

SMP – RIPARIAN FORMAT Mamin River

A. LOCATION AND GENERAL DESCRIPTION OF AREA

SU	TREATMENT AREA (TA) IDENTIFIER (General Location, Licensee, Stream Reaches, Other – e.g., GPS coordinates., photo number)	TA	TREATMENT AREA (Net) (to the nearest 1 or 0.1 ha)
1	53°24'31.9", 132°16'08.4", Please see map. This polygon is located on the east side of the Yakoun River, 2.5km downstream from where Queen Charlotte Main South crosses the Yakoun river. This polygon is roughly 1.1km long with a west northwest aspect with relatively flat terrain. The stand is dominated by Spruce, with a component of Hemlock, and overall the stand has good productivity. In the southern, upstream end of this polygon there is a forest research plot that is approximately 1 ha in size. Two of the plots fell within this area (34-8 and 34-9) and the density appears to be around 700 sph, and the area was both spaced and pruned to varying heights. Along the length of the polygon on the edge of the river to an average of about 10-15m, the stand also includes a component of Alder and tends to be closer to the floodplain. There is one area with a small portion of active floodplain close to plot 34-4.	34	8.4 Ha
Total			8.4

B. MANAGEMENT OBJECTIVES

B-1. HIGHER LEVEL PLANS

ARE ANY OF THE TREATMENT AREAS SUBJECT TO A HIGHER-LEVEL PLAN? YES NO

	PLAN NAME	Year	Month	Day
IF YES:	Haida Gwaii Forest Stewardship Plan	2011	Nov.	
	Haida Gwaii Land Use Objectives Order (Consolidated Version)	2017	Sept	21
	Haida Gwaii Land Use Objectives Order (Minor Amendment Order)	2014	April	2

B-2. STAND-LEVEL OBJECTIVES

ARE CURRENT STAND-LEVEL OBJECTIVES AVAILABLE FROM SILVICULTURE PRESCRIPTIONS? Yes No IF 'YES,' SEE ATTACHED FS 711A.

ARE CURRENT STAND-LEVEL OBJECTIVES STILL APPROPRIATE FOR THIS SUs? Yes No N/A

USE THIS SECTION TO SUMMARIZE OBJECTIVES FROM HIGHER LEVEL PLANS AND TO CLEARLY STATE STAND-LEVEL OBJECTIVES BY CATEGORY

TIMBER MANAGEMENT OBJECTIVES

No Harvesting trees from the riparian areas.

BIODIVERSITY OBJECTIVES

SU (s) The intent of the biodiversity objectives in LUO Part 4 Section 16 and 17 will be met by the treatment prescribed for SU and described in more detail below in Section D

AQUATIC AND RIPARIAN OBJECTIVES

Emulating and accelerating the natural thinning process by creating stands with a heterogenous vertical and horizontal complexity typical of old-growth forests.

This project will completely be within the riparian area and therefore subject to Aquatic Objectives as per Type II Fish Habitat of the Haida Gwaii Land Use Objectives Order (Consolidated Version) Part 3 (11) and Schedule 4. The treatment proposed is intended to accelerate the development of riparian old growth characteristics, thereby enhancing the habitat functionality. Section 47 of the Forest Planning and Practices Regulations of the Forest and Range Act provides guidance for riparian area sizes and boundaries. Other resource objectives described in these Regulations will apply in the riparian areas as well.

CULTURAL RESOURCES OBJECTIVES

STAND MANAGEMENT PRESCRIPTION – RIPARIAN

The following plants which are valued for cultural use purposes will be protected wherever they will be found: Devils club (*Oplopanax horridus*) Pacific Crab Apple (*Malus fusca*) False Hellebore (*Veratrum viride*) Stink Currant (*Ribes bracteosum*) and Pacific Yew (*Taxus brevifolia*). Western Red Cedar (*Thuja plicata*) will be exempt from thinning.

