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Progress on the renovation of the North Building at the Economic Commission for Latin America and the Caribbean in Santiago

Report of the Secretary-General

Summary

The present report, which is the second progress report on the seismic mitigation and renovation project of the North Building at the Economic Commission for Latin America and the Caribbean in Santiago, is submitted pursuant to section XI of General Assembly resolution 74/263.

It provides an update on the project since the issuance of the previous progress report of the Secretary-General (A/74/330), including information on efforts to mobilize voluntary and in-kind contributions, risk management and mitigation measures, the wastewater treatment plant, planned seismic mitigation measures and actions to integrate sustainable development practices into facilities management and building operations to ensure the construction of a "net zero" building.

The report also includes a detailed evaluation of the potential impact on the project of the coronavirus disease (COVID-19) pandemic and risk-mitigating measures in relation to health and safety, logistics and programming.

The project is proceeding within the approved budget and according to schedule, and it is estimated that construction will be completed by 2023. The architectural and engineering components are currently in development, and the projected costs and quality of the proposed solutions are continuously being monitored by the project management team in order to achieve United Nations objectives regarding seismic mitigation measures, energy efficiency and compliance with health and safety standards. An update of the results of the Monte Carlo analysis and efforts to mitigate potential risks during the ongoing design and construction phases, taking into consideration the impact of the pandemic, are also included in the report.

The General Assembly is requested to take note of the report and appropriate an amount of $1,642,200 for 2021.

* A/75/150.

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I. Introduction

1. The present report is the second progress report on the implementation of the seismic mitigation and renovation project of the North Building at the Economic Commission for Latin America and the Caribbean (ECLAC) in Santiago. It is submitted pursuant to section XI of General Assembly resolution 74/263 and provides an update on the progress made on the project since the issuance of the previous progress report (A/74/330).

2. The project continues to be implemented in accordance with the approved project objectives. The aim of the project is to dismantle the existing building envelope and reconstruct the building, reutilizing its current structure, to attain a code-compliant, safe, functional and efficient office building that is conducive to a more productive and sustainable working environment, while extending its useful life by 40 to 50 years. The renovation will contribute to a reduction in operating costs, as well as the establishment of functional, operational and sustainability guidelines for future projects.

3. In the report, planning and related actions for the project to date are summarized and updates are provided on: (a) project governance, including the stakeholders committee, working groups and the working relationship with the Global Asset Management Policy Service at Headquarters; (b) the project management team; (c) project benefits; (d) the risk management analysis; (e) temporary swing space; (f) the detailed analysis of energy efficiency components and the energy efficiency strategy; and (g) a revised overall cost plan based on updated projections and the latest surveys, analysis and design information.

II. Project objectives and benefits

A. Objectives

4. The key project objectives, established at the inception of the project plan, are in line with the key objectives outlined in the report of the Secretary-General on the strategic capital review (A/68/733) and have been refined as follows since the previous progress report:

(a) To meet local and international codes related to health and safety issues, including:

(i) Chilean seismic code requirements related to preparedness and structural design against potential seismic events;

(ii) Fire and life safety planning and systems design, incorporating current evacuation standards and air, water and lighting quality criteria to conform to current norms, together with fire suppression, fire alarm and public address systems;

(b) To replace major building systems that have exceeded their useful lives, including mechanical, electrical, low-voltage, plumbing, conveyor and vertical transportation systems, in order to bring the North Building up to industry standards, ensure code compliance and extend the useful life of the building;

(c) To integrate appropriate design features, such as the removal of physical barriers, to allow persons with disabilities to freely make use of the working space;

(d) To maintain the property value of the North Building, which was constructed in 1989 within the ECLAC premises;

(e) To implement a sanitary water treatment plant to allow the Commission to clean and reuse 100 per cent of the wastewater from the North Building and minimize residual sanitary waste;

(f) To move towards an energy-efficient building, specifically by reducing energy consumption, fresh water consumption, the use of non-renewable material resources and waste generation, and to improve indoor air and lighting quality;

(g) To improve space efficiency by maximizing the use of available work areas, conference facilities and meeting rooms according to the Commission's needs and to introduce a more efficient, productive and inclusive work environment by applying a needs-based approach aimed at providing different types of space tailored to the diverse requirements of the work undertaken by the Commission, including different strategic approaches and solutions for each specific area;

(h) To further develop an energy efficiency strategy to redirect energy to the ECLAC compound, including by returning surplus energy, if any, to the national grid.

5. Owing to the outbreak of the coronavirus disease (COVID-19) pandemic and its potential impact on the project, the project management team has developed a strategy for the use of workspaces that ensures the health and safety of occupants in the context of physical distancing, for as long as it is required. Furthermore, after a thorough review of current operational practices and modes of heating, ventilation and air conditioning, as well as particular conditions related to prevailing winds, orientation and the behaviour of the exterior envelope of the building, a specific strategy has been developed to significantly reduce the risk of the spread of infection among the building occupants. This will be accomplished by maintaining natural ventilation in conjunction with heating, ventilation and air conditioning and other building service systems to ensure safe and healthy working conditions. The ECLAC Facilities Management Unit is currently implementing comprehensive protocols for the use of heating, ventilation and air conditioning and continues to measure carbon dioxide emissions in the compound in accordance with World Health Organization recommendations.

B. Benefits

6. The project benefits set out in the previous report (A/74/330, paras. 6 and 7) remain unchanged. The renovation project will provide the Organization with a fully renovated and code-compliant work environment in an efficient building that meets or exceeds industry standards. The project comprises both passive and active strategies to achieve high standards of energy efficiency, energy generation and wastewater treatment, while reducing greenhouse gas emissions and achieving savings in operating costs.

III. Project governance, management and accountability

A. Project governance

7. The established overall governance structure for the project remains unchanged. The Executive Secretary of ECLAC is the project owner and is supported by a Project Executive and a dedicated project management team.

