MINISTERIO
DE ASUNTOS EXTERIORES, UNIÓN EUROPEA
Y COOPERACIÓN

SUBSECRETARÍA
DE ASUNTOS EXTERIORES, UNIÓN EUROPEA
Y COOPERACIÓN

DIRECCIÓN GENERAL
DEL SERVICIO EXTERIOR

SUBDIRECCIÓN GENERAL
DE ASUNTOS PATRIMONIALES

PROYECTO DE REHABILITACIÓN EN LA RESIDENCIA DE LA EMBAJADA DE ESPAÑA EN NAIROBI, KENIA

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EMPLAZAMIENTO:

URBANIZACIÓN "LAKE VIEW" – NAIROBI, KENIA

FECHA:

SEPTIEMBRE 2021, actualizado en JULIO 2022

CORREO ELECTRÓNICO: asuntospatrimoniales@maec.es

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Concepto	Descripción	IMPORTE (KES)	
	CONSIDERACIONES PRELIMINARES ESPECÍFICAS **PARTES DEL CONTRATO** **El empleador**: El empleador es la Embajada de España – CBA Building 3rd floor, Nairobi, Kenia. **El arquitecto**: El arquitecto es Trine Architects Limited, P.O. Box 643 – 00100 Nairobi. **El aparejador**: El aparejador es Columbine Associates, P.O. Box 36094 – 00200 Nairobi. **Ingenieros civiles:** Los ingenieros de servicios son Infraplus Consultants Limited, P.O. Box 28901 – 00100 Nairobi. El emplazamiento de las obras proyectadas se encuentra en la ciudad de Nairobi, zona de Kitisuru. Es recomendable que el contratista realice una visita, tras la cual se entenderá que está familiarizado con las características y la ubicación, las vías de acceso, etc.; no se aceptará el reembolso de los gastos de viaje en los que pueda haber incurrido el contratista como resultado de dicha visita, o de la elaboración del presupuesto de las obras. **DESCRIPCIÓN DE LAS OBRAS Y OBJETO DEL CONTRATO** El contrato se celebra para la realización y finalización de las obras de renovación previstas. Estas comprenden la retirada y sustitución de las tejas de la cubierta, los moldes de escayola de los techos, paredes de mampostería, tabiques de vidrio sin marco, puertas de madera y vidrio, azulejos y baldosas, además de las instalaciones de los servicios técnicos correspondientes. **Subtotal KES**		

Concepto	Descripción	IMPORTE (KES)	
	CONSIDERACIONES PRELIMINARES ESPECÍFICAS (CONT.) **TIPO DE CONTRATO** Se requerirá al contratista la celebración de un contrato y la firma de un pliego de condiciones de contrato de obra, según el modelo publicado por el Consejo de Edificación Conjunta, edición de abril de 1999, que incluirá las cantidades y toda enmienda al mismo, a excepción de las que se introduzcan con posterioridad. Se entenderá que el contratista ha leído y está al corriente de dichas condiciones. Se ruega al contratista que tenga presentes las siguientes cláusulas de las Condiciones del Contrato, que se tendrán por incorporadas al mismo, así como que prevea las cuantías que estime necesarias para cumplirlas. Cláusula 1.0 Definiciones Cláusula 2.0 Términos del Contrato Cláusula 3.0 Obligaciones generales del empleador Cláusula 4.0 Obligaciones generales del contratista Cláusula 5.0 Obligaciones generales del arquitecto Cláusula 6.0 Obligaciones generales del aparejador Cláusula 7.0 Documentos del Contrato Notas i) Se adjunta una lista de los planos a partir de los cuales se han elaborado las estimaciones del Contrato (véanse los apéndices A y B). ii) Antes de presentar su oferta, los contratistas podrán examinar todos los planos (disponibles en el estudio del arquitecto o el aparejador en horas normales de oficina) con el fin de satisfacer sus necesidades de información, ya que no se admitirán reclamaciones fundadas en el desconocimiento de estas cuestiones. iii) El contratista comprobará la conformidad de los planos y mediciones. En el caso de que detectase alguna incongruencia en los planos, o entre estos y las estimaciones cuantitativas, lo comunicará de inmediato al arquitecto, que impartirá las instrucciones oportunas. **Subtotal KES**		

Concepto	Descripción	IMPORTE (KES)	
	CONSIDERACIONES PRELIMINARES ESPECÍFICAS (CONT.) **TIPO DE CONTRATO (CONTINUACIÓN)** iv) Las dimensiones se representarán, preferentemente, a las escalas indicadas o adjuntadas a los planos. v) **Suprímase el apartado 7.3** e **introdúzcase:** "A la firma del Contrato, el contratista lo registrará en el organismo oficial correspondiente, abonará todas las tasas, recargos, impuestos o gravámenes, y asumirá todos los costes que se deriven de dicho registro". vi) **Suprímase el apartado 7.5.1**. Cláusula 8.0 Estimaciones y precios del Contrato Notas: i) Las estimaciones contractuales cuantitativas se han realizado conforme al método estándar de mediciones para obras de edificación de África oriental, incluido en el volumen II de tales estimaciones. ii) Excepciones al citado método estándar de medición: "Los trabajos generales del constructor relacionados con los de los subcontratistas designados, comprendidos el recubrimiento de huecos, rozas, desagües y cavidades y la reparación de los acabados de solados, paredes y techos, deberán enumerarse. Otros trabajos conexos del constructor deberán cuantificarse y realizarse de conformidad con las normas pertinentes del presente documento". iii) Todos los trabajos contemplados en el presente Contrato susceptibles de ajuste se han calificado de "provisionales" en las estimaciones cuantitativas; ninguna excavación, cimentación u obra semejante podrá rellenarse ni cubrirse hasta que el aparejador haya realizado los cálculos preceptivos. iv) Las estimaciones cuantitativas deberán proporcionarse en documento impreso. v) Toda alteración o rectificación no autorizada del texto de las estimaciones cuantitativas podrá acarrear la descalificación del licitador, y, en todo caso, no se tendrá en cuenta. vi) Todos los elementos de las obras cuantificadas se tasarán al detalle con arreglo a la cláusula 7 de las Instrucciones para Licitadores. **Subtotal KES**		

Concepto	Descripción	IMPORTE (KES)	
	CONSIDERACIONES PRELIMINARES ESPECÍFICAS (CONT.) **TIPO DE CONTRATO (CONTINUACIÓN)** Cláusula 9.0 Agente del contratista en la obra y otro personal Cláusula 10.0 Interventor de obra Cláusula 11.0 Responsabilidad por lesiones o daños al inmueble Notas Al margen de las Condiciones del Contrato y los requisitos consignados más adelante, la póliza a todo riesgo del contratista y subcontratista deberá cubrir el valor total de lo siguiente, asumiéndose su coste: i) Las obras y obras provisionales realizadas en cumplimiento del presente Contrato. ii) Material para la obra, maquinaria y herramientas. iii) El coste y gastos de la retirada de escombros del inmueble asegurado, destruido o dañado por cualquier riesgo cubierto. Los honorarios profesionales presupuestados a un 15% del coste de la reparación de la parte dañada. Cláusula 12.0 Seguro frente a lesiones personales y daños al inmueble. Notas: El contratista y sus subcontratistas deberán contratar y mantener vigentes los siguientes seguros, conforme a lo dispuesto en la cláusula 12.1, asumiendo sus costes: i) Responsabilidad del empleador (indemnización a trabajadores). ii) Daños a terceros (responsabilidad pública) con una indemnización no inferior a los 5.000.000 de KES por todo accidente o serie de ellos en el marco de un mismo siniestro (sin límite de total). En caso de que el contratista sea titular de un seguro anual que cubra la totalidad de sus actividades, y la indemnización prevista en el presente Contrato sea superior a la estipulada en la póliza o pólizas existentes, deberá contratarse y mantenerse un seguro adicional que cubra la diferencia. **Subtotal KES**		

Concepto	Descripción	IMPORTE (KES)	
	CONSIDERACIONES PRELIMINARES ESPECÍFICAS (CONT.)		
	TIPO DE CONTRATO (CONTINUACIÓN)		
	El contratista se asegurará de que todos los subcontratistas contratan y mantienen los seguros necesarios para cubrir sus responsabilidades frente a lesiones personales, así como las indemnizaciones a los trabajadores.		
	iii) El contratista contratará y mantendrá, en su nombre y en el del empleador, un seguro que cubra los daños a cualquier bien que puedan producirse al margen de las obras, conforme a lo dispuesto en la cláusula 12.3 y a lo indicado por el arquitecto.		
	El contratista entregará al arquitecto la póliza o pólizas y los recibos de las primas abonadas.		
	Cláusula 13.0 Seguro de las obras (responsabilidad del contratista).		
	Cláusula 14.0 Seguro de las obras (responsabilidad del empleador).		
	Notas: Esta cláusula se suprimirá.		
	Cláusula 15.0 Seguro de las obras (obras de modificación).	50.000	
	Cláusula 16.0 Garantía de cumplimiento.	75.000	
	Notas:		
	i) La cláusula 16, apartado 2, se suprimirá.		
	ii) El contratista aportará una garantía de un banco, compañía de seguros o empresa análoga, de reconocido prestigio, que someterá a la aprobación del empleador, por un importe del **10%** del importe total del Contrato para su **debido cumplimiento**.		
	iii) El contratista proveerá el pago de todos los costes del impuesto de timbre relacionados con la fianza de seguridad.		
	Cláusula 17.0 Cumplimiento de la normativa, requerimientos, etc.		
	Cláusula 18.0 Programa de las obras.		
	Subtotal **KES**	**125.000**	

Concepto	Descripción	IMPORTE (KES)	
	CONSIDERACIONES PRELIMINARES ESPECÍFICAS (CONT.) **TIPO DE CONTRATO (CONTINUACIÓN)** Cláusula 19.0 Acceso a las obras. Cláusula 20.0 Instalación en el emplazamiento y comienzo de las obras. Cláusula 21.0 Establecimiento de niveles y emplazamiento. Cláusula 22.0 Instrucciones del arquitecto. Cláusula 23.0 Especificaciones sobre productos, material y calidades. Notas: i) Las calidades no deberán ser inferiores a las establecidas en los códigos de prácticas vigentes en el R. U., y/o en la normativa local, en su caso. Los materiales utilizados para la construcción permanente no se emplearán con fines provisionales ni con un fin distinto al previsto. Cláusula 24.0 Muestras y pruebas. Notas: El contratista proporcionará y correrá con los gastos de las muestras de materiales o calidades y de las pruebas que pueda solicitar el arquitecto para su aprobación, así como de las muestras y pruebas adicionales en caso de rechazo de las primeras, hasta que el arquitecto las apruebe, a menos que en el presente Contrato se disponga de otro modo. Cláusula 25.0 Derechos de propiedad intelectual y derechos de patente. Cláusula 26.0 Cesión. Cláusula 27.0 Subarrendamiento. Cláusula 28.0 Paralización de las obras por el arquitecto. Cláusula 29.0 Paralización de las obras por el contratista. Cláusula 30 Modificaciones. **Subtotal** **KES**		

Concepto	Descripción	IMPORTE (KES)	
	CONSIDERACIONES PRELIMINARES ESPECÍFICAS (CONT.) **TIPO DE CONTRATO (CONTINUACIÓN)** Cláusula 31.0 Subcontratistas designados. Notas: i) El contratista será responsable de dar las instrucciones oportunas a los subcontratistas designados, de determinar los requisitos, coordinar su labor y asegurarse de que se presenten en la obra a la hora convenida, en aras de la progresión ordenada de las obras y con el fin de convenir en las dimensiones precisas a efectos de practicar huecos, rozas, hendiduras y similares. El contratista trasmitirá con claridad las órdenes a los subcontratistas en su propio nombre, sin comprometer el prestigio del empleador, directa o indirectamente; tampoco se establecerá relación contractual entre el empleador y el subcontratista designado. El contratista suscribirá por escrito una subcontrata, utilizando un modelo autorizado, y entregará copias firmadas de la misma al arquitecto. ii) En caso de que el contratista opte a la licitación de alguna obra comprendida en el coste de producción o las cuantías provisionales, tendrá la misma consideración que cualquier contratista o proveedor designado. Cláusula 32.0 Proveedores designados. Notas: i) El contratista realizará con claridad los pedidos de materiales o productos a los proveedores designados en su propio nombre, sin comprometer el prestigio del empleador, directa o indirectamente; tampoco se establecerá relación contractual entre el empleador y el proveedor designado. El contratista se asegurará de la entrega de todos los materiales y productos necesarios para el desarrollo de las obras. ii) Todos los pagos del contratista por los materiales o productos suministrados deberán ser completos y realizarse en un plazo de 30 días, a contar desde el final del mes en el que se haya producido el suministro. Cláusula 33.0 Labor de terceros contratados por el empleador. **Subtotal KES**		

Concepto	Descripción	IMPORTE (KES)	
	CONSIDERACIONES PRELIMINARES ESPECÍFICAS (CONT.) **TIPO DE CONTRATO (CONTINUACIÓN)** Cláusula 34.0 Pagos. Notas: i) Suprímase el apartado 15 de la cláusula 35. ii) Con la periodicidad establecida, se realizarán evaluaciones transitorias con el fin de determinar el importe debido que haya de consignarse en un certificado provisional. A su elaboración, el contratista proporcionará al aparejador una estimación detallada del valor de los trabajos realizados y de todos los materiales de la obra con el fin de agilizar la remisión de la evaluación transitoria al arquitecto, que emitirá el certificado provisional correspondiente. iii) El arquitecto no extenderá los certificados subsiguientes al contratista hasta que este haya acreditado de forma satisfactoria que se han abonado a los subcontratistas y proveedores designados los importes que les corresponden conforme a los certificados previos extendidos al contratista. iv) Todos los documentos necesarios a los fines de la elaboración de la cuenta final, comprendidos todos los documentos relativos a los subcontratistas y proveedores designados, se entregarán al aparejador, en la forma y tiempo debidos, en el curso de las obras, y, a más tardar, transcurrido un mes desde la fecha de finalización material. Cláusula 35.0 Fluctuaciones. Notas: **Suprímanse los apartados 3 a 8 de la cláusula 35.** **Subtotal KES**		

Concepto	Descripción	IMPORTE (KES)	
	CONSIDERACIONES PRELIMINARES ESPECÍFICAS (CONT.)		
	TIPO DE CONTRATO (CONTINUACIÓN)		
	Cláusula 36.0 Prórroga.		
	Notas:		
	i) El contratista deberá hacer el pedido de los materiales procedentes del extranjero inmediatamente tras la firma del Contrato, y, el de los que vayan a adquirirse en el mercado local, con la debida antelación, con el fin de asegurarse de que dichos materiales se encuentren en la obra cuando sea preciso utilizarlos. No obstante, antes de realizar un pedido, el contratista recabará la confirmación por escrito del arquitecto de que los materiales indicados son en efecto necesarios para las obras, y no han variado en modo alguno a resultas de modificaciones en la planificación.		
	ii) No se tendrá en consideración ninguna solicitud de prórroga motivada por una circunstancia contemplada en el apartado i) a menos que el contratista acredite de forma fehaciente que ha hecho lo posible por evitar la demora. Tan pronto como esta se revele inevitable, deberá comunicarse por escrito al arquitecto.		
	Cláusula 37.0 Pérdidas y gastos derivados de alteraciones en el desarrollo previsto de las obras.		
	Cláusula 38.0 Resolución del Contrato por el empleador.		
	Cláusula 39.0 Resolución del Contrato por el contratista.		
	Cláusula 40.0 Resolución del Contrato por cualquiera de las partes.		
	Cláusula 41.0 Finalización material y responsabilidad por defectos.		
	Los licitadores/contratistas deberán tener presente el período de responsabilidad por defectos fijado en el apéndice a las Condiciones del Contrato, donde aparece recogido dicho período.		
	En el importe de la oferta de los licitadores deberá contemplarse la cantidad necesaria para hacer frente a esta obligación.		
	Cláusula 42.0 Finalización por tramos.		
	Subtotal KES		

Concepto	Descripción	IMPORTE (KES)	
	CONSIDERACIONES PRELIMINARES ESPECÍFICAS (CONT.) **TIPO DE CONTRATO (CONTINUACIÓN)** Cláusula 43.0 Indemnización por demora en la finalización. Cláusula 44.0 Antigüedades y otros objetos de valor. Cláusula 45.0 Solución de controversias. **APÉNDICE A LAS CONDICIONES DEL CONTRATO** El apéndice a las condiciones del contrato comprenderá lo siguiente: Cláusula 13.0 Porcentaje para cubrir los honorarios profesionales únicamente a efectos del seguro 10% Cláusula 16.1 Designación de la garantía del contratista Por consignar Cláusula 16.1 Importe de la garantía 10% de la cuantía del Contrato Cláusula 16.2 Designación de la garantía del empleador n. p. Cláusula 16.2 Importe de la garantía n. p. Cláusula 18.1 Plazo de presentación del programa 2 semanas Cláusula 20.1 Plazo de instalación en el emplazamiento de las obras Por convenir Cláusula 20.2 Duración del Contrato Por consignar Cláusula 20.2 Fecha de inicio de las obras Por consignar Cláusula 20.2 Fecha de finalización material Por consignar Cláusula 31.14 } 32.4.5} 34.6 } Nombre del banco a efectos de cálculo del interés Por consignar **Subtotal** **KES**		

Concepto	Descripción	IMPORTE (KES)	
	TIPO DE CONTRATO (CONTINUACIÓN) **APÉNDICE A LAS CONDICIONES DEL CONTRATO (cont.)** Cláusula 34.1 Plazo de ejecución del pago **4 semanas** Cláusula 34.4 Importe mínimo del certificado de pago n. p. Cláusula 34.12 Porcentaje retenido del valor certificado 10% Cláusula 34.12 Límite del fondo de garantía 5% Cláusula 34.15 Plazos de devolución del interés sobre el importe de garantía al contratista n. p. Cláusula 34.17 Plazo de cuantificación y evaluación finales 3 meses Cláusula 41.6 Plazo de vigencia de la responsabilidad por defectos 12 meses Cláusula 43.1 Indemnización por demora en la finalización **100.000 KES** semanales o parte de tal importe hasta un máximo del 10% de la cuantía del Contrato **Subtotal KES**		

Concepto	Descripción	IMPORTE (KES)	
	CONSIDERACIONES PRELIMINARES GENERALES **IDONEIDAD DE LA OFERTA** Antes de optar a la licitación, se entenderá que el contratista ha verificado la corrección e idoneidad de su oferta para la obra respecto a las tarifas y precios consignados en las estimaciones cuantitativas, que deberán cubrir todas las obligaciones contraídas en virtud del Contrato, así como todas las cuestiones y aspectos necesarios para la finalización y el mantenimiento oportunos de las obras. **DEFINICIONES Y ABREVIATURAS** Las abreviaturas y expresiones empleadas en estas estimaciones cuantitativas denotarán lo siguiente: "aprobado": aprobado por el arquitecto "según lo indicado": según lo indicado por el arquitecto "B.S.": Especificación estándar británica vigente, publicada por la British Standards Institution, 2 Parks Street, Londres W.I., Inglaterra "kg": Kilogramos "n.º": Número "mm": Milímetros "m": Metros lineales "m^2": Metros cuadrados "m^3": Metros cúbicos "par": Par(es) "ídem.": Por completo idéntico a lo consignado anteriormente, salvo si se especifica otro sentido en la sección en la que aparece. Cuando figura entre paréntesis, denota que es por completo idéntico a lo consignado anteriormente entre los correspondientes paréntesis. "m/s" Medido o cuantificado por separado **Subtotal KES**		

Concepto	Descripción	IMPORTE (KES)	
	CONSIDERACIONES PRELIMINARES GENERALES (CONT.)		
	NIVELES DE LA OBRA Antes de comenzar la obra, el contratista deberá determinar y acordar con el arquitecto y el aparejador los niveles existentes en el emplazamiento de la obra, así como, igualmente, establecer y acordar un parámetro de referencia.		
	EMPLAZAMIENTO El contratista deberá disponer la obra conforme a las dimensiones y niveles que figuren en los planos, y será responsable de la exactitud de todas las dimensiones y niveles que haya calculado, de tal manera que se le exigirá que enmiende, corriendo con los gastos correspondientes, todo error derivado de un emplazamiento inexacto. En el caso de que observe algún error o discrepancia en las dimensiones o niveles indicados en los planos, el contratista lo comunicará al arquitecto para su inmediata subsanación. El contratista no acometerá trabajo alguno hasta que reciba instrucciones por escrito del arquitecto de corregir las discrepancias que hayan podido confirmarse. A la recepción de dichas instrucciones, el contratista será responsable de realizar las correcciones oportunas. No se aceptarán reclamaciones posteriores por los gastos adicionales en que haya incurrido, ni exenciones a lo dispuesto en la cláusula 5 de las Condiciones del Contrato por razón de las discrepancias o errores en las dimensiones o niveles que hubiesen figurado previamente en los planos. Antes de acometer cualquier trabajo, los subcontratistas y empresas especializadas deberán comprobar y acordar con el contratista las dimensiones en el solar y/o edificio, con independencia de las dimensiones correspondientes que figuren en los planos. El contratista será responsable de la exactitud de tales dimensiones.		
	MUESTRAS El contratista deberá, tan pronto como le resulte posible, antes de dar comienzo a las obras y asumiendo los gastos que de ello se deriven, proporcionar las muestras de materiales o calidades que el arquitecto haya solicitado examinar para su aprobación, así como toda muestra adicional necesaria en caso de desaprobación, hasta que el arquitecto dé su visto bueno. Una vez aprobadas, las muestras deberán cumplir los requisitos mínimos exigidos para su utilización en la obra.	50,000	
	Subtotal KES	**50.000,00**	

Concepto	Descripción	IMPORTE (KES)	
	CONSIDERACIONES PRELIMINARES GENERALES (CONT.)		
	INMUEBLE EXISTENTE El contratista deberá adoptar todas las precauciones necesarias para evitar daños al inmueble existente, como caminos, cables, desagües y otros servicios, y se le responsabilizará de los daños que ocasione como resultado de la ejecución del presente Contrato, que deberá reparar, cuando así se le instruya, asumiendo los gastos de la reparación.		
	SERVICIOS EXISTENTES Con anterioridad al inicio de cualquier trabajo, el contratista deberá recabar de las autoridades competentes la información relativa a la posición exacta, profundidad y altura de todos los cables de electricidad, tuberías de agua y otros servicios existentes en la zona, y deberá adoptar cuantas medidas soliciten dichas autoridades para mantener y proteger tales servicios. Deberá comunicar de inmediato, al arquitecto y al órgano competente, todo daño o interrupción que ocasione a cualquier servicio, a cuya satisfacción deberá repararlo, corriendo con los gastos. En el curso de la obstrucción transitoria del sistema de alcantarillado o de cualquier desagüe, ya sea con el fin de desviar, elevar, instalar o realizar conexiones, el contratista deberá, a su costa, proporcionar los depósitos de madera, tuberías u otras canalizaciones y, si así se le requiriese, los dispositivos de bombeo para mantener el flujo por las desviaciones correspondientes.		
	MATERIALES, HERRAMIENTAS, MAQUINARIA Y ANDAMIAJE Todos los materiales empleados y los trabajos realizados en la ejecución de las obras serán de la mejor calidad y calificación, a menos que se indique otra cosa. Los materiales rechazados por el arquitecto deberán retirarse de inmediato de la obra, retirada que correrá a cargo del contratista. El contratista se encargará de suministrar los materiales, andamios, herramientas, maquinaria, transporte y mano de obra que se precisen para las obras, salvo disposición en contrario en el presente Contrato y con excepción de los elementos que, en este, estén destinados al uso específico y exclusivo de los subcontratistas designados. Las vigas empleadas en los andamios y encofrados, o con fines análogos, no podrán utilizarse posteriormente como elementos constructivos de la obra finalizada.	75.000,00	
	Subtotal KES	**75.000,00**	

Concepto	Descripción	IMPORTE (KES)	
	CONSIDERACIONES PRELIMINARES GENERALES (CONT.)		
	MATERIALES, HERRAMIENTAS, MAQUINARIA Y ANDAMIAJE La maquinaria, las herramientas y el andamiaje deberán cumplir con la normativa vigente, ya sea local o general, en todo el período de duración del Contrato, y deberán modificarse o adaptarse oportunamente en el curso de su ejecución con el fin de ajustarse a las enmiendas o modificaciones de dicha normativa.		
	NORMATIVA Y REGLAMENTACIÓN LOCAL El contratista deberá cumplir con la normativa y la reglamentación local, comprendidas las notificaciones y el pago de tasas.	20.000	
	SUPERVISIÓN Las obras se ejecutarán bajo la dirección y a la entera satisfacción del arquitecto, que deberá tener, en todo momento, acceso a la obra, así como a los depósitos, talleres y otros lugares en los que se realicen preparativos para las obras en el edificio.		
	TRANSPORTE A Y DESDE LA OBRA El contratista deberá incluir en sus precios el transporte de material, mano de obra, etc., ya sea al emplazamiento de la obra proyectada o desde este, a las horas y por las rutas permitidas por las autoridades.		
	REMUNERACIÓN EQUITATIVA El contratista deberá fijar unos salarios, horarios y condiciones de trabajo que no sean menos favorables que los mínimos establecidos en el distrito donde se lleve a cabo la obra. La información correspondiente deberá hacerse pública y mantenerse a la vista en el emplazamiento de la obra, de tal suerte que los trabajadores puedan leerla. El contratista deberá cumplir con el Reglamento sobre salarios, la Ley de Condiciones Laborales y lo establecido por el Consejo Regulador de salarios en el sector de la construcción, y se asegurará de que los subcontratistas que participen en la ejecución del Contrato cumplan también dichas normas y disposiciones. Asimismo, proporcionará al arquitecto, a solicitud de este, los nombres y direcciones de todos los subcontratistas.		
	Subtotal KES	**20.000**	

Concepto	Descripción	IMPORTE (KES)	
	CONSIDERACIONES PRELIMINARES GENERALES (CONT.) **REMUNERACIÓN EQUITATIVA (CONTINUACIÓN)** En el caso de que se denunciase ante el arquitecto la falta de remuneración equitativa por el contratista a cualquier trabajador empleado en virtud del Contrato, y el Departamento de Trabajo le proporcionase pruebas fehacientes de tal extremo, el arquitecto podrá suspender el pago al contratista, o bien satisfacer la reclamación con cargo a los fondos destinados a los pagos, pendientes o futuros, al contratista. Para los casos en que el arquitecto deba proceder al efecto, se especificarán en el Contrato los salarios, horarios y condiciones laborales referidos. **SEGURIDAD EN LA OBRA Y CERCADO** El contratista será plenamente responsable de la seguridad de las obras, almacenes, materiales, maquinaria, personal, etc., tanto propios como de los subcontratistas, y deberá disponer la vigilancia e iluminación adecuadas, así como adoptar cuantas medidas sean necesarias para garantizar la seguridad y la protección de las personas. **VÍAS PÚBLICAS Y PRIVADAS, PAVIMENTOS, ETC.** El contratista deberá reparar a su costa todo daño que pueda causar en la superficie de la vía de acceso existente en el curso de las obras. **REGLAMENTOS DE POLICÍA** El contratista deberá prever el cumplimiento de las ordenanzas y reglamentos de las autoridades policiales. **ZONA A OCUPAR POR EL CONTRATISTA** El arquitecto decidirá sobre el terreno la zona que podrá ocupar el contratista con fines de almacenamiento, edificación de talleres, etc.	60.000	
	Subtotal KES	**60.000,00**	

Concepto	Descripción	IMPORTE (KES)	
	CONSIDERACIONES PRELIMINARES GENERALES (CONT.)		
	PLAZOS PREVISTOS Inmediatamente tras la firma del Contrato, el contratista deberá elaborar un cuadro de plazos y desarrollo en el que consigne los plazos y el orden en que prevé realizar las obras en el marco del plazo general de construcción establecido en el Contrato. En el cuadro se detallarán los plazos de construcción y el orden en que se llevará a cabo cada tramo de las obras, y se subdividirá a su vez en labores y tareas. En caso de que el contratista proponga una finalización parcial del proyecto, deberá planearla al detalle, incluyendo las vías de acceso y los servicios, y este programa deberá recogerse en el cuadro. En caso de que otorgue una subcontrata, el contratista deberá consignar los plazos y la naturaleza de cada trabajo específico del subcontratista (quien deberá aceptarlos a efectos informativos) en el cuadro, que deberá diseñarse de tal modo que pueda añadirse esta información. Al término de cada semana de obras, el contratista marcará en el cuadro, con un color distinto cada vez, el tiempo en efecto empleado para finalizar cada una de las fases y tramos de las obras. Asimismo, consignará por adelantado en el cuadro la mano de obra necesaria para la semana siguiente (clasificada en trabajadores cualificados y no cualificados) y, posteriormente, la mano de obra de hecho utilizada. Tras obtener la aprobación del arquitecto, el contratista proporcionará copia del cuadro a este y al aparejador.	25.000	
	HORAS EXTRAS El contratista asumirá el coste de las horas extras que considere necesarias para finalizar la obra dentro del plazo estipulado en el Contrato, y del tiempo adicional, al margen de las horas extras, que pueda autorizar el arquitecto a efectos de la finalización. En el caso de que las horas extras se realicen de conformidad con una orden por escrito cursada por el arquitecto, se reembolsará al contratista, de dichas horas, únicamente el coste neto adicional del tiempo improductivo pagadero, además de las tarifas horarias básicas establecidas en el Reglamento sobre salarios, la Ley de Condiciones Laborales, y por el Consejo Regulador de los salarios en el sector de la construcción, con exclusión de bonificaciones, beneficios y costes generales.		
	Subtotal **KES**	**25.000**	

Concepto	Descripción	IMPORTE (KES)	
	CONSIDERACIONES PRELIMINARES GENERALES (CONT.)		
	AGUA El contratista, por su cuenta y riesgo, dispondrá el suministro de toda el agua que vaya a utilizarse para las obras, incluida la empleada por los subcontratistas, y habilitará un contador aparte para el agua de la que vaya a hacer uso en el marco del Contrato. El contratista proveerá asimismo los tanques y canalizaciones provisionales, etc., que estime necesarios, y los retirará a la finalización de la obra. El agua deberá ser potable, limpia y pura, sin contener tierra y residuos vegetales u orgánicos, ni sustancias ácidas o alcalinas, en solución o suspensión.	30.000	
	ILUMINACIÓN Y ELECTRICIDAD El contratista por su cuenta y riesgo, se ocupará del suministro de toda la luz artificial y la electricidad necesarias para las obras, comprendidas las que puedan precisar los subcontratistas y expertos, así como las conexiones, cableados, accesorios, etc., que retirará a la finalización. Asimismo, abonará todas las tasas y obtendrá todos los permisos conexos.	30.000	
	PRUEBAS DE HORMIGÓN Nota: El contratista incluirá en sus tarifas todos los costes relacionados con la formación de bloques, los fraguados, el transporte y la compresión por las autoridades locales, así como con la obtención de un certificado de prueba expedido para un juego de cuatro tubos de prueba de hormigón de 150 x 150 mm. 10 juegos @ KES * * El licitador introducirá la tarifa y su incremento.		
	OBRAS PROVISIONALES		
	ACCESO A LA OBRA Y CAMINOS PROVISIONALES Las vías de acceso a la obra deberán acordarse con el arquitecto antes de que den comienzo las obras, y el contratista deberá habilitar los caminos provisionales para el transporte de materiales, maquinaria y mano de obra que se precisen para la ejecución completa de las obras, lo que comprenderá la provisión de alcantarillado, cruces y puentes provisionales, o de cualquier otro medio de acceso.		
	Subtotal **KES**	**60.000**	

Concepto	Descripción	IMPORTE (KES)	
	CONSIDERACIONES PRELIMINARES GENERALES (CONT.)		
	OBRAS PROVISIONALES (CONTINUACIÓN)		
	ACCESO A LA OBRA Y CAMINOS PROVISIONALES (CONTINUACIÓN)		
	A la finalización de la obra, el contratista desmantelará los caminos, alcantarillas, puentes, etc., de carácter provisional, y reparará y reinstaurará, a satisfacción del arquitecto, los elementos y servicios que hayan podido resultar afectados.		
	El contratista ha de tener presente que la ejecución del presente Contrato no podrá afectar, en modo alguno, al tránsito de los ocupantes del inmueble por los accesos y caminos provisionales, y que deberá, ya sea en el marco de las presentes Condiciones o en las tarifas que establezca, prever los costes derivados de esta cuestión.		
	EDIFICACIONES PROVISIONALES		
	El contratista deberá instalar casetas para el almacenamiento de todos los productos y materiales susceptibles de resultar dañados por su exposición a la luz solar o a las inclemencias del tiempo.		
	El contratista habilitará espacios de oficina, comedores y cuantas edificaciones precise para uso propio y el de los subcontratistas designados, con arreglo a lo previsto en la partida de "prestaciones".		
	El contratista habilitará una oficina adecuadamente ventilada y con cerradura para los consultores, de una superficie mínima de 20 metros cuadrados, con solado y paredes de hormigón o madera y ventanas acristaladas, y que esté dotada de un escritorio con cajones con cerradura, una mesa lo bastante grande como para celebrar reuniones, una cajonera para los planos y doce sillas. Se dispondrá la instalación de aseos, iluminación artificial y cuarto de utensilios de limpieza para su uso durante el desarrollo de las obras.		
	TELÉFONO		
	El contratista instalará, mantendrá y retirará, una vez completadas las obras, líneas telefónicas, corriendo con los gastos que de ello se deriven.		
	SANEAMIENTO		
	El contratista proveerá, mantendrá y retirará, completadas las obras, el saneamiento necesario, a satisfacción del arquitecto y las autoridades locales.	50.000	
	Subtotal KES	**50.000**	

Concepto	Descripción	IMPORTE (KES)	
	CONSIDERACIONES PRELIMINARES GENERALES (CONT.) **OBRAS PROVISIONALES (CONTINUACIÓN)** **SANEAMIENTO (CONTINUACIÓN)** El contratista proveerá o dispondrá la instalación de aseos para sus trabajadores y los del subcontratista, asumiendo la totalidad del coste. El contratista sufragará todos los gastos y garantizará la limpieza y desinfección diarias de los aseos; al menos una vez por semana, se rociará el área completa con desinfectante y pesticida. A la finalización de las obras, se retirarán los aseos y desagües provisionales, y se reparará toda estructura y superficie dañada; se desinfectará el área completa, que quedará limpia y sin elementos contaminados, a satisfacción del arquitecto y las autoridades locales. **VALLADO** Dispóngase la erección, mantenimiento a lo largo del período de duración del Contrato y la posterior retirada de un vallado provisional que abarque la totalidad del perímetro de las obras (aproximadamente, 120 metros lineales), consistente en postes de resina de 100 mm de diámetro y 3 metros de altura, con una separación de 3 metros entre ellos, atravesados por postes horizontales de 50 mm de diámetro, con una separación de 900 mm entre ellos, y revestidos con láminas de acero onduladas galvanizadas del calibre 32, para la protección frente al exterior, con portones adecuados de acceso y entrada del transporte con cerraduras adecuadas, todo lo cual se someterá a la aprobación del arquitecto. Además, el contratista deberá tomar las precauciones necesarias para la protección de la obra, los materiales, la maquinaria, el personal y los demás bienes del empleador. Las grúas apiladoras dispuestas a lo largo del camino se instalarán conforme a la normativa local. No se colocarán anuncios sobre el vallado, a menos que se obtenga la aprobación previa por escrito del arquitecto. El contratista obtendrá los permisos necesarios, se encargará del mantenimiento, abonará las tasas correspondientes y, por último, retirará el vallado a la finalización de las obras. **Subtotal** **KES**		

Concepto	Descripción	IMPORTE (KES)	
	CONSIDERACIONES PRELIMINARES GENERALES (CONT.) **PUBLICIDAD** El contratista no permitirá, salvo previo consentimiento por escrito del arquitecto, la colocación de carteles ni anuncios de ninguna clase en la obra ni en ningún espacio que el contratista haya ocupado a los fines de la ejecución del presente Contrato; no aceptará, publicará o anunciará fotografías ni material impreso, ni utilizará el nombre del arquitecto en relación con el Contrato. **SUBCONTRATISTAS Y PROVEEDORES DESIGNADOS** **CUANTÍAS DE LOS COSTES DE PRODUCCIÓN** i) Por "coste de producción" (o por sus iniciales, "CP"), cuando así figure en los documentos contractuales, se entenderá el coste neto de cuanto no constituya una adquisición, desembolso en efectivo o descuento de cualquier tipo; así, comprende el coste del embalaje, transporte y entrega. Dicho coste constituirá la cuantía adeudada al subcontratista o proveedor, tras los pertinentes ajustes, con respecto a las cuantificaciones o las tarifas. ii) Todo incremento o reducción de dicha cuantía del coste de producción que se derive de los ajustes y que el contratista haya abonado debidamente se sumará o deducirá de la cuantía del Contrato en la cuenta final. A efectos de justificación, se requerirá al contratista que presente al aparejador las facturas, recibos y anotaciones en cuenta que sean precisos para justificar de forma detallada las cuantías en efecto abonadas. iii) Toda cuantía que el contratista sume a la del Contrato en concepto de beneficio sobre la cuantía del coste de producción se ajustará proporcionalmente al importe neto debidamente desembolsado y se consignará en el balance de cuentas definitivo. iv) Salvo indicación en contrario, los importes que se asignen al concepto o conceptos de 'prestación' no estarán sujetos al ajuste proporcional de las cuantías del coste de producción. **Subtotal KES**		

Concepto	Descripción	IMPORTE (KES)	
	CONSIDERACIONES PRELIMINARES GENERALES (CONT.) **SUBCONTRATISTAS DESIGNADOS** El contratista asumirá la responsabilidad de prestar a los subcontratistas designados los siguientes servicios: i) Prestación general: los siguientes servicios se entienden "previstos" en concepto de prestación general: a) Uso, a efectos de realización de obras por el subcontratista, de cualquier andamiaje que pertenezca al contratista o que este haya suministrado, durante el tiempo que permanezca montado en la obra, en el entendido de que dicho uso no implica la concesión de una garantía ni la asunción de responsabilidad alguna por parte del contratista o de sus otros subcontratistas en lo que respecta a la adecuación, estado o idoneidad de dicho andamiaje; b) Suministro de agua y electricidad, vigilancia y asistencia para las obras realizadas por el subcontratista; c) Uso de los aseos, comedores e instalaciones recreativas; d) Concesión de espacio para la edificación de oficinas o almacenes, o espacio para el almacenamiento de maquinaria y materiales; e) Recogida de los residuos que se generen. ii) Prestación especial: los siguientes servicios se consignan bajo un concepto distinto; cuando figuren, se entenderá lo siguiente. a) Recepción de envíos: puesta a disposición de la mano de obra no cualificada necesaria para asistir a los trabajadores del subcontratista en la descarga de la maquinaria y los materiales que se reciban en la obra y su colocación en el almacén o espacio de almacenamiento del subcontratista; b) Elevación: puesta a disposición de mano de obra no cualificada y utilización de toda maquinaria de la que disponga el subcontratista para asistir en la elevación de la maquinaria y los materiales del subcontratista a los distintos niveles, sin colocación en su lugar definitivo; c) Suministro eléctrico: durante las obras y el período de puesta en marcha y formación. **Subtotal KES**		

Concepto	Descripción	IMPORTE (KES)	
	CONSIDERACIONES PRELIMINARES GENERALES (CONT.)		
	PROVEEDORES DESIGNADOS El contratista recibirá en cualquier punto de Nairobi los envíos de los materiales o productos suministrados por los proveedores designados, y firmará un recibo que confirme su recepción en buenas condiciones. El contratista los asegurará en el vehículo de carga, los transportará a la obra, descargará, elevará y almacenará de manera segura, siendo responsable desde ese momento de toda pérdida o daño, así como de la sustitución de cualquier artículo perdido o dañado, a su costa; si así se le requiriese, devolverá las cajas vacías. Se dispone al efecto, tras la determinación correspondiente de la cuantía del C.P., la asunción del coste de dichos servicios, asignados a las partidas denominadas "únicamente recepción de envíos y reparación".		
	LETRERO El contratista se ocupará de instalar, mantener a lo largo del período de duración del Contrato, y retirar a la finalización del proyecto, un (1) letrero en el que hará constar los nombres del empleador, el arquitecto, el aparejador, los ingenieros y el propio contratista, y en el que dejará espacio para añadir los nombres de los subcontratistas y proveedores designados. El arquitecto decidirá la ubicación y tamaño del letrero, así como el tamaño y forma de la grafía.	35.000	
	PROTECCIÓN Y LIMPIEZA DE LA OBRA El contratista cubrirá y protegerá el producto de todos los trabajos finalizados que pueda sufrir algún daño, lo cual comprende la instalación provisional de techos, canalones, desagües, etc., hasta la finalización de las obras. En el caso de que, en el curso de las obras, el producto de los trabajos, los materiales, alcantarillas, desagües, sumideros u otros elementos de la obra que se encuentren provisionalmente en posesión del contratista a los fines de la ejecución del presente Contrato resultasen dañados, ya fuere por inclemencias climáticas, falta de protección adecuada, defectos, deficiencias de la obra o cualquier otra causa, el contratista será el único responsable, y deberá reparar todo daño que se haya producido asumiendo los costes que de ello se deriven, sin posibilidad de aplicar recargo alguno.		
	Subtotal KES	**35.000**	

Concepto	Descripción	IMPORTE (KES)	
	CONSIDERACIONES PRELIMINARES GENERALES (CONT.)		
	PREVENCIÓN DE MOLESTIAS El contratista asumirá en su totalidad el cuidado y supervisión de las obras y las zonas de su emplazamiento que sea preciso habilitar para llevarlas a cabo, durante el período completo de duración del Contrato, y tomará todas las precauciones posibles para evitar molestias, perturbaciones o lesiones a los titulares u ocupantes de los inmuebles colindantes y a cualquier otra persona, así como para garantizar la seguridad de los transeúntes y el tráfico rodado.		
	RETIRADA DE MAQUINARIA, RESIDUOS, ETC. A la finalización de las obras, el contratista deberá retirar y desmantelar todas las edificaciones provisionales, la maquinaria, los residuos y el material sin utilizar, y dejará el emplazamiento de las obras limpio y ordenado a satisfacción del arquitecto. Asimismo, deberá retirar la basura y suciedades de la obra con periodicidad semanal, o según las indicaciones del arquitecto. Deberá ponerse especial cuidado en dejar las ventanas limpias, retirando toda mancha de pintura o cemento de las mismas.		
	TASA DE FORMACIÓN La legislación dispone que el contratista abone una tasa de formación por cada contrato suscrito por un valor superior a los 50.000,00 USD, de tal modo que deberá prever su coste en los preliminares del presente Contrato.		
	RENDICIÓN DE CUENTAS DE LA MANO DE OBRA Y LA MAQUINARIA El contratista deberá presentar al representante del arquitecto, o bien entregar en su oficina, informes detallados sobre el personal de supervisión y las cifras sobre los distintos tipos de mano de obra y maquinaria empleados en las obras, junto con los de todos los subcontratistas. El contratista pondrá a disposición en la obra un libro de visitas en el que se registrarán los nombres de los visitantes, y se asegurará de que todos ellos quedan debidamente registrados.		
	Subtotal **KES**		

Concepto	Descripción	IMPORTE (KES)	
	CONSIDERACIONES PRELIMINARES GENERALES (CONT.)		
	SEGURIDAD EN LA OBRA E INSTALACIONES DE PRIMEROS AUXILIOS El contratista dispondrá y preservará las medidas de seguridad en la obra que esta requiera, y cumplirá plenamente con las normas, reglamentos y disposiciones similares relativas o tocantes a las actividades previstas en el presente Contrato.	50.000	
	VALLADO SUPLEMENTARIO Además del vallado convencional previsto en el presente Contrato, el contratista dispondrá un camino entablado cubierto de dos metros de ancho, a lo largo del perímetro de todo el edificio, con un suelo de tablones de madera de 25 mm de grosor asentados sobre viguetas de 100 x 50 mm, separadas entre sí a una distancia de 600 mm en ambos sentidos; tanto en la planta baja como en la primera: muros de láminas de acero ondulado galvanizado y una cubierta truncada sobre postes de madera de 150 x 50 mm y 100 x 50 mm, horizontal y verticalmente respectivamente, con una separación de 600 mm.		
	REJILLAS ANTIPOLVO Como protección complementaria de la obra, el contratista instalará redes/rejillas antipolvo específicas para obras del calibre 20, con un grado mínimo de protección solar del 30% y un peso neto mínimo de 50g/m^2. Las rejillas antipolvo deberán cubrir por completo la zona de actividad, es decir, las tres nuevas alturas, con el fin de mitigar la contaminación acústica que pueda afectar a los inmuebles colindantes.		
	Eliminación de amianto Todo el material de amianto sobrante deberá manejarse, retirarse y desecharse con estricta observancia de las directrices de la NEMA sobre el tratamiento y eliminación seguros de amianto, de abril de 2013 (se adjunta copia), así como de la Ley de Tratamiento y Coordinación Medioambiental de 2012. Los trabajos con amianto podrán realizarlos únicamente el personal y los contratistas autorizados de la NEMA. El contratista podrá subcontratar o acordar una operación conjunta con una empresa autorizada en caso de que no haya obtenido todas las licencias requeridas para llevar a cabo estos trabajos.		
	DERECHOS DE PROPIEDAD INTELECTUAL El aparejador es el titular de los derechos de propiedad intelectual de los presentes documentos, que no podrán reproducirse, en todo o en parte, sin su consentimiento por escrito.		
	Subtotal KES	**50.000**	

Concepto	Descripción	IMPORTE (KES)	
	N.º PÁGINA 2/1		
	N.º PÁGINA 2/2		
	N.º PÁGINA 2/3		
	N.º PÁGINA 2/4	125.000	
	N.º PÁGINA 2/5		
	N.º PÁGINA 2/6		
	N.º PÁGINA 2/7		
	N.º PÁGINA 2/8		
	N.º PÁGINA 2/9		
	N.º PÁGINA 2/10		
	N.º PÁGINA 2/11		
	N.º PÁGINA 2/12	50.000	
	N.º PÁGINA 2/13	75.000	
	N.º PÁGINA 2/14	20.000	
	N.º PÁGINA 2/15	60.000	
	N.º PÁGINA 2/16	25.000	
	N.º PÁGINA 2/17	60.000	
	N.º PÁGINA 2/18	50.000	
	N.º PÁGINA 2/19		
	N.º PÁGINA 2/20		
	N.º PÁGINA 2/21		
	N.º PÁGINA 2/22	35.000	
	N.º PÁGINA 2/23		
	N.º PÁGINA 2/24	50.000	
	N.º PÁGINA 2/25		
	TOTAL INCLUIDO EN EL SUMARIO PRINCIPAL KES	**550.000,00**	

