WSP Canada Inc

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Cost impact of covid-19 on construction projects IN ALBERTA

Market Sounding Questionnaire

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Background

As the impacts of the novel coronavirus (COVID-19) pandemic continue to expand, the construction and infrastructure industries are being forced to navigate through unprecedented pressures. This includes both adjusting to new ways of life and to grasp on what the implications will likely mean for their operations, and especially their construction projects and their planned capital expenditure programs due to their multi-faceted components. One thing is certain, in taking the necessary precautions on work sites, coupled with important disruptions in the supply chain between material suppliers, logistics and contractors, there will be delays, loss of efficiencies, and cost impacts because of COVID-19 and related regulatory responses. There is little to no precedent to help governments and companies understand what the potential future impacts may be or when restrictions may end.

Purpose of Market Sounding and Questionnaire

Alberta Infrastructure (INFRA) has retained WSP Advisory to assess and quantify the impacts of COVID-19 on construction costs for its projects. The results of the study will enable INFRA to estimate the cost impact of COVID-19 on construction projects at the planning phase to ensure their cost estimates and expenditure forecast are in-line with current market premiums in delivering the asset. The heart of WSP’s methodology is intended to help INFRA in mapping possible paths forward in the pandemic regarding the COVID-19 risk premiums. The approach entails establishing three scenarios which will be modelled via a risk analysis: an optimistic outlook, pessimistic outlook and likely outlook. The following figure captures WSP’s hypothesis regarding the three outlooks.

The purpose of the market sounding is for WSP to undertake quality interviews with construction professionals and different stakeholders including developers, contractors, and lenders which will be the foundation of our study and heavily impact the inputs into our risk model. The current market conditions currently being experienced by construction professionals is unprecedented, and your insights will allow WSP to obtain real-time data and allow us to understand your views and envisioned market outlook related to the construction industry on a global scale.

**Confidentiality**

All questionnaire responses and subsequent discussions will be available for review by INFRA staffing but will not be shared with other construction professionals and the public. However, information provided by respondents will not be protected by a non-disclosure agreement. Responses will be reviewed by WSP, INFRA and its representatives. A summary report will be prepared without reference to respondent names for specific responses to the questions and will be used by INFRA authority staff for internal purposes.

**Special Requests**

To foster efficient collaborations between WSP and the stakeholders, we ask respondents return this questionnaire within three (3) working days of receival. This will allow WSP to tailor the dialogue on better understanding your reasoning behind the quantification number ranges provided. Detailed minutes of meeting will be taken by WSP and returned to both INFRA and respondents.

**Questionnaire**

A discussion of the responses of the questions below will be undertaken by WSP and the relevant construction professional during the interviews. Only questions that are relevant to each participant will be discussed. Participants will be asked to answer questions to the best of their ability and may defer from answering questions that are not relevant to them.

Contractors

1. What is the contractor’s general company strategy to deal with the evolving COVID-19 situation with respect to bidding and construction of projects? Please explain below.

2. What issues, risks or opportunities does the contractor foresee in (a) bidding, and (b) construction under the current COVID-19 restrictions? Please explain below.

3. What COVID-19 related issues and risks does the contractor foresee specifically regarding the supply chain of materials? Please explain below.

 i) In accounting for supply chain disruptions (supply of construction materials and goods, procurement difficulties, international shipments, etc.), please indicate the impact of supply chain disruptions on your current direct and indirect costs which would translate as a COVID-19 risk premium.

|  |  |  |  |
| --- | --- | --- | --- |
| Impact | **optimistic** | **pessimistic** |  **likely** |
| **Very Low (1-5%)**  |[ ] [ ] [ ]
| **Low (6-10%)**  |[ ] [ ] [ ]
| **Medium (11-15%)** |[ ] [ ] [ ]
| **High (16-20%)** |[ ] [ ] [ ]
| **Very High (>20%)** |[ ] [ ] [ ]

ii) Based on your current experience in the industry and market conditions, please provide insight as to impacts on lead times for shipments, both locally and internationally.

