Wildfire Risk Reduction



| A. PROJECT IDENTIFICATION               |                  |  |                  |  |
|---|------------------|--|------------------|--|
| PROJECT ID AND UNIT ID:                 | LAND OR TENURE H | HOLDER:                                | Date:            |  |
| Wonderland Trails - #34a                | Crown            |  | March 11, 2024   |  |
|   |                  |  |                  |  |
| UTM (Z10):                              | GEOGRAPI         | HIC DESCRIPTION:                       |                  |  |
| FTU WL-1 E 541,100 N 5,868,000          | Wonderl          | Wonderland Trail Network – Quesnel, BC |                  |  |
| FTU WL-2 E 541,300 N 5,868,400          |                  | - Quesnel Hydraulic Rd                 |                  |  |
| FTU WL-3 E 541,450 N 5,867,600          | Qu               | iesher riyaraane na                    |                  |  |
| HIGHER-LEVEL PLAN(s):                   | •                | MAP REFERENCE NUMBER                   | <u>:</u> 093B098 |  |
| Cariboo-Chilcotin Regional Land Use Pla | n (CCLUP)        | GROSS AREA: 80.7 ha                    |                  |  |
| Quesnel Sustained Resource Manageme     | , ,              | NET AREA: 80.7 ha                      |                  |  |
| ,                                       | (- /             |  |                  |  |

| B. FUEL TREATN | MENT PROJECT DESCRIPTION   |   |   |
|----------------|--|---|---|
| OBJECTIVE:     | ☑ Public Safety  | ☐ Range Improvement   |   |
|                | ☑ Recreation   | ☐ Wildlife Habitat  | ☐ Other:  |
|                | Protection Plan FTU 34a, is predomi Hydraulic Rd. The general area is pla project area encompasses a networl Club. Other activities include hiking outhouse, picnic table, trail map kio. This treatment area is a predominar of dead and downed beetle killed lo The terrain varies from gentle even inclusions of rock outcrops. This are proposed treatments are designed taccomplished by utilizing mechanical | nantly east of Dragon Lake and is accelerated to become part of the City of Cok of registered mountain bike trails me and snowshoeing. This area also includes sks and several mountain bike structurally Douglas-fir stand, with minor come dgepole pine, with one extensive area slopes and benches to areas of steep are is also bordered on the west by several and hand treatments to reduce the potential ignition sources, reduce several and several sources, reduce several and several sources. | Quesnel's Community Forest. The lanaged by the Gold Rush Cycling ludes related structures include an ures built by the Club.  Inponents of spruce, and occurrences a of primarily dead pine (FTU WL-3) and broken terrain, including veral high-voltage powerlines. The event on the landscape. This is current fuel load. The targeted |

Specific objectives for these fuel management treatments are:

- To help protect the city of Quesnel and the properties in the surrounding area.
- To protect the recreation trail system within the treatment area, as well as protect the surrounding areas from fires which could originate from trail users.
- To maintain a forested ecosystem within the Fuel Treatment Unit (FTU).
- To reduce the wildfire threat and fuel loading build up through:
  - dead tree removal and continuity breaks in the forest fuels.
  - decreasing the potential for candling and crowning wildfire behaviour.
- To create safer wildfire suppression opportunities.
- To adhere to OGMA and Mule Deer Winter Range objectives for the project area.
- To protect other resource values.

The intent of this prescription is to modify and reduce the fuel structure to help create a fire resilient stand with reduced fire behaviour, if a wildfire occurs.





| STRATEGIES: | The fuel management activities will be controlled by the following main principles:   |  |  |  |  |  |  |
|-------------|---|--|--|--|--|--|--|
|             | <ol> <li>Conducting fuel management activities that will reduce potential wildfire impacts and improve the<br/>overall health of the local forest ecosystems.</li> </ol>  |  |  |  |  |  |  |
|             | <ol> <li>Retention of high-quality wildlife trees, where present and in safe locations, to maintain wildlife habitat and vertical structure, and future recruitment of large coarse woody debris.</li> </ol>  |  |  |  |  |  |  |
|             | 3. Retention of primary old seral forest characteristics in the OGMA.   |  |  |  |  |  |  |
|             | <ol> <li>Retention and minimal disturbance of the forest duff layer, herbs, grasses and deciduous shrubs that<br/>provide the surface cover.</li> </ol>   |  |  |  |  |  |  |
|             | 5. Retention of a portion of the healthy advanced regeneration of conifers.   |  |  |  |  |  |  |
| METHODS:    | The primary method is to remove ladder fuels by pruning dominant trees, space immature stems away for the dripline of dominant trees, space stems in immature patches, remove standing dead fuels, brush dead woody vegetation and pile/burn surface fuels and treatment debris. Danger trees will be assessed by a certified hand faller and/or properly documented with 'No Work Zone' areas. |  |  |  |  |  |  |
|             | The heavy concentrations of large surface fuels, the dead pine in FTU WL-3, is targeted for removal from site. Remaining surface fuels in all FTUs, existing and created from treatment, will be piled and burned.  |  |  |  |  |  |  |
|             | The coniferous understory component of the stand will be spaced and pruned to create a more open with fewer, more vigorous trees, and a higher crown base height. Surface fuels vary throughout the parea, ranging from very low to low.  |  |  |  |  |  |  |

| C. FUEL | TREATN       | MENT UN      | NIT (FTU     | ) SUMMARY                  |                      |              |                        |
|---------|--------------|--------------|--------------|----------------------------|----------------------|--------------|------------------------|
|         | NET          | GROSS        | MFZ          | TREATMENT REGIME           |                      | TREATMENT    | METHOD                 |
| FTU     | AREA<br>(ha) | AREA<br>(ha) | AREA<br>(ha) | (PRU, THIN, Rx BURN, etc.) | HAND                 | MACHINE      | FIBRE REMOVAL          |
| WL-1    | 41.4         | 41.4         | 0.0          | Prune, Space, Piling,      | □ Preferred          | ☐ Preferred  | ☐ Obligated/Compulsory |
|         |              |              |              | Pile Burning               | $\square$ Acceptable |              | ☐ Acceptable           |
|         |              |              |              |                            | ☐ Unsuitable         | ☐ Unsuitable | ⋈ Not applicable       |
| WL-2    | 28.1         | 28.1         | 0.0          | Prune, Space, Piling,      | □ Preferred          | ☐ Preferred  | ☐ Obligated/Compulsory |
|         |              |              |              | Pile Burning.              | $\square$ Acceptable |              | ☐ Acceptable           |
|         |              |              |              |                            | ☐ Unsuitable         | ☐ Unsuitable | ⋈ Not applicable       |
| WL-3    | 11.2         | 11.2         | 0.0          | Fibre removal, Prune,      | ☐ Preferred          | □ Preferred  | ☑ Obligated/Compulsory |
|         |              |              |              | Space, Piling,             |                      | ☐ Acceptable | ☐ Acceptable           |
|         |              |              |              | Pile Burning.              | ☐ Unsuitable         | ☐ Unsuitable | ☐ Not applicable       |
| TOTALS  | 80.7         | 80.7         | 0.0          |                            |                      |              |                        |

| D. SITE C           | D. SITE CHARACTERISTICS |   |  |                           |                   |                       |                 |                              |  |
|---------------------|-------------------------|---|--|---------------------------|-------------------|-----------------------|-----------------|------------------------------|--|
| FTU                 | CFFBPS<br>FUEL<br>TYPE  | TIMBER TYPE                                     | BGC Classification<br>(Zone/SZ, Site Series)   | ELEVATION<br>RANGE<br>(m) | SLOPE<br>POSITION | SLOPE<br>RANGE<br>(%) | ASPECT<br>RANGE | RATE of<br>SPREAD<br>(m/min) |  |
| WL-1                | C7                      | Fd <sub>8</sub> Sx <sub>2</sub> Ep <sub>2</sub> | SBSdw1 03  | 700-860                   | LW                | 5-60                  | W               | 1.6                          |  |
| WL-2                | C7                      | $Fd_7BI_2(SxAt)$                                | SBSdw1 05  | 750-860                   | LW                | 5-60                  | W               | 1.6                          |  |
| WL-3                | C7                      | Fd <sub>6</sub> Pl₃(Sx)                         | Fd <sub>6</sub> Pl <sub>3</sub> (Sx) SBSdw1 04 780-845 LW 15-65 W 1.6  |                           |                   |                       |                 | 1.6                          |  |
| FUEL DETERMI        |                         | also referencing the                            | Fuel type was determined based on the ground-truthing and sample plot stand measurement data, while also referencing the BC Wildfire Fuel Typing and Fuel Type Layer Descriptions.  The 'Best Fit Scenario' is being utilized on a landscape level, due to assumptions and limitations of this fuel typing method. |                           |                   |                       |                 |                              |  |
| REPRESEI<br>WEATHER |                         | Hixon Wx (187)                                  | <i>n</i> 0   |                           |                   |                       |                 |                              |  |