PLANTA BAJA

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 3				
	PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA				
	ELEMENTO N.º 1				
	PLANTA BAJA				
	ASEO				
	Demolición de cada una de las estructuras conservando los materiales para su reutilización; retirada de los escombros resultantes y de los materiales no reutilizables, según las indicaciones del diseñador de interiores; todos los trabajos se realizarán conforme a los planos arquitectónicos				
A	Demoler con cuidado las paredes de mampostería independientemente de su tamaño; reparar las superficies dañadas, entre otros, mediante el rellenado de huecos con materiales homologados; concentrar y desechar los escombros resultantes en un vertedero autorizado o según lo establezcan los reglamentos del condado.	m^2	9	1.200,00	10.800,00
B	Levantar con cuidado las baldosas del solado, con independencia de su tamaño, reparar las superficies dañadas rellenando los huecos con materiales homologados si es necesario; concentrar y desechar los escombros resultantes según las indicaciones del diseñador de interiores o lo establecido en los reglamentos del condado.	m^2	15	1.000,00	15.000,00
C	Ídem, pero con los azulejos de la pared	m^2	57	1.000,00	45.600,00
D	Retirar con cuidado las puertas de 800x2100 mm, incluido el marco y los elementos/accesorios de ferretería; reparar las superficies dañadas, entre otros, mediante el rellenado de huecos con materiales homologados; desechar los escombros resultantes según las indicaciones del arquitecto o lo establecido en los reglamentos del condado. Entregar en el almacén del empleador para su custodia.	unidad	2	3.000,00	6.000,00
	Subtotal			**KSHS**	**88.800,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	PUERTAS				
	Puerta rasante				
	Puertas rasantes de 50 mm de grosor de núcleo sólido conforme a los estándares británicos (BS), parte 2, 459: **Contrachapado de caoba en ambos lados: contrapilastras de madera noble:**				
A	Puerta de una hoja de 900 x 2400mm; compuesta de 1 hoja practicable de 800 x 2100mm	unidad	2	25.000,00	50.000,00
	Marcos y revestimientos: caoba o madera noble autorizada equivalente: **se selecciona y mantiene limpia**				
B	Marcos de 200 x 50 mm: tres piezas: encajados	m	12	2.000,00	24.000,00
C	Arquitrabe de 20 x 40 mm: atornillado al marco con embellecedores	m	12	360,00	4.320,00
D	Moldura de esquina de 20 x 20 mm: una pieza: ídem	m	12	360,00	4.320,00
E	Perfiles de hoja acristalados de 10 x 20 mm	m	5	360,00	1,800,00
F	Travesaños de 100 x 50 mm; junta insertada en los marcos	m	2	1.600,00	3.200,00
	Suministrar y fijar los siguientes elementos de ferretería a la madera con los tornillos y llaves correspondientes según el catálogo 'UNION'				
G	Bisagras de acero inoxidable de 100 mm x 76 x 2,50; con perno y tornillos correspondientes al número del catálogo Union HN -DW - 403020 – SSS	par	3	500,00	1.500,00
H	Cerradura de latón pulido de embutir con tres resortes, pomo de latón y resto de elementos (palastro, bombín y pestillo de la cerradura); Referencia n.º 2000-32SS-Tourcan del catálogo "UNION" o cerradura autorizada equivalente con sus pomos.	Unidad	2	33.500,00	7.000,00
I	Tirador de latón pulido catátalogo “UNIÓN” número 2000 – 3S – Toucan.	Unidad	2	2.000,00	4.000,00
	Subtotal			**KSHS**	**100.140,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
A	Tope de puerta de aluminio anodizado satinado de 38 mm de diámetro; atornillado al solado o la pared; referencia DS-01AS del catálogo UNION	unidad	2	300,00	600,00
	Vidrio transparente de 6 mm para tragaluz y revestimiento acristalado de la madera (medidos por separado)				
B	En paneles de vidrio de un tamaño no superiores a 0,1 metros cuadrados	m^2	1	2.000,00	2.000,00
	Preparar y aplicar una capa de imprimación de aluminio para madera: antes de fijar: sobre madera: a				
C	Superficies no superiores a 100 mm de perímetro	m	29	100,00	2.900,00
D	Ídem: superiores a 100 pero inferiores a 200 mm de perímetro	m	14	100,00	1.400,00
	Preparar y aplicar tres capas de barniz transparente de poliuretano de primera calidad: sobre madera: a				
E	Puertas rasantes: superficies en general	m^2	7	400,00	2.800,00
F	Marcos: superiores a 100 pero inferiores a 200 mm de perímetro	m	12	100,00	1.200,00
G	Travesaños: ídem	m	2	100,00	200,00
H	Arquitrabes: no superiores a 100 mm de perímetro	m	12	100,00	1.200,00
I	Moldura de esquina: no superiores a 100 mm de perímetro	m	12	100,00	1.200,00
K	Perfiles de hoja acristalados: ídem	m	5	100,00	500,00
	Banco				
L	Banco de 800mm x 300mm x 600mm; fabricado en madera noble tratada a presión de 100mm de grosor; rociado con pintura en aerosol impermeable para madera; apoyado en soportes laterales de madera, con respaldo y todos los accesorios de fijación y piezas.	unidad	1	10.000,00	10.000,00
	Subtotal			**KSHS**	**24.000,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	ACABADOS DEL SOLADO				
	Solera de cemento y arena (1:4) maestreada sobre el cemento: a				
A	Solados de 40 mm de grosor: terminados para revestimiento con baldosas	m^2	15	500,00	7.500,00
	Suministrar y fijar baldosas de granito antideslizantes de 600 x 600 x 10 mm de grosor proporcionadas por M/s Saj Ceramics Ltd o por otro proveedor equivalente y autorizado: fijación a la solera y juntas con adhesivo para baldosas homologado; capa de lechada con material adecuado de compactación sobre las soleras de cemento y arena (m/s) maestreadas.				
B	Solados	m^2	15	4.000,00	60.000,00
C	Rodapié de 12 mm de grosor x 150 mm de altura con borde superior redondeado	m	24	600,00	14.400,00
	ACABADOS DE PAREDES				
	Suministrar y fijar azulejos de cerámica de 200 x 900 x 8 mm de grosor, proporcionados por M/s Saj Ceramics Ltd o por otro proveedor equivalente y autorizado, sobre enfoscado maestreado (s/m); aplicar lechada de cemento impermeable a las juntas a:				
D	Paredes de hasta 2100 mm de altura	m^2	37	3.000,00	111.000,00
E	Molduras de aluminio en las esquinas vistas	m	18	250,00	4.500,00
	Refuerzo de cemento y arena (1:4) de 12 mm sobre el hormigón o las coqueras: a				
F	Paredes: terminadas para revestimiento con azulejos esmaltados	m^2	37	500,00	18.500,00
	Subtotal			**KSHS**	**215.900,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	Lijar y cepillar las paredes de yeso; pulir los bordes ásperos y rellenar las grietas y defectos con masilla; tratar con fungicida y eliminar el polvo; preparar y aplicar tres capas finales de pintura plástica de primera calidad de seda de vinilo a:				
A	Las paredes existentes	m^2	49	600,00	29.400,00
	<u>ACABADOS DE TECHOS</u>				
B	Retirar con cuidado los acabados de asbesto de los techos, reparar las superficies dañadas, rellenando los huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes, según las indicaciones del arquitecto o los reglamentos del condado o de la NEMA.	m^2	15	1.200,00	18.000,00
	Techos de yeso				
	Placa de yeso para techo impermeable de 12 mm de grosor (con una resistencia de media hora a incendios) con marco acanalado de aluminio, fijada a paredes y sofitos; entramado de travesaños acanalados de aluminio de 62,5 x 25 mm con separación de 600 mm entre sí, con cables de suspensión de gran resistencia a la tensión, incluyendo todas las operaciones de izado y fijación a una posición que no supere los 3600 mm sobre el nivel del solado acabado, empotrada o desplegada, en función de las indicaciones del diseñador de interiores.				
C	Techos	m^2	15	3.000,00	45.000,00
D	Ídem: Cornisa de 100 mm de ancho.	m	24	600,00	14.400,00
E	Listas de caoba moldeadas de 50 x 25 mm de grosor a lo largo del entramado del techo coincidentes con los detalles arquitectónicos existentes.	m	34	640,00	21.760,00
	Preparar y aplicar una capa de fondo y tres capas de pintura plástica de primera calidad de seda de vinilo con un protector de superficie de teflón proporcionado por Pinturas Crown a superficies enyesadas de:				
F	Laterales y sofitos de techos y aleros de yeso suspendidos.	m^2	15	400,00	6.000,00
G	Ídem: superficies de cornisas: 0-100 mm de perímetro	m	24	100,00	2.400,00
H	Ídem: barniz de poliuretano de dos componentes sobre superficies de paneles de madera	m	34	100,00	3.400,00
	Subtotal			**KSHS**	**140.360,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	INSTALACIONES ELÉCTRICAS				
	Subcircuitos finales, con todos los accesorios y conexiones detallados abajo y en el dibujo, cableados en conductos de primera calidad de PVC ocultos en el solado, las paredes y la cubierta.				
A	Puntos de luz conectados a cables de núcleo sencillo de 3x1,5 mm^2 para conmutaciones en uno o dos sentidos en tubos de PVC de gran calibre (20 mm) ocultos en el solado, las paredes y la cubierta.	unidad	7	2.000,00	14.000,00
	CONEXIONES Y ACCESORIOS DE ILUMINACIÓN				
	Suministrar e instalar accesorios de control de la iluminación y conexiones de luz como se muestra en los dibujos, junto con las terminaciones de cableado y materiales de fijación correspondientes				
B	Interruptor simple de 10A, del tipo ART DNA B9-BK1A	unidad	1	1.000,00	1.000,00
C	Interruptor doble de 10A del tipo ARD DNA B9-BK2A	unidad	1	1.000,00	1.000,00
D	Plafón de techo alargado Carpi con acabado de aluminio pulido, con difusor blanco para el baño, del tipo Eglo 90448 con luz E	unidad	4	9.000,00	36.000,00
E	Luz led Nlux de 8W para espejo de afeitado de baño de policarbonato de 240v IP20	unidad	2	3.600,00	7.200,00
F	Lámpara de techo de color marrón o dorado antiguo con efecto hielo picado como la EGLO MESTRE 86713 con luz C	unidad	1	10.000,00	10.000,00
	Subtotal			**KSHS**	**69.200,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	FONTANERÍA Y SISTEMAS DE DESAGÜE				
	Sanitarios y accesorios				
	Suministrar, entregar e instalar los siguientes accesorios sanitarios, con todas sus conexiones y ensamblajes. **Los licitadores deben tener en cuenta que SOLO se tomarán en consideración AQUELLAS ALTERNATIVAS EQUIVALENTES o superiores en capacidades TÉCNICAS a los elementos especificados, y que DEBERÁN incluir LOS CATÁLOGOS DE PRODUCTOS**				
	Inodoro				
A	Inodoro compacto "Duravit Durastyle" de porcelana vidriosa blanca con cisterna baja de 9 litros con palanca y conexiones sin válvula, sifón de plástico con entrada, salida y doble botón de regulación de descarga, soportes, asiento resistente y acolchado, y tapa.	2	unidad	50.000,00	100.000,00
B	Conector de trampa P o S de inodoro a la tubería de desagüe para salida horizontal del inodoro	2	unidad	2.000,00	4.000,00
C	Portarrollos doble con resorte de usillo para montaje empotrado, de acero inoxidable, superficie con acabado satinado, de material grueso, con cubierta frontal plegable, cerradura de cilindro con llave estándar para dos rollos, y con todos los accesorios de montaje aprobados por el ingeniero.	2	unidad	15.000,00	30.000,00
	Percha				
D	Contar con la posibilidad de instalar una percha Hansgrohe, previa autorización del ingeniero.	2	unidad	5.000,00	10.000,00
	Lavabo				
E	Lavabo de encimera "Duravit Durastyle" de porcelana vidriosa con 1 agujero de desagüe en el centro, u otro equivalente con el tamaño homologado de 650 x 500 mm con lo siguiente: - Descarga de chapa cromada Hansgrohe. - Colgadores de pared - Sifón botella de chapa cromada - Sifón botella de chapa cromada Hansgrohe	2	unidad	40.000,00	80.000,00
	Grifo para lavabo				
F	Grifo monomando para lavabo Hansgrohe o equivalente homologado	2	unidad	25.000,00	50.000,00
	Subtotal			**KSHS**	**274.000,00**

CONCEPTO	DESCRIPCION	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
A	Espejo biselado de 750 x 500 mm con tornillos de fijación cromados de cabeza redonda.	2	unidad	12.000,00	24.000,00
B	Ídem pero espejo retráctil de 200 mm de diámetro con soportes retráctiles y plegables, diseño ultraligero, rotación suave, sin reflejos y nítido aprobado por el ingeniero.	2	unidad	20.000,00	40.000,00
	GRIFERÍA DE DUCHA				
C	Hansgrohe: Accesorio de ducha empotrado Focus E2 de 4 salidas, consistente en: cuerpo empotrado de 4 salidas y juego de acabado del monomando, Ref : 31741180, 31947 Hansgrohe: Alcachofa de ducha Crometta monofunción con brazo de ducha, Ref : 28424, 27411 Hansgrohe : caño de ducha	2	juego	200.000,00	400.000,00
	Jabonera				
D	Jabonera de pared cromada Hansgrohe	2	unidad	5.000,00	10.000,00
	Toallero				
E	Toallero cromado Hansgrohe homologado por el ingeniero.	2	unidad	15.000,00	30.000,00
	Punto de desinfección de manos				
F	Dispensador de jabón sin contacto de Mediclinics u otro equivalente homologado para colocar en la pared, de acero inoxidable con capacidad de 1 litro. Recargable con sensor de actividad por infrarrojos para funcionar sin contacto, con todos los accesorios de montaje. Los precios comprenden la carga inicial.	1	unidad	15.000,00	15.000,00
	Subtotal			**KSHS**	**519.000,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	FONTANERÍA DE AGUA FRÍA/CALIENTE **Suministro, entrega e instalación de tuberías de PP-R para agua fría y accesorios conforme a las normativas B.S., DIN y del país. Los licitadores deberán contemplar en los presupuestos de fontanería todos los acoplamientos, uniones, conectores, juntas, curvas de derivación, bucles de expansión, etc., que sean necesarios a lo largo de las tuberías. El ensamblaje y la instalación han de realizarse únicamente siguiendo las recomendaciones del fabricante. Todos los diámetros indicados se refieren a diámetros interiores de las tuberías.** **Se han tomado como referencia en cuanto a tipo y calidad las tuberías de polipropileno ARIETE® – 25 fabricadas por EFFEGISRL. El uso de otras marcas autorizadas equivalentes deberá ser aprobado por los ingenieros.** **Los licitadores deberán contemplar en sus presupuestos todos los acoplamientos, conectores, abrazaderas y juntas de dilatación necesarios a lo largo de las tuberías.**				
A	**Tuberías**				
	a) Tubería de PP-R de 25 mm de diámetro	24	m	350,00	8.400,00
	b) Ídem de 32 mm de diámetro	15	m	400,00	6.000,00
	c) Ídem de 40 mm de diámetro	20	m	580,00	11.600,00
B	**Codos y curvas**				
	a) Codo/curva de PP-R de 25 mm de diámetro	4	unidad	100,00	400,00
	b) Ídem de 32 mm de diámetro	4	unidad	100,00	400,00
	c) Ídem de 40 mm de diámetro	2	unidad	100,00	200,00
C	**Reductores**				
	a) Ídem de 40x32 mm	2	unidad	50,00	100,00
	b) Ídem de 32x25 mm	4	unidad	50,00	200,00
D	**Tes**				
	a) Te recta de PP-R de 25 mm de diámetro	2	unidad	50,00	100,00
	b) Ídem de 32 mm de diámetro	2	unidad	70,00	140,00
	c) Ídem de 40 mm de diámetro	1	unidad	80,00	80,00
	Subtotal			**KSHS**	**27.620,00**

CONCEPTO	DESCRIPCIÓN	UNIDADES DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
A	**Juntas roscadas hembra**				
	a) Juntas roscadas hembra de PP-R de 25 mm de diámetro	2	unidad	50,00	100,00
	b) Ídem de 32 mm de diámetro	2	unidad	70,00	140,00
	c) Ídem de 40 mm de diámetro	1	unidad	80,00	80,00
B	**Juntas roscadas macho**				
	a) Juntas roscadas macho de PP-R de 25 mm de diámetro	2	unidad	50,00	100,00
	b) Ídem de 32 mm de diámetro	2	unidad	70,00	140,00
	c) Ídem de 40 mm de diámetro	1	unidad	80,00	80,00
C	**Válvulas aislantes**				
	(a) Válvulas aislantes de 25 mm de diámetro	2	unidad	2.500,00	5.000,00
	(b) Ídem de 32 mm de diámetro	2	unidad	2.700,00	5.400,00
	(c) Ídem de 40 mm de diámetro	1	unidad	3.200,00	3.200,00
D	Extintores de incendios de 9 litros de agua/dióxido de carbono con manómetro, carga inicial y soportes de abrazadera.	1	unidad	12.000,00	12.000,00
E	Extintor de incendios de 9 kg de dióxido de carbono con manómetro, carga inicial y soportes de abrazadera.	1	unidad	12.000,00	12.000,00
F	Extintor de incendios de 4,5 kg de polvo seco con carga inicial y soportes de abrazadera.	1	unidad	12.000,00	12.000,00
G	Manta ignífuga de 8” x 8”	1	unidad	5.500,00	5.500,00
	Todas las tuberías deberán ser similares a las de las marcas “Key Terrain” o “Metro” y los precios incluir todos los conectores, adaptadores, manguitos reductores, etc.				
	Tuberías				
H	a) Tubería gris de uPVC de 100 mm de diámetro	12	m	1.100,00	13.200,00
	b) Ídem de 40mm de diámetro	15	m	600,00	9.000,00
	c) Ídem de 32mm de diámetro	15	m	560,00	8.400,00
	Curvas				
I	a) Curva de acceso de uPVC de 100 mm de diámetro	1	unidad	300.00	300.00
	b) Curva de barrido de uPVC de 100 mm diámetro	1	unidad	250,00	250,00
	c) Curva de acceso de uPVC de 40 mm de diámetro	2	unidad	120,00	240,00
	d) Curva de barrido de uPVC de 32 mm de diámetro	2	unidad	120,00	240,00
	Subtotal			**KSHS**	**87.370,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
A	**Tes**				
	a) Te reducida de 100 mm de diámetro	1	unidad	300.00	300,00
	b) Te de 40 mm de diámetro	3	unidad	120,00	360,00
B	**Conectores Boss**				
	a) Conector Boss de 100 mm de diámetro	2	unidad	150,00	300,00
	b) Ídem de 40 mm de diámetro	4	unidad	100,00	400,00
	c) Ídem de 32 mm de diámetro	3	unidad	100,00	300,00
C	**Tapones de inspección (registros de varillas)**				
	a) Tapones de inspección de 100 mm de diámetro	1	unidad	350.00	350,00
	b) Ídem de 40 mm de diámetro	2	unidad	300,00	600,00
	c) Ídem de 32 mm de diámetro	2	unidad	200,00	400,00
D	Sifón de cuatro vías de 100 x 50 mm con rejilla de acero inoxidable.	4	unidad	3.000,00	12.000,00
	SUBTOTAL				**15.010,00**
	TOTAL				
	PÁGINA N.º: 3/1				88.800,00
	PÁGINA N.º: 3/2				100.140,00
	PÁGINA N.º: 3/3				24.000,00
	PÁGINA N.º: 3/4				215.900,00
	PÁGINA N.º: 3/5				140.360,00
	PÁGINA N.º: 3/6				69.200,00
	PÁGINA N.º: 3/7				274.000,00
	PÁGINA N.º: 3/8				519.000,00
	PÁGINA N.º: 3/9				27.620,00
	PÁGINA N.º: 3/10				87.370,00
	PÁGINA N.º: 3/11				15.010,00
				KSHS	**1.561.400,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 3				
	PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA				
	ELEMENTO N.º 2				
	PLANTA BAJA – SALA DE ESTAR				
	RETIRADA DE ASBESTO				
	Retirar con cuidado los acabados de asbesto de los techos, reparar las superficies dañadas, rellenando los huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes, según las indicaciones del arquitecto o los reglamentos del condado o de la NEMA.				
A	Techos	m^2	78	1.200,00	93.600,00
	Techos de yeso				
	Placa de yeso para techo impermeable de 12 mm de grosor (con una resistencia de media hora a incendios) con marco acanalado de aluminio, fijada a paredes y sofitos; entramado de travesaños acanalados de aluminio de 62,5 x 25 mm con separación de 600 mm entre sí, con cables de suspensión de gran resistencia a la tensión, incluyendo todas las operaciones de izado y fijación a una posición que no supere los 3600 mm sobre el nivel del solado acabado, empotrada o desplegada, en función de las indicaciones del diseñador de interiores.				
B	Techos	m^2	78	3.000,00	234.000,00
C	Ídem: Cornisa moldeada de yeso de 100 x 50 mm de grosor.	m	37	500,00	18.500,00
D	Listas de caoba moldeadas de 50 x 25 mm de grosor a lo largo del entramado del techo coincidentes con los detalles arquitectónicos existentes.	m	118	640,00	75.520,00
	Preparar y aplicar una capa de fondo y tres capas de pintura plástica de primera calidad de seda de vinilo con un protector de superficie de teflón proporcionado por Pinturas Crown a superficies enyesadas de:				
E	Laterales y sofitos de techos de yeso suspendidos.	m^2	78	400,00	31.200,00
F	Superficies de cornisas: 0-100 mm de perímetro	m	37	100,00	3.700,00
G	Barniz de poliuretano de dos componentes sobre superficies de paneles de madera	m	118	100,00	11.800,00
	Lijar y cepillar las paredes de yeso; pulir los bordes ásperos y rellenar las grietas y defectos con masilla; tratar con fungicida y eliminar el polvo; preparar y aplicar tres capas finales de pintura plástica de primera calidad de seda de vinilo a:				
H	Las paredes existentes	m^2	130	600,00	78.000,00
	TOTAL INCLUIDO DEL EPÍGRAFE			**KSHS**	**546.320,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 3 **PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA** **ELEMENTO N.º 3** **PLANTA BAJA – CUARTO DE LAVANDERÍA Y COCINA** **RETIRADA DE ASBESTO** **Retirar con cuidado los acabados de asbesto de los techos, reparar las superficies dañadas, rellenando los huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes, según las indicaciones del arquitecto o los reglamentos del condado o de la NEMA.**				
A	Techos **Techos de yeso** **Placa de yeso para techo impermeable de 12 mm de grosor (con una resistencia de media hora a incendios) con marco acanalado de aluminio, fijada a paredes y sofitos; entramado de travesaños acanalados de aluminio de 62,5 x 25 mm con separación de 600 mm entre sí, con cables de suspensión de gran resistencia a la tensión, incluyendo todas las operaciones de izado y fijación a una posición que no supere los 3600 mm sobre el nivel del solado acabado, empotrada o desplegada, en función de las indicaciones del diseñador de interiores.**	m^2	21	1.200,00	25.200,00
B	Techos	m^2	21	3.000,00	63.000,00
C	Ídem: Cornisa moldeada de yeso de 100 x 50 mm de grosor.	m	20	500,00	10.000,00
D	Listas de caoba moldeadas de 50 x 25 mm de grosor a lo largo del entramado del techo coincidentes con los detalles arquitectónicos existentes.	m^2	71	640,00	45.440,00
	Preparar y aplicar una capa de fondo y tres capas de pintura plástica de primera calidad de seda de vinilo con un protector de superficie de teflón proporcionado por Pinturas Crown a superficies enyesadas de:				
E	Laterales y sofitos de techos de yeso suspendidos.	m^2	21	400,00	8.400,00
F	Superficies de cornisas: 0-100 mm de perímetro	m	20	400,00	8.000,00
G	Barniz de poliuretano de dos componentes sobre superficies de paneles de madera	m	71	100,00	7.100,00
	Lijar y cepillar las paredes de yeso; pulir los bordes ásperos y rellenar las grietas y defectos con masilla; tratar con fungicida y eliminar el polvo; preparar y aplicar tres capas finales de pintura plástica de alta calidad de seda de vinilo a:				
H	Las paredes existentes	m^2	167	600,00	100.200,00
	TOTAL INCLUIDO DEL EPÍGRAFE			**KSHS**	**267.340,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 3				
	PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA				
	ELEMENTO N.º 4				
	PLANTA BAJA – PASILLO/ VESTÍBULO				
	RETIRADA DE ASBESTO				
	Retirar con cuidado los acabados de asbesto de los techos, reparar las superficies dañadas, rellenando los huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes, según las indicaciones del arquitecto o los reglamentos del condado o de la NEMA.				
A	Techos	m^2	16	1.200,00	19.200,00
	Techos de yeso				
	Placa de yeso para techo impermeable de 12 mm de grosor (con una resistencia de media hora a incendios) con marco acanalado de aluminio, fijada a paredes y sofitos; entramado de travesaños acanalados de aluminio de 62,5 x 25 mm con separación de 600 mm entre sí, con cables de suspensión de gran resistencia a la tensión, incluyendo todas las operaciones de izado y fijación a una posición que no supere los 3600 mm sobre el nivel del solado acabado, empotrada o desplegada, en función de las indicaciones del diseñador de interiores.				
B	Techos	m^2	16	3.000,00	48.000,00
C	Ídem: Cornisa moldeada de yeso de 100 x 50 mm de grosor	m	26	500,00	13.000,00
D	Listas de caoba moldeadas de 50 x 25 mm de grosor a lo largo del entramado del techo coincidentes con los detalles arquitectónicos existentes.	m	22	640,00	14.080,00
	Preparar y aplicar una capa de fondo y tres capas de pintura plástica de primera calidad de seda de vinilo con un protector de superficie de teflón proporcionado por Pinturas Crown a superficies enyesadas de:				
E	Laterales y sofitos de techos de yeso suspendidos.	m^2	16	400,00	6.400,00
F	Superficies de cornisas: 0-100 mm de perímetro	m	26	400,00	10.400,00
G	Ídem barniz de poliuretano de dos componentes sobre superficies de listas de madera	m	22	100,00	2.200,00
	Lijar y cepillar las paredes de yeso; pulir los bordes ásperos y rellenar las grietas y defectos con masilla; tratar con fungicida y eliminar el polvo; preparar y aplicar tres capas finales de pintura plástica de primera calidad de seda de vinilo a:				
H	Las paredes existentes	m^2	127	600,00	76.200,00
	TOTAL INCLUIDO DEL EPÍGRAFE			**KSHS**	**189.480,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 3				
	PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA				
	ELEMENTO N.º 5				
	PLANTA BAJA –ALMACÉN				
	RETIRADA DE ASBESTO				
	Retirar con cuidado los acabados de asbesto de los techos, reparar las superficies dañadas, rellenando los huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes, según las indicaciones del arquitecto o los reglamentos del condado o de la NEMA.				
A	Techos	m^2	6	1.200,00	7.200,00
	Techos de yeso				
	Placa de yeso para techo impermeable de 12 mm de grosor (con una resistencia de media hora a incendios) con marco acanalado de aluminio, fijada a paredes y sofitos; entramado de travesaños acanalados de aluminio de 62,5 x 25 mm con separación de 600 mm entre sí, con cables de suspensión de gran resistencia a la tensión, incluyendo todas las operaciones de izado y fijación a una posición que no supere los 3600 mm sobre el nivel del solado acabado, empotrada o desplegada, en función de las indicaciones del diseñador de interiores.				
B	Techos	m^2	6	3.000,00	18.000,00
C	Ídem: Cornisa moldeada de yeso de 100 x 50 mm de grosor.	m	10	500,00	5.000,00
D	Listas de caoba moldeadas de 50 x 25 mm de grosor a lo largo del entramado del techo coincidentes con los detalles arquitectónicos existentes.	m	8	640,00	5.120,00
	Preparar y aplicar una capa de fondo y tres capas de pintura plástica de primera calidad de seda de vinilo con un protector de superficie de teflón proporcionado por Pinturas Crown a superficies enyesadas de:				
E	Laterales y sofitos de techos de yeso suspendidos.	m^2	6	400,00	2.400,00
F	Superficies de cornisas: 0-100 mm de perímetro	m	10	400,00	4.000,00
G	Ídem barniz de poliuretano de dos componentes sobre superficies de listas de madera	m	8	100,00	800,00
	Lijar y cepillar las paredes de yeso; pulir los bordes ásperos y rellenar las grietas y defectos con masilla; tratar con fungicida y eliminar el polvo; preparar y aplicar tres capas finales de pintura plástica de primera calidad de seda de vinilo a:				
H	Las paredes existentes	m^2	31	600,00	18.600,00
	TOTAL INCLUIDO DEL EPÍGRAFE			**KSHS**	**61.120,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 3 **PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA** **ELEMENTO N.º 6** **PLANTA BAJA – COMEDOR** **RETIRADA DE ASBESTO** **Retirar con cuidado los acabados de asbesto de los techos, reparar las superficies dañadas, rellenando los huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes, según las indicaciones del arquitecto o los reglamentos del condado o de la NEMA.**				
A	Techos **Techos de yeso** **Placa de yeso para techo impermeable de 12 mm de grosor (con una resistencia de media hora a incendios) con marco acanalado de aluminio, fijada a paredes y sofitos; entramado de travesaños acanalados de aluminio de 62,5 x 25 mm con separación de 600 mm entre sí, con cables de suspensión de gran resistencia a la tensión, incluyendo todas las operaciones de izado y fijación a una posición que no supere los 3600 mm sobre el nivel del solado acabado, empotrada o desplegada, en función de las indicaciones del diseñador de interiores.**	m^2	31	1.200,00	37.200,00
B	Techos	m^2	31	3.000,00	93.000,00
C	Ídem: Cornisa moldeada de yeso de 100 x 50 mm de grosor.	m	22	500,00	11.000,00
D	Listas de caoba moldeadas de 50 x 25 mm de grosor a lo largo del entramado del techo coincidentes con los detalles arquitectónicos existentes.	m	28	640,00	17.920,00
	Preparar y aplicar una capa de fondo y tres capas de pintura plástica de primera calidad de seda de vinilo con un protector de superficie de teflón proporcionado por Pinturas Crown a superficies enyesadas de:				
D	Laterales y sofitos de techos de yeso suspendidos.	m^2	31	400,00	12.400,00
E	Superficies de cornisas: 0-100 mm de perímetro	m	22	100,00	2.200,00
G	Ídem barniz de poliuretano de dos componentes sobre superficies de listas de madera	m	28	100,00	2.800,00
	Lijar y cepillar las paredes de yeso; pulir los bordes ásperos y rellenar las grietas y defectos con masilla; tratar con fungicida y eliminar el polvo; preparar y aplicar tres capas finales de pintura plástica de primera calidad de seda de vinilo a:				
H	Las paredes existentes	m^2	114	600,00	68.400,00
	TOTAL INCLUIDO DEL EPÍGRAFE			**KSHS**	**244.920,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 3				
	PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA				
	ELEMENTO N.º 7				
	PLANTA BAJA – VESTÍBULO				
	RETIRADA DE ASBESTO				
	Retirar con cuidado los acabados de asbesto de los techos, reparar las superficies dañadas, rellenando los huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes, según las indicaciones del arquitecto o los reglamentos del condado o de la NEMA.				
A	Techos	m^2	45	1.200,00	54.000,00
	Techos de yeso				
	Placa de yeso para techo impermeable de 12 mm de grosor (con una resistencia de media hora a incendios) con marco acanalado de aluminio, fijada a paredes y sofitos; entramado de travesaños acanalados de aluminio de 62,5 x 25 mm con separación de 600 mm entre sí, con cables de suspensión de gran resistencia a la tensión, incluyendo todas las operaciones de izado y fijación a una posición que no supere los 3600 mm sobre el nivel del solado acabado, empotrada o desplegada, en función de las indicaciones del diseñador de interiores.				
B	Techos	m^2	45	3.000,00	135.000,00
C	Ídem: Cornisa moldeada de yeso de 100 x 50 mm de grosor	m	29	500,00	14.500,00
D	Listas de caoba moldeadas de 50 x 25 mm de grosor a lo largo del entramado del techo coincidentes con los detalles arquitectónicos existentes.	m	33	640,00	21.120,00
	Preparar y aplicar una capa de fondo y tres capas de pintura plástica de primera calidad de seda de vinilo con un protector de superficie de teflón proporcionado por Pinturas Crown a superficies enyesadas de:				
E	Laterales y sofitos de techos de yeso suspendidos.	m^2	45	400,00	18.000,00
F	Superficies de cornisas: 0-100 mm de perímetro	m	29	100,00	2.900,00
G	Barniz de poliuretano de dos componentes sobre superficies de listas de madera	m	33	100,00	3.300,00
	Lijar y cepillar las paredes de yeso; pulir los bordes ásperos y rellenar las grietas y defectos con masilla; tratar con fungicida y eliminar el polvo; preparar y aplicar tres capas finales de pintura plástica de primera calidad de seda de vinilo a:				
H	Las paredes existentes	m^2	101	600,00	60.600,00
	TOTAL INCLUIDO DEL EPÍGRAFE			**KSHS**	**309.420,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 3 **PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA** **ELEMENTO N.º 8** **PLANTA BAJA - SALÓN** **RETIRADA DE ASBESTO** **Retirar con cuidado los acabados de asbesto de los techos, reparar las superficies dañadas, rellenando los huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes, según las indicaciones del arquitecto o los reglamentos del condado o de la NEMA.**				
A	Techos **Techos de yeso** **Placa de yeso para techo impermeable de 12 mm de grosor (con una resistencia de media hora a incendios) con marco acanalado de aluminio, fijada a paredes y sofitos; entramado de travesaños acanalados de aluminio de 62,5 x 25 mm con separación de 600 mm entre sí, con cables de suspensión de gran resistencia a la tensión, incluyendo todas las operaciones de izado y fijación a una posición que no supere los 3600 mm sobre el nivel del solado acabado, empotrada o desplegada, en función de las indicaciones del diseñador de interiores.**	m^2	58	1.200,00	69.600,00
B	Techos	m^2	58	3.000,00	174.000,00
C	Ídem: Cornisa moldeada de yeso de 100 x 50 mm de grosor	m	31	500,00	15.500,00
D	Listas de caoba moldeadas de 50 x 25 mm de grosor a lo largo del entramado del techo coincidentes con los detalles arquitectónicos existentes.	m	50	640,00	32.000,00
	Preparar y aplicar una capa de fondo y tres capas de pintura plástica de primera calidad de seda de vinilo con un protector de superficie de teflón proporcionado por Pinturas Crown a superficies enyesadas de:				
E	Laterales y sofitos de techos de yeso suspendidos.	m^2	58	400,00	23.200,00
F	Superficies de cornisas: 0-100 mm de perímetro	m	31	400,00	12.400,00
G	Ídem barniz de poliuretano de dos componentes sobre superficies de listas de madera	m	50	100,00	5.000,00
	Lijar y cepillar las paredes de yeso; pulir los bordes ásperos y rellenar las grietas y defectos con masilla; tratar con fungicida y eliminar el polvo; preparar y aplicar tres capas finales de pintura plástica de primera calidad de seda de vinilo a:				
H	Las paredes existentes	m^2	174	600,00	104.400,00
	TOTAL INCLUIDO DEL EPÍGRAFE			**KSHS**	**436.100,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 3				
	PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA				
	ELEMENTO N.º 9				
	PLANTA BAJA – LABORES DE PINTURA				
	PINTURA DE INTERIORES				
	Lijar y cepillar las paredes de yeso; pulir los bordes ásperos y rellenar las grietas y defectos con masilla; tratar con fungicida y eliminar el polvo; preparar y aplicar tres capas finales de pintura plástica de primera calidad de seda de vinilo a:				
A	Paredes existentes: Despacho	m^2	73	600,00	43.800,00
B	Ídem: Despensa	m^2	42	600,00	25.200,00
C	Ídem: Cuarto de lavandería	m^2	47	600,00	28.200,00
D	Ídem: Bodega	m^2	48	600,00	28.800,00
E	Ídem: Ropero	m^2	66	600,00	39.600,00
F	Ídem: Recibidor	m^2	45	600,00	27.000,00
G	Ídem: Sala de juegos	m^2	110	600,00	66.000,00
	PINTURA DE EXTERIORES				
	Lijar y cepillar las paredes de yeso; pulir los bordes ásperos y rellenar las grietas y defectos con masilla; tratar con fungicida y eliminar el polvo; preparar y aplicar tres capas finales de revestimiento de silicona de primera calidad Permacote Ultraguard de la marca Crown a:				
H	Paredes exteriores por el lado de fuera	m^2	613	800,00	490.400,00
	TOTAL INCLUIDO DEL EPÍGRAFE			**KSHS**	**749.000,00**

CONCEPTO	DESCRIPCIÓN	N.º DE PÁGINA	IMPORTE
	SECCIÓN N.º 3		
	PROPUESTA DE RENOVACIÓN DE LA RESIDENCIA DEL EMBAJADOR DE ESPAÑA		
	EPÍGRAFE DE PLANTA BAJA		
	ELEMENTO	**N.º DE PÁGINA**	
1	ASEOS	**3/11**	1.561.400,00
2	SALA DE ESTAR	**3/12**	546.320,00
3	CUARTO DE LAVANDERÍA/COCINA	**3/13**	267.340,00
4	PASILLO/VESTÍBULO	**3/14**	189.480,00
5	ALMACÉN	**3/15**	61.120,00
6	COMEDOR	**3/16**	244.920,00
7	VESTÍBULO	**3/17**	309.420,00
8	SALÓN	**3/18**	436.100,00
8	LABORES DE PINTURA	**3/19**	749.000,00
	TOTAL INCLUIDO EN EL SUMARIO GENERAL		**4.365.100,00**

PLANTA SUPERIOR

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 4 – PLANTA SUPERIOR				
	PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA				
	ELEMENTO N.º 1 (PROVISIONAL)				
	CUBIERTA Y VERTIDO DE AGUAS PLUVIALES				
	Labores de retirada de tejas de la cubierta				
A	Retirar con cuidado las tejas de arcilla; almacenar para su reutilización en el proyecto; reparar las superficies dañadas, concentrar y desechar los escombros resultantes, según los reglamentos del condado.	m^2	624	600,00	374.400,00
	Mini lámina de acero galvanizado corrugado/ondulado de 32 de espesor; con recubrimientos laterales y longitudinales de 150 mm; sobre piezas de madera: para				
B	Base de la cubierta	m^2	624	1.000,00	624.000,00
	Maderas estructurales: de ciprés, aserradas y tratadas con sistema Celcure: practicar los orificios necesarios, clavar las placas y abrazaderas, fijación con pernos, fijación con clavos, unión con cinta metálica y toda la mano de obra necesaria para la fijación de todas las piezas estructurales y el izado de las piezas del tejado				
C	Listones de madera para tejado de 50 x 50 mm a 300 mm de distancia entre sí	m	3744	200,00	748.800,00
D	Correas de 75 x 50 mm	m	1248	300,00	374.400,00
E	Contemplar el tratamiento de los elementos estructurales de madera del tejado existentes contra agentes xilófagos; incluyendo la preparación de la superficie previa a la aplicación.	m^2	624	400,00	249.600,00
	Subtotal			**KSHS**	**2.371.200,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	Tejas de arcilla entrelazadas de 400 x 250 mm de ancho x 50 mm de grosor, con un peso de 3,1 kg/unidad; incluyendo respiraderos cuando sea necesario: colocadas sobre listones de madera de ciprés aserrados y tratados con el sistema Celcure a 300 mm de distancia entre sí: para				
A	Cubiertas de tejado	m^2	125	2.500,00	312.500,00
B	Remate de cumbrera	m	13	500,00	6.500,00
C	Tejado a dos aguas	m	21	500,00	10.500,00
D	Mano de obra adicional para pulido y corte de tejas	m	68	100,00	6.800,00
E	**Labores de retirada de tejas de la cubierta**				
	Retirar las tejas existentes y fijarlas a la base de acero galvanizado corrugado (m/s): sobre listones de madera de ciprés tratado con el sistema Celcure de 50 x 50 mm a 300 mm de distancia entre sí en las cubiertas.	m^2	624	600,00	374.400,00
F	**Nueva mano de pintura de canalones**				
	Limpiar con cuidado, aplicar una capa de imprimación de cromato de zinc de primera calidad y tres capas de acabado de pintura al óleo a las superficies de acero de los canalones.	m	201	200,00	40.200,00
	Caballetes / Aleros				
G	**Placas de yeso de 12 mm de grosor resistentes al agua:**				
	Fijación con clavos ocultos de los aleros vistos de la cubierta a listones de madera de ciprés aserrados, tratados con el sistema Celcure, a 300 mm de distancia entre sí, aplicando una capa de fondo y tres de acabado de pintura plástica de seda de vinilo.	m^2	195	3.000,00	585.000,00
H	Ídem: Moldura de la cornisa en ambos extremos.	m	402	500,00	201.000,00
	Subtotal			**KSHS**	**1.536.900,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	Aislamiento de la cubierta				
	Lámina de material aislante para cubiertas de 10 mm de grosor suministrado por M/s Jumbo Chem Kenya Ltd., hecho en un 100% de espuma de polietileno de celda cerrada, fusionada con un revestimiento de aluminio reforzado con conductividad térmica de 0,0298 W/m.K, incluyendo la mano de obra de elevación a una altura no superior a los 7500 mm sobre el nivel del solado acabado.				
A	Aislamiento de la cubierta	m^2	624	1.200,00	748.800,00
	Másticos asfálticos para cisterna de 20 mm de grosor: sobre solera maestreada (m/s): fijados con un adhesivo homologado conforme a las especificaciones del fabricante: para				
B	Cubiertas: Las bajantes horizontales no superarán los 15 grados: Bodega	m^2	13	2.000,00	26.000,00
C	Ídem: parte de la cubierta del cuarto de lavandería/cocina	m^2	30	2.000,00	60.000,00
	Subtotal			**KSHS**	**834.800,00**
	SUMA DE LOS SUBTOTALES				
	PÁGINA N.º: 4/1				**2.371.200,00**
	PÁGINA N.º: 4/2				**1.536.900,00**
	PÁGINA N.º: 4/3				**834.800,00**
	TOTAL INCLUIDO DEL EPÍGRAFE			**KSHS**	**4.742.900,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 4 – PLANTA SUPERIOR				
	PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA				
	ELEMENTO N.º 2				
	PLANTA SUPERIOR				
	DORMITORIO 06				
	Demolición de cada una de las estructuras conservando los materiales para su reutilización; retirada de los escombros resultantes y de los materiales no reutilizables, según las indicaciones del diseñador de interiores; todos los trabajos se realizarán conforme a los planos arquitectónicos				
A	Demoler con cuidado las paredes de mampostería, con independencia de su tamaño; reparar las superficies dañadas, mediante el rellenado de huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes en un vertedero autorizado o según lo establezcan los reglamentos del condado.	m^2	8	1.200,00	9.600,00
B	Levantar con cuidado las baldosas del solado, con independencia de su tamaño; reparar las superficies dañadas rellenando los huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes según las indicaciones del diseñador de interiores o lo establecido en los reglamentos del condado.	m^2	7	1.000,00	7.000,00
C	Ídem, pero con los azulejos de la pared	m^2	40	1.000,00	40.000,00
D	Retirar con cuidado las puertas de 800 x 2100 mm existentes, incluido el marco y los elementos/accesorios de ferretería; reparar las superficies dañadas, mediante el rellenado de huecos con materiales homologados si fuera necesario; desechar los escombros resultantes según las indicaciones del arquitecto o lo establecido en los reglamentos del condado. Entregar en el almacén del empleador para su custodia.	unidad	2	3.000,00	6.000,00
	Subtotal			**KSHS**	**62.600,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	PUERTAS				
	Puerta rasante				
	Puertas rasantes de 50 mm de grosor de núcleo sólido conforme a los estándares británicos (BS), parte 2, 459: **Contrachapado de caoba en ambos lados: contrapilastras de madera noble:**				
A	Puerta de una hoja de 900 x 2400mm; compuesta de 1 hoja practicable de 800 x 2100mm	unidad	1	25.000,00	25.000,00
	Marcos y revestimientos: caoba o madera dura autorizada equivalente: se selecciona y mantiene limpia				
B	Marcos de 200 x 50 mm: Tres piezas: encajados	m	6	2.000,00	12.000,00
C	Arquitrabe de 20 x 40 mm: atornillado al marco con embellecedores	m	6	360,00	2.160,00
D	Moldura de esquina de 20 x 20 mm: una pieza: ídem	m	6	360,00	2.160,00
E	Perfiles de hoja acristalados de 10 x 20 mm	m	3	360,00	1.080,00
F	Travesaños de 100 x 50 mm; junta insertada en los marcos	m	1	1.600,00	1.600,00
	Suministrar y fijar los siguientes elementos de ferretería a la madera tornillos y llaves correspondientes según el catálogo 'UNION'				
G	Bisagras de acero inoxidable de 100 mm x 76 x 2,50; con perno y tornillos correspondientes al número del catálogo Union HN -DW - 403020 – SSS	par	1,5	500,00	750,00
H	Cerradura de latón pulido de embutir con tres resortes, pomo de latón y resto de elementos (palastro, bombín y pestillo de la cerradura); Referencia n.º 2000-32SS-Tourcan del catálogo "UNION" o cerradura autorizada equivalente con sus pomos.	Unidad	1	3.500,00	3.500,00
I	Tirador de latón pulido catátalogo “UNIÓN” número 2000 – 3S – Toucan	Unidad	1	2.000,00	2.000,00
	Subtotal			**KSHS**	**50.250,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
A	Tope de puerta de aluminio anodizado satinado de 38 mm de diámetro; atornillado al solado o la pared; referencia DS-01AS del catálogo UNION	unidad	1	300,00	300,00
	Vidrio transparente de 6 mm para tragaluz y revestimiento acristalado de la madera (medidos por separado)				
B	Paneles de vidrio de un tamaño no superior a 0,1 metros cuadrados	m^2	1	2.000,00	2.000,00
	Preparar y aplicar una capa de imprimación de aluminio para madera: antes de fijar: sobre madera: a				
C	Superficies no superiores a los 100 mm de perímetro	m	15	100,00	1.500,00
D	Ídem: superiores a 100 pero inferiores a 200 mm de perímetro	m	7	100,00	700,00
	Preparar y aplicar tres capas de barniz transparente de poliuretano de primera calidad: sobre madera: a				
E	Puertas rasantes: superficies en general	m^2	4	400,00	1.600,00
F	Marcos: superiores a 100 pero inferiores a 200 mm de perímetro	m	6	100,00	600,00
G	Travesaños: ídem	m	1	100,00	100,00
H	Arquitrabes: no superiores a 100 mm de perímetro	m	6	100,00	600,00
I	Moldura de esquina: no superiores a 100 mm de perímetro	m	6	100,00	600,00
J	Perfiles de hoja acristalados: ídem	m	3	100,00	300,00
	Puertas sin marco y tabiques de vidrio				
K	Tabique de vidrio laminado de 12 mm de grosor con bisagra de resorte de suelo extrafuerte; bordes laminados con herrajes de acero inoxidable, accesorios de fijación y metálicos según las especificaciones del catálogo de Assa Abloy Kenia; puertas de un tamaño general de 800 mm de ancho y 2100 mm de alto (1N.º) con todos los accesorios de fijación y metálicos para puertas.	m^2	4	12.000,00	72.000,00
	Subtotal			**KSHS**	**80.300,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	Persianas enrollables para ventanas				
A	Persianas enrollables de 2000 x 2000 mm de altura de material impermeable y opaco con carriles de guía y con mecanismo motorizado o no motorizado de subida y bajada.	unidad	1	5.000,00	20.000,00
	ACABADOS DEL SOLADO				
	Solera de cemento y arena (1:4) maestreada sobre el cemento: a				
B	Solados de 40 mm de grosor: terminados para revestimiento con baldosas	m^2	15	500,00	7.500,00
	Suministrar y fijar baldosas de granito antideslizantes de 600 x 600 x 10 mm de grosor proporcionadas por M/s Saj Ceramics Ltd o por otro proveedor equivalente y autorizado: fijación a la solera y juntas con adhesivo para baldosas homologado; capa de lechada con material adecuado de compactación sobre las soleras de cemento y arena (m/s) maestreadas.				
C	Solados	m^2	15	4.000,00	60.000,00
D	Rodapié de 12 mm de grosor x 150 mm de altura con borde superior redondeado	m	24	600,00	14.400,00
	ACABADOS DE PAREDES				
	Piedra de cantera natural con una resistencia media a la presión de 5.0 N/mm2 como mínimo, conforme al B.S. 5390; compactada sobre mortero de cemento y arena (1:4) y reforzada con flejes de hierro de 25 x 3 mm de grosor incrustados cada dos hiladas, en:				
E	Muros de 200 mm de grosor	m^2	2	2.000,00	4.000,00
	Suministrar y fijar azulejos de cerámica de 200 x 900 x 8 mm de grosor, proporcionados por M/s Saj Ceramics Ltd o por otro proveedor equivalente y autorizado, sobre enfoscado maestreado (s/m); aplicar lechada de cemento impermeable a las juntas de:				
F	Paredes de hasta 2100 mm de altura	m^2	22	3.000,00	66.000,00
G	Molduras de aluminio en las esquinas vistas	m	11	200,00	2.200,00
	Subtotal			**KSHS**	**174.100,00**

