

From: jasonkean@lowerchurchillproject.ca
To: johnmacisaac@nalcoreenergy.com
Subject: For Your Reference
Date: Tuesday, October 4, 2016 7:13:09 AM
Attachments: [.png](#)
[Valard Performance - Review with Quanta - 2-Oct-2016.pdf](#)

John,

For your files, attached is an assembled pdf of the material that was prepared for your meeting with Duke Austin.

Regards,

Jason



Valard Performance - Review with Quanta - 2-Oct-2016.pdf

Jason R. Kean, P.Eng., MBA, PMP
Deputy General Project Manager (Consultant to LCMC)
PROJECT DELIVERY TEAM
Lower Churchill Project
t. (709) 737-1321 c. (709) 727-9129 f. (709) 754-0787
e. jasonkean@lowerchurchillproject.ca
w. muskratfalls.nalcoreenergy.com

You owe it to yourself, and your family, to make it home safely every day. What have you done today so that nobody gets hurt?

Valard Performance

Review with Quanta, 2-Oct-2016

Boundless Energy



Take a
MOMENT
for Safety

Key Messages

- While recent positive production trends, without addition of resources Valard's current production rates will not result in line completion until Q2-2018
- Quanta have the ability to achieve Nov-2017 target, but appear to lack the impetus / will
- Foundation installation is key – we need 50+ sites per week, which in-turn is an increase 40%+ current rates
- Island can support immediate deployment of resources working linearly to existing resources

“Takes to Make” November 2017

- All foundations being completed by end of Aug-2017
 - Assumes a 3 month lag for follow-on activities: Erection and Stringing
 - Note that Valard’s July 2016 Tilos states a mid-July date for completion of foundations
 - Performance to-date **does not** support either of these dates
- We need concentrated focus in the geographical areas that drive critical path
 - Long Range Mountains (S3 400 to 686)
 - Shoal Cove Winter Zone (S3 1 to 93)
- We need you to mobilize of 100 to 120 supplemental resources (trades, supervision and management) across all areas of foundations and towers (excluding restringing resources)
 - Note current Valard workforce is ~550 persons

“Takes to Make” November 2017

Required Supplemental Resources

- Minimum 8 to 12 rock and grillage foundation crews (Immediate)
- Minimum 1 anchor crew (November)
- Additional assembly crews (by December)
- 1 additional erection crew (by January)
- 1 additional stringing crew (by February) to account for impact of restring operations
- Supporting supervision (progressive mobilization)

“Takes to Make” November 2017

Foundation Production

Current (Last 3 Months)

- Average 118 sites per month
- 19 crews working 20/8 schedule

We Must Have

- Average of 155 sites per month
- Peak at 200 sites per month to account for seasonality restrictions
- Additional 8 to 12 rock and grillage crews
- Advance ground-truthing and test pitting