| E. SOIL | E. SOIL CHARACTERISTICS |               |                  |                          |                    |          |              |  |
|---------|-------------------------|---------------|------------------|--------------------------|--------------------|----------|--------------|--|
|         | DUFF DUFF               |               | F COARSE SOIL    |                          | SOIL HAZARD RATING |          |              |  |
| FTU     | SOIL<br>TEXTURE         | DEPTH<br>(cm) | FRAGMENTS<br>(%) | DISTURBANCE<br>LIMIT (%) | Compaction         | Erosion  | Displacement |  |
| WL-1    | SL                      | 2-5           | 10-25            | 5                        | Moderate           | Moderate | Low          |  |
| WL-2    | SL                      | 3-10          | 15-40            | 5                        | Moderate           | Moderate | Low          |  |
| WL-3    | SL                      | 3-8           | 35-45            | 5                        | Moderate           | Moderate | Moderate     |  |

| F. VALUES – FOREST AND RANGE  | F. VALUES – FOREST AND RANGE PRACTICES ACT   |          |  |   |  |  |
|---|--|----------|--|---|--|--|
| *Note – The following values were i reviewed in June 2023. Field data w   |  | _        |  | oination of field verification and iMap BC. All digital data was y-August 2023. |  |  |
| RIPARIAN & LAKESHORE AREAS - For (GAR) section 6, Forest and Range P  |  |          |  | ces Regulation (FPPR) division 3, Government Action Regulation                  |  |  |
| Is the proposed burning, cutting, modification or removal of trees, or site preparation, in an area that contains streams, lakes or wetlands?     | Yes ☐ No riparian features were found during field surveys within this treatment area. |          |  |   |  |  |
| RIPARIAN MANAGEMENT AREAS (F  | RMAs) – F  | PPR sec  | ctions 51  | and 52  |  |  |
| STREAM, LAKE, WETLAND ID  | CLASS RRZ (m)  |          | RMZ<br>(m)   | SPECIFICATIONS FOR RIPAIRAN OR LAKESHORE<br>MANAGEMENT AREAS                    |  |  |
| Not Applicable  |  |          |  | N/A   |  |  |
| TEMPERATURE SENSITIVE STREAMS   | S - FPPR s   | ection ! | 53, GAR s  | section 15, FRPA sections 180 and 181   |  |  |
| Are there temperature sensitive streams or direct tributaries to temperature sensitive streams within or adjacent to the proposed treatment area? | Yes □<br>No ⊠  |          | There a  | are no temperature sensitive streams.   |  |  |
| ROAD CONSTRUCTION IN RIPARIAN   | MANAG  | SEMENT   | T AREAS  | - FPPR section 50   |  |  |
| Is road construction proposed in riparian management areas within the treatment area or an associated road permit (RP)?                           | Yes ⊠<br>No □  |          | Road construction will be required for the purposes of removing dead timber from FTU WL-3. |   |  |  |
| STREAM CROSSINGS - FPPR section   | 55   |          |  |   |  |  |
| Will stream crossings be constructed within the proposed treatment area or a road permit road providing access to the treatment area?             | Yes ⊠<br>No □  |          | At leas  | t one stream crossing will be necessary for access to FTU WL-3.                 |  |  |



| MAINTAINING STREAM BANK AND   | CHANNEL STABI     | LITY ON S4, S5, and S6 STREAMS - FPPR section 52 (2)   |
|---|-------------------|--|
| Is the proposed treatment in the RMZ of an S4, S5 or S6 stream that is directly tributary to an S1, S2 or S3 stream and the activity is likely to contribute significantly to the destabilization of the stream bank or the stream channel? | Yes □<br>No ⊠     | There are no classed streams in this treatment unit.   |
| DOMESTIC WATER LICENCES (inside   | or outside of co  | mmunity watershed) - FPPR section 59   |
| Does the proposed treatment area contain water sources that are diverted for human consumption by a licensed waterworks?  | Yes □<br>No ⊠     | There are no diverted water sources.   |
| LICENCED WATER WORKS (inside or   | outside of a con  | nmunity watershed) - FPPR section 60   |
| Does the proposed treatment include areas that are within 100m of a licensed waterworks?  | Yes □<br>No ⊠     | There are no licensed waterworks within 100m.  |
| FISHERIES SENSITIVE WATERSHED -   | GAR section 14,   | FPPR section 8.1   |
| Are any activities proposed within a fisheries sensitive watershed?   | Yes □<br>No ⊠     | Not within a fisheries sensitive watershed.  |
| <b>COMMUNITY WATERSHED</b> - GAR se   | ction 8, FPPR sec | ction 8.2, 61, 62 and 84   |
| Does the proposed treatment area include areas that are within a community watershed?   | Yes □<br>No ⊠     | Not within a community watershed.  |
| Will this project require road or guard construction or deactivation within a community watershed?  | Yes □<br>No ⊠     | N/A  |
| WATERSHED ASSESSMENT CONSIDE  | ERATIONS - FRPA   | A section 180 areas with "significant watershed sensitivity".  |
| Does the proposed treatment area include areas that have watershed assessment considerations?   | Yes □<br>No ⊠     | Using the following definition from the document Fisheries Sensitive Watershed: Default-objectives and Designation Procedure (Dec 2017):  "Therefore, for the purposes of defining sensitivity under the GAR and EPMR, the term means susceptibility to an impact(s) or alteration(s) that potentially can cause an adverse effect to the fisheries values and fish habitat associated with the watershed."  No Fisheries Sensitive Watersheds were identified in the project area. No other areas with watershed assessment considerations were found. Further, proposed treatment activities will not have a negative effect upon watershed integrity and will likely create a net benefit from protecting |
|   |                   | against the negative impacts of a wildfire.  |



| SOIL DISTURBANCE AND PERMANENT ACCESS STRUCTURES - FPPR sections 35 and 36           |  |  |  |   |
|--|--|--|--|---|
| Fuel Treatment Unit  | Proposed Max. Allowable Soil Disturbance (%) (5% or 10%) | Proposed Max. Soil Disturbance for Roadside Work Areas (%)   | Proposed Max. Permanent Access Structures (%)  | Comments:   |
| WL-1, WL-2, WL-3   | 5  | 25   | 0  | No permanent access structures will be constructed.  Temporary access structures will need to be constructed to access fiber removal in WL3.  |
| Do the proposed Permanent Access Structures exceed 7% of the total area?             | Yes □<br>No ⊠  | N/A  |  |   |
| LANDSLIDES AND TERRAIN STABILIT  | <b>Y</b> - FPPR section                                  | 37   |  |   |
| Does the proposed treatment area include areas where terrain stability is a concern? | Yes □<br>No ⊠  | The treatmen   | nt area does no  | ot include identified terrain stability polygons.   |
| SUITABLE SECONDARY STRUCTURE   | - FPPR section 4   | 3.1  |  |   |
| Does the proposed treatment area include a "targeted pine leading stand"?            | Yes □<br>No ⊠  | The treatmen   | nt area does no  | ot include a targeted pine leading stand.   |
| <b>UNGULATE WINTER RANGE</b> - GAR se  | ection 12, FRPA  | sections 180 ar  | nd 181, FPPR se  | ection 69   |
| Does the proposed treatment area include areas within an Ungulate Winter Range?      | Yes ⊠<br>No □  | The project a Number dqu #U-5-001 (Tr  The treatmer snowpack zo conventional Harvest will cown. Live Doprescribed tr habitat reter Removal of t for mule dee | area within a m _60). Proposed ansition and De nt area occurs i ne, in the SBS of I harvest. No ha occur within FT ouglas-fir will or reatments will re tion due to the he pine will allo r within the FTI | ule deer winter range polygon (UWR Unit d treatments are consistent with the GAR Order eep Snowpack).  In the low habitat structure class in transition dw1 zone. The UWR order is a requirement for arvest will occur in FTUs WL-1 and Wl-2.  IU Wl-3, to remove dead pine, standing and nly be removed for safety and access. The not be in conflict with mule deer winter range e lack of a live mature stand in this FTU.  Dow for better regeneration and better mobility U, leading to improved future habitat. |
| WILDLIFE HABITAT AREA - GAR sect   |  |  |  |   |
| Does the proposed treatment area include any wildlife habitat areas (WHA)?           | Yes □<br>No ⊠  | Not within a   | wildlife habitat   | t area.   |