CON-CEP-TO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	Refuerzo de cemento y arena (1:4) de 12 mm sobre el hormigón o las coqueras: a				
A	Paredes: terminadas para revestimiento con azulejos esmaltados	m^2	22	500,00	11.000,00
	Lijar y cepillar las paredes de yeso; pulir los bordes ásperos y rellenar las grietas y defectos con masilla; tratar con fungicida y eliminar el polvo; preparar y aplicar tres capas finales de pintura plástica de primera calidad de seda de vinilo a:				
B	Las paredes existentes	m^2	65	600,00	39.000,00
	Capa de cal de 12 mm de grosor, con mezcla adicional de impermeabilizante Sika aplanada con llana de acero: sobre cemento o paredes de ladrillo o bloques: en				
C	Superficies de las paredes	m^2	4	500,00	2.000,00
	Preparar y aplicar tres capas de pintura plástica de primera calidad de seda de vinilo, sobre escayola, a:				
D	Las paredes existentes	m^2	4	500,00	2.000,00
	<u>ACABADOS DE TECHOS</u>				
E	Retirar con cuidado los acabados de asbesto de los techos, reparar las superficies dañadas, rellenando los huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes, según las indicaciones del arquitecto o los reglamentos del condado o de la NEMA.	m^2	31	1.200,00	37.200,00
	Techos de yeso				
	Placa de yeso para techo impermeable de 12 mm de grosor (con una resistencia de media hora a incendios) con marco acanalado de aluminio, fijada a paredes y sofitos; entramado de travesaños acanalados de aluminio de 62,5 x 25 mm con separación de 600 mm entre sí, con cables de suspensión de gran resistencia a la tensión, incluyendo todas las operaciones de izado y fijación a una posición que no supere los 3600 mm sobre el nivel del solado acabado, empotrada o desplegada, en función de las indicaciones del diseñador de interiores.				
G	Techos	m^2	31	3.000,00	93.000,00
	Subtotal			**KSHS**	**184.200,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
A	Ídem: Cornisa de 100 mm de ancho.	m	39	600,00	23.400,00
B	Listas de caoba moldeadas de 50 x 25 mm de grosor a lo largo del entramado del techo coincidentes con los detalles arquitectónicos existentes.	m	20	640,00	12.800,00
	Preparar y aplicar una capa de fondo y tres capas de pintura plástica de primera calidad de seda de vinilo, con un protector de superficie de teflón proporcionado por Pinturas Crown, a superficies enyesadas de:				
C	Laterales y sofitos de techos y aleros de yeso suspendidos	m^2	31	400,00	12.400,00
D	Ídem: superficies de cornisas: 0-100 mm de perímetro	m	39	100,00	3.900,00
E	Ídem: barniz de poliuretano de dos componentes sobre las superficies de las listas de madera	m	20	100,00	2.000,00
	INSTALACIONES ELÉCTRICAS				
	Subcircuitos finales con todos los accesorios y conexiones detallados abajo y en el dibujo, cableados en conductos de primera calidad de PVC, ocultos en el solado, las paredes y la cubierta.				
F	Puntos de luz conectados a cables de núcleo sencillo de 3 x 1,5 mm^2 para conmutaciones en uno o dos sentidos en tubos de PVC de gran calibre (20 mm), ocultos en el solado, las paredes y la cubierta.	unidad	2	2.000,00	4.000,00
	CONEXIONES Y ACCESORIOS DE ILUMINACIÓN				
	Suministrar e instalar accesorios de control de la iluminación y conexiones de luz como se muestra en los dibujos, junto con las terminaciones de cableado y materiales de fijación correspondientes				
G	Interruptor simple de 10A, del tipo ART DNA B9-BK1A	unidad	1	1.000,00	1.000,00
H	Plafón de techo alargado Carpi con acabado de aluminio pulido, con difusor blanco para el baño, del tipo Eglo 90448 con luz E	unidad	1	9.000,00	9.000,00
I	Luz led Nlux de 8W para espejo de afeitado de baño, de policarbonato, de 240v IP20	unidad	1	3.600,00	3.600,00
	Subtotal			**KSHS**	**72.100,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	FONTANERÍA Y SISTEMAS DE DESAGÜE				
	Sanitarios y accesorios				
	Suministrar, entregar e instalar los siguientes accesorios sanitarios, con todas sus conexiones y ensamblajes. **Los licitadores deben tener en cuenta que SOLO se tomarán en consideración AQUELLAS ALTERNATIVAS EQUIVALENTES o superiores en capacidades TÉCNICAS a los elementos especificados, y que DEBERÁN incluir LOS CATÁLOGOS DE PRODUCTOS**				
	Inodoro				
A	Inodoro compacto "Duravit Durastyle" de porcelana vidriosa blanca con cisterna baja de 9 litros con palanca y conexiones sin válvula, sifón de plástico con entrada, salida y doble botón de regulación de descarga, soportes, asiento resistente y acolchado, y tapa.	1	unidad	50.000,00	50.000,00
B	Conector de trampa P o S de inodoro a la tubería de desagüe para salida horizontal del inodoro	1	unidad	2.000,00	2.000,00
C	Portarrollos doble con resorte de usillo para montaje empotrado, de acero inoxidable, superficie con acabado satinado, de material grueso, con cubierta frontal plegable, cerradura de cilindro con llave estándar para dos rollos, y con todos los accesorios de montaje aprobados por el ingeniero.	1	unidad	15.000,00	15.000,00
	Percha				
D	Contar con la posibilidad de instalar una percha Hansgrohe, previa autorización del ingeniero.	1	unidad	5.000,00	5.000,00
	Lavabo				
E	Lavabo de encimera "Duravit Durastyle" de porcelana vidriosa con 1 orificio de desagüe en el centro u otro equivalente, del tamaño homologado de 650 x 500 mm, con lo siguiente: - Descarga de chapa cromada Hansgrohe. - Colgadores de pared - Sifón botella de chapa cromada - Sifón botella de chapa cromada Hansgrohe	1	unidad	40.000,00	40.000,00
	Grifo para lavabo				
F	Grifo monomando para lavabo Hansgrohe o equivalente homologado	1	unidad	25.000,00	25.000,00
	Subtotal			**KSHS**	**137.000,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
A	Espejo biselado de 750 x 500 mm con tornillos de fijación cromados de cabeza redonda.	1	unidad	15.000,00	15.000,00
B	Ídem pero espejo retráctil de 200 mm de diámetro con soportes y abrazaderas retráctiles y plegables, diseño ultraligero, rotación suave, sin reflejos y nítido, aprobado por el ingeniero.	1	unidad	20.000,00	20.000,00
	GRIFERÍA DE DUCHA				
C	Hansgrohe: Accesorio de ducha empotrado Focus E2 de 4 salidas, consistente en: cuerpo empotrado de 4 salidas y juego de acabado del monomando, Ref: 31741180, 31947. Hansgrohe: Alcachofa de ducha Crometta monofunción con brazo de ducha, Ref: 28424, 27411 Hansgrohe : caño de ducha	1	juego	200.000,00	200.000,00
	Jabonera				
D	Jabonera de pared cromada Hansgrohe	1	unidad	5.000,00	5.000,00
	Toallero				
E	Toallero cromado Hansgrohe homologado por el ingeniero.	1	unidad	15.000,00	15.000,00
	Punto de desinfección de manos				
F	Dispensador de jabón sin contacto de Mediclinics u otro equivalente homologado para colocar en la pared, de acero inoxidable con capacidad de 1 litro. Recargable con sensor de actividad por infrarrojos para funcionar sin contacto, con todos los accesorios de montaje. Los precios comprenden la carga inicial.	1	unidad	25.000,00	25.000,00
	Subtotal			**KSHS**	**280.000,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	FONTANERÍA DE AGUA FRÍA/CALIENTE				
	Suministro, entrega e instalación de tuberías de PP-R para agua fría y accesorios conforme a la normativa B.S y DIN y del país. Los licitadores deberán contemplar en los presupuestos de fontanería todos los acoplamientos, uniones, conectores, juntas, curvas de derivación, bucles de expansión, etc., que sean necesarios a lo largo de las tuberías. El ensamblaje y la instalación han de realizarse únicamente siguiendo las recomendaciones del fabricante. Todos los diámetros indicados se refieren a diámetros interiores de las tuberías.				
	Se han tomado como referencia en cuanto a tipo y calidad las tuberías de polipropileno ARIETE® – 25 fabricadas por EFFEGISRL. El uso de otras marcas autorizadas equivalentes deberá ser aprobado por los ingenieros.				
	Los licitadores deberán contemplar en sus presupuestos todos los acoplamientos, conectores, abrazaderas y juntas de dilatación necesarios a lo largo de las tuberías.				
A	**Tuberías**				
	a) Tubería de PP-R de 25 mm de diámetro	28	m	350,00	9.800,00
	b) Ídem de 32 mm de diámetro	15	m	400,00	6.000,00
	c) Ídem de 40 mm de diámetro	20	m	580,00	11.600,00
B	**Codos y curvas**				
	a) Codo/curva de PP-R de 25 mm de diámetro	4	unidad	100,00	400,00
	b) Ídem de 32 mm de diámetro	4	unidad	100,00	400,00
	c) Ídem de 40 mm de diámetro	2	unidad	100,00	200,00
C	**Reductores**				
	a) Ídem de 40 x 32 mm	2	unidad	50,00	100,00
	b) Ídem de 32 x 25 mm	4	unidad	50,00	200,00
D	**Tes**				
	a) Te recta de PP-R de 25 mm de diámetro	2	unidad	50,00	100,00
	b) Ídem de 32 mm de diámetro	2	unidad	70,00	140,00
	c) Ídem de 40 mm de diámetro	1	unidad	80,00	80,00
E	**Juntas roscadas hembra**				
	a) Juntas roscadas hembra de PP-R de 25 mm de diámetro	2	unidad	50,00	100,00
	b) Ídem de 32 mm de diámetro	2	unidad	70,00	140,00
	c) Ídem de 40 mm de diámetro	1	unidad	80,00	80,00
	Subtotal			**KSHS**	**29.340,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
A	**Juntas roscadas macho**				
	a) Juntas roscadas macho de PP-R de 25 mm de diámetro	2	unidad	50,00	100,00
	b) Ídem de 32 mm de diámetro	2	unidad	70,00	140,00
	c) Ídem de 40 mm de diámetro	1	unidad	80,00	80,00
B	**Válvulas aislantes**				
	a) Válvulas aislantes de 25 mm de diámetro	2	unidad	2.500,00	5.000,00
	b) Ídem de 32 mm de diámetro	2	unidad	2.700,00	5.400,00
	c) Ídem de 40 mm de diámetro	1	unidad	3.200,00	3.200,00
	Todas las tuberías deberán ser similares a las de las marcas "Key Terrain" o "Metro" y los precios incluir todos los conectores, adaptadores, manguitos reductores, etc.				
C	**Tuberías**				
	a) Tubería gris de uPVC de 100 mm de diámetro	15	m	1.100,00	16.500,00
	b) Ídem de 40 mm de diámetro	15	m	600,00	9.000,00
	c) Ídem de 32 mm de diámetro	15	m	560,00	8.400,00
D	**Curvas**				
	a) Curva de acceso de uPVC de 100 mm de diámetro	1	unidad	300,00	300,00
	b) Curva de barrido de uPVC de 100mm de diámetro	1	unidad	250,00	250,00
	c) Curva de acceso de 40 mm de diámetro	2	unidad	120,00	240,00
	d) Curva de barrido de 32 mm de diámetro	2	unidad	120,00	240,00
E	**Tes**				
	a) Te reducida de 100 mm de diámetro	1	unidad	300,00	300,00
	b) Te de 40 mm de diámetro	3	unidad	120,00	360,00
F	**Conectores Boss**				
	a) Conector Boss de 100 mm de diámetro	2	unidad	150,00	300,00
	b) Ídem de 40 mm de diámetro	4	unidad	100,00	400,00
	c) Ídem de 32 mm de diámetro	3	unidad	100,00	300,00
G	**Tapones de inspección (registros de varillas)**				
	a) Tapones de inspección de 100 mm de diámetro	1	unidad	350,00	350,00
	b) Ídem de 40 mm de diámetro	2	unidad	300,00	600,00
	c) Ídem de 32 mm de diámetro	2	unidad	200,00	400,00
H	Sifón de cuatro vías de 100 x 50 mm con rejilla de acero inoxidable.	2	unidad	3.000,00	6.000,00
	Subtotal			**KSHS**	**57.860,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SUMA DE SUBTOTALES				
	PÁGINA N.º: 4/4				62.600,00
	PÁGINA N.º: 4/5				50.250,00
	PÁGINA N.º: 4/6				80.300,00
	PÁGINA N.º: 4/7				174.100,00
	PÁGINA N.º: 4/8				184.200,00
	PÁGINA N.º: 4/9				72.100,00
	PÁGINA N.º: 4/10				137.000,00
	PÁGINA N.º: 4/11				280.000,00
	PÁGINA N.º: 4/12				29.340,00
	PÁGINA N.º: 4/13				57.860,00
				KSHS	**1.127.750,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 4 – PLANTA SUPERIOR				
	PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA				
	ELEMENTO N.º 3				
	DORMITORIO 05				
	Demolición de cada una de las estructuras conservando los materiales para su reutilización; retirada de los escombros resultantes y de los materiales no reutilizables, según las indicaciones del diseñador de interiores; todos los trabajos se realizarán conforme a los planos arquitectónicos				
A	Levantar con cuidado las baldosas del solado, con independencia de su tamaño, reparar las superficies dañadas rellenando los huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes según las indicaciones del diseñador de interiores o lo establecido en los reglamentos del condado.	m^2	5	1.000,00	5.000,00
B	Ídem, pero con los azulejos de la pared	m^2	39	1.000,00	39.000,00
	Puertas sin marco y tabiques de vidrio				
C	Tabique de vidrio laminado de 12 mm de grosor con bisagra de resorte de suelo extrafuerte; bordes laminados con herrajes de acero inoxidable, accesorios de fijación y metálicos según las especificaciones del catálogo de Assa Abloy Kenia; puertas de un tamaño general de 800 mm de ancho y 2100 mm de alto (1N.º) con todos los accesorios de fijación y metálicos para puertas.	m^2	3	18.000,00	54.000,00
	ACABADOS DEL SOLADO				
	Soleras maestreadas de cemento y arena (1:4) sobre hormigón: para				
D	Solados de 40 mm de grosor: terminados para revestimiento con baldosas	m^2	5	500,00	2.500,00
	Subtotal			**KSHS**	**100.500,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	Suministrar y fijar baldosas de granito antideslizantes de 600 x 600 x 10 mm de grosor proporcionadas por M/s Saj Ceramics Ltd o por otro proveedor equivalente y autorizado: fijación a la solera y juntas con adhesivo para baldosas homologado; capa de lechada con material adecuado de compactación sobre las soleras de cemento y arena (m/s) maestreadas.				
A	Solados	m^2	5	4.000,00	20.000,00
B	Rodapié de 12 mm de grosor x 150 mm de altura con borde superior redondeado	m	11	600,00	6.600,00
	<u>ACABADOS DE PAREDES</u>				
	Suministrar y fijar azulejos de cerámica de 200 x 900 x 8 mm de grosor, proporcionados por M/s Saj Ceramics Ltd o por otro proveedor equivalente y autorizado, sobre enfoscado maestreado (s/m); aplicar lechada de cemento impermeable a las juntas de:				
C	Paredes de hasta 2100 mm de altura	m^2	23	3.000,00	69.000,00
D	Molduras de aluminio en las esquinas vistas	m	11	200,00	2.200,00
	Refuerzo de cemento y arena (1:4) de 12 mm sobre el hormigón o las coqueras: a				
E	Paredes: terminadas para revestimiento con azulejos esmaltados	m^2	23	400,00	9.200,00
	Lijar y cepillar las paredes de yeso; pulir los bordes ásperos y rellenar las grietas y defectos con masilla; tratar con fungicida y eliminar el polvo; preparar y aplicar tres capas finales de pintura plástica de primera calidad de seda de vinilo a:				
F	Las paredes existentes	m^2	77	600,00	46.200,00
	<u>ACABADOS DE TECHOS</u>				
G	Retirar con cuidado los acabados de asbesto de los techos, reparar las superficies dañadas, rellenando los huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes, según las indicaciones del arquitecto o los reglamentos del condado o de la NEMA.	m^2	26	1.200,00	31.200,00
	Subtotal			**KSHS**	**184.400,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	Techos de yeso				
	Placa de yeso para techo impermeable de 12 mm de grosor (con una resistencia de media hora a incendios) con marco acanalado de aluminio, fijada a paredes y sofitos; entramado de travesaños acanalados de aluminio de 62,5 x 25 mm con separación de 600 mm entre sí, con cables de suspensión de alta resistencia a la tensión, incluyendo todas las operaciones de izado y fijación a una posición que no supere los 3600 mm sobre el nivel del solado acabado; empotrada o desplegada, en función de las indicaciones del diseñador de interiores.				
A	Techos	m^2	26	3.000,00	78.000,00
B	Ídem: Cornisa de 100 mm de ancho.	m	25	60,00	15.000,00
C	Listas de caoba moldeadas de 50 x 25 mm de grosor a lo largo del entramado del techo coincidentes con los detalles arquitectónicos existentes.	m	26	640,00	16.640,00
	Preparar y aplicar una capa de fondo y tres capas de pintura plástica de primera calidad de seda de vinilo con un protector de superficie de teflón proporcionado por Pinturas Crown a superficies enyesadas de:				
D	Laterales y sofitos de techos y aleros de yeso suspendidos.	m^2	26	400,00	10.400,00
E	Ídem: superficies de cornisas: 0-100 mm de perímetro	m	25	100,00	2.500,00
F	Ídem: barniz de poliuretano de dos componentes sobre las superficies de las listas de madera	m	26	100,00	2.600,00
	INSTALACIONES ELÉCTRICAS				
	Subcircuitos finales con todos los accesorios y conexiones detallados abajo y en el dibujo, cableados en conductos de a calidad de PVC ocultos en el solado, las paredes y la cubierta.				
E	Puntos de luz conectados a cables de núcleo sencillo de 3 x 1,5 mm^2 para conmutaciones en uno o dos sentidos en tubos de PVC de gran calibre (20 mm) ocultos en el solado, las paredes y la cubierta.	unidad	2	2.000,00	4.000,00
	CONEXIONES Y ACCESORIOS DE ILUMINACIÓN				
	Suministrar e instalar accesorios de control de la iluminación y conexiones de luz como se muestra en los dibujos, junto con las terminaciones de cableado y materiales de fijación correspondientes				
F	Interruptor simple de 10A, del tipo ART DNA B9-BK1A	unidad	1	1.000,00	1.000,00
G	Plafón de techo alargado Carpi con acabado de aluminio pulido, con difusor blanco para el baño, del tipo Eglo 90448 con luz E	unidad	1	9.000,00	9.000,00
H	Luz led Nlux de 8W para espejo de afeitado de baño de policarbonato de 240v IP20	unidad	1	3.600,00	3.600,00
	Subtotal			**KSHS**	**142.740,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	FONTANERÍA Y SISTEMAS DE DESAGÜE				
	Sanitarios y accesorios				
	Suministrar, entregar e instalar los siguientes accesorios sanitarios, con todas sus conexiones y ensamblajes. **Los licitadores deben tener en cuenta que SOLO se tomarán en consideración AQUELLAS ALTERNATIVAS EQUIVALENTES o superiores en capacidades TÉCNICAS a los elementos especificados, y que DEBERÁN incluir LOS CATÁLOGOS DE PRODUCTOS**				
	Inodoro				
A	Inodoro compacto "Duravit Durastyle" de porcelana vidriosa blanca, con cisterna baja de 9 litros, con palanca y conexiones sin válvula, sifón de plástico con entrada, salida y doble botón de regulación de descarga, soportes, asiento resistente y acolchado, y tapa.	1	unidad	50.000,00	50.000,00
B	Conector de trampa P o S de inodoro a la tubería de desagüe para salida horizontal del inodoro	1	unidad	2.000,00	2.000,00
C	Portarrollos doble con resorte de usillo para montaje empotrado, de acero inoxidable, superficie con acabado satinado, de material grueso, con cubierta frontal plegable, cerradura de cilindro con llave estándar para dos rollos, y con todos los accesorios de montaje aprobados por el ingeniero.	1	unidad	15.000,00	15.000,00
	Percha				
D	Contar con la posibilidad de instalar una percha Hansgrohe, previa autorización del ingeniero.	1	unidad	5.000,00	5.000,00
	Lavabo				
E	Lavabo de encimera "Duravit Durastyle" de porcelana vidriosa con 1 orificio de desagüe en el centro u otro equivalente, del tamaño homologado de 650 x 500 mm, con lo siguiente: - Descarga de chapa cromada Hansgrohe. - Colgadores de pared - Sifón botella de chapa cromada - Sifón botella de chapa cromada Hansgrohe	1	unidad	40.000,00	40.000,00
	Grifo para lavabo				
F	Grifo monomando para lavabo Hansgrohe o equivalente homologado	1	unidad	25.000,00	25.000,00
	Subtotal			**KSHS**	**137.000,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
A	Espejo biselado de 750 x 500 mm con tornillos de fijación cromados de cabeza redonda.	1	unidad	15.000,00	15.000,00
B	Ídem, pero espejo retráctil de 200 mm de diámetro con soportes y abrazaderas retráctiles y plegables, diseño ultraligero, rotación suave, sin reflejos y nítido, aprobado por el ingeniero	1	unidad	20.000,00	20.000,00
	GRIFERÍA DE DUCHA				
C	Hansgrohe: Acccesorio de ducha empotrado Focus E2 de 4 salidas, consistente en: cuerpo empotrado de 4 salidas y juego de acabado del monomando, Ref: 31741180, 31947. Hansgrohe: Alcachofa de ducha Crometta monofunción con brazo de ducha, Ref: 28424, 27411 Hansgrohe: caño de ducha	1	juego	200.000,00	200.000,00
	Jabonera				
D	Jabonera de pared cromada Hansgrohe	1	unidad	5.000,00	5.000,00
	Toallero				
E	Toallero cromado de Hansgrohe homologado por el ingeniero.	1	unidad	15.000,00	15.000,00
	Punto de desinfección de manos				
F	Dispensador de jabón sin contacto de Mediclinics u otro equivalente homologado, para colocar en la pared, de acero inoxidable con capacidad de 1 litro. Recargable con sensor de actividad por infrarrojos para funcionar sin contacto, con todos los accesorios de montaje. Los precios comprenden la carga inicial.	1	unidad	25.000,00	25.000,00
	Subtotal			**KSHS**	**280.000,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	FONTANERÍA DE AGUA FRÍA/CALIENTE				
	Suministro, entrega e instalación de tuberías de PP-R para agua fría y accesorios conforme a la normativa B.S y DIN y del país. Los licitadores deberán contemplar en los presupuestos de fontanería todos los acoplamientos, uniones, conectores, juntas, curvas de derivación, bucles de expansión, etc., que sean necesarios a lo largo de las tuberías. El ensamblaje y la instalación han de realizarse únicamente siguiendo las recomendaciones del fabricante. Todos los diámetros indicados se refieren a diámetros interiores de las tuberías.				
	Se han tomado como referencia en cuanto a tipo y calidad las tuberías de polipropileno ARIETE® – 25 fabricadas por EFFEGISRL. El uso de otras marcas autorizadas equivalentes deberá ser aprobado por los ingenieros.				
	Los licitadores deberán contemplar en sus presupuestos todos los acoplamientos, conectores, abrazaderas y juntas de dilatación necesarios a lo largo de las tuberías.				
A	**Tuberías**				
	a) Tubería de PP-R de 25 mm de diámetro	28	m	350,00	9.800,00
	b) Ídem de 32 mm de diámetro	15	m	400,00	6.000,00
	c) Ídem de 40 mm de diámetro	20	m	580,00	11.600,00
B	**Codos y curvas**				
	a) Codo/curva de PP-R de 25 mm de diámetro	4	unidad	100,00	400,00
	b) Ídem de 32 mm de diámetro	4	unidad	100,00	400,00
	c) Ídem de 40 mm de diámetro	2	unidad	100,00	200,00
C	**Reductores**				
	a) Ídem de 40x32 mm	2	unidad	50,00	100,00
	b) Ídem de 32x25 mm	4	unidad	50,00	200,00
D	**Tes**				
	a) Te recta de PP-R de 25 mm de diámetro	2	unidad	50,00	100,00
	b) Ídem de 32 mm de diámetro	2	unidad	70,00	140,00
	c) Ídem de 40 mm de diámetro	1	unidad	80,00	80,00
E	**Juntas roscadas hembra**				
	a) Juntas roscadas hembra de PP-R de 25 mm de diámetro	2	unidad	50,00	100,00
	b) Ídem de 32 mm de diámetro	2	unidad	70,00	140,00
	c) Ídem de 40 mm de diámetro	1	unidad	80,00	80,00
	Subtotal			**KSHS**	**29.340,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
A	**Juntas roscadas macho**				
	a) Juntas roscadas macho de PP-R de 25 mm de diámetro	2	unidad	50,00	100,00
	b) Ídem de 32 mm de diámetro	2	unidad	70,00	140,00
	c) Ídem de 40 mm de diámetro	1	unidad	80,00	80,00
B	**Válvulas aislantes**				
	(a) Válvulas aislantes de 25 mm de diámetro	2	unidad	2.500,00	5.000,00
	(b) Ídem de 32 mm de diámetro	2	unidad	2.700,00	5.400,00
	(c) Ídem de 40 mm de diámetro	1	unidad	3.200,00	3.200,00
	Todas las tuberías deberán ser similares a las de las marcas "Key Terrain" o "Metro", y los precios incluir todos los conectores, adaptadores, manguitos reductores, etc.				
C	**Tuberías**				
	a) Tubería gris de UPVC de 100 mm de diámetro	15	m	1.100,00	16.500,00
	b) Ídem de 40mm de diámetro	15	m	600,00	9.000,00
	c) Ídem de 32mm de diámetro	15	m	560,00	8.400,00
D	**Curvas**				
	a) Curva de acceso de uPVC de 100 mm de diámetro	1	unidad	300,00	300,00
	b) Curva de barrido de uPVC de 100 mm diámetro	1	unidad	250,00	250,00
	c) Curva de acceso de uPVC de 40 mm de diámetro	2	unidad	120,00	240,00
	d) Curva de barrido de uPVC de 32 mm de diámetro	2	unidad	120,00	240,00
E	**Tes**				
	a) Te reducida de 100 mm de diámetro	1	unidad	300,00	300,00
	b) Te de 40 mm de diámetro	3	unidad	120,00	360,00
F	**Conectores Boss**				
	a) Conector Boss de 100 mm de diámetro	2	unidad	150,00	300,00
	b) Ídem de 40 mm de diámetro	4	unidad	100,00	400,00
	c) Ídem de 32 mm de diámetro	3	unidad	100,00	300,00
G	**Tapones de inspección (registros de varillas)**				
	a) Tapones de inspección de 100 mm de diámetro	1	unidad	350,00	350,00
	b) Ídem de 40 mm de diámetro	2	unidad	300,00	600,00
	c) Ídem de 32 mm de diámetro	2	unidad	200,00	400,00
H	Sifón de cuatro vías de 100 x 50 mm con rejilla de acero inoxidable.	2	unidad	3.000,00	6.000,00
	Subtotal			**KSHS**	**57.860,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SUMA DE SUBTOTALES				
	PÁGINA N.º: 4/15				100.500,00
	PÁGINA N.º: 4/16				184.400,00
	PÁGINA N.º: 4/17				142.740,00
	PÁGINA N.º: 4/18				137.000,00
	PÁGINA N.º: 4/19				280.000,00
	PÁGINA N.º: 4/20				29.340,00
	PÁGINA N.º: 4/21				57.860,00
	TOTAL INCLUIDO DEL EPÍGRAFE			**KSHS**	**931.840,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 4 – PLANTA SUPERIOR				
	PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA				
	ELEMENTO N.º 4				
	DORMITORIO 04				
	Demolición de cada una de las estructuras conservando los materiales para su reutilización; retirada de los escombros resultantes y de los materiales no reutilizables, según las indicaciones del diseñador de interiores; todos los trabajos se realizarán conforme a los planos arquitectónicos				
A	Levantar con cuidado las baldosas del solado, con independencia de su tamaño, reparar las superficies dañadas rellenando los huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes según las indicaciones del diseñador de interiores o lo establecido en los reglamentos del condado.	m^2	11	800,00	8.800,00
B	Ídem, pero con los azulejos de la pared	m^2	54	800,00	43.200,00
	Puertas sin marco y tabiques de vidrio				
C	Tabique de vidrio laminado de 12 mm de grosor con bisagra de resorte de suelo extrafuerte; bordes laminados con herrajes de acero inoxidable, accesorios de fijación y metálicos según las especificaciones del catálogo de Assa Abloy Kenia; puertas de un tamaño general de 800 mm de ancho y 2100 mm de alto (1N.º) con todos los accesorios de fijación y metálicos para puertas.	m^2	6	12.000,00	72.000,00
	ACABADOS DEL SOLADO				
	Solera maestreada de cemento y arena (1:4) sobre hormigón: a				
D	Solados de 40 mm de grosor: terminados para revestimiento con baldosas	m^2	11	400,00	4.400,00
	Subtotal			**KSHS**	**128.400,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	Suministrar y fijar baldosas de granito antideslizantes de 600 x 600 x 10 mm de grosor proporcionadas por M/s Saj Ceramics Ltd o por otro proveedor equivalente y autorizado: fijación a la solera y juntas con adhesivo para baldosas homologado; capa de lechada con material adecuado de compactación sobre las soleras de cemento y arena (m/s) maestreadas.				
A	Solados	m^2	11	3.500,00	38.500,00
B	Rodapié de 12 mm de grosor x 150 mm de altura con borde superior redondeado	m	15	400,00	6.000,00
	<u>ACABADOS DE PAREDES</u>				
	Suministrar y fijar azulejos de cerámica de 200 x 900 x 8 mm de grosor, proporcionados por M/s Saj Ceramics Ltd o por otro proveedor equivalente y autorizado, sobre enfoscado maestreado (s/m); aplicar lechada de cemento impermeable a las juntas a				
C	Paredes de hasta 2100 mm de altura	m^2	32	2.500,00	80.000,00
D	Molduras de aluminio en las esquinas vistas	m	15	100,00	1.500,00
	Refuerzo de cemento y arena (1:4) de 12 mm sobre el hormigón o las coqueras: a				
E	Paredes: terminadas para revestimiento con azulejos esmaltados	m^2	32	400,00	12.800,00
	Lijar y cepillar las paredes de yeso; pulir los bordes ásperos y rellenar las grietas y defectos con masilla; tratar con fungicida y eliminar el polvo; preparar y aplicar tres capas finales de pintura plástica de primera calidad de seda de vinilo a:				
F	Las paredes existentes	m^2	107	500,00	53.500,00
	<u>ACABADOS DE TECHOS</u>				
G	Retirar con cuidado los acabados de asbesto de los techos, reparar las superficies dañadas, rellenando los huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes, según las indicaciones del arquitecto o los reglamentos del condado o de la NEMA.	m^2	42	1.000,00	42.000,00
	Subtotal			**KSHS**	**234.300,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	Techos de yeso				
	Placa de yeso para techo impermeable de 12 mm de grosor (con una resistencia de media hora a incendios) con marco acanalado de aluminio, fijada a paredes y sofitos; entramado de travesaños acanalados de aluminio de 62,5 x 25 mm con separación de 600 mm entre sí, con cables de suspensión de gran resistencia a la tensión, incluyendo todas las operaciones de izado y fijación a una posición que no supere los 3600 mm sobre el nivel del solado acabado, empotrada o desplegada, en función de las indicaciones del diseñador de interiores.				
A	Techos	m^2	42	2.250,00	94.500,00
B	Ídem: Cornisa de 100 mm de ancho.	m	39	600,00	23.400,00
C	Listas de caoba moldeadas de 50 x 25 mm de grosor a lo largo del entramado del techo coincidentes con los detalles arquitectónicos existentes.	m	44	500,00	22.000,00
	Preparar y aplicar una capa de fondo y tres capas de pintura plástica de primera calidad de seda de vinilo con un protector de superficie de teflón suministrado por Pinturas Crown a superficies enyesadas de:				
D	Laterales y sofitos de techos y aleros de yeso suspendidos	m^2	42	400,00	16.800,00
E	Ídem: superficies de cornisas: 0-100 mm de perímetro	m	39	100,00	3.900,00
F	Ídem: barniz de poliuretano de dos componentes sobre las superficies de las listas de madera	m	44	100,00	4.400,00
	INSTALACIONES ELÉCTRICAS				
	Subcircuitos finales con todos los accesorios y conexiones detallados abajo y en el dibujo, cableados en conductos de primera calidad de PVC ocultos en el solado, las paredes y la cubierta.				
G	Puntos de luz conectados a cables de núcleo sencillo de 3 x 1,5 mm^2 para conmutaciones en uno o dos sentidos en tubos de PVC de gran calibre (20 mm) ocultos en el solado, las paredes y la cubierta.	unidad	3	2.000,00	6.000,00
	CONEXIONES Y ACCESORIOS DE ILUMINACIÓN				
	Suministrar e instalar accesorios de control de la iluminación y conexiones de luz como se muestra en los dibujos, junto con las terminaciones de cableado y materiales de fijación correspondientes				
H	Interruptor simple de 10A, del tipo ART DNA B9-BK1A	unidad	1	1.000,00	1.000,00
I	Plafón de techo alargado Carpi con acabado de aluminio pulido, con difusor blanco para el baño, del tipo Eglo 90448 con luz E	unidad	1	9.000,00	9.000,00
J	Luz led Nlux de 8W para espejo de afeitado de baño de policarbonato de 240v IP20	unidad	2	3.600,00	7.200,00
	Subtotal			**KSHS**	**188.200,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	FONTANERÍA Y SISTEMAS DE DESAGÜE				
	Sanitarios y accesorios				
	Suministrar, entregar e instalar los siguientes accesorios sanitarios, con todas sus conexiones y ensamblajes. **Los licitadores deben tener en cuenta que SOLO se tomarán en consideración AQUELLAS ALTERNATIVAS EQUIVALENTES o superiores en capacidades TÉCNICAS a los elementos especificados, y que DEBERÁN incluir LOS CATÁLOGOS DE PRODUCTOS**				
	Inodoro				
A	Inodoro compacto "Duravit Durastyle" de porcelana vidriosa blanca con cisterna baja de 9 litros, con palanca y conexiones sin válvula, sifón de plástico con entrada, salida y doble botón de regulación de descarga, soportes, asiento resistente y acolchado, y tapa.	1	unidad	50.000,00	50.000,00
B	Conector de trampa P o S de inodoro a la tubería de desagüe para salida horizontal del inodoro	1	unidad	2.000,00	2.000,00
C	Portarrollos doble con resorte de usillo para montaje empotrado, de acero inoxidable, superficie con acabado satinado, de material grueso, con cubierta frontal plegable, cerradura de cilindro con llave estándar para dos rollos, y con todos los accesorios de montaje aprobados por el ingeniero.	1	unidad	15.000,00	15.000,00
	Percha				
D	Contar con la posibilidad de instalar una percha Hansgrohe, previa autorización del ingeniero.	1	unidad	5.000,00	5.000,00
	Lavabo				
E	Lavabo de encimera "Duravit Durastyle" de porcelana vidriosa con 1 orificio de desagüe en el centro u otro equivalente, del tamaño homologado de 650 x 500 mm, con lo siguiente: - Descarga de chapa cromada Hansgrohe. - Colgadores de pared - Sifón botella de chapa cromada - Sifón botella de chapa cromada Hansgrohe	1	unidad	40.000,00	40.000,00
	Grifo para lavabo				
F	Grifo monomando para lavabo Hansgrohe o equivalente homologado	1	unidad	25.000,00	25.000,00
	Subtotal			**KSHS**	**137.000,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
A	Espejo biselado de 750 x 500 mm con tornillos de fijación cromados de cabeza redonda.	1	unidad	15.000,00	15.000,00
B	Ídem, pero espejo retráctil de 200 mm de diámetro con soportes retráctiles y plegables y abrazaderas, diseño ultraligero, rotación suave, sin reflejos y nítido, aprobado por el ingeniero.	1	unidad	20.000,00	20.000,00
	GRIFERÍA DE DUCHA				
C	Hansgrohe: Accesorio de ducha empotrado Focus E2 de 4 salidas, consistente en: cuerpo empotrado de 4 salidas y juego de acabado del monomando, Ref.: 31741180, 31947. Hansgrohe: Alcachofa de ducha Crometta monofunción con brazo de ducha, Ref.: 28424, 27411 Hansgrohe : caño de ducha	1	juego	200.000,00	200.000,00
	Jabonera				
D	Jabonera de pared cromada Hansgrohe	1	unidad	5.000,00	5.000,00
	Toallero				
E	Toallero cromado de Hansgrohe homologado por el ingeniero.	1	unidad	15.000,00	15.000,00
	Subtotal			**KSHS**	**255.000,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	FONTANERÍA DE AGUA FRÍA / CALIENTE				
	Suministro, entrega e instalación de tuberías de PP-R para agua fría y accesorios conforme a las normativas B.S y DIN, y del país. Los licitadores deberán contemplar en los presupuestos de fontanería todos los acoplamientos, uniones, conectores, juntas, curvas de derivación, bucles de expansión, etc., que sean necesarios a lo largo de las tuberías. El ensamblaje y la instalación han de realizarse únicamente siguiendo las recomendaciones del fabricante. Todos los diámetros indicados se refieren a diámetros interiores de las tuberías. Se han tomado como referencia en cuanto a tipo y calidad las tuberías de polipropileno ARIETE® – 25 fabricadas por EFFEGISRL. El uso de otras marcas autorizadas equivalentes deberá ser aprobado por los ingenieros. Los licitadores deberán contemplar en sus presupuestos todos los acoplamientos, conectores, abrazaderas y juntas de dilatación necesarios a lo largo de las tuberías.				
A	**Tuberías**				
	a) Tubería de PP-R de 25 mm de diámetro	28	m	350,00	9.800,00
	b) Ídem de 32 mm de diámetro	15	m	400,00	6.000,00
	c) Ídem de 42 mm de diámetro	20	m	580,00	11.600,00
B	**Codo y curvas**				
	a) Codo/curva de PP-R de 25 mm de diámetro	4	unidad	100,00	400,00
	b) Ídem de 32 mm de diámetro	4	unidad	100,00	400,00
	c) Ídem de 40 mm de diámetro	2	unidad	100,00	200,00
C	**Reductores**				
	a) 40 x 32 mm	2	unidad	50,00	100,00
	b) 32 x 25 mm	4	unidad	50,00	200,00
D	**Tes**				
	a) Te recta de PP-R de 25 mm de diámetro	2	unidad	50,00	100,00
	b) Ídem de 32 mm de diámetro	2	unidad	70,00	140,00
	c) Ídem de 40 mm de diámetro	1	unidad	80,00	80,00
E	**Juntas roscadas hembra**				
	a) Junta roscada hembra de PP-R de 25 mm de diámetro	2	unidad	50,00	100,00
	b) Ídem de 32 mm de diámetro	2	unidad	70,00	140,00
	c) Ídem de 40 mm de diámetro	1	unidad	80,00	80,00
	Subtotal			**KSHS**	**29.340,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
A	**Juntas roscadas macho**				
	a) Junta roscada macho de PP-R de 25 mm de diámetro	2	unidad	50,00	100,00
	b) Ídem de 32 mm de diámetro	2	unidad	70,00	140,00
	c) Ídem de 40 mm de diámetro	1	unidad	80,00	80,00
B	**Válvulas aislantes**				
	a) Válvulas aislantes de 25 mm de diámetro	2	unidad	2.500,00	5.000,00
	b) Ídem de 32 mm de diámetro	2	unidad	2.700,00	5.400,00
	c) Ídem de 40 mm de diámetro	1	unidad	3.200,00	3.200,00
	Todas las tuberías deberán ser similares a las de las marcas "Key Terrain" o "Metro", y los precios incluir todos los conectores, adaptadores, manguitos reductores, etc.				
C	**Tuberías**				
	a) Tubería gris de uPVC de 100 mm de diámetro	15	m	1.100,00	16.500,00
	b) Ídem de 40 mm de diámetro	15	m	600,00	9.000,00
	c) Ídem de 32 mm de diámetro	15	m	560,00	8.400,00
D	**Curvas**				
	a) Curva de acceso de uPVC de 100 mm de diámetro	1	unidad	300,00	300,00
	b) Curva de barrido de uPVC de 100 mm diámetro	1	unidad	250,00	250,00
	c) Curva de acceso de uPVC de 40 mm de diámetro	2	unidad	120,00	240,00
	d) Curva de barrido de uPVC de 40 mm de diámetro	2	unidad	120,00	240,00
E	**Tes**				
	a) Te reducida de 100 mm de diámetro	1	unidad	300,00	300,00
	b) Te de 40 mm de diámetro	3	unidad	120,00	360,00
F	**Conectores Boss**				
	a) Conector Boss de 100 mm de diámetro	2	unidad	150,00	300,00
	b) Ídem de 40 mm de diámetro	4	unidad	100,00	400,00
	c) Ídem de 100 mm de diámetro	3	unidad	100,00	300,00
G	**Tapones de inspección (registros de varillas)**				
	a) Tapón de inspección de 100 mm de diámetro	1	unidad	350,00	350,00
	b) Ídem de 40 mm de diámetro	2	unidad	300,00	600,00
	c) Ídem de 32 mm de diámetro	2	unidad	200,00	400,00
H	Sifón de cuatro vías de 100 x 50 mm con rejilla de acero inoxidable	2	unidad	3.000,00	6.000,00
	Subtotal			**KSHS**	**57.860,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SUMA DE SUBTOTALES				
	N.º PÁGINA: 4/23				128.400,00
	N.º PÁGINA: 4/24				234.300,00
	N.º PÁGINA: 4/25				188.200,00
	N.º PÁGINA: 4/26				137.000,00
	N.º PÁGINA: 4/27				255.000,00
	N.º PÁGINA: 4/28				29.340,00
	N.º PÁGINA: 4/29				57.860,00
	TOTAL INCLUIDO DEL EPÍGRAFE			**KSHS**	**1.030.100,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 4 – PLANTA SUPERIOR				
	PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA				
	ELEMENTO Nº. 5				
	DORMITORIO PRINCIPAL				
	Demolición de cada una de las estructuras conservando los materiales para su reutilización; retirada de los escombros resultantes y de los materiales no reutilizables, según las indicaciones del diseñador de interiores; todos los trabajos se realizarán conforme a los planos arquitectónicos				
A	Levantar con cuidado las baldosas del solado, con independencia de su tamaño; reparar las superficies dañadas rellenando los huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes según las indicaciones del diseñador de interiores o lo establecido en los reglamentos del condado.	m^2	10	1.000,00	10.000,00
B	Ídem, pero con los azulejos de la pared	m^2	48	1.000,00	48.000,00
	Tabique y puerta de vidrio sin marco				
C	Tabique de vidrio laminado de 12 mm de grosor con bisagra de resorte de suelo extrafuerte; bordes laminados con herrajes de acero inoxidable, accesorios de fijación y metálicos según las especificaciones del catálogo de Assa Abloy Kenia; puertas de un tamaño general de 800 mm de ancho y 2100 mm de alto (1N.º) con todos los accesorios de fijación y metálicos para puertas.	m^2	6	18.000,00	108.000,00
	Persianas enrollables para ventanas				
D	Persianas enrollables de 2000 x 2000 mm de altura de material impermeable y opaco con carriles de guía y con mecanismo motorizado o no motorizado de subida y bajada.	unidad	4	5.000,00	20.000,00
	ACABADOS DEL SOLADO				
	Solera maestreada de cemento y arena (1:4) sobre hormigón para				
E	solados de 40 mm de grosor: terminados para revestimiento con baldosas	m^2	10	500,00	5.000,00
	Subtotal			**KSHS**	**191.000,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	Suministrar y fijar baldosas de granito antideslizantes de 600 x 600 x 10 mm de grosor proporcionadas por M/s Saj Ceramics Ltd o por otro proveedor equivalente y autorizado: fijación a la solera y juntas con adhesivo para baldosas homologado; capa de lechada con material adecuado de compactación sobre las soleras de cemento y arena (m/s) maestreadas.				
A	Solados	m^2	10	4.000,00	40.000,00
B	Rodapié de 12 mm de grosor x 150 mm de altura con borde superior redondeado	m	13	600,00	7.800,00
	<u>ACABADOS DE PAREDES</u>				
	Suministrar y fijar azulejos de cerámica de 200 x 900 x 8 mm de grosor, proporcionados por M/s Saj Ceramics Ltd o por otro proveedor equivalente y autorizado, sobre enfoscado maestreado (s/m); aplicar lechada de cemento impermeable a las juntas de:				
C	Paredes de hasta 2100 mm de altura	m^2	28	3.000,00	84.000,00
D	Molduras de aluminio en las esquinas vistas	m	13	200,00	2.600,00
	Refuerzo de cemento y arena (1:4) de 12 mm sobre el hormigón o las coqueras: a				
E	Paredes: terminadas para revestimiento con azulejos esmaltados	m^2	28	400,00	11.200,00
	Lijar y cepillar las paredes de yeso; pulir los bordes ásperos y rellenar las grietas y defectos con masilla; tratar con fungicida y eliminar el polvo; preparar y aplicar tres capas finales de pintura plástica de primera calidad de seda de vinilo a:				
F	Las paredes existentes	m^2	151	600,00	90.600,00
	<u>ACABADOS DE TECHOS</u>				
G	Retirar con cuidado los acabados de asbesto de los techos, reparar las superficies dañadas, rellenando los huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes, según las indicaciones del arquitecto o los reglamentos del condado o de la NEMA.	m^2	53	1.200,00	63.600,00
	Subtotal			**KSHS**	**299.800,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	Techos de yeso				
	Placa de yeso para techo impermeable de 12 mm de grosor (con una resistencia de media hora a incendios) con marco acanalado de aluminio, fijada a paredes y sofitos; entramado de travesaños acanalados de aluminio de 62,5 x 25 mm con separación de 600 mm entre sí, con cables de suspensión de alta resistencia a la tensión, incluyendo todas las operaciones de izado y fijación a una posición que no supere los 3600 mm sobre el nivel del solado acabado, empotrada o desplegada, en función de las indicaciones del diseñador de interiores.				
A	Techos	m^2	53	3.000,00	159.000,00
B	Ídem: Cornisa de 100 mm de ancho.	m	43	600,00	25.800,00
C	Listas de caoba moldeadas de 50 x 25 mm de grosor a lo largo del entramado del techo coincidentes con los detalles arquitectónicos existentes.	m	52	640,00	33.280,00
	Preparar y aplicar una capa de fondo y tres capas de pintura plástica de primera calidad de seda de vinilo con un protector de superficie de teflón proporcionado por Pinturas Crown a superficies enyesadas de:				
D	Laterales y sofitos de techos y aleros de yeso suspendidos.	m^2	53	400,00	21.200,00
E	Ídem: superficies de cornisas: 0-100 mm de perímetro	m	43	100,00	4.300,00
F	Ídem: barniz de poliuretano de dos componentes sobre las superficies de las listas de madera	m	52	100,00	5.200,00
	INSTALACIONES ELÉCTRICAS				
	Subcircuitos finales con todos los accesorios y conexiones detallados abajo y en el dibujo, cableados en conductos de primera calidad de PVC ocultos en el solado, las paredes y la cubierta.				
G	Puntos de luz conectados a cables de núcleo sencillo de 3 x 1,5 mm^2 para conmutaciones en uno o dos sentidos en tubos de PVC de gran calibre (20 mm) ocultos en el solado, las paredes y la cubierta.	unidad	3	2.000,00	6.000,00
	CONEXIONES Y ACCESORIOS DE ILUMINACIÓN				
	Suministrar e instalar accesorios de control de la iluminación y conexiones de luz como se muestra en los dibujos, junto con las terminaciones de cableado y materiales de fijación correspondientes				
H	Interruptor simple de 10A, del tipo ART DNA B9-BK1A	unidad	1	1.000,00	1.000,00
I	Plafón de techo alargado Carpi con acabado de aluminio pulido, con difusor blanco para el baño, del tipo Eglo 90448 con luz E	unidad	1	9.000,00	9.000,00
J	Luz led Nlux de 8W para espejo de afeitado de baño de policarbonato de 240v IP20	unidad	2	3.600,00	7.200,00
	Subtotal			**KSHS**	**271.980,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	FONTANERÍA Y SISTEMAS DE DESAGÜE				
	Sanitarios y accesorios				
	Suministrar, entregar e instalar los siguientes accesorios sanitarios, con todas sus conexiones y ensamblajes. **Los licitadores deben tener en cuenta que SOLO se tomarán en consideración AQUELLAS ALTERNATIVAS EQUIVALENTES o superiores en capacidades TÉCNICAS a los elementos especificados, y que DEBERÁN incluir LOS CATÁLOGOS DE PRODUCTOS**				
	Inodoro				
A	Inodoro compacto "Duravit Durastyle" de porcelana vidriosa blanca con cisterna baja de 9 litros, con palanca y conexiones sin válvula, sifón de plástico con entrada, salida y doble botón de regulación de descarga, soportes, asiento resistente y acolchado, y tapa.	1	unidad	50.000,00	50.000,00
B	Conector de trampa P o S de inodoro a la tubería de desagüe para salida horizontal del inodoro	1	unidad	2.000,00	2.000,00
C	Portarrollos doble con resorte de usillo para montaje empotrado, de acero inoxidable, superficie con acabado satinado, de material grueso, con cubierta frontal plegable, cerradura de cilindro con llave estándar para dos rollos, y con todos los accesorios de montaje aprobados por el ingeniero.	1	unidad	15.000,00	15.000,00
	Percha				
D	Contar con la posibilidad de instalar una percha Hansgrohe, previa autorización del ingeniero.	1	unidad	5.000,00	5.000,00
	Lavabo				
E	Lavabo de encimera "Duravit Durastyle" de porcelana vidriosa con 1 orificio de desagüe en el centro u otro equivalente, con el tamaño homologado de 650 x 500 mm, con lo siguiente: - Descarga de chapa cromada Hansgrohe. - Colgadores de pared - Sifón botella de chapa cromada - Sifón botella de chapa cromada Hansgrohe	2	unidad	40.000,00	80.000,00
	Grifo para lavabo				
F	Grifo monomando para lavabo Hansgrohe o equivalente homologado	2	unidad	25.000,00	50.000,00
	Subtotal			**KSHS**	**202.000,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
A	Espejo biselado de 750 x 500 mm con tornillos de fijación cromados de cabeza redonda.	1	unidad	15.000,00	15.000,00
B	Ídem, pero espejo retráctil de 200 mm de diámetro con soportes retráctiles y plegables, diseño ultraligero, sin reflejos y nítido, aprobado por el ingeniero	2	unidad	20.000,00	40.000,00
	GRIFERÍA DE DUCHA				
C	Hansgrohe: Accesorio de ducha empotrado Focus E2 de 4 salidas, consistente en: cuerpo empotrado de 4 salidas y juego de acabado del monomando, Ref.: 31741180, 31947. Hansgrohe: Alcachofa de ducha Crometta monofunción con brazo de ducha, Ref.: 28424, 27411 Hansgrohe: caño de ducha	1	juego	200.000,00	200.000,00
	Jabonera				
D	Jabonera de pared cromada Hansgrohe	1	unidad	5.000,00	5.000,00
	Toallero				
E	Toallero cromado de Hansgrohe homologado por el ingeniero.	1	unidad	15.000,00	15.000,00
F	Grifo de baño de cuatro salidas Hansgrohe montado en superficie con mango de ducha, mango con alcachofa en forma de teléfono y desviador para grifo de bañera.	1	unidad	50.000,00	50.000,00
G	Bañera rectangular Duravit Durastyle 700231 empotrada, con desagüe central, capa de revestimiento de acrílico sanitario de 4 mm, dimensiones nominales de 1700 x 750 mm, doble mango extraíble previamente testado, plato de ducha antideslizante, con asiento ajustable, grifo de ducha en bañera montado sobre placa cromada con manillas, mango en forma de teléfono y soporte de pared, o equivalente homologado.	1	unidad	120.000,00	120.000,00
	Subtotal			**KSHS**	**445.000,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	FONTANERÍA DE AGUA FRÍA / CALIENTE				
	Suministro, entrega e instalación de tuberías de PP-R para agua fría y accesorios conforme a las normativas B.S y DIN, y del país. Los licitadores deberán contemplar en los presupuestos de fontanería todos los acoplamientos, uniones, conectores, juntas, curvas de derivación, bucles de expansión, etc., que sean necesarios a lo largo de las tuberías. El ensamblaje y la instalación han de realizarse únicamente siguiendo las recomendaciones del fabricante. Todos los diámetros indicados se refieren a diámetros interiores de las tuberías.				
	Se han tomado como referencia en cuanto a tipo y calidad las tuberías de polipropileno ARIETE® – 25 fabricadas por EFFEGISRL. El uso de otras marcas autorizadas equivalentes deberá ser aprobado por los ingenieros.				
	Los licitadores deberán contemplar en sus presupuestos todos los acoplamientos, conectores, abrazaderas y juntas de dilatación necesarios a lo largo de las tuberías.				
A	**Tuberías**				
	a) Tubería de PP-R de 25 mm de diámetro	28	m	350,00	9.800,00
	b) Ídem de 32 mm de diámetro	15	m	400,00	6.000,00
	c) Ídem de 42 mm de diámetro	20	m	580,00	11.600,00
B	**Codo y curvas**				
	a) Codo/curva de PP-R de 25 mm de diámetro	4	unidad	100,00	400,00
	b) Ídem de 32 mm de diámetro	4	unidad	100,00	400,00
	c) Ídem de 40 mm de diámetro	2	unidad	100,00	200,00
C	**Reductores**				
	a) 40 x 32 mm	2	unidad	50,00	100,00
	b) 32 x 25 mm	4	unidad	50,00	200,00
D	**Tes**				
	a) Te recta de PP-R de 25 mm de diámetro	2	unidad	50,00	100,00
	b) Ídem de 32 mm de diámetro	2	unidad	70,00	140,00
	c) Ídem de 40 mm de diámetro	1	unidad	80,00	80,00
E	**Juntas roscadas hembra**				
	a) Junta roscada hembra de PP-R de 25 mm de diámetro	2	unidad	50,00	100,00
	b) Ídem de 32 mm de diámetro	2	unidad	70,00	140,00
	c) Ídem de 40 mm de diámetro	1	unidad	80,00	80,00
	Subtotal			**KSHS**	**29.340,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
A	**Juntas roscadas macho**				
	a) Junta roscada macho de PP-R de 25 mm de diámetro	2	unidad	50,00	100,00
	b) Ídem de 32 mm de diámetro	2	unidad	70,00	140,00
	c) Ídem de 40 mm de diámetro	1	unidad	80,00	80,00
B	**Válvulas aislantes**				
	a) Válvulas aislantes de 25 mm de diámetro	2	unidad	2.500,00	5.000,00
	b) Ídem de 32 mm de diámetro	2	unidad	2.700,00	5.400,00
	c) Ídem de 40 mm de diámetro	1	unidad	3.200,00	3.200,00
	Todas las tuberías deberán ser similares a las de las marcas "Key Terrain" o "Metro" y los precios incluir todos los conectores, adaptadores, manguitos reductores, etc.				
C	**Tuberías**				
	a) Tubería gris de uPVC de 100 mm de diámetro	15	m	1.100,00	16.500,00
	b) Ídem de 40 mm de diámetro	15	m	600,00	9.000,00
	c) Ídem de 32 mm de diámetro	15	m	560,00	8.400,00
D	**Curvas**				
	a) Curva de acceso de uPVC de 100 mm de diámetro	1	unidad	300,00	300,00
	b) Curva de barrido de uPVC de 100 mm diámetro	1	unidad	250,00	250,00
	c) Curva de acceso de uPVC de 40 mm de diámetro	2	unidad	120,00	240,00
	d) Curva de barrido de uPVC de 40 mm de diámetro	2	unidad	120,00	240,00
E	**Tes**				
	a) Te reducida de 100 mm de diámetro	1	unidad	300,00	300,00
	b) Te de 40 mm de diámetro	3	unidad	120,00	360,00
F	**Conectores Boss**				
	a) Conector Boss de 100 mm de diámetro	2	unidad	150,00	300,00
	b) Ídem de 40 mm de diámetro	4	unidad	100,00	400,00
	c) Ídem de 100 mm de diámetro	3	unidad	100,00	300,00
G	**Tapones de inspección (registros de varillas)**				
	a) Tapón de inspección de 100 mm de diámetro	1	unidad	350,00	350,00
	b) Ídem de 40 mm de diámetro	2	unidad	300,00	600,00
	c) Ídem de 32 mm de diámetro	2	unidad	200,00	400,00
H	Sifón de cuatro vías de 100 x 50 mm con rejilla de acero inoxidable	2	unidad	3,000,00	6.000,00
	Subtotal			**KSHS**	**57.860,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SUMA DE SUBTOTALES				
	N.º PÁGINA: 4/31				191.000,00
	N.º PÁGINA: 4/32				299.800,00
	N.º PÁGINA: 4/33				271.980,00
	N.º PÁGINA: 4/34				202.000,00
	N.º PÁGINA: 4/35				445.000,00
	N.º PÁGINA: 4/36				29.340,00
	N.º PÁGINA: 4/37				57.860,00
	TOTAL INCLUIDO DEL EPÍGRAFE			**KSHS**	**1.496.980,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 4 – PLANTA SUPERIOR				
	PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA				
	ELEMENTO N.º 6				
	CUARTO DE BAÑO PARA DISCAPACITADOS				
	Demolición de cada una de las estructuras conservando los materiales para su reutilización; retirada de los escombros resultantes y de los materiales no reutilizables, según las indicaciones del diseñador de interiores; todos los trabajos se realizarán conforme a los planos arquitectónicos				
A	Levantar con cuidado las baldosas del solado, con independencia de su tamaño; reparar las superficies dañadas rellenando los huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes según las indicaciones del diseñador de interiores o lo establecido en los reglamentos del condado.	m^2	6	1.000,00	6.000,00
B	Ídem, pero con los azulejos de la pared	m^2	32	1.000,00	32.000,00
	Cortina de ducha				
	Cortina de ducha fabricada especialmente y asidero impermeable de PVC con ojales y todos los accesorios y piezas de fijación.				
C	Cortina de ducha de 2400 mm de ancho x 2000 mm de alto.	unidad	5	3.000,00	15.000,00
	ACABADOS DEL SOLADO				
	Solera maestreada de cemento y arena (1:4) sobre hormigón para				
D	solados de 40 mm de grosor: terminados para revestimiento con baldosas	m^2	6	500,00	3.000,00
	Subtotal			**KSHS**	**56.000,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	Suministrar y fijar baldosas de granito antideslizantes de 600 x 600 x 10 mm de grosor proporcionadas por M/s Saj Ceramics Ltd o por otro proveedor equivalente y autorizado: fijación a la solera y juntas con adhesivo para baldosas homologado; capa de lechada con material adecuado de compactación sobre las soleras de cemento y arena (m/s) maestreadas.				
A	Solados	m^2	6	4.000,00	24.000,00
B	Rodapié de 12 mm de grosor x 150 mm de altura con borde superior redondeado	m	9	400,00	3.600,00
	<u>ACABADOS DE PAREDES</u>				
	Suministrar y fijar azulejos de cerámica de 200 x 900 x 8 mm de grosor, proporcionados por M/s Saj Ceramics Ltd o por otro proveedor equivalente y autorizado, sobre enfoscado maestreado (s/m); aplicar lechada de cemento impermeable a las juntas a:				
C	Paredes de hasta 2100 mm de altura	m^2	19	3.000,00	57.000,00
D	Molduras de aluminio en las esquinas vistas	m	19	100,00	1.900,00
	Refuerzo de cemento y arena (1:4) de 12 mm sobre el hormigón o las coqueras: a				
E	Paredes: terminadas para revestimiento con azulejos esmaltados	m^2	19	500,00	9.500,00
	Lijar y cepillar las paredes de yeso; pulir los bordes ásperos y rellenar las grietas y defectos con masilla; tratar con fungicida y eliminar el polvo; preparar y aplicar tres capas finales de pintura plástica de primera calidad de seda de vinilo a:				
F	Las paredes existentes	m^2	14	600,00	8.400,00
	Subtotal			**KSHS**	**104.400,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	ACABADOS DE TECHOS				
A	Retirar con cuidado los acabados de asbesto de los techos, reparar las superficies dañadas, rellenando los huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes, según las indicaciones del arquitecto o los reglamentos del condado o de la NEMA.	m^2	6	1.200,00	7.200,00
	Techos de yeso				
	Placa de yeso para techo impermeable de 12 mm de grosor (con una resistencia de media hora a incendios) con marco acanalado de aluminio, fijada a paredes y sofitos; entramado de travesaños acanalados de aluminio de 62,5 x 25 mm con separación de 600 mm entre sí, con cables de suspensión de gran resistencia a la tensión, incluyendo todas las operaciones de izado y fijación a una posición que no supere los 3600 mm sobre el nivel del solado acabado, empotrada o desplegada, en función de las indicaciones del diseñador de interiores.				
B	Techos	m^2	6	3.000,00	18.000,00
C	Ídem: Cornisa de 100 mm de ancho.	m	9	600,00	5.400,00
D	Listas de caoba moldeadas de 50 x 25 mm de grosor a lo largo del entramado del techo coincidentes con los detalles arquitectónicos existentes.	m	9	640,00	5.760,00
	Preparar y aplicar una capa de fondo y tres capas de pintura plástica de primera calidad de seda de vinilo con un protector de superficie de teflón proporcionado por Pinturas Crown a superficies enyesadas de:				
E	Laterales y sofitos de techos y aleros de yeso suspendidos.	m^2	6	400,00	2.400,00
F	Ídem: superficies de cornisas: 0-100 mm de perímetro	m	9	100,00	900,00
G	Ídem: barniz de poliuretano de dos componentes sobre las superficies de las listas de madera	m	9	100,00	900,00
	Subtotal			**KSHS**	**39.660,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	INSTALACIONES ELÉCTRICAS				
	Subcircuitos finales con todos los accesorios y conexiones detallados abajo y en el dibujo, cableados en conductos de primera calidad de PVC ocultos en el solado, las paredes y la cubierta.				
A	Puntos de luz conectados a cables de núcleo sencillo de 3 x 1,5 mm^2 para conmutaciones en uno o dos sentidos en tubos de PVC de gran calibre (20 mm) ocultos en el solado, las paredes y la cubierta.	unidad	2	2.000,00	4.000,00
	CONEXIONES Y ACCESORIOS DE ILUMINACIÓN				
	Suministrar e instalar accesorios de control de la iluminación y conexiones de luz como se muestra en los dibujos, junto con las terminaciones de cableado y materiales de fijación correspondientes				
B	Interruptor simple de 10A, del tipo ART DNA B9-BK1A	unidad	1	1.000,00	1.000,00
C	Plafón de techo alargado Carpi con acabado de aluminio pulido, con difusor blanco para el baño, del tipo Eglo 90448 con luz E	unidad	1	9.000,00	9.000,00
D	Luz led Nlux de 8W para espejo de afeitado de baño de policarbonato de 240v IP20	unidad	1	3.600,00	3.600,00
	Subtotal			**KSHS**	**17.600,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	FONTANERÍA Y SISTEMAS DE DESAGÜE				
	Suministrar, entregar e instalar los siguientes accesorios sanitarios, con todas sus conexiones y ensamblajes. **Los licitadores deben tener en cuenta que SOLO se tomarán en consideración AQUELLAS ALTERNATIVAS EQUIVALENTES o superiores en capacidades TÉCNICAS a los elementos especificados, y que DEBERÁN incluir LOS CATÁLOGOS DE PRODUCTOS**				
	Inodoro				
A	Inodoro compacto "Duravit Durastyle" de porcelana vidriosa blanca con cisterna baja de 9 litros, con palanca y conexiones sin válvula, sifón de plástico con entrada, salida y doble botón de regulación de descarga, soportes, asiento resistente y acolchado, y tapa.	1	unidad	50.000,00	50.000,00
B	Conector de trampa P o S de inodoro a la tubería de desagüe para salida horizontal del inodoro	1	unidad	2.000,00	2.000,00
C	Portarrollos doble con resorte de usillo para montaje empotrado, de acero inoxidable, superficie con acabado satinado, de material grueso, con cubierta frontal plegable, cerradura de cilindro con llave estándar para dos rollos, y con todos los accesorios de montaje aprobados por el ingeniero.	1	unidad	15.000,00	15.000,00
	Percha				
D	Contar con la posibilidad de instalar una percha Hansgrohe, previa autorización del ingeniero.	1	unidad	5.000,00	5.000,00
	Lavabo				
E	Lavabo de encimera "Duravit Durastyle" de porcelana vidriosa con 1 orificio de desagüe en el centro u otro equivalente, con el tamaño homologado de 650 x 500 mm, con lo siguiente: - Descarga de chapa cromada Hansgrohe. - Colgadores de pared - Sifón botella de chapa cromada - Sifón botella de chapa cromada Hansgrohe	1	unidad	40.000,00	40.000,00
	Grifo para lavabo				
F	Grifo monomando para lavabo Hansgrohe o equivalente homologado	1	unidad	25.000,00	25.000,00
G	Espejo biselado de 750 x 500 mm con tornillos de fijación cromados de cabeza redonda.	1	unidad	15.000,00	15.000,00
	Subtotal			**KSHS**	**152.000,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	Toallero				
A	Toallero cromado Hansgrohe homologado por el ingeniero.	1	unidad	15.000,00	15.000,00
	ASIDEROS				
B	Asidero plegable Mediclinic, asidero en forma de L, asidero abatible y 2 asideros de 600 mm.	juego	1	120.000,00	120.000,00
	Punto de desinfección de manos				
C	Dispensador de jabón sin contacto de Mediclinics u otro equivalente homologado para colocar en la pared, de acero inoxidable con capacidad de 1 litro. Recargable con sensor de actividad por infrarrojos para funcionar sin contacto, con todos los accesorios de montaje. Los precios comprenden la carga inicial.	1	unidad	25.000,00	25.000,00
D	Juego para ducha termostática	juego	1	200.000,00	200.000,00
	Jabonera				
E	Jabonera de pared cromada Hansgrohe	1	unidad	5.000,00	5.000,00
	Subtotal			**KSHS**	**365.000,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	FONTANERÍA DE AGUA FRÍA / CALIENTE				
	Suministro, entrega e instalación de tuberías de PP-R para agua fría y accesorios conforme a las normativas B.S y DIN, y del país. Los licitadores deberán contemplar en los presupuestos de fontanería todos los acoplamientos, uniones, conectores, juntas, curvas de derivación, bucles de expansión, etc., que sean necesarios a lo largo de las tuberías. El ensamblaje y la instalación han de realizarse únicamente siguiendo las recomendaciones del fabricante. Todos los diámetros indicados se refieren a diámetros interiores de las tuberías. Se han tomado como referencia en cuanto a tipo y calidad las tuberías de polipropileno ARIETE® – 25 fabricadas por EFFEGISRL. El uso de otras marcas autorizadas equivalentes deberá ser aprobado por los ingenieros. Los licitadores deberán contemplar en sus presupuestos todos los acoplamientos, conectores, abrazaderas y juntas de dilatación necesarios a lo largo de las tuberías.				
A	**Tuberías**				
	a) Tubería de PP-R de 25 mm de diámetro	12	m	350,00	4.200,00
	b) Ídem de 32 mm de diámetro	12	m	400,00	4.800,00
	c) Ídem de 42 mm de diámetro	6	m	580,00	3.480,00
B	**Codo y curvas**				
	a) Codo/curva de PP-R de 25 mm de diámetro	4	unidad	100,00	400,00
	b) Ídem de 32 mm de diámetro	4	unidad	100,00	400,00
	c) Ídem de 40 mm de diámetro	2	unidad	100,00	200,00
C	**Reductores**				
	a) 40x32 mm	2	unidad	50,00	100,00
	b) 32x25 mm	4	unidad	50,00	200,00
D	**Tes**				
	a) Te recta de PP-R de 25 mm de diámetro	2	unidad	50,00	100,00
	b) Ídem de 32 mm de diámetro	2	unidad	70,00	140,00
	c) Ídem de 40 mm de diámetro	1	unidad	80,00	80,00
E	**Juntas roscadas hembra**				
	a) Junta roscada hembra de PP-R de 25 mm de diámetro	2	unidad	50,00	100,00
	b) Ídem de 32 mm de diámetro	2	unidad	70,00	140,00
	c) Ídem de 40 mm de diámetro	1	unidad	80,00	80,00
	Subtotal			**KSHS**	**14.420,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
A	**Juntas roscadas macho**				
	a) Junta roscada macho de PP-R de 25 mm de diámetro	2	unidad	50,00	100,00
	b) Ídem de 32 mm de diámetro	2	unidad	70,00	140,00
	c) Ídem de 40 mm de diámetro	1	unidad	80,00	80,00
B	**Válvulas aislantes**				
	a) Válvulas aislantes de 25 mm de diámetro	2	unidad	2.500,00	5.000,00
	b) Ídem de 32 mm de diámetro	2	unidad	2.700,00	5.400,00
	c) Ídem de 40 mm de diámetro	1	unidad	3.200,00	3.200,00
	Todas las tuberías deberán ser similares a las de las marcas "Key Terrain" o "Metro", y los precios incluir todos los conectores, adaptadores, manguitos reductores, etc.				
C	**Tuberías**				
	a) Tubería gris de uPVC de 100 mm de diámetro	6	m	1.100,00	6.600,00
	b) Ídem de 40 mm de diámetro	6	m	600,00	3.600,00
	c) Ídem de 32 mm de diámetro	6	m	560,00	3.360,00
D	**Curvas**				
	a) Curva de acceso de uPVC de 100 mm de diámetro	1	unidad	300,00	300,00
	b) Curva de barrido de uPVC de 100 mm diámetro	1	unidad	250,00	250,00
	c) Curva de acceso de uPVC de 40 mm de diámetro	2	unidad	120,00	240,00
	d) Curva de barrido de uPVC de 40 mm de diámetro	2	unidad	120,00	240,00
E	**Tes**				
	a) Te reducida de 100 mm de diámetro	1	unidad	300,00	300,00
	b) Te de 40 mm de diámetro	3	unidad	120,00	360,00
F	**Conectores Boss**				
	a) Conector Boss de 100 mm de diámetro	2	unidad	150,00	300,00
	b) Ídem de 40 mm de diámetro	4	unidad	100,00	400,00
	c) Ídem de 100 mm de diámetro	3	unidad	100,00	300,00
G	**Tapones de inspección (registros de varillas)**				
	a) Tapón de inspección de 100 mm de diámetro	1	unidad	350,00	350,00
	b) Ídem de 40 mm de diámetro	2	unidad	300,00	600,00
	c) Ídem de 32 mm de diámetro	2	unidad	200,00	400,00
H	Sifón de cuatro vías de 100 x 50 mm con rejilla de acero inoxidable	2	unidad	3.000,00	6.000,00
	Subtotal			**KSHS**	**37.520,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SUMA DE SUBTOTALES				
	N.º PÁGINA: 4/39				56.000,00
	N.º PÁGINA: 4/40				104.660,00
	N.º PÁGINA: 4/41				39.660,00
	N.º PÁGINA: 4/42				17.600,00
	N.º PÁGINA: 4/43				152.000,00
	N.º PÁGINA: 4/44				365.000,00
	N.º PÁGINA: 4/45				14.420,00
	N.º PÁGINA: 4/46				37.520,00
	TOTAL INCLUIDO DEL EPÍGRAFE			**KSHS**	**786.600,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 4 – PLANTA SUPERIOR				
	PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA				
	ELEMENTO N.º 7				
	CUARTO DE BAÑO PASILLO / VESTÍBULO				
	Demolición de cada una de las estructuras conservando los materiales para su reutilización; retirada de los escombros resultantes y de los materiales no reutilizables, según las indicaciones del diseñador de interiores; todos los trabajos se realizarán conforme a los planos arquitectónicos				
A	Levantar con cuidado las baldosas del solado, con independencia de su tamaño; reparar las superficies dañadas rellenando los huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes según las indicaciones del diseñador de interiores o lo establecido en los reglamentos del condado.	m^2	2	1.000,00	2.000,00
B	Ídem, pero con los azulejos de la pared	m^2	15	1.000,00	15.000,00
	ACABADOS DEL SOLADO				
	Solera maestreada de cemento y arena (1:4) sobre hormigón para				
C	Solados de 40 mm de grosor: terminados para revestimiento con baldosas	m^2	2	500,00	1.000,00
	Subtotal			**KSHS**	**18.000,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	Suministrar y fijar baldosas de granito antideslizantes de 600 x 600 x 10 mm de grosor proporcionadas por M/s Saj Ceramics Ltd o por otro proveedor equivalente y autorizado: fijación a la solera y juntas con adhesivo para baldosas homologado; capa de lechada con material adecuado de compactación sobre las soleras de cemento y arena (m/s) maestreadas.				
A	Solados	m^2	2	4.000,00	8.000,00
B	Rodapié de 12 mm de grosor x 150 mm de altura con borde superior redondeado	m	5	600,00	3.000,00
	<u>ACABADOS DE PAREDES</u>				
	Suministrar y fijar azulejos de cerámica de 200 x 900 x 8 mm de grosor, proporcionados por M/s Saj Ceramics Ltd o por otro proveedor equivalente y autorizado, sobre enfoscado maestreado (s/m); aplicar lechada de cemento impermeable a las juntas de:				
C	Paredes de hasta 2100 mm de altura	m^2	9	3.000,00	27.000,00
D	Molduras de aluminio en las esquinas vistas	m	13	200,00	1.300,00
	Refuerzo de cemento y arena (1:4) de 12 mm sobre el hormigón o las coqueras: a				
E	Paredes: terminadas para revestimiento con azulejos esmaltados	m^2	9	400,00	3.600,00
	Lijar y cepillar las paredes de yeso; pulir los bordes ásperos y rellenar las grietas y defectos con masilla; tratar con fungicida y eliminar el polvo; preparar y aplicar tres capas finales de pintura plástica de primera calidad de seda de vinilo a:				
F	Las paredes existentes	m^2	7	600,00	4.200,00
	Subtotal			**KSHS**	**48.400,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	ACABADOS DE TECHOS				
A	Retirar con cuidado los acabados de asbesto de los techos, reparar las superficies dañadas, rellenando los huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes, según las indicaciones del arquitecto o los reglamentos del condado o de la NEMA.	m^2	2	1.200,00	2.400,00
	Techos de yeso				
	Placa de yeso para techo impermeable de 12 mm de grosor (con una resistencia de media hora a incendios) con marco acanalado de aluminio, fijada a paredes y sofitos; entramado de travesaños acanalados de aluminio de 62,5 x 25 mm con separación de 600 mm entre sí, con cables de suspensión de gran resistencia a la tensión, incluyendo todas las operaciones de izado y fijación a una posición que no supere los 3600 mm sobre el nivel del solado acabado, empotrada o desplegada, en función de las indicaciones del diseñador de interiores.				
B	Techos	m^2	2	3.000,00	6.000.00
C	Ídem: Cornisa de 100 mm de ancho.	m	5	600,00	3.000,00
D	Listas de caoba moldeadas de 50 x 25 mm de grosor a lo largo del entramado del techo coincidentes con los detalles arquitectónicos existentes.	m	4	640,00	2.560,00
	Preparar y aplicar una capa de fondo y tres capas de pintura plástica de primera calidad de seda de vinilo con un protector de superficie de teflón proporcionado por Pinturas Crown a superficies enyesadas de:				
E	Laterales y sofitos de techos y aleros de yeso suspendidos.	m^2	2	400,00	800,00
F	Ídem: superficies de cornisas: 0-100 mm de perímetro	m	5	100,00	500,00
G	Ídem: barniz de poliuretano de dos componentes sobre las superficies de las listas de madera	m	4	100,00	400,00
	Subtotal			**KSHS**	**15.660,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	INSTALACIONES ELÉCTRICAS				
	Subcircuitos finales con todos los accesorios y conexiones detallados abajo y en el dibujo, cableados en conductos de alta calidad de PVC ocultos en el solado, las paredes y la cubierta.				
A	Puntos de luz conectados a cables de núcleo sencillo de 3 x 1,5 mm^2 para conmutaciones en uno o dos sentidos en tubos de PVC de gran calibre (20 mm), ocultos en el solado, las paredes y la cubierta.	unidad	2	2.000,00	4.000,00
	CONEXIONES Y ACCESORIOS DE ILUMINACIÓN				
	Suministrar e instalar accesorios de control de la iluminación y conexiones de luz como se muestra en los dibujos, junto con las terminaciones de cableado y materiales de fijación correspondientes				
B	Interruptor simple de 10A, del tipo ART DNA B9-BK1A	unidad	1	1.000,00	1.000,00
C	Plafón de techo alargado Carpi con acabado de aluminio pulido, con difusor blanco para el baño, del tipo Eglo 90448 con luz E	unidad	1	9.000,00	9.000,00
D	Luz led Nlux de 8W para espejo de afeitado de baño de policarbonato de 240v IP20	unidad	1	3.600,00	3.600,00
	FONTANERÍA Y SISTEMAS DE DESAGÜE				
	Suministrar, entregar e instalar los siguientes accesorios sanitarios, con todas sus conexiones y ensamblajes. **Los licitadores deben tener en cuenta que SOLO se tomarán en consideración AQUELLAS ALTERNATIVAS EQUIVALENTES o superiores en capacidades TÉCNICAS a los elementos especificados, y que DEBERÁN incluir LOS CATÁLOGOS DE PRODUCTOS**				
	Inodoro				
E	Inodoro compacto "Duravit Durastyle" de porcelana vidriosa blanca con cisterna baja de 9 litros, con palanca y conexiones sin válvula, sifón de plástico con entrada, salida y doble botón de regulación de descarga, soportes, asiento resistente y acolchado, y tapa.	1	unidad	50.000,00	50.000,00
	Subtotal			**KSHS**	**67.600,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
A	Conector de trampa P o S de inodoro a la tubería de desagüe para salida horizontal del inodoro	1	unidad	2.000,00	2.000,00
B	Portarrollos doble con resorte de usillo para montaje empotrado, de acero inoxidable, superficie con acabado satinado, de material grueso, con cubierta frontal plegable, cerradura de cilindro con llave estándar para dos rollos, y con todos los accesorios de montaje aprobados por el ingeniero.	1	unidad	15.000,00	15.000,00
	Percha				
C	Contar con la posibilidad de instalar una percha Hansgrohe, previa autorización del ingeniero.	1	unidad	5.000,00	5.000,00
	Lavabo				
D	Lavabo de encimera "Duravit Durastyle" de porcelana vidriosa con 1 orificio de desagüe en el centro u otro equivalente con el tamaño homologado de 650 x 500 mm, con lo siguiente: - Descarga de chapa cromada Hansgrohe. - Colgadores de pared - Sifón botella de chapa cromada - Sifón botella de chapa cromada Hansgrohe	1	unidad	40.000,00	40.000,00
	Grifo para lavabo				
E	Grifo monomando para lavabo Hansgrohe o equivalente homologado	1	unidad	25.000,00	25.000,00
F	Espejo biselado de 750 x 500 mm con tornillos de fijación cromados de cabeza redonda.	1	unidad	15.000,00	15.000,00
G	Ídem, pero espejo retráctil de 200 mm de diámetro con soportes retráctiles y plegables, diseño ultraligero, sin reflejos y nítido, aprobado por el ingeniero.	1	unidad	20.000,00	20.000,00
	Toallero				
H	Toallero cromado de Hansgrohe aprobado por el ingeniero.	1	unidad	15.000,00	15.000,00
	Jabonera				
I	Jabonera de pared cromada Hansgrohe	1	unidad	5.000,00	5.000,00
J	Hansgrohe: Acccesorio de ducha empotrado Focus E2 de 4 salidas, consistente en: cuerpo empotrado de 4 salidas y juego de acabado del monomando, Ref.: 31741180, 31947. Hansgrohe: Alcachofa de ducha Crometta monofunción con brazo de ducha, Ref.: 28424, 27411 Hansgrohe: caño de ducha	1	Juego	200.000,00	200.000,00
	Jabonera				
K	Jabonera de pared cromada Hansgrohe	1	unidad	5.000,00	5.000,00
	Toallero				
L	Toallero cromado de Hansgrohe aprobado por el ingeniero.	1	unidad	15.000,00	15.000,00
	Subtotal			**KSHS**	**362.000,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	FONTANERÍA DE AGUA FRÍA / CALIENTE				
	Suministro, entrega e instalación de tuberías de PP-R para agua fría y accesorios conforme a las normativas B.S y DIN, y del país. Los licitadores deberán contemplar en los presupuestos de fontanería todos los acoplamientos, uniones, conectores, juntas, curvas de derivación, bucles de expansión, etc., que sean necesarios a lo largo de las tuberías. El ensamblaje y la instalación han de realizarse únicamente siguiendo las recomendaciones del fabricante. Todos los diámetros indicados se refieren a diámetros interiores de las tuberías.				
	Se han tomado como referencia en cuanto a tipo y calidad las tuberías de polipropileno ARIETE® – 25 fabricadas por EFFEGISRL. El uso de otras marcas autorizadas equivalentes deberá ser aprobado por los ingenieros.				
	Los licitadores deberán contemplar en sus presupuestos todos los acoplamientos, conectores, abrazaderas y juntas de dilatación necesarios a lo largo de las tuberías.				
A	**Tuberías**				
	a) Tubería de PP-R de 25 mm de diámetro	28	m	350,00	9.800,00
	b) Ídem de 32 mm de diámetro	15	m	400,00	6.000,00
	c) Ídem de 42 mm de diámetro	20	m	580,00	11.600,00
B	**Codo y curvas**				
	a) Codo/curva de PP-R de 25 mm de diámetro	4	unidad	100,00	400,00
	b) Ídem de 32 mm de diámetro	4	unidad	100,00	400,00
	c) Ídem de 40 mm de diámetro	2	unidad	100,00	200,00
C	**Reductores**				
	a) 40 x 32 mm	2	unidad	50,00	100,00
	b) 32 x 25 mm	4	unidad	50,00	200,00
D	**Tes**				
	a) Te recta de PP-R de 25 mm de diámetro	2	unidad	50,00	100,00
	b) Ídem de 32 mm de diámetro	2	unidad	70,00	140,00
	c) Ídem de 40 mm de diámetro	1	unidad	80,00	80,00
E	**Juntas roscadas hembra**				
	a) Junta roscada hembra de PP-R de 25 mm de diámetro	2	unidad	50,00	100,00
	b) Ídem de 32 mm de diámetro	2	unidad	70,00	140,00
	c) Ídem de 40 mm de diámetro	1	unidad	80,00	80,00
	Subtotal			**KSHS**	**29.340,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
A	**Juntas roscadas macho**				
	a) Junta roscada macho de PP-R de 25 mm de diámetro	2	unidad	50,00	100,00
	b) Ídem de 32 mm de diámetro	2	unidad	70,00	140,00
	c) Ídem de 40 mm de diámetro	1	unidad	80,00	80,00
B	**Válvulas aislantes**				
	a) Válvulas aislantes de 25 mm de diámetro	2	unidad	2.500,00	5.000,00
	b) Ídem de 32 mm de diámetro	2	unidad	2.700,00	5.400,00
	c) Ídem de 40 mm de diámetro	1	unidad	3.200,00	3.200,00
	Todas las tuberías deberán ser similares a las de las marcas "Key Terrain" o "Metro" y los precios incluir todos los conectores, adaptadores, manguitos reductores, etc.				
C	**Tuberías**				
	a) Tubería gris de uPVC de 100 mm de diámetro	15	m	1.100,00	16.500,00
	b) Ídem de 40 mm de diámetro	15	m	600,00	9.000,00
	c) Ídem de 32 mm de diámetro	15	m	560,00	8.400,00
D	**Curvas**				
	a) Curva de acceso de uPVC de 100 mm de diámetro	1	unidad	300,00	300,00
	b) Curva de barrido de uPVC de 100 mm diámetro	1	unidad	250,00	250,00
	c) Curva de acceso de uPVC de 40 mm de diámetro	2	unidad	120,00	240,00
	d) Curva de barrido de uPVC de 40 mm de diámetro	2	unidad	120,00	240,00
E	**Tes**				
	a) Te reducida de 100 mm de diámetro	1	unidad	300,00	300,00
	b) Te de 40 mm de diámetro	3	unidad	120,00	360,00
F	**Conectores Boss**				
	a) Conector Boss de 100 mm de diámetro	2	unidad	150,00	300,00
	b) Ídem de 40 mm de diámetro	4	unidad	100,00	400,00
	c) Ídem de 100 mm de diámetro	3	unidad	100,00	300,00
G	**Tapones de inspección (registros de varillas)**				
	a) Tapón de inspección de 100 mm de diámetro	1	unidad	350,00	350,00
	b) Ídem de 40 mm de diámetro	2	unidad	300,00	600,00
	c) Ídem de 32 mm de diámetro	2	unidad	200,00	400,00
H	Sifón de cuatro vías de 100 x 50 mm con rejilla de acero inoxidable	2	unidad	3.000,00	6.000,00
	Subtotal			**KSHS**	**57.860,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SUMA DE SUBTOTALES				
	N.º PÁGINA: 4/48				18.000,00
	N.º PÁGINA: 4/49				48.400,00
	N.º PÁGINA: 4/50				15.660,00
	N.º PÁGINA: 4/51				67.600,00
	N.º PÁGINA: 4/52				362.000,00
	N.º PÁGINA: 4/53				29.340,00
	N.º PÁGINA: 4/54				57.860,00
	TOTAL INCLUIDO DEL EPÍGRAFE			**KSHS**	**598.860,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 4 – PLANTA SUPERIOR				
	PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA				
	ELEMENTO N.º 8				
	CUARTO DE CALDERAS				
	Demolición de cada una de las estructuras conservando los materiales para su reutilización; retirada de los escombros resultantes y de los materiales no reutilizables, según las indicaciones del diseñador de interiores; todos los trabajos se realizarán conforme a los planos arquitectónicos				
A	Levantar con cuidado las baldosas del solado, con independencia de su tamaño; reparar las superficies dañadas rellenando los huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes según las indicaciones del diseñador de interiores o lo establecido en los reglamentos del condado.	m^2	3	1.00,00	3.000,00
	ACABADOS DEL SOLADO				
	Solera maestreada de cemento y arena (1:4) sobre hormigón para				
B	solados de 40 mm de grosor: terminados para revestimiento con baldosas	m^2	3	500,00	1.500,00
	Suministrar y fijar baldosas de granito antideslizantes de 600 x 600 x 10 mm de grosor proporcionadas por M/s Saj Ceramics Ltd o por otro proveedor equivalente y autorizado: fijación a la solera y juntas con adhesivo para baldosas homologado; capa de lechada con material adecuado de compactación sobre las soleras de cemento y arena (m/s) maestreadas.				
C	Solados	m^2	3	4.000,00	12.000,00
D	Rodapié de 12 mm de grosor x 150 mm de altura con borde superior redondeado	m	7	600,00	4.200,00
	Lijar y cepillar las paredes de yeso; pulir los bordes ásperos y rellenar las grietas y defectos con masilla; tratar con fungicida y eliminar el polvo; preparar y aplicar tres capas finales de pintura plástica de primera calidad de seda de vinilo a:				
E	Las paredes existentes	m^2	21	600,00	12.600,00
	Subtotal			**KSHS**	**33.300,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	ACABADOS DE TECHOS				
A	Retirar con cuidado los acabados de asbesto de los techos, reparar las superficies dañadas, rellenando los huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes, según las indicaciones del arquitecto o los reglamentos del condado o de la NEMA.	m^2	3	1.200,00	3.600,00
	Techos de yeso				
	Placa de yeso para techo impermeable de 12 mm de grosor (con una resistencia de media hora a incendios) con marco acanalado de aluminio, fijada a paredes y sofitos; entramado de travesaños acanalados de aluminio de 62,5 x 25 mm con separación de 600 mm entre sí, con cables de suspensión de gran resistencia a la tensión, incluyendo todas las operaciones de izado y fijación a una posición que no supere los 3600 mm sobre el nivel del solado acabado, empotrada o desplegada, en función de las indicaciones del diseñador de interiores.				
B	Techos	m^2	3	3.000,00	9.000,00
C	Ídem: Cornisa de 100 mm de ancho.	m	6	600,00	3.600,00
D	Listas de caoba moldeadas de 50 x 25 mm de grosor a lo largo del entramado del techo coincidentes con los detalles arquitectónicos existentes.	m	7	640,00	4.480,00
	Preparar y aplicar una capa de fondo y tres capas de pintura plástica de primera calidad de seda de vinilo con un protector de superficie de teflón proporcionado por Pinturas Crown a superficies enyesadas de:				
E	Laterales y sofitos de techos y aleros de yeso suspendidos.	m^2	3	400,00	1.200,00
F	Ídem: superficies de cornisas: 0-100 mm de perímetro	m	6	100,00	600,00
G	Ídem: barniz de poliuretano de dos componentes sobre las superficies de las listas de madera	m	7	100,00	700,00
	Estanterías				
H	Colocación de estanterías de 450 x 450 x 2700 mm de altura con una separación de 600 mm entre estantes, hechos con tableros de fibra de densidad media recubiertos de 25 mm de grosor, con abrazaderas de metal y otras sujeciones adecuadas.	unidad	1	20.000,00	20.000,00
	Subtotal			**KSHS**	**43.180,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	INSTALACIONES ELÉCTRICAS				
	Subcircuitos finales con todos los accesorios y conexiones detallados abajo y en el dibujo, cableados en conductos de alta calidad de PVC ocultos en el solado, las paredes y la cubierta.				
A	Puntos de luz conectados a cables de núcleo sencillo de 3 x 1,5 mm^2 para conmutaciones en uno o dos sentidos en tubos de PVC de gran calibre (20 mm), ocultos en el solado, las paredes y la cubierta.	unidad	2	2.000,00	4.000,00
	CONEXIONES Y ACCESORIOS DE ILUMINACIÓN				
	Suministrar e instalar accesorios de control de la iluminación y conexiones de luz como se muestra en los dibujos, junto con las terminaciones de cableado y materiales de fijación correspondientes				
B	Interruptor simple de 10A, del tipo ART DNA B9-BK1A	unidad	1	1.000,00	1.000,00
C	Plafón de techo alargado Carpi con acabado de aluminio pulido, con difusor blanco para el baño, del tipo Eglo 90448 con luz E	unidad	1	9.000,00	9.000,00
D	Luz led Nlux de 8W para espejo de afeitado de baño de policarbonato de 240v IP20	unidad	1	3.600,00	3.600,00
	FONTANERÍA Y SISTEMAS DE DESAGÜE				
	Tanques de caldera				
E	Tanque para agua caliente de 400 litros Aristol/Heatre Sadia/Bosch, de larga vida útil, con cubierta externa de aislamiento máximo para una duración ilimitada; el tanque dispone de canalización interna para optimizar la disponibilidad de agua caliente, así como de un calefactor eléctrico adicional. Comprende tubo de desagüe de agua caliente, toma de agua fría con válvula, válvula limitadora de temperatura / presión, cable de alimentación, tubo de rebosadero, cubierta externa de material homologado, válvula de drenaje, termostatos y elementos calefactores superiores e inferiores, tubo de inmersión, varilla de ánodo y demás accesorios y sujeciones para el funcionamiento adecuado del sistema, que se suministrará con abrazaderas verticales para la instalación, así como con un mando de manejo sencillo con pantalla de visualización de los parámetros fundamentales, alarma y localizador de averías.	unidad	2	447.000,00	894.000,00
	Subtotal			**KSHS**	**911.600,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SUMA DE SUBTOTALES				
	N.º PÁGINA: 4/56				33.300,00
	N.º PÁGINA: 4/57				43.180,00
	N.º PÁGINA: 4/58				911.600,00
	TOTAL INCLUIDO DEL EPÍGRAFE			**KSHS**	**988.080,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 4 – PLANTA SUPERIOR				
	PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA				
	ELEMENTO N.º 9				
	DORMITORIO 03				
	Lijar y cepillar las paredes de yeso; pulir los bordes ásperos y rellenar las grietas y defectos con masilla; tratar con fungicida y eliminar el polvo; preparar y aplicar tres capas finales de pintura plástica de primera calidad de seda de vinilo a:				
A	Las paredes existentes	m^2	73	600,00	43.800,00
	ACABADOS DE TECHOS				
B	Retirar con cuidado los acabados de asbesto de los techos, reparar las superficies dañadas, rellenando los huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes, según las indicaciones del arquitecto o los reglamentos del condado o de la NEMA.	m^2	22	1.200,00	26.400,00
	Techos de yeso				
	Placa de yeso para techo impermeable de 12 mm de grosor (con una resistencia de media hora a incendios) con marco acanalado de aluminio, fijada a paredes y sofitos; entramado de travesaños acanalados de aluminio de 62,5 x 25 mm con separación de 600 mm entre sí, con cables de suspensión de gran resistencia a la tensión, incluyendo todas las operaciones de izado y fijación a una posición que no supere los 3600 mm sobre el nivel del solado acabado, empotrada o desplegada, en función de las indicaciones del diseñador de interiores.				
C	Techos	m^2	22	3.000,00	66.000,00
D	Ídem: Cornisa de 100 mm de ancho.	m	21	600,00	12.600,00
D	Listas de caoba moldeadas de 50 x 25 mm de grosor a lo largo del entramado del techo coincidentes con los detalles arquitectónicos existentes.	m	27	640,00	17.280,00
	Preparar y aplicar una capa de fondo y tres capas de pintura plástica de primera calidad de seda de vinilo con un protector de superficie de teflón proporcionado por Pinturas Crown a superficies enyesadas de:				
E	Laterales y sofitos de techos y aleros de yeso suspendidos.	m^2	22	400,00	8.800,00
F	Ídem: superficies de cornisas: 0-100 mm de perímetro	m	21	100,00	2.100,00
G	Ídem: barniz de poliuretano de dos componentes sobre las superficies de las listas de madera	m	27	100,00	2.700,00
	TOTAL INCLUIDO DEL EPÍGRAFE			**KSHS**	**179.680,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 4 – PLANTA SUPERIOR				
	PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA				
	ELEMENTO N.º 10				
	DORMITORIO 02				
	Lijar y cepillar las paredes de yeso; pulir los bordes ásperos y rellenar las grietas y defectos con masilla; tratar con fungicida y eliminar el polvo; preparar y aplicar tres capas finales de pintura plástica de primera calidad de seda de vinilo a:				
A	Las paredes existentes	m^2	72	600,00	43.200,00
	ACABADOS DE TECHOS				
B	Retirar con cuidado los acabados de asbesto de los techos, reparar las superficies dañadas, rellenando los huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes, según las indicaciones del arquitecto o los reglamentos del condado o de la NEMA.	m^2	21	1.200,00	25.200,00
	Techos de yeso				
	Placa de yeso para techo impermeable de 12 mm de grosor (con una resistencia de media hora a incendios) con marco acanalado de aluminio, fijada a paredes y sofitos; entramado de travesaños acanalados de aluminio de 62,5 x 25 mm con separación de 600 mm entre sí, con cables de suspensión de alta resistencia a la tensión, incluyendo todas las operaciones de izado y fijación a una posición que no supere los 3600 mm sobre el nivel del solado acabado, empotrada o desplegada, en función de las indicaciones del diseñador de interiores.				
C	Techos	m^2	21	3.000,00	63.000,00
D	Ídem: Cornisa de 100 mm de ancho.	m	20	600,00	12.000,00
E	Listas de caoba moldeadas de 50 x 25 mm de grosor a lo largo del entramado del techo coincidentes con los detalles arquitectónicos existentes.	m	29	640,00	18.560,00
	Preparar y aplicar una capa de fondo y tres capas de pintura plástica de primera calidad de seda de vinilo con un protector de superficie de teflón proporcionado por Pinturas Crown a superficies enyesadas de:				
E	Laterales y sofitos de techos y aleros de yeso suspendidos	m^2	21	400,00	8.400,00
F	Ídem: superficies de cornisas: 0-100 mm de perímetro	m	20	100,00	2.000,00
G	Ídem: barniz de poliuretano de dos componentes sobre las superficies de las listas de madera	m	29	100,00	2.900,00
	TOTAL INCLUIDO DEL EPÍGRAFE			**KSHS**	**175.260,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 4 – PLANTA SUPERIOR				
	PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA				
	ELEMENTO N.º 11				
	DORMITORIO 07				
	Lijar y cepillar las paredes de yeso; pulir los bordes ásperos y rellenar las grietas y defectos con masilla; tratar con fungicida y eliminar el polvo; preparar y aplicar tres capas finales de pintura plástica de primera calidad de seda de vinilo a:				
A	Las paredes existentes	m^2	68	600,00	40.800,00
	ACABADOS DE TECHOS				
B	Retirar con cuidado los acabados de asbesto de los techos, reparar las superficies dañadas, rellenando los huecos con materiales homologados si es necesario; concentrar y desechar los escombros resultantes, según las indicaciones del arquitecto o los reglamentos del condado o de la NEMA.	m^2	21	1.200,00	25.200,00
	Techos de yeso				
	Placa de yeso para techo impermeable de 12 mm de grosor (con una resistencia de media hora a incendios) con marco acanalado de aluminio, fijada a paredes y sofitos; entramado de travesaños acanalados de aluminio de 62,5 x 25 mm con separación de 600 mm entre sí, con cables de suspensión de alta resistencia a la tensión, incluyendo todas las operaciones de izado y fijación a una posición que no supere los 3600 mm sobre el nivel del solado acabado, empotrada o desplegada, en función de las indicaciones del diseñador de interiores.				
C	Techos	m^2	21	3.000,00	63.000,00
D	Ídem: Cornisa de 100 mm de ancho.	m	19	600,00	11.400,00
D	Listas de caoba moldeadas de 50 x 25 mm de grosor a lo largo del entramado del techo coincidentes con los detalles arquitectónicos existentes.	m	33	640,00	21.120,00
	Preparar y aplicar una capa de fondo y tres capas de pintura plástica de primera calidad de seda de vinilo con un protector de superficie de teflón proporcionado por Pinturas Crown a superficies enyesadas de:				
E	Laterales y sofitos de techos y aleros de yeso suspendidos	m^2	21	400,00	8.400,00
F	Ídem: superficies de cornisas: 0-100 mm de perímetro	m	19	100,00	1.900,00
G	Ídem: barniz de poliuretano de dos componentes sobre las superficies de las listas de madera	m	33	100,00	3.300,00
	TOTAL INCLUIDO DEL EPÍGRAFE			**KSHS**	**171.820,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 4 – PLANTA SUPERIOR				
	PROPUESTA PARA RESIDENCIA EMBAJADOR DE ESPAÑA				
	ELEMENTO N.º 12				
	PASILLOS Y VESTÍBULO				
	Lijar y cepillar las paredes de yeso; pulir los bordes ásperos y rellenar las grietas y defectos con masilla; tratar con fungicida y eliminar el polvo; preparar y aplicar tres capas finales de pintura plástica de primera calidad de seda de vinilo a:				
A	Las paredes existentes	m^2	285	600,00	171.000,00
	ACABADOS DE TECHOS				
B	Retirar con cuidado los acabados de asbesto de los techos, reparar las superficies dañadas, rellenando los huecos con materiales homologados si fuera necesario; concentrar y desechar los escombros resultantes, según las indicaciones del arquitecto o los reglamentos del condado o de la NEMA.	m^2	75	1.200,00	90.000,00
	Techos de yeso				
	Placa de yeso para techo impermeable de 12 mm de grosor (con una resistencia de media hora a incendios) con marco acanalado de aluminio, fijada a paredes y sofitos; entramado de travesaños acanalados de aluminio de 62,5 x 25 mm con separación de 600 mm entre sí, con cables de suspensión de alta resistencia a la tensión, incluyendo todas las operaciones de izado y fijación a una posición que no supere los 3600 mm sobre el nivel del solado acabado, empotrada o desplegada, en función de las indicaciones del diseñador de interiores.				
C	Techos	m^2	75	3.000,00	225.000,00
D	Ídem: Cornisa de 100 mm de ancho.	m	82	600,00	49.200,00
E	Listas de caoba moldeadas de 50 x 25 mm de grosor a lo largo del entramado del techo coincidentes con los detalles arquitectónicos existentes.	m	54	640,00	34.560,00
	Preparar y aplicar una capa de fondo y tres capas de pintura plástica de primera calidad de seda de vinilo con un protector de superficie de teflón proporcionado por Pinturas Crown a superficies enyesadas de:				
F	Laterales y sofitos de techos y aleros de yeso suspendidos.	m^2	75	400,00	30.000,00
G	Ídem: superficies de cornisas: 0-100 mm de perímetro	m	82	100,00	8.200,00
H	Ídem: barniz de poliuretano de dos componentes sobre las superficies de las listas de madera	m	54	100,00	5.400,00
	TOTAL INCLUIDO DEL EPÍGRAFE			**KSHS**	**613.360,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 4 – PLANTA SUPERIOR				
	PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA				
	ELEMENTO N.º 13				
	DISTRIBUCIÓN DE FONTANERÍA DE AGUA FRÍA Y CALIENTE				
	Suministro, entrega e instalación de tuberías de PP-R para agua fría y accesorios conforme a las normativas B.S y DIN, y del país. Los licitadores deberán contemplar en los presupuestos de fontanería todos los acoplamientos, uniones, conectores, juntas, curvas de derivación, bucles de expansión, etc., que sean necesarios a lo largo de las tuberías. El ensamblaje y la instalación han de realizarse únicamente siguiendo las recomendaciones del fabricante. Todos los diámetros indicados se refieren a diámetros interiores de las tuberías. Se han tomado como referencia en cuanto a tipo y calidad las tuberías de polipropileno ARIETE® – 25 fabricadas por EFFEGISRL. El uso de otras marcas autorizadas equivalentes deberá ser aprobado por los ingenieros. Los licitadores deberán contemplar en sus presupuestos todos los acoplamientos, conectores, abrazaderas y juntas de dilatación necesarios a lo largo de las tuberías.				
A	**Tuberías**				
	a) Tubería de PP-R de 25 mm de diámetro	120	m	350,00	42.000,00
	b) Ídem de 32 mm de diámetro	48	m	400,00	19.200,00
	c) Ídem de 42 mm de diámetro	24	m	580,00	13.920,00
B	**Codo y curvas**				
	a) Codo/curva de PP-R de 25 mm de diámetro	12	unidad	100,00	1.200,00
	b) Ídem de 32 mm de diámetro	10	unidad	100,00	1.000,00
	c) Ídem de 40 mm de diámetro	4	unidad	100,00	400,00
C	**Reductores**				
	a) 40x32 mm	6	unidad	50,00	300,00
	b) 32x25 mm	8	unidad	50,00	400,00
D	**Tes**				
	a) Te recta de PP-R de 25 mm de diámetro	6	unidad	50,00	300,00
	b) Ídem de 32 mm de diámetro	6	unidad	70,00	420,00
	c) Ídem de 40 mm de diámetro	4	unidad	80,00	320,00
	Subtotal			**KSHS**	**79.460,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
A	**Juntas roscadas hembra**				
	a) Junta roscada hembra de PP-R de 25 mm de diámetro	6	unidad	50,00	300,00
	b) Ídem de 32 mm de diámetro	6	unidad	70,00	420,00
	c) Ídem de 40 mm de diámetro	4	unidad	80,00	320,00
B	**Juntas roscadas macho**				
	a) Junta roscada macho de PP-R de 25 mm de diámetro	6	unidad	50,00	300,00
	b) Ídem de 32 mm de diámetro	6	unidad	70,00	420,00
	c) Ídem de 40 mm de diámetro	4	unidad	80,00	320,00
C	**Válvulas aislantes**				
	a) Válvulas aislantes de 25 mm de diámetro	4	unidad	2.500,00	10.000,00
	b) Ídem de 32 mm de diámetro	4	unidad	2.700,00	10.800,00
	c) Ídem de 40 mm de diámetro	2	unidad	3.200,00	6.400,00
	Subtotal			**KSHS**	**29.280,00**
	SUMA DE SUBTOTALES				
	N.º PÁGINA: 4/63				79.460,00
	N.º PÁGINA: 4/64				29.280,00
	TOTAL INCLUIDO DEL EPÍGRAFE			**KSHS**	**108.740,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 4 – PLANTA SUPERIOR **PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA** **ELEMENTO N.º 14** **PINTURA DE EXTERIORES** **Lijar y cepillar las paredes de yeso; pulir los bordes ásperos y rellenar las grietas y defectos con masilla; tratar con fungicida y eliminar el polvo; preparar y aplicar tres capas finales de revestimiento de silicona de primera calidad Permacote Ultraguard de la marca Crown a:**				
A	Exterior de las paredes existentes	m^2	401	800,00	320.800,00
	TOTAL INCLUIDO DEL EPÍGRAFE			**KSHS**	**320.800,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 4 – PLANTA SUPERIOR				
	PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA				
	ELEMENTO N.º 15				
	CANALONES Y BAJANTES				
	Chapa metálica del calibre 26 según se describe:				
A	Canalón encajonado de 150 x 150 mm articulado con una junta de masilla y cáñamo y sujeto a las impostas con abrazaderas de acero templado con 600 mm de separación entre ellas, con una capa de imprimación antioxidante de cromato de cinc de dos componentes.	m	201	800,00	160.800,00
B	Canalón adicional para el extremo encajonado, de 150 x 150 mm de tamaño igualmente.	unidad	23	500,00	11.500,00
	Acero templado galvanizado de calibre 26				
C	Bajantes de 100 mm de diámetro fijadas a columnas de hormigón, con 600 mm de separación entre ellas, con abrazaderas de acero	m	87	1.500,00	130.500,00
D	Tubería adicional para liras de dilatación	unidad	12	1.000,00	12.000,00
E	Tubería adicional para voladizos de cuello de cisne: 600 mm de largo	unidad	12	1.000,00	12.000,00
	Preparar y aplicar tres capas de pintura de esmalte de primera calidad a:				
F	Superficies generales de piezas de acero: 200 – 300 mm de perímetro	m	288	100,00	28.800,00
	TOTAL INCLUIDO DEL EPÍGRAFE			**KSHS**	**355.600,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 4 – PLANTA SUPERIOR **PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA** **ELEMENTO N.º 16** **CUESTIONES GENERALES**				
A	Preparar y presentar una copia impresa y otra digital de los bocetos de trabajo de conformidad con el ingeniero, que deberán estar en formato Autocad© 2013 o en una versión superior homologada, y comprender lo siguiente: i. Bocetos dimensionales de toda las instalaciones y el instrumental. ii. Bocetos de la disposición general del equipo, las instalaciones, etc. iii. Conductos – tipos y tamaños, y disposición de la canalización. iv. Diagramas del cableado y la canalización de las instalaciones y el instrumental. v. Diagrama esquemático de cada instalación y de los conmutadores y paneles de control. vi. Todas las instrucciones de funcionamiento necesarias para los cuadros de mando, paneles de control, etc. **(Nota: La serie completa de bocetos sobre el equipo de ingeniería eléctrica y mecánica se presentará conforme a la lista de bocetos).**	CONCEPTO			100.000,00
	TOTAL INCLUIDO DEL EPÍGRAFE			**KSHS**	**100.000,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KHS)	IMPORTE (KHS)
	SECCIÓN N.º 4 – PLANTA SUPERIOR **PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA** **ELEMENTO N.º 16** **TRABAJOS DE ALBAÑILERÍA EN RELACIÓN CON LAS INSTALACIONES ELÉCTRICAS Y MECÁNICAS** **Instalaciones de ingeniería eléctrica** **Los trabajos de albañilería se coordinarán con los de los electricistas, cortando y/o haciendo un seguimiento de las instalaciones eléctricas si fuera necesario para reconectarlas posteriormente, comprendidos los interruptores y los cables que no estén a la vista.**				
A	Prevéase la colaboración entre albañiles y electricistas **Instalaciones de ingeniería mecánica** **Los albañiles trabajarán en coordinación con los ingenieros mecánicos, desmontando provisionalmente antes de volverlos a colocar los accesorios sanitarios, las instalaciones y sus tuberías, incluyendo la fontanería y la canalización que no estén a la vista.**		CONCEPTO		50.000,00
B	Prevéase la colaboración entre albañiles y fontaneros		CONCEPTO		50.000,00
	TOTAL INCLUIDO DEL EPÍGRAFE			**KHS**	**100.000,00**