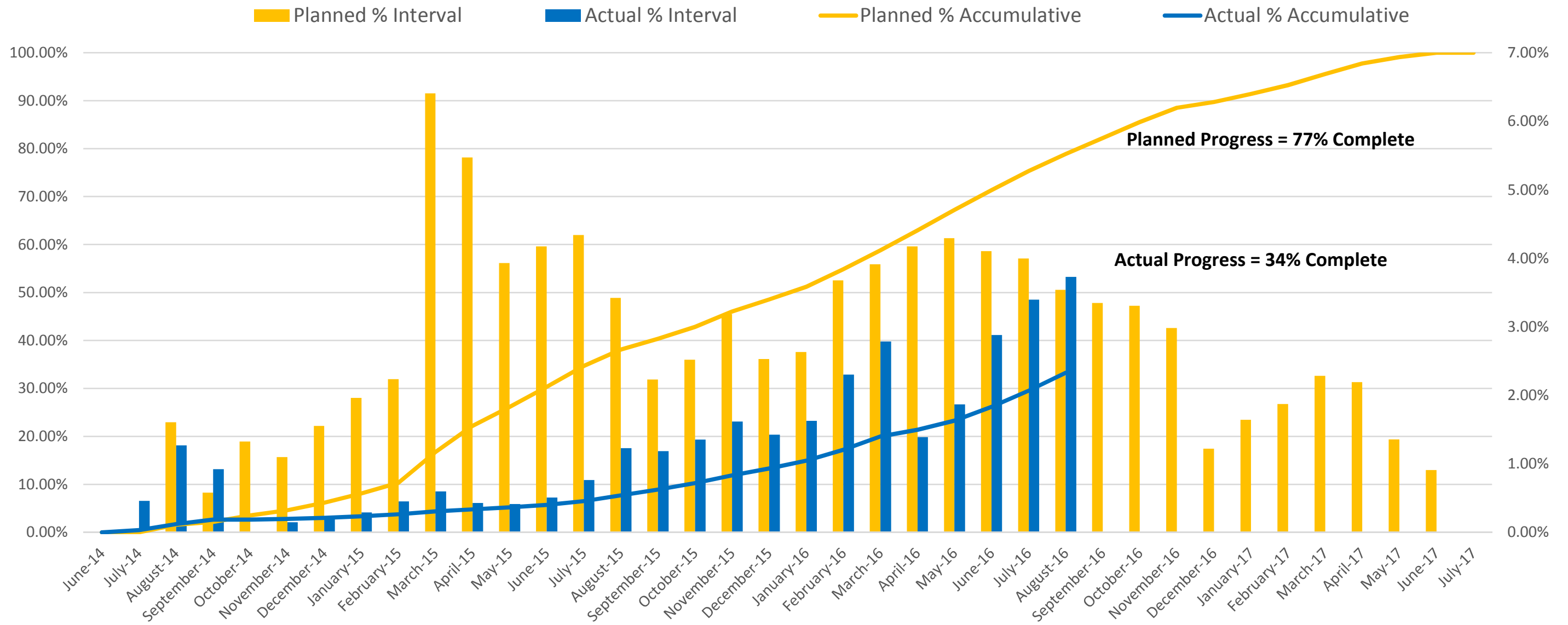
Available Foundations Locations

- Since end of 2015, we have a rolling ~ 800 almost exclusively linear structure locations where foundation installation can freely commence
- Remain access gaps in progress with progressive closure by mid-November (see map)
- Focus must be directed towards closing foundation gaps in Segments 3 and 4 and advancing into the Long Range Mountains behind the access contractor

Responding to Valard's Foundation Concerns

- No foundations on-hold or under dispute
- Optimized foundation selection program agreed
 - Test pitting program commenced with our engagement
- Geotechnical drill rig on hot standby
- Island conditions favorable for production

MFDC - Overall S-Curve (as of 31-Aug-2016)



350 kV HVdc Line Newfoundland Shoal Cove to Soldiers Pond

- Clearing & Access:
- 3113 Hectares of Right of Way cleared (74%)
 - 1405 of 1941 Tower Access Roads installed (72%)
 - 395 of 1941 Foundations Installed (20%)

