | Concrete      | 1977                 | 97.72              |
| 40054         | KNAPP RD at NOOKACHAMPS  | 73            | 28.0         | 340               | 9       | Concrete      | 1977                 | 97.72              |
| 40159         | MINKLER RD at COAL CK    | 29            | 36.0         | 891               | 7       | Concrete      | 1984                 | 97.79              |
| 40014         | GRIPP RD at SAMISH R     | 84            | 28.0         | 664               | 8       | Concrete      | 1976                 | 98.24              |
| 40095         | ROCKPORT CASC at JORDAN  | 56            | 28.0         | 198               | 7       | Concrete      | 1969                 | 98.24              |
| 40022         | FRIDAY CREEK 5TH BRIDGE  | 69            | 28.0         | 134               | 9       | Concrete      | 1977                 | 98.28              |
| 40048         | LK CAVANAUGH RD CULVERT  | 21            | 30.0         | 614               | 13      | Steel Culvert | 1998                 | 98.83              |
| 40069         | CONRAD RD at SWIFT       | 38            | 24.0         | 91                | 2       | Concrete      | 1981                 | 98.96              |
| 40164         | S LAVENTURE RD           | 80            | 50.0         | 6,973             | 12      | Concrete      | 2013                 | 99.02              |
| 40162         | MCELROY SLOUGH CULVERTS  | 28            | 26.0         | 40                | 1       | Concrete      | 2007                 | 99.99              |

**LOCAL AGENCY BRIDGES**

| BRIDGE NUMBER               | BRIDGE NAME              | BRIDGE LENGTH | BRIDGE WIDTH | AVG DAILY TRAFFIC | TRUCK % | MAIN MATERIAL | YEAR BUILT / REBUILT | SUFFICIENCY RATING |
|-----------------------------|--------------------------|---------------|--------------|-------------------|---------|---------------|----------------------|--------------------|
| <b>CITY OF MOUNT VERNON</b> |                          |               |              |                   |         |               |                      |                    |
| 000000010                   | Olympic Lane             | 67            | 22.0         | 300               | 5       | Concrete      | 2004                 | 82.47              |
| 000000003                   | Eleanor Lane A           | 32            | 30.0         | 400               | 7       | Concrete      | 2006                 | 82.96              |
| 000000002                   | Hoag Steward Overpass    | 60            | 65.0         | 21,172            | 7       | Concrete      | 2003                 | 89.73 (FO)         |
| 000000001                   | RIVERSIDE BRIDGE         | 850           | 60.0         | 21,172            | 7       | Concrete      | 2004                 | 92.98              |
| 000000007                   | J off Beaver Pond Dr. S. | 32            | 24.0         | 50                | 1       | Steel Culvert | 2006                 | 94.53              |
| 000000006                   | Eaglemont Drive          | 20            | 0.0          | 500               | 5       | Steel Culvert | 1995                 | 99.95              |
| 000000004                   | Skagit Highlands Parkway | 37            | 0.0          | 400               | 5       | Concrete      | 2003                 | 96.94              |
| 000000008                   | Beaver Pond Dr South     | 29            | 28.0         | 300               | 5       | Concrete      | 2004                 | 99.97              |
| 000000009                   | Beaver Pond Dr North B   | 54            | 28.0         | 300               | 5       | Concrete      | 2002                 | 99.97              |
| 000000005                   | Landmark Drive           | 51            | 28.0         | 300               | 5       | Concrete      | 1994                 | 99.97              |
| 000000011                   | Beaver Pond Dr North A   | 42            | 30.0         | 300               | 5       | Concrete      | 2001                 | 99.97              |
| MV-12                       | LAVENTURE RD CULVERT     | 30            | 44.0         | 7,327             | 5       | Concrete      | 2010                 | 99.31              |
| <b>CITY OF BURLINGTON</b>   |                          |               |              |                   |         |               |                      |                    |
| BURLINN-2                   | NORTH BURLINGTON BLVD    | 26            | 34.0         | 5,147             | 10      | Concrete      | 1970                 | 94.76              |
| BURLINN-3                   | GOLDENROD BRIDGE         | 116           | 40.0         | 2,346             | 10      | Concrete      | 2005                 | 99.34              |
| <b>TOWN OF CONCRETE</b>     |                          |               |              |                   |         |               |                      |                    |
| CONCRETE1                   | BAKER RIVER              | 269           | 18.0         | 125               | 5       | Concrete      | 2004                 | 20.90 (FO)         |





APPENDIX B - BRIDGE INSPECTION SCHEDULE

| BRIDGE NAME              | BRIDGE No. | LOCATION            | LAST INSP | INSP FREQ (months) | NEXT INSP | INSP TYPE         |
|--------------------------|------------|---------------------|-----------|--------------------|-----------|-------------------|
| PULVER ROAD @ JOE LEARY  | 40031      | .6 S JCT SR 11      | 1/21/16   | 24                 | Jan-18    | Routine           |
| LOOKOUT CRK BRIDGE       | 40073      | 7.04 E JCT SR 20    | 3/21/16   | 24                 | Mar-18    | Routine - UBIT    |
| NORTH FORK BRIDGE        | 40037      | 5.5 W JCT INTER 5   | 3/22/16   | 24                 | Mar-18    | Routine - UBIT    |
| NORTH FORK BRIDGE        | 40037      | 5.5 W JCT INTER 5   | 3/22/16   | 24                 | Mar-18    | Fracture Critical |
| SOUTH FORK BRIDGE        | 40008      | 1. W JCT INTER 5    | 3/22/16   | 24                 | Mar-18    | Routine - UBIT    |
| SAMISH RIVER BRIDGE      | 40114      | 2.6 N JCT COOK RD.  | 3/23/16   | 24                 | Mar-18    | Routine - UBIT    |
| SAMISH RIVER BRIDGE      | 40114      | 2.6 N JCT COOK RD.  | 3/23/16   | 24                 | Mar-18    | Fracture Critical |
| GOVERNMENT BR            | 40099      | 7.5 N SNO CO BDRY   | 3/24/16   | 24                 | Mar-18    | Routine - UBIT    |
| GOVERNMENT BR            | 40099      | 7.5 N SNO CO BDRY   | 3/24/16   | 24                 | Mar-18    | Fracture Critical |
| DALLES BRIDGE            | 40090      | 1.5 S JCT SR 20     | 3/28/16   | 24                 | Mar-18    | Routine - UBIT    |
| DALLES BRIDGE            | 40090      | 1.5 S JCT SR 20     | 3/28/16   | 24                 | Mar-18    | Fracture Critical |
| SKAGIT RIVER MARBLEMOUNT | 40070      | .03 E JCT SR 20     | 3/29/16   | 24                 | Mar-18    | Routine - UBIT    |
| SKAGIT RIVER MARBLEMOUNT | 40070      | .03 E JCT SR 20     | 3/29/16   | 24                 | Mar-18    | Fracture Critical |
| RAINBOW BRIDGE           | 40039      | SWIN SL @ LACONNER  | 4/26/16   | 24                 | Apr-18    | Routine - UBIT    |
| RAINBOW BRIDGE           | 40039      | SWIN SL @ LACONNER  | 4/26/16   | 24                 | Apr-18    | Fracture Critical |
| UPPER FINNEY CREEK BR.   | 40093      | 04.6 W CONC SAUK RD | 4/29/16   | 24                 | Apr-18    | Routine - UBIT    |
| BURMASTER RD at COAL CK  | 40060      | 1.2 E JCT MINKLER   | 5/12/16   | 24                 | May-18    | Routine           |
| MINKLER RD at COAL CK    | 40159      | 00.1 MI E SIMS ROAD | 5/12/16   | 24                 | May-18    | Routine           |
| MINKLER RD at WISEMAN CK | 40061      | .5 W JCT SR 20      | 5/12/16   | 24                 | May-18    | Routine           |
| LYMAN HWY at CHILDS CK   | 40063      | 0.8 E JCT SR 20     | 5/17/16   | 24                 | May-18    | Routine           |
| LYMAN HWY at JONES CK    | 40132      | 2.3 W HAMILTON      | 5/17/16   | 24                 | May-18    | Routine           |
| LYMAN HWY at MANNSEY CK  | 40131      | 1.7 W HAMILTON      | 5/17/16   | 24                 | May-18    | Routine           |
| LYMAN HWY at RED CABIN   | 40130      | 1.0 W HAMILTON      | 5/17/16   | 24                 | May-18    | Routine           |
| NICHOLSON at CHILDS CR   | 40151      | .1 S JCT SR 20      | 5/17/16   | 24                 | May-18    | Routine           |
| CAPE HORN RD at ALDER CK | 40067      | 0.75 E JCT SR 20    | 5/27/16   | 24                 | May-18    | Routine           |
| CAPE HORN RD at GRANDY   | 40068      | 2.25 W JCT SR 20    | 5/27/16   | 24                 | May-18    | Routine           |
| HAMILTON CEM at MUDDY CK | 40066      | .5 W JCT SR 20      | 5/27/16   | 24                 | May-18    | Routine           |
| LYMAN HWY at MUDDY CK    | 40129      | 0.3 M W HAMILTON    | 5/27/16   | 24                 | May-18    | Routine           |
| CONC-SAUK VLY at MILLER  | 40092      | MP 9.00             | 6/2/16    | 24                 | Jun-18    | Routine           |
| CONRAD RD at SWIFT       | 40069      | 0.2 E JCT SR 20     | 6/2/16    | 24                 | Jun-18    | Routine           |
| ROCKPORT CASC at ILLABOT | 40094      | 4.0 E JCT SR 530    | 6/2/16    | 24                 | Jun-18    | Routine           |
| ROCKPORT CASC at JORDAN  | 40095      | 0.71 SW JCT CASC.   | 6/2/16    | 24                 | Jun-18    | Routine           |
| BAYVIEW ED at SAMISH R   | 40028      | 0.5 W JCT SR 537    | 6/9/16    | 24                 | Jun-18    | Routine           |
| BAYVIEW ED at SAMISH SL  | 40027      | 0.4 W JCT SR 537    | 6/9/16    | 24                 | Jun-18    | Routine           |
| CASCADE R RD at HARD CR  | 40076      | MP 12.7             | 6/21/16   | 24                 | Jun-18    | Routine           |
| CASCADE R RD at MARBLE   | 40074      | 8.3 E JCT SR 20     | 6/21/16   | 24                 | Jun-18    | Routine           |
| CASCADE R RD at MINERAL  | 40077      | 16.02 E JCT SR 20   | 6/21/16   | 24                 | Jun-18    | Routine           |
| CASCADE R RD at MONOGRAM | 40072      | 7.37 E JCT SR 20    | 6/21/16   | 24                 | Jun-18    | Routine           |
| CASCADE R RD at SIBLEY   | 40075      | 10 MI E MARBLEMOUNT | 6/21/16   | 24                 | Jun-18    | Routine           |
| BAKER LK RD at BEAR CK   | 40101      | 9.5 NE JCT SR 20    | 7/8/16    | 24                 | Jul-18    | Routine           |
| BAKER LK RD at E GRANDY  | 40140      | 4. NE JCT SR 20     | 7/8/16    | 24                 | Jul-18    | Routine           |
| BAKER LK RD at W GRANDY  | 40120      | 2. NE JCT SR 20     | 7/8/16    | 24                 | Jul-18    | Routine           |
| CONWAY HILL at CARPENTER | 40043      | 0.5 E JCT INTER 5   | 7/13/16   | 24                 | Jul-18    | Routine           |
| MILLTOWN at BIG DITCH    | 40042      | .02 E JCT SR 530    | 7/13/16   | 24                 | Jul-18    | Routine           |
| PIONEER HWY at BIG DITCH | 40044      | 2.8 EAST JCT. SR 5  | 7/13/16   | 24                 | Jul-18    | Routine           |
| PIONEER HWY at FISHER SL | 40045      | 1.5 EAST JCT. SR 5  | 7/13/16   | 24                 | Jul-18    | Routine           |
| S SKAGIT HWY at FINNEY   | 40089      | 19. E JCT SR 9      | 7/20/16   | 24                 | Jul-18    | Routine           |
| S SKAGIT HWY at MILL CR  | 40086      | 17. E JCT SR9       | 7/20/16   | 24                 | Jul-18    | Routine           |
| S SKAGIT HWY at O'TOOLE  | 40084      | 15. E JCT SR 9      | 7/20/16   | 24                 | Jul-18    | Routine           |
| S SKAGIT HWY at PRESSENT | 40088      | 18.5 E JCT SR9      | 7/20/16   | 24                 | Jul-18    | Routine           |
| S SKAGIT HWY at CUMBERLA | 40083      | 11.5 E JCT SR 9     | 7/22/16   | 24                 | Jul-18    | Routine           |