Stakeholders committee

8. The stakeholders committee was established in March 2018. Its meetings will be held on a quarterly basis until project completion in 2023, as well as on an ad hoc basis for matters requiring the immediate attention of the committee. The purpose of

the meetings is to review the status of the project and update members on it, to present schedule and budget updates and to discuss the development of design solutions as the project progresses. Additional meetings will be held to monitor the project on matters related to the COVID-19 pandemic and preventive measures, as well as advances in or changes to the schedule.

Working groups

9. As noted in the previous report, the following two working groups were established within the stakeholders committee to cover specific areas:

(a) The working group on occupational health and safety, accessibility and compliance with international standards and the United Nations Disability Inclusion Strategy includes representatives of the local staff management committee, the ECLAC Medical Services Unit, the ECLAC Facilities Management Unit and the ECLAC Safety and Security Section. It considers issues and proposes solutions based on four main aspects: United Nations regulations, international codes and industry standards; case studies of similar projects; input of ECLAC staff related to special requirements; and COVID-19 pandemic-related requirements;

(b) The working group on sustainability is composed of representatives of the ECLAC Division of Natural Resources and Infrastructure, the ECLAC Sustainable Development and Human Settlements Division and the ECLAC General Services Section. It is responsible for reviewing and proposing strategies for the identification and implementation of technical and organizational measures as part of the life cycle of the North Building, incorporating the “circular economy” concept from inception and encouraging the implementation of sustainability principles throughout the supply chain, as well as setting out clear economic benefits supported by data tools and guidance.

Coordination and oversight by the Global Asset Management Policy Service at Headquarters

10. The project management team continues to engage closely with the Global Asset Management Policy Service at Headquarters, in line with the terms of the project coordination agreement signed in 2018. The Global Asset Management Policy Service remains actively involved in overseeing the project, with an emphasis on risk management and alignment with lessons learned. Coordination meetings regarding day-to-day project execution are held regularly, at least every two weeks, between the project management team and the Global Asset Management Policy Service.

11. The Global Asset Management Policy Service is supported by an international professional firm in providing construction-related, independent risk management services for the project owner. Regular risk assessment meetings were held with the ECLAC project management team and key project stakeholders prior to the issuance of the biannual independent risk management reports. The purpose of the risk assessment meetings is to generate data from the project’s risk register to understand the potential impact that such risks could have on the overall project schedule and cost plan, and the related cost and schedule contingencies, as further described in section IV below. The independent risk management firm also participated in an ad hoc meeting organized by the Global Asset Management Policy Service in response to the COVID-19 pandemic.

B. Project management

12. The project management team has been fully recruited, including the two positions approved by the General Assembly in its resolution 73/279 A (Administrative Assistant and Facilities Management Assistant, both Local level). However,

recruitment of the Project Coordinator (P-3) to be located in the Global Asset Management Policy Service at Headquarters (cost-shared with the major construction project at the United Nations Office at Nairobi) was deliberately delayed in order to limit the possibility of overspending on project overheads as a whole on all global capital projects owing to schedule delays caused by the COVID-19 pandemic.

C. Project accountability

13. The recommendations of the Office of Internal Oversight Services resulting from its 2018 audit with regard to the following actions have been implemented: (a) assembling a project management team; (b) establishing a stakeholders committee to oversee the project; (c) establishing an independent risk management function and an anti-fraud and anti-corruption framework; (d) ensuring the accessibility and energy efficiency of the renovated North Building; and (e) developing a strategy for identifying and securing suitable swing space for the duration of the renovation project.

14. In accordance with the Anti-Fraud and Anti-Corruption Framework of the United Nations Secretariat (ST/IC/2016/25, annex), all staff members and non-staff actors involved in the project must uphold the standards of conduct described in the Charter of the United Nations and the Staff Regulations and Rules of the United Nations. The related administrative issuances are listed in annex II to the Framework, which also establishes prevention measures for fraudulent acts. The Framework covers: (a) standards of conduct; (b) protection against retaliation; (c) risk management; (d) the internal control system; (e) the fraud and corruption awareness programme; and (f) the prevention of conflicts of interest.

IV. Risk management

A. Independent risk management firm

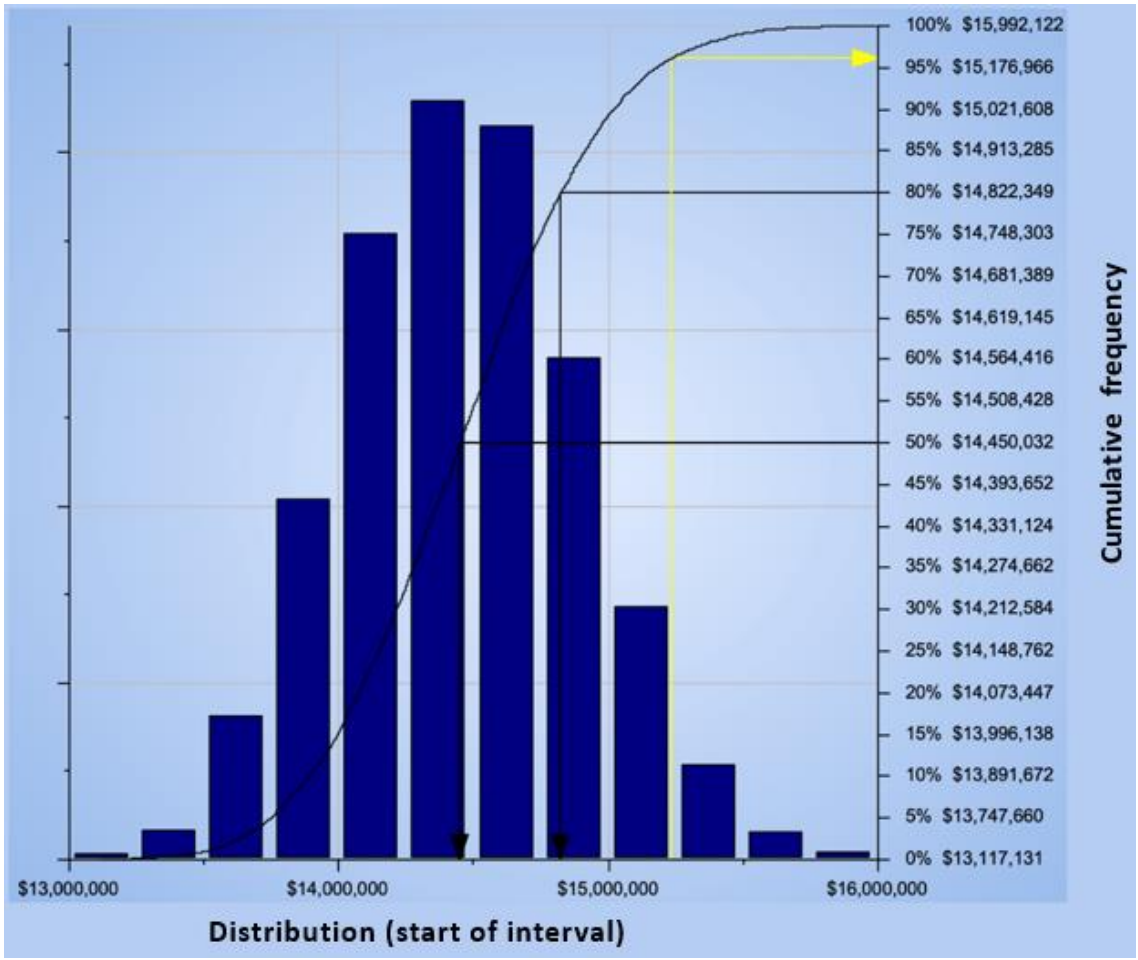
15. In March 2019, the first risk management workshop was held in Santiago, facilitated by the Global Asset Management Policy Service, the independent risk management consultant and the project management team. Participants established the basis for the Commission's baseline risk register and the first quantitative Monte Carlo analysis. Since the issuance of the risk management strategy in 2018, the risk consultant has produced and issued four biannual reports. Regular meetings continue to be held quarterly to review the project risk register and provide guidance on the management of project risks accordingly.