| MIGRATORY BIRD CONVENTION AC   | <b>T</b> – 1994                   |  |
|--|-----------------------------------|--|
| Does the proposed treatment have the potential to impact migratory bird habitat?   | T – 1994<br>Yes ⊠<br>No □         | Based upon the Nest Density Matrix v1.3, this prescription area is designated Rank 4. The broad scale nesting period mapping has shown the project area to be in the A4 nesting zone; nesting period from May 8 to August 2.  The primary recommendation is that treatment activities occur outside the nesting period: BMP SO1 – Block Scheduling.*  If treatment activities cannot be completed outside the nesting period, then the following BMP should be used:  LO2 – Riparian Protection.*  LO3 – Unplanned/Unmarked Retention.*  LO4 – Wildlife Tree, Snag and Stub Retention will be implemented.*  PL1 – Partial Cut or High Retention Silviculture System*  If during this period an active nest is discovered or a bird displaying behaviour indicative of a nearby nest, work will be stopped, the nest must remain undisturbed, and the occurrence immediately reported to the contract supervisor.  * Guidance for Forest Sector Management of Nesting Migratory Birds in the Interior of BC. |
| OBJECTIVES SET BY GOVERNMENT  Does the proposed treatment area include areas to which objectives for wildlife under FPPR section 7 apply?  | FOR WILDLIFE - I<br>Yes □<br>No ⊠ | Not applicable – not a licensee with an FSP obligation.  |
| OBJECTIVES SET BY GOVERNMENT   | FOR BIODIVERSI                    | TY OBJECTIVES (Landscape Level) - Section 9 and FPPR Part 4 Division 5   |
| Does the proposed treatment area include areas to which objectives for landscape level biodiversity under FPPR section 9 apply?  | Yes □<br>No ⊠                     | Not applicable. Sec 64(1) – N/A - Not to be reforested   |
|  | _                                 |  |
|  |                                   | TY OBJECTIVES (Stand Level) - Section 9.1 and FPPR Part 4 Division 5   |
| Are considerations for maintaining stand structure (wildlife trees, wildlife tree reserves, etc.), coarse woody debris, and maintaining tree and vegetation species composition incorporated into this prescription? | Yes ⊠<br>No □                     | <ul> <li>Maximum cutblock size - not applicable – no reforestation - Sec 64(1)</li> <li>No adjacency concerns (Sec 65) (no existing cutblocks)</li> <li>Wildlife tree retention exceeds requirements (Sec 66)</li> <li>Timber will not be harvested from known WTRAs (Sec 67)</li> <li>Coarse woody debris targets will be met (Section H, for each TU).         <ul> <li>Sec 68 (1)</li> <li>Chief Forester's Guidance on Coarse Woody Debris Management</li> </ul> </li> </ul>   |





| OGMA                                 |                   |  |
|--------------------------------------|-------------------|--|
| Is the proposed treatment area       | Yes ⊠             | This prescription overlaps 1 OGMA polygons:  |
| within an Old Growth                 | No 🗆              | • CAR_RCA_1391   |
| Management Area?                     |                   |  |
|                                      |                   | There are patches within the OGMA of concentrated dead and downed                          |
|                                      |                   | lodgepole pine. In these areas, leaving these trees on site will still                     |
|                                      |                   | constitute aa significant and hazardous fuel source. These concentrations                  |
|                                      |                   | need to be dispersed, or piled and burned, to reduce the surface fuel load                 |
|                                      |                   | to the targeted levels (Sec H.3). In areas of lighter concentration, cutting               |
|                                      |                   | stems to lie flat will be acceptable, as long as target levels are met.                    |
|                                      |                   |  |
|                                      |                   | The overall intent is to reduce significant surface fuels that present a                   |
|                                      |                   | wildfire hazard while preserving "primary old seral forest characteristics".               |
|                                      |                   | With regards to coarse woody debris, "Primary Old Seral Forest                             |
|                                      |                   | Characteristics" means, within an interface or primary fuel break, large                   |
|                                      |                   | coarse woody debris, and dead and declining trees where they do not                        |
|                                      |                   | represent a significant safety hazard. These significant concentrations of                 |
|                                      |                   | dead and downed lodgepole create a significant wildfire risk safety hazard.                |
|                                      |                   | The primary approach for achieving this will be as follows:                                |
|                                      |                   | <ul> <li>Removal of significant areas of dead and downed beetle killed PI, that</li> </ul> |
|                                      |                   | represents a significant wildfire hazard and cannot be treated on site.                    |
|                                      |                   | Surface clean-up of materials added to the site  |
|                                      |                   | Surface dealt up of materials duded to the site  |
|                                      |                   | Reference: Amendment #4 to the CCLUP – Objectives for Fuel                                 |
|                                      |                   | Management.  |
| RECREATION FEATURES - FRPA sect      | ion 56 and 149,   |  |
| Does the proposed treatment area     | Yes ⊠             | Map Label – REC259108 – Wonderland Trail Network   |
| contain interpretive sites,          | No □              |  |
| recreation trails, recreation sites, |                   | A registered recreation trail network managed by the Gold Rush Cycling                     |
| recreation facilities that are of    |                   | Club is encompassed within the project area. They will be consulted                        |
| significant recreation value and     |                   | regarding the fuel management work.  |
| are designated a resource            |                   |  |
| feature?                             |                   | It was suggested by Gold Rush Cycling Club representatives that certain                    |
|                                      |                   | trees along bike trails are critical for the integrity of the trails. These "Trail         |
|                                      |                   | Trees" are to be "marked' by the Club for retention (ribbon colour to be                   |
|                                      |                   | provided to crews prior to implementation).  |
| VISUAL QUALITY OBJECTIVES - GAR      | section 7, FRPA   | sections 180 and 181, FPPR section 9.2   |
| Is the proposed treatment within     | Yes 🗆             | The proposed treatments are not within a EVQO.   |
| a scenic area?                       | No ⊠              |  |
|                                      |                   |  |
|                                      |                   |  |
| ARCHAEOLOGICAL RESOURCES/CU          | LTURAL HERITAG    |  |
| Are there any known                  | Yes □             | An AIA desktop assessment and subsequent field survey were completed.                      |
| archaeological sites or cultural     | No ⊠              | Results indicated only low potential for archaeological materials and no                   |
| heritage resources that are          |                   | further archaeological assessment was recommended for the proposed                         |
| important to First Nations within    |                   | development.   |
| the proposed area?                   |                   |  |
| No Referral to Land Manager is requ  | uired if proposed | TU is on the applicant's own First Nation Land.  |





| vilatire kisk keduction   |                   |  |  |  |
|---|-------------------|--|--|--|
| INVASIVE PLANTS - FRPA section 47   | and FPPR sectio   | n 17   |  |  |
| Is the introduction and spread of invasive plants likely as a result of the proposed treatment?   | Yes □<br>No ⊠     | A mapped site is located in the treatment area (ObjectID 17041, BT). However, "Jurisdiction" is listed as BC Hydro so the location is more likely to be in the powerline right of way, that is outside and west of the treatment area.  There is a risk that crews could spread non-identified invasive plants within the treatment area. Care should be taken to avoid contact with invasive plants during treatment activities, with frequent inspection of clothing and equipment. Yearly monitoring for invasive activities should be employed, with the possibility of conducting transects to measure any potential increase.  |  |  |
| NATURAL RANGE BARRIERS - FRPA   | section 48 FPPR   |  |  |  |
| Are there natural range barriers within the proposed treatment area that are likely to be removed or rendered ineffective?  | Yes □<br>No ⊠     | No natural range barriers exist within the treatment area.   |  |  |
| SPECIES AT RISK – FPPA section 7  |                   |  |  |  |
| Are there species at risk present within the boundaries of the prescribed treatment area?   | Yes □<br>No ⊠     | A search on the CDC iMap system was completed on January 25, 2024. An overlap with a masked occurrence was detected. A project area shapefile was sent to the CDC for review. The following response was received on February 1, 2024: "You do not need details of the secured CDC Element Occurrences in the area to plan for activities at your site due to the distance from your area of interest and type of element."  An iMap search under "Species and Ecosystems at Risk – (Masked Secured) Publicly Available occurrences – CDC" did not identify occurrence within the project area.  Federally Listed Species  An iMap search under the "Critical Habitat for Federally-Listed Species at Risk" did not identify occurrence within the project area. |  |  |
| LAND USE OBJECTIVES (Higher Leve  | l Plans and objec | tives set by Government under the <i>Land Act</i> )  |  |  |
| Are there land use objectives (higher level plans or objectives under the Land Act) that apply to the proposed treatment area or a Road Permit necessary to provide access to the treatment area? | Yes ⊠<br>No □     | The Cariboo-Chilcotin Regional Land Use Plan (CCLUP) and Quesnel Sustained Resource Management Plan (SRMP) covers this treatment area.  A Road Permit will be necessary to access WL-FTU3.   |  |  |
| Do the proposed activities conflict with land use objectives (higher level plans or objectives under the Land Act)?   | Yes □<br>No ⊠     | There are no known conflicts with land use objectives.   |  |  |
| Is there evidence the proposed activities could create a windthrow hazard. Has a hazard assessment been completed.  | Yes □<br>No ⊠     | There were no observed evidences of windthrow – FTU WL-3 has significant dead and downed lodgepole pine that was the result of mortality from the historical mountain pine beetle outbreak. Proposed treatment activities like spacing and pruning should not create a significant windthrow hazard.   |  |  |