CONCEPTO	DESCRIPCIÓN	PÁGINA N.º	IMPORTE
	SECCIÓN N.º 4 – PLANTA SUPERIOR		
	PROPUESTA DE REFORMA DE LA RESIDENCIA DEL EMBAJADOR DE ESPAÑA		
	SUMARIO DE LA PLANTA SUPERIOR		
	ELEMENTO	**PÁGINA N.º**	
1	CUBIERTA Y VERTIDO DE AGUAS PLUVIALES	**4/3**	4.742.900,00
2	DORMITORIO 06	**4/14**	1.127.750,00
3	DORMITORIO 05	**4/22**	931.840,00
4	DORMITORIO 04	**4/30**	1.030.100,00
5	DORMITORIO PRINCIPAL	**4/38**	1.496.980,00
6	CUARTO DE BAÑO PARA DISCAPACITADOS	**4/47**	786.600,00
7	CUARTO DE BAÑO DE PASILLO/VESTÍBULO	**4/55**	598.860,00
8	CUARTO DE CALDERAS	**4/59**	988.080,00
9	DORMITORIO 03	**4/60**	179.680,00
10	DORMITORIO 02	**4/61**	175.260,00
11	DORMITORIO 07	**4/62**	171.820,00
12	PASILLO / VESTÍBULO	**4/63**	613.360,00
13	DISTRIBUCIÓN DE FONTANERÍA DE AGUA FRÍA/ CALIENTE	**4/65**	108.740,00
14	PINTURA DE EXTERIORES	**4/66**	320.800,00
15	CANALONES Y BAJANTES	**4/67**	355.600,00
16	CUESTIONES GENERALES	**4/68**	100.000,00
17	ALBAÑILERÍA – INGENIERÍA ELÉCTRICA Y MECÁNICA	**4/69**	100.000,00
	TOTAL INCLUIDO EN EL SUMARIO PRINCIPAL		**13.828.370,00**

TRABAJOS DE PERFORACIÓN

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 5				
	PROPUESTA RESIDENCIA DEL EMBAJADOR DE ESPAÑA				
	ELEMENTO N.º 1 – TRABAJOS DE PERFORACIÓN				
	Estudios del terreno				
	Inspección geológica/geofísica de los recursos hídricos del terreno acotado y presentación de un informe completo de la inspección, con inclusión de toda solicitud de permiso cuyo coste deba abonarse íntegramente al hidrólogo/geólogo.	Suma		200.000,00	200.000,00
	Prevéanse las solicitudes, los contactos, el seguimiento y los pagos necesarios para la obtención de los permisos concedidos por la Water Recourses Management Authority (WRMA) / NEMA	Suma		70.000,00	70.000,00
	Trabajos sobre el terreno	Suma		50.000,00	50.000,00
	Retirada de la unidad de perforación, el equipo, el material, el personal y los demás suministros utilizados	Suma		25.000,00	25.000,00
	Montaje / desmontaje de la unidad de perforación	Suma		30.000,00	30.000,00
	Excavación de un agujero de 203 mm de diámetro de una profundidad de 0-100 m.	m	100	4.000,00	400.000,00
	Perforación a partir de 100-250 m	m	150	4.500,00	675.000,00
	Suministrar e instalar carcasas de acero negro de clase B de 152 mm de diámetro.	m	160	4.500,00	720.000,00
	Suministrar e instalar mallas de acero negro cortado a máquina de clase B de 152 mm de diámetro.	m	90	4.500,00	405.000,00
	Suministrar y colocar el empaque de grava filtrante.	Ton	12	5.000,00	60.000,00
	Dejar un tiempo en reposo.	Horas	4	5.000,00	20.000,00
	Proceder al ensanche, suministro e instalación de las carcasas de superficie a petición del consultor.	Suma		15.000,00	15.000,00
	Proceder a la retirada de las carcasas provisionales mencionadas.	Suma		5.000,00	5.000,00
	Trabajos de acondicionamiento.	Horas	4	5.000,00	20.000,00
	Bombeo de prueba para comprobar los resultados de la perforación durante al menos 24 h, incluidos el montaje y desmontaje de la unidad de bombeo y las mediciones de recuperación.	Suma		50.000,00	50.000,00
	Construcción de una basa de hormigón en masa de 1,5 x 1,5 x 0,5 m alrededor de la cabeza del pozo (plancha de perforación normal).	unidad	1	15.000,00	15.000,00
	Subtotal			**KSHS**	**2.790.000,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
A	Cubierta de la perforación	unidad	1	200.000.00	200.000,00
B	Prever los gastos de suministro de agua necesaria para la perforación contratada, los trabajos sobre el terreno, etc.	Suma		20.000.00	20.000,00
C	Análisis químicos y bacteriológicos de las aguas e informe de finalización de la perforación	CONCEPTO		25.000.00	25.000,00
D	Prevéanse las solicitudes, los contactos, el seguimiento y el pago al contador de agua del Condado, incluidas las conexiones necesarias.	CONCEPTO		25.000.00	25.000,00
E	Solicitar el permiso de uso de agua para perforaciones de la Water Resources Management Authority (WRMA).	CONCEPTO		5.000.00	5.000,00
	Instalación de bomba sumergible, panel de control, canalizaciones y accesorios y conexiones eléctricas, y puesta en funcionamiento.				
F	Suministrar, instalar, probar y poner en funcionamiento una bomba sumergible (trifásica, 12 kW) del tipo Grundfos SP 17-27, junto con un motor síncrono de 2 polos sellado y refrigerado por líquido de marca Grundfos, hecho de acero inoxidable con rodamientos cerámicos.	unidad	1	350.000.00	350.000,00
	Panel de control				
G	Suministrar, instalar, probar y poner en funcionamiento un panel de control para una bomba Grundfos SP 17-27 con sistema de arranque Star-Delta, detección de fallo de fase, interruptores de nivel alto y bajo, luces indicadoras, conmutadores, amperímetro, voltímetro, cronómetro, etc.	unidad	1	50.000,00	50.000,00
	Tubería de impulsión y canalización de recogida de aguas (provisional); los licitadores deberán contemplar en los presupuestos los acoplamientos, curvas, uniones, abrazaderas y otros accesorios de fijación a lo largo de las tuberías.				
	Tubería de impulsión de acero galvanizado de máxima resistencia, clase C, de 50 mm (2'') de diámetro, con conectores para vapor de alta presión	m	300	1.500,00	450.000,00
	Unión de clase C GS de 50 mm (2'') de diámetro	unidad	50	1.000,00	50.000,00
	Válvulas de compuerta de clase C GS 50 mm (2'') de diámetro	unidad	2	800,00	1.600,00
	Válvula antirretorno de clase C GS de 50 mm (2") diámetro, de marca Peglar o equivalente	unidad	2	25.000,00	50.000.00
	Cámara de hormigón subterránea para el contador de agua de 600 x 400 x 400 mm de tamaño con cubierta que se cierre con llave	unidad	1	15.000,00	15.000,00
	Curvas de clase C GS de 50 mm (2") de diámetro	unidad	1	500,00	500,00
	Tapones de clase C GS de 50 mm (2") de diámetro	unidad	1	500,00	500,00
	Tubo de inmersión de uPVC de 25 mm (2") de diámetro	m	300	600,00	180.000,00
	Subtotal			**KSHS**	**1.422.600,00**

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	Instalaciones eléctricas				
A	Suministrar e instalar un cable de acometida eléctrica sumergible de 25 mm^2 específico para la bomba referida, que deberá tener una capacidad de suministro eléctrico trifásico de 12 kW.	m	300	2.000,00	600.000,00
B	Instalar una conexión eléctrica con el panel de control, a lo largo de 50 metros aproximadamente, que cuente con dos juegos de empalme, un cable blindado subterráneo de 16 mm^2, un conducto de uPVC de 25 mm, y los demás elementos adicionales necesarios para su adecuado funcionamiento	CONCEPTO		3.500,00	3.500,00
C	Suministrar e instalar pasamuros para el cable	unidad	6	500,00	3.000,00
D	Suministrar e instalar un par de electrodos de encendido / apagado, con 500 m^2 de cable de electrodos de 0,75 mm^2 y relés	unidad	1	1.200,00	1.200,00
E	Establecer todas las conexiones eléctricas entre el panel de control y la fuente de alimentación (distancia aproximada de 15 metros), disponiendo una vía de contacto con el subcontratista de la instalación eléctrica.	CONCEPTO		12.000,00	12.000,00
F	Establecer un período de garantía por defectos de un año, y realizar inspecciones trimestrales de todo el sistema de perforación, bombeo y controles inclusive, para garantizar un funcionamiento adecuado.	CONCEPTO		25.000,00	25.000,00
	SUMA DE SUBTOTALES				**644.700,00**
	N.º PÁGINA: 5/1				**2.790.000,00**
	N.º PÁGINA: 5/2				**1.422.600,00**
	N.º PÁGINA: 5/3				**644.700,00**
	TOTAL INCLUIDO DEL EPÍGRAFE			**KSHS**	**4.857.300,00**

CONTINGENCIAS

CONCEPTO	DESCRIPCIÓN	UNIDAD DE MEDIDA	CANTIDAD	PRECIO (KSHS)	IMPORTE (KSHS)
	SECCIÓN N.º 6				
	PROPUESTA PARA RESIDENCIA DEL EMBAJADOR DE ESPAÑA				
	ELEMENTO N.º 1 (PROVISIONAL)				
	CONTINGENCIAS				
A	Prevéase una suma de contingencia de un millón de (1.000.000,00) chelines keniatas, que solo habrá de gastarse, total o parcialmente, conforme a las instrucciones del arquitecto	Suma			1.000.000,00
	Las contingencias incluirán aunque no de forma limitada:				
1	Todas las terminaciones, y trabajos de acabo justificados, siempre y cuando sean necesarios – 400.000				
2	Trabajos de demolición adicionales necesarios para permitir el inicio de nuevos trabajos justificados, siempre y cuando sean necesarios – 200.000				
3	Ayudas de albañilería necesarias para instalaciones de fontanería y saneamiento, siempre y cuando sean necesarias – 100.000				
4	Ayudas de albañilería necesarias para instalaciones eléctricas, siempre y cuando sean necesarias – 100.000				
5	Ayudas de albañilería necesarias para la instalación de agua caliente y fría, siempre y cuando sean necesarias– 100.000				
6	Cualquier otro trabajo omitido / no recogido adecuadamente en el Listado de Cantidades (Presupuesto) y o aquellos que puedan requerir cambios en las especificaciones debido a la obsolescencia de materiales y o indisponibilidad, si se justifica y siempre y cuando sean necesarios– 100.000				
				KSHS	**1.000.000,00**

SUMARIO GENERAL

CONCEPTO	DESCRIPCIÓN		KSHS
	PROPUESTA DE REFORMA DE LA RESIDENCIA DEL EMBAJADOR DE ESPAÑA		
	SUMARIO GENERAL		
	SECCIÓN	**PÁGINA N.º**	
1	PRELIMINARES	2/26	550.000,00
2	PLANTA BAJA	3/19	4.365.100,00
3	PLANTA SUPERIOR	4/67	13.828.370,00
4	PERFORACIONES	5/1	4.857.300,00
5	CONTINGENCIAS	SUMA	1.000.000,00
	IMPORTE TOTAL DE LA LICITACIÓN		**24.600.770,00**

EMPLEADOR **CONTRATISTA**

NOMBRE…… NOMBRE……..…..…

…… …….……..……

FIRMA…… FIRMA……....……..