16. In May 2020, the Global Asset Management Policy Service, the project management team and the risk consultant conducted the third Monte Carlo analysis to determine the project's current risks and the likelihood of achieving the "P80" benchmark that has been established as the target confidence level for a capital project. As noted in the previous report, the Monte Carlo analysis serves to provide an estimate of the most likely overall cost of known risks at the time at which inputs were provided by the project management team.

17. At the time of the first risk management workshop, the inputs collated for the baseline Monte Carlo analysis were based on costs estimated by the project management team and not on actual costs, as the project had yet to be designed and issued for bid. That meant that a higher degree of uncertainty existed, and the confidence level of the project being completed within the budget emerged as relatively low, until such a time as the design documentation was completed and the contract for general construction was awarded.

18. A summary of the third Monte Carlo analysis of the project is provided in the form of a cost histogram in figure I.

Figure I
Cost histogram of analysed risks as at June 2020



19. The first Monte Carlo simulation showed that, at the United Nations "P80" benchmark level, the project was expected to come in at approximately $14.9 million, or $0.6 million over budget, and that there was a relatively low level of confidence, about 30 per cent, that the project would be completed within the approved budget. The third Monte Carlo analysis reveals that the confidence level that the project will be completed within the approved budget has increased to 40 per cent. The simulation of the cost histogram illustrates that the level of confidence for the project to be completed within the approved budget, without any further mitigation action, has risen by 10 percentage points from the 2019 simulation, and the confidence level remains relatively low for the project to be completed within the approved budget of $14.3 million, with a "P80" confidence level at $14.8 million or approximately $0.5 million over budget. The confidence level it is expected to rise once the design phase is completed, the construction documents are issued through a bid tender process and bids are received.

20. Throughout the reporting period, the project management team has taken proactive measures to manage the risks identified through engagement with the ECLAC Procurement Unit for the direct purchase of various systems as a means of generating savings on costs and administrative fees. Receiving goods in advance and

storing them in the ECLAC compound will reduce the risk exposure. Furthermore, the project management team has worked closely with the lead consulting firm and its engineers to move forward with the design implementation of office planning and the replacement of building infrastructure systems. Those steps should be effective and useful risk mitigation actions aimed at improving the confidence level.

B. Integrated risk management

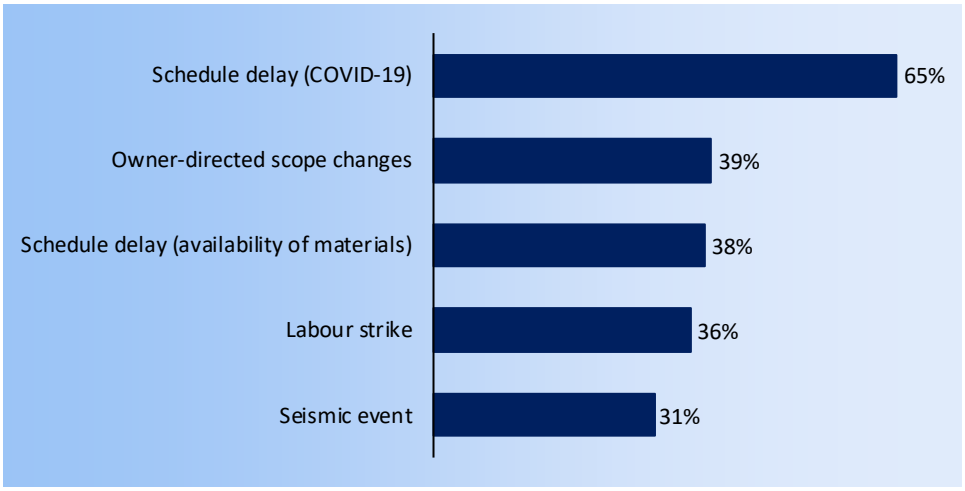
21. Integrated risk management continues to be performed at the local level by the project management team at ECLAC through an established risk register process, which is supported by the lead consulting firm and engineers. The Global Asset Management Policy Service at Headquarters, in coordination with the independent risk management consultant, support the ECLAC project management team and will continue to do so throughout the various project phases through to completion. The highest-ranked emerging risks during the reporting period relate to the COVID-19 pandemic, potential owner-directed changes, schedule delays related to the availability of materials, labour strikes and seismic events.