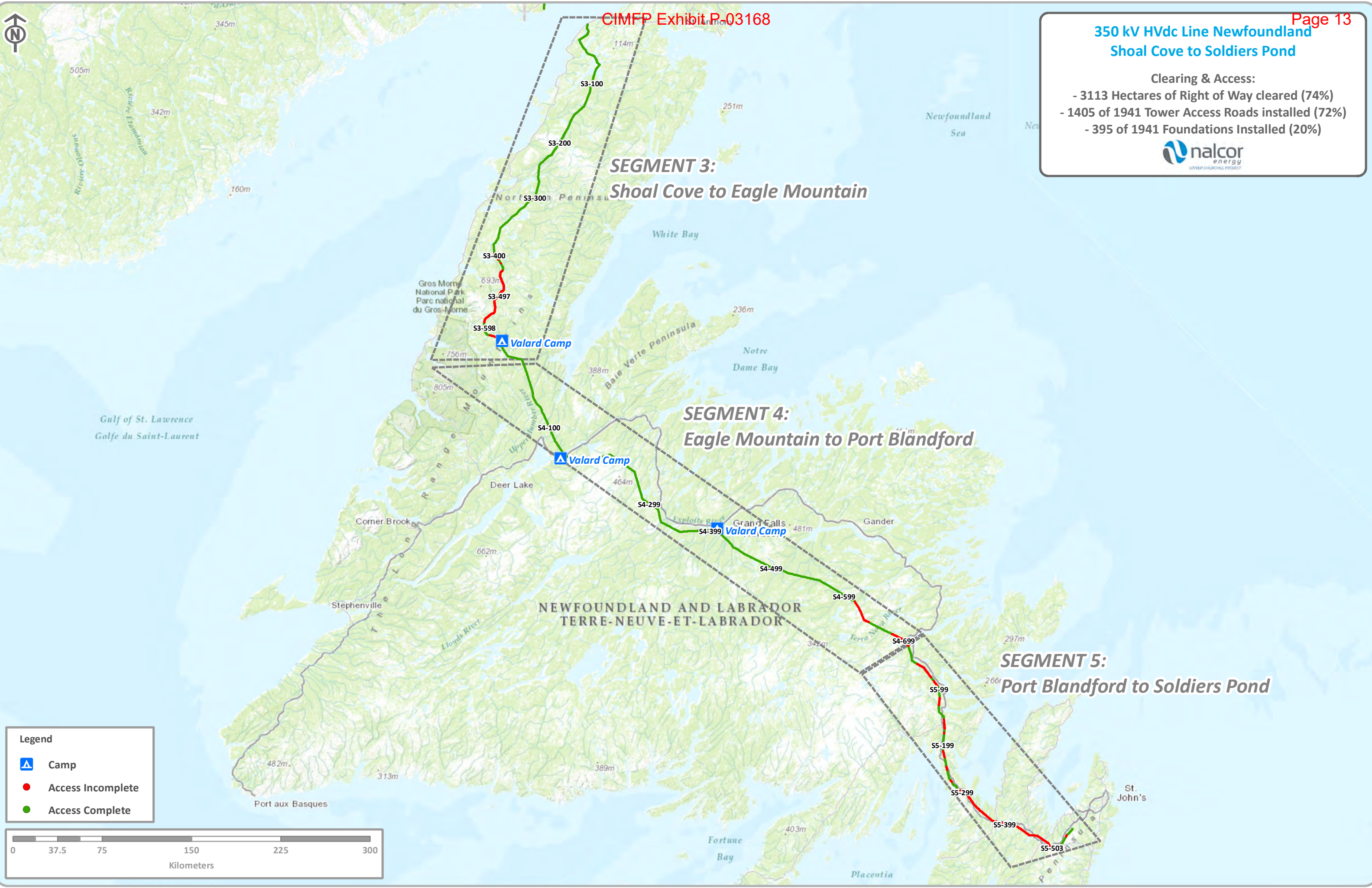


CIMFP Exhibit P-03168

SEGMENT 3: Shoal Cove to Eagle Mountain

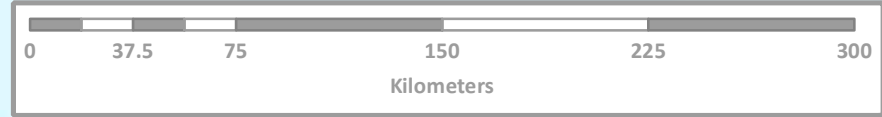
SEGMENT 4: Eagle Mountain to Port Blandford