DIRECCIÓN…… DIRECCIÓN…….

……. ……...

FECHA…… FECHA…….…….……..

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NAIROBI-KENYA
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Trine
ARCHITECTS

TRINE ARCHITECTS LIMITED

Architectural Design | *Construction Management,* | *Physical Planning*

9th September 2021

Our Ref. **SEN/09/2020/010**

The Chancellor,
Embassy of Spain,
Mara and Ragati Roads.-CBA Centre, 3rd Floor,
Box 45503-00100, Nairobi-Kenya.
Email; emb.nairobi@maec.es/ mteresa.casares@maec.es/

Dear Maria Teresa Casares,

RE: TECHNICAL ASSISTANCE FOR DRAFTING, DESIGN, AND SITE MANAGEMENT OF THE RENOVATION WORKS AT THE RESIDENCE OF THE EMBASSY OF SPAIN IN NAIROBI, KENYA.

Final Design Development Report submission

We hereby submit the following documents in accordance with the project brief, RFP terms and conditions, section 5 and Appendix 1 of the TOR:

1. Final Design Development Report including Health Safety and Environment (HSE) Plan - A4 format.
2. Architectural, Services (Mechanical and Electrical), Cost Estimates, and Work Plan at Final Design - A3 format.
3. Signed Project Administrative Document

Further, kindly note that the *EIA Report for removal and disposal of* Asbestos is being done and will be submitted in due course.

Please do not hesitate to request any clarification if necessary.

Yours Faithfully,

TRINE ARCHITECTS LTD.
09 SEP 2021
P.O. Box 643 - 00100, NAIROBI
Email: info@trinearchitects.com
trinelimited@gmail.com

Authorized Signature .....

Name and Title of Signatory: Arch. G.O. Wasonga - Director

For Trine Architects Team

Directors; | *Geoffrey Ochieng Wasonga(A1479)* | *Nickson Otieno O. (A1808)*

ADMINISTRATIVE DOCUMENTATION TO BE INCLUDED IN MAUEC PROJECTS

1- STATMENT OF COMPLETE WORK

Mr. Geoffrey Ochieng' Wasonga, as architect author of the project:

"TECHNICAL ASSISTANCE FOR DRAFTING THE PROJECT AND FOR THE SITE MANAGEMENT OF THE RENOVATION WORKS OF THE EMBASY RESIDENCE OF SPAIN IN NAIROBI, KENYA".

Declares:

That the project refers to a complete work according to the specifications described therein, containing technical documentation appropriate to the completion of the works and capable of being delivered to the intended use by the contracting administration.

And for the record for the appropriate purposes, as specified in article 125 of the Regulation of the Law of Contracts of Public Administrations, this declaration is issued.

In Nairobi, 9th September of 2021

TRINE ARCHITECTS LTD.
09 SEP 2021
P.O. Box 643 - 00100, NAIROBI
Email: info@trinearchitects.com
trinelimited@gmail.com

2- PRELIMINARY STEAKOUT ACT

Mr. Geoffrey Ochieng' Wasonga, as architect author of the project:

"TECHNICAL ASSISTANCE FOR DRAFTING THE PROJECT AND FOR THE SITE MANAGEMENT OF THE RENOVATION WORKS OF THE EMBASY RESIDENCE OF SPAIN IN NAIROBI, KENYA".

For the purposes of the provisions of article 236 of Law 9/2017, of November 8, on Public Sector Contracts, transposing into Spanish Low the Directives of the European Parliament and of the Council 2014/23/EU and 2014/24/EU, of February 26, 2014, hereby certifies the following:

That the geometric reality of the building to be reformed has been verified, as well as the availability of the land required for its normal execution, in order to comply the essential requirement for the award of the works contract in all procedures and to include this document into the contracting dossier in works contracts. Likewise, it is also reported that no impediment has been found for the normal execution of the works.

In Nairobi, 9th September of 2021

TRINE ARCHITECTS LTD.
09 SEP 2021
P.O. Box 643 - 00100, NAIROBI
Email: info@trinearchitects.com
trinelimited@gmail.com

4. ESTIMATED VALUE OF THE CONTRACT AND BASE TENDER BUDGET

Mr. *Geoffrey Ochieng' Wasonga*, as architect author of the project:

"TECHNICAL ASSISTANCE FOR DRAFTING THE PROJECT AND FOR THE SITE MANAGEMENT OF THE RENOVATION WORKS OF THE EMBASY RESIDENCE OF SPAIN IN NAIROBI, KENYA".

Declares:

1- The ESTIMATED VALUE OF THE WORKS, (including the percentages of GENERAL EXPENSES AND INDUSTRIAL PROFIT) amounts to *Kenya Shillings* ***Twenty four million, six hundred thousand, seven hundred and seventy (24,600,770)*** equivalent to **208,247.44 USD**, equivalent to **205,204.61 EUROS** exclusive of taxes.

2- The amount of TAXES (16% VAT or equivalent tax) amounts to *Kenya Shillings* ***Three million, nine hundred and thirty six thousand, one hundred and twenty three point two (3,936,123.2)***, equivalent to **33,319.59 USD**, equivalent to **32,832.74 EUROS**.

3- The BASE TENDER BUDGET (total budget with taxes included) amounts to *Kenya Shillings* ***Twenty eight million, five hundred and thirty six thousand, eight hundred and ninety three point two (28,536,893.2)*** equivalent to **241,567.03 USD**, equivalent to **238,037.35 EUROS** exclusive of taxes.

EXCHANGE RATE:

1 Ksh = 118.1324 USD.

1 Ksh. = 119.8841 EURO.

In Nairobi on 12th July 2022.

TRINE ARCHITECTS LTD.
12 JUL 2022
P.O. Box 643 - 00100, NAIROBI
Email: info@trinearchitects.com
trinelimited@gmail.com

6-PERIOD OF EXECUTION OF THE WORKS

Mr. Geoffrey Ochieng Wasonga, as architect author of the project:

"TECHNICAL ASSISTANCE FOR DRAFTING THE PROJECT AND FOR THE SITE MANAGEMENT OF THE RENOVATION WORKS OF THE EMBASY RESIDENCE OF SPAIN IN NAIROBI, KENYA".

Declares:

That for the realization of the works contained in this project, a term of ***11 weeks*** is considered, starting from the effective beginning of the works.

In Nairobi on 9th September, 2021

TRINE ARCHITECTS LTD.
09 SEP 2021
P.O. Box 643 - 00100, NAIROBI
Email: info@trinearchitects.com
tr nel.mited@gmail.com

ORIGINAL

Design Development (Final) Report

SUBMITTED TO:
María Teresa Casares de la Fuente
emb.nairobi@maec.es/mteresa.casares@maec.es
CBA Building, 3rd Floor,
Mara and Ragati Roads, Upper Hill, Nairobi-Kenya.

TECHNICAL ASSISTANCE FOR DRAFTING, DESIGN, AND SITE MANAGEMENT OF THE RENOVATION WORKS AT THE RESIDENCE OF THE EMBASSY OF SPAIN IN NAIROBI, KENYA.

Embajada de España

SUBMITTED BY

M/S TRINE ARCHITECTS LIMITED-Architectural and interior designers
IN ASSOCIATION WITH

M/S Columbine Associates- Quantity Surveyor

M/S Infraplus Consultants Ltd. -Service Engineers (Electrical/ Mechanical)-

For: **Embassy of Spain-Kenya**

@ September, 2021

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LIST OF FIGURES

No table of figures entries found.

1 REPORT OVERVIEW

1.1 Introduction

Trine Architects Ltd. (TA) has been commissioned by the Embassy of Spain (the Client) to undertake the *Drafting, Design, and Site Management of the Renovation Works at the Residence of the Embassy of Spain, Lake View Nairobi.*

The Contract commencement date was 17th November 2020 and the Contract period is 30 days to cover for design, and cost estimation. The project's Site Management of the Renovation Works will commence once all the Design development documentation are finalized.

1.2 Project Background

The Residence of the Embassy of Spain in Nairobi is located in the "Lake View" area, a residential district in the southwest outskirts of Nairobi.

It is a two-storey free-standing building, surrounded by gardens. The principal building has an area of 530 m^2 on the ground floor and 340 m^2 on the top floor, which adds up to 870 m^2 in total. The building sits on a vast 67,050 m^2 (16.6 acres).

The Residence building dates back to 1929. Its structure comprises load-bearing walls and a gable roof with a wooden structure made of rafters and purlins that rest on the outer load-bearing walls and on wooden pillars of different sizes, which in turn rest on the load-bearing walls of the lower floor.

1.3 Consultancy Objective

According to the Statement of Work, the objectives of this assignment is to *Drafting, Design, and Site Management of the Renovation Works at the Residence of the Embassy of Spain, Lake View Nairobi.*

1.4 Consultancy Scope and Deliverables

1.4.1 Scope

According to the Contract the scope of the assignment is as follows:

Phase I - Site investigations, design development and documentation phase

- Design Development (Interim Report) documenting the work to be carried out
- Scale drawings and proper scales for the:
  - Existing/Contextual plan
  - New works layouts-Floor plans (Ground floor, Upper floor, and Roof)
  - Dismantling procedure
  - Elevations
  - Sections
  - Drawings for Services (Plumbing, Sanitation and Electrical works)
  - Installations plans
- BoQ and cost estimates
- Construction schedule / Work plan- taking into account the use of the Residence, which will continue to be inhabited
-

Phase II - Construction supervision stage

- Site Supervision and project reports

1.4.2 Deliverables Under the Contract

The following are the deliverables indicated in the Contract:

Deliverables	Date of submission of reports from order to commence
Interim Report	10 days
Final report	20 days

1.5 Authority of this Inception Report

This Interim Report has been prepared and submitted to the Client as a contractual obligation on the part of the Consultant provided under the Consultancy Agreement for the assignment.

The report is due 10 days from the Contract commencement date of 17th November 2020, which is 30th October 2017.

1.6 Purpose of the Interim Report

In accordance with the Contract, the purpose of this Interim Report is as follows:

- Design and drawings with complete site development works.
- Architectural drawings with complete details of Bills of Quantities and cost estimates for each structure (site).
- Services (Plumbing, Sanitation and Electrical works) drawings

2 ACTIVITIES UNDERTAKEN DURING INCEPTION PERIOD

2.1 Mobilisation of Consultant Staff

Upon commencement of the Contract on 17th November 2020 the Consultant mobilised the staff for the assignment as detailed in Table 1 (the numbers in the first column correspond to that given in the Technical Proposal):

Table 1: Consultant staff mobilised

No.	Name of Staff	Designation
K-1	Arch Geoffrey Wasonga	Project Architect
K-2	Eng. Eric Omondi	Civil/ Structural Engineer
K-3	Qs. Robinson Ochieng	Quantity Surveyor
K-3	Eng. Vincent Makonjio	Service Engineers (Electrical/ Mechanical)

The additional support staff may/ will be mobilised as part of the Consultant strategy for undertaking the assignment and is at no additional cost to the client.

2.2 Site Visits

The Consultant visited the project site to assess the building condition, noting all the affected parts at dates during the interim period as shown in Table 2.

Table 2: Schedule of Site Visits

S/N	Date	Consultant Representative(s)	Client Representative(s)	Activity and Data Collected
1.	23rd October 2020	Geoffrey Wasonga	Maria Teresa,	Visited Embassy of Spain Offices in Nairobi. Inventory meeting
2.	27th October 2020	Geoffrey Wasonga and Vincent Makonjio	Maria Teresa, and Elizabeth Mungai	Visited Residence of the Embassy of Spain-Nairobi. See **item 3.1**
3.	26th November 2020	Geoffrey Wasonga and Vincent Makonjio	Angiela Masu	Visited Residence of the Embassy of Spain-Nairobi.

The main purpose of the site visits was to provide members of the Project Team with the opportunity to gain an overall appreciation of the project assignment and in particular:

- To carry exhaustive inspection of the affected parts of the building
- To make notes and observations with regard to the current site condition and constraints to development.
- To gain an understanding of condition of the affected parts of the building;

- To generally make Project Team members more familiar with details of the project.

3 REVIEW OF INFORMATION AND DATA FROM SITE VISIT

3.1 General project site (compound) conditions

3.1.1 The structures proposed for the site (compound)

S.No	Structure	Current condition (Affected parts of the structure)
1	Front driveway	✓ Small potholes ✓ Brocken tiles
2	Pool area	✓ Good condition
3.	Elevated water tank	✓ Surging structure
3.	Banda	✓ Good condition
4.	Building exterior	✓ Good condition ✓ Stained walls

3.1.2 Images of the project site (compound)

Visit to the site gave a general overview of the environmental, social and physical conditions of the building. The consultants managed to get the expected workings of the proposed renovation works.

Driveway

Driveway

Exterior of the building

Exterior of the building

3.2 Main House, Ground Floor

3.2.1 The structures proposed for the Ground Floor

S.No	Structure/ Space	Current condition (Affected parts of the structure)
1	Entrance Porch	✓ Leaking roof ✓ Stained walls
2	Foyer	✓ Surging/stained ceiling ✓ Traces of asbestos detected as per SGS report
3	Cloak room	✓ Good condition
4	Main Staircase	✓ Good condition
5	Entrance Hall	✓ Surging/stained ceiling
6	Living Room	✓ Surging/stained ceiling
7	Gaming Room	✓ Surging/stained ceiling ✓ Leaking roof ✓ Stained/rustic window grills
8	Dining Room	✓ Surging/stained ceiling ✓ Stained/rustic window grills
9	Study Room	✓ Surging/stained ceiling ✓ Traces of asbestos detected as per SGS report ✓ Stained/rustic window grills
10	Lobby and corridor	✓ Traces of asbestos detected as per SGS report ✓ Stained/rustic window grills
11	Utility Room	✓ Traces of asbestos detected as per SGS report ✓ Surging/stained ceiling ✓ Stained/rustic window grills ✓ Leaking roof
12	2nd Staircase	✓ Traces of asbestos detected as per SGS report ✓ Surging/stained ceiling ✓ Stained/rustic window grills
13	Kitchen	✓ Traces of asbestos detected as per SGS report ✓ Surging/stained ceiling ✓ Stained/rustic window grills ✓ Leaking roof
14	Pantry	✓ Stained ceiling ✓ Stained/rustic window grills
15	Laundry	✓ Stained ceiling ✓ Stained/rustic window grills
16	Wine Store	✓ Stained ceiling ✓ Stained/rustic window grills ✓ Leaking roof
17	Leisure Room	✓ Surging/stained ceiling ✓ Traces of asbestos detected as per SGS report ✓ Leaking roof ✓ Stained/rustic window grills
18	Leisure Room washrooms	✓ Surging/stained ceiling ✓ Stained walls ✓ Provide for Gents and Ladies ✓ Retain shower ✓ Provide new fittings and tiling

3.2.2 Images of the Ground Floor;

Inspection of the Ground Floor gave a general overview of the affected parts and physical conditions of the building. The consultants managed to get the expected workings of the proposed renovation works.

Foyer

Surging Ceiling in the Living room

Cracked slab ceiling in the kitchen

Asbestos ceiling in the Leisure room

Ceiling in the Leisure room

Surging ceiling at the Entrance Hall

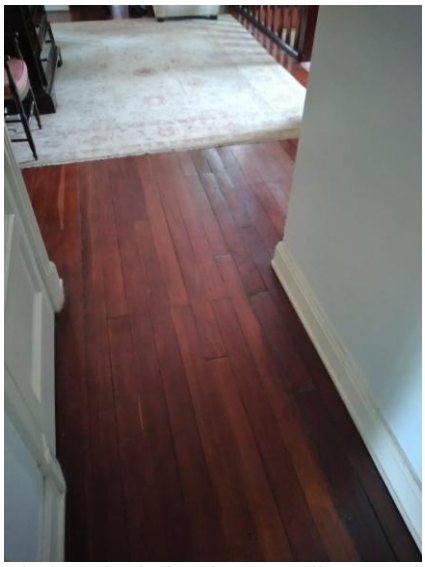
3.3 Main House, Upper Floor

3.3.1 The structures proposed for the Upper Floor

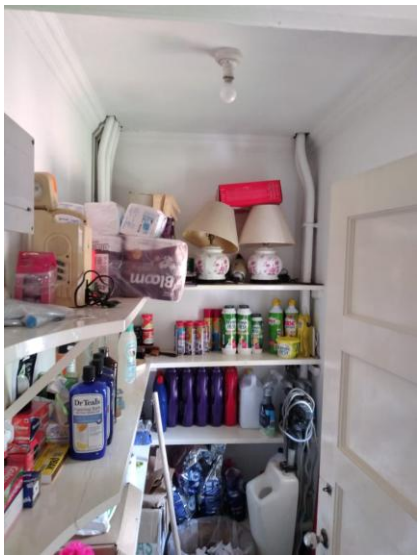
S.No	Structure/ Space	Current condition (Affected parts of the structure)
1.	Lobby and Corridor	✓ Surging/stained ceiling ✓ Stained/rustic window grills ✓ Leaking roof
2.	Common Bath	✓ Old flooring and wall tiling ✓ Old and faulty fittings ✓ Surging/stained ceiling ✓ Stained/rustic window grills ✓ Leaking roof
3.	Master Bedroom	✓ Surging/stained ceiling ✓ Stained/rustic window grills ✓ Leaking roof ✓ Old flooring and wall tiling in the bath area ✓ Old and faulty fittings in the bath area ✓ Need for shower cubicle in the bath area
4.	Bedroom 02	✓ Surging/stained ceiling ✓ Stained/rustic window grills ✓ Leaking roof
5.	Bedroom 03	✓ Surging/stained ceiling ✓ Stained/rustic window grills ✓ Leaking roof
6.	Bedroom 04	✓ Surging/stained ceiling ✓ Stained/rustic window grills ✓ Leaking roof ✓ Old flooring and wall tiling in the bath area ✓ Old and faulty fittings in the bath area ✓ Need for shower cubicle in the bath area
7.	Bedroom 05	✓ Surging/stained ceiling ✓ Stained/rustic window grills ✓ Leaking roof ✓ Old flooring and wall tiling in the bath area ✓ Old and faulty fittings in the bath area ✓ Need for shower cubicle in place of a bath tab
8.	Bedroom 06	✓ Surging/stained ceiling ✓ Stained/rustic window grills ✓ Leaking roof
9.	Bedroom 07	✓ Surging/stained ceiling ✓ Stained/rustic window grills ✓ Leaking roof
10.	Common Bath for BR 06 & 07	✓ Surging/stained ceiling ✓ Stained/rustic window grills ✓ Leaking roof ✓ Need for merging the WC and Bath area into one room ✓ Old flooring and wall tiling in the bath area ✓ Old and faulty fittings in the bath area ✓ Need for shower cubicle in place of a bath tab

3.3.2 Images of the Upper Floor;

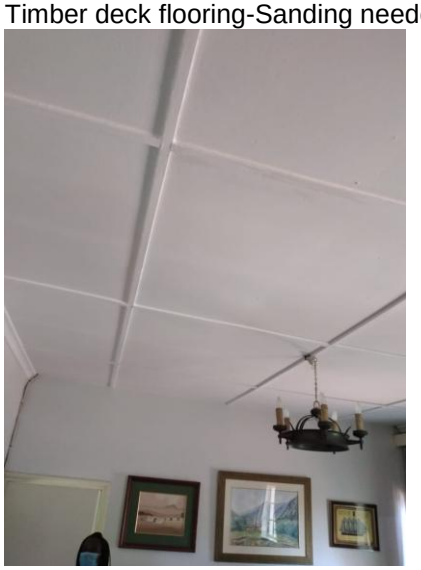
Inspection of the Upper Floor gave a general overview of the affected parts and physical conditions of the building. The consultants managed to get the expected workings of the proposed renovation works.



Timber deck flooring-Sanding needed



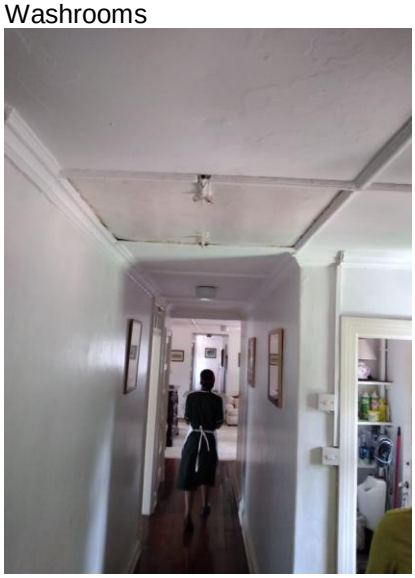
Store- To be partitioned for a boiler room



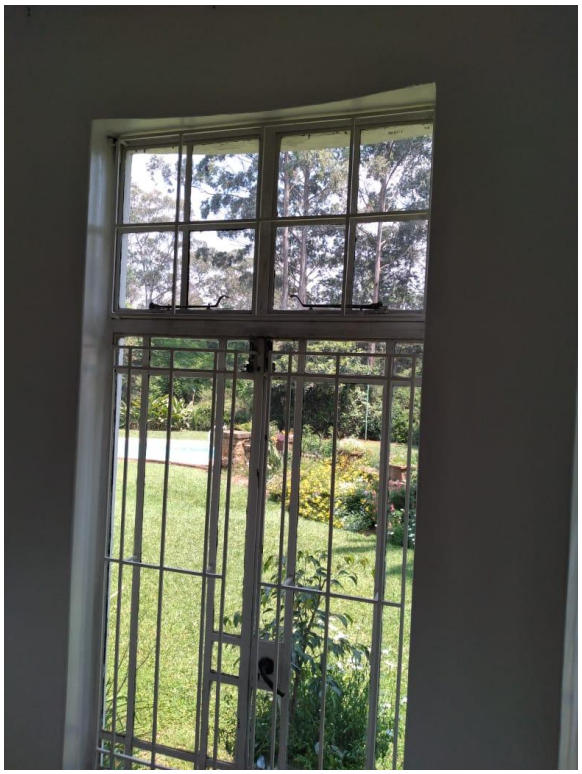
Asbestos ceiling in the bedrooms

Washrooms

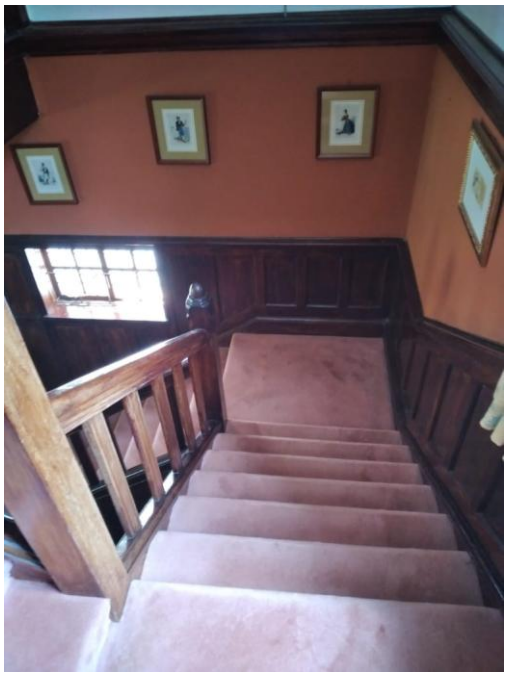
Disabled Bathroom



Corridor



Stained/rustic window grills



Main Stairwell

3.4 Main House, Roof Structure

3.4.1 The structures proposed for the proposed roof structure

S.No	Structure	Current condition
1	Roofing repairs and overhaul	✓ Leakage due to broken tiles. ✓ Leakage due to lack of waterproof surface on the roof ✓ Entry of water through the eaves and overflowing gutters ✓ Ageing of tiles due to weathering ✓ Absence of thermal insulation between the top floor and the roof, sagging dropped ceilings ✓ Wooden structure possibly affected by humidity and xylophagous agents. ✓ Leakage through the flat roof over the second staircase
2.	Roof structure	✓ Wooden structure done in cypress timber. Still in good condition, except for batten which will be replaced during repairs
3.	Electrical Installations	✓ Exposed cabling in the roof (not in a pvc duct) making them exposed to damage
4.	Mechanical/ plumbing Installations	✓ No master valve in the wet areas (washrooms and Kitchen) ✓ Exposed water pipes on the wall making them exposed to damage and an eyesore ✓ Metallic water pipes are prone to rusting, water contamination and breakage/leakage ✓ Leaking water tank due to overflow/ overfill ✓ Three water boilers in the house ✓ Low water pressure in the upper floor
5.	Hot water system	✓ Three water boilers in the house may be costly to maintain
6.	Water scarcity at the residence	✓ Water comes only once a week,

3.4.2 Images of the roof structure;

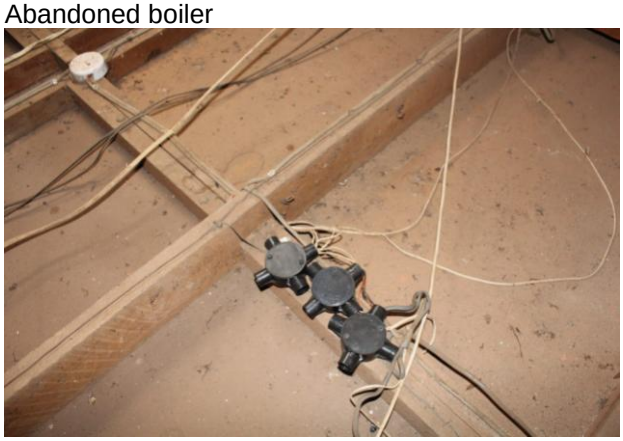
Inspection of the Roof Structure gave a general overview of the affected parts and physical conditions of the building. The consultants managed to get the expected workings of the proposed renovation works.

Rafters

Asbestos ceiling

Abandoned boiler

Water tank



Exposed electrical installations

Exposed electrical installations

Metallic water pipes

Boiler

4 REVIEW OF CLIENT'S INPUT

4.1 The review

Below are our responses to the client's (Víctor Machota) feedback dated 3rd December 2020:

S/N	Client's Input	Consultant's Recommendation/Review
1.	The estimation costs will have measures (m^2)	TA provided for this
2	The estimation costs will include the asbestos removal budget provided by the Embassy	TA provided for this
3	The work plan will have period of time (weeks, months) and no exact dates	TA provided for this
4	It needs to be made clear if the eaves panels should be replaced or can be reused. In case of replacement, it should be indicate the surface. The surface for ventilation at the eaves must be kept.	We recommend the replacement of the entire eaves. The eaves surface area is and ventilation is outlined in the BQ
5	It needs to be clarified on the plans the length and of gutters to be replace, the reason and the position of all the down pipes	In our opinion, the gutters and downpipes can be re-used. TA has provided for repairs
6	The embassy has an elevated tank so it is not necessary to project one more	Omitted
7	It is compulsory to do a construction detail plans of the new ceilings provided of thermal insulation. The existing design characterized by the presence of joint (non-continuous) is to be preserved.	Ceiling layouts done for the upper floor as before.
8	The refurbishment of the bathrooms should be based on practical, simple, easily maintenance solutions. The position of the toilets, washbasins and fittings will be change if it is properly justified.	TA reviewed the layouts accordingly. The fittings are re-organised to fit new requirements and for convenience. The drainage is taken care of in the design
9	At least one bathroom will be for disabled people provide with grab bars and the necessary equipment.	TA provided for this
10	The showers floor will not have step.	TA provided for a gentle slope towards gulley tap for efficient drainage.
11	The showers will not split into two parts a window	TA reviewed the layouts accordingly
12	The total length of rusted water pipes has to be defined on the texts and on the plans.	TA provided for new piping system to eliminate the perennial water leakage. Rusted water pipe is about 3m length.
13	The number of boilers (and its capacity and data) to be centralized at the store on the upper floor has to be specified.	Two boilers, one in the upper floor store (400litres), one in the ground floor boiler room (300litres)
14	As it is proposed a treatment for xylophagous agents should be incorporated for the wood structure of the roof.	TA provided for wood treatment in the BQ
15	The electricity cables will be canalized and ordered by cable trays below the roof.	TA provided for wood cable ducting in PVC pipes.
16	The paint works for the new ceiling has to be measured and estimated if necessary.	TA provided for entire ceiling works in the selected areas.
17	The drilling of a new borehole for water supply as part of project can be considered if it is justified.	TA recommends borehole drilling to solve water problem for clients approval
18	The solar panels proposed would be validated by an engineer of the Ministry. In any case, the panels have to be located on a sunny gable or on a sunny place of easy access for maintenance. The exact measures of the panels and of heating cylinders will be on the plans	4no. Solar panels each 2.3mx1m, 2no. solar cylinder height 1.6x0.6m each. Each cylinder has two panels.

	as well as its fixing system. It is also necessary to include the circuit of the solar system.	
19	In relation with the plans of the roof structure, one batten would be enough. It seems that there are two battens for a line of tiles.	TA provided for one batten at 300 c/c and purlins at 1,200 c/c
20	All the materials and components of the gutter should be clear and texted.	TA reviewed the layouts accordingly
21	The separation of the following two wooden battens could be too long. It should be checked and confirmed. The dimensions x-y of the batten has to be indicated.	TA provided for one batten at 300 c/c and purlins at 1,200 c/c
22	It is acceptable the installation of a silent booster pump to provide the required pressure but it should be located on plans and its power calculated.	TA reviewed the layouts accordingly. Booster pump inside the boiler room
23	If the existing septic tank is working properly it will not be necessary a costly biodigester system as proposed.	Omitted

5 PROJECT DESIGN

5.1 Architectural

	District	Findings	Recommendation
1.	site (compound)	**Front driveway** ✓ Small potholes ✓ Brocken tiles	✓ Improve drainage and sanitation ✓ Minor repairs ✓ Separate scope for client's approval
		Pool area	✓ Separate scope for client's approval
		Elevated water tank	✓ Separate scope for client's approval
		Banda	✓ Separate scope for client's approval
		Building exterior	✓ Separate scope for client's approval ✓ Site is viable ✓ Provide for exterior paint works
		Waste Disposal: Recommends the most sustainable method	✓ Separate scope for client's approval
2.	Ground Floor	**Entrance Porch**	✓ Provide for replacing the ceiling as before
		Foyer	✓ Provide for paintworks ✓ Provide for Safely removing and disposing the asbestos in the ceiling ✓ Provide for replacing the ceiling as before
		Cloak room	✓ Provide for Safely removing and disposing the asbestos in the ceiling ✓ Provide for replacing the ceiling as before
		Main Staircase	✓ Provide for Safely removing and disposing the asbestos in the ceiling ✓ Provide for replacing the ceiling as before
		Entrance Hall	✓ Provide for replacing the ceiling as before
		Living Room	✓ Provide for replacing the ceiling as before
		Gaming Room Traces of asbestos detected as per SGS report	✓ Provide for Safely removing and disposing the asbestos in the ceiling ✓ Provide for replacing the ceiling as before
		Dining Room Traces of asbestos detected as per SGS report	✓ Provide for Safely removing and disposing the asbestos in the ceiling ✓ Provide for replacing the ceiling as before
		Study Room	✓ Provide for Safely removing and disposing the asbestos in the ceiling ✓ Provide for replacing the ceiling as before
		Lobby and corridor	✓ Provide for Safely removing and disposing the asbestos in the ceiling ✓ Provide for replacing the ceiling as before
		Utility Room	✓ Provide for paintworks
		2nd Staircase	✓ Provide for paintworks ✓ Provide for Safely removing and disposing the asbestos in the ceiling ✓ Provide for replacing the ceiling as before
		Kitchen	✓ Provide for paintworks ✓ Provide for Safely removing and disposing the asbestos in the ceiling ✓ Provide for replacing the ceiling as before
		Pantry	✓ Provide for paintworks ✓ Provide for Safely removing and disposing the asbestos in the ceiling ✓ Provide for replacing the ceiling as before

		Laundry	✓ Provide for paintworks ✓ Provide for Safely removing and disposing the asbestos in the ceiling ✓ Provide for replacing the ceiling as before
		Wine Store	✓ Provide for paintworks
		Leisure Room Traces of asbestos detected as per SGS report	✓ Safely remove and dispose the asbestos in the ceiling ✓ Replace the ceiling as before
		Leisure Room Washrooms	✓ Provide for paintworks ✓ Provide for separate Gents and Ladies
3.	**Upper Floor**	**Lobby and Corridor** Traces of asbestos detected as per SGS report	✓ Provide for paintworks ✓ Provide for Safely removing and disposing the asbestos in the ceiling ✓ Provide for replacing the ceiling as before
		Common Bath	✓ Provide for new works ✓ Provide for Safely removing and disposing the asbestos in the ceiling ✓ Provide for replacing the ceiling as before
		Master Bedroom Traces of asbestos detected as per SGS report	✓ Provide for new works in the bath ✓ Provide for Safely removing and disposing the asbestos in the ceiling ✓ Provide for replacing the ceiling as before
		Bedroom 02 Traces of asbestos detected as per SGS report	✓ Provide for Safely removing and disposing the asbestos in the ceiling ✓ Provide for replacing the ceiling as before
		Bedroom 03 Traces of asbestos detected as per SGS report	✓ Provide for Safely removing and disposing the asbestos in the ceiling ✓ Provide for replacing the ceiling as before
		Bedroom 04 Traces of asbestos detected as per SGS report	✓ Provide for new works in the bath ✓ Provide for Safely removing and disposing the asbestos in the ceiling ✓ Provide for replacing the ceiling as before
		Bedroom 05 Traces of asbestos detected as per SGS report	✓ Provide for new works in the bath ✓ Provide for Safely removing and disposing the asbestos in the ceiling ✓ Provide for replacing the ceiling as before
		Bedroom 06 Traces of asbestos detected as per SGS report	✓ Provide for Safely removing and disposing the asbestos in the ceiling ✓ Provide for replacing the ceiling as before
		Bedroom 07	✓ Provide for Safely removing and disposing the asbestos in the ceiling ✓ Provide for replacing the ceiling as before
		Common Bath for BR 06 & 07	✓ Provide for new works in the bath ✓ Provide for Safely removing and disposing the asbestos in the ceiling ✓ Provide for replacing the ceiling as before
4.	**Roof Structure**	**Roofing repairs and overhaul** ✓ Leakage due to broken tiles. ✓ Leakage due to lack of waterproof surface on the roof ✓ Entry of water through the eaves and overflowing gutters ✓ Ageing of tiles due to weathering ✓ Absence of thermal insulation between the top floor and the	✓ Introduction of a continuous inclined waterproof surface on the roof. Our proposal is G.I iron sheets mini corrugated as under layer. ✓ We propose redoing the whole gutter system to include a galvanized metal sheet to approved sample to overlaps on the gutter system and the GI Iron sheets-mini corrugated

		roof, sagging dropped ceilings ✓ Wooden structure possibly affected by humidity and xylophagous agents. ✓ Leakage through the flat roof over the second staircase	✓ All broken tiles are replaced ✓ New gypsum ceiling to match existing will provide thermal insulation ✓ Water proofing (3-coats 20mm thick mastic asphalt tanking) will stop leakage through the flat roof over the second staircase ✓ Provide for special breather tiles at alternate rows to improve ventilation
		Roof structure ✓ Wooden structure done in cypress timber.	✓ Still in good condition, except for batten which will be replaced during repairs. ✓ As a precaution to mitigate effects of humidity because of water storage under the roof or xylophagous agents, we recommend the treatment of the entire roof timber structure with wood treatment chemicals. ✓ The roof eave will be completely sealed, and breathers installed with wire mesh to prevent xylophagous agents from climbing up there.
		Electrical Installations ✓ Exposed cabling in the roof exposing them to damage	✓ Introduction of surface ducts to conceal all the electrical and mechanical pipes.
		Mechanical/ plumbing Installations ✓ No master valve in the wet areas (washrooms and Kitchen) ✓ Exposed water pipes on the wall making them exposed to damage and an eyesore ✓ Metallic water pipes are prone to rusting, water contamination and breakage/leakage ✓ Leaking water tank due to overflow/ overfill ✓ Three water boilers in the house ✓ Low water pressure in the upper floor	✓ Introduce a master valve in the wet areas (washrooms and Kitchen) ✓ Introduction of surface ducts to conceal all the mechanical pipes. ✓ Replace all the metallic water pipes with PVC pipes ✓ All roof tanks to be installed with an overflow tray (tank sits inside a tray). ✓ Introduction of one boiler ✓ Introduction of a dedicated plumbing line and hot water line for the Kitchen. ✓ Introduction of pressure pump at the roof tank to increase water pressure.
		Water scarcity at the residence ✓ Water comes only once a week,	✓ The Embassy should consider drilling a borehole as part of this project to supplement water supply into the Residence.
		Hot water system ✓ Three water boilers in the house may be costly to maintain	✓ The current hot water supply system is electric geysers, which shall be retained as per the client's wish. ✓ Introduction of one boiler ✓ Introduction of a dedicated plumbing line and hot water line for the Kitchen.
		Materials: Use of locally available materials and construction technology	**Roof:** Clay tiles to match the existing Other materials (Sand, cement) are easily available

5.2 Mechanical, Electrical, Plumbing (MEP)

	District	Findings and Recommendation	Recommendation
1.	**Leakages in the roof**	✓ There are existing roof water tanks and in fairly good condition. ✓ We shall re-use the same. They shall be fed from external elevated tank and shall act as break tanks. In cases of maintenance of the external tank, these shall be used as temporary supply sources and ensure continuity in water supply. ✓ Introduction of steel trays below the tanks to collect spilled or overflowing water as a result of ball valves failures, if they occur. This is a stop gap measure to protect ceiling works and the development at large from water. The steel sheets shall then be connected to the gutter to direct the water outside. ✓ All pipe work and ball valves within the roof shall therefore be changed to more durable and easy-to-install type.	
2.	**Enhancement of pressure**	✓ The floor just below the tanks may experience less pressure discharge in showers and wash hand basins due to the available head. We therefore provided a well sized silent booster pump to provide the required pressure.	
3.	**Modifications and refurbishment bathrooms**	✓ We propose installation of modern, energy and water efficient fittings. Water closets shall be water saving with dual flush, taps shall have water limiters and/or aerators. Showers heads shall be self-cleaning types. ✓ The choice of fittings shall be done together with the Client.	
4.	**Provision of hot water**	✓ The current hot water supply system is electric geysers, which shall be retained as per the client's wish. ✓ We propose separate system for kitchen area due to very heavy hot water requirements in this area that may prove difficult to achieve when a common source is implemented.	
5.	**Gutters**	✓ We propose changing and redoing the whole gutter system including down pipes. Preferred materials shall be galvanized steel with well-done pre-treated welded joints. They shall be rectangular type to match existing.	
6.	**Water reticulation pipe work**	✓ All the exposed reticulation pipework shall be chased and hidden within the walling. And to avoid compromises on the building structure, only a single riser shall be allowed to feed all the roof tanks. This therefore minimizes the chasing to a single point.	
7.	**Electrical services within the roof**	✓ We propose to change all the electrical services within the roof area. We also propose to manage the cables within conduits as a measure to reduce risks of electrocution for anyone working within the roof void. ✓ All the electrical cables and related fittings shall therefore be replaced with new ones.	

5.3 Dismantling procedure

5.3.1 Roof structure;

During Construction, the consultants" will have a Clerk-of-works from our office who is conversant with renovation works for monitoring compliance with plans, specifications and construction practices.

For any demolition works, the MC to agree with the Client on the materials to be handed after removal / demolition from the building. This will be with regards to batten placed at 300c/c to hold the tiles as they will most definitely break during dismantling because of their thin sizes. All Oriental tiles will be uses, except for the broken ones. Consultants will then prepare a Bill of Credit.

For the gutters around the edge, we shall replace with new ones, as the existing ones may have rusted or having holes.

The dismantling of the roof will be timed on a dry day with no rainfall. The procedure will be done concurrently with the installation of G.I iron sheets mini corrugated as under layer to avoid any exposure to any extreme weather conditions (any tiled area exposed is covered immediately). This process will happen in one day for the exposed parts.

In our assessment, the tiles are still in good condition, we shall only replace the broken ones.

We shall recommend adoption of:

a) Remove (carefully to avoid breakage),

b) Recycle (the old tiles will be wire brushed, pressure washed and put a weather guard paint (red in colour to match/similar to the replaced new ones) and,

c) Re-use and add new ones to replace the broken ones.

We shall only replace the broken tiles

5.3.2 Bathrooms

We shall ensure careful hacking ad removal of all the fittings and tiles. This will expose all the major pipes, which will be modified to fit the proposed layout. Most of the sewage drainage pipes are in cast iron and exposed on the walls, these will be replaced with the PVC pipes.

5.4 Compiled Design and Preliminary Cost Estimation

The Consultant has undertaken the development of the concept by looking at all the available information on the prevailing site conditions and client requirements based on discussions/ interactions with Embassy of Spain staff and the project beneficiary. The concept has included the following among others:-

- Building works design (Modifications in the washrooms, and shower at the pool)
- Roofing repairs
- Demolition and Disposal of asbestos in the building
- New ceiling works
- Electrical works
- New water reticulation
- Paint works
- Minor demolitions and repairs works

After the approval of design/ layout in the **Interim Report** by the Client, the Consultant shall prepare final detailed, architectural, electrical and mechanical works designs and drawings.

Based on the design and specifications, the Consultant shall prepare a detailed bills of quantities on the basis of which he will prepare a Final Cost Estimate.

Annexed to this report are;
Annex I: Health Safety and Environment (HSE) Plan
Annex II: Architectural / Conceptual Layouts
Annex III: Mechanical and Electrical Layouts
Annex IV: Preliminary Cost Estimates
Annex V: Work plan

6 PROJECT HEALTH SAFETY AND ENVIRONMENT (HSE) PLAN

6.1 Introduction

This Health Safety and Environment (HSE) Plan (manual), which is a crucial part of this site specific safety plan outlines the steps and care.

The HSE plan is regulated in Kenya by The Occupational Safety and Health Act, 2007 (find attached copy). This plan (policy) will act as a guideline to be strictly observed by the contractor in delivering this project

6.2 Work Health and Safety Policy

6.2.1 Policy Statement

Trine Architects Ltd. recognises and accepts its health and safety duties for providing a safe and healthy working environment (as far as is reasonably practicable) for all its workers and other visitors to its premises under the Occupational Safety and Health Act and other safety guidance material.

The responsibility for managing health and safety ultimately rests with the Senior Management Team. Workers also have important responsibilities for health and safety in the workplace.

The institution's goal is to provide a safe and healthy work environment that is free from workplace injury and illness. This will only be achieved through the participation, co-operation and commitment of everyone in the workplace.

It is the policy of the institution to promote the health and safety of the staff and of all visitors to the institution's premises ("the Premises") and to that intent to:

i. Take all reasonably practicable steps to safeguard the health, safety and welfare of all personnel on the premises;

ii. Provide adequate working conditions with proper facilities to safeguard the health and safety of personnel and to ensure that any work which is undertaken produces no unnecessary risk to health or safety;

iii. Encourage persons on the premises to co-operate with the institution in all safety matter, in the identification of hazards which may exist and in the reporting of any condition which may appear dangerous or unsatisfactory;

iv. Ensure the provision and maintenance of equipment and systems of work that are safe;

v. Maintain safe arrangements for the use, handling, storage and transport of articles and substances;

vi. Provide sufficient information, instruction, training and supervision to enable everyone to avoid hazards and contribute to their own safety and health;

vii. Provide specific information, instruction, training and supervision to personnel who have particular health and safety responsibilities;

viii. Make, as reasonably practicable, safe arrangements for protection against any risk to health and safety of the general public or other persons that may arise for the institution's activities;

ix. Make suitable and sufficient assessment of the risks to the health and safety of employees and of persons not in the employment of the institution arising out of or in connection with the institution's activities; and

x. Make specific assessment of risks in respect of new or expectant mothers and young people under the age of eighteen.

This policy statement and/or the procedures for its implementation may be altered at any time by the institutions Senior Management Team. The statement and the procedures are to be reviewed in the end of each year by the Senior Management Team.

6.2.2 Responsibilities

The Senior Management Team will:

i. Ensure the institution complies with all legislation relating to health and safety;

ii. Eliminate or minimise all workplace hazards and risks as far as is reasonably practicable;

iii. Provide information, instruction and training to enable all workers to work safely;

iv. Supervise workers to ensure work activities are performed safely;

v. Consult with and involve employees on matters relating to health, safety and wellbeing;

vi. Ensure that appropriate safety signs are provided and maintained;

vii. Provide appropriate safety equipment and personal protective equipment; and

viii. Provide a suitable injury management and return to work program.

Every employee shall, while at the workplace:

i. Ensure his own safety and health and that of other persons who may be affected by his acts or omissions at the workplace;

ii. Co-operate with his employer or any other person in the discharge of any duty or requirement imposed on the employer or that other person by this Act or any regulation made hereunder;

iii. At all times wear or use any protective equipment or clothing provided by the employer for the purpose of preventing risks to his safety and health;

iv. Comply with the safety and health procedures, requirements and instructions given by a person having authority over him for his own or any other person's safety;

v. Report to the supervisor, any situation which he has reason to believe would present a hazard and which he cannot correct;

vi. Report to his supervisor any accident or injury that arises in the course of or in connection with his work; and

vii. With regard to any duty or requirement imposed on his employer or any other person by or under any other relevant statutory provision, co-operate with the employer or other person to enable that duty or requirement to be performed or complied with.

6.2.3 Arrangements;

i. Training

All staff and subcontractors will be given a health and safety induction and provided with appropriate training.