C. Risk register

22. The project risk register, which was established in line with the risk management strategy, is monitored and updated on a regular basis by the project management team. Eight risks are currently being monitored by the team, none of which have been closed at the current stage of the project. It is expected that, as the project moves into the design development and construction documentation stages, the risks will be mitigated and closed, and new ones will emerge. As noted in the previous report, the risk register is intended to be a dynamic documentation tool for the project management team that is fully coordinated with the Monte Carlo analysis process through to the end of the project.

23. Figure II presents a cost sensitivity analysis, which measures the correlation or relationship between individual risk entries and the overall estimated cost. The higher the cost sensitivity, the stronger the relationship between the estimate at completion and the individual risk. The figure contains a list of the top risks that are currently emerging.

Figure II
Cost sensitivity as at June 2020



D. Description of the top five project risks

24. The top five risks identified in figure II are explained in further detail below with a description of the risk response:

(a) **Schedule delay in the start of construction owing to the COVID-19 pandemic.** At the time of the third Monte Carlo analysis and at the time of writing, COVID-19 was spreading substantially in Chile and other parts of the region. It has therefore emerged as the top risk owing to the uncertainty of how the regional markets and supply chain may react as a result of travel and other social restrictions. Increased safety measures during construction may also be required and would have an impact on cost, coordination of labour and scheduling. To mitigate that risk, the project management team has been working with the ECLAC Procurement Unit to define a competitive acquisition process to assist with the purchase of various goods (equipment and systems) in order to generate savings on costs and administrative fees. It is believed that receiving goods in advance of when they are needed for construction and storing them on the ECLAC compound would reduce the risk. The project management team and the ECLAC Procurement Unit will continue to monitor the status and impact of the pandemic in the host country and the region in order to mitigate the risk accordingly;

(b) **Owner-directed changes (late design requirements and optional scope additions).** This risk refers to owner requirements associated with potential COVID-19 pandemic-related redesign or other requirements that may not have been captured in the baseline design and construction documents and that could potentially result in additional costs if change orders are received during construction. Risk mitigation measures are focused on attaining project owner and stakeholder approvals prior to the issuance of construction contract documents to mitigate the chances of receiving change requests later in the project. The project management team continuously engages with the project owner and the stakeholders committee, in line with the risk management strategy;

(c) **Schedule delay relating to the availability of materials.** As the project is still in the design development phase and the necessary construction contracts are not yet in place, potential schedule delays continue to emerge as a high risk. Potential delays exist with regard to implementation owing to challenges posed by the availability of equipment and technology in close proximity to Chile, such as mechanical systems and photovoltaic plant systems. Furthermore, the procurement of goods and services and contract implementation may take longer than usual owing to the extensive requirements of the scope of the project, also taking into account the impact of COVID-19 pandemic-related closures and the associated potentially low rates of goods production. As a risk mitigation measure, the project management team is working closely with the ECLAC Procurement Unit to develop and execute all bid tenders as expeditiously as possible and keep track of the markets. An accelerated bidding process may help to address the risk of the long lead time for procuring and importing major equipment and allow for the work to proceed in advance of the arrival of the other equipment;

(d) **Labour strike.** This risk has emerged in the context of events that have occurred in the host country since the last quarter of 2019. While strikes have been less frequent during the pandemic, it is not known what the post-pandemic situation will bring. Strikes have the potential to affect not only the continuity of construction and other works, but also the supply chain and the speed with which goods can be processed through ports. To mitigate the risk, the project management team is monitoring local activity closely and assessing risks that may affect the project. Furthermore, the project management team is working closely with the ECLAC

Procurement Unit to accelerate and pre-purchase long lead items requiring importation in order to store them on the ECLAC compound until needed during the construction process;

(e) **Seismic event.** Historically, the region in which ECLAC is located has experienced a major earthquake every seven years, which means that there is a chance of an earthquake at some point during the duration of the project. That may have an impact on cost, scheduling, logistics and the availability of materials in the region and cause other supply chain delays. The mitigation measures being implemented are aimed at ensuring that prevailing local seismic codes are respected and preparedness measures are in place, insurance policies are secured and clauses are aligned in contracts with the various contractors to reduce the risk. The project management team and ECLAC facilities management and safety and security units are keeping abreast of any developments in this area.

V. Progress made on the project during the reporting period

A. Cooperation with Member States and the host Government

25. ECLAC continues its fundraising efforts for voluntary contributions and cooperation with Member States and the host Government, in particular with regard to technical support and in-kind contributions. The results of such efforts are described below.

B. Status of voluntary contributions

26. In-kind contributions have been provided by programmes funded by the Chilean Economic Development Agency, under the auspices of the Government of Chile. The contributions relate to the following activities:

(a) Technical support from the “Plan BIM” project on the implementation of the building information modelling methodology, information management and the compilation of technical documents during the design and construction phases;

(b) Technical support from the “Construye 2025” programme in the definition of guidelines for the development of a plan for reusing, recycling or otherwise deriving value from disassembled building components. The guidelines have been included as part of the deliverables for architectural and engineering services in the scope of work for the lead consulting firm;

(c) Continued provision of technical guidance for the identification of sustainable strategies for the disposal of selected materials at the end of their useful life, according to the results of the analysis of the local market and the methodologies used by the “Construye Circular” programme;

(d) Raising awareness of the availability of local sustainable materials and efficient technologies through the Chilean Technological Centre for Innovation and Development programme for the implementation of local alternatives to the requirements included in the scope of the project.