WILDLIFE MANAGEMENT OBJECTIVES

Wildlife objectives are implicit in the treatment the riparian areas will receive. A much more open stand will facilitate easier wildlife movement both on the ground and in flight. A well vertically structured forest will facilitate use of different tree layers by different bird and small animal species. Eventually the standing dead trees will provide habitat for cavity makers such as woodpeckers, and cavity dwellers, such as Keen's Mouse (*Peromyscus Keenii*) and the coarse woody debris will provide sheltered habitat for various small mammals. Opening the stand up will also encourage shrub and herbaceous plants which in turn will provide forage for black bears (*Ursus americanus*), deer* (*Odocoileus hemionus, sitkensis*), and elk (*Cervus elaphus, nelson*). As this is a potential Marbled Murrelet (*Brachyramphus marmoratus*) and the Northern Goshawk (*Accipiter gentilis*) habitat and the Northern Saw-whet Owl (*Aegolius acadicus*) nesting habitat, (LUO Part5: 18-22 and Schedules 9,11,12) accelerating the development of old growth conditions will be beneficial to the survival of these species.

*Deer browsing has reduced abundance and vigour of virtually all species of shrubs and herbs; in extreme cases, the understory structure of the forest is absent (Daufresne and Martin 1997). The direct effects of browsing are obvious and can range from reduced vigour to elimination of certain species. (Introduced Species Management in Haida Gwaii (Queen Charlotte Islands- Todd E. Golumbia)

FOREST RESERVES OBJECTIVES

The treated riparian area will be a No-Harvest-Zone as per FSP Section 6.18. It will consist of an area extending 50-meter from the Yakoun River. Functionally, the riparian area will meet the objectives of Forest Reserves..

WATERSHED MANAGEMENT OBJECTIVES

The watershed management objectives are to maintain a steady supply of water into the river systems through out the year. This SU is in an area designated as a Sensitive Watershed in LUO and Schedule 7. The Haida Gwaii FSP Sections 6.29 to 6.33 outlines the assessment and approval procedures for sensitive watersheds. This area will be managed under the direction of these two documents. No assessments need to be performed regarding possible degradation of the watershed at this time since no harvesting is planned and the 400-500 sph post treatment stocking will continue to provide sufficient crown cover thereby maintaining the current hydrology.

VISUAL LANDSCAPE MANAGEMENT OBJECTIVES (VQO)

LANDSCAPE
SENSITIVITY

VISUAL QUALITY
OBJECTIVE

THESE OBJECTIVES APPLY TO: SU (s) N/A

RECREATION MANAGEMENT OBJECTIVES

FEATURE
SIGNIFICANCE N/A

KEY
FEATURE N/A

MANAGEMENT
CLASS N/A

THESE OBJECTIVES APPLY TO: SU (s) N/A

OTHER RESOURCE VALUES/INTERESTS - MANAGEMENT OBJECTIVES

THESE OBJECTIVES APPLY TO: SU (s) N/A

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TREATMENT AREA (TA) DESCRIPTION For SU
 Within any standards unit there can be multiple geographically distinct treatment areas (TA).

Poly # 34 8.36 (ha) 53°24'31.9", 132°16'08.4", Please see map.