The Senior Management Team is responsible for identifying training needs.

The institution's Administrator is responsible for keeping a record of all training.

ii. Carrying out risk assessments

A written risk assessment will be carried out by the Senior Management Team for all work activity, prior to it starting. Hazards will be identified and control measures implemented to eliminate risk, or reduce to an acceptable level and the risk assessments will be provided to operatives.

iii. First aid

Adequate first aid provisions will be available at the institution's front desk. All first aid incidents will be recorded.

iv. Accident reporting

All employees will report accidents to the institution's Administrator. Senior Management Team is responsible for investigating accidents to prevent recurrence and ensure safe work practices are being carried out.

All accidents will be recorded in the accident book which is kept by the Institution's Administrator.

v. Emergency procedures

The Senior Management Team is responsible for carrying out fire risk assessments.

Escape routes will be well signed and kept clear at all times. Evacuation plans will be tested periodically and updated as necessary.

6.3 High risk construction work

6.3.1 High risk construction work

We have identified the following potential threats (high risk construction work), as outlined in the table below. A Safe Work Method Statement (SWMS) will be developed for each of the high risk construction work activities.

Any other additional high risk construction work introduced or identified in this project will have a further SWMS plan.

Table 3-SWMS plan and Potential threats

No	**Hazard As Identified**	**Potential Threat**	**Mitigating Action**	**Responsibility**
1	Uneven surfaces, Obstacles, Trailing cables, Wet or slippery surfaces, Changes in level, Demolitions, Asbestos dismantling	Slips, trips and falls	1. Post warning signs to warn workers/visitors. 2. Ensure clear walkways and no obstacles along the walkways. 3. Ensure all cables are fixed and not lying on the walkways 4. Post Cable signs to warn against inevitable cables. 5. Safety shoes with grip to be used on slippery surface 6. Safety gumboots to be used on wet surface. 7. Post Change in level sign and ensure all site workers and visitors are informed.	All site workers/Visitors /Facility Supervisors and Client
2	Working at height	Height more than 2m, Roof work, Fragile surfaces, Ladders	1. For heights more than 2m from ground level, scaffolds should be used. The scaffolds should be stable; inspected weekly and sound toe boards and planking to be used; 2. Helmets with chin straps should be used by all staff working at height. 3. Safety harnesses should be used for all staff working at height, the harnesses should withstand twice the weight of the heaviest worker. 4. If the height is above 5m, safety nets should be used just in case a worker fall, then they would fall on the net. 5. Plan safe access, and prevent falls from edges and openings by having handrails on all side of the roof. 6. Fragile surfaces should only be accessed with a structurally stable harness hooked a height above the fragile surface and safety nets should be used. Fragile surfaces should be avoided as much as possible. 7. All ladders must be properly hooked at the top and supported at the bottom	All site workers/ Visitors/ Facility Supervisors and Client

3	Hot works	Fire / Injury during welding or grinding	1. Safety Standby worker to be alert during hot works- this work must be trained on how to extinguish fire. 2. A responsible person must be appointed to manage key issues in general site fire safety which include risk assessment, means of escape, means of giving warning, and means of fighting fire. 3. Avoiding process fire hazards involves storing combustible materials safely away from sources of ignition. 4. No Hot work should be done without a hot work permit. 5. Fire fighting equipments like fire extinguishers, sand and water should be available on site. 6. All staff doing hot works must have welding gloves, Gas masks, welding /grinding/cutting shields, cotton overalls and leather safety shoes. 7. No works on live electric should be allowed without a permit and a risk assessment	Contractor
4	Dry excavation/ concreting	Dust	1. Ensure all dusty areas are watered to soak dust. 2. All workers working in a dusty area must wear dust masks. 3. All workers involved in concreting must wear dust masks in addition to the minimum PPE- Helmets, safety shoes and overalls	All site workers/ Visitors/ Facility Supervisors and Client
5	Trenching/ Excavation	Fall into excavated trenches	1. Ensure all underground services are identified before any excavation start to avoid puncturing electricity cables, sewer and water lines using the layout drawing or cable detection tool 2. Hoard off trenched area and post warning signs to ensure no entry to unauthorized people. 3. Shoring must be done for unstable excavated area to prevent collapse.	Contractor
6	Powered Plant equipments	Injury to people, collision	1. planning – including site preparation and equipment delivery 2. selection, provision and use of a suitable work equipment 3. Ensure maintenance and examination of the equipment; 4. provision of properly trained and competent personnel; 5. supervision of operations by personnel having the necessary authority; 6. thorough examinations, reports and other documents; 7. preventing unauthorized movement or use of the equipment; 8. Ensure measures are in place to secure safety of persons not involved with the equipment. 9. Ensure all staffs are protected from noise and vibration if any from the powered plant.	Contractor

7	Security / Sabotage	physical injury	1. Ensure proper security arrangements including vetting of all staff accessing the site. 2. Ensure 24 hr. surveillance inside and outside the site. 3. Maintain good relationship with security agency near the worksite. 4. In case of riots do not alter counter slogan statements. 5. Ensure no one access the site under the influence of drugs and alcohol.	Contractor
8	Structural Integrity and Stability	Collapse of the Building	1. Ensure continuous supervision of the construction to ensure the right material specifications are used. 2. Carry out quality control tests. 3. Ensure enough time is allowed for curing of the concrete. 4. Do not over- load the structure once its completed	Contractor
9	Waste Material	Pollution of the environment	1. Ensure all waste is disposed by an authorized waste handler in an authorized damping site	Contractor
10.	COVID-19 Construction-Standards and Welfare of Workers.	Guidelines from the Ministry of Health.	1. Ensure there is clean running water and soap at the gate for hand washing. 2. Ensure there's someone at the gate to control entry to the site. 3. Ensure 1.5 – 2m social distance at the site. 4. Ensure each and every person at the site has a face mask on. 5. Ensure there is non-touch infra-red thermometer at the gate for measuring body temperature of anyone entering the site.	Every one entering the site.

Trine Architects Ltd. Will guide the contractor in reviewing the SWMS where:

i. There is need to change the method of carrying out the high risk construction work

ii. A risk has been identified that is not included and managed within SWMS,

iii. Certificate of quality materials and parts are required

The project is not a high risk and therefore will not require a high risk licence from the contractor.

6.3.2 Asbestos

Where asbestos applies in demolition or fitting works, we shall ensure;

i. The main contractor and workers understand safe procedures for asbestos and follow the correct removal procedure;

ii. All workers are trained and use the appropriate personal protective equipments;

iii. Only trained asbestos removalists are used to remove asbestos where the quantity to be removed exceeds the $10m^2$ limit or as guided by the Second Schedule of OSHA act 2007;

iv. The correct signage and controls are in place before any removal of asbestos commences;

v. The asbestos is wrapped and disposed off correctly.

6.4 Emergency and Incidence Response

We shall ensure that the main contractor and workers understand Emergency and Incidence Response. The contractor will demonstrate the following plan;

i. Emergency preparedness procedure;
ii. Emergency procedure;
iii. Fire procedure;
iv. Fire drills;
v. Emergency meeting point;
vi. Incident procedure;
vii. Notifiable incidents;
viii. First Aid;
ix. Accident investigation

APPENDICES

Appendix 1 **Health Safety and Environment (HSE) Plan**

Appendix 2 **Architectural Conceptual Layouts**

Appendix 3 **Mechanical and Electrical Layouts**

Appendix 4 **Work Plan**

Appendix 5 **Bills of Quantities**

Appendix 6 **EIA Report for removal and disposal of Asbestos**

Residence of the Embassy of Spain-*Nairobi; Drafting, Design, and Site Management of the Renovation Works.*

Design Development Report

Embajada de España

Presented to:

María Teresa Casares de la Fuente

emb.nairobi@maec.es/mteresa.casares@maec.es

CBA Building, 3rd Floor,

Mara and Ragati Roads, Upper Hill, Nairobi-Kenya**.**

@Sept.2021

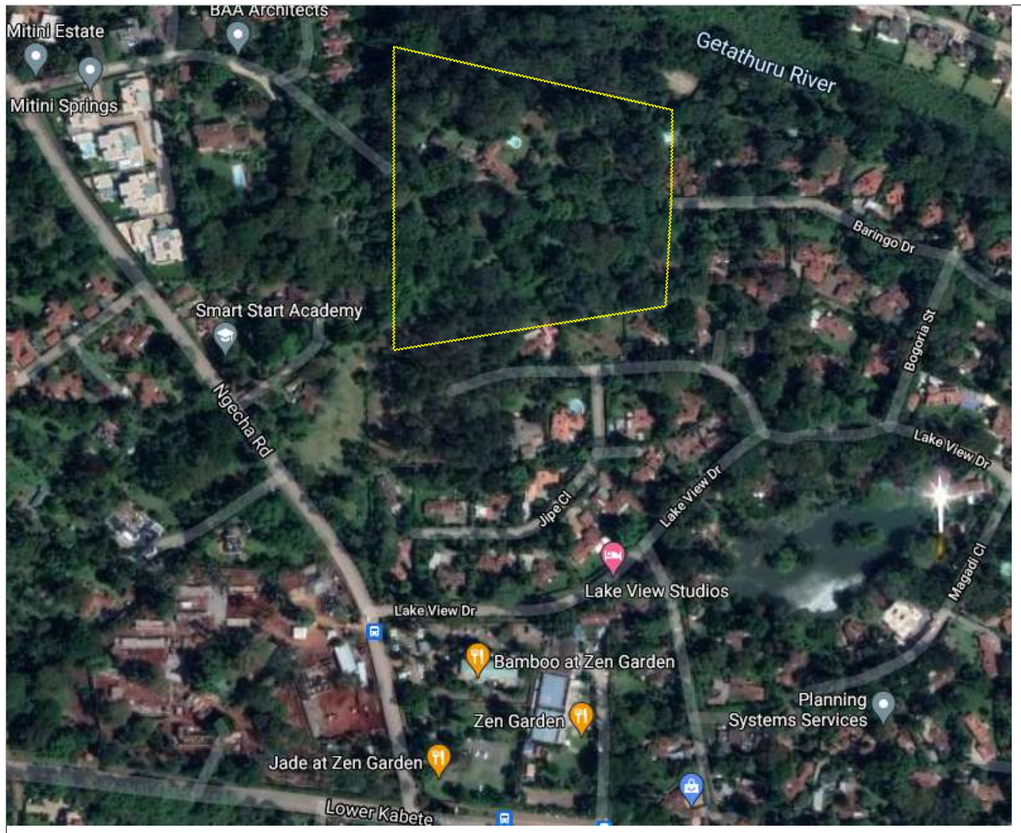
Trine ARCHITECTS

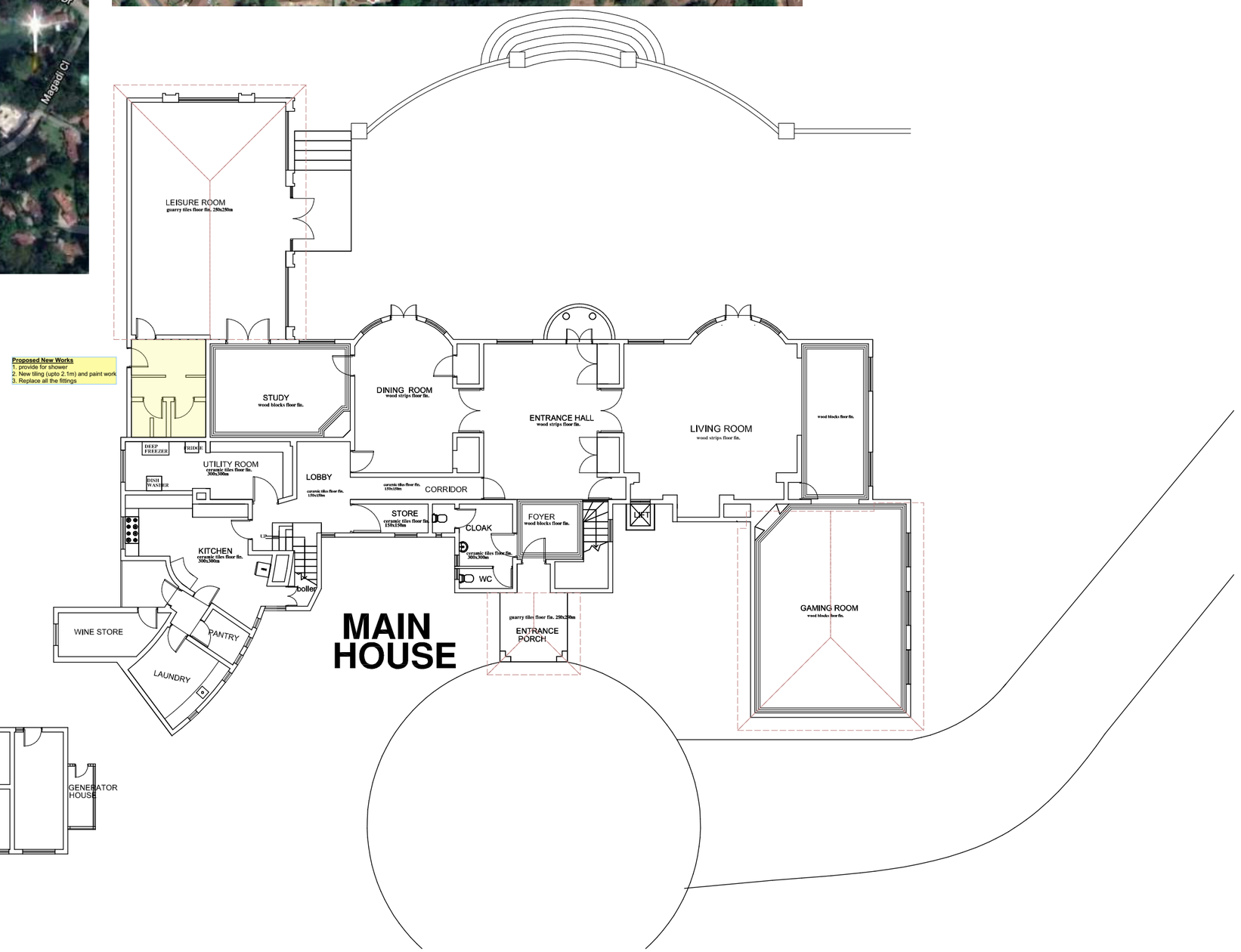
Presentation Structure

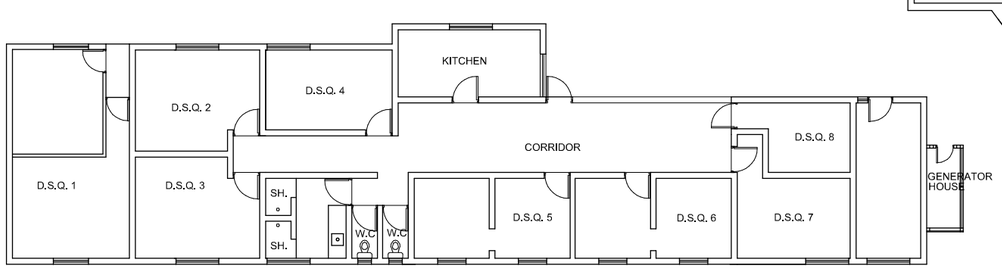
- Design Development Report

- **Appendices**
- Appendix 1 Health Safety and Environment (HSE) Plan
- Appendix 2 Architectural Conceptual Layouts
- Appendix 3 Mechanical and Electrical Layouts
- Appendix 4 Work Plan
- Appendix 5 Bills of Quantities
- Appendix 6 EIA Report for removal and disposal of Asbestos

Appendix 2 Architectural Layouts







DOMESTIC STAFF QUARTERS

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P.O. BOX 643-00100,
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DESIGNED	N.O.O.	SIGNED
DRAWN		G.O. WASONGA
DESIGN CHECK	O.G.W.	A1479
DRAWING CHECK		347A
APPROVED		

No.	NOTES
	ALL DIMENSIONS MUST BE CHECKED ON SITE BY THE CONTRACTOR BEFORE WORK COMMENCES.
	ALL R.C. COLUMNS, SLABS, FOUNDATIONS AND ROOF STRUCTURES TO S.E DETAILS.
	FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALING OF DRAWING.
	THIS DRAWING MUST BE READ IN CONJUCTION WITH DRAWINGS CODED THEREIN.

No.	
	COPYRIGHT OF THIS DRAWING AND OF THE WORK EXCUTED FROM IT IS THE PROPERTY OF THE DESIGNER.
	ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED.
	ALL WORK TO BE CARRIED IN ACCORDANCE WITH N.C.C REGULATIONS
	ALL WALLS BELOW 200mm TO BE REINFORCED WITH HOOP IRON AT EVERY ALTERNATIVE COURSE
	PROVIDE D.P.C UNDER ALL THE WALLS

No.	MECHANICAL
	All plumbing and drainage work to cmply with P.H. specifications.
	S.V.P denotes soil vent pipe to be provided to be provided at the end of drainage
	Drains passing beneath buildings and driveways to be encased in 150mm concrete surround.
	All underground foul & waste drain pipes shall be of P.V.C., to comply with BS5255.
	All inspection chambers covers and framing shall be cast iron to comply with BS497.
	All flues and vent pipes to be 1000mm above eaves.
	Minimum slopes in the drain pipes to be 1%
	Storm water drainage pipes to comply with BS 556.

No.	DATE	Description
	Thursday, September 09, 2021	

OTHER CONSULTANTS
M/S Avatech Consult Ltd,
M/S Columbine Associates,
M/S Vincent Makonjio

SCALE
UNLESS OTHERWISE SHOWN
1:200, 1:79.97, 1:300

Job:
TECHNICAL ASSISTANCE FOR DRAFTING, DESIGN, AND SITE MANAGEMENT OF THE RENOVATION WORKS AT THE RESIDENCE OF THE EMBASSY OF SPAIN IN NAIROBI, KENYA.
for Embassy of Spain-Kenya,
CBA Building, 3rd Floor, Mara and Ragati Roads, Upper Hill, Nairobi-Kenya.
Sign.....Embajada de España

JOB. NO. 2011-1
DATE: Thursday, September 09, 2021

Drawing Title:
WORKING DRAWINGS
- SITE PLAN-EXISTING

DRG. NO. A-00-01
REV.

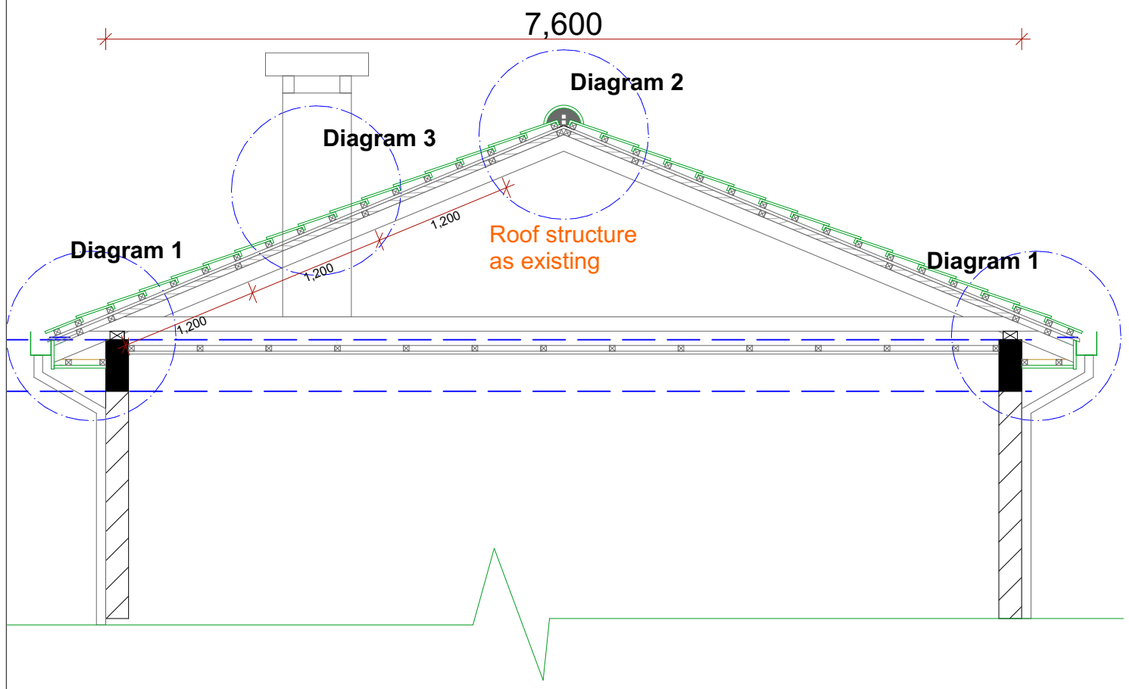


Diagram 1

ROOF:
Oriental tiles roofing , sheets at existing deg on 25x50mm wood battens at 300c/c, purlins at 1,200 c/c

G.I iron sheets mini corrugated on 50x50 purlins as under layer.

4mm aluminium foil thermal Insulation sheet

150 x 300 existing boxed gutter repaired, galvanised, painted to approved sample

ex. 300x38 s.w. fascia stained to approval

Fulbora rainwater outlet

200*400mm Breathers installed at 4m interval with wire mesh and 1*2.5" timber frame to prevent xylophagous agents ,

Roof eave completely sealed and breathers installed with wire mesh to prevent xylophagous agents

Existing Rain water down pipes repaired, galvanised, painted to approved sample

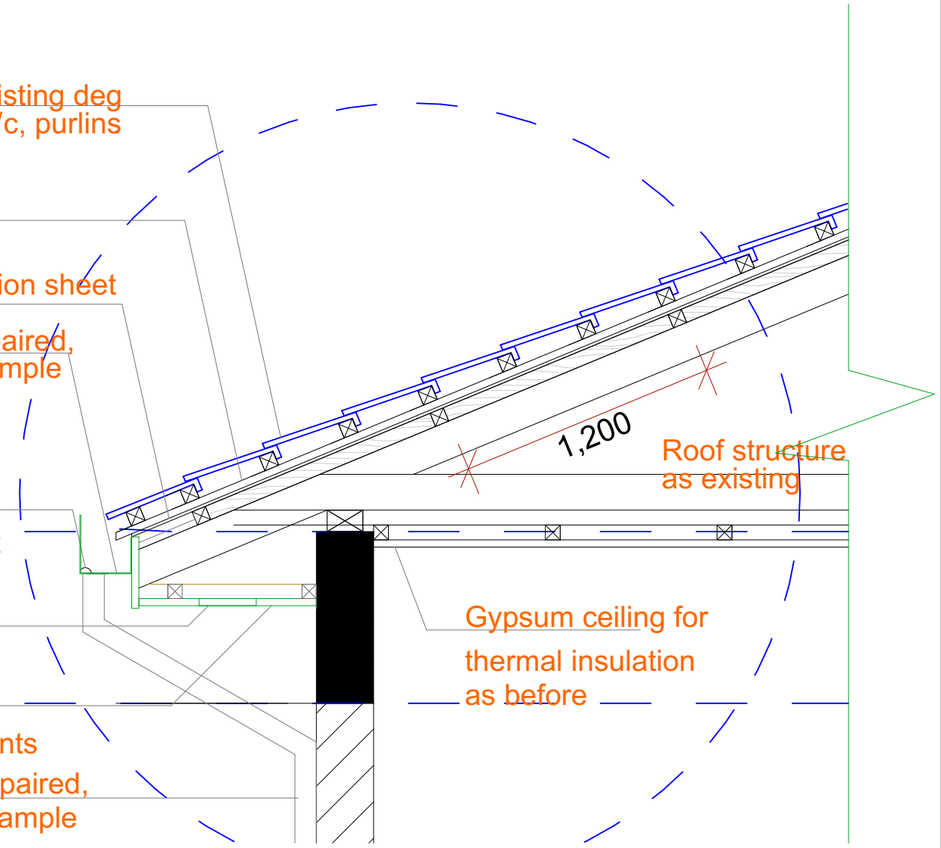


Diagram 2

Half round ridge clay tiles

Cement based ridge sealer

S/S batten fixing Strap fixed on both sides of timber rafter

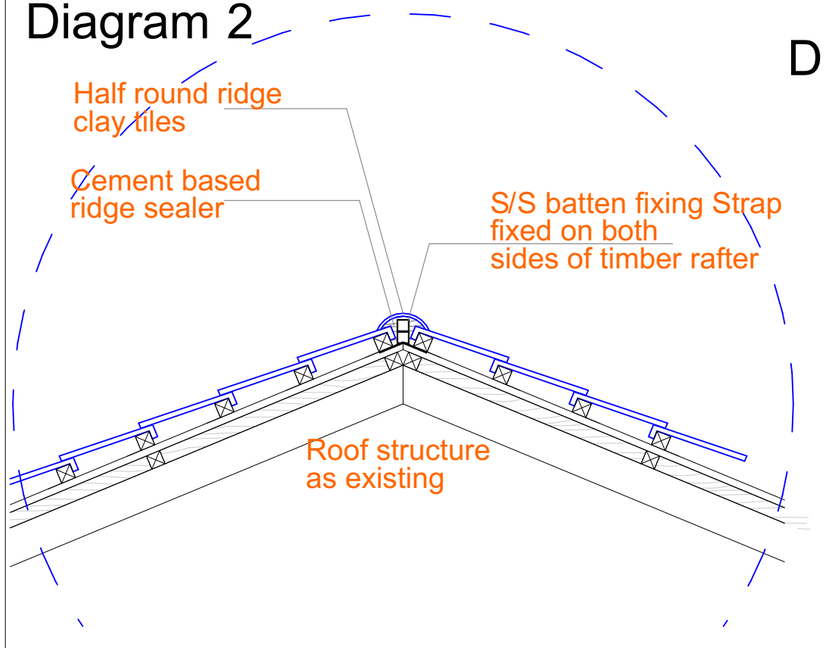
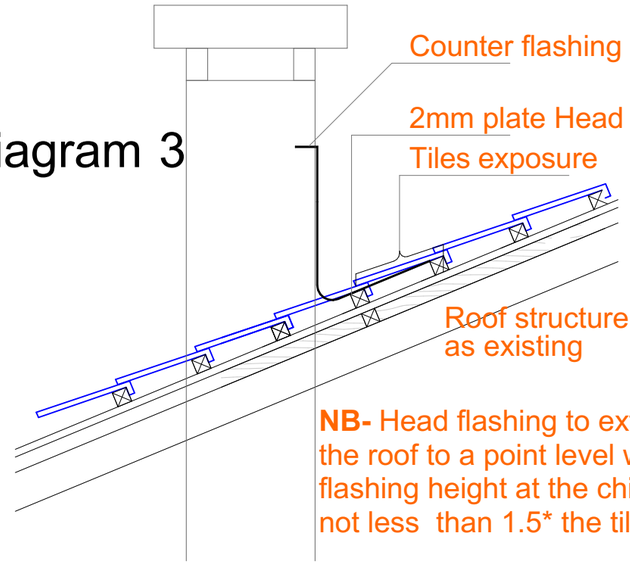


Diagram 3



Counter flashing

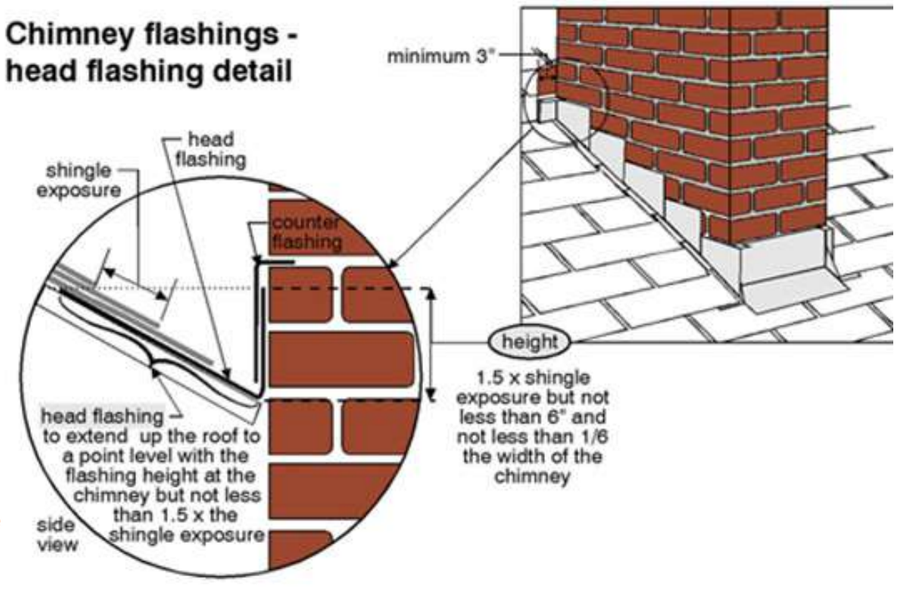
2mm plate Head flashing

Tiles exposure

Roof structure as existing

NB- Head flashing to extend upto the roof to a point level with the flashing height at the chimney but not less than 1.5* the tiles exposure

Chimney flashings - head flashing detail



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REVISION

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	Thursday, September 09, 2021	

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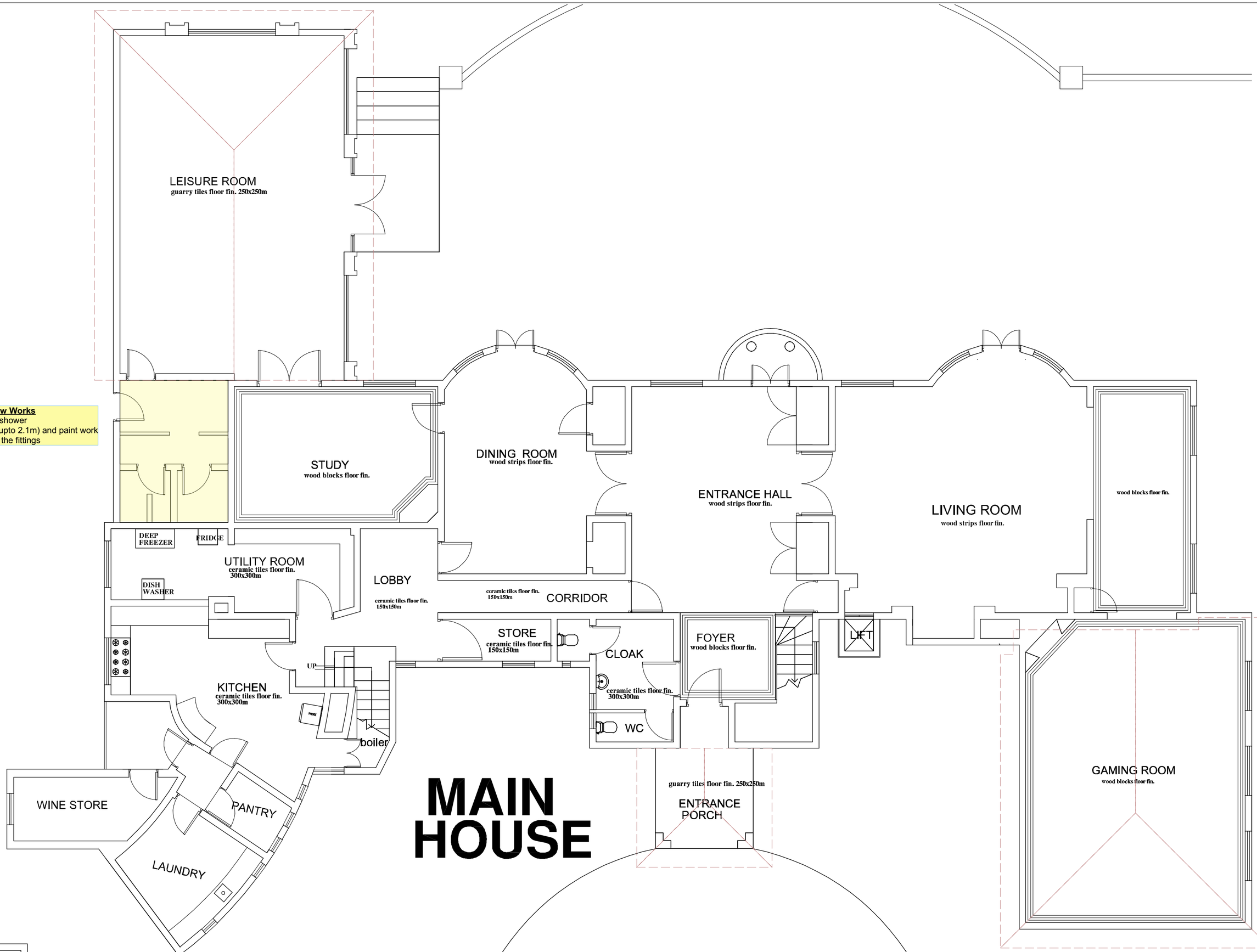
Sign.....Embajada de España

JOB. NO. 2011-1
DATE: Thursday, September 09, 2021

Drawing Title:
WORKING DRAWINGS
- ROOF DETAILS-NEW WORKS

DRG. NO. A-01-9
REV.



Proposed New Works
1. provide for shower
2. New tiling (upto 2.1m) and paint work
3. Replace all the fittings

TRINE ARCHITECTS
Utumishi Co-Op House,
Mamlaka Road-Mezz Floor,
P.O. BOX 643-00100,
Email: trinelimited@gmail.com/
info@trinearchitects.com
Cell Phone; +254 723788248
NAIROBI-KENYA

DESIGNED	N.O.O.	SIGNED
DRAWN		G.O. WASONGA
DESIGN CHECK	O.G.W.	A1479
DRAWING CHECK		347A
APPROVED		

No.	NOTES
	ALL DIMENSIONS MUST BE CHECKED ON SITE BY THE CONTRACTOR BEFORE WORK COMMENCES.
	ALL R.C. COLUMNS, SLABS, FOUNDATIONS AND ROOF STRUCTURES TO S.E DETAILS.
	FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALING OF DRAWING.
	THIS DRAWING MUST BE READ IN CONJUCTION WITH DRAWINGS COVED THEREIN.

No.	MECHANICAL
	All plumbing and drainage work to cmply with P.H. specifications.
	S.V.P denotes soil vent pipe to be provided to be provided at the end of drainage
	Drains passing beneath buildings and driveways to be encased in 150mm concrete surround.
	All underground foul & waste drain pipes shall be of P.V.C., to comply with BS5255.
	All inspection chambers covers and framing shall be cast iron to comply with BS497.
	All flues and vent pipes to be 1000mm above eaves.
	Minimum slopes in the drain pipes to be 1%
	Storm water drainage pipes to comply with BS 556.

REVISION		
No.	DATE	Description
	Thursday, September 09, 2021	

OTHER CONSULTANTS
M/S Avatech Consult Ltd,
M/S Columbine Associates,
M/S Vincent Makonjio

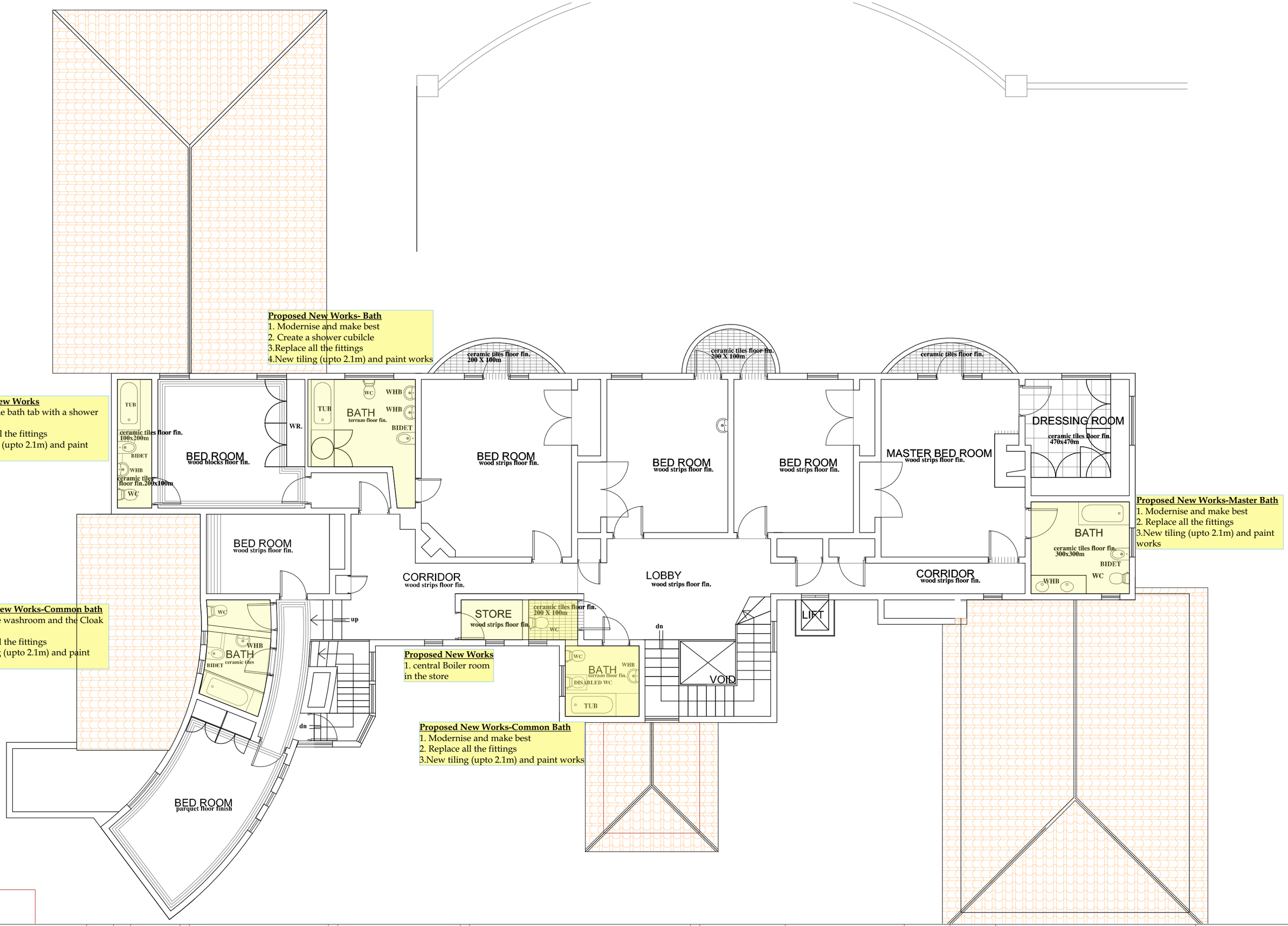
SCALE
UNLESS OTHERWISE SHOWN
1:100

Job:
TECHNICAL ASSISTANCE FOR DRAFTING, DESIGN, AND SITE MANAGEMENT OF THE RENOVATION WORKS AT THE RESIDENCE OF THE EMBASSY OF SPAIN IN NAIROBI, KENYA.
for Embassy of Spain-Kenya,
CBA Building, 3rd Floor, Mara and Ragati
Roads, Upper Hill, Nairobi-Kenya.
Sign.....Embajada de España

JOB. NO. 2011-1
DATE: Thursday, September 09, 2021

Drawing Title:
WORKING DRAWINGS
- GROUND FLOOR-EXISTING

DRG. NO. A-01-1
REV.



TRINE ARCHITECTS Utumishi Co-Op House, Mamlaka Road-Mezz Floor, P.O. BOX 643-00100, Email: trinelimited@gmail.com/ info@trinearchitects.com Cell Phone: +254 723788248 NAIROBI-KENYA	DESIGNED	N.O.O.	SIGNED
	DRAWN		G.O. WASONGA
	DESIGN CHECK	O.G.W.	A1479
	DRAWING CHECK		347A
	APPROVED		

No. NOTES

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No.

ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED.

ALL WORK TO BE CARRIED IN ACCORDANCE WITH N.C.C REGULATIONS

ALL WALLS BELOW 200mm TO BE REINFORCED WITH HOOP IRON AT EVERY ALTERNATIVE COURSE

PROVIDE D.P.C UNDER ALL THE WALLS

No.

MECHANICAL

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Minimum slopes in the drain pipes to be 1½
Storm water drainage pipes to comply with BS 556.

REVISION

No.	DATE	Description
	Thursday, September 09, 2021	

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M/S Vincent Makonjio

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Sign.....Embajada de España

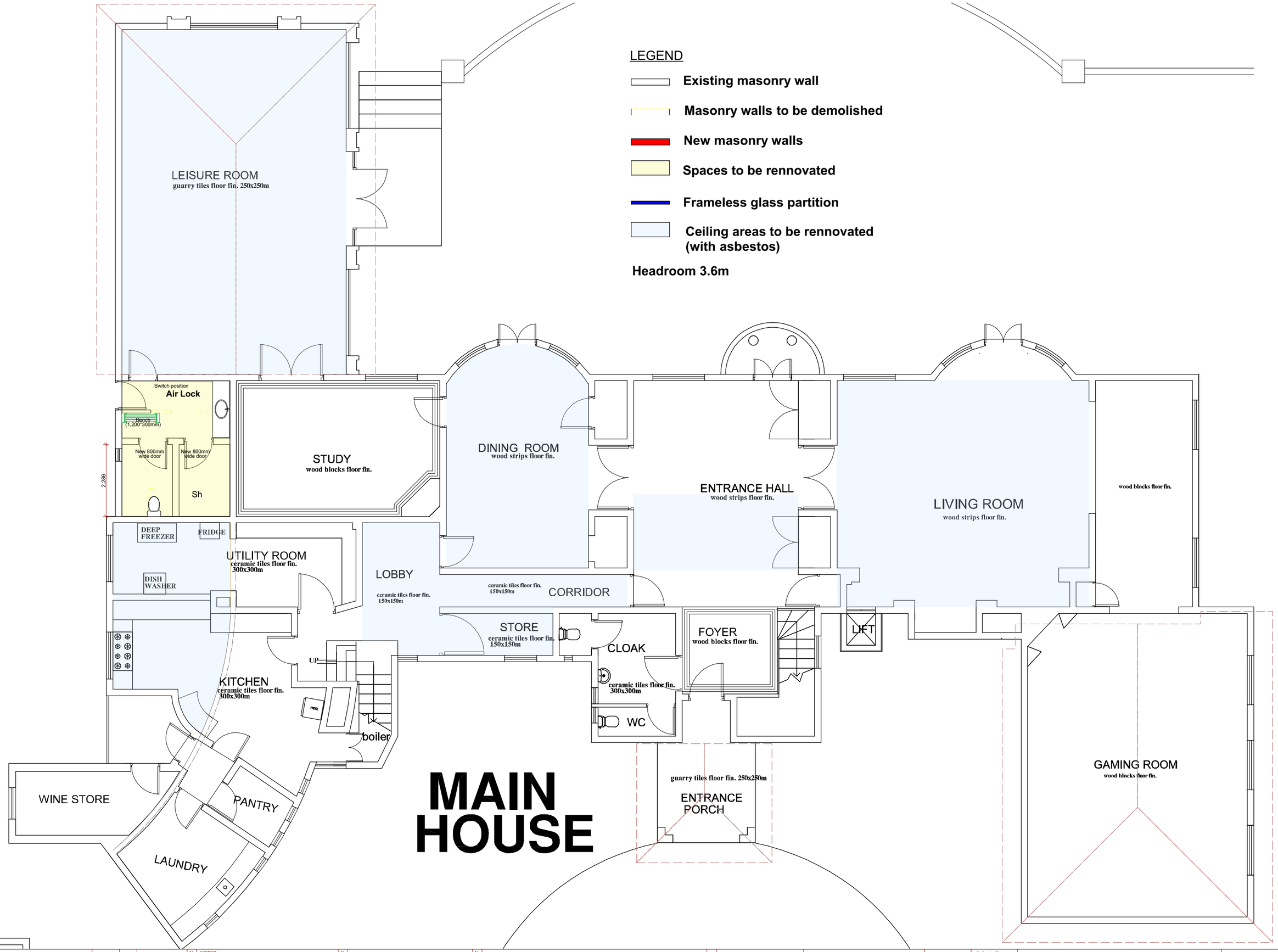
JOB. NO. 2011-1

DATE: Thursday, September 09, 2021

Drawing Title:
WORKING DRAWINGS
- UPPER FLOOR-EXISTING

DRG. NO. A-01-2

REV.



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DESIGNED	N.O.O.	SIGNED
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DESIGN CHECK	O.G.W.	A1479
DRAWING CHECK		347A
APPROVED		

No. NOTES

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Storm water drainage pipes to comply with BS 556.

REVISION

No.	DATE	Description
	Thursday, September 09, 2021	

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for Embassy of Spain-Kenya,
CBA Building, 3rd Floor, Mara and Ragati
Roads, Upper Hill, Nairobi-Kenya. Sign.....Embajada de España

JOB. NO. 2011-1

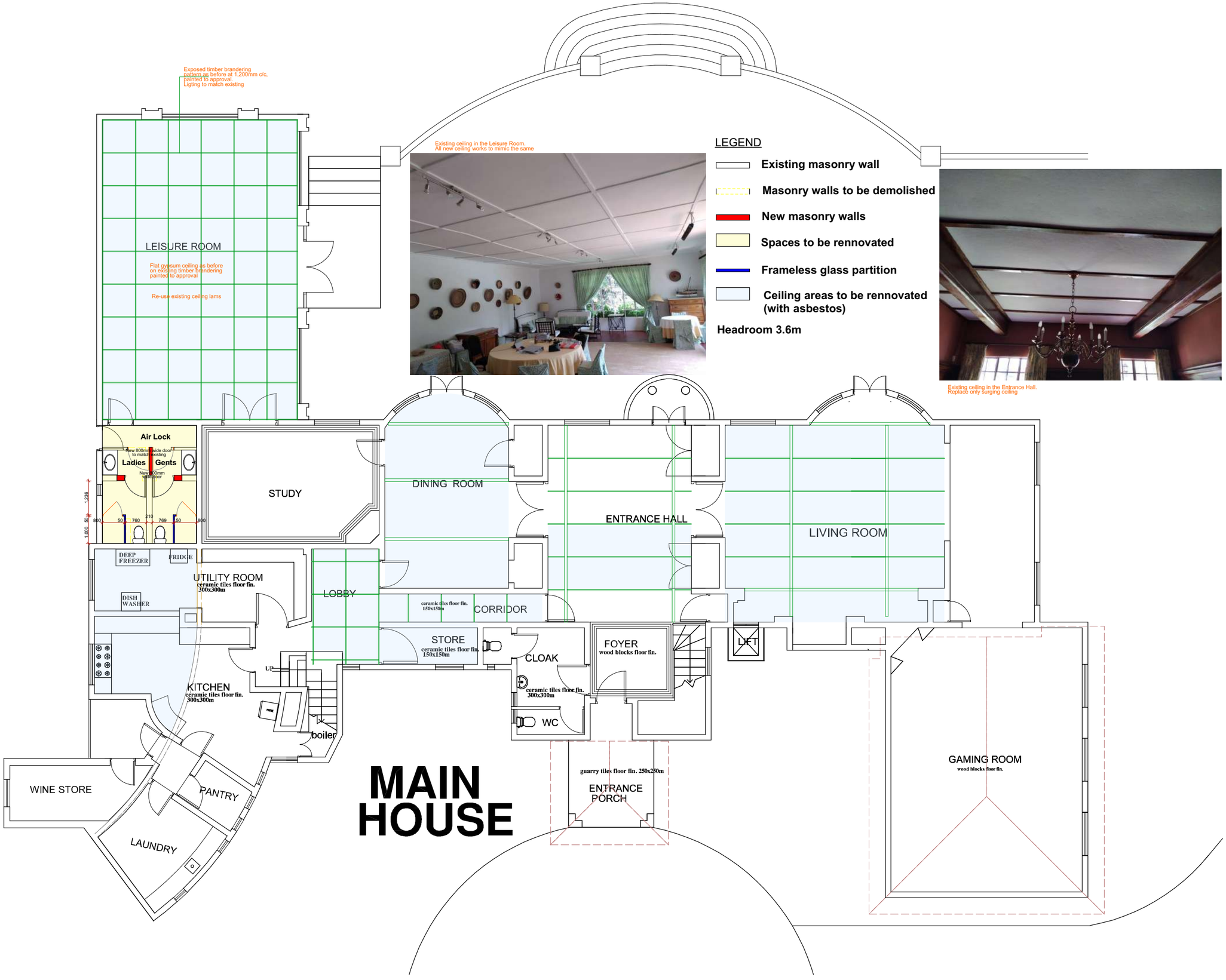
DATE: Thursday, September 09, 2021

Drawing Title:
WORKING DRAWINGS

- GROUND FLOOR-NEW WORKS

DRG. NO. A-01-3

REV.



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NAIROBI-KENYA

DESIGNED	N.O.O.	SIGNED
DRAWN		G.O. WASONGA
DESIGN CHECK	O.G.W.	A1479
DRAWING CHECK		347A
APPROVED		

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No.	
	COPYRIGHT OF THIS DRAWING AND OF THE WORK EXCUTED FROM IT IS THE PROPERTY OF THE DESIGNER.
	ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED.
	ALL WORK TO BE CARRIED IN ACCORDANCE WITH N.C.C REGULATIONS
	ALL WALLS BELOW 200mm TO BE REINFORCED WITH HOOP IRON AT EVERY ALTERNATIVE COURSE
	PROVIDE D.P.C UNDER ALL THE WALLS

No.	MECHANICAL
	All plumbing and drainage work to cmply with P.H. specifications.
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REVISION

No.	DATE	Description
	Thursday, September 09, 2021	

OTHER CONSULTANTS

M/S Avatech Consult Ltd,
M/S Columbine Associates,
M/S Vincent Makonjio

SCALE
UNLESS OTHERWISE SHOWN
1:125

Job:
TECHNICAL ASSISTANCE FOR DRAFTING, DESIGN, AND SITE MANAGEMENT OF THE RENOVATION WORKS AT THE RESIDENCE OF THE EMBASSY OF SPAIN IN NAIROBI, KENYA.

for Embassy of Spain-Kenya,
CBA Building, 3rd Floor, Mara and Ragati Roads, Upper Hill, Nairobi-Kenya. Sign.....

JOB. NO. 2011-1

DATE: Thursday, September 09, 2021

Drawing Title:
WORKING DRAWINGS

- GROUND FLOOR REFLECTED CEILING PLAN

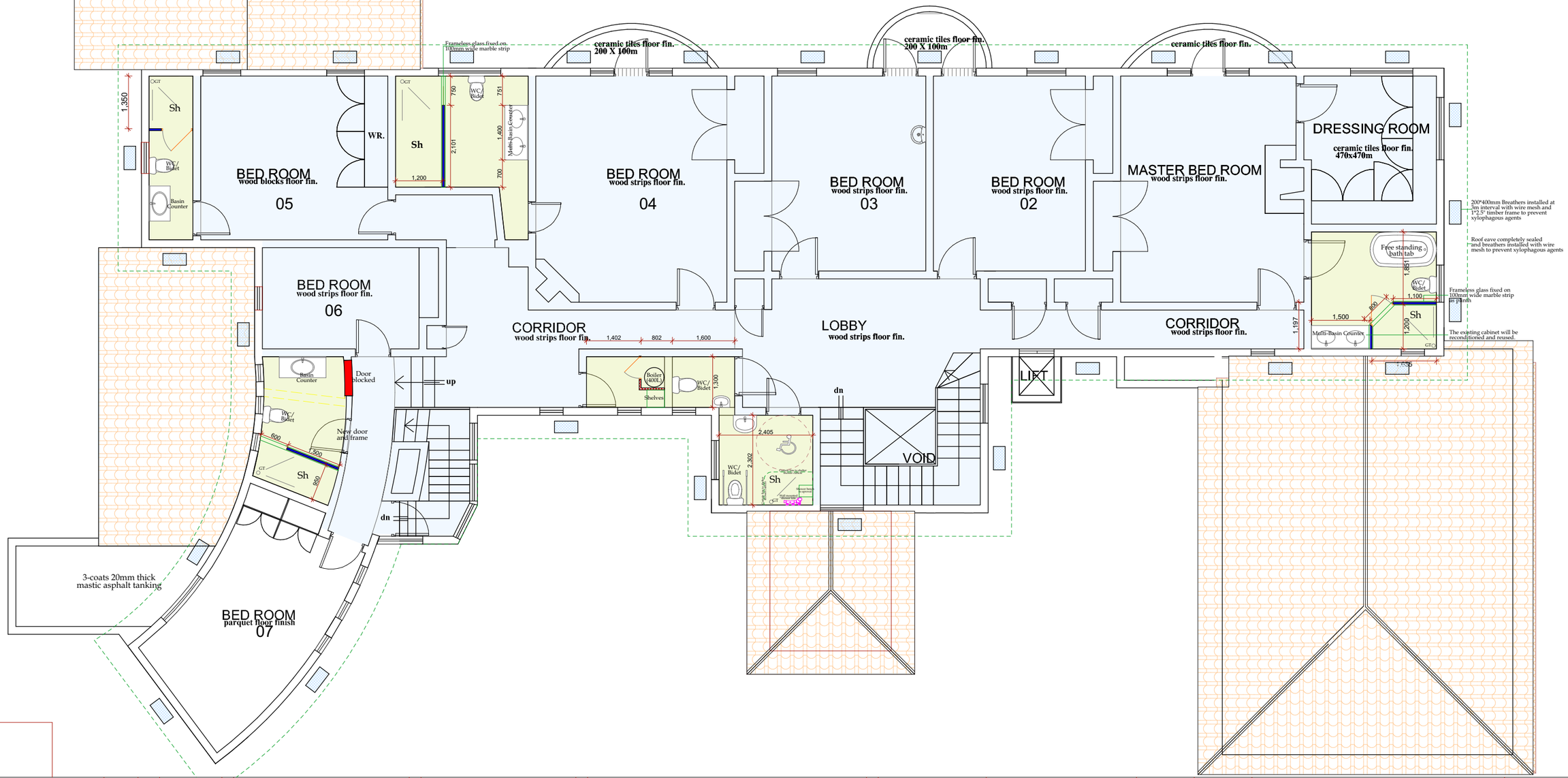
DRG. NO. A-01-4

REV.