| G. OTHER CONSIDERATIONS AND REQUIREMENTS |           |              |   |   |  |  |  |
|--|-----------|--------------|---|---|--|--|--|
| ENGAGEMENT AND CONSULTATION              | – FIRST I | NATIONS      |   |   |  |  |  |
| FIRST NATION                             |           |              | SUMMARY OF ENGAGEMENT, INFORMATION        |   |  |  |  |
|  |           |              | SHARING, CONCERNS IDENTIFIED AND MEASURES |   |  |  |  |
|  |           |              | TO ADDRESS                                |   |  |  |  |
|  |           | Informa      | atio                                      | n Sharing Letter and map – February 2024  |  |  |  |
| Lhtako (Red Bluff) Dene                  |           |              |   | 5 ·   |  |  |  |
| Nation                                   |           |              |   | Received comments: "Follow all recommendations  |  |  |  |
|  |           |              |   | from the PFR/AOA/AIA report that was included in your referral package."  |  |  |  |
| Tsilqot'in National Government           |           | Informa      | ation                                     | n Sharing Letter and map – February 2024  |  |  |  |
| rangot in National Government            |           | 1111011111   | atioi                                     | in Sharing Letter and map Tebruary 2024   |  |  |  |
|  |           |              |   | Received comments: No concerns with it moving forward   |  |  |  |
| ?Esdilagh First Nation                   |           | Informa      | atio                                      | n Sharing Letter and map – February 2024  |  |  |  |
| _  |           |              |   | – to Tsilqot'in National Government   |  |  |  |
| Tl'etinqox Government                    |           | Informa      | atior                                     | n Sharing Letter and map – February 2024  |  |  |  |
|  |           |              |   | <ul><li>to Tsilqot'in National Government</li></ul>   |  |  |  |
| First Nations consultation               | Yes       | $\boxtimes$  |   |   |  |  |  |
| complete?                                | No        |              | Th  | e City of Quesnel sent referral letters to identified First Nations.  |  |  |  |
|  | 110       |              |   |   |  |  |  |
| CONSULTATION – GENERAL                   |           |              |   |   |  |  |  |
| N/A                                      |           |              |   |   |  |  |  |
| EXISTING TENURE HOLDERS (Forest,         | Range G   | Guide Out    | fitte                                     | ers Tranners etc.)  |  |  |  |
| Tenure Holder                            |           | Concern      |   | Measures proposed to address licensee's assets /  |  |  |  |
| renare noider                            |           |              |   | concerns  |  |  |  |
| TR0513T018                               |           | Yes ⊠        |   | Based upon feedback from the trapper, the following direction is  |  |  |  |
|  |           | No $\square$ |   | given regarding potentially detected traps and retention of fur-  |  |  |  |
|  |           | 110 🗀        |   | bearing habitat:  |  |  |  |
|  |           |              |   |   |  |  |  |
|  |           |              |   | Trapper has requested that some debris piles be left for habitat for  |  |  |  |
|  |           |              |   | fur-bearing mammals. In Section I DEBRIS PILING: SURFACE FUEL   |  |  |  |
|  |           |              |   | CLEANUP modified the prescription to retain small mammal habitat  |  |  |  |
|  |           |              |   | piles, at least 30 metres from trails. This habitat should be piles of  |  |  |  |
|  |           |              |   | mixed sized woody debris up to 3 meters by 1.5 meters and no more than one meter high. A target of two per hectare, at least 30m from   |  |  |  |
|  |           |              |   | any existing trails. These piles are not to be burned.  |  |  |  |
| PRIVATE PROPERTY                         |           |              |   | ···   ··   ··   ···   ···   ···   ···   ···   ···   ···   ···   ···   ··· |  |  |  |
| Does private property border the         |           | Yes ⊠        |   | There is a very small adjacency to private property on the southwest  |  |  |  |
| proposed treatment area?                 |           | No $\square$ |   | corner of the proposed treatment area.  |  |  |  |
| · ·                                      |           | 110 🗆        |   |   |  |  |  |
| SMOKE MANAGEMENT                         |           | 🖂            |   | Durning must be done in compliance with ORCO  |  |  |  |
| Does a smoke management plan             |           | Yes 🗵        |   | Burning must be done in compliance with OBSCR.  |  |  |  |
| beyond OBSCR exist for the propose       | d         | No 🗆         |   | Burning must be done in compliance with The City of Quesnel Smoke   |  |  |  |
| treatment area?                          |           |              |   | Management for Prescribed Burning on the Forest Fuel Management   |  |  |  |
|  |           |              |   | Program   |  |  |  |





| SAFETY  |               |  |
|---|---------------|--|
| Have any specific safety concerns been  | V [7]         | Registered mountain bike trails exist throughout the treatment area.   |
| identified in or adjacent to the proposed treatment area?   | Yes ⊠<br>No □ | Project work will need to be coordinated with the trail users, the Gold Rush Cycling Club. Burn piles will be located a minimum of 10 m from trails.   |
|   |               | Danger tree removal will require extensive signage and spotters to avoid recreation users entering the active falling area. If danger tree felling occurs within 2 tree lengths of private land, land owners need to be informed and requested to avoid the area until felling is completed. |
|   |               | Steep slopes and rock bluffs exist throughout the project area. See Sec I: SAFETY / OPERATIONAL  |
| UTILITIES & INFRASTRUCTURE  |               |  |
| Are utilities or infrastructure located in or adjacent to the proposed treatment area? i.e. power lines, rail lines, etc. | Yes ⊠<br>No □ | There are no utility lines within the treatment area. BC Hydro powerline right of way exists along the western boundary.   |
| area: i.e. power illies, rail lilles, etc.  |               | Treatment activities within proximity to the utility lines must comply with the WorkSafeBC OHS Regulation Part 19: Electrical Safety, and related Guideline, specifically with regards to requirements for a Certified Utility Arborist.   |
|   |               | The storage of debris and pile burning is not permitted within the BC Hydro powerline ROW.   |
|   |               | Burn piles are to be located a minimum of 20 meters from the cleared RoW edge.   |
|   |               |  |
| ACCESS CONTROL  |               |  |
| Are there any foreseen issues with access and access control during and post treatment?                                   | Yes ⊠<br>No □ | Access created for FTU WL-3 will allow access into the site, for that TU. Care should be taken to block access during treatment, after hours. Once treatment is completed, the access needs to be removed and re-contoured to prevent any post-treatment access to the site.                 |
|   |               | Access is through private land and permission from the land owner will need to be negotiated.  |
|   |               |  |
| TRAFFIC CONTROL   |               |  |
| Is traffic control required at any point during operations?   | Yes □<br>No ⊠ | n/a  |
| OTHER (e.g. Public Notification)  |               |  |
|   |               |  |



## H. FUEL LOADING AND TREATMENT SPECIFICATIONS

H.1 TREATMENT SPECIFICATIONS SUMMARY

#### FUEL REMOVAL/RETENTION STRATEGY BY SIZE/SPECIES

(Summarize specifications for surface, ladder and standing fuel removal and retention)

## ALL FTU SUMMARY

- Timing
  - Operations will commence after peak recreation use (ie. late fall, winter season).
- Maintaining Integrity of Trails / Existing Access Structures
  - Mountain Biking / Hiking Trails
    - No burning within 10m of existing trails.
    - All debris must be removed from existing trails.
    - Preserve marked "Trail Trees" (Sec F: RECREATION FEATURES).
    - Not to be utilized for mechanical access or paralleled.
    - Crossing of existing trail will be, where safe to do so at 90 degrees, all crossings to be identified and approved prior to commencement of work.
- Mechanical Appropriate Equipment
  - If mechanical equipment, utilize the lowest ground pressure equipment to minimize site disturbance.
  - Trail integrity must be preserved or returned to original condition

## FTU WL-1

## L1

- ≥15.1 cm DBH
  - Target 3% Dead Standing (17 sph {All Species})
  - Dead danger trees felled for safety will be limbed, ensured >80% lying flat, cut lengths as per Chief Forester's Guidance and left on site. Live danger trees that are felled, must be removed from site to prevent attracting bark beetles.
- 12.5 15cm DBH
  - Target 20% (34sph {All Species})

#### 12-14

- <1.3m 12.4cm DBH
  - Target 62% (684sph {All Species})

Fall all dead stems < 20 cm dbh, down to 1 meter in height, except for designated wildlife trees (Sec I – Safety/Wildlife Danger Trees). Space by targeting the suppressed and poor form stems < 15 cm dbh. Retain all live stems up to 0.5 meters in height (L4).