**Locally:**

[ ]  1-2 weeks

[ ]  2-4 weeks

[ ]  4-6 weeks

[ ]  > 2 months

**Internationally:**

[ ]  0-1 months

[ ]  1-2 months

[ ]  2-3 months

[ ]  > 3 months

4. What COVID-19 related issues and risks does the contractor foresee specifically regarding the impact assessment related to inefficiencies as a result of barriers such as physical distancing? Please explain below.



i) In accounting for time impact disruptions (more stringent protocols on construction sites regarding hygiene, social distancing, use of PPEs, toolbox talks on special COVID-19 requirements, etc.) please indicate the impact of time assessment disruptions on your current direct and indirect costs which would translate as a COVID-19 risk premium.

|  |  |  |  |
| --- | --- | --- | --- |
| Impact | **optimistic** | **pessimistic** |  **likely** |
| **Very Low (1-5%)**  |[ ] [ ] [ ]
| **Low (6-10%)**  |[ ] [ ] [ ]
| **Medium (11-15%)** |[ ] [ ] [ ]
| **High (16-20%)** |[ ] [ ] [ ]
| **Very High (>20%)** |[ ] [ ] [ ]

ii) Please provide insight on any innovation currently used by the contractor or is seen in the market regarding planning/execution practices utilized to mitigate lost time. Please explain below.

5. What COVID-19 related issues and risks does the contractor foresee specifically regarding the impact assessment related to the reduction in onsite productivity? Please explain below.

i) In accounting for productivity disruptions (equipment delivery and availability, labour availability, physical distancing, split-shift working, extra cleaning time, etc.) please indicate the impact of onsite productivity disruptions on your current direct and indirect costs which would translate as a COVID-19 risk premium.

|  |  |  |  |
| --- | --- | --- | --- |
| Impact | **optimistic** | **pessimistic** |  **likely** |
| **Very Low (1-5%)**  |[ ] [ ] [ ]
| **Low (6-10%)**  |[ ] [ ] [ ]
| **Medium (11-15%)** |[ ] [ ] [ ]
| **High (16-20%)** |[ ] [ ] [ ]
| **Very High (>20%)** |[ ] [ ] [ ]

ii) Please indicate under normal market conditions a typical baseline schedule for building a school in Edmonton, Alberta.

[ ]  3-6 months

[ ]  6-12 months

[ ]  12-18 months

[ ]  > 2 years

iii) Please indicate how in your view COVID-19 related disruptions would impact the schedule (additional time required) in building the same school in Edmonton, Alberta.

[ ]  1-3 months

[ ]  3-6 months

[ ]  6-12 months

[ ]  > 1 year

iv) Based on your observed labour productivity impacts on various construction crews on your current projects, please provide inefficiency percentages arising from the pandemic which you would apply to your baseline durations for the following categories:

Choose an item. Overall Project

Choose an item. Foundations Crew (standard, special, slab on grade)

Choose an item. Basement Construction Crew (excavation, walls)

Choose an item. Superstructure Crew (floor, roof)

Choose an item. Exterior Enclosures Crew (walls, windows, doors)

Choose an item. Roofing Crew (coverings, openings)

Choose an item. Interior Construction Crew (partitions, interior doors, fittings)

Choose an item. Stairs Crew (construction, finishes)

Choose an item. Interior Finishes Crew (wall, floor, ceiling)

Choose an item. Conveying Crew (elevators and lifts, escalators and moving walks, other)

Choose an item. Plumbing Crew (fixtures, water distribution, sanitary waste, rain water drainage, other)

Choose an item. HVAC Crew (energy, heat, refrigeration, distribution, instrumentation/control, testing)

Choose an item. Fire Protection Crew (sprinklers, standpipes, specialties, other)

Choose an item. Electrical Crew (service/distribution, lighting, wiring, communications/security, other)

Choose an item. Indirect (transport/accommodation, facilities, administration, permits, insurance/bonds)

v) Based on the following factors driving labour productivity impacts, please indicate how much of an impact they are having on project costs on a 5-point scale where 5 means a major impact and 1, no impact at all.

Choose an item. Learning curve effect for new workers who arrive on site to replace non-returning workers

Choose an item. Crew size inefficiency caused by a requirement to increase your crews to mitigate delay

Choose an item. Stacking of trades caused by project acceleration (compression of the work into a shorter period)

Choose an item. Absence of reasonable site access due to the addition of crews and equipment of all trades

Choose an item. Concurrent operations – unplanned stacking of your activities as a form of acceleration

Choose an item. Crew flow disruption caused by changing schedule priorities and interferences with other trades

Choose an item. Adverse effects of extended overtime schedules to mitigate delays caused by the pandemic

Choose an item. Delayed deliveries of materials and equipment caused by the pandemic effect

6. What COVID-19 related issues and risks does the contractor foresee regarding how third parties (insurance providers, sub-contractors, etc.) have reacted both on active projects and in submitting their prices (additional premiums, legal clauses, etc.) for new projects? Please explain below.

i) In accounting for third party premiums addition (additional insurance policies required, increase in claims and change orders, etc.) please indicate the impact of third-party related premiums on your current direct and indirect costs which would translate as a COVID-19 risk premium.