SEGMENT 5: Port Blandford to Soldiers Pond



Legend

- Camp
- Access Incomplete
- Access Complete



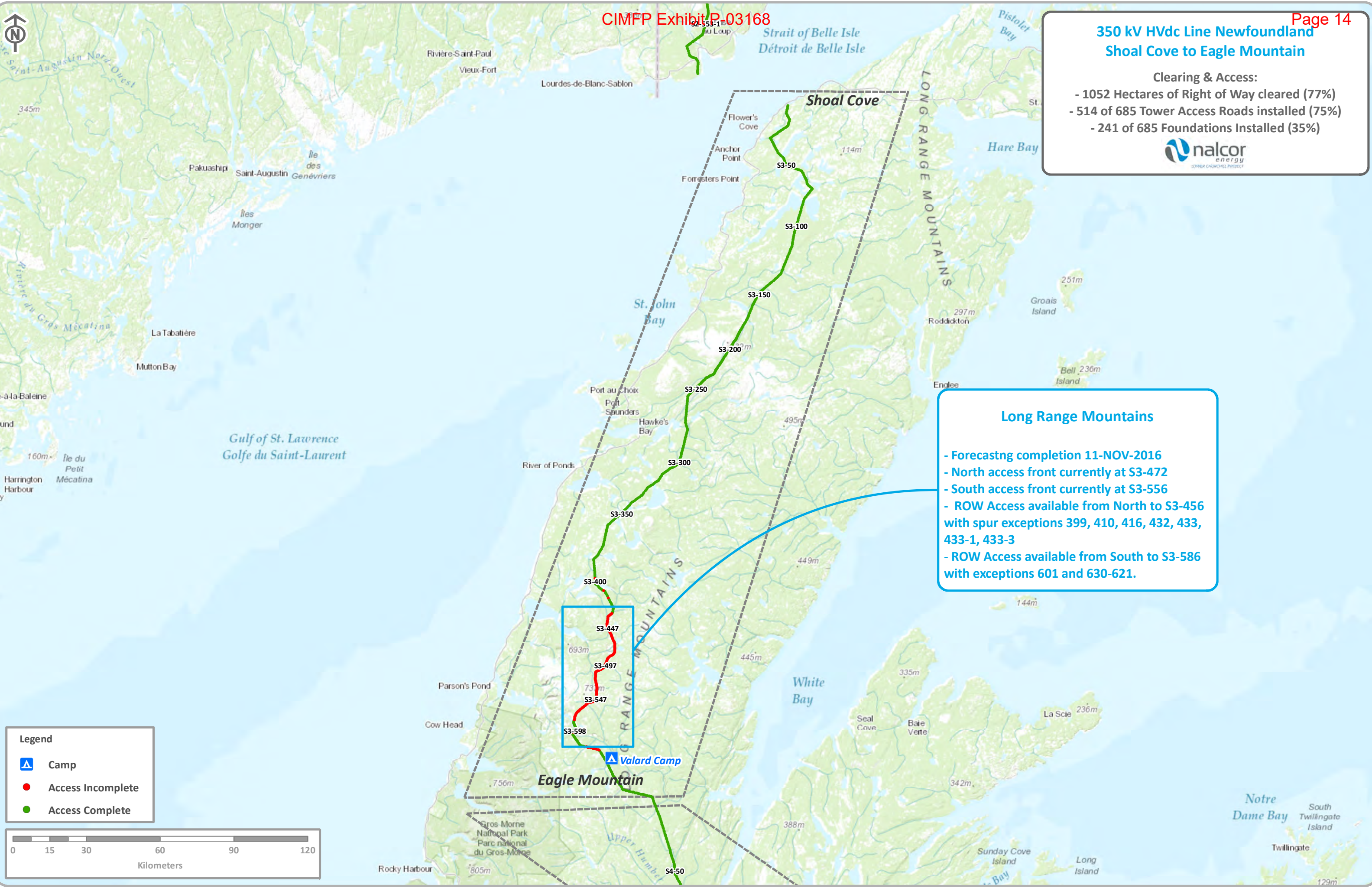
350 kV HVdc Line Newfoundland Shoal Cove to Eagle Mountain

- Clearing & Access:
- 1052 Hectares of Right of Way cleared (77%)
 - 514 of 685 Tower Access Roads installed (75%)
 - 241 of 685 Foundations Installed (35%)



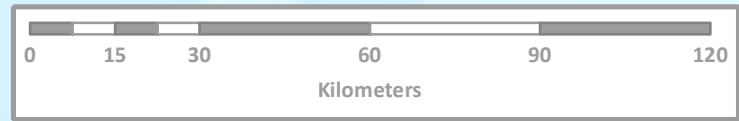
Long Range Mountains

- Forecastng completion 11-NOV-2016
- North access front currently at S3-472
- South access front currently at S3-556
- ROW Access available from North to S3-456 with spur exceptions 399, 410, 416, 432, 433, 433-1, 433-3
- ROW Access available from South to S3-586 with exceptions 601 and 630-621.



Legend

- Camp
- Access Incomplete
- Access Complete



350 kV HVdc Line Newfoundland Eagle Mountain to Port Blandford

- Clearing & Access:**
- 1702 Hectares of Right of Way cleared (97%)
 - 610 of 704 Tower Access Roads installed (86%)
 - 154 of 704 Foundations Installed (21%)