Wildfire Risk Reduction



#### FTU WL-2

L1

- ≥17.5 cm DBH
  - Target 16% Dead Standing (112 sph {All Species})
  - Dead danger trees felled for safety will be limbed, ensured >80% lying flat, cut lengths as per Chief Forester's Guidance and left on site. Live danger trees that are felled, must be removed from site to prevent attracting bark beetles.
- 15.1 17.4cm DBH
  - Target 33% (28sph {All Species})
- 12.5 15cm DBH
  - o Target 49% (28sph {All Species})

#### L2-L4

- <1.3m 12.4cm DBH
  - Target 75% (1456sph {All Species})

Fall all dead stems < 20 cm dbh, down to 1 meter in height, except for designated wildlife trees (Sec I – Safety/Wildlife Danger Trees). Space by targeting the suppressed and poor form stems < 15 cm dbh. Retain all live stems up to 0.5 meters in height (L4).

#### FTU WL-3

L1

- ≥17.5 cm DBH
  - Target 21% Dead Potential (134 sph {All Species})
  - o Live danger trees that are felled, must be removed from site to prevent attracting bark beetles.
- 15.1 17.4cm DBH
  - Target 53% Dead Potential (150sph {All Species})
- 12.5 15cm DBH
  - Target 50% Dead Standing/Dead Potential (67sph {All Species})

#### L2-L4

- <1.3m 12.4cm DBH
  - Target 53% (601sph {All Species})

#### SUMMARY:

- Mechanical Appropriate Equipment
  - o Use of low ground pressure forwarding machinery site disturbance to be minimized.
  - o Full sized harvesting equipment (ie. buncher, skidder) are not appropriate.
  - Crossing of existing trails will be, where safe to do so, at 90 degrees. All crossings to be identified and approved prior to commencement of work.

Fall all dead stems < 20 cm dbh, down to 1 meter in height, except for designated wildlife trees (Sec I – Safety/Wildlife Danger Trees). Space by targeting the suppressed and poor form stems < 15 cm dbh. Retain all live stems up to 0.5 meters in height (L4).



Wildfire Risk Reduction



| H 2 STAND FUEL LOADING |      |                   |             |     |    |           |        |         |
|------------------------|------|-------------------|-------------|-----|----|-----------|--------|---------|
|                        | וו ה | CTAI              | -           |     |    | -         | $\sim$ | N 1 /   |
|                        | н,   | $\sim 1 \Delta 1$ | <b>(11)</b> | -11 | -1 | 1 1 1 1 1 |        | ıvı ( · |

Complete a STAND and STOCK TABLE (SST) appendix for each FTU. The SST(s) must be attached to this document. A professional volume estimate is required when merchantable tree cutting is prescribed and a timber cruise should be considered when cutting  $>50 \text{ m}^3/\text{ha}$  or  $>500 \text{ m}^3$  in total.

• Merchantable harvest is prescribed, to increase crown spacing in order to facilitate more effective aerial attack and reduce crown fire intensity.

# STAND AND STOCK TABLE SUMMARY

(All data here in is from Appendix (ie; H.2.i))

| FTU – WL-1          |         |                            |     |       |                               |     |       |
|---------------------|---------|----------------------------|-----|-------|-------------------------------|-----|-------|
|                     |         | STEMS PER HECTARE<br>(sph) |     |       | VOLUME PER<br>HECTARE (m³/ha) |     |       |
|                     |         | Existing                   | Cut | Leave | Existing                      | Cut | Leave |
| Total – All Species | Layer 1 | 619                        | 51  | 568   |                               |     |       |
|                     | Layer 2 | 201                        | 150 | 51    |                               |     |       |
|                     | Layer 3 | 434                        | 284 | 150   |                               |     |       |
|                     | Layer 4 | 467                        | 250 | 217   |                               |     |       |
| TOTAL - ALL LAYERS  |         | 1721                       | 735 | 986   |                               |     |       |

| FTU – WL-2          |         |          |                    |       |          |           |       |
|---------------------|---------|----------|--------------------|-------|----------|-----------|-------|
|                     | • • •   |          | MS PER HE<br>(sph) | CTARE |          | OLUME PER |       |
|                     |         | Existing | Cut                | Leave | Existing | Cut       | Leave |
| Total – All Species | Layer 1 | 854      | 168                | 686   |          |           |       |
|                     | Layer 2 | 113      | 85                 | 28    |          |           |       |
|                     | Layer 3 | 571      | 400                | 171   |          |           |       |
|                     | Layer 4 | 1257     | 971                | 286   |          |           |       |
| TOTAL - ALL LAYERS  |         | 2795     | 1624               | 1171  |          |           |       |





|                     | FTU – WL-3 |      |                     |          |       |                          |       |
|---------------------|------------|------|---------------------|----------|-------|--------------------------|-------|
|                     |            | STEN | VIS PER HE<br>(sph) | CTARE    |       | OLUME PER<br>CTARE (m³/h |       |
|                     | Existing   | Cut  | Leave               | Existing | Cut   | Leave                    |       |
|                     | Layer 1    | 1052 | 351                 | 701      | 215.9 | 50.2                     | 165.7 |
| Total – All Species | Layer 2    | 267  | 200                 | 67       |       |                          |       |
|                     | Layer 3    | 200  | 134                 | 66       |       |                          |       |
|                     | Layer 4    | 667  | 267                 | 400      |       |                          |       |
| TOTAL - ALL LAYERS  |            | 2186 | 952                 | 1234     |       |                          |       |

| H.3 SURFACE FUEL LOADING (T/ha)   |                    |                          |                  |                         |                  |
|-----------------------------------|--------------------|--------------------------|------------------|-------------------------|------------------|
| Size Class (cm)                   | Existing<br>Volume | Existing<br>Distribution | Target<br>Volume | Target Distribution     | Methodology Used |
| Fine Woody Debris (≤7cm)          |                    |                          |                  |                         |                  |
| WL-1                              | 9.1                | Even                     | 10               | Light and discontinuous | FRDA 001         |
| WL-2                              | 7.7                | Even                     | 10               | Light and discontinuous | FRDA 001         |
| WL-3                              | 13.3               | Even                     | 17               | Light and discontinuous | FRDA 001         |
| Large Woody Debris (>7cm – 20cm)  |                    |                          |                  |                         |                  |
| WL-1                              | No Data            | n/a                      | n/a              | Light and discontinuous | FRDA 001         |
| WL-2                              | 7.2                | Even                     | 5                | Light and discontinuous | FRDA 001         |
| WL-3                              | 89.1               | Concentrated             | 10               | Light and discontinuous | FRDA 001         |
| Coarse Woody Debris (CWD) (>20cm) |                    |                          |                  |                         |                  |
| WL-1                              | No Data            | n/a                      | n/a              | Light and discontinuous | FRDA 001         |
| WL-2                              | 9.8                | Even                     | 5-8              | Light and discontinuous | FRDA 001         |
| WL-3                              | 20.6               | Even                     | 5-12             | Light and discontinuous | FRDA 001         |

| H.4 CROWN CLOSURE and CANOPY BULK DENSITY |                   |                                   |  |  |  |
|---|-------------------|-----------------------------------|--|--|--|
|   | All:              | Existing: (dead/live - deciduous) | Target:                                    |  |  |
|   |                   |                                   |  |  |  |
| Crown Closure (%)                         | WL-1 – 28         | WL-1 – 0/13                       | All FTUs – 25-30%                          |  |  |
|   | WL-2 – 30         | WL-2 – 0/0                        |  |  |  |
|   | WL-3 – 18         | WL-3 – 0/0                        |  |  |  |
|   | All:              | Existing: (Dead / Live)           | Target:                                    |  |  |
|   |                   |                                   |  |  |  |
| Canopy Bulk Density                       | Existing crown    | Existing dead and live deciduous  | Reduce crown bulk density through a        |  |  |
| (description including                    | closure is not a  | does not significantly contribute | combination of spacing of smaller stems,   |  |  |
| fuel stratum gap)                         | direct            | to crown bulk density, however    | pruning lower branches. Crown bulk density |  |  |
|   | representation of | dead stems will be felled where   | naturally reduced in TU3.                  |  |  |
|   | canopy spacing.   | they constitute a safety hazard.  |  |  |  |

# H.5 TREATMENT SPECIFICATION RATIONALE



## Wildfire Fuel Reduction Quantification

The BCWS has set targets for wildfire threat reduction work that include either a surface fire intensity of under 2000 kW/m or a critical surface fire intensity below the crown fire threshold. To meet the intent of the BCWS guidance, the following data was used to calculate the post-treatment Surface Fire Intensity.