LEGEND

- Existing masonry wall
- Masonry walls to be demolished
- New masonry walls
- Spaces to be rennovated
- Frameless glass partition
- Ceiling areas to be rennovated (with asbestos)

Headroom 3.6m



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NAIROBI-KENYA

DESIGNED	N.O.O.	SIGNED
DRAWN		G.O. WASONGA
DESIGN CHECK	O.G.W.	A1479
DRAWING CHECK		347A
APPROVED		

NOTES

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PROVIDE D.P.C UNDER ALL THE WALLS

MECHANICAL

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All flues and vent pipes to be 1000mm above eaves.
Minimum slopes in the drain pipes to be 1%
Storm water drainage pipes to comply with BS 556.

No.	REVISION DATE	Description
	Thursday, September 09, 2021	

OTHER CONSULTANTS
M/S Avatech Consult Ltd,
M/S Columbine Associates,
M/S Vincent Makonjio

SCALE
UNLESS OTHERWISE SHOWN
1:100

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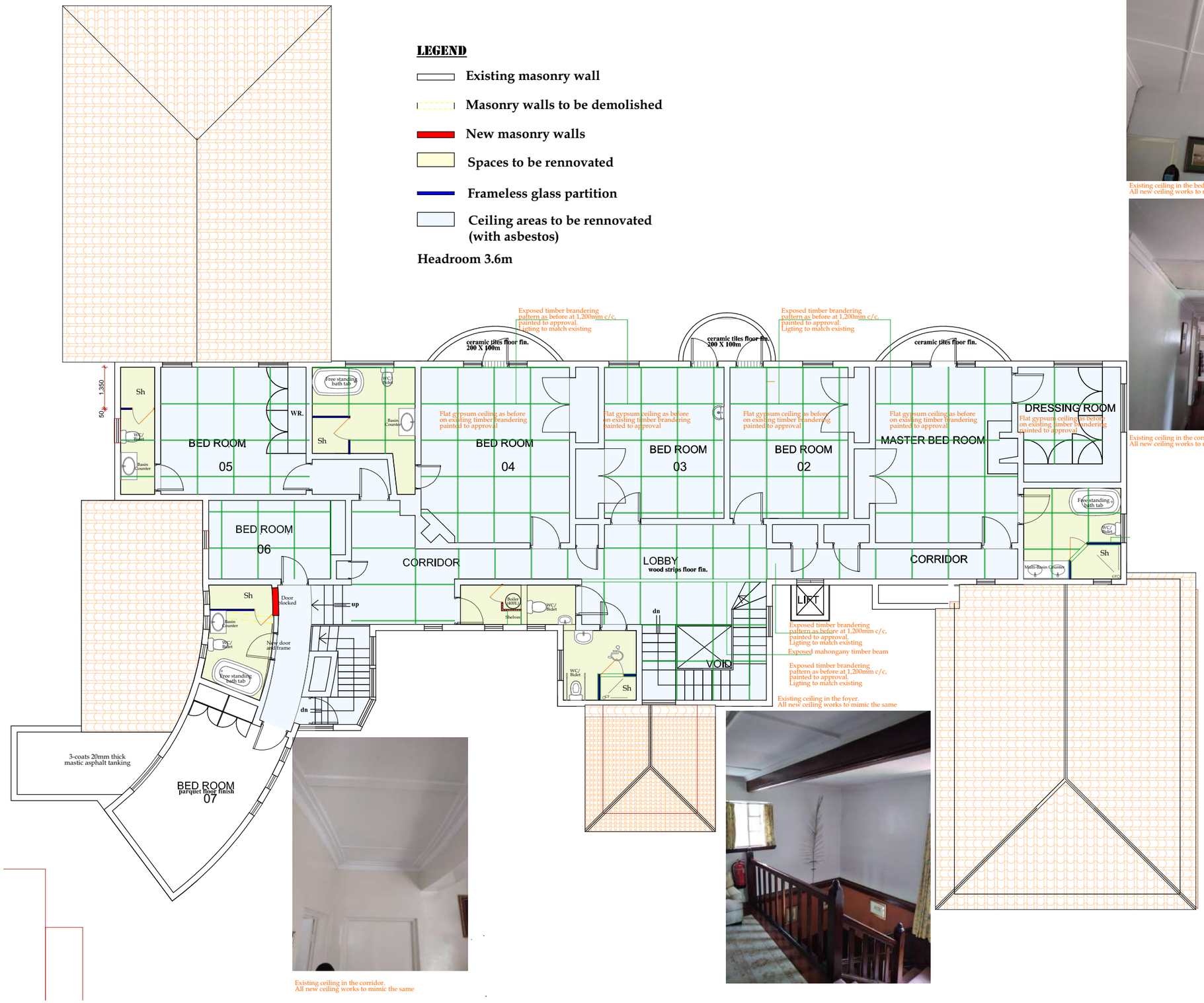
TECHNICAL ASSISTANCE FOR DRAFTING, DESIGN, AND SITE MANAGEMENT OF THE RENOVATION WORKS AT THE RESIDENCE OF THE EMBASSY OF SPAIN IN NAIROBI, KENYA.
for Embassy of Spain-Kenya,
CBA Building, 3rd Floor, Mara and Ragati Roads, Upper Hill, Nairobi-Kenya.
Sign.....

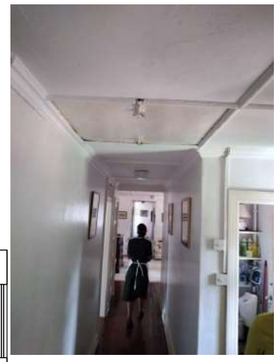
JOB. NO. 2011-1
DATE: Thursday, September 09, 2021

Drawing Title:
WORKING DRAWINGS
- UPPER FLOOR--NEW WORKS

DRG. NO. A-01-5
REV.



Existing ceiling in the bedrooms.
All new ceiling works to mimic the same



Existing ceiling in the corridor.
All new ceiling works to mimic the same

Existing ceiling in the corridor.
All new ceiling works to mimic the same

Existing ceiling in the foyer.
All new ceiling works to mimic the same

TRINE ARCHITECTS
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P.O. BOX 643-00100,
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Cell Phone; +254 723788248
NAIROBI-KENYA

DESIGNED	N.O.O.	SIGNED
DRAWN		G.O. WASONGA
DESIGN CHECK	O.G.W.	A1479
DRAWING CHECK		347A
APPROVED		

NOTES

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PROVIDE D.P.C UNDER ALL THE WALLS

MECHANICAL

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Storm water drainage pipes to comply with BS 556.

REVISION

No.	DATE	Description
	Thursday, September 09, 2021	

OTHER CONSULTANTS

M/S Avatech Consult Ltd,
M/S Columbine Associates,
M/S Vincent Makonjio

SCALE
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1:125

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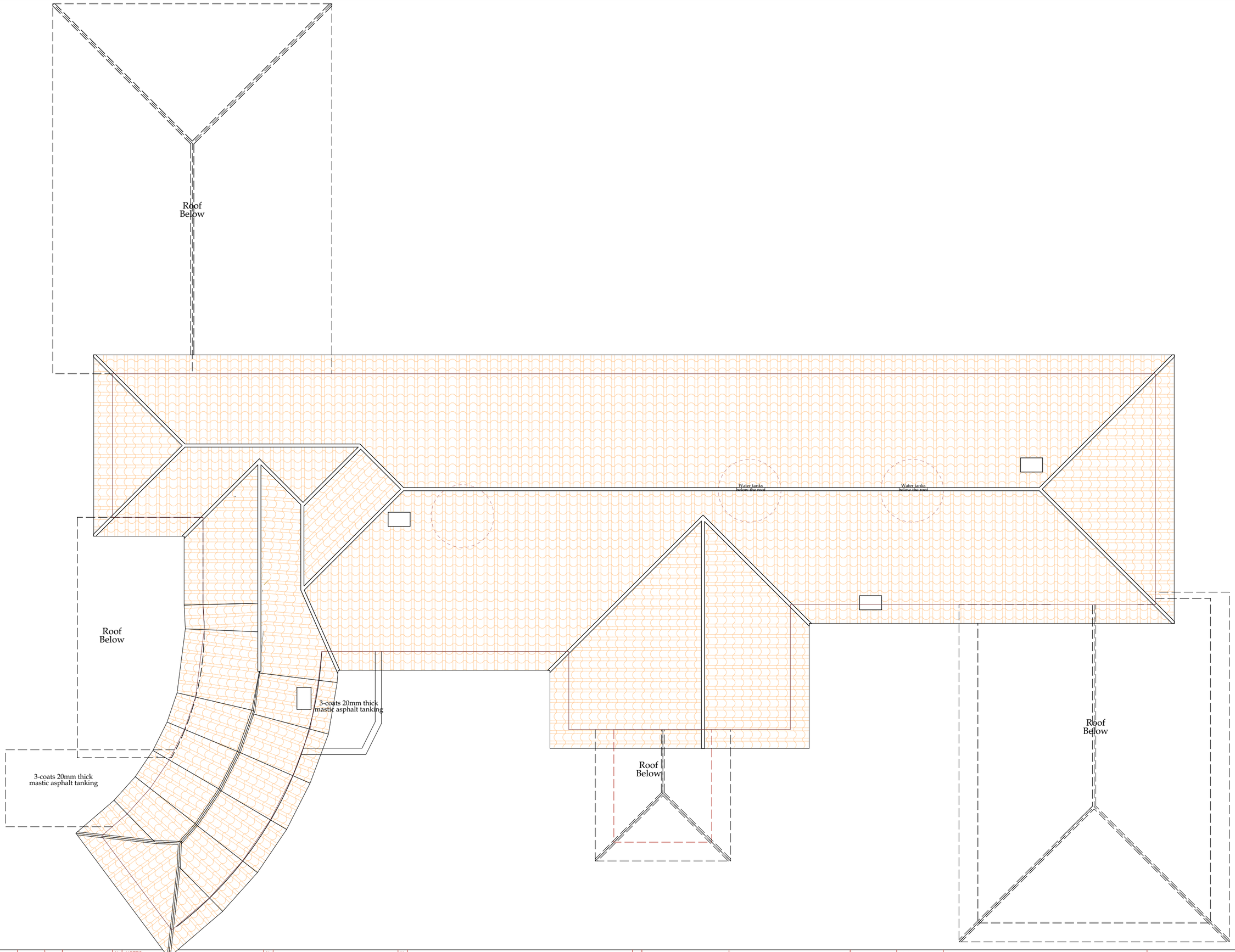
JOB. NO. 2011-1

DATE: Thursday, September 09, 2021

Drawing Title:
WORKING DRAWINGS
- UPPER FLOOR REFLECTED CEILING PLAN

DRG. NO. A-01-6

REV.



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DRAWING CHECK		347A
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JOB. NO. 2011-1

DATE: Thursday, September 09, 2021

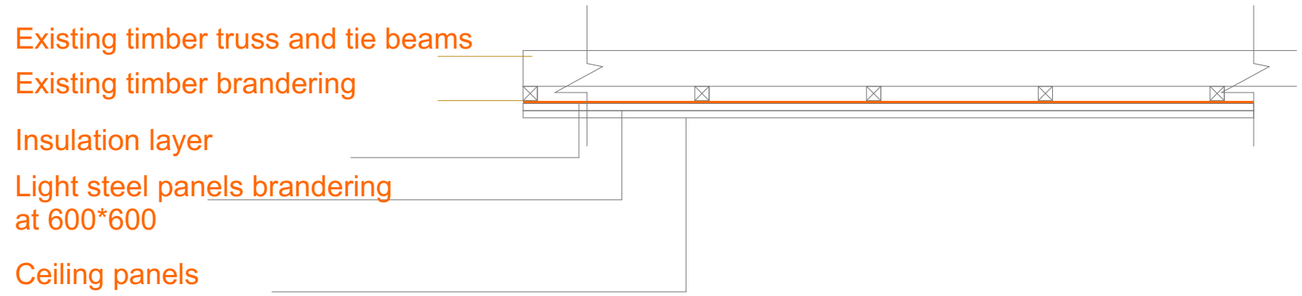
Drawing Title:
WORKING DRAWINGS

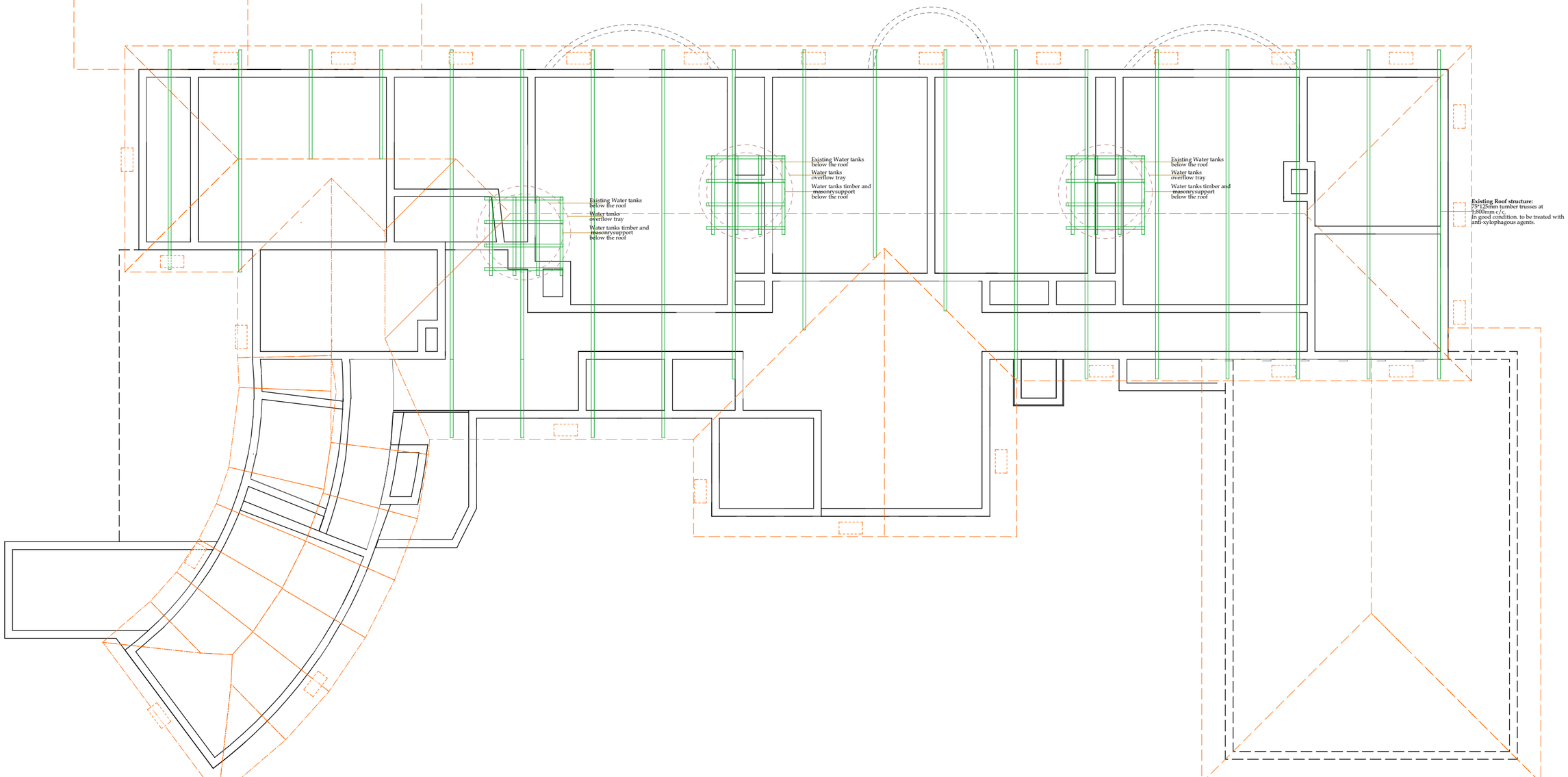
- ROOF PLAN-NEW WORKS

DRG. NO. A-01-7

REV.

Ceiling Installation detail





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NAIROBI-KENYA

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DRAWN		G.O. WASONGA
DESIGN CHECK	O.G.W.	A1479
DRAWING CHECK		347A
APPROVED		

No. NOTES

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No.	DATE	Description
	Thursday, September 09, 2021	

OTHER CONSULTANTS

M/S Avatech Consult Ltd,
M/S Columbine Associates,
M/S Vincent Makonjio

SCALE
UNLESS OTHERWISE SHOWN
1:100, 1:20

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CBA Building, 3rd Floor, Mara and Ragati Roads, Upper Hill, Nairobi-Kenya.

Sign.....Embajada de España

JOB. NO. 2011-1

DATE: Thursday, September 09, 2021

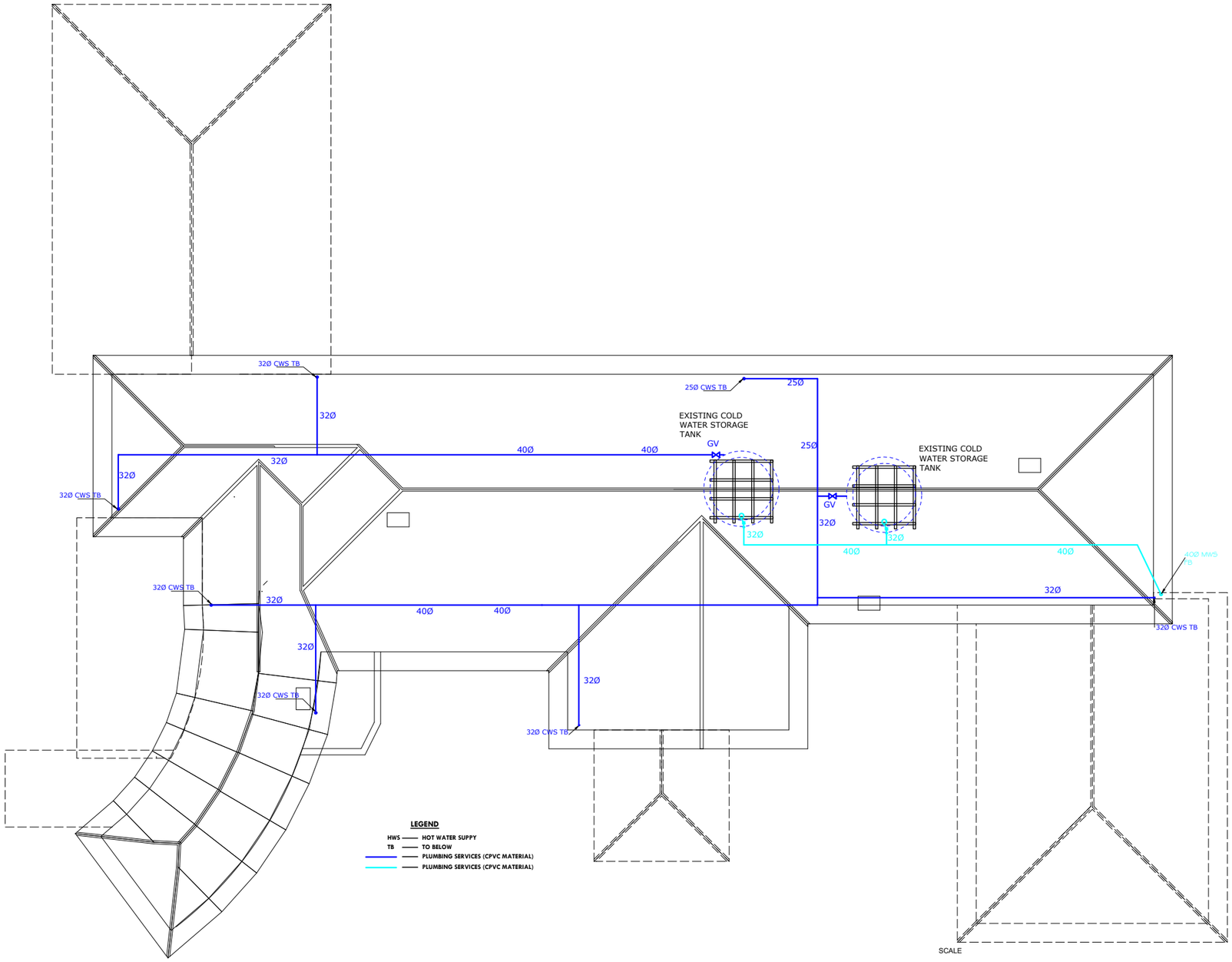
Drawing Title:
WORKING DRAWINGS

- UNDER ROOF LAYOUT

DRG. NO. A-01-8

REV.

Appendix 3- Mechanical and Electrical Layouts



No.	NOTES
1.	All dimensions are in mm.unless otherwise stated.
2.	All conduits to be inspected before casting of the slab

REVISIONS

no.	date	descriptions
		Original Issue.

Client

SPANISH EMBASSY,
P.O.BOX.....
.....
TEL: .....
Email: .....

Signature _ _ _ Date_ _ _

Architect

TRINE ARCHITECTS,
UTUMISHI CO-OP HOUSE,
MAMLAKA ROAD - MEZZ FLOOR,
P.O.BOX 643-00100,
NAIROBI, KENYA.

Signature _ _ _ _ _ _

Project

PROPOSED RENOVATIONS AT SPANISH EMBASSY.

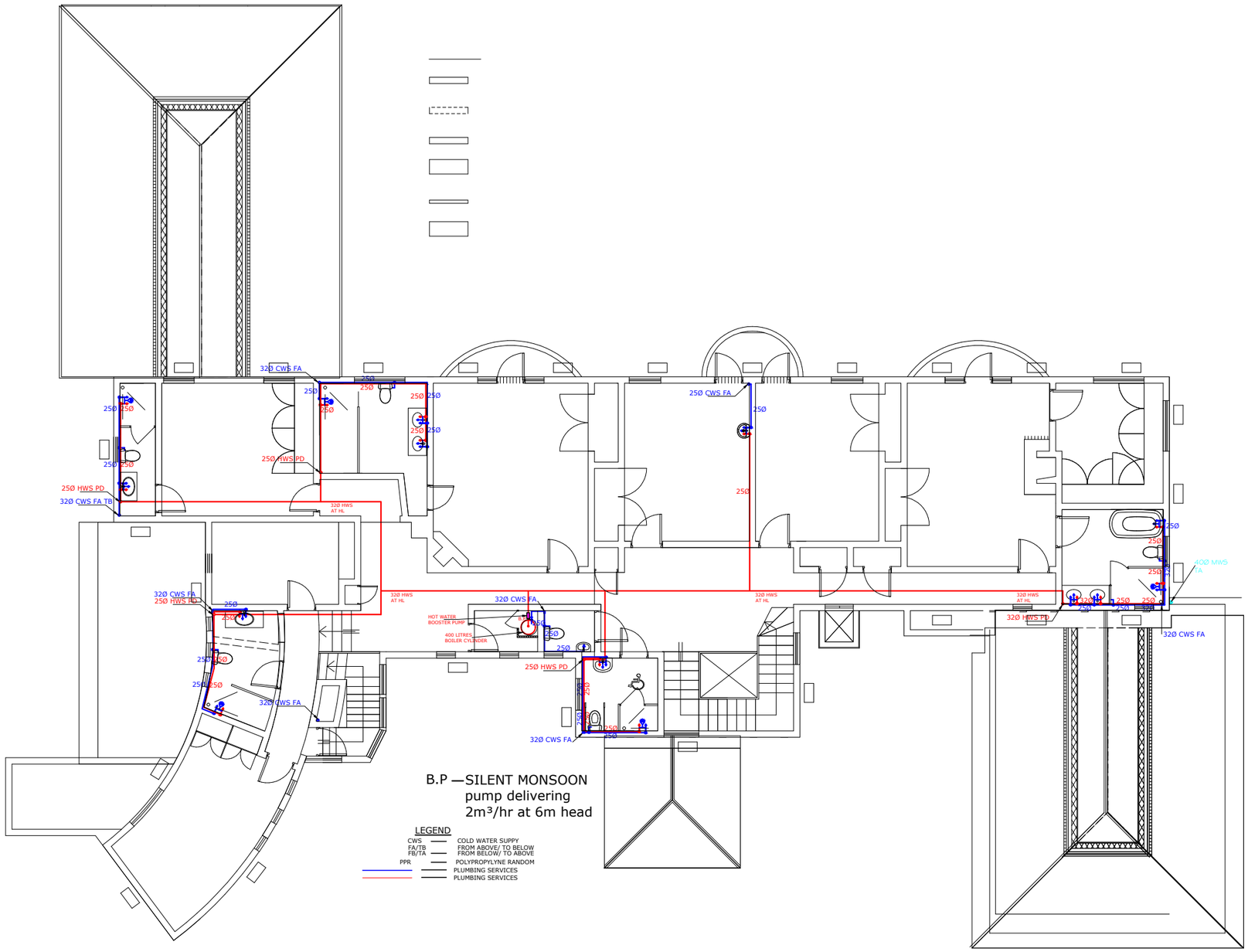
Drg.title.

ROOF
PLUMBING LAYOUT

Services Engineers

INFRAPLUS LIMITED.
P.O.BOX 28901 - 00100 NAIROBI KENYA
Email: info@infraplus.co.ke/Infraplus.consult@gmail.com

scale: 1:150 ON A3	ckd: Eng.VMO
date: NOV. 2020	
drawn by: HAM	Dsg by : HAM
job no. E20-062	sheet no. 5 OF 5



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REVISIONS

no.	date	descriptions
		Original Issue.

Client

SPANISH EMBASSY,
P.O.BOX.....
.....
TEL: .....
Email: .....

Signature _ _ _ Date_ _ _

Architect

TRINE ARCHITECTS,
UTUMISHI CO-OP HOUSE,
MAMLAKA ROAD - MEZZ FLOOR,
P.O.BOX 643-00100,
NAIROBI, KENYA.

Signature _ _ _ _ _ _ _

Project

PROPOSED RENOVATIONS AT SPANISH EMBASSY.

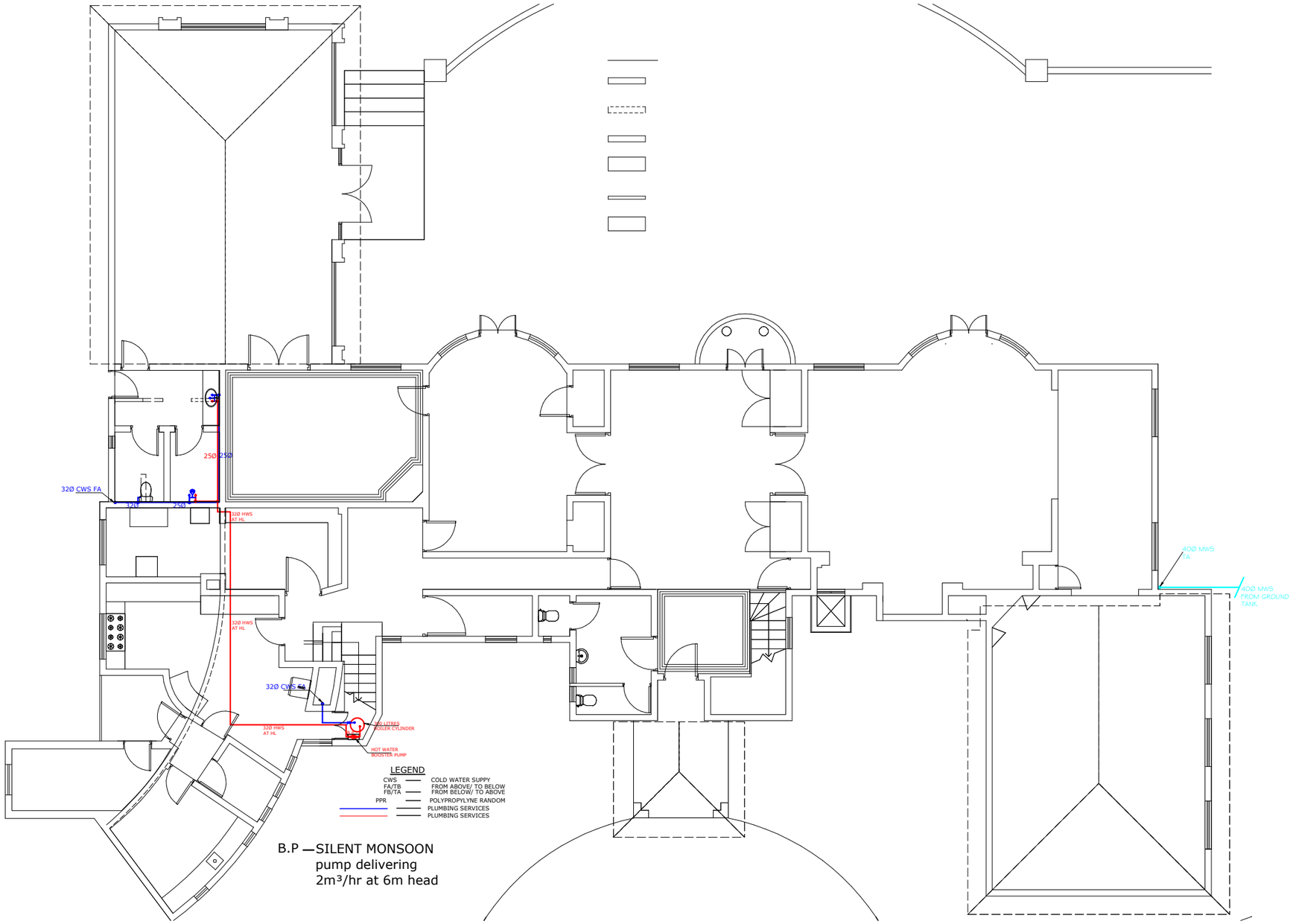
Drg.title.

UPPER FLOOR PLUMBING LAYOUT

Services Engineers

INFRAPLUS LIMITED.
P.O.BOX 28901 - 00100 NAIROBI KENYA
Email: info@infraplus.co.ke/Infraplus.consult@gmail.com

scale: 1:150 ON A3	ckd: Eng.VMO
date: NOV. 2020	
drawn by: HAM	Dsg by : HAM
job no. E20-062	sheet no. 4 OF 5



No.	NOTES
1.	All dimensions are in mm.unless otherwise stated.
2.	All conduits to be inspected before casting of the slab

REVISIONS

no.	date	descriptions
		Original Issue.

Client

SPANISH EMBASSY,
P.O.BOX.....
.....
TEL: .....
Email: .....

Signature _ _ _ Date_ _ _

Architect

TRINE ARCHITECTS,
UTUMISHI CO-OP HOUSE,
MAMLAKA ROAD - MEZZ FLOOR,
P.O.BOX 643-00100,
NAIROBI, KENYA.

Signature _ _ _ _ _ _ _

Project

PROPOSED RENOVATIONS AT SPANISH EMBASSY.

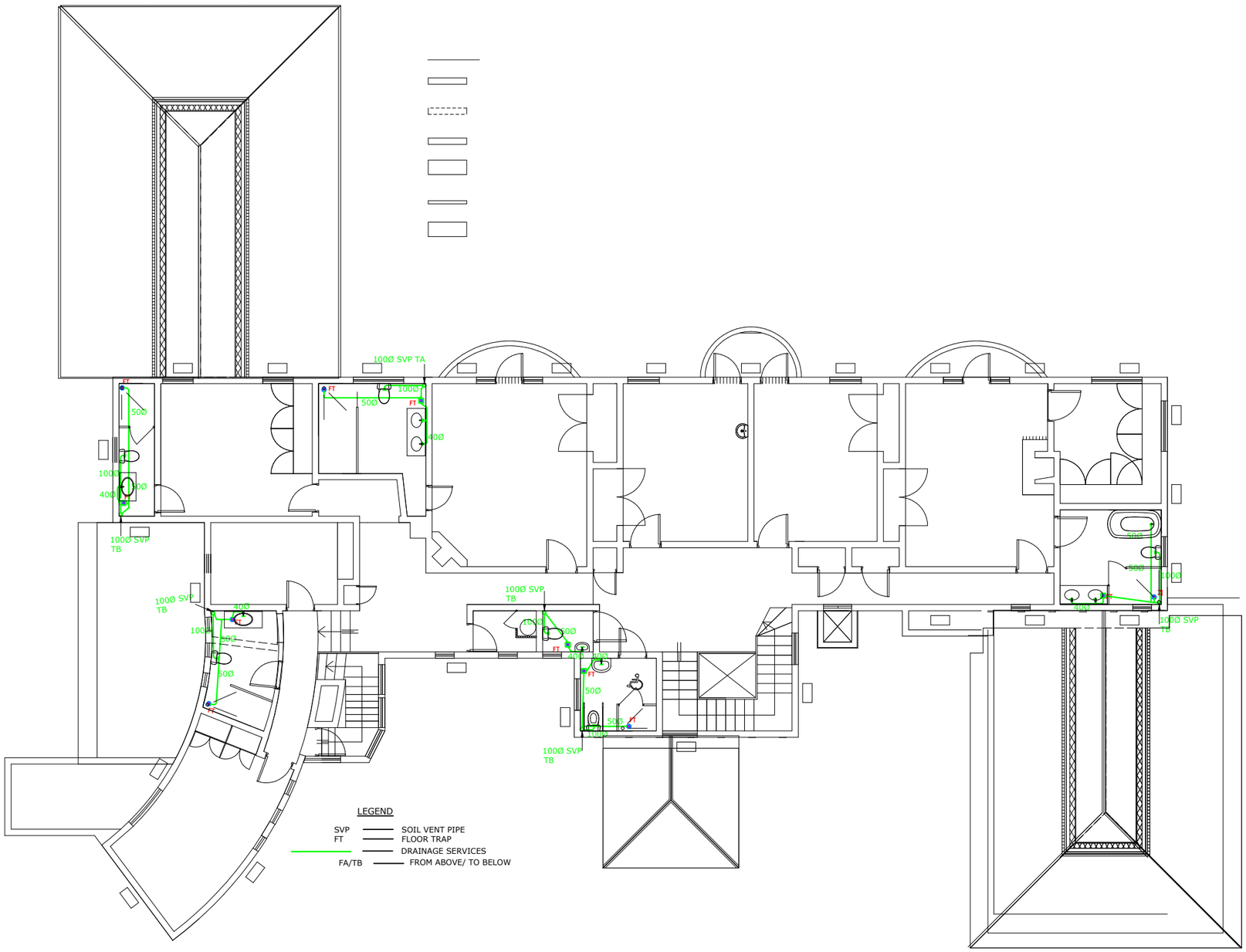
Drg.title.

GROUND FLOOR PLUMBING LAYOUT

Services Engineers

INFRAPLUS LIMITED.
P.O.BOX 28901 - 00100 NAIROBI KENYA
Email: info@infraplus.co.ke/Infraplus.consult@gmail.com

scale: 1:150 ON A3	ckd: Eng.VMO
date: NOV. 2020	
drawn by: HAM	Dsg by : HAM
job no. E20-062	sheet no. 3 OF 5



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REVISIONS

no.	date	descriptions
		Original Issue.

Client

SPANISH EMBASSY,
P.O.BOX.....
.....
TEL: .....
Email: .....

Signature _ _ _ Date_ _ _

Architect

TRINE ARCHITECTS,
UTUMISHI CO-OP HOUSE,
MAMLAKA ROAD - MEZZ FLOOR,
P.O.BOX 643-00100,
NAIROBI, KENYA.

Signature _ _ _ _ _ _ _

Project

PROPOSED RENOVATIONS AT SPANISH EMBASSY.

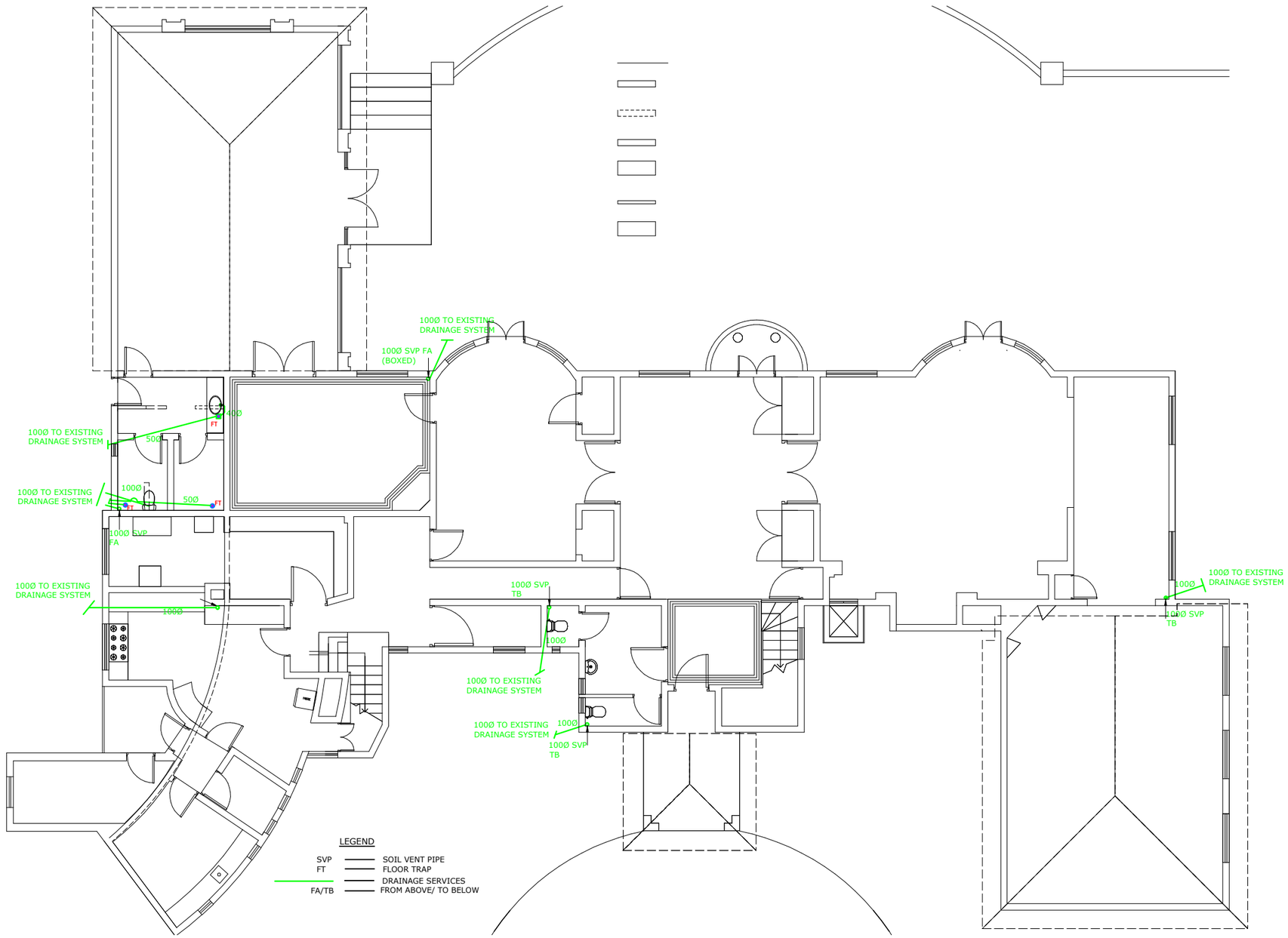
Drg.title.

UPPER FLOOR DRAINAGE LAYOUT

Services Engineers

INFRAPLUS LIMITED.
P.O.BOX 28901 - 00100 NAIROBI KENYA
Email: info@infraplus.co.ke/Infraplus.consult@gmail.com

scale: 1:150 ON A3	ckd: Eng.VMO
date: NOV. 2020	
drawn by: HAM	Dsg by : HAM
job no. E20-062	sheet no. 2 OF 5



No.	NOTES
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2.	All conduits to be inspected before casting of the slab

REVISIONS

no.	date	descriptions
		Original Issue.

Client

SPANISH EMBASSY,
P.O.BOX.....
.....
TEL: .....
Email: .....

Signature _ _ _ Date_ _ _

Architect

TRINE ARCHITECTS,
UTUMISHI CO-OP HOUSE,
MAMLAKA ROAD - MEZZ FLOOR,
P.O.BOX 643-00100,
NAIROBI, KENYA.

Signature _ _ _ _ _ _

Project

PROPOSED RENOVATIONS AT SPANISH EMBASSY.

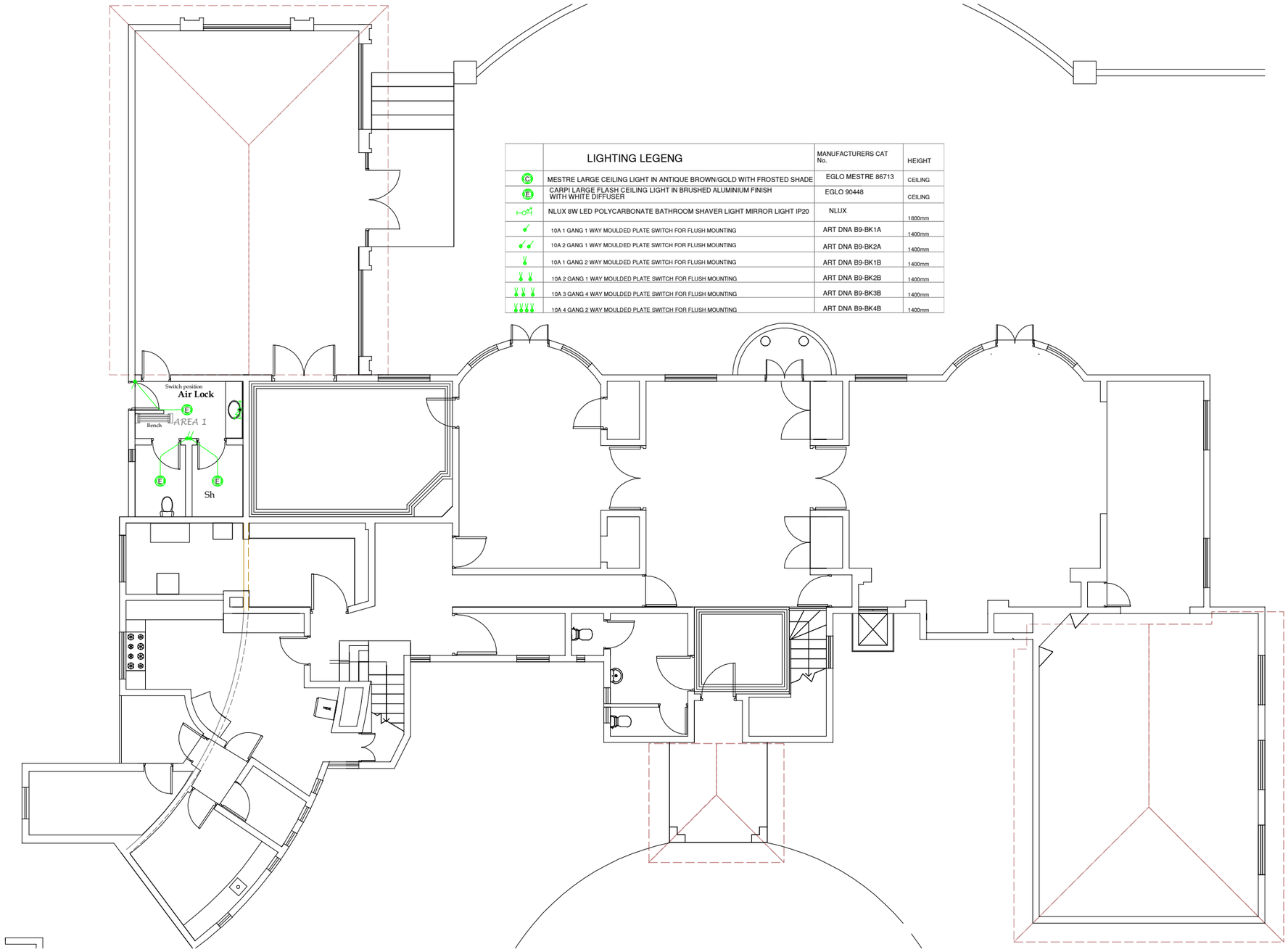
Drg.title.

GROUND FLOOR MECHANICAL DRAINAGE LAYOUT

Services Engineers

INFRAPLUS LIMITED.
P.O.BOX 28901 - 00100 NAIROBI KENYA
Email: info@infraplus.co.ke/Infraplus.consult@gmail.com

scale: 1:150 ON A3	ckd: Eng.VMO
date: NOV. 2020	
drawn by: HAM	Dsg by : HAM
job no. E20-062	sheet no. 1 OF 5



	LIGHTING LEGENG	MANUFACTURERS CAT No.	HEIGHT
Q	MESTRE LARGE CEILING LIGHT IN ANTIQUE BROWN/GOLD WITH FROSTED SHADE	EGLO MESTRE 86713	CEILING
E	CARPI LARGE FLASH CEILING LIGHT IN BRUSHED ALUMINIUM FINISH WITH WHITE DIFFUSER	EGLO 90448	CEILING
	NLUX 8W LED POLYCARBONATE BATHROOM SHAVER LIGHT MIRROR LIGHT IP20	NLUX	1800mm
	10A 1 GANG 1 WAY MOULDED PLATE SWITCH FOR FLUSH MOUNTING	ART DNA B9-BK1A	1400mm
	10A 2 GANG 1 WAY MOULDED PLATE SWITCH FOR FLUSH MOUNTING	ART DNA B9-BK2A	1400mm
	10A 1 GANG 2 WAY MOULDED PLATE SWITCH FOR FLUSH MOUNTING	ART DNA B9-BK1B	1400mm
	10A 2 GANG 1 WAY MOULDED PLATE SWITCH FOR FLUSH MOUNTING	ART DNA B9-BK2B	1400mm
	10A 3 GANG 4 WAY MOULDED PLATE SWITCH FOR FLUSH MOUNTING	ART DNA B9-BK3B	1400mm
	10A 4 GANG 2 WAY MOULDED PLATE SWITCH FOR FLUSH MOUNTING	ART DNA B9-BK4B	1400mm

No.	NOTES
1.	All dimensions are in mm.unless otherwise stated.
2.	All conduits to be inspected before casting of the slab

REVISIONS

no.	date	descriptions
		Original Issue.

Client

SPANISH EMBASSY,
P.O.BOX.....
.....
TEL: .....
Email: .....

Signature _ _ _ Date _ _ _

Architect

TRINE ARCHITECTS,
UTUMISHI CO-OP HOUSE,
MAMLAKA ROAD - MEZZ FLOOR,
P.O.BOX 643-00100,
NAIROBI, KENYA.

Signature _ _ _ _ _ _ _ _

Project

PROPOSED RENOVATIONS AT SPANISH EMBASSY.

Drg.title.

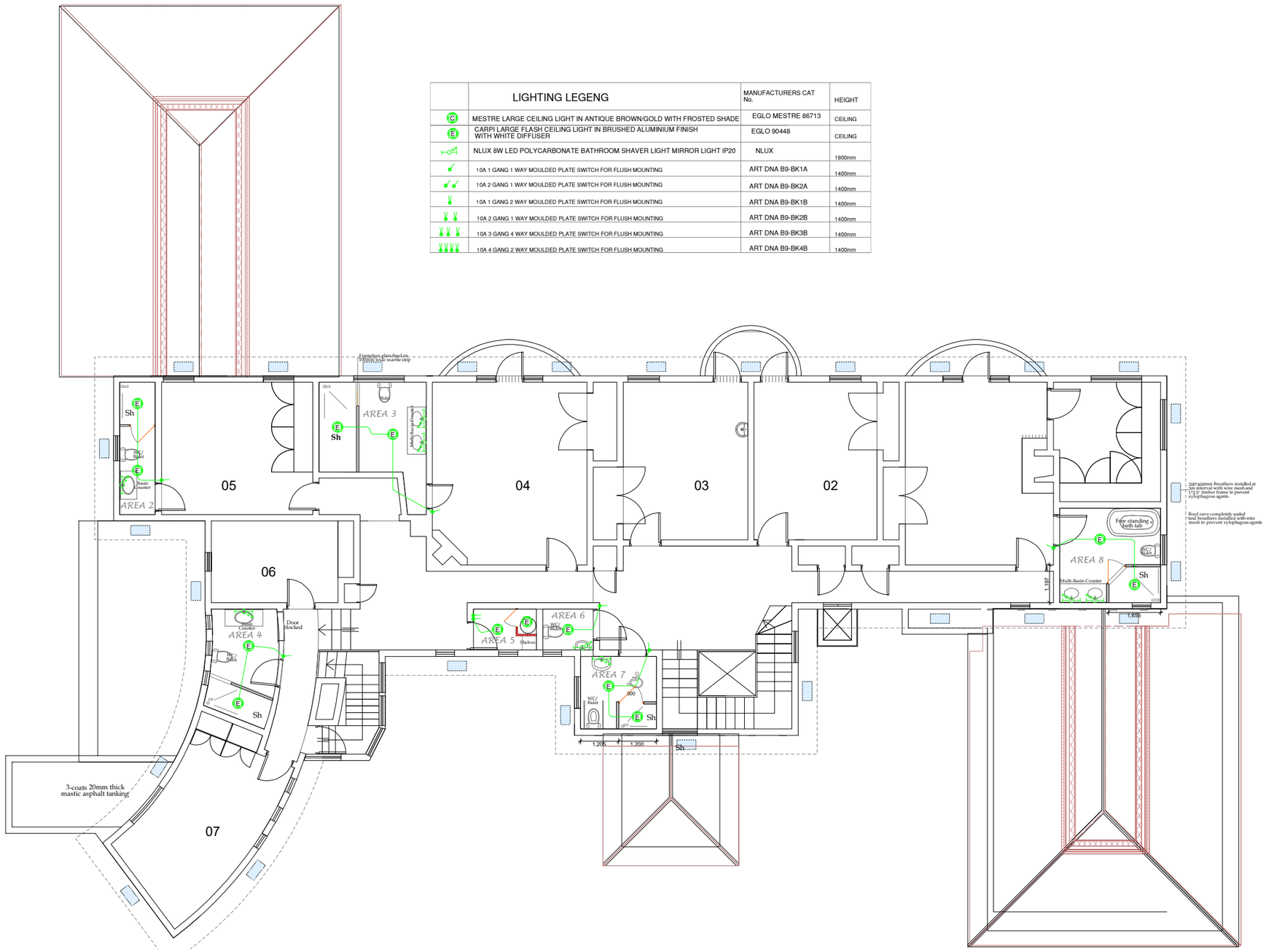
GROUND FLOOR LIGHTING
ELECTRICAL INSTALLATIONS LAYOUT.