APPENDIX B - BRIDGE INSPECTION SCHEDULE

| BRIDGE NAME              | BRIDGE No. | LOCATION                 | LAST INSP | INSP FREQ (months) | NEXT INSP | INSP TYPE         |
|--------------------------|------------|--------------------------|-----------|--------------------|-----------|-------------------|
| S SKAGIT HWY at DAY CR   | 40081      | 9. E JCT SR 9            | 7/22/16   | 24                 | Jul-18    | Routine           |
| S SKAGIT HWY at LORETTA  | 40082      | 10. E JCT SR 9           | 7/22/16   | 24                 | Jul-18    | Routine           |
| S SKAGIT HWY at PARKER   | 40080      | 7.5 MI E OF SR-9         | 7/22/16   | 24                 | Jul-18    | Routine           |
| LK CAVANAUGH at PILCHUCK | 40047      | 8.7 E JCT SR 9           | 7/27/16   | 24                 | Jul-18    | Routine           |
| LK CAVANAUGH RD at BEAR  | 40046      | 8.0 E JCT SR 9           | 7/27/16   | 24                 | Jul-18    | Routine           |
| LK CAVANAUGH RD CULVERT  | 40048      | MP 0.96                  | 7/27/16   | 24                 | Jul-18    | Routine           |
| FRANCIS at NOOKACHAMPS   | 40003      | 2.8 W JCT SR9            | 8/17/16   | 24                 | Aug-18    | Routine           |
| FRANCIS RD at SLOUGH     | 40004      | 2.0 W JCT SR9            | 8/17/16   | 24                 | Aug-18    | Routine           |
| SWAN ROAD BRIDGE         | 40002      | NOOKACHAMPS              | 8/17/16   | 24                 | Aug-18    | Routine           |
| BEAVER LK RD at NOOKACHM | 40051      | 3.0 SE JCT SR 9          | 8/26/16   | 24                 | Aug-18    | Routine           |
| CEDARDALE RD at CARPENTR | 40156      | 0.75 S JCT SR534         | 8/26/16   | 24                 | Aug-18    | Routine           |
| TAYLOR RD at WALKER CK   | 40052      | 4.3 E JCT SR 9           | 8/26/16   | 24                 | Aug-18    | Routine           |
| BENSON RIDGE LN          | 40157      | 1.2 E I-5                | 9/16/16   | 24                 | Sep-18    | Routine           |
| GREEN RD at THOMAS CK    | 40011      | .01 S KELLEHER RD        | 9/16/16   | 24                 | Sep-18    | Routine           |
| LAVENTURE RD CULVERT     | MV-12      | NORTH OF BLACKBURN       | 9/16/16   | 24                 | Sep-18    | Routine           |
| BAYVIEW ED at SAMISH R   | 40028      | 0.5 W JCT SR 537         | 9/24/13   | 60                 | Sep-18    | Underwater        |
| SOUTH FORK BRIDGE        | 40008      | 1. W JCT INTER 5         | 9/24/13   | 60                 | Sep-18    | Underwater        |
| ANACORTES FERRY DOCK     | 40152      | ANACORTES                | 10/24/16  | 24                 | Oct-18    | Routine - Boat    |
| ANACORTES FERRY DOCK     | 40152      | ANACORTES                | 10/24/16  | 24                 | Oct-18    | Fracture Critical |
| GUEMES ISLAND FERRY DOCK | 40153      | GUEMES ISLAND            | 10/24/16  | 24                 | Oct-18    | Routine - Boat    |
| GUEMES ISLAND FERRY DOCK | 40153      | GUEMES ISLAND            | 10/24/16  | 24                 | Oct-18    | Fracture Critical |
| FRIDAY CREEK 1ST BRIDGE  | 40018      | .45 MI N OLD HWY 99 N    | 5/3/17    | 24                 | May-19    | Routine           |
| FRIDAY CREEK 2ND BRIDGE  | 40019      | 0.59 Miles N. of Old 99  | 5/3/17    | 24                 | May-19    | Routine           |
| FRIDAY CREEK 3RD BRIDGE  | 40020      | 0.3 N. of JCT w/ Old 99  | 5/17/17   | 24                 | May-19    | Routine           |
| FRIDAY CREEK 4TH BRIDGE  | 40021      | .4 N JCT BURL ALG        | 5/17/17   | 24                 | May-19    | Routine           |
| FRIDAY CREEK 5TH BRIDGE  | 40022      | 1.55 Mi N of Old 99 Jct  | 5/17/17   | 24                 | May-19    | Routine           |
| FRIDAY CREEK 6TH BRIDGE  | 40023      | .6 N JCT BURL ALG        | 5/17/17   | 24                 | May-19    | Routine           |
| FRIDAY CREEK BRIDGE      | 40115      | 4.3 N JCT COOK RD.       | 5/24/17   | 24                 | May-19    | Routine           |
| FRIDAY CREEK 7TH BRIDGE  | 40024      | 2.16 MI N JCT OLD 99 N   | 5/24/17   | 24                 | May-19    | Routine           |
| FRIDAY CREEK 8TH BRIDGE  | 40025      | 2.24 MI N JCT OLD 99 N   | 5/24/17   | 24                 | May-19    | Routine           |
| LAKE SAMISH at BEAR CK   | 40106      | 2.0 MI NW JCT I-5        | 5/26/17   | 24                 | May-19    | Routine           |
| LAKE SAMISH RD at FRIDAY | 40109      | 0.25 E JCT INTER 5       | 5/26/17   | 24                 | May-19    | Routine           |
| OLD HWY 99 at SILVER CK  | 40116      | 0.1 Mi South of Alger    | 5/26/17   | 24                 | May-19    | Routine           |
| ALGER CAIN LK at SILVER  | 40117      | 0.3 MI East of Alger     | 5/26/17   | 24                 | May-19    | Routine           |
| CASCADE RIVER BRIDGE     | 40071      | .04 S JCT CASC.RD        | 6/7/17    | 24                 | Jun-19    | Routine           |
| S SKAGIT HWY at DAVIS SL | 40085      | 13.9 MI E OF SR-9 JCT    | 6/7/17    | 24                 | Jun-19    | Routine           |
| MCELROY SLOUGH CULVERTS  | 40162      | MP 2.5 BLANCHARD RD      | 6/8/17    | 24                 | Jun-19    | Routine           |
| FLINN ROAD BRIDGE        | 40161      | 300 Ft E Blanchard Rd    | 6/8/17    | 24                 | Jun-19    | Routine           |
| FARM-TO-MARKET S DITCH   | 40032      | 7.5 N JCT SR 20          | 6/14/17   | 24                 | Jun-19    | Routine           |
| FARM-TO-MARKET at NEUMAN | 40033      | 6.1 N JCT SR20           | 6/14/17   | 24                 | Jun-19    | Routine           |
| FARM-TO-MARKET SAMISH R  | 40034      | 5.9 N JCT SR 20          | 6/14/17   | 24                 | Jun-19    | Routine           |
| FARM-TO-MARKET N DITCH   | 40026      | 7.7 N JCT SR 20          | 6/14/17   | 24                 | Jun-19    | Routine           |
| THOMAS RD at SAMISH R    | 40030      | 0.3 N ALLEN WEST         | 6/29/17   | 24                 | Jun-19    | Routine           |
| FARM-TO-MARKET JOE LEARY | 40036      | 5.0 N JCT SR 20          | 6/29/17   | 24                 | Jun-19    | Routine           |
| UTOPIA RD at BLACK SL    | 40062      | Utopia Rd 0.5 E of Hoehn | 7/19/17   | 24                 | Jul-19    | Routine           |
| CONRAD RD at SUTTER CK   | 40065      | 0.59 E JCT SR20          | 7/26/17   | 24                 | Jul-19    | Routine           |
| BAYVIEW STATE PARK       | 40141      | 3.5 N JCT SR 20          | 7/26/17   | 24                 | Jul-19    | Routine           |
| HELMICK RD at RED CK     | 40163      | 1.1 MI N of SR 20        | 7/26/17   | 24                 | Jul-19    | Routine           |
| BAY VIEW-EDISON J.LEARY  | 40029      | 5.8 MI N of SR-20 JCT    | 7/27/17   | 24                 | Jul-19    | Routine           |
| BAY VIEW-EDISON (Indian) | 40035      | 0.4 MI N OF SR20         | 7/27/17   | 24                 | Jul-19    | Routine           |
| RIVERSIDE BRIDGE         | 000000001  | 0.7 N JCT SR 538         | 8/1/17    | 24/48              | Aug-19    | Routine/UBIT      |