C. Procurement activities

27. The procurement activities described below have been planned for the reporting period, and items will be purchased directly by ECLAC through a competitive tender process. The approach is intended to reduce the risk of long manufacturing lead times

and importation delays, given that purchases are scheduled to be received before the work begins. Once goods are received, they will be stored on the ECLAC compound at no additional cost. The procurement activities are requests for proposals for the following items:

(a) **Height-adjustable workstations.** These will be purchased through local distributors or available system contracts in accordance with the pilot programme executed in the previous reporting period within ECLAC facilities. The process is scheduled to be carried out in late 2020 in order for the workstations to be available to fit out the swing space and ultimately bring them to the North Building once construction is complete;

(b) **Auxiliary and support furniture.** This will be purchased to be used when fitting out the North Building. The process is scheduled to be launched during the second quarter of 2021. An evaluation of the systems contract currently in use will be carried out prior to the launch of the exercise;

(c) **Heating, ventilation and air conditioning components.** A call for tender will be issued through the ECLAC Procurement Unit for local and regional representatives to supply components for the system. The rationale for the purchase of the components directly by ECLAC rather than including them in the construction tendering process is to save on overhead costs incurred when purchasing and installing them through a general contractor. The process will be launched in the second quarter of 2021;

(d) **Solar photovoltaic plant components.** A tender will be issued through the ECLAC Procurement Unit for local and regional representatives to supply system components for the photovoltaic plant designed by the engineering consultants. The process will be launched in the second quarter of 2021;

(e) **Wastewater treatment plant and its components.** A tender will be issued through the ECLAC Procurement Unit for local and regional representatives to supply a wastewater treatment plant and its components designed by the engineering consultants. The process will be launched in the second quarter of 2021;

(f) **Temporary building.** As part of the swing space strategy specified in previous reports, the plan is to put out a bid tender for the assembly of a modular building on ECLAC premises in accordance with the technical specifications and design developed by the project management team. It is expected to house 30 per cent of the North Building staff during the construction period. The process is scheduled to be launched in November 2020 and completed and furnished three months prior to the start of the construction work;

(g) **North Building construction work.** In accordance with the timeline included in the previous report, the results of the market research and lessons learned from other capital projects, the tender process for the general construction work on the North Building will be carried out in accordance with the regulations and procedures included in the United Nations Procurement Manual. The process will be international in nature and is scheduled to be launched in December 2020.

D. Local knowledge and lessons learned

28. During the reporting period, a market research exercise was carried out by the ECLAC Procurement Unit in which information was sought from local specialists and suppliers on the following items:

(a) **Solar photovoltaic plant.** Local engineering firms specializing in photovoltaic energy were invited to provide information on engineering costs,

installation costs and the scaling and stock of products and components, as well as on life cycle maintenance and operating costs. The resulting input helped to identify specific local requirements related to technical aspects and design elements that are being included in the statement of work for the detailed engineering of the solar plant;

(b) **Cost control software.** As part of the digital cost projection and control tools for the design and construction phases, distributors of cost-estimating software linked to building information modelling were invited to provide information on data management, model integration modules, licensing costs and user restrictions. The resulting input helped in acquiring software that directly links the technical building model to cost estimates, enabling the project management team to make value engineering decisions in real time.

29. As part of the project sustainability measures, specialized carbon footprint measurement software was procured to assess the carbon footprint produced by the construction and operation of the building through analysis of the components and materials included in the building information model.

E. Locally sourced materials

30. The project management team has continued to monitor the availability of potential materials suitable for use as construction components and technologies from local suppliers or representatives that could have a positive impact on both the costs and the planning of the project.

31. Furthermore, once a final agreement with the Chilean Technological Centre for Innovation and Development is approved, the Centre will provide technical support to the project management team on the analysis and evaluation of technical systems, building components and construction materials included in the technical specifications of the project. Those data include production processes, transport and life cycle and carbon footprint traceability. The process will also reveal whether there are good-quality alternatives in the local market. The results of the analysis will be presented in the next progress report, once the architectural scope has been finalized.

32. Based on the analysis and design of the wastewater treatment plant, it is estimated that local manufacturers of the required products could supply approximately 70 per cent of the plant’s components, including piping, connections and tanks.

F. Consultancy services

33. The procurement process leading to the sourcing of the architectural and engineering services required to implement the project began with the publication, locally and internationally, of the request for expressions of interest, in March 2019. The contract was awarded in December 2019 to a Chilean-Spanish joint venture, with both parties having extensive experience in sustainable institutional projects in both Chile and Spain. The lead consulting firm’s team also includes five specialized engineering firms.

34. The lead consulting firm is focusing on developing detailed designs in the areas of seismic mitigation, energy efficiency, efficient office space planning and the inclusion of persons with disabilities.

35. As set out in the previous report, the architectural scope and the main disciplines are being implemented entirely on the basis of integrated building information modelling.

G. Planning and design activities

36. The planning and design activities described below were carried out during the reporting period.

North Building architectural and engineering designs

37. Since January 2020, the lead consulting firm has been developing the conceptual design and project outline for the North Building. That has involved evaluating the various engineering specialities and their integration, addressing the structural, mechanical and functional aspects, generating the documents that confirm the baseline of work and consolidating and correcting the technical information on the existing building.

38. The risk associated with the COVID-19 pandemic has been addressed as an integral part of the project, including with regard to recommendations of the health authorities of the host country and the evolution of the workspace criteria projected by specialists.

39. An energy efficiency report has been prepared and completed as part of the specialities included in the statement of work for the lead consulting firm. The results of the simulations indicate that the new building will consume between 41 and 48 per cent less energy than the current building, which confirms the projections included in the previous report.

40. A recycling, reuse and recovery plan has been developed as one of the deliverables included in the statement of work of the lead consulting firm to minimize the environmental impact of waste from the dismantling of the current building.

Seismic mitigation

41. With regard to structural engineering services, reinforcement, insulation and dissipation are compliant are under way, in order to ensure compliance with current national regulations, namely Chilean standard 433 and Supreme Decree No. 61 of 2011, which require conventional structures to be designed to withstand moderate-intensity seismic movements without damage, limit damage to non-structural elements during medium-intensity earthquakes and avoid collapse during earthquakes of exceptionally severe intensity, safeguarding the life of the building occupants.