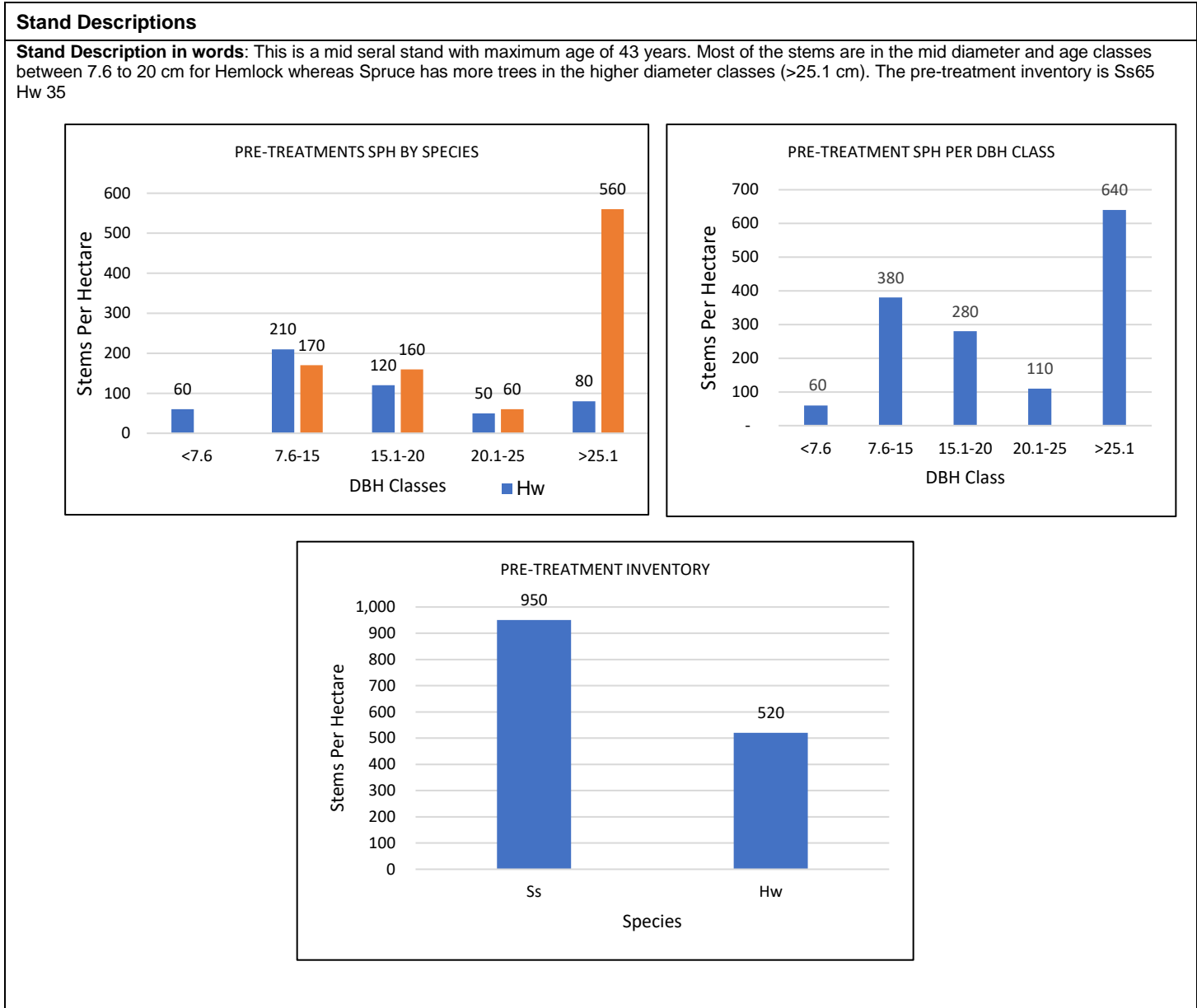
C-1. AREA DESCRIPTION

ZONE, SUBZONE, VARIANT CWH wh 1			SITE SERIES (RANGE) 101/111			MOIST/NUTR. GRID - range c-e			
ELEVATION <i>Min:77m Max:119m Avg.:95m</i>			ASPECT <i>Flat/Nor thwest</i>	SLOPE DATA <i>Min. %: 0 Max. %:50 Avg. %:9</i>			SLOPE <i>POSITION Toe/Floodpla in LENG TH 50- 70m UNIF ORMI TY unifor m</i>		
HUMUS FORM <i>moder</i>	ROOTING DEPTH 50-60		SOIL DEPTH TO RESTRICTING LAYER >100cm		SOIL TEXTURE <i>Silty loam</i>	SOIL COARSE FRAGMENT 10-20%		DRAINAGE <i>moderate</i>	
WATER COURSES <i>Water Gullies</i>		MECHANIZED STAND TENDING () Yes (x) No			IF YES, SEE OPERATIONAL PLANNING REGULATION FOR FURTHER CONTENT REQUIREMENTS				