APPENDIX B - BRIDGE INSPECTION SCHEDULE

| BRIDGE NAME              | BRIDGE No. | LOCATION                  | LAST INSP | INSP FREQ (months) | NEXT INSP | INSP TYPE    |
|--------------------------|------------|---------------------------|-----------|--------------------|-----------|--------------|
| BAKER RIVER              | CONCRETE1  | 0.1 N MAIN ST             | 8/2/17    | 24/48              | Aug-19    | Routine/UBIT |
| KNAPP RD at NOOKACHAMPS  | 40054      | 0.1 E JCT SR 9            | 8/10/17   | 24                 | Aug-19    | Routine      |
| LAKE VIEW BLVD at NCHMPS | 40001      | .25 S JCT SR9             | 8/10/17   | 24                 | Aug-19    | Routine      |
| NOOKACHAMPS HILL CULVERT | 40005      | .752 ml east of SR 9      | 8/10/17   | 24                 | Aug-19    | Routine      |
| NEFFS CROSSING           | 40112      | 1.0 N JCT COOK RD.        | 8/16/17   | 24                 | Aug-19    | Routine      |
| OLD HWY 99 at THOMAS CK  | 40113      | 1.4 N JCT COOK RD.        | 8/16/17   | 24                 | Aug-19    | Routine      |
| COOK RD at DD14 DITCH    | 40009      | 0.5 E JUNCTION INTER 5    | 8/16/17   | 24                 | Aug-19    | Routine      |
| COOK RD at BRICKYARD CK  | 40012      | MP 5.38 COOK RD           | 8/16/17   | 24                 | Aug-19    | Routine      |
| LACONNER WHITNEY at SL   | 40038      | 3.83 S JCT SR 20          | 9/6/17    | 24                 | Sep-19    | Routine      |
| MARCHS POINT PIPELINE    | 40126      | 1.6 N JCT SR 20           | 9/6/17    | 24                 | Sep-19    | Routine      |
| CAMPBELL LAKE OUTLET     | 40142      | .39 miles W of SR 20      | 9/6/17    | 24                 | Sep-19    | Routine      |
| PRAIRIE RD E at SAMISH R | 40055      | 0.5 Mi W of SR 9          | 9/13/17   | 24                 | Sep-19    | Routine      |
| PRAIRIE RD S at SAMISH R | 40015      | 2.21 Mi E of Old Hwy 99   | 9/13/17   | 24                 | Sep-19    | Routine      |
| PRAIRIE RD W at SAMISH R | 40016      | 3.8 Mi E of Old Hwy 99    | 9/13/17   | 24                 | Sep-19    | Routine      |
| F&S GRADE SAMISH RIVER   | 40013      | 0.14 Mi S of PRAIRIE RD   | 9/20/17   | 24                 | Sep-19    | Routine      |
| GRIPP RD at SAMISH R     | 40014      | 0.1 Mi E of Prairie Rd    | 9/20/17   | 24                 | Sep-19    | Routine      |
| PRAIRIE RD FRIDAY CK     | 40017      | 0.17 Mi E of OLD HWY 99   | 9/20/17   | 24                 | Sep-19    | Routine      |
| E PETER JOHNSON RD       | 40041      | 1.0 Miles E. of Cedardale | 9/28/17   | 24                 | Sep-19    | Routine      |
| NORTH BURLINGTON BLVD    | BURLINN-2  | 1.02 MI SO OF COOK RD     | 9/28/17   | 24                 | Sep-19    | Routine      |
| GOLDENROD BRIDGE         | BURLINN-3  | .3 N. of W. MCCORQUEDALE  | 9/28/17   | 24                 | Sep-19    | Routine      |
| S LAVENTURE RD           | 40164      | 0.5 Miles East of I-5     | 10/4/17   | 24                 | Oct-19    | Routine      |
| Eleanor Lane A           | 000000003  | 0.1 E Jct Old Highway 99  | 10/4/17   | 24                 | Oct-19    | Routine      |
| Skagit Highlands Parkway | 000000004  | 0.4 N Jct. E Division St. | 10/4/17   | 24                 | Oct-19    | Routine      |
| Landmark Drive           | 000000005  | Off S Waugh Rd            | 10/12/17  | 24                 | Oct-19    | Routine      |
| Eaglemont Drive          | 000000006  | 0.1 S Jct Beaver Pond N   | 10/12/17  | 24                 | Oct-19    | Routine      |
| J off Beaver Pond Dr. S. | 000000007  | Off Beaver Pond Dr. S.    | 10/12/17  | 24                 | Oct-19    | Routine      |
| Olympic Lane             | 000000010  | Off Beaver Pond Dr North  | 10/12/17  | 24                 | Oct-19    | Routine      |
| Beaver Pond Dr North A   | 000000011  | 0.2 N Jct. Englemont Dr   | 10/12/17  | 24                 | Oct-19    | Routine      |
| Hoag Steward Overpass    | 000000002  | Riverside Dr Jct. Hoag St | 10/25/17  | 24                 | Oct-19    | Routine      |
| Beaver Pond Dr South     | 000000008  | 0.5 N Jct. Englemont Dr   | 10/25/17  | 24                 | Oct-19    | Routine      |
| Beaver Pond Dr North B   | 000000009  | 0.4 N Jct. Englemont Dr   | 10/25/17  | 24                 | Oct-19    | Routine      |
| GUEMES ISLAND FERRY DOCK | 40153      | GUEMES ISLAND             | 5/15/17   | 60                 | May-22    | Underwater   |
| ANACORTES FERRY DOCK     | 40152      | ANACORTES                 | 5/16/17   | 60                 | May-22    | Underwater   |
| RIVERSIDE BRIDGE         | 000000001  | 0.7 N JCT SR 538          | 9/25/17   | 60                 | Sep-22    | Underwater   |
| NORTH FORK BRIDGE        | 40037      | 5.5 W JCT INTER 5         | 9/25/17   | 60                 | Sep-22    | Underwater   |