Services Engineers

INFRAPLUS LIMITED.
P.O.BOX 28901 - 00100 NAIROBI KENYA
Email: info@infraplus.co.ke/Infraplus.consult@gmail.com

scale: 1:150 ON A3	ckd: Eng.SMW
date: NOV. 2020	
drawn by: HAM	Dsg by : HAM
job no. E20-062	sheet no. 1 OF 2

	LIGHTING LEGENG	MANUFACTURERS CAT No.	HEIGHT
C	MESTRE LARGE CEILING LIGHT IN ANTIQUE BROWN/GOLD WITH FROSTED SHADE	EGLO MESTRE 86713	CEILING
E	CARPI LARGE FLASH CEILING LIGHT IN BRUSHED ALUMINIUM FINISH WITH WHITE DIFFUSER	EGLO 90448	CEILING
	NLUX 8W LED POLYCARBONATE BATHROOM SHAVER LIGHT MIRROR LIGHT IP20	NLUX	1800mm
	10A 1 GANG 1 WAY MOULDED PLATE SWITCH FOR FLUSH MOUNTING	ART DNA B9-BK1A	1400mm
	10A 2 GANG 1 WAY MOULDED PLATE SWITCH FOR FLUSH MOUNTING	ART DNA B9-BK2A	1400mm
	10A 1 GANG 2 WAY MOULDED PLATE SWITCH FOR FLUSH MOUNTING	ART DNA B9-BK1B	1400mm
	10A 2 GANG 1 WAY MOULDED PLATE SWITCH FOR FLUSH MOUNTING	ART DNA B9-BK2B	1400mm
	10A 3 GANG 4 WAY MOULDED PLATE SWITCH FOR FLUSH MOUNTING	ART DNA B9-BK3B	1400mm
	10A 4 GANG 2 WAY MOULDED PLATE SWITCH FOR FLUSH MOUNTING	ART DNA B9-BK4B	1400mm



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1.	All dimensions are in mm.unless otherwise stated.
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REVISIONS

no.	date	descriptions
		Original Issue.

Client

SPANISH EMBASSY,
P.O.BOX.....
.....
TEL: .....
Email: .....

Signature _ _ _ Date _ _ _

Architect

TRINE ARCHITECTS,
UTUMISHI CO-OP HOUSE,
MAMLAKA ROAD - MEZZ FLOOR,
P.O.BOX 643-00100,
NAIROBI, KENYA.

Signature _ _ _ _ _ _ _

Project

PROPOSED RENOVATIONS AT SPANISH EMBASSY.

Drg.title.

FIRST FLOOR LIGHTING ELECTRICAL INSTALLATIONS LAYOUT.

Services Engineers

INFRAPLUS LIMITED.
P.O.BOX 28901 - 00100 NAIROBI KENYA
Email: info@infraplus.co.ke/Infraplus.consult@gmail.com

scale: 1:150 ON A3	ckd: Eng.SMW
date: NOV. 2020	
drawn by: HAM	Dsg by : HAM
job no. E20-062	sheet no. 2 OF 2

Appendix 4- Work Plan

PROPOSED RENOVATION WORKS TO EMBASSY OF SPAIN RESIDENCE

WORK PLAN

	ACTIVITY	DURATION IN WEEKS	WEEKS FROM START											
			1	2	3	4	5	6	7	8	9	10	11	12
1	Mobilization	1												
2	Roofing and rainwater goods	2												
3	Ceiling finishes	2												
4	Demolition /Alteration works	2												
5	Walling & Partitions	1												
6	Doors	1												
7	Floor finishes	2												
8	Wall Finishes	2												
9	Electrical Installations	11												
10	Plumbing & Drainage works	11												
11	Practical Completion / Snagging	1												
12	Handover	1												

Appendix 5- Cost Estimate

PROPOSED RENNOVATION WORKS AT THE RESIDENCE OF THE EMBASSY OF SPAIN IN NARIOBI.

BILLS OF QUANTITIES

EMPLOYER

EMBASSY OF SPAIN - KENYA

CBA BUILDING - UPPERHILL

NAIROBI.

ARCHITECT

TRINE ARCHITECTS LIMITED

P. O. Box 643 - 00100

NAIROBI.

SERVICES ENGINEERS

INFRAPLUS CONSULTANTS LTD

P.O BOX 28901 – 00100

NAIROBI.

QUANTITY SURVEYORS

COLUMBINE ASSOCIATES LIMITED

P. O. Box 36094 - 00200

NAIROBI.

JUNE **2022**

SECTION NO. 1

INSTRUCTIONS TO TENDERERS

SIGNATURE PAGE

The following are the Bills of Quantities referred to in the contract for the Construction of the proposed renovations works at the residence of the embassy of Spain in Nairobi - Kenya. The Contract for the above mentioned works, entered into on ……. day of …… **2020** by the undersigned parties is described and defined by these Bills of Quantities together with the Agreement and Conditions of Contract for Building works published by the Joint Building Council April 1999 edition including any amendments thereto.

EMPLOYER	**CONTRACTOR**
NAME: ……..……	NAME: ……
ADDRESS: ……	ADDRESS: ……..
DATE: ……..	DATE: …….
SIGNATURE: ……...	SIGNATURE: …….

INSTRUCTIONS TO TENDERERS

1. TENDER DOCUMENTS

The Tender Documents provided for this project comprise:-

(a) Instructions to Tenderers

(b) Form of Tender

(c) Form of Surety Undertaking

(d) Bills of Quantities including preliminaries, specifications, agreement and conditions of contract for building works (with quantities), standard methods of measurements for building works and measured works.

2. SCOPE OF PROPOSED TOTAL CONTRACT

The works contained in this Contract comprise the construction and completion of the proposed renovations works at the residence of the embassy of Spain in Nairobi Kenya.

3. REQUIREMENTS FOR SPECIALIST INSTALLATIONS

All the specialist works shall be executed by nominated Sub-Contractors with whom the main contractor shall enter into a direct Contract under **Clause 27** of the Conditions of Contract. In the event of the main contractor successfully tendering for any or several of the specialist installations, he shall be required to provide the following:-

(a) Address of the firm (Domestic Sub-Contractor) if any that will execute specialist installation.

(b) Copies of registration certificates.

(c) A list of major projects undertaken by the firm in the relevant area over the **past five years.** The list shall contain all relevant facts such as size of the project, consultants that supervised the project and the client complete with their addresses and any other relevant particulars.

(d) Written reference from three Engineering Consulting firms that have supervised works carried out by the firm in the relevant specialist area.
The reference to mention at least one recent project carried out by the contractor and supervised by the consulting Engineer supplying the reference.

(e) Any other relevant information that would enhance the approval of the contractor for purposes of executing specialist installations.

(f) All specialist sub-contractors to be used by the successful tenderer in the above specialist areas shall be nominated in writing by the client before/or after award of the contract.

(g) Failure by the tenderer to supply all information required under this Section may render his tender for specialist works non-responsive.

4. CLARIFICATION OF TENDER DOCUMENTS

Should the tenderer be in any doubt of the precise meaning of any item and/or figure for any reason whatsoever and should he find any page missing, or in duplicate, or indistinct, he must inform **Columbine Associates Ltd, P.O. BOX 36094 - 00200, NAIROBI (e-mail:info@columbineassociates.co.ke: TEL- +254724923266)** in writing, who provided such enquiry shall have arrived 7 days prior to the tender opening date, will respond, with copies to all other tenderers. No liability will be admitted nor claim allowed in respect of errors in the Contractors Tender due to mistakes in the Bills of Quantities which should have been rectified in the manner described above.

5. AMENDMENT TO TENDER DOCUMENTS.

At any time prior to the deadline for submission of tenders the employer may, for any reason, whether at his own initiative, or in response to clarification requested by a prospective tenderer, amend the tender documents by the issuance of an "Addendum". The "Addendum" the receipt of which must be acknowledged shall be sent in writing.

Should the Employer be of the opinion that the issuance of an "Addendum" has created a need to extend the deadline of the submission of tenders, then at his discretion he shall, in writing, grant such an extension.

6. DELIVERY OF TENDERS

Tenders and all Documents in connection therewith, as specified above shall be delivered in their original form in the addressed envelope provided, which should be properly sealed and delivered at the place and time indicated in the Letter of Invitation to Tenders.

Tenders arriving later than the said time will not be considered.

7. COMPLETION OF TENDERS

All documents forming part of the Tenders shall be in **INK** and the offer shall be made on Form of Tender. All items measured and described herein must be priced and any item not so priced shall be deemed to have been covered by the tenderers prices on the other items. Lump sum pricing and wilfully omitting to price an item shall render the tender liable to disqualification and item(s) not so priced shall not in any case be taken into consideration.

No unauthorised additions, alterations, deletions, corrections, omissions or qualifications of whatsoever nature shall be made in any of the Tender Documents.

The tender shall be witnessed as to validity.

8. MODIFICATIONS AND WITHDRAWAL OF TENDERS

Prior to the tender opening, a tenderer may alter or withdraw his tender in writing provided that any alteration so made must be personally signed by the tenderer or his authorised representative. The modifications or notice of the withdrawal shall be prepared, sealed, marked and delivered with the inner envelope additionally marked "MODIFICATION" or "WITHDRAWAL" as appropriate. No tender shall be modified or withdrawn subsequent to the deadline of submission of tenders. In the event of a tenderer withdrawing before the tenders are opened, his tender will be returned unopened in an outer envelope bearing the name and address of the tenderer without any other marking (s).

9. RESPONSIVENESS

Prior to the detailed evaluation of tenders, the Employer will determine whether each tender is substantially responsive to the requirements of tender documents.

For the purpose of this clause, a substantially responsive tender is one which conforms to all the terms, conditions and specifications of the tender documents without material deviation or reservation. A material deviation or reservation is one which affects in any substantial way the scope, quality, or performance of the work, or which limits in any substantial way, inconsistent with the tender documents, the Employer's rights or the tenderer's obligations under the Contract and the rectification of which deviation or reservation would affect unfairly the competitive position of other tenderers presenting substantially responsive tenders.

If a tender is not substantially responsive to the requirements of the tender documents, it will be rejected by the Employer and may not subsequently be made responsive by the tenderer having corrected or withdrawn the non-conforming deviation or reservation.

10. CORRECTION OF ERRORS

Tenders determined to be substantially responsive will be checked by the Employer for any error in computation and summation. Errors will be corrected by the Employer as follows:-

(a) Where there is a discrepancy between amounts in figures and words, the amount in words will govern; and

(b) Where there is a discrepancy between the unit rate and the total amount derived from the multiplication of the unit rate and the quantity, the unit rate as quoted will govern, unless in the opinion of the Employer there is an obviously gross misplacement of the decimal point in the unit rate, in which event the total amount as quoted will govern and the unit rate will be corrected.

(c) Where there is a glaring and substantial pricing error, the employer, with the consent of the tenderer shall adjust such rates and the error dealt with as item 10(iii) so as not to change the tendered amount.

10. CORRECTION OF ERRORS (CONT'D)

Not withstanding the adjustments as aforesaid, the amounts stated in the Form of Tender shall be taken as absolute and therefore shall not be changed.

In the event of discrepancy between the tender amount as stated in the form of tender and the corrected tender figure as stated in the Main Summary of the Bills of Quantities the following procedure will be adopted:

(i) The tender amount as stated in the Form of Tender shall override the tender amount in the Main Summary after correction.

(ii) The difference between the Tender Amount and the Corrected Tender Sum including adjusted pricing errors shall be expressed as a percentage of the corrected tender sum net of P.C. Sums, Provisional Sums and Preliminaries as a "Correction Factor".

(iii) The above "Correction Factor" shall be applied as a reduction or an addition as the case may be to adjust the Contractor's rates in the Bills of Quantities for the evaluation of variations for Interim Certificates and measurements for Final Accounts

11. PRELIMINARIES SECTION.

Whereas this section should be keenly, consistently and competitively priced, no front loading shall be allowed. This section shall be priced at an amount not more than **10.0% of the Contract Sum.** Any amount in excess of the above percentage shall be relocated in the measured section of these Bills of Quantities, otherwise at the discretion of the Employer; the tender shall be liable to disqualification as irresponsive.

12. TAXES

Tenderers are reminded that they are required by law to pay all government Taxes arising from or related to the execution of the works. The tenderer must therefore include in their rates all taxes as aforesaid.

13. PAYMENT CERTIFICATES, CURRENCY OF PAYMENTS AND ADVANCE PAYMENTS

13.1 The Contractor shall submit to the Quantity surveyor **MONTHLY applications for payment** giving sufficient details of the Work done and materials on Site and the amounts which the Contractor considers himself to be entitled to. The Quantity Surveyor shall check the application and certify the amount to be paid to the Contractor within five working days. The value of Work executed and payable shall be determined by the Quantity Surveyor and certified by the Architect.

13.2 The value of Work executed shall comprise the value of the quantities of the items in the Bills of Quantities completed; materials delivered on Site and variations. Such materials shall become the property of the Employer once the Employer has paid the Contractor for their value. Thereafter, they shall not be removed from Site without the Architect's instructions except for use upon the Works.

13.3 Payments shall be adjusted for deductions for retention. The Employer shall pay the Contractor the amounts certified by the Architect within **14 days** of the date of issue of each certificate. If the Employer makes a late payment, the Contractor shall be paid simple interest on the late payment in the next payment. Interest shall be calculated on the basis of number of days delayed at commercial Bank Lending Rate prevailing as of the first day the payment becomes overdue.

13.4 If an amount certified is increased in a later certificate or as a result of an award by an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.

13.5 Items of the Works for which no rate or price has been entered in will not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.

13.6 **The Contract Price shall be stated in KENYA SHILLINGS**. All payments to the Contractor shall be made in **KENYA SHILLINGS** or any currency agreed prior to the execution of the Contract Agreement and indicated therein. The rate of exchange for the calculation of the amount of foreign currency payment shall be agreed and inserted in the contract before execution. The Employer and the Architect shall be notified promptly by the Contractor of any changes in the expected foreign currency requirements of the Contractor during the execution of the Works.

13.7 In the event that an advance payment is granted, the following shall apply:-

a) On signature of the Contract, the Contractor shall at his request, and without furnishing proof of expenditure, be entitled to an advance of **10% (ten percent) of the original amount of the Contract.** The advance shall not be subject to retention money.

b) No advance payment may be made before the Contractor has submitted proof of the establishment of deposit or a directly liable guarantee satisfactory to the Employer in the amount of the advance payment. The guarantee shall be in the same currency as the advance.

c) Reimbursement of the lump sum advance shall be made by deductions from the Interim payments and where applicable from the balance owing to the Contractor. Reimbursement shall begin when the amount of the sums due under the Contract reaches 20% of the original amount of the Contract. It shall have been completed by the time 80% of this amount is reached.

The amount to be repaid by way of successive deductions shall be calculated by means of the formula:

$$R = \frac{A(x^1 - x^{11})}{80 - 20}$$

Where:

R = the amount to be reimbursed

A = the amount of the advance which has been granted

X^1 = the amount of proposed cumulative payments as a percentage of the original amount of the Contract. This figure will exceed 20% but not exceed 80%.

X^{11} = the amount of the previous cumulative payments as a percentage of the original amount of the Contract. This figure will be below 80%but not less than 20%.

d) with each reimbursement the counterpart of the directly liable guarantee may be reduced accordingly.

FORM OF TENDER

TENDER FOR THE PROPOSED RENNOVATIONS WORKS TO THE RESIDENCE OF THE EMBASSY OF SPAIN.

EMBASSY OF SPAIN

CBA BUILDING – 3RD FLOOR

NAIROBI, KENYA.

Sir(s),

I/We having read the Conditions of Contract, Bills of Quantities and addendum (if any) delivered to me/us and having examined the drawings referred to therein do hereby offer to execute and complete in accordance with the Conditions of Contract the whole of the works described in the sum and within the time stated below: -

FIXED TENDER PRICE

Tender figure including all P.C Sums, Provisional Sums and Contingencies and based on **Fixed Price Tender.**

KENYA SHILLINGS ……

……

……. (WORDS)

KENYA SHILLINGS …… (FIGURES)

TIME FOR COMPLETION **.....** **WEEKS** FROM COMMENCEMENT OF THE WORKS

I/We, the undersigned, agree that if our tender is accepted we will enter into a Bond for the due performance of the Contract with the Guarantor, described in the Form of Surety Undertaking (annexed hereto), who shall be a **Bank**, or **Finance House** to whom **M/s Embassy of Spain shall** not unreasonably object within fourteen days of being called upon to do so.

I/We, the undersigned, agree that unless and until a formal agreement is executed, this Tender together with your acceptance thereof, shall constitute a binding Contract between me/us, and this Tender shall remain valid for **ninety (90) days** from the date of delivery of Tenders.

I/We, the undersigned, have examined all the documents detailed previously which shall form part of this Contract, together with the Instructions to Tenderers and have no further questions relating to them and have personally signed each document as identification.

FORM OF TENDER(CONT'D)

I/We the undersigned, understand that the lowest, or any portion of any Tender will not necessarily be accepted nor will any expenses incurred by the Tenderer in the preparation of this Tender be allowed.

Signature of Tenderer: ……..

Name of Tenderer (Capitals): ……..

Telephone No.: ……..

WITNESSED BY: ……..

Signature of Witness: ……..

Name of Witness (Capitals): …….

Address of Witness (Capitals): ……

Date: ……

SURETY UNDERTAKING

TENDER FOR THE PROPOSED RENNOVATIONS WORKS TO THE RESIDENCE OF THE EMBASSY OF SPAIN.

EMBASSY OF SPAIN

CBA BUILDING – 3RD FLOOR

NAIROBI, KENYA.

Sirs,

We …… (SURETY)

Of ……. (ADDRESS)

Are willing to act as Surety and to be bound to **M/s Embassy of Spain** for the **Construction and completion of the proposed renovations works at the embassy of Spain in Nairobi -Kenya** in the amount equivalent to **10% of the Contract Sum** and according to the Terms and Conditions of Contract, a copy of which has been inspected by us, without the additions of any limitations.

We agree to enter into a Bond under the above terms within seven days of being called upon to do so.

Signature of Surety: ……..

Date: ……..

WITNESSED BY:

Signature of Witness: ……..

Name of Witness: ……..

Address of Witness: ……..

……..

Date: …….

BANK GUARANTEE FOR ADVANCE PAYMENT

To: **M/s EMBASSY OF SPAIN**(*name of Employer*)

CBA BUILDING – 3RD FLOOR NAIROBI…….. (*address of Employer*)

Gentlemen,

Ref: **TENDER FOR THE PROPOSED RENNOVATIONS WORKS TO THE RESIDENCE OF THE EMBASSY OF SPAIN.**

In accordance with the provisions of the Conditions of Contract of the above mentioned Contract, We, _____(*name and address of Contractor*) (hereinafter called "the Contractor) shall deposit with **M/s Embassy of Spain** (name of Employer) a bank guarantee to guarantee his proper and faithful performance under the said Contract in an amount of **KENYA SHILLINGS.** _____ (*amount of Guarantee in figures*) **KENYA SHILLINGS** _____ (*amount of Guarantee in words).*

We, _____(*bank),* as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to **M/s Embassy of Spain** (name of Employer) on his first demand without whatsoever right of objection on our part and without his first claim to the Contractor, in the amount not exceeding **KENYA SHILLINGS.** _____ (*amount of Guarantee in figures*) **KENYA SHILLINGS** _____(amo unt of Guarantee in words), such amount to be reduced periodically by the amounts recovered by you from the proceeds of the Contract.

We further agree that no change or addition to or other modification of the terms of Contract or of the Works to be performed thereunder or of any other Contract documents which may be made between (*name of Employer*) **M/s Embassy of Spain and** the Contractor, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

No drawing may be made by you under this Guarantee until we have received notice in writing from you that an advance payment of the amount listed above has been paid to the Contractor pursuant to the Contract.

This Guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until (*name of Employer*) **M/s Embassy of Spain** receives full payment of the same amount from the Contract.

Yours faithfully,

Signature and Stamp of Guarantor……..

Witness ……(Names) …….Signature……Date……

SECTION NO. 2

PRELIMINARIES

Item	Description	AMOUNT KES	
	PARTICULAR PRELIMINARIES **PARTIES TO THE CONTRACT** **The Employer**: The Employer is M/s Embassy of Spain – CBA Building 3rd floor Nairobi, Kenya. **The Architect**: The Architect is Trine Architects Limited of P.o Box 643 – 00100 Nairobi. **The Quantity Surveyors**: The Quantity Surveyor is M/s Columbine Associates of P.O. BOX 36094 – 00200 Nairobi. **The Structural Engineers** The Services Engineers is M/s Infraplus consultants limited of P.O Box 28901 – 00100 Nairobi. The site of the proposed works is within Nairobi town – kitisuru area. The contractor is recommended to visit the site and he shall be deemed to have acquainted himself therewith as to the nature and position, means of access etc and no claim will be allowed for travelling expenses which may be incurred by the contractor in visiting the site or preparing the Tender for the works. **DESCRIPTION OF THE WORKS AND SCOPE OF CONTRACT**. The contract involves the Construction and completion of the proposed renovation works. The works include removal and replacement of roofing tiles, gypsum ceiling works, masonry walls, frameless glass partitions, timber and glass doors, wall and floor tiles in addition to associated engineering services installations. **Carried to Collection KES**		

Item	Description	AMOUNT KES	
	PARTICULAR PRELIMINARIES (CONT'D) **FORM OF CONTRACT** The Contractor shall be required to enter into a contract which shall be the Form of Agreement and Schedule of Conditions of Building Contract published by the Joint Building Council, April 1999 edition, with Quantities together with any amendments thereto excepting in so far as varied hereafter. The Contractor shall be deemed to have read and acquainted himself with the said conditions. The Contractor's attention is drawn to the following Clauses of the Conditions of Contract which shall be read as incorporated herein and he shall allow any sums which he considers necessary for the observance of such conditions. Clause 1.0 Definitions Clause 2.0 Articles of Agreement Clause 3.0 General Obligations of the Employer Clause 4.0 General Obligations of the Contractor Clause 5.0 General Obligations of the Architect Clause 6.0 General Obligations of the Quantity Surveyor Clause 7.0 Contract Documents Notes i) A list of drawings from which the contract Bills have been prepared is appended (see Appendix "A"and "B") ii) Before submitting tenders contractors may examine all the drawings (which may be seen at the offices of the Architect or Quantity Surveyor during normal office hours) and satisfy themselves regarding all details as no claim by reason of want of knowledge in this connection shall be entertained. iii) The Contractor shall satisfy himself as to the correctness of all drawings and measurements. If the contractor finds any discrepancy in the drawings or between the drawings and the Bills of Quantities, he shall immediately refer the same to the Architect who shall direct accordingly. **Carried to Collection KES**		

Item	Description	AMOUNT KES	
	PARTICULAR PRELIMINARIES (CONT'D) **FORM OF CONTRACT (CONT'D)** iv) Figured dimensions shall be used in preference to scales mentioned on or attached to any drawing. v) **Delete 7.3** and **insert**: "Upon execution of the contract, the Contractor shall register the agreement with the relevant statutory authority and pay all fees charges, taxes, duties and all costs existing therefrom" vi) **Delete 7.5.1** Clause 8.0 Contract Bills and Contract Price Notes: i) The Contract Bills of Quantities have been prepared in accordance with the current Standard method of measurements of Building Works for East Africa, which is included in volume II of these Bills of Quantities. ii) Exceptions to the above Standard Method of Measurement: "General builder's work in connection with works by nominated sub-contractors including cutting all holes, chases, sinkings and pockets and making good all floor wall and ceiling finishes shall be enumerated. Other builder's work in connection shall be measured and given in accordance with the appropriate rules of this document" iii) All works in this contract liable to adjustment have been measured as "Provisional" in these Bills of Quantities and no excavation, foundation work or other works so described shall be filled in or covered up until all measurements needed have been made by the Quantity Surveyor. iv) The Bills of Quantities shall be priced in ink. v) Any unauthorised alteration or qualification made to the text of the Bills of Quantities may cause the tender to be disqualified and will in any case be ignored. vi) All items of measured work shall be priced in detail in accordance with Clause 7 of the Instructions to Tenderers. **Carried to Collection KES**		

Item	Description	AMOUNT KES	
	PARTICULAR PRELIMINARIES (CONT'D) **FORM OF CONTRACT (CONT'D)** Clause 9.0 Contractors Site Agent and Other Staff Clause 10.0 Clerk of Works Clause 11.0 Liability against Injury and Property Notes In addition to the Conditions of Contract and the requirements contained hereinafter, the Contractor's and this Sub-contractor All Risks policy shall cover the full value of the following and allow for all costs thereof: i) The Works and Temporary Works erected in performance of this Contract. ii) The Materials on site, plant and tools iii) The cost and expense of removing debris of the property insured, destroyed or damaged by any peril insured. Professional fees to be allowed at 15% of the cost of rectifying the damaged part. Clause 12.0 Insurance against injury to persons and property Notes: The Contractor and his Sub-Contractors shall effect and maintain the following insurance's as required by Clause 12.1 and shall allow for costs thereof: i) Employer's liability (Workmen's compensation) ii) Third party (Public liability) for an indemnity of not less than KES 5,000,000 for any one accident or series from the same event (unlimited in aggregate) Should the Contractor already hold annual insurance's covering the whole of his activities and the indemnity required under this Contract exceeds the indemnity under the existing policy/ies, then further insurance shall be effected and maintained to cover such excess. **Carried to Collection KES**		

Item	Description	AMOUNT KES	
	PARTICULAR PRELIMINARIES (CONT'D)		
	FORM OF CONTRACT (CONT'D)		
	The contractor shall ensure that all sub-contractors effect and maintain such insurance's as are necessary to cover their liabilities in respect of injury to persons and Workmen's compensation.		
	iii) The Contractor shall effect and maintain in the joint names of the Employer and the Contractor insurance against any damage to any property other than the works as required by Clause 12.3 and instructed by the Architect.		
	The Contractor shall deposit with the Architect the policy/cies and the receipts in respect of premiums paid.		
	Clause 13.0 Insurance of the Works (Contractor's Liability)		
	Clause 14.0 Insurance of the Works (Employer's Liability)		
	Notes: This clause shall be deleted		
	Clause 15.0 Insurance of Works (Works of Alterations)	50,000	
	Clause 16.0 Performance Bond	75,000	
	Notes:		
	i) Sub-clause 16.2 shall be deleted.		
	ii) The contractor shall provide one surety who must be an established Bank, Insurance company or Fidelity Guarantee Corporation to the approval of the Employer in the amount of **10 %** of the contract sum for the **due performance** of the contract		
	iii) The contractor shall allow for paying all stamp charges in connection with the surety bond		
	Clause 17.0 Compliance with Regulations, Notices etc.		
	Clause 18.0 Programme of Works		
	Carried to Collection KES	**125,000**	

Item	Description	AMOUNT KES	
	PARTICULAR PRELIMINARIES (CONT'D) **FORM OF CONTRACT (CONT'D)** Clause 19.0 Access to the Works. Clause 20.0 Possession of Site and Commencement of Works. Clause 21.0 Levelling and Setting Out. Clause 22.0 Architect's Instructions. Clause 23.0 Specifications of Goods, Materials and Workmanship. Notes: i) The standard of workmanship shall not be inferior to the current British codes of practices and/or local standards where existing. No materials for use in the permanent construction shall be used for any temporary or other purpose other than that for which they are provided. Clause 24.0 Samples and Tests Notes The contractor shall furnish at his own cost any samples of materials or workmanship or any tests that may be called for by the Architect for approval and for any further samples or tests in the case of rejection until they are approved by the architect; unless otherwise provided for herein. Clause 25.0 Royalties and Patent Rights Clause 26.0 Assignment Clause 27.0 Subletting Clause 28.0 Suspension of the Works by the Architect Clause 29.0 Suspension of the Works by the Contractor Clause 30 Variations **Carried to Collection KES**		

Item	Description	AMOUNT KES	
	PARTICULAR PRELIMINARIES (CONT'D) **FORM OF CONTRACT (CONT'D** Clause 31.0 Nominated Subcontractors Notes i) The Contractor shall be responsible for giving all necessary direction to Nominated Sub-Contractors ascertaining their requirements, co-ordinating their work and arranging for them to be on site at proper time for the ordered progress of the Works and for agreeing accurate dimensions in regard to setting out holes, chases, notchings and the like. The Contractor shall place all orders with Nominated Sub-Contractors clearly on his own behalf and shall not pledge the credit of the Employer either directly or indirectly nor shall there be created any privity of contract between the Employer and the Nominated Sub-Contractor. The Contractor shall enter into a written sub-Contract using an approved form and shall deposit with the Architect signed copies thereof. ii) When tendering for any works covered by Prime Cost and Provisional Sums the Contractor shall be treated as any other Nominated Sub-Contractor or Supplier. Clause 32.0 Nominated Suppliers Notes i) The Contractor shall be responsible for placing all orders for materials or goods with Nominated Suppliers clearly on his own behalf and shall not pledge the credit of the Employer either directly or indirectly nor shall there be created any privity of contract between the Employer and the Nominated Supplier. The Contractor shall arrange for the delivery of all materials or goods for the progress of the Works. ii) All payments by the Contractor for materials or goods supplied must be in full and shall be paid within 30 days of the end of the month during which delivery is made. Clause 33.0 Work by other persons engaged by the Employer. **Carried to Collection KES**		

Item	Description	AMOUNT KES	
	PARTICULAR PRELIMINARIES (CONT'D) **FORM OF CONTRACT (CONT'D)** Clause 34.0 Payments Notes i) Delete sub-clauses 34.15. ii) At the intervals stated, interim valuations shall be made for the purpose of ascertaining the amount to be stated as due in an interim certificate. Upon application the contractor shall furnish the Quantity surveyor with a detailed approximate statement of the value of the work executed and all materials on site in order to expedite the issue of an interim valuation to the Architect, who shall issue an Interim certificate. iii) Subsequent certificates will not be issued to the contractor by the Architect until satisfactory proof has been given by the contractor that nominated sub-contractors and suppliers have been paid the amounts included for them in the previous certificates issued to the contractor. iv) All documents necessary for the purpose of composition of the final account including all documents of nominated sub-contractors and suppliers shall be passed to the quantity surveyor as and when available during the progress of the works and not later than one month after the date of practical completion. Clause 35.0 Fluctuations Notes: **Sub-clause 35.3, up to 35.8 to be deleted.** **Carried to Collection KES**		

Item	Description	AMOUNT KES	
	PARTICULAR PRELIMINARIES (CONT'D) **FORM OF CONTRACT (CONT'D)** Clause 36.0 Extension of time. Notes: i) The contractor shall order all materials to be obtained from overseas immediately upon signing the contract and shall also order materials to be obtained from local sources as early as necessary to ensure that such materials are on site when required for the works. However before placing any order the contractor shall obtain confirmation in writing from the Architect that the materials specified are required for the works and have not been varied in any way in the light of altered requirements of planning ii) A claim for extension of time under (i) above will not be considered unless substantial proof is submitted that every endeavour has been made by the contractor to avoid such delay. As soon as any delay becomes apparent the Architect must be notified in writing Clause 37.0 Loss and Expenses caused by disturbance of regular progress of the works. Clause 38.0 Termination of the Contract by the Employer. Clause 39.0 Termination of the Contract by the Contractor. Clause 40.0 Termination of the Contract by either party. Clause 41.0 Practical Completion and Defect Liability. The tenderers/Contractors attention is drawn to the defect liability period stated in the Appendix to the Conditions of Contract stipulated herein. The tenderers tender sum shall include for the discharging of this obligation. Clause 42.0 Sectional completion **Carried to Collection KES**		

Item	Description	AMOUNT KES	
	PARTICULAR PRELIMINARIES (CONT'D) **FORM OF CONTRACT (CONT'D)** Clause 43.0 Damages for delay in completion. Clause 44.0 Antiquities and other objects of value. Clause 45.0 Settlement of disputes. **APPENDIX TO THE CONDITIONS OF CONTRACT** The appendix to the conditions of contract shall be completed as follows:- Clause 13.0 Percentage to cover professional Fees for insurance purposes only 10% Clause 16.1 Name of Contractor's Surety To be inserted Clause 16.1 Amount of Surety 10% of Contract sum Clause 16.2 Name of Employers Surety N/A Clause 16.2 Amount of Surety N/A Clause 18.1 Period of submission of programme 2 week Clause 20.1 Period of possession of site To be agreed Clause 20.2 Contract period To be inserted Clause 20.2 Date for commencement of works To be inserted Clause 20.2 Date for practical completion To be inserted Clause 31.14 } Name of the bank for purposes of 32.4.5} interest calculation To be inserted 34.6 } **Carried to Collection KES**		

Item	Description	AMOUNT KES	
	FORM OF CONTRACT (CONT'D)		
	APPENDIX TO THE CONDITIONS OF CONTRACT(cont'd)		
	Clause 34.1 Interval for application of payment **4 Weeks**		
	Clause 34.4 Minimum amount of payment Certificate N/A		
	Clause 34.12 Percentage of certified value Retained 10%		
	Clause 34.12 Limit of retention fund 5%		
	Clause 34.15 Periods for release of interest on Retention money to Contractor N/A		
	Clause 34.17 Period of final measurement and valuation 3 Months		
	Clause 41.6 Defects liability period 12 Months		
	Clause 43.1 Damages for delay in completion **KES 100,000** per week or part thereof upto a maximum of 10% the contract sum		
	Carried to Collection KES		

Item	Description	AMOUNT KES	
	GENERAL PRELIMINARIES **SUFFICIENCY OF TENDER** The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his Tender for the works and of rates and prices stated in the priced Bills of Quantities which rates and prices shall cover all his obligations under the Contract and all matters and things necessary for the proper completion and maintenance of the works. **DEFINITIONS AND ABBREVIATIONS** Abbreviations used in these Bills of Quantities shall be interpreted as follows:- "Approved" shall mean approved by the Architect "As directed" shall mean as directed by the Architect "B.S." Shall mean The Current British Standard Specification published by the British Standards Institution, 2 Park Street, London W.I. England. "KG" Shall mean Kilograms "NO" Shall mean Number "M.M." Shall mean Millimetres "L.M." Shall mean Linear Metres "S.M." Shall mean Square Metres "C.M." Shall mean Cubic Metres "PRS" Shall mean Pairs "Ditto" Shall mean the whole of the preceding description except as qualified in the section in which it occurs. Where it occurs in brackets it shall mean the whole of the preceding description which is contained in the appropriate brackets. "M/S" Shall mean Measured Separately **Carried to Collection KES**		

Item	Description	AMOUNT KES	
	GENERAL PRELIMINARIES (CONT'D)		
	SITE LEVELS		
	Before commencing work the Contractor must arrange for and agree with the Architect and Quantity Surveyor the existing site levels and similarly, establish and agree a bench mark.		
	SETTING OUT		
	The Contractor shall set out the work in accordance with the dimensions and levels shown on the drawings and shall be responsible for the correctness of all dimensions and levels so set out by him and will be required to amend all errors arising from inaccurate setting out at his own cost and expense. In the event of any error or discrepancy in the dimensions or level marked on the drawings being discovered, such errors or discrepancies shall be reported by the Contractor to the Architect for his immediate attention.		
	No work shall be commenced by the Contractor until he has received written instruction from the Architect to adjust such discrepancies which may be proved. Upon receipt of such instructions the Contractor shall thereupon be responsible for adjustments necessary. No claim for extra expense or relief from the provisions of Clause 5 of the Conditions of Contract based on any discrepancy or error in the dimensions or levels shown on the Drawings may be made thereafter.		
	Before any work is commenced by Sub-Contractors or specialist firms, dimensions must be checked on the site and/or building and agreed with Contractor irrespective of the comparable dimensions shown on the drawings. The Contractor shall be responsible for the accuracy of such dimensions.		
	SAMPLES		
	The Contractor shall furnish at the earliest possible opportunity before work commences and at his own cost, any samples of materials or workmanship that may be called for by the Architect for his approval and any further samples in the case of rejection until such samples are approved by the Architect and such samples when approved shall be the minimum standard for the work to which they apply.	50,000	
	Carried to Collection KES	**50,000.00**	

Item	Description	AMOUNT KES	
	GENERAL PRELIMINARIES (CONT'D)		
	EXISTING PROPERTY		
	The Contractor shall take every precaution to avoid damage to all existing property including roads, cables, drains and other services and shall be held responsible for all damage thereto, arising from the execution of this Contract and shall make good all such damage when directed at his own expense.		
	EXISTING SERVICES		
	Prior to commencement of any work the Contractor shall ascertain from the relevant authorities the exact position, depth and level of all existing electric cables, water pipes or other services in the area and shall make whatever provisions may be required by the authorities concerned for the support and protection of such services. Any damage or disturbance caused to any service shall be reported immediately to the Architect and the relevant authority and shall be made good to their satisfaction at the Contractor's expense.		
	During the temporary interference with existing sewer or any drains, whether for the purpose of diverting, lifting, laying or making connections, the Contractor shall at his own expense provide timber troughs, pipes or other channels and if required, pumping appliances for maintaining the flow through the respective diversions.		
	MATERIALS, TOOLS, PLANT AND SCAFFOLDING		
	All materials and workmanship used in the execution of the Works shall be of the best quality and description unless otherwise described. Any materials for the work condemned by the Architect shall immediately be removed from the site at the Contractor's expense.		
	The Contractor shall be responsible for the provision of all materials, scaffolding, tools, plants, transport and workmen required for the Works except in so far as may be stated otherwise herein and shall allow for the provision of the foregoing except for such items specifically and only required for the use of Nominated Sub-contractors as described herein.	75,000.00	
	No timber used for scaffolding, formwork or similar purpose shall be used afterwards in the permanent works.		
	Carried to Collection KES	**75,000.00**	

Item	Description	AMOUNT KES	
	GENERAL PRELIMINARIES (CONT'D) **MATERIALS, TOOLS, PLANT AND SCAFFOLDING (CONT'D)** All such plant, tools and scaffolding shall comply with all regulations whether general or local in force throughout the period of the Contract and shall be altered or adapted during the Contract as may be necessary to comply with any amendments in or additions to such regulations.		
	LOCAL REGULATIONS AND BY-LAWS The Contractor is to comply with all local regulations and by-laws of the local Authority including serving of notices and paying of fees.	20,000	
	SUPERVISION The said works shall be executed under the direction and to the entire satisfaction of the Architect who shall at all times have access to the Works and the yards and workshops of the Contractor or other places where work is being prepared for the building.		
	TRANSPORT TO AND FROM THE SITE The Contractor shall include in his prices for the transport of materials, Workmen etc., to and from the site of the proposed Works, at such hours and by such routes as are permitted by the Authorities.		
	FAIR WAGES The Contractor shall pay rates of wages and observance hours and conditions of labour not less favourable than the minimum rates of remuneration and minimum conditions of employment applicable in the district in which the work is carried out. The relevant notice must be posted up and kept posted upon the site where it can conveniently be read by the employees concerned. The Contractor shall comply with the Regulation of Wages and Conditions of employment Act, Building and Construction Industry Wages Council and is to be responsible for compliance by Sub-Contractors employed in the execution of the Contract. If required he shall notify the Architect of the names and addresses of all such sub-contractors.		
	Carried to Collection KES	**20,000**	

Item	Description	AMOUNT KES	
	GENERAL PRELIMINARIES (CONT'D)		
	FAIR WAGES (CONT'D)		
	Should a claim be made to the Architect alleging the Contractor's default in payment of Fair Wages of any Workman employed on the Contract and if proof thereof satisfactory to the Architect is furnished by the labour Department the Architect may failing payment by the Contractor, pay the claim out of any monies due or which may become due to the Contractor under this contract.		
	The Contract shall furnish to the Architect if called upon to do so such particulars of the rates of wages, hours and conditions of labour referred to above.		
	SECURITY OF THE WORKS AND FENCING		
	The Contractor shall be entirely responsible for the security of the works, stores, materials, plant, personnel etc., both his own and sub-contractors, and shall provide all necessary watching, lighting and other precautions as necessary to ensure the security and the protection of the public.	60,000	
	PUBLIC AND PRIVATE ROADS, PAVEMENTS ETC.		
	The Contractor shall be required to make good at his own expense any damage he may cause to the present approach road surface during the progress of the works.		
	POLICE REGULATIONS		
	The Contractor shall allow for complying with all instructions and regulations of the police Authorities.		
	AREA TO BE OCCUPIED BY THE CONTRACTOR		
	The area of the site which may be occupied by the Contractor for use as storage and for the purpose of erecting workshops etc., shall be defined on the site by the Architect.		
	Carried to Collection KES	**60,000.00**	

Item	Description	AMOUNT KES	
	GENERAL PRELIMINARIES (CONT'D)		
	PROGRESS SCHEDULE		
	Immediately after signing the Contract the Contractor is to prepare a Time and progress Chart showing the time and order in which he proposes to carry out the works within the total Construction time stated in the Contract. The Chart shall show in detail the construction time and order in which each section of the work is to be carried out and be sub-divided into trades or tasks. If the Contractor proposes sectional completion of the project he must plan this in detail including access roads and services and this Programme shall and be reflected on the chart.	25,000	
	Upon letting of sub-contract the Contractor shall incorporate times and details of each separate sub-contractor's work (which information is to be agreed by the sub-contractor) and the chart shall be so designed to accommodate this information.		
	At the end of each week the Contractor shall mark on the chart in a different colour the actual time taken to complete the respective stages and sections of the work. The Contractor shall also show upon the chart the anticipated weekly labour strength required (divided into labourers and craftsmen) and shall similarly mark up the actual numbers employed.		
	The Contractor shall obtain the Architect's approval of the chart and then shall supply copies to the Architect and Quantity Surveyor.		
	OVERTIME		
	The Contractor shall be responsible for any extra costs for overtime working he considers will be necessary in order to complete the work within the contract period or time for completion apart from overtime working which may be authorised by the Architect.		
	If overtime is worked in accordance with a written instruction issued by the Architect, the Contractor shall be reimbursed in respect of such overtime to the extent only of the additional net cost of unproductive time payable over and above the basic hourly rates as laid down by the Regulations of Wages and Conditions of Employment Act, Building and Construction Industry Wages Council and excluding any bonuses, profits and overheads.		
	Carried to Collection KES	**25,000**	

Item	Description	AMOUNT KES	
	GENERAL PRELIMINARIES (CONT'D)		
	WATER		
	The Contractor shall provide at his own risk and cost all water for use in connection with the works including the work of sub-contractors, make arrangements of separate meter for all water used by him throughout the contract. The Contractor shall also provide temporary storage tanks and tubing, etc., as he may consider necessary and clear away at completion.	30,000	
	All water shall be fresh, clean and pure, free of earthly, vegetable or organic matter, acid or alkaline substance in solution or suspension.		
	LIGHTING AND POWER		
	The Contractor shall provide at his own risk and cost all artificial lighting and power for use on the works, including all sub-contractors and specialists' requirements and including all temporary connection, wiring, fittings, etc. and clearing away on completion. The Contractor shall pay all fees and obtain all permits in connection therewith.	30,000	
	CONCRETE TESTS		
	Note: The contractor shall allow in his rates all costs in connection with the making of the cubes, curing, transport, crushing by Local Authority and obtaining test certificate for a set of four 150 x 150 mm concrete test tubes.		
	10 Sets @ KES *		
	* The Tenderer to insert rate and extend.		
	TEMPORARY WORKS		
	ACCESS TO SITE AND TEMPORARY ROADS		
	Means of access to the site shall be agreed with the Architect prior to commencement of the Works and the Contractor shall allow for temporary access roads for the transport of materials, plant and workmen as may be required for the complete execution of the works including the provision of temporary culverts, crossings, bridges or any other means of gaining access.		
	Carried to Collection KES	**60,000**	

Item	Description	AMOUNT KES	
	GENERAL PRELIMINARIES (CONT'D)		
	TEMPORARY WOKS (CONT'D)		
	ACCESS TO SITE AND TEMPORARY ROADS (CONT'D)		
	Upon the completion of the works the contractor shall remove such temporary roads, temporary culverts, bridges etc. and make good and reinstate all works and services disturbed to the satisfaction of the Architect.		
	The Contractors attention is drawn to the fact that the execution of this contract must in no way affect the operation of the tenants alongside the access or temporary roads and he must allow here or in his rates for any cost in connection therewith.		
	TEMPORARY BUILDINGS		
	The Contractor shall provide sheds for storage accommodation for all goods and materials liable to suffer damage from exposure to sunlight or inclement weather.		
	The Contractor shall provide offices, mess rooms and all other buildings required by the Contractor for his own use and the use of Nominated Sub-Contractors as required by the item of attendance.		
	The Contractor shall provide a properly ventilated lockable office for the Consultants having a minimum floor area of 20 square metres, with a concrete or timber floor and walls, glazed windows, equipped with a desk with lockable drawers, table of sufficient size for site meetings, plan chest for drawings and twelve chairs. Provision shall be made for sanitation, artificial lighting and cleaning facilities for the duration of the Works.		
	TELEPHONE		
	The Contractor shall install, maintain and remove after the completion of the Works telephone services and pay all charges in connection therewith.		
	SANITATION		
	The sanitation of the Works shall be provided, maintained and removed on completion by the Contractor to the Satisfaction of the Architect and Local Authorities.	50,000	
	Carried to Collection KES	**50,000**	

Item	Description	AMOUNT KES	
	GENERAL PRELIMINARIES (CONT'D) **TEMPORARY WOKS (CONT'D)** **SANITATION (CONT'D)** The Contractor shall provide and/or arrange for toilet and sanitation facilities of his workmen and sub-contractor's workmen entirely at his own cost. The Contractor shall be required to pay all charges and shall ensure clean daily maintenance and disinfecting of the toilets and not less than once per week, the whole area shall be sprayed with disinfectant and insecticide and on completion of the works the toilets and any temporary drains shall be removed and all Works and surfaces disturbed made good and the whole area disinfected and left clean and free from pollution to the satisfaction of the Architect and Local Authorities. **HOARDING** Allow for providing, erecting, maintaining throughout the course of the Contract and afterwards clearing away temporary hoarding covering the entire site (approximately 120 linear metres) consisting of 100 mm diameter gum-pole frames 3000 mm high above ground level at 3000 mm centres with 50 mm diameter gum-pole horizontal supports at 900 mm centres cladded with gauge 32 galvanised corrugated iron sheets for the protection of the public complete with proper gates for access and egress of transport with suitable locks all to the approval of the Architect. The Contractor is in addition required to take all precautions necessary for the safe custody of the works, materials, plant, public and Employer's property on the site. Gantries along the roads shall be done to the Local Authorities standards. Advertisements shall not be displayed upon such hoarding unless prior permission of the Architect in writing has been obtained. The Contractor shall obtain any necessary permits, maintain in position, pay in necessary fees and finally clear away on completion. **Carried to Collection KES**		

Item	Description	AMOUNT KES	
	GENERAL PRELIMINARIES (CONT'D) **ADVERTISEMENTS** The contractor shall not allow, except with the consent in writing of the Architect, bill-posting or advertising of any kind upon the works or upon any place of which the Contractor has possession for the purpose of carrying out this contract, or take, publish, or advertise any photographs or any printed matter or use the name of the Architect in relation to the contract. **NOMINATED SUB-CONTRACTORS & SUPPLIERS** **PRIME COST SUMS** i) The words "Prime Cost" (or the initials "PC") wherever appearing in the Contract Documents shall mean net cost exclusive of any trade; cash or other discounts whatsoever but inclusive of the cost of packing, carriage and delivery. Such cost shall be the sums due to the Sub-contractor or Supplier after adjustment where applicable in respect of the measurements or rates. ii) Any increases or decreases in these Prime Cost Sums resulting from the adjustments and properly paid by the Contractor shall be added to or deducted from the Contract Sum in the final account. In substantiation the Contractor shall be required to produce to the Quantity Surveyor all quotations, invoices and receipted accounts as shall be necessary to show details of the sums actually paid. iii) Any sum added by the Contractor to the Contract Sum in respect to profit upon any prime Cost Sum shall be adjusted proportionately to the net amount properly expended and included in the final settlement of accounts. iv) Unless otherwise specified amounts stated against the item(s) 'Attendance' shall not be subject to proportional adjustment of the Prime Cost Sums. **Carried to Collection KES**		

Item	Description	AMOUNT KES	
	GENERAL PRELIMINARIES (CONT'D) **NOMINATED SUB CONTRACTORS** The Contractor shall accept the responsibility for providing the following services for Nominated Sub-Contractors: i) General Attendance: The following services are described as "allow" for general attendance: a) Use, for the purpose of the Sub-Contract Works of any scaffolding belonging to or provided by the Contractor while it remains so erected upon the site, provided that no warranty or other liability on the part of the Contractor or of his other sub-contractors shall be implied in regard to the fitness, condition or suitability of the said scaffolding; b) Provision of water, lighting, watching and attendance for the purpose of the Sub-Contract Works; c) Use of sanitary accommodation, mess rooms and welfare facilities; d) Provision of space for erection of offices or stores or space for storage of plant and materials; e) Clearing away rubbish produced by them. ii) Special attendance: The following services are stated under a separate item and where described shall have the meaning described hereunder. a) Taking delivery: shall mean provision of unskilled labour necessary to attend upon the Sub-contractor's workmen for the purpose of unloading plant and materials when received upon the site and placing in position within the Sub-contractor's storage space or store; b) Hoisting: Shall mean the provision of unskilled labour and the use of any Contractor's standing plant for the purpose of assisting the sub-contractor's plant and materials to the various level but not placing in its final position; c) Providing power: Shall mean the provision of power during the course of the Works and during the period of commissioning and training. **Carried to Collection KES**		

Item	Description	AMOUNT KES	
	GENERAL PRELIMINARIES (CONT'D)		
	NOMINATED SUPPLIERS		
	The Contractor shall take delivery anywhere in Nairobi of all materials or goods supplied by the Nominated Suppliers and shall sign a receipt as having received them in good order and condition. The Contractor shall insure, off load, transport to site, unload, hoist, provide safe storage and thereafter be responsible for any loss or damage or replacement of any such lost or damaged articles at his own expense and shall return empty cases if so required.		
	Provision is made herein following each appropriate P.C. Sum for the cost of the foregoing services against items reading "Take Delivery and Fix only".		
	SIGNBOARD		
	The Contractor shall provide, erect, maintain throughout the contract period and remove at the completion of the project, 1 NO. Signboard in which he shall show the names of the Employer, the Architect, the Quantity Surveyor, the Engineers and the Contractor and leave sufficient space to append the names of Nominated Sub-contractors and Nominated Suppliers.	35,000	
	The location and the size of the signboard, and the size and formula of lettering shall be directed by the Architect.		
	PROTECTING AND CLEANING THE WORKS		
	The Contractor shall cover up and protect all finished work liable to damage including provision of temporary roof, gutters, drains etc., until the completion of the works.		
	In the event of any damage occurring to the works, materials, sewers, drains, gullies, paths or other works on the site in temporary possession of the Contractor for the purpose of this contract, either from the weather, want of proper protection, defects, or insufficiency of the Works or any other cause whatsoever during the progress of the works the Contractor alone shall be responsible and shall without extra charge, make good all damage and pay all costs which may be levied.		
	Carried to Collection KES	**35,000**	

Item	Description	AMOUNT KES	
	GENERAL PRELIMINARIES (CONT'D)		
	PREVENTION OF NUISANCE		
	The works and such sections of the site necessary thereof shall be under the entire care and control of the Contractor during the whole period of the Contract and he shall take all possible precautions to prevent any nuisance, inconvenience or injury to the holders or occupiers of the existing or surrounding properties and to the public generally, and shall use proper precautions to ensure the safety of all wheeled traffic and pedestrians.		
	REMOVAL OF PLANT, RUBBISH ETC		
	The Contractor shall, upon completion of the Works remove and clear away all temporary buildings, plant, rubbish and unused material, and shall leave the whole of the site of the Works in a clean and tidy state to the satisfaction of the Architect. He shall also remove all rubbish and dirt from the site at weekly intervals or as directed by the Architect.		
	Particular care shall be taken in leaving windows clean and the removal of all paint and cement stains therefrom.		
	TRAINING LEVY		
	The law requires payment by the Contractor of a Training Levy on all contracts of more than U.S. $ 50,000.00 in value and the Contractor should allow in the preliminaries of this contract for all costs arising or resulting therefrom.		
	LABOUR AND PLANT RETURNS		
	The Contractor shall deliver to the Architect's Representative, or at his office, detailed returns showing the supervisory staff, numbers of the several classes of labour and plant employed on the Works, together with those of all subcontractors. The Contractor shall keep on the site a visitor's book for recording the names of all visitors to the site