C-2. CURRENT STAND DESCRIPTION – use table and/or describe in words

Hw		DBH			Ht			AGE						
Polygon	DBH Class	Avg.	Min.	Max.	Avg	Min	Max.	Avg	Min	Max	LC	Total sph	Residul sph	Site Index
34	<7.5											60		
34	7.6-15	13.1	11.9	14.3	15.0	12.5	17.5	25.5	25	26	13	210	50	
34	15.1-20	17	15	18	22	20	25	27	26	27	10	120	20	
34	20.1-25	23.5	23.5	23.5	25.3	25.3	25.3	31	31	31	25	50	10	
34	>25.1	37.2	37.2	37.2	26.6	26.6	26.6	43	43	43	37.5	80	40	
Total												520	120	
Ss		DBH			Ht			AGE						
34	<7.5													
34	7.6-15											170	50	
34	15.1-20	18.15	18.1	18.2	22.65	22.6	22.7	33	30	36	15	160	60	
34	20.1-25	21.35	21.3	21.4	27	25.8	28.2	33.5	26	41	15	60	50	
34	>25.1	50.37	42.6	71.9	31.6	28.2	36.5	40.5	37	43	31.67	560	200	
Total												950	360	

STAND MANAGEMENT PRESCRIPTION – RIPARIAN



C-3. FOREST HEALTH AND PROTECTION							
FOREST HEALTH							
SU		AGENT NAME	HOST SPECIES	TOTAL TREES AFFECTED (%)	TOTAL CONIFERS AFFECTED (%)	HOST TREES AFFECTED (%)	AREA (ha)
<p>FOREST HEALTH STRATEGIES: The Ministry of Forests Lands Natural Resource Operations & Rural Development on the following website has identified pests threat that can be found on Haida Gwaii. None of them were observed. https://www.for.gov.bc.ca/dqc/Forest%20Health.htm#Links to Documents, Guidebooks, and Studies</p> <p>Hemlock Dwarf Mistletoe (<i>Arceuthobium tsugense</i>), The western blackheaded budworm (<i>Acleris gloverana</i>) and hemlock sawfly (<i>Neodiprion tsugae</i>) which both defoliate hemlock and spruce trees can be found on Haida Gwaii. Both western blackheaded budworm (<i>Acleris gloverana</i>) and hemlock sawfly (<i>Neodiprion tsugae</i>) do not cause tree mortality except on poor, rocky and high elevation sites. More attention will be paid to observing the likely pests. Hemlock Dwarf Mistletoe (<i>Arceuthobium tsugense</i>) may be found. If found, affected trees will be marked for priority falling or girdling to prevent the spread of the Dwarf Mistletoe. The dead and dying trees will be left standing.</p>							
PROTECTION							
FIRE HAZARD ASSESSMENT & PROTECTION STRATEGIES: N/A							