## APPENDIX C - BRIDGE REPAIRS LIST

| BRIDGE NUMBER | BRIDGE NAME               | PRI-ORITY | DESCRIPTION OF REPAIR   | COMPLETED & VERIFIED |
|---------------|---------------------------|-----------|---|----------------------|
| 40117         | ALGER CAIN LK at SILVER   | 2         | Patch pothole on west end of bridge, westbound lane.  |                      |
|               |                           | 2         | Remove small trees underneath and from around bridge.   | 26-May-17            |
|               |                           | 3         | Remove BST overspray at end of bridge   | 26-May-17            |
|               |                           | 3         | Patch eastern approach settlement.  | 26-May-17            |
|               |                           | 3         | Repair 3 guardrail sections damaged from impact   | 26-May-17            |
| 40152         | ANACORTES FERRY DOCK      | 1         | Right side live load hanger pin bracket has a corrosion hole in the shore (10/3/2012) side channel, 1" x 3". Replace channel and paint.   |                      |
|               |                           | 1         | Girder 1G has cracks and delaminations in the bottom chord on most of the shore side half.<br>Girders 1 H and 1 I (eastern most girders) also have some narrow cracking.<br>Option - Continue with the bulb T replacement of the three easternmost girders. |                      |
|               |                           | 2         | Transfer span framing has scattered rust blooms in the floorbeams, stringer clip angles, and bottom diagonals. Steel headframe has bolt heads and nuts with rust blooms.<br>Clean to bright steel, prime, and spot paint.<br>2014 JHL added photo and ver   |                      |
|               |                           | 2         | There is no hand rail on the apron and the lift span. These become difficult to navigate for some of the less mobile pedestrians when either lift span or apron are placed at low tide.   |                      |
|               |                           | 3         | Lift motor gear box leaks oil.<br>Repair leaks.   |                      |
| 40101         | BAKER LK RD at BEAR CK    | M         | Large tree fallen upstream across channel...monitor for channel movement and backup.  |                      |
| 40140         | BAKER LK RD at E GRANDY   | 1         | Replace upstream top rail - section loss and corrosion.   |                      |
|               |                           | 2         | Previous patches are failing. Patch failed locations and new spalls.  |                      |
|               |                           | 3         | The SW rail and end treatment need to be raised. Currently top of rail is at 17"  |                      |
| 40120         | BAKER LK RD at W GRANDY   | 2         | Replace failed armoring below south abutment.   |                      |
|               |                           | 3         | Upgrade transition rails to standard.   |                      |
| 40035         | BAY VIEW-EDISON (Indian)  | 2         | SE guardrail missing 4 nuts and 1 bolt.   |                      |
|               |                           | 2         | brush and patch exposed rebar and spalls in girders   |                      |
|               |                           | 3         | Sweep deck  |                      |
| 40029         | BAY VIEW-EDISON JOE LEARY | 1         | Backfill scour hole under slumping SW gabion  |                      |
|               |                           | 1         | Repair drainage structure in southwest corner.  |                      |
|               |                           | 2         | Guardrail - 1st post on NE quadrant and SE quadrant rotten and needs replaced.  |                      |
|               |                           | 2         | Level approaches to bridge before next road seal  |                      |
|               |                           | 3         | Guardrail - block out missing in southwest leg.   |                      |
| 40028         | BAY VIEW-EDISON SAMISH R  | 2         | End treatment @ NE section is damaged. Needs repair or replacement  | 09-Jun-16            |
|               |                           | 2         | Remove debris hung up on bank and pier 6  | 09-Jun-16            |
|               |                           | 2         | remove dirt and poor rubber seal at both joints   |                      |
|               |                           | 3         | Grind BST from deck at both ends  |                      |
|               |                           | 3         | Repair joint seals.   |                      |
|               |                           | 3         | Paint guardrail posts   |                      |
|               |                           | M         | Monitor undermining of gabion wall at Pier 1.   |                      |
| 40027         | BAY VIEW-EDISON SAMISH SL | 2         | Sweep shoulders between bridge rail and BST   |                      |
|               |                           | 2         | Repair - paint posts  |                      |
|               |                           | 3         | Remove vegetation around bridge   |                      |
|               |                           | 3         | Missing a guardrail post on SE transition and the NW transition.  |                      |
| 40141         | BAYVIEW STATE PARK        | 2         | Paint bridge rails and posts.   |                      |
|               |                           | 3         | Rails: upgrade to meet current standards.   |                      |
| 40051         | BEAVER LK RD at NOOKACHM  | 2         | Settlement at western approach. AC level  |                      |
|               |                           | 2         | Patch exposed rebar on deck.  | 26-Aug-16            |
|               |                           | 3         | Brush and paint rusting "connection braces" at the girder/abutment joint.   |                      |
|               |                           | M         | Losing material behind Abut #2  |                      |
|               |                           | M         | Channel migrating to the east upstream of bridge.   |                      |
| 40157         | BENSON RIDGE LN           | 2         | Nuts are loose again on bolts that hold deck in place. These were recently tightened in 2010 so perhaps need to look at replacing nuts with locking nuts.   |                      |
|               |                           | 3         | Section loss in deck. Replace board but can probably wait until more boards fail.   |                      |
| 40111         | BURL NORTHERN OVERPASS    |           |   |                      |
| 40060         | BURMASTER RD at COAL CK   | 2         | Remove 3 Man Rock in middle of stream - collecting debris   |                      |
|               |                           | 3         | Repair spalls in concrete railing, approx. 2'.  |                      |
|               |                           | 3         | Paint rail posts  |                      |
|               |                           | 3         | Utility line casing (PVC pipe) is broken.   |                      |
|               |                           | M         | Left bank erosion downstream of bridge.   |                      |
| 40142         | CAMPBELL LAKE OUTLET      | M         | S.S. screen upstream of bridge  |                      |
|               |                           | M         | Watch for insect damage to piles and caps.  |                      |
| 40067         | CAPE HORN RD at ALDER CK  | 2         | Potholing on deck and at deck joints  |                      |

## APPENDIX C - BRIDGE REPAIRS LIST

| BRIDGE NUMBER | BRIDGE NAME              | PRI-ORITY | DESCRIPTION OF REPAIR   | COMPLETED & VERIFIED |
|---------------|--------------------------|-----------|---|----------------------|
|               |                          | 3         | Pressure wash moss off of bridge  |                      |
|               |                          | 3         | Upgrade guardrail to current standards.   |                      |
|               |                          | M         | Upstream channel migration to the west. Stream approaching bridge at angle now with higher velocities at Abutment #2                                |                      |
| 40068         | CAPE HORN RD at GRANDY   | 2         | Patch the 6 spalls in deck with exposed rebar.  | 27-May-16            |
|               |                          | 3         | 4 new spalls but might be to shallow to patch   |                      |
|               |                          | 3         | Upgrade guardrail to current standards  |                      |
|               |                          | M         | Monitor the bank protection, check after high water.  |                      |
| 40076         | CASCADE R RD at HARD CR  | 1         | Extend temporary jersey barrier out to road and get everything off damaged girder.  | 21-Jun-16            |
|               |                          | 2         | Repair Joint - armor angle on west end.   | 21-Jun-16            |
|               |                          | 3         | Sweep deck  | 21-Jun-16            |
|               |                          | M         | Monitor Southwest retaining wall - slightly out of plum   |                      |
| 40074         | CASCADE R RD at MARBLE   | 2         | NE End treatment isn't up to standard   |                      |
|               |                          | 2         | Wingwall: Joint seal is missing, gap between bridge and walls. Fill gap btw retaining walls and the abutments.                                      |                      |
|               |                          | 2         | Repair: fourth rail post from right D corner is bent from impact, base plate is still in place.   |                      |
|               |                          | 2         | SE Wrap around end treatment is damaged   |                      |
|               |                          | 3         | Patch potholes on West approach   |                      |
| 40077         | CASCADE R RD at MINERAL  | 1         | Fill potholes in bridge approach.   |                      |
|               |                          | 2         | Sweep debris off deck, a lot of gravel  |                      |
|               |                          | 2         | Repair abutment #1 armor.   |                      |
| 40072         | CASCADE R RD at MONOGRAM | 1         | Debris removal: remove boulders form under bridge.  |                      |
|               |                          | 2         | Concrete repair: patch left and right wingwalls; and abutment #2.   |                      |
|               |                          | 2         | Repair: deck has spall on R downstream edge.  |                      |
|               |                          | M         | Waterway: monitor bridge at high water, stream overtops the bridge and bypasses on the left end.  |                      |
| 40075         | CASCADE R RD at SIBLEY   | 1         | Repair: 8 delineators missing (4 on each side of bridge)  |                      |
|               |                          | 2         | Panel 16 has loose bolt - 1 1/8" socket   |                      |
|               |                          | 2         | Pressure wash deck and remove material between panels   |                      |
| 40071         | CASCADE RIVER BRIDGE     | 1         | Asphalt cracking and settling at both approaches. A/C level.  | 07-Jun-17            |
|               |                          | 2         | Clean drains - plugged with debris  |                      |
|               |                          | 2         | Repair thrie beam transition at nw corner. Damaged from fallen tree.  |                      |
|               |                          | 2         | Patch exposed rebar in deck.  |                      |
|               |                          | 2         | Sweep deck and shoulders  |                      |
|               |                          | M         | River mainstem appears to be shifting South, upstream of bridge - MONITOR   |                      |
| 40156         | CEDARDALE RD at CARPENTR | 1         | Re patch the deck   | 26-Aug-16            |
|               |                          | 2         | Replace block outs with 6" blocks on rails - see Ele. 330   |                      |
|               |                          | 2         | Upgrade bridge rails / transition / guardrail / end treatments  |                      |
|               |                          | 3         | Sweep deck  | 26-Aug-16            |
| 40069         | CONRAD RD at SWIFT       | 2         | Sweep Deck  |                      |
|               |                          | 2         | Remove the BST overspray patches from the bridge deck.  |                      |
|               |                          | 2         | Replace all 4 Type 3 Object Markers -   |                      |
|               |                          | M         | Monitor the channel protection.   |                      |
|               |                          | M         | Appears to be bridge movement causing abutments to rotate. This would explain the crushing occuring on the elastomeric bearings.                    |                      |
| 40043         | CONWAY HILL at CARPENTER | 3         | Guardrail posts need replaced - 2nd from east bank, downstream side.<br>4th post from west bank, upstream side.                                     |                      |
|               |                          | 3         | Clear vegetation from deck curb and joints.   |                      |
| 40012         | COOK RD at BRICKYARD CK  | 2         | Sweep sidewalk and clean out joints.  |                      |
|               |                          | 3         | Clear vegetation from abutment ends   |                      |
| 40009         | COOK RD at DD14 DITCH    | 3         | Crack seal transverse cracks at both ends of bridge   |                      |
|               |                          | 3         | SE guardrail is not fastened to 7th and 8th posts   |                      |
| 40090         | DALLES BRIDGE            | 1         | Clean debris from lower truss panel points over piers.<br>(Repair Priority changed to '1', 3/29/2010, GAS/TJN)                                      |                      |
|               |                          | 1         | At the transverse restrainer block details over Piers 3 and 4, (L3 and L15) clean any existing drain holes or provide drilled holes for drainage.   |                      |
|               |                          | 2         | Replace poured joints over floorbeams with a Dow Corning pourable joint or equivalent. George Schultz has been provided phone numbers of suppliers. |                      |
| 40041         | E PETER JOHNSON RD       | 2         | Clean out deposited sediment on top of pier cap.  |                      |
| 40013         | F&S GRADE SAMISH RIVER   | 1         | Continue to patch deck while search for grant funds to rehabilitate the deck  | 20-Sep-17            |
|               |                          | 2         | Patch spalls in deck and failing old patches.   |                      |
|               |                          | 3         | A/C level roadway / shoulder approaches   |                      |
|               |                          | M         | Alder tree at right bank under bridge.  | 20-Sep-17            |
| 40036         | FARM-TO-MARKET JOE LEARY | 2         | Vegetation needs to be cut around the ends of the bridge.   |                      |
|               |                          | 2         | Sweep deck/unplug drains.   |                      |
|               |                          | 3         | Brush and patch spall in soffit   |                      |