42. As part of the project, structural engineers from the lead consulting firm carried out a complete in-situ and analytical assessment of the existing structural components and systems of the building in order to review its compliance with current seismic regulations, evaluating the soundness of the current structures and components for reuse in the construction of the new building. The findings of the analysis, involving on-site evaluation and software simulations, indicate that the existing structure reacts well in response to high-intensity movements in terms of roof loads and building components and can be recycled for the renovation with adequate reinforcements in specific stressed areas.

Photovoltaic plant

43. In relation to the energy efficiency strategy requested by the General Assembly in its resolution 73/279 A and noted in the previous report, both the energy requirements and the projected energy consumption have been updated on the basis of the results of the energy efficiency study and the updated project models. The new building will have an annual consumption of 320,800 kWh, which will be supplied from the output of a photovoltaic solar plant on the roof. The updated strategy for the use of that energy is as follows:

(a) Seventy-five per cent of the total annual estimated energy production (240,600 kWh) will be used directly to power the operations of the North Building, equivalent to the required hours of operation of the building;

(b) Twenty-two per cent of the total energy produced (70,578 kWh) will be injected into the ECLAC internal electrical grid, meeting in part the energy supply requirements of other facilities in the ECLAC compound;

(c) An estimated 3 per cent of the energy produced (9,624 kWh) at weekends and during non-working hours and holidays will be sent into the national power grid by means of a bidirectional meter.

Wastewater treatment plant

44. According to the preliminary report on a wastewater treatment plant to be designed and engineered by the lead consulting firm as part of a general efficiency plan, projected flows for the new project were calculated. Recommendations have been made for a membrane biological reactor system to be used in the plant with a treatment capacity of 10 m^3 per day. Detailed engineering results for the system will be included in the next progress report.

Workspace design criteria

45. Taking into account the results of the extensive analysis of organizational space requirements and usage by the functional design team, and comparison of the results with the findings of the space utilization study of workspace efficiency at ECLAC that was carried out by an external consultant in 2017 and described in a previous report (A/73/351), the North Building has been redesigned with a modern, flexible layout.

46. The layout of the new building has been planned by relocating working areas, meeting rooms and public and common service spaces along a simplified circulation core, which allows code-compliant emergency evacuation routes. Each of the work areas is based on mixed models that include both enclosed offices, some of which will be shared, and open collaborative spaces to allow for teamwork. The office areas will be equipped to allow for various configurations that can be modified and adapted to the specific needs of the divisions in relation to their working units.

47. The onset of the COVID-19 pandemic in 2020 has raised concerns related to potential health risks of returning to the workspace and could require that changes be made to the typical office environment design. The project management team is closely monitoring developments at ECLAC and other United Nations locations relating to measures taken to facilitate the gradual return to the office. It is expected that any future changes will be met within the parameters of the overall design concept currently in place, and no changes to the office space solution have therefore been proposed at the time of writing. The current layout affords the opportunity for physical distancing if it is required. Taking into account the rapidly evolving nature of the pandemic, the project management team will continue to monitor developments and determine how to incorporate some of the best practices and lessons learned from the return to office exercises at ECLAC and at other United Nations locations, as well as elsewhere in the public and private sectors.

48. As part of the evaluation process, the project management team is considering design elements to mitigate the impact of the pandemic, such as dynamic layouts that allow for rapid restructuring of workspaces and changes in density without the need for infrastructure modifications; predefined complementary physical barriers to subdivide the building into six independent areas, with separate access routes from the outside directly to each work area; allocating exits close to each work area to

avoid the concentration of people in specific places and prevent excessive contact; and adapting outdoor areas for informal meetings or work-related activities.

Safety and security

49. As one of the safety measures related to emergency evacuation routes, the space layout has been developed with five emergency exits that comply with National Fire Protection Association and International Building Code safety codes.

50. The portion of the project that includes the technical aspects of the safety and security systems, including the fire detection, determent and control systems, public address system, closed-circuit television and access control systems, is currently being developed as part of the work of the lead consulting firm, about which further details will be provided in the next progress report.

Accessibility

51. All entrances and exits to the one-storey building, its interior transit routes, enclosures, work areas, services and green areas have been designed with space specifications, circulation, access and egress ramps and equipment that comply with international standards to ensure full integration of the spaces for and their use by persons with disabilities, in accordance with the United Nations Disability Inclusion Strategy. Furthermore, automated systems for entrance doors and inclusive signage and flooring for the visually impaired will be incorporated into the project.

Swing space

52. The swing space strategy included in the previous report to accommodate staff during the construction period, including adapting service areas to be temporary work areas and setting up a temporary modular building, has been revised in the light of the density factors brought into consideration by the pandemic.

Temporary building

53. Following the process of evaluating alternatives and costs for rented modular structures to accommodate a portion of the staff during the construction period, included in the request for information process undertaken in the first quarter of 2019 and described in the previous report, a design for an alternative building for that purpose was developed in-house by the project management team was evaluated during the reporting period. It is a 350 m^2 building based on a prefabricated steel structure with modular cladding to be tendered by ECLAC and built by an external construction company.