|  |  |  |  |
| --- | --- | --- | --- |
| Impact | **optimistic** | **pessimistic** |  **likely** |
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| **Low (6-10%)**  |[ ] [ ] [ ]
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| **Very High (>20%)** |[ ] [ ] [ ]

7. What COVID-19 related issues and risks does the contractor foresee specifically related to cost escalation and the impact on the increase in construction costs? Please explain below.

i) In accounting for cost escalation disruptions (materials, direct labour wages, equipment rentals, etc.) please indicate the impact of cost escalation disruptions on your current direct and indirect costs which would translate as a COVID-19 risk premium.

|  |  |  |  |
| --- | --- | --- | --- |
| Impact | **optimistic** | **pessimistic** |  **likely** |
| **Very Low (1-5%)**  |[ ] [ ] [ ]
| **Low (6-10%)**  |[ ] [ ] [ ]
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| **High (16-20%)** |[ ] [ ] [ ]
| **Very High (>20%)** |[ ] [ ] [ ]

ii) Please indicate the type of economic indicators (interest rates, wages, oil prices, inflation) you account for in your bid developments and their translation into quantifying cost escalation. Please explain below.

8. Please provide weights (total must equal 100%) for the following impact elements, which comprise the contractor’s COVID-19 risk premium, in terms of importance when crafting your bid on new infrastructure projects.

Choose an item. Supply Chain Disruptions

Choose an item. Barriers such as Physical Distance

Choose an item. Reduction of Onsite Productivity

Choose an item. Cost Escalation

Choose an item. Third-Party Risk Premiums

9. Based on the following factors driving increased project costs, please indicate how much of an impact they are having on project costs on a 5-point scale where 5 means a major impact and 1, no impact at all.

 Choose an item. Adjustment to on-site production schedules to achieve physical distancing requirements

Choose an item. Additional PPE

Choose an item. Staff to carry out the increased cleaning and sanitation duties

Choose an item. Time spent by supervisors on worksite sanitation, education and enforcement

Choose an item. Additional facilities to enable physical distancing

Choose an item. Daily tracking and monitoring workers on site

Choose an item. Electricity costs for example due to additional trailers or longer working hours

Choose an item. Staff to complete temperature checks

 10. As a result of COVID-19 pandemic, is your firm planning to invest in any of the following?

[ ]  Strengthening supply chain and logistics coordination

[ ]  Temperature checking capabilities

[ ]  Digitization of processes

[ ]  Strengthening or adopting BIM capabilities or other collaboration tools

[ ]  COVID-19 testing capabilities

[ ]  Contact tracing apps

[ ]  Modular or off-site construction

[ ]  Remote site monitoring capabilities, sensors or drones

[ ]  3D printing

11. Do you have any comments you’d like to add about how your firm is adapting to new safety and economic realities? Please explain below.



12. What other feedback and lessons learned can you share on what has/has not worked well on your current projects in construction with the onset of COVID-19? Please explain below.

Developers

1. Please provide insight as to the status of your development projects.

[ ]  Most are at the planning stage

[ ]  Most are about to commence

[ ]  Most are progressing

[ ]  Most are almost completed

2. Has the impacts of COVID-19 required you to cancel any projects?

[ ]  Yes

[ ]  No

[ ]  On hold

3. Please provide insight as to the main delays at the development stage (permitting, etc.) currently present due to COVID-19. Please also provide your industry outlook regarding the construction industry and market appetite given current market conditions relating to new developments. Please explain below.

4. For those projects which construction had begun, please provide insight as to the impact of closures and if you have any plans in place to reopen while keeping distancing measures in place. Please explain below.

5. Please provide insight as to the developer’s plan to adapt to supply chain disruptions and your approach to financial valuations for development projects in the midst of COVID-19. Please also shed some light as to the key elements which will make projects successful. Please explain below.

6. Please provide insight on lending conditions by financial institutions for development projects and the impact of COVID-19 on terms and conditions on outstanding debt. Please explain below.

Lenders

1. Please provide insight on loan defaults on outstanding debt, breach of debt covenants and if there has been a substantial increase in the midst of COVID-19 market conditions. Please explain below.

2. Please provide insight on your framework regarding due diligence around accepting new applications in the midst of COVID-19 and key elements which are more examined. Please explain below.

3. Please provide your outlook on lending conditions (interest rates, refinancing, tenor, etc.) and additional provisions or tighter coverage ratios going forward to take into account COVID-19 disruptions in the construction industry. Please explain below.

Respondent’s questions to INFRA and WSP

1. Respondents are invited to prepare their own questions for INFRA and WSP and return them with the questionnaire response.