## APPENDIX C - BRIDGE REPAIRS LIST

| BRIDGE NUMBER | BRIDGE NAME              | PRI-ORITY | DESCRIPTION OF REPAIR  | COMPLETED & VERIFIED |
|---------------|--------------------------|-----------|--|----------------------|
| 40026         | FARM-TO-MARKET N DITCH   | 3         | Patch spall on outside of rail at connection (8th post from North)   |                      |
|               |                          | M         | Monitor settlement on the road approaches.   |                      |
| 40032         | FARM-TO-MARKET S DITCH   | 2         | Northbound approach needs asphalt patch.   | 14-Jun-17            |
|               |                          | 2         | Previous asphalt patch at joint in the northbound lane has failed. May require epoxy.  |                      |
|               |                          | 3         | A/C level approaches   |                      |
| 40034         | FARM-TO-MARKET SAMISH R  | 1         | Some woody debris still needs removed at bent# 5   | 14-Jun-17            |
|               |                          | 2         | Guardrail has come detached from post - NE transition  |                      |
|               |                          | 2         | Waterway: Remove woody debris at bent 4 & 5.   |                      |
|               |                          | 2         | Rails: Upgrade transition rails to meet current stds.  |                      |
|               |                          | 3         | Repair object marker post - NE corner.   |                      |
| 40161         | FLINN ROAD BRIDGE        | 3         | Patch spall in deck at joint of Abut #1  |                      |
| 40003         | FRANCIS at NOOKACHAMPS   | 2         | Remove vegetation from ends of bridge  |                      |
|               |                          | 2         | Repair: level approach roads and patch potholes.   |                      |
|               |                          | 3         | Remove BST overspray   |                      |
| 40004         | FRANCIS RD at SLOUGH     | 1         | Remove grass and sod from between edge of pavement and rail. Backfill with HMA.  | 17-Aug-16            |
|               |                          | 2         | Shoulder/pavement edge drops off between edge of road and guardrail. - needs to be brought up to grade.  |                      |
|               |                          | 2         | Replace damaged guardrail at NE corner. Apprx 100' and 3 posts.  |                      |
|               |                          | 3         | Paint rail posts   |                      |
|               |                          | 3         | Crack seal transverse cracks at the joints.  |                      |
| 40018         | FRIDAY CREEK 1ST BRIDGE  | 1         | East drain pipe too long causing it to clog. Cut off approximately 8"  |                      |
|               |                          | 2         | Patch exposed rebar in girders #1 #2 #3 & #4 and soffits.  |                      |
|               |                          | 3         | Pressure wash conc. rails & girders  |                      |
|               |                          | 3         | Remove BST overspray   |                      |
|               |                          | 3         | Upgrade bridge rails to current standards.   |                      |
| 40019         | FRIDAY CREEK 2ND BRIDGE  | 1         | NW section of guardrail, 1st post needs replacing.   | 03-May-17            |
|               |                          | 2         | NW Type 3 Obj. marker has a broken post and is leaning. Sign is reusable.  |                      |
|               |                          | M         | Abut #1 - erosion undermining the corner of abutment. Probably the cause of settling approaches.   |                      |
| 40020         | FRIDAY CREEK 3RD BRIDGE  | 2         | Drain: repair drain on bridge, has broken off.   |                      |
|               |                          | 2         | Pressure wash moss off girders   |                      |
| 40021         | FRIDAY CREEK 4TH BRIDGE  | 3         | Patch and level approach   |                      |
| 40022         | FRIDAY CREEK 5TH BRIDGE  | 2         | Abutments: replace fill material under abutment #2   |                      |
| 40023         | FRIDAY CREEK 6TH BRIDGE  | 2         | Patch pot hole at beginning of bridge (3' x 2")  |                      |
|               |                          | 3         | Replace missing down spout on drain  |                      |
|               |                          | 3         | Remove ivy from abutment wall.   |                      |
|               |                          | 3         | Bridge curbing, girders and soffits need pressure washed.  |                      |
| 40024         | FRIDAY CREEK 7TH BRIDGE  | 3         | Pressure wash curbs and girders  |                      |
| 40025         | FRIDAY CREEK 8TH BRIDGE  | 2         | NE guardrail, Post 4 is rotted and needs replaced.   | 24-May-17            |
|               |                          | 3         | N approach settling. Dig out and level before next resurfacing.  | 24-May-17            |
| 40115         | FRIDAY CREEK BRIDGE      | 1         | Post 4, SE rail, needs replaced  |                      |
|               |                          | 2         | Scrub and patch exposed rebar in deck.   |                      |
|               |                          | 2         | Replace failing patch in northbound lane near midspan.   |                      |
|               |                          | 2         | Replace Post 1, NW rail - rotten   |                      |
| 40099         | GOVERNMENT BR            | 1         | Span 2, Panel 3 has a 6" broken piece of deck. Secure or remove section so it does not have potential to damage a tire.  |                      |
|               |                          | 2         | Repair or replace the blocking and support for the north side metal bridge railing, in Span 2 between Panel Points L1 and L2.  |                      |
|               |                          | M         | Monitor the steel deck and sleeper channels in areas of cracked welds and laminar tears. Noted defects are in Span 1, Span 2 curb and grate to channel connections primarily within Panels 1 and 9, Span 3 sleeper channels.<br>(Repair re-written to focus on c |                      |
| 40011         | GREEN RD at THOMAS CK    | 1         | Guardrail: Post 1, downstream end missing bolt and nut. Currently hanging on one bolt.   | 16-Sep-16            |
|               |                          | 2         | Northern approach in need of A/C leveling, Southern approach could use more.   |                      |
|               |                          | 2         | Approach Road: level approaches settled >2" on both ends   |                      |
| 40014         | GRIPP RD at SAMISH R     | 1         | MONITOR: Bridge is bypassable, right upstream channel protection is starting to slump into river and needs to be monitored after high water events.  |                      |
|               |                          | 2         | Repair: patch spall in the wingwall.   |                      |
|               |                          | 3         | A/C level approaches   |                      |
| 40153         | GUEMES ISLAND FERRY DOCK | 1         | Apron lips have worn through since photo #33 was taken in 2006. They are rusted through, knife edged and bent.<br>Replace Apron lips.  |                      |
|               |                          | 1         | Left live load hanger is bent inboard. Straighten left live load hanger.   |                      |
|               |                          | 1         | Grease the upper and lower live load hanger pins.  |                      |
|               |                          | 1         |  |                      |