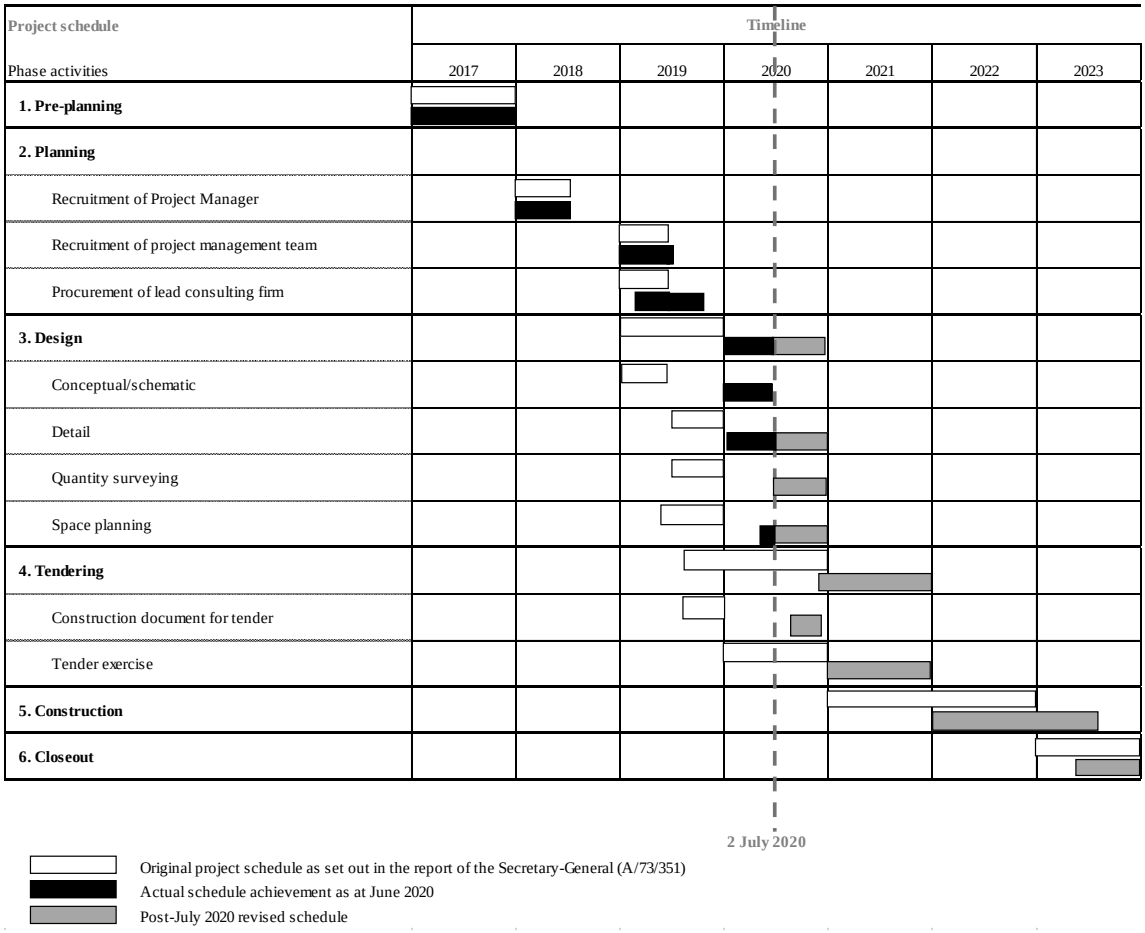
54. The temporary building will provide similar office space and security, safety and health standards, in addition to standard functionality, ventilation and efficiency, to a long-term temporary office space through to project completion. The construction timeline for the building is estimated to be four to five months.

H. Project schedule updates

55. Consideration has been given to streamlining the procurement plan by adjusting the processes scheduled for 2021, taking into account final design schedules and construction logistics by the lead consulting firm, which include both the renovation of the North Building and the phased purchase of its associated technical systems. The procurement processes for the construction of the temporary building and the purchase of furniture and the request for building inspection professional services remain as scheduled and should be completed during the second half of 2021.

56. Figure III provides an updated project schedule, indicating activities and adjustments to the proposed schedule regarding ongoing and future processes.

Figure III
Updated project schedule as at 2 July 2020



57. The project schedule submitted by the lead consulting firm allows 11 months for project development. The design phase will be completed in November 2020, followed by delivery of the technical documents and the launch of the request for proposals for construction in December 2020.

58. In line with the previous procurement tenders analysed jointly with the ECLAC Procurement Unit, it is estimated that the international request for proposals for construction will take up to 12 months, with the contract award scheduled for December 2021.

59. The construction process, due to start in January 2022, is 12 months behind the original project schedule. According to the lead consulting firm, it is estimated that the construction process will take between 18 and 20 months, with completion expected in September 2023.

60. The project closeout period is planned to start during the last quarter of the construction project, in July 2023, as the various systems become operational, thereby reducing the delay by six months and maintaining the project completion date of December 2023, as stated in previous reports.

VI. Project expenditure and anticipated costs

A. Status of expenditure and projected expenditure up to the end of 2020

61. In its resolutions 72/262 A, 73/279 A and 74/263, the General Assembly appropriated a total amount of $1,225,800 for the project for the period 2018–2020, comprising $597,500 under section 21, Economic and social development in Latin America and the Caribbean, and $628,300 under section 33, Construction, alteration, improvement and major maintenance.

62. The status of expenditure as at 31 July 2020 and projected expenditure for the remainder of 2020 are provided in table 1. It is projected that a cumulative unused balance of $268,100 will remain at the end of 2020, comprising $145,500 under section 21 and $122,600 under section 33.

63. Variances between the appropriation for the period 2018–2020 and the total projected expenditure for that period result from: (a) lower than projected expenditure for positions compared with standard costs; (b) delayed recruitment of one Local level position and one P-3 Coordinator, cost-shared with the United Nations Office at Nairobi, under section 21; (c) lower than projected expenditure in risk management and travel costs; (d) no contingency expenditure; (e) exchange rate variations between the Chilean peso and the United States dollar; and (f) current market conditions that have forced the postponement of smaller tenders, which will be launched in the forthcoming budget period, under section 33.