D. TREATMENTS TO ACHIEVE TARGET STAND CONDITIONS AND OBJECTIVES

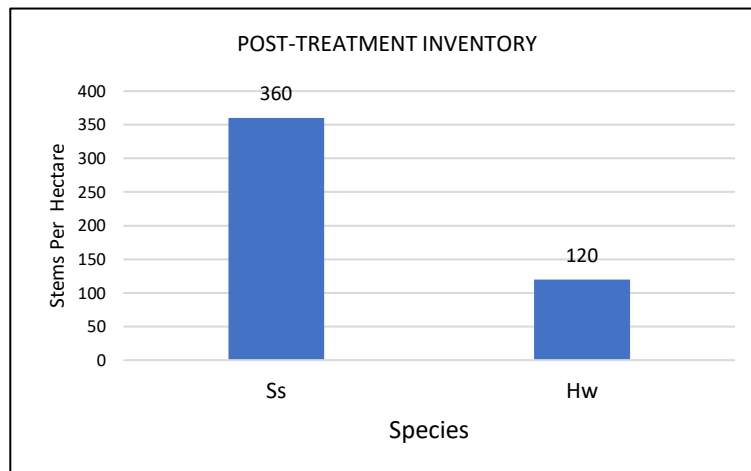
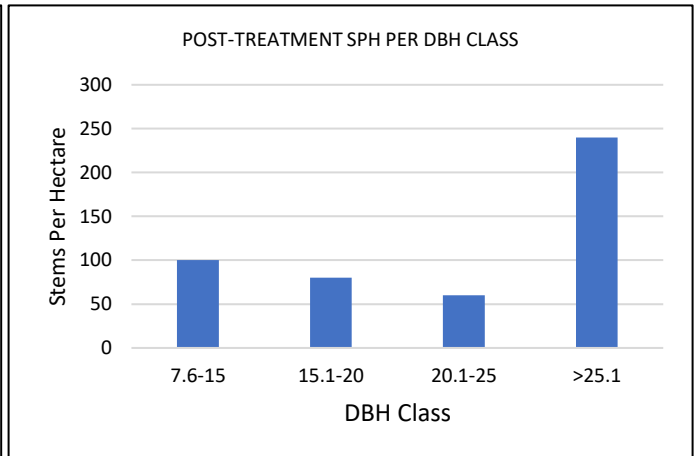
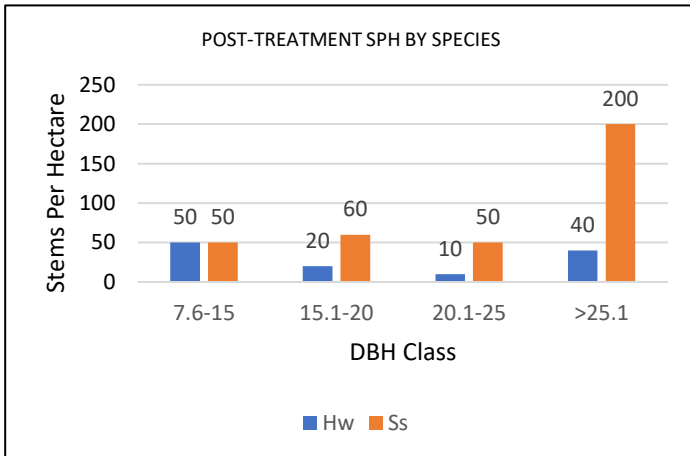
STAND TREATMENT REGIME —

Treatment is aimed at achieving the following target stand condition and characteristics:

1. Variable to uniform density retention of dominant, co-dominant and intermediate trees.
 - **Dominants:** Retain 240 sph > 25.1 cm dbh or 2-3 stems per 0.01 ha plot
 - **Co-Dominants:** Retain 140 sph from 15 cm dbh to 25.0 cm dbh or 1-2 stems per 0.01 ha plot
 - **Intermediates:** Retain 100 sph or 1 stem per 0.01 ha plot
 - **Suppressed:** Fall all stems < 7.5 cm dbh

In a situation where there are less trees in a certain diameter class to achieve the prescribed number of stems per hectare, a compensatory number of trees from adjacent higher or lower class(es) will be retained to maintain the overall stocking at 400-500 stems per hectare.

2. Ss and Cw are priority climax species
3. Dr, where present, will be retained at 20-25 sph
4. Natural gaps and clusters will be allowed to maintain and promote variable stand densities
5. Five 0.1 untreated plots (50 m x 20 m each, running perpendicular to the river), will be established per 10 hectares
6. All dead and dying trees will be left standing as wildlife trees.
7. Presence of the following cultural resources will be maintained • Devils club • Pacific Crab Apple • False Hellebore • Stink Currant • and Pacific Yew.
8. The post treatment inventory will be targeted at Ss75 Hw25



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TREATMENT STANDARDS:

1. Ribbon out active fluvial units and avoid treatment within the all flood plains.
2. Leave all large “Legacy Trees” standing,
3. Mark every leave tree at stump level with paint.
4. Thin from the bottom favouring larger stems,
5. No harvesting or extraction of trees,
6. Watch out for bird nests and wildlife trees,
7. Minimize bucking to two or three pieces, where possible. Longer boles will resist movement in high flow and trap fine debris. This is especially important on medium benches.
8. On high benches, reduce slash build-up by bucking initial trees felled and limbing them such that the stems come in close contact with the ground
9. High stumps up to 50 cm are acceptable where lower stumps cannot be attained,
10. Identify and take coordinates of substantial presence of plant species identified under Cultural Resources Objectives Section.
11. Dress girdle with a chain saw to mimic natural wounds.
12. To the extent possible, fall trees at right angles to the floodplain to maximize overflow sediment storage capability of downed slash and
13. Dr will be regarded as a ghost tree and not contribute leave tree tally calculations except in the inventory

D-1. POST-TREATMENT STANDARDS

Treatment and timing	Attributes of what is to be treated (spp, ht, age)	Area (est) ha	Standards – Stand Structural Attributes – use columns and space below.				
			Pref Spp	Acc Spp	Target	Min	BA
Spacing in Spring 2018	Based on DBH and Species		Cw, Ss, Hw	Dr	400-500	100-200 in Gaps	

D-2. SPECIAL AREAS - (TREATMENT PROPOSED)

TREATMENT AREA # 34	TYPE OF SPECIAL AREA
AREA NO.	SIZE .ha

The riparian zone is a special area. Therefore, this whole prescription is for a special area.

D-3. RESERVE AREAS – (NO TREATMENT PROPOSED)

TREATMENT AREA #	TYPE OF RESERVE AREA;N/A
AREA NO.	SIZE ha

Five 0.1 ha (10 m x 50m each) reference strips will be established across the treatment area to compare treated and untreated stand development. However, the whole treatment area is a No-Harvest-Zone as per Haida Gwaii FSP Section 6.18.

No treatment area: A 10-meter “no treatment zone” adjacent to the river bank, will be established.

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E-3. ADMINISTRATION	
PRESCRIPTION PREPARED BY	
<p>_____</p> <p>NAME <i>(Printed)</i></p> <p>Date of field work: _____</p>	<p>(RPF SIGNATURE AND SEAL):</p> <p>_____</p> <p>NAME <i>(Printed)</i></p> <p>_____</p> <p>RPF SIGNATURE</p> <p>DATE: _____ RPF NO.: _____</p>
PRESCRIPTION ATTACHMENTS:	
<p><input type="checkbox"/> ADDITIONAL SMP COMMENTS</p> <p><input type="checkbox"/> SMP MAP(S)</p> <p><input type="checkbox"/> FIELD DATA CARDS</p> <p><input type="checkbox"/> TERRAIN STABILITY FIELD ASSESSMENT</p> <p><input type="checkbox"/> FOREST HEALTH/PEST INCIDENCE ASSESSMENT</p> <p><input type="checkbox"/> ECONOMIC ANALYSIS</p> <p><input type="checkbox"/> RIPARIAN ASSESSMENT</p> <p><input type="checkbox"/> OTHER: SPECIFY: _____</p>	<p>MAJOR LICENSEE SIGNING AUTHORITY:</p> <p>_____</p> <p>Licence Holder Signing Authority Signature <i>(delete if not applicable)</i></p> <p>_____</p> <p>Licence Holder Signing Authority Name (Printed) <i>(delete if not applicable)</i></p> <p>Date</p>
AGREEMENT IN WRITING (required for felling or modification of trees in a Riparian Reserve Zone <i>Silviculture Practices Regulation section 4</i>)	
<p>_____</p> <p>Designated Environment Official Signature</p> <p>_____</p> <p>Designated Environment Official Name (Printed)</p> <p>Date :</p> <p>Original approval date (if amended): _____</p>	<p>PRESCRIPTION APPROVED BY:</p> <p>_____</p> <p>District Manager's Signature</p> <p>_____</p> <p>District Manager's Name (Printed)</p> <p>Date :</p> <p>Original approval date (if amended): _____</p>