## APPENDIX C - BRIDGE REPAIRS LIST

| BRIDGE NUMBER | BRIDGE NAME              | PRI-ORITY | DESCRIPTION OF REPAIR  | COMPLETED & VERIFIED |
|---------------|--------------------------|-----------|--|----------------------|
|               |                          | 1         | Apron piano hinge type at end of transfer span has 1/2" of slop due to fretting . Per contract plans, double extra pipe inner diameter is 1.771", rod is 1.625" , this should have only a 1/8" gap.<br>These need to be greased on a regular basis to reduce secti |                      |
|               |                          | 1         | Clean and spot paint all steel areas which have corrosion.   |                      |
|               |                          | 1         | Replace the lower clevis bolt attachment to the hoisting block on the right girder. This bolt is yielding.   |                      |
|               |                          | 1         | Restore the design edge distance of the gusset hole for the apron lift beam.   |                      |
|               |                          | 2         | There is no hand rail on the apron and the lift span. These become difficult to navigate for some of the less mobile pedestrians when either lift span or apron are placed at low tide   |                      |
|               |                          | 2         | Grease counterweight cables and hoist cables.  |                      |
|               |                          | 2         | Unplug drain holes in pit area of counterweights.  |                      |
|               |                          | 2         | Replace upper clevis pin on right hoist platform. This pin has insufficient grip length causing threads in bearing.  |                      |
|               |                          | 3         | Lift motor gear box leaks oil.<br>Repair leaks.  |                      |
|               |                          | M         | Monitor deformed gusset holes for apron lift beam hydraulic ram clevis pin.  |                      |
|               |                          | N         | Update WSBS Fields 74-53 & 74-63 (ADT)   |                      |
| 40066         | HAMILTON CEM at MUDDY CK | 2         | Small pot hole forming at the right bridge/approach road. Monitor and patch.   | 27-May-16            |
|               |                          | 3         | Pressure wash curbs.   |                      |
| 40163         | HELMICK RD at RED CK     | 3         | Sweep and patch low spot in shoulder along southbound lane   |                      |
|               |                          | M         | Water flowing from abutment #2, below G5   |                      |
| 40054         | KNAPP RD at NOOKACHAMPS  | 1         | Brush and patch spalls on deck.  |                      |
|               |                          | 2         | Bridge approaches need to be A/C leveled.  | 10-Aug-17            |
|               |                          | 2         | Remove vegetation from SE corner of bridge deck. Grass us limiting drainage.   |                      |
|               |                          | 3         | Remove moss and overgrowth on abutment ends.   |                      |
|               |                          | 3         | Deck Repair : remove overspray BST on bridge deck.   | 10-Aug-17            |
|               |                          | M         | Erosion in the NW corner under abutment.   |                      |
| 40038         | LACONNER WHITNEY at SL   | 1         | Deck needs sweeping  |                      |
|               |                          | 2         | End terminals on both northern approach rails need repairs.  | 06-Sep-17            |
|               |                          | 2         | Paint the bridge rail posts, are peeling and rusty.  |                      |
| 40106         | LAKE SAMISH at BEAR CK   | 3         | Paint bridge rail posts  |                      |
|               |                          | 3         | Add material to shoulders at deck joint, 2" to 6" on both sides.   |                      |
| 40109         | LAKE SAMISH RD at FRIDAY | 2         | Replace damaged transition rail on SW section.   |                      |
|               |                          | 2         | Crack seal approaches, bst pulled apart at joint.  | 26-May-17            |
|               |                          | 2         | Repair loose Type III sign southwest corner.   |                      |
|               |                          | 2         | Remove vegetation from around ends of bridge   | 26-May-17            |
|               |                          | 2         | Repair: Posts need painting  |                      |
|               |                          | M         | Armoring sloughing along Abut #1 - Monitor   |                      |
| 40001         | LAKE VIEW BLVD at NCHMPS | 1         | Sidewalk: Level and patch settled area, tripping hazard.   | 10-Aug-17            |
|               |                          | 1         | Signs: delineator is bent at north end. Salmon stream sign needs replacing.  | 10-Aug-17            |
|               |                          | 2         | Sidewalk: Repair sidewalk approach where rebar is exposed (north end).   |                      |
|               |                          | 2         | Bank protection: armor missing upstream end on the right bank.   |                      |
|               |                          | 3         | Clear debris from submerged columns  |                      |
|               |                          | 3         | Upgrade rails to meet current standards.   |                      |
| 40047         | LK CAVANAUGH at PILCHUCK | 1         | Repatch exposed rebar in the deck. Approximately 15' total.  | 27-Jul-16            |
|               |                          | 2         | Sweep deck   | 27-Jul-16            |
|               |                          | 2         | Material loss from behind abutment causing approach road to settle.  | 27-Jul-16            |
|               |                          | 3         | Upgrade Bridge Rails   |                      |
| 40046         | LK CAVANAUGH RD at BEAR  | 2         | Exisisting patches need additional material added  | 27-Jul-16            |
|               |                          | 3         | Patch spalls in deck   | 27-Jul-16            |
|               |                          | 3         | Upgrade bridge rails   |                      |
|               |                          | 3         | Sweep deck   |                      |
| 40048         | LK CAVANAUGH RD CULVERT  | 2         | Clear log jam at downstream end. Debris beginning to build up into culvert.  |                      |
|               |                          | 2         | Remove vegetation to create a path for inspection.   |                      |
| 40063         | LYMAN HWY at CHILDS CK   | 1         | Dredge project planned this summer.  |                      |
|               |                          | 3         | Guardrail post rotten: 3rd post from southwest end.  |                      |
|               |                          | 3         | Pressure wash concrete rails and sides.  |                      |
|               |                          | 3         | Missing nut on guardrail post: 2nd post from the west end, downstream side.  |                      |
|               |                          | 3         | Repair thrie beam, southwest end   | 17-May-16            |
|               |                          | M         | Monitor: channel aggradation   |                      |
|               |                          | M         | Scour hole on backside of guardrail at southwest end   |                      |
| 40132         | LYMAN HWY at JONES CK    | 2         | Approaches: Both approaches have pot holes and need repair.  | 17-May-16            |
|               |                          | 3         | Pressure wash concrete bridge rails  |                      |



## APPENDIX C - BRIDGE REPAIRS LIST

| BRIDGE NUMBER | BRIDGE NAME              | PRI-ORITY | DESCRIPTION OF REPAIR  | COMPLETED & VERIFIED |
|---------------|--------------------------|-----------|--|----------------------|
|               |                          | M         | Scour along Abutment 2   |                      |
| 40131         | LYMAN HWY at MANNSEY CK  | 2         | Upgrade Guardrails   |                      |
| 40129         | LYMAN HWY at MUDDY CK    | 1         | Dredge the channel   |                      |
|               |                          | 3         | Sections of failed chip seal exposing bridge deck.   |                      |
|               |                          | 3         | Clear vegetation growing in sandbar along bridge.  |                      |
| 40130         | LYMAN HWY at RED CABIN   | 2         | Repair: left bridge seat approach road has a D spall in pavement 1' x 9".  |                      |
|               |                          | 3         | Westbound guardrail end treatment damaged (NE quadrant)  |                      |
|               |                          | M         | Scour hole at downstream end of Abut #2 - Monitor  |                      |
| 40126         | MARCHS POINT PIPELINE    | 2         | Curb cracked and spalling at north/west corner.  |                      |
| 40162         | MCELROY SLOUGH CULVERTS  | 2         | Replace broken guardrail post on the NE end treatment.   |                      |
|               |                          | 3         | Replace grout in wingwall joints and around culverts.  |                      |
| 40042         | MILLTOWN at BIG DITCH    | 1         | AC level approaches  | 13-Jul-16            |
|               |                          | 2         | Repair end treatment, west downstream end  | 13-Jul-16            |
|               |                          | 2         | Previous patches in deck are wearing and need replacing  | 13-Jul-16            |
|               |                          | 2         | sweep deck   | 13-Jul-16            |
|               |                          | 3         | Clean girders and pier caps of bird guano  |                      |
| 40159         | MINKLER RD at COAL CK    | 1         | Remove material and debris from underneath bridge  |                      |
|               |                          | 1         | Remove cattle guard from downstream wingwalls  | 12-May-16            |
|               |                          | 2         | Replace all rail posts that are damaged  |                      |
|               |                          | 2         | Repair spalls upstream side of bridge (12)   |                      |
|               |                          | 3         | Fill deep pot hole in westbound lane.  | 12-May-16            |
| 40061         | MINKLER RD at WISEMAN CK | 1         | Repair scour at Abutment #1, upstream end.   | 12-May-16            |
|               |                          | 1         | Remove (dredge) material and debris under the bridge.  |                      |
|               |                          | 2         | Remove Fence from downstream headwalls   |                      |
|               |                          | 2         | Clean and patch spall in Beam #5.  |                      |
|               |                          | 3         | Patch the damaged areas on the curb.   |                      |
| 40112         | NEFFS CROSSING           | 3         | Sweep deck   |                      |
| 40151         | NICHOLSON at CHILDS CR   | 3         | Rotten block out posts #'s 1 2 & 5 on downstream side, 6 & 7 on upstream side.   |                      |
| 40037         | NORTH FORK BRIDGE        | 1         | Add steel plate extensions to the bearing base plates at Pier 8. 40% of the bearing area has been lost due to the pier rotation.   |                      |
|               |                          | 1         | Deck and Joints have spalling at Pier 2 joint, Span 3 in-span hinge joints, Pier 8 joint, and Span 8. Remove loose / delaminated concrete, clean exposed rebar, and patch using Urefast or Set 45.<br>(Locations added in 2014, ABK/BTP) |                      |
|               |                          | 2         | Trees in Span 5 hinder UBIT inspection of the bridge. Remove trees before inspection in March of 2016.   |                      |
|               |                          | 2         | Repair damaged Span 2 north thriebeam  |                      |
|               |                          | M         | Monitor the movement of the piers at the east end of the structure including the tipping of Pier 8 to the east. DAG 2010 - no change.  |                      |
| 40116         | OLD HWY 99 at SILVER CK  | 2         | Mill and fill failing asphalt over utility cut north of bridge.  |                      |
|               |                          | M         | scour under abutment #2, downstream end.   |                      |
| 40113         | OLD HWY 99 at THOMAS CK  | 1         | Patch and crack seal transverse cracking occurring in A/C overlay.   |                      |
|               |                          | 2         | Replace rotten guardrail posts at the SW and NW corners of bridge  |                      |
|               |                          | 2         | Replace or reinforce rotted timber abutment planks along bottom of both abutments.   |                      |
| 40044         | PIONEER HWY at BIG DITCH | 1         | Deck needs vegetation removal and sweep.   |                      |
|               |                          | 2         | Repair: pressure wash barrier rail - has lots of lichen / moss. See photo.   | 13-Jul-16            |
|               |                          | 3         | Crack seal overlay   |                      |
| 40045         | PIONEER HWY at FISHER SL | 1         | Remove vegetation along concrete railing.  | 13-Jul-16            |
|               |                          | 2         | Seal transverse cracks in deck.  |                      |
|               |                          | 3         | Fill and compact material around catch basin in northeast corner of bridge.  |                      |
| 40017         | PRAIRIE RD FRIDAY CK     | 2         | Spalls on upstream curb.   |                      |
|               |                          | M         | Clear debris upstream  | 20-Sep-17            |
| 40055         | PRAIRIE RD E at SAMISH R | 1         | Clear debris from intermediate piers   |                      |
|               |                          | M         | Monitor east abutment during high flows.   |                      |
| 40015         | PRAIRIE RD S at SAMISH R | 1         | Missing armoring on south abutment which experiences higher velocities.  |                      |
|               |                          | 2         | Tighten cable on NW ET guardrail.  |                      |
|               |                          | 3         | Add additional fill and armoring to north bank, piles exposed.   |                      |
| 40016         | PRAIRIE RD W at SAMISH R | 2         | NW section of guardrail damaged and post leaning.  |                      |
|               |                          | M         | Scour protection damaged during high water event - Monitor stability   |                      |
| 40031         | PULVER ROAD at JOE LEARY | 1         | Seal deck with a membrane, to prevent further spalling and corrosion of the rebar. See photo.  |                      |
|               |                          | 1         | Paint bridge rails and posts. See photo.   |                      |
|               |                          | 3         | Sweep deck   |                      |
|               |                          | 3         | Repair Bridge Rail on southeast corner of bridge, it appears to have been struck.  |                      |