#### Critical Surface Fire Intensity

- Wx Station Hixon
- BCWS supplied Rate of Spread (RoS) 1.6 m/min
- Live Crown Base Height: ≥ 3 m
- Fuel Load (T/ha)
  - o Calculated Acceptable Target: 17.1
  - o Existing:
    - WL-1: 9.1
    - WL-2: 7.7
    - WL-3: 13.3
  - o Target:
    - WL-1: 5
    - WL-2: 10
    - WL-3:
- Foliar Moisture 95%
- Critical Surface Fire Intensity (CSI)
  - o BCWS target: < 824.1 kW/m
  - Calculated Existing (kW/m):
    - WL-1: 437
    - WL-2: 370
    - WL-3: 638
- Post Treatment Surface Fire (Wildfire) Intensity (SFI) N/A (as the current CSI is below target CSI)

The calculated SFI for the post-treatment stand is below the BCWS target CSI. This treatment as outlined will meet the intent of the BCWS guidance.

| H.6 BIODIVERSITY AND FOREST HEAL | H.6 BIODIVERSITY AND FOREST HEALTH CONSIDERATIONS AND TARGETS (Pieces / ha)  |  |  |  |
|----------------------------------|--|--|--|--|
| WOODY DEBRIS – GENERAL           | Any surface fuel that are decayed (decay class 3, 4 and 5, bark loose and sapwood brown and crumbly) can be cut to lie flat on the ground and retained on site.                      |  |  |  |
| Retention Targets                | No jackpots, crossed or elevated logs are to be left on site – all retained coarse woody debris is to be de-limbed and cut to lie flat to the ground.                                |  |  |  |
|                                  | All woody debris cut to lie flat should be cut at ≥2 m lengths.  |  |  |  |
| LARGE WOODY DEBRIS (LWD)         | Existing LWD decay class 1 and 2 debris is to be redistributed. Treatment related LWD is to be piled for burning.  |  |  |  |
| Retention Targets                |  |  |  |  |
|                                  | MEASUREABLE: 90% of debris from decay class 1 and 2. No remaining LWD should be crossing and should be cut flat and flush to the surface of the ground, wherever possible.           |  |  |  |
| COARSE WOODY DEBRIS (CWD)        | Distribution to be 5 meters between individual pieces, where feasible (decay class 1 and 2). CWD to be left in full length pieces whenever possible and lying flat. Excess debris is |  |  |  |
| Retention Target                 | to be cut into firewood lengths and piled for burning.   |  |  |  |
|                                  | Chief Forester – minimum of 6 big CWD pieces / ha  o >20 cm in diameter and >10 m in length  |  |  |  |





|                  | MEASUREABLE: No remaining CWD should be crossing and should be cut flat and flush to the surface of the ground, wherever possible.   |
|------------------|--|
| WILDLIFE TREE    | Retained live, healthy trees ≥ 15 cm dbh will contribute to future wildlife tree recruitment. All safe (Level of Disturbance 2) dead stems > 20 cm dbh will be retained.                           |
| Retention Target | Unsafe dead stems > 20 cm dbh will be placed in No Work Zones (NWZ).   |
|                  | MEASUREABLE: All assessed dead stems (wildlife trees) are to be marked and unsafe dead stems placed in NWZs, before crew work begins in the area. NWZs are not to exceed 5% of the treatment area. |
| FOREST HEALTH    | The mature live stand appears healthy.  There is remnant mortality from the previous mountain pine beetle infestation.   |



Wildfire Risk Reduction



| I. TREATMENT DESCRIPTION   |                    |  |  |  |  |
|--|--------------------|--|--|--|--|
| MERCHANTABLE HARVEST   |                    |  |  |  |  |
| Is merchantable timber harvest being prescribed? ☐ Yes ☒ No  |                    |  |  |  |  |
| Are there any challenges to harvesting the timber?   ☐ No  |                    |  |  |  |  |
| Road access for FTU WL-3 still needs to be determined.     □ N/A   |                    |  |  |  |  |
| Is there opportunity to utilize post treatment fiber? $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$  |                    |  |  |  |  |
| ROADS, LANDINGS AND TRAILS (e.g., will new road construction be required, is there existing roads that will  | ill be utilized?): |  |  |  |  |
| Yes, for FTU WL-3. Will connect from old existing road access structures.  |                    |  |  |  |  |
| FELLING (e.g., is there special measures required for felling, hand falling areas, etc.):  |                    |  |  |  |  |
| • Felling within FTU WL-3 will be required for safety and access to down merchantable timber.  |                    |  |  |  |  |
| • Felling of danger trees may occur in FTUs WL-1 and WL-2. Safety precautions must be taken near trails.   |                    |  |  |  |  |
| YARDING/SKIDDING (e.g., is there specific yarding areas identified, is forwarding preferred over skidding due to sensitive soils in some areas etc.):  |                    |  |  |  |  |
| • FTU WL-3 will have removal of dead and downed trees (historical pine beetle kill). Forwarding is mandatory. There are restrictions to crossing recreation trails (H.1 TREATMENT SPECIFICATIONS SUMMARY). |                    |  |  |  |  |
| PROCESSING, LOADING AND HAULING (e.g., are there specific areas identified regarding where these activities may occur?):   |                    |  |  |  |  |
| Mapped proposed landing locations need to be finalized in the field.   |                    |  |  |  |  |
| SLASH DISPOSAL (e.g., is there a recommended slash disposal method?):  |                    |  |  |  |  |
| Removal or burning.  |                    |  |  |  |  |
| SPECIAL MEASURES:  |                    |  |  |  |  |

## SAFETY / WILDLIFE DANGER TREES

<u>Tree Falling</u> – hand falling of danger trees and trees 15 cm and greater are to be performed by a WorkSafeBC certified faller.

<u>Wildlife Danger Tree Assessments</u> – to be conducted by a certified Wildlife Danger Tree Assessor, in the appropriate module (Forest Activities), in good standing.

Trees need to be assessed by a certified danger tree assessor during the year of treatment and placed in no work zones if required to eliminate worker exposure. The danger tree assessments and marking has not been completed as assessments are only good for one year. Up to 5% of the FTU can be retained in no work zones.

## SAFETY / OPERATIONAL

<u>Steep Slopes</u> – steep slopes and rock outcrops occur within the treatment areas

When operating on steep slopes, operators should work within the scope of their training and experience. Various equipment will have different limitations based off worker skill sets/experience and equipment specifications. When exceeding recommended slope limitations, a safety briefing should be held to ensure adequate safety coverage is available and all onsite workers are informed and rationale is documented.



Wildfire Risk Reduction



#### STAND MODIFICATION TREATMENTS

#### **BRUSHING:**

Live deciduous shrubs are to be retained. Dead and dying deciduous brush will be cut and added to the burn piles.

#### PRUNING:

Pruning will be conducted on all conifers over 3m in height. For conifers 3-6 meters in height, pruning will be to 50% of tree height (to maintain 50% live crown). For trees > 6m, pruning will be to a minimum of 3 meters to the lowest branch tip (droop or sweep). This may require higher stem pruning to account for branch droop or sweep on large conifers (especially in Sx). Pruning will include both dead and live branches with resulting branch stubs not to exceed 1 cm in length on stems <30 cm DBH and 2 cm on the stems >30cm DBH. This prescribed pruning height is designed to create a full 3-meter gap between surface and crown fuels, reducing the possibility of a crown fire, candling and spotting potential. Wildlife trees require no pruning.

MEASUREABLE: 95% of conifers over 3 meters in height are pruned. Over 90% of these meet the specification depending on tree height.

#### SPACING:

The trees targeted for removal include:

- Trees < 15cm and within 1m of the dripline;
- Conifers with less than 20% live crown, suppressed and/or inter-tree competition;
- Unhealthy conifers with poor form, stem scars, snow press, root lift, mushroomed tops or no distinct leader;
- Dead standing trees over 1.0 meter in height and < 20 cm at DBH;</li>
- Spacing to an average of 3 meters inter-stem distance.
- Priority is to remove the smaller diameter trees (> 1.3 m in height) and retain the larger diameter trees with the best form.
- Species selection for tree spacing should attempt to mimic current composition present in the existing young regeneration. (refer to Section D)

Maximum stump height for spacing – 10 cm

Maximum stumps angle – 15 degrees from horizontal

Spaced trees to be cut below the lowest branch.

No live conifers ≥ 15 cm at DBH will be removed during the spacing activities unless they are leaning more than 30 degrees from vertical, or are severely damaged and creating a difficulty for falling larger stems (dangerous for level of disturbance 2 activities).