Terra Nova Winter Zone

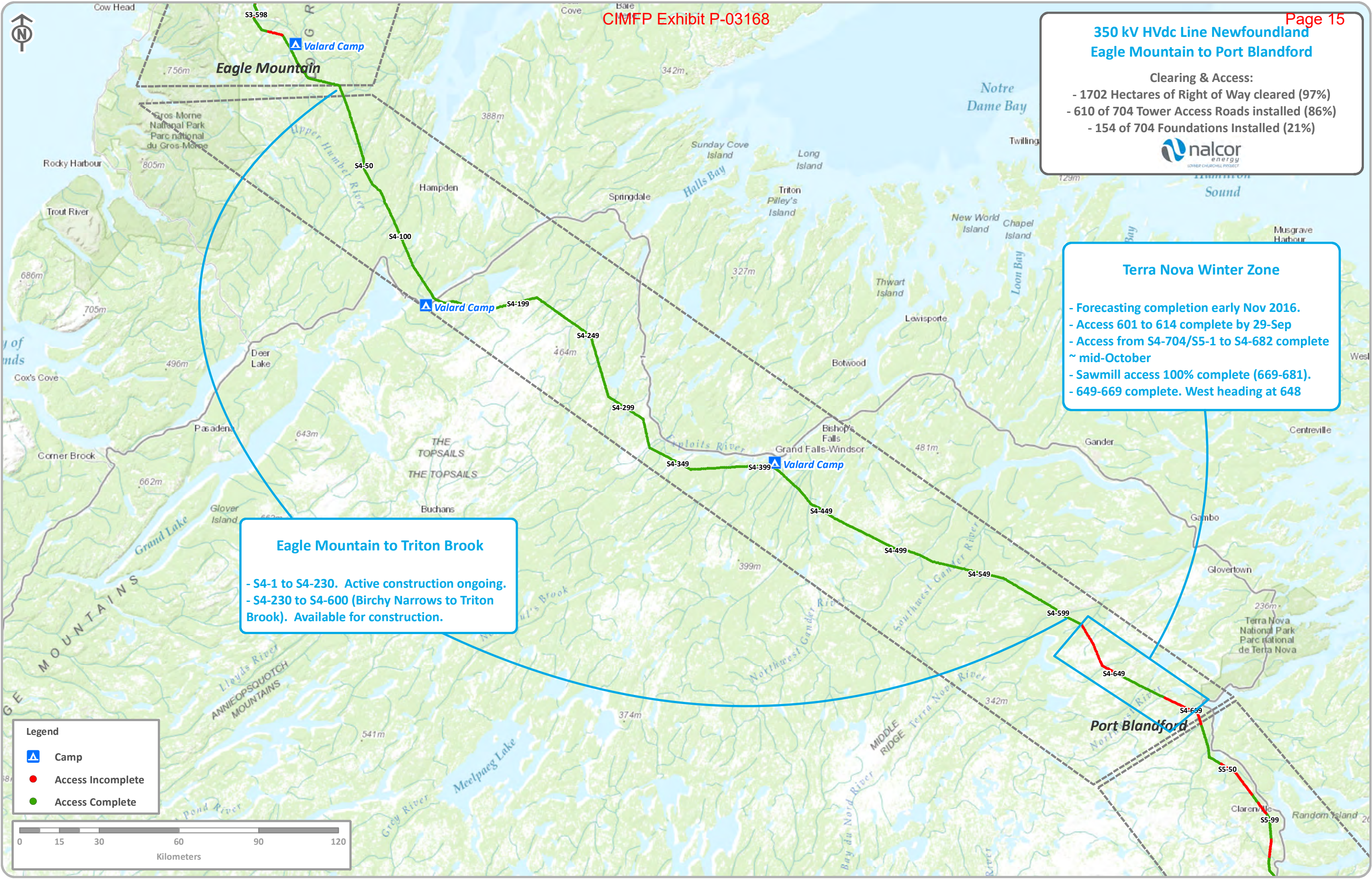
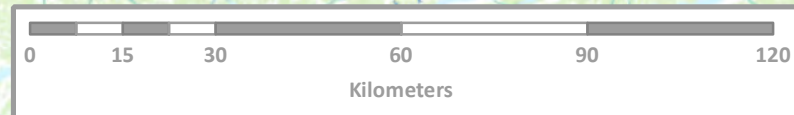
- Forecasting completion early Nov 2016.
- Access 601 to 614 complete by 29-Sep
- Access from S4-704/S5-1 to S4-682 complete ~ mid-October
- Sawmill access 100% complete (669-681).
- 649-669 complete. West heading at 648

Eagle Mountain to Triton Brook

- S4-1 to S4-230. Active construction ongoing.
- S4-230 to S4-600 (Birchy Narrows to Triton Brook). Available for construction.