## APPENDIX C - BRIDGE REPAIRS LIST

| BRIDGE NUMBER | BRIDGE NAME              | PRI-ORITY | DESCRIPTION OF REPAIR   | COMPLETED & VERIFIED |
|---------------|--------------------------|-----------|---|----------------------|
|               |                          | M         | Monitor the south abutment soil migration, there is a gap between the abutment cap and the ground. Piles are showing.   |                      |
| 40039         | RAINBOW BRIDGE           | 1         | Remove loose and delaminated concrete from deteriorating patching and spalled areas in the open concrete joints. Clean and paint exposed reinforcement, and patch with an epoxy based compound or other approved material. Do not use asphalt.                    |                      |
|               |                          | 1         | Reposition the bronze bearing plates at Bearing 4-17C and Stringer Bearing 5A that extend beyond the bearing base plates. Add a keeper bar to the bearing plates to prevent the bronze plate from "walking out" after repositioning.                              |                      |
|               |                          | 1         | Remove debris from around the bearings at Piers 4 and 5 and at Span 4, Panel Points 4 and 17. Clean and remove laminar and pack rust down to solid steel and paint with a rust inhibitor.   |                      |
|               |                          | 1         | Remove loose and delaminated concrete from spalled areas in the deck. Clean and paint exposed reinforcement, and patch with an epoxy based compound or other approved material. Do not use asphalt Spalled areas are located in: Span 4, Panel 2 southbound lane. |                      |
|               |                          | 1         | At the following locations, drill out the broken or missing rivets and replace with a an A325 bolt:<br>West arch south face of the Panel Point 3 strut connection. (Two rivets)<br>West arch U10 to U11 south face splice. (Two rivets)                           |                      |
|               |                          | 1         | Clean all the open panel joints over the floor beams and re-seal them with poured rubber or other flexible joint compound. (Repair re-written, 4/21/14, GAS/PFK)  |                      |
|               |                          | 1         | At the top rib of the east arch, between U6 and U7, locate the end of the crack that is extending into the rib with dye penetrant Stop drill a 13/16" diameter hole centered at the end of the crack. Provide a 3/4" A325 bolt.                                   |                      |
|               |                          | 2         | Replace the missing bird screens at the following locations: U5W, U8W, U9W, U13W, U6E, U8E, U11E, and U12E ( U8W, U13W, U6E, U8E, and U11E added 4/13/2010, DAG/CRT).   |                      |
|               |                          | 2         | Remove paint and dirt which is covering arch at the Pier 4 and 5 footings. Clean to bare steel and paint.   |                      |
|               |                          | M         | Monitor cracking of welds for connection of the lateral cross-bracing to the bottom flanges of the stringers in Panels 5, 8, and 15. If cracks propagate into base metal, take corrective action to stop further propagation. DAG 2012: No change.                |                      |
|               |                          | M         | Monitor cracking around welded access holes in top rib of arch. At the east arch between U6 and U7, the cracking has spread into the arch.  |                      |
| 40094         | ROCKPORT CASC at ILLABOT | 2         | AC level eastern approach   |                      |
|               |                          | 3         | Pothole on west end of bridge WB lane   |                      |
|               |                          | 3         | Replace rubber joints   |                      |
| 40095         | ROCKPORT CASC at JORDAN  | M         | Rip-rap protection  |                      |
| 40083         | S SKAGIT HWY at CUMBERLA | 2         | Replace 2 missing object markers on south end of bridge   | 22-Jul-16            |
|               |                          | 2         | Paint rail posts  |                      |
|               |                          | 3         | Guardrail - Replace missing blockout at NW quadrant transition section  | 22-Jul-16            |
|               |                          | M         | Channel has been rerouted downstream of bridge - MONITOR  |                      |
| 40081         | S SKAGIT HWY at DAY CR   | 1         | Patch exposed rebar in deck - 2'  |                      |
|               |                          | 2         | Remove vegetation from around abutments   |                      |
|               |                          | 2         | Repair failing deck patches.  |                      |
|               |                          | 2         | Replace missing nuts on guardrail left upstream approach rail.  | 22-Jul-16            |
|               |                          | 3         | Remove debris from mid channel  | 22-Jul-16            |
|               |                          | 3         | Wire brush and patch exposed rusty rebar in the girders   |                      |
|               |                          | M         | Debris jam under span 3 - Monitor   |                      |
| 40089         | S SKAGIT HWY at FINNEY   | 1         | Remove woody debris blocking conveyance through span 1  | 20-Jul-16            |
|               |                          | 1         | Remove woody debris around pier 2, scour damage.  | 20-Jul-16            |
|               |                          | 2         | Pier Protection: repair slipped riprap armor on Piers 2 and 3.  | 20-Jul-16            |
|               |                          | M         | Monitor channel migration: stream is unstable, and has switched rapidly from the R bank to the L bank. Consider installing river training devices. REPAIR.  |                      |
| 40082         | S SKAGIT HWY at LORETTA  | 1         | Guardrail - replace 1st transition post in SE Quad  |                      |
|               |                          | 2         | Wire brush and patch or paint rusty rebar on girders.   |                      |
|               |                          | 3         | Paint rail posts  |                      |
|               |                          | 3         | Guardrail - 2nd transition post in NE Quad is beginning to rot.   |                      |
| 40086         | S SKAGIT HWY at MILL CR  | 1         | Replace damaged wood guardrail posts on upstream side.  |                      |
|               |                          | 1         | Remove woody debris from under bridge.  |                      |
|               |                          | 2         | Replace damaged guardrail - End Treatment, Southeast quadrant   |                      |
|               |                          | 2         | Patch exposed rebar in the girders.   |                      |
|               |                          | 3         | Sweep deck  | 20-Jul-16            |
| 40084         | S SKAGIT HWY at O'TOOLE  | 2         | Replace bridge sign/ missing.   | 20-Jul-16            |
|               |                          | 2         | Rails need painting   |                      |
|               |                          | 3         | Level both approaches to bridge. 2012 - approaches marked for patching prior to chip sealing  | 20-Jul-16            |
|               |                          | M         | Monitor right bank repair upstream of bridge. Large rootwad cabled to riprap was installed in 9/2003.   |                      |