MEASUREABLE: The above spacing parameters are to be met over 90% of the area.



Wildfire Risk Reduction



#### **DEBRIS PILING:**

Surface fuel cleanup will involve targeting all debris from spacing and at least 90% of the pruning, excluding designated coarse woody debris as described in each FTU CWD section. All of the spaced tree stems will be added to burn piles or removed from site. Barkless debris more than 25% buried in the organic littler layer (Decay Class 3, 4 and 5 debris) can be retained regardless of size, to prevent site disturbance. Large (7-20 cm dbh) and coarse woody debris (>20 cm) in close proximity to the ground in advanced state of decay can be retained.

Piles should be in openings away from dominant tree driplines. The spacing regime can be altered to accommodate suitable burn pile openings. Any scorched stems ≤ 15cm will be added to the burn piles.

#### Restrictions to Piling:

- Size: 3 m wide ↔ and 2 m high ‡
- ≥ 10 m from all recreation structures, trails, access surfaces
- ≥ 20 m from private land boundaries
- No piling in natural depressions or gullies

MEASUREABLE: Over 90% of debris from 1 to 20 cm in diameter, excluding the Decay Class 3, 4 and 5 debris, is collected and placed in burn piles. 100% of spaced conifer stems ≤ 15 cm, placed in debris piles. Larger pieces can be left for CWD targets.

NOTE: Debris piles in landings resulting from stem removal will be burned under appropriate licencing and industrial restrictions (Category 3 open fire).

## **Snow Conditions**

Fuel management activities are best conducted under snow free conditions. Fuel work can be conducted with snow on the ground as long as the fine fuel targets can be met (as per current calculations).

#### **PILE BURNING:**

All piled debris is to be burned under proper venting and dryness conditions that will not allow fire spread more than two meters from the piles.

Use of the "Hot Fed" method of feeding existing burning piles is recommended to reduce the number of burn piles needed, and to facilitate hotter and therefore cleaner burning.

All burning is to follow the Open Burning and Smoke Control Regulation.

All burning to occur a minimum of 20 m from the cleared BC Hydro powerline RoW.

#### **Small Mammal Habitat Retention**

Retain small mammal habitat piles a minimum of 30 metres trails. This habitat should be piles of mixed sized woody debris, up to 3 meters by 1.5 meters, and no more than one meter high. A target of two per hectare. These piles are not to be burned.

MEASUREABLE: Individual burn piles to be at least 95% consumed, with an obvious effort made to push in the perimeter debris, to be called completed.

MULCHING: N/A
MASTICATION: N/A

GRINDING: N/A

## **CULTURAL / PRESCRIBED FIRE:**

Cultural / prescribed fire may be recommended for future maintenance treatments.

**PLANTING:** No planting is prescribed. This prescription has been developed to leave a stocked stand post-treatment.



Wildfire Risk Reduction



#### **FLAGGING:**

Project area perimeters are flagged with yellow WILDFIRE RISK REDUCTION (WRR) printed ribbon. FTU internal boundaries are flagged with yellow WILDFIRE RISK REDUCTION (WRR) printed ribbon. The perimeter stations are flagged with solid red and yellow WRR ribbon. The marking scheme is to be provided to crews before work commences. No other flagging in the area is related to this project. All ribbon is winter weight.

OTHER:

AUTHORIZATION AND TIMBER TENURE REQUIREMENTS (To be populated in consultation with the land manager. E.g., BC Parks, Natural Resource District, Mountain Resorts Branch etc.)

FRPA Section 52: n/a

FRPA > FRR SECTION 16: An authorization for an industrial activity on a Recreation Site

Forestry License to Cut (FLTC): Permit required from the Quesnel Natural Resource District.

Park Use Permit: n/a

Road Permit or Road Use Permit: n/a

Other (i.e., local government, utilities, etc.): n/a

| J. POST TREATMI                    | J. POST TREATMENT   |  |  |  |  |  |
|------------------------------------|---------------------|--|--|--|--|--|
|                                    | Tree<br>Layer       | Crown and understory spacing will allow an increase for light and nutrient availability. Regen stems that are retained will have better vigor post-treatment.                |  |  |  |  |
| EXPECTED<br>VEGETATION<br>RESPONSE | Shrub<br>Layer      | With increased light and nutrient availability, there will be an increase in this layer. Post-treatment areas where the shrub layer is more dominant will flush more easily. |  |  |  |  |
| NEST ONSE                          | Herb/Grass<br>Layer | This layer is expected to respond to the opening of regen patches along with the increased availability of light and nutrients.  |  |  |  |  |

#### **MONITORING AND MAINTENANCE:**

Fuels: Monitor and assess increased understory stem densities, ladder fuels and elevated dead fuels.

<u>Invasives:</u> Care should be taken to avoid contact with previously unidentified invasive plants during treatment activities, with frequent inspection of clothing and equipment. Yearly monitoring for invasive plant ingress should be employed, with the possibility of conducting transects to measure any potential increase.

<u>Forest Health:</u> No evidence of Douglas-fir bark beetle was observed in this project area. Care should be taken to limit damage to large Fd (ie; mechanical, fire damage).

<u>Windthrow:</u> There was no evidence of windthrow observed within the prescription area. Target species for removal will be spruce, with more windfirm Douglas-fir targeted for retention.

#### Planned / Scheduled Monitoring & Maintenance:

|                     | 0                       |         |   |
|---------------------|-------------------------|---------|---|
| Time Post Treatment | Activity / Treatment:   | FTU(s): | Comments:   |
| (months / years)    |                         |         |   |
| Yearly              | Monitor                 | All     | Monitor all trails and access structures for invasive plant activities. |
|                     |                         |         | Visual assessment of new windfall and forest health issues.             |
| 5 Year              | Assess Fuel Loading,    | All     | Walk through to visually assess increases in sph and surface fuels,     |
|                     | windfall, forest health |         | and potential new windfall and forest health issues                     |
| 10 Year             | Assess Fuel Loading,    | All     | Plot sampling to assess increases in sph and surface fuels, and         |
|                     | windfall, forest health |         | potential new windfall and forest health issues                         |



Wildfire Risk Reduction



| Triggers | For | Maintenance | Treatments: |
|----------|-----|-------------|-------------|
|----------|-----|-------------|-------------|

- Increase in down surface debris
- Increase in sph of ladder fuels
- Increase in elevated dead fuels
- Significant windfall
- Presence of bark beetle attack

| SILVICULTURE OBLIGATIONS: Do silvicultural obligations apply to the treatment area?                   | $\square$ Yes | ⊠ No |
|---|---------------|------|
| <b>PLANTING:</b> Is planting identified in this prescription or required as a legislative obligation? | ☐ Yes         | ⊠ No |

#### **STOCKING STANDARDS:**

This wildfire prescription is not covered by the Forest Stewardship Plan or other upper level plans.

Wildfire Stocking Standards for Uneven-Aged Stand was created for this prescription using an adapted DQU – Single Tree Selection stocking [Result SID 1028277]. If the minimum stocking standards are not met in L1, then the "nested total" method will be used to meet minimum stocking standards within the remaining layers.

| Layer | Target p&a | Min p&a | Min p |
|-------|------------|---------|-------|
| 1     | 600        | 300     | 250   |
| 2     | 800        | 400     | 300   |
| 3     | 1000       | 500     | 400   |
| 4     | 1200       | 700     | 600   |

|      |          |            |           | ,    | Well-Space | d Stem/ha | à                  | NA:nime Hairdat /ma |        |     |       |         |
|------|----------|------------|-----------|------|------------|-----------|--------------------|---------------------|--------|-----|-------|---------|
|      | Stocking |            |           | MSS  |            |           | Minimum Height (m) |                     |        |     | Free  |         |
|      | Standard |            |           |      | Pref. &    |           |                    |                     |        | RTH | Regen | Growing |
| FTU  | ID       | Pref. Spp. | Acc. Spp. | TSS  | Acc.       | Pref.     | MITD               | Spp.                | Others | (%) | Delay | (years) |
| WL-1 | 80196    | Fd, Pl     |           | 1200 | 700        | 600       | 2                  | Fd – 1.4            | n/a    | 150 | 7     | 12      |
|      |          |            |           |      |            |           |                    | PI - 2.0            |        |     |       |         |
| WL-2 | 80198    | Fd, Pl, Sx |           | 1200 | 700        | 600       | 2                  | Pl – 2.0            | 1.0    | 150 | 7     | 12      |
|      |          |            |           |      |            |           |                    | Fd – 1.4            |        |     |       |         |
| WL-3 | 80197    | Fd, Pl, Sx |           | 1200 | 700        | 600       | 2                  | Fd – 1.4            | 1.0    | 150 | 7     | 12      |
|      |          |            |           |      |            |           |                    | Pl – 2.0            |        |     |       |         |