Table 1
Status of expenditure as at 31 July 2020 and projection for the remainder of 2020
(Thousands of United States dollars)

	Appropriation for the period 2018–2020	*Cumulative expenditure as at 31 July 2020*	*Projected expenditure from 1 August to 31 December 2020*	*Total projected expenditure for 2018–2020*	*Projected unused balance at the end of 2020*
	(a)	*(b)*	*(c)*	*(d)=(b)+(c)*	*(e)=(a)-(d)*
Section 21, Economic and social development in Latin America and the Caribbean					
1. Project management	597.5	362.4	89.6	452.0	145.5
Subtotal, section 21	**597.5**	**362.4**	**89.6**	**452.0**	**145.5**
Section 33, Construction, alteration, improvement and major maintenance					
2. Construction costs	–	–	–	–	–
3. Professional services	593.3	405.6	97.5	503.1	90.2
4. Escalation	–	–	–	–	–
5. Contingency	35.0	2.6	–	2.6	32.4
Subtotal, section 33	**628.3**	**408.2**	**97.5**	**505.7**	**122.6**
Total	**1 225.8**	**770.6**	**187.1**	**957.7**	**268.1**

B. Resource requirements for 2021

64. The resource requirements for 2021 are shown in table 2. The total projected expenditure for 2021 amounts to $1,910,300, comprising:

(a) $363,200 under section 21, Economic and social development in Latin America and the Caribbean, related to the cost of the project management team, which will provide for the continuation of the staff of the project management team (1 National Professional Officer and 2 Local level posts) and 25 per cent of the cost of one P-3 Project Coordinator at Headquarters, cost-shared with the project to replace blocks A–J at the United Nations Office at Nairobi;

(b) $1,547,100 under section 33, Construction, alteration, improvement and major maintenance, for professional services related to the lead consulting firm, the independent risk management firm, travel costs, escalation costs and the provision for contingency.

Table 2
Resource requirements in 2021
(Thousands of United States dollars)

	Projected expenditure in 2021	*Projected unused balance at the end of 2020*	*Net funding requirement in 2021*
	(a)	*(b)*	*(c)=(a)-(b)*
Section 21, Economic and social development in Latin America and the Caribbean			
1. Project management	363.2	145.5	217.7
Subtotal, section 21	**363.2**	**145.5**	**217.7**
Section 33, Construction, alteration, improvement and major maintenance			
2. Construction costs	1 123.5	–	1 123.5
3. Professional services	123.0	90.2	32.8
4. Escalation	182.9	–	182.9
5. Contingency	117.7	32.4	85.3
Subtotal, section 33	**1 547.1**	**122.6**	**1 424.5**
Total	**1 910.3**	**268.1**	**1 642.2**

65. Since, in its resolution 73/279 A, the General Assembly approved the establishment of a multi-year construction-in-progress account for the project, the anticipated unused balance of $268,100 at the end of 2020 will be carried forward and will offset part of the resource requirement of $1,910,300 in 2021. Consequently, the net resource requirement to be appropriated for 2021 amounts to $1,642,200, comprising: (a) $217,700 under section 21, Economic and social development in Latin America and the Caribbean; and (b) $1,424,500 under section 33, Construction, alteration, improvement and major maintenance, of the proposed programme budget for 2021.

VII. Next steps

66. Actions to be taken during the forthcoming reporting period are as follows:

(a) Continue to hold coordination meetings with the project stakeholders and the design team to advance the design phase of the project in accordance with the schedule;

(b) Conduct regular tracking and updating of the risk register, escalating risks as needed and tracking the mitigation of risks through to final sign-off;

(c) Carry out tendering for the temporary modular building required to partially fulfil swing space requirements in mid-2021;

(d) Commence the preparation works for the temporary spaces within the existing buildings that will be used as swing space during the construction phase;

(e) Complete the design and engineering of infrastructure systems by the end of 2020 and commence the tendering processes for the heating, ventilation and air conditioning equipment, photovoltaic components, furniture and other equipment to shorten importation lead times through parallel tendering of the construction works;

(f) Upon finalization of the architecture and engineering tendering documents, issue the tender for construction services to commence the construction work in 2022, including logistics and construction waste management strategies, in line with the circular economy concept.

VIII. Recommended actions to be taken by the General Assembly

67. **The General Assembly is requested:**

(g) **To take note of the present report of the Secretary-General;**

(h) **To appropriate an amount of $1,642,200 for the project in 2021, comprising $217,700 under section 21, Economic and social development in Latin America and the Caribbean, and $1,424,500 under section 33, Construction, alteration, improvement and major maintenance, of the proposed programme budget for 2021, which would represent a charge against the contingency fund.**

Annex

Revised cost plan

(Thousands of United States dollars)

	2018[a]	*2019a*	*2020b*	*2021*	*2022*	*2023*	*Total*	*Reported in A/74/330*	*Change*
Section 21, Economic and social development in Latin America and the Caribbean									
1. Project management									
1.1 Dedicated project management team	40.0	154.9	235.7	325.4	393.5	406.6	1 556.1	1 556.1	–
1.2 Project Coordinator at Headquarters (25 per cent of cost, cost-shared with the United Nations Office at Nairobi)	–	–	21.4	37.8	37.8	37.8	134.8	134.8	–
Subtotal, section 21	**40.0**	**154.9**	**257.1**	**363.2**	**431.3**	**444.4**	**1 690.9**	**1 690.9**	**–**
Section 33, Construction, alteration, improvement and major maintenance									
2. Construction costs									
2.1 Building costs	–	–	–	773.5	4 455.6	2 858.9	8 088.0	8 088.0	–
2.2 Swing space costs	–	–	–	350.0	–	–	350.0	350.0	–
2.3 Physical security system	–	–	–	–	462.0	–	462.0	462.0	–
3. Professional services									
3.1 Consultancy	–	–	403.0	53.0	125.0	125.0	706.0	706.0	–
3.2 Risk management	36.4	33.0	24.0	50.0	56.6	–	200.0	200.0	–
3.3 Travel costs	–	6.7	–	20.0	29.1	29.2	85.0	85.0	–
4. Escalation	–	–	–	182.9	661.5	812.6	1 657.0	1 657.0	–
5. Contingency	–	–	2.6	117.7	544.0	427.0	1 091.3	1 091.3	–
Subtotal, section 33	**36.4**	**39.7**	**429.6**	**1 547.1**	**6 333.8**	**4 252.7**	**12 639.3**	**12 639.3**	**–**
Total	**76.4**	**194.6**	**686.7**	**1 910.3**	**6 765.1**	**4 697.1**	**14 330.2**	**14 330.2**	**–**

[a] Reflects actual expenditure.

[b] Reflects actual expenditure as at 31 July 2020 and projections for the period from 1 August to 31 December 2020.