## APPENDIX C - BRIDGE REPAIRS LIST

| BRIDGE NUMBER               | BRIDGE NAME              | PRI-ORITY | DESCRIPTION OF REPAIR  | COMPLETED & VERIFIED |
|-----------------------------|--------------------------|-----------|--|----------------------|
|                             |                          | M         | Scour causing sloughing behind Abut #2. May be causing material loss and dips at the approaches.   |                      |
| 40080                       | S SKAGIT HWY at PARKER   | 2         | Vegetation : remove sapling trees at left upstream wingwall, see photos.   | 22-Jul-16            |
|                             |                          | 3         | Remove debris near the outlet  |                      |
| 40088                       | S SKAGIT HWY at PRESSENT | 1         | Resurface / rehabilitate bridge deck   |                      |
|                             |                          | 2         | Cut back vegetation at abut #1   |                      |
|                             |                          | 2         | Replace Type III marker - NE quad  |                      |
|                             |                          | 3         | Paint steel rail posts.  |                      |
|                             |                          | M         | Upstream channel migration to the east - MONITOR   |                      |
| 40114                       | SAMISH RIVER BRIDGE      | 1         | Span 7 has a shallow spall and exposed rebar. Remove loose or delaminated concrete. Clean exposed rebar, and patch.  |                      |
|                             |                          | 1         | Remove trees at the SW corner of the bridge. They obstruct UBIT operation.   |                      |
|                             |                          | 1         | Reset or replace rocker bearings at Pier 3. Joint is closed and spalling the header.   |                      |
|                             |                          | 1         | Wash sand and debris from bottom cord. Coordinate cleaning before 2016 inspection date.  |                      |
|                             |                          | 1         | WSDOT uses the most limiting height within 2 ft of the fogline for posting vertical clearances. The clearance WSDOT posts is 3" less than the minimum clearance measured.<br><br>Per WSDOT standards: Provide required minimum vertical clearance posting on the an              |                      |
|                             |                          | 2         | The south sliding joint is missing the top plate near the east curb line. There is approximately 5' of loose top plate adjacent to the missing section. Remove the loose section of top plate.   |                      |
|                             |                          | 3         | Repair missing concrete balluster at NW corner of bridge. Recommend attaching additional rebar to top and bottom connection. Drill 5/8" diameter hole 6" deep for #4 rebar. Secure with epoxy resin. Lap splice #4 bars full height. (Rail designed with o                       |                      |
|                             |                          | M         | Repair cope cracks at the following locations (lengths observed 4/14/10):<br>Stringer 2A at FB 2: 1/2" crack.<br>Stringer 7A at FB 6: 1/4" crack.<br><br>Recommended repair procedure:<br>- Locate crack termination by dye penetrant testing<br>- Install StopCrackEX bushing a |                      |
| 40160                       | SINCLAIR ISLAND DOCK     |           |  |                      |
| 40070                       | SKAGIT RIVER MARBLEMOUNT | 1         | Remove spalled and delaminated patching material from the spalled area at the south end over Panel Point 13. Patch back with an approved material.   |                      |
|                             |                          | 1         | Repair or replace the 20 ft length of damaged guardrail at the NW corner   |                      |
|                             |                          | 1         | Remove debris from upstream face of Pier 4. This is a recurrent problem. Consider the installation of a shark or debris deflector.   |                      |
|                             |                          | 1         | Remove loose or spalled concrete from the spalled deck surface over Span 1. Clean and paint any exposed rebar and patch with an approved material.   |                      |
|                             |                          | 1         | Remove debris and clean lower truss panel points prior to next inspection in 2016.   |                      |
|                             |                          | 2         | Replace split spacer block at NE corner.   |                      |
|                             |                          | 2         | Small trees and brush need to be cut back and maintained at the SW corner.   |                      |
| 40008                       | SOUTH FORK BRIDGE        | 1         | Contact owner of utility and notify them of leak at east abutment  |                      |
|                             |                          | 2         | Girder 4C has delamination in the prestressing at Pier 4. Remove the loose concrete and apply a rust inhibitor to prevent further corrosion of prestressing strands.   |                      |
| 40002                       | SWAN ROAD BRIDGE         | 1         | Raise approach rail to minimum height.   |                      |
|                             |                          | 2         | Remove beaver dam and relocate   |                      |
|                             |                          | 2         | Depression in deck over upstream pile. Monitor for settlement  |                      |
|                             |                          | 2         | A/C level approaches, big dip in eastbound lane.   |                      |
|                             |                          | 3         | Paint steel diaphragm / cross bracing.   |                      |
|                             |                          | M         | Two large trees fallen upstream of bridge. MONITOR   |                      |
| 40052                       | TAYLOR RD at WALKER CK   | 2         | Repair scour hole upstream of bridge.  |                      |
|                             |                          | 2         | Repair rip rap under bridge - gabion basket has been undermined  |                      |
|                             |                          | M         | Monitor bridge after high water event.   |                      |
| 40030                       | THOMAS RD at SAMISH R    | 2         | Rails need to be upgraded.   |                      |
|                             |                          | 3         | Remove barb wire fence from under bridge. Restricting access.  |                      |
|                             |                          | M         | Repair material loss at right abutment   |                      |
| 40093                       | UPPER FINNEY CREEK BR.   | 3         | Sweep deck / clear drains  |                      |
| 40062                       | UTOPIA RD at BLACK SL    | 2         | Patch spalling occurring at the outside girder joints over middle pier   | 27-Jul-17            |
|                             |                          | 3         | Replace rotten blockout along guardrail in NW quadrant   |                      |
|                             |                          | 3         | Level the right approach in the east bound lane.   |                      |
| <b>LOCAL AGENCY BRIDGES</b> |                          |           |  |                      |
| 00000001                    | RIVERSIDE BRIDGE         | 0         | Utility bracket on the north side of Pier 5 between Girders 5G and 5H has slipped.   | 01-Aug-17            |
|                             |                          | 0         | Install access cover to luminaire in Span 4.   |                      |

## APPENDIX C - BRIDGE REPAIRS LIST

| BRIDGE NUMBER | BRIDGE NAME            | PRI-ORITY | DESCRIPTION OF REPAIR  | COMPLETED & VERIFIED |
|---------------|------------------------|-----------|--|----------------------|
|               |                        | 1         | Remove timber debris accumulating around piers in water.   |                      |
|               |                        | 1         | Repair damaged east pedestrian rail south of Pier 3 (near overlook), approximately 12 ft. of damage.   |                      |
|               |                        | 1         | Shear key at Pier 5 was not built as designed. Provide full support to Girder H at Pier 5.   |                      |
|               |                        | 2         | Remove debris around bearing pad under Girder 1A.  |                      |
|               |                        | 2         | Remove material / debris from assembly joint seal.   |                      |
|               |                        | 2         | Remove transient 'living area' constructed between Girders 1I and 1J approximately 15 ft. south of Pier 2, over ductile iron pipe. (8/1/2017 - Repair rewritten and location clarified. TKK/PFK) |                      |
| 000000002     | Hoag Steward Overpass  | 1         | Clean out debris from joints between bridge and slabs and replace joint fillers  |                      |
| 000000003     | Eleanor Lane A         | 1         | Pedestrian Rail on south side of bridge is damage and has come lose at the base due to broken welds in two places.   |                      |
| 000000005     | Landmark Drive         | 3         | Pressure wash sidewalks and remove weeds/vegetation  |                      |
| 000000006     | Eaglemont Drive        | M         | Monitor the shift of stream toward the South footing (Photo SI-5).   |                      |
|               |                        | 2         | Repair uplifting of the sidewalk panels and spalls in curbing. (Photo SI-25)   |                      |
|               |                        | M         | Monitor the crushing and bulging of the gabions. (Photo SI-20)   |                      |
|               |                        | 2         | Repair the settlement at South East corner at Roadway sidewalk (Photo SI-6)  |                      |
| 000000008     | Beaver Pond Dr South   | 3         | Tighten Utility Hangers on black sewer pipe and others.  |                      |
| 000000009     | Beaver Pond Dr North B | 2         | Crack seal at deck/approach slab joints.   |                      |
| 000000010     | Olympic Lane           | 3         | Crackseal roadway over abutment joints and approach slab joints.   |                      |
| 000000011     | Beaver Pond Dr North A | 2         | Crack seal at abutment joints and approach slabs.  |                      |
| BURLINN-2     | NORTH BURLINGTON BLVD  | 2         | Repair: Guardrail terminal on the northwest corner of bridge, appears to have been hit, missing post.  | 28-Sep-17            |
|               |                        | 2         | Repair: Approach rail damage, southeast corner.  |                      |
|               |                        | 3         | Tighten loose nuts on rail post bases located on underside of culvert.   |                      |
| BURLINN-3     | GOLDENROD BRIDGE       | 3         | Clear brush and blackberry vines.  |                      |
|               |                        | 3         | Tighten nuts on transition rails   |                      |
| CONCRETE1     | BAKER RIVER            | 0         | Install timber rail board at the SE approach.  | 02-Aug-17            |
|               |                        | 1         | Trim trees at southwest corner (below Span 1) for UBIT access prior to next inspection in 8/2021. (UBIT must be deployed off the south side due to telephone lines on the north side).           |                      |
|               |                        | 2         | Remove ivy from pier wall at Pier 2.   |                      |
|               |                        | M         | Monitor scour at Pier 2 which is undermined at the southeast and northeast corners. (No significant change noted in 2017. TKK/PFK).  |                      |