Legend

- Camp
- Access Incomplete
- Access Complete



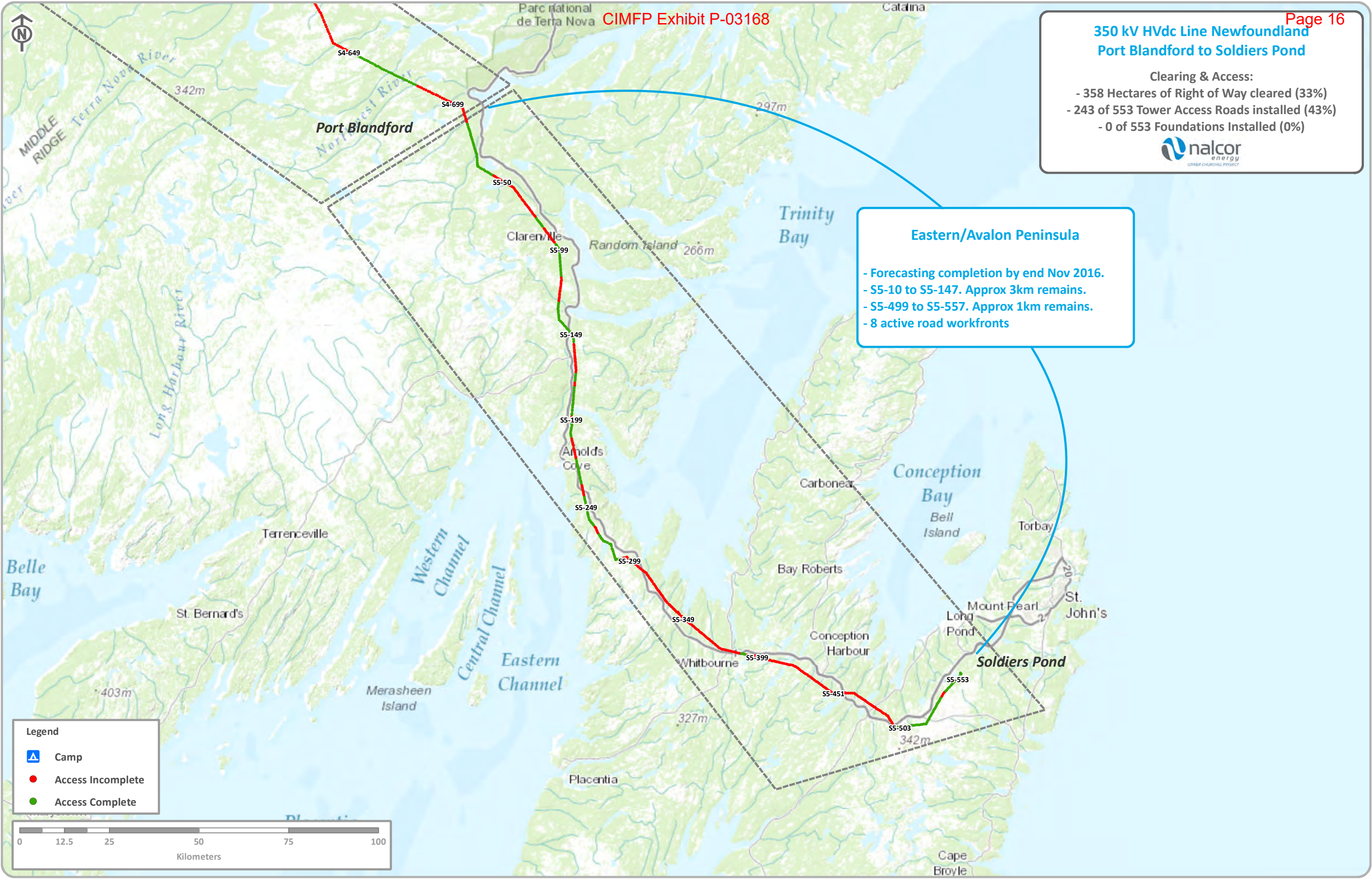
350 kV HVdc Line Newfoundland Port Blandford to Soldiers Pond

- Clearing & Access:
- 358 Hectares of Right of Way cleared (33%)
 - 243 of 553 Tower Access Roads installed (43%)
 - 0 of 553 Foundations Installed (0%)



Eastern/Avalon Peninsula

- Forecasting completion by end Nov 2016.
- S5-10 to S5-147. Approx 3km remains.
- S5-499 to S5-557. Approx 1km remains.
- 8 active road workfronts



Legend

- Camp
- Access Incomplete
- Access Complete