| K. Outstanding Works                       |                                |                                 |  |
|--|--------------------------------|---------------------------------|--|
|  |                                |                                 |  |
| Wildlife-Danger Tree Assessment            |                                |                                 |  |
| It is recommended that a Wildlife-Da       | anger Tree Assessment be co    | onducted to assess leave tree   | es and establish no-work zones   |
| as required.                               |                                |                                 |  |
| Completed: Yes \( \sigma\) No \( \sigma\)  | Date:                          | Initials:                       | ]  |
| completed. Tes 🗆 No 🗀                      | Dute.                          | miciais.                        | J  |
|  |                                |                                 |  |
| Recreation Features:                       |                                |                                 |  |
| Critical trail related trees (Trail Trees  | •                              | nsistent ribbon colour should   | d be used. Ribbon colour should be   |
| provided to prescription implementa        | tion crews.                    |                                 | 7  |
| Completed: Yes $\square$ No $\square$      | Date:                          | Initials:                       |  |
|  |                                |                                 |  |
| <b>Public Safety and Recreation Featur</b> | es:                            |                                 |  |
| To avoid conflict, it is recommended       | to install signage in the area | a to inform users of the plani  | ned start and end dates, and of  |
| safety measures.                           |                                |                                 |  |
| Completed: Yes ☐ No ☐                      | Date:                          | Initials:                       | ]  |
|  | 1                              |                                 | _  |
| Recreation Features – Section 16:          |                                |                                 |  |
| A FRPA > FRR SECTION 16 authorizat         | ion must be obtained from I    | Recreation Sites and Trails R   | C prior to the commencement of   |
| fuel management activities.                | ion must be obtained from      | recreation sites and Trails Bo  | e prior to the commencement or   |
|  | Date:                          | Initials:                       | 1  |
| Completed: Yes 🗌 No 🗌                      | Date.                          | IIIItiais.                      | J  |
|  |                                |                                 |  |
| Invasive Plant – Mitigation and Red        |                                |                                 |  |
| Due to high public use in the area, it     |                                |                                 |  |
| materials over exposed mineral soil        |                                |                                 |  |
| burned. Seeding will use a Canadian        | registered commercial seed     | d mixture suitable to the area  | a.   |
| Completed: Yes $\square$ No $\square$      | Date:                          | Initials:                       |  |
|  |                                |                                 |  |
| Private Property:                          |                                |                                 |  |
| It is recommended that a legal land s      | survey be carried out to verif | y and/or establish the location | on of real property boundaries.  |
| Completed: Yes 🗆 No 🗆                      | Date:                          | Initials:                       | ]  |
| •  | 1                              |                                 | _  |
| Private Property Consultation:             |                                |                                 |  |
| Recommend referring/notifying the          | nrivate landowners within 2    | 00m of the proposed treatm      | ents at least 2 months prior to  |
| harvest and/or fuel treatment. It is       |                                |                                 |  |
|  | strongly recommended to re     | erer/notiny private landowne    | is at least 2 months prior to  |
| conducting any broadcast burning.          | Data                           | Initials                        | 1  |
| Completed: Yes 🗌 No 🗌                      | Date:                          | Initials:                       | J  |
|  |                                |                                 |  |
| Smoke Management - OBSCR Section           | <del></del>                    |                                 |  |
| It is recommended that a Notificatio       | n under Section 23 (2)(a) of   | the OBSCR for open burning      | under plan for community   |
| wildfire risk reduction be provided.       |                                |                                 | 7  |
| Completed: Yes $\square$ No $\square$      | Date:                          | Initials:                       |  |
|  |                                |                                 |  |
| Public Safety and Traffic/Access Con       | trol:                          |                                 |  |
| Access controls may not stop all recr      |                                | nents. Signs must be posted     | on access points, roads and  |
| trails. Contractors and operators mu       |                                |                                 |  |
| Completed: Yes  No                         | Date:                          | Initials:                       | ]  |
| completed. Tes 🗆 No 🗀                      | Date.                          | Title dist                      | 1  |
| Migratory/Prooding Pinds                   |                                |                                 |  |
| Migratory/Breeding Birds:                  | the Art Continue 24            | adamal Mismata Binda C          | Continue Ant annululus de la lactura de la continue |
| To ensure compliance with BC Wildli        |                                |                                 | _  |
| nesting and feeding sites in this area     |                                |                                 | ng season (May & to August 2).<br>T  |
| Completed: Yes 🗌 No 🗌                      | Date:                          | Initials:                       | ]  |
|  |                                |                                 |  |





| Coarso Woody Dobris and Dobris Bil   | os for Habitat and Foraging   | for Eurhoarors:      |  |  |  |  |  |  |
|--|---|----------------------|--|--|--|--|--|--|
|  | Coarse Woody Debris and Debris Piles for Habitat and Foraging for Furbearers: |                      |  |  |  |  |  |  |
| Maintain coarse woody debris (CWD) and debris piles for small mammal habitat and furbearer preying, foraging and cover |   |                      |  |  |  |  |  |  |
| opportunities.   |   |                      |  |  |  |  |  |  |
| Completed: Yes ☐ No ☐  | Date:   | Initials:            |  |  |  |  |  |  |
|  |   |                      |  |  |  |  |  |  |
| <b>Access through Private Land:</b>  |   |                      |  |  |  |  |  |  |
| Permission to access through private   | land (permission from the l   | and owner) obtained. |  |  |  |  |  |  |
| Completed: Yes ☐ No ☐  | Date:   | Initials:            |  |  |  |  |  |  |
|  |   |                      |  |  |  |  |  |  |
| Forestry License to Cut (FLTC):  |   |                      |  |  |  |  |  |  |
| Arrange for a FLTC for Cutting Author  | rity for fire hazard abatemen   | t.                   |  |  |  |  |  |  |
| Completed: Yes ☐ No ☐  | Date:   | Initials:            |  |  |  |  |  |  |
|  |   |                      |  |  |  |  |  |  |
| Road Permit:   |   |                      |  |  |  |  |  |  |
| The need for a road permit must be determined, and acquired, if necessary, prior to commencing operations.             |   |                      |  |  |  |  |  |  |
| Completed: Yes ☐ No ☐  | Date:   | Initials:            |  |  |  |  |  |  |





| L. ADMINISTRATION                           |                              |   |                              |  |  |  |
|---|------------------------------|---|------------------------------|--|--|--|
| PREPARATION                                 |                              |   |                              |  |  |  |
|   |                              |   |                              |  |  |  |
| QUALIFIED REGISTERED PROFESSIONAL           | NAME (Printed)               | QUALIFIED REGISTERED PROFESSIONAL   | SIGNATURE                    |  |  |  |
| David A Christie                            |                              | Mary Comments of the Comments |                              |  |  |  |
| PROFESSIONAL ASSOCIATION & MEMBE FPBC: 2715 | R NUMBER                     | DATE March 11, 2024   |                              |  |  |  |
|   |                              |   |                              |  |  |  |
| M. ATTACHMENTS                              |                              |   |                              |  |  |  |
| MAPS:                                       | Yes ⊠ No □                   | FIELD DATA CARDS:   | Yes ⊠ No □                   |  |  |  |
| WUI WTA Plots and Photos:                   | Yes □ No ⊠                   | CRUISE DATA:  | Yes □ No ⊠                   |  |  |  |
| AIR PHOTOS/IMAGERY:                         | Yes □ No ⊠                   | BURN PLAN:  | Yes □ No ⊠                   |  |  |  |
| MODELING/DATA ANALYSIS:                     | Yes □ No ⊠                   | STAND & STOCK TABLES:   | Yes ⊠ No □                   |  |  |  |
| SURFACE FUEL LOADING DATA:                  | Yes ⊠ No □                   | OTHER:  |                              |  |  |  |
| TERRAIN STABILITY ASSESSMENT                | Yes □ No ⊠                   | VISUAL IMPACT ASSESSMENT  | Yes □ No ⊠                   |  |  |  |
| Completed By:                               |                              | Completed By:   |                              |  |  |  |
| Date:                                       |                              | Date:   |                              |  |  |  |
| ARCHAEOLOGY IMPACT ASSESSMENT               | Yes $\square$ No $\boxtimes$ | BIOLOGIST ASSESSMENT  | Yes $\square$ No $\boxtimes$ |  |  |  |
| Completed By:                               |                              | Completed By:   |                              |  |  |  |
| Date:                                       |                              | Date:   |                              |  |  |  |
| ADDITIONAL COMMENTS:                        |                              |   |                              |  |  |  |
|   |                              |   |                              |  |  |  |
|   |                              |   |                              |  |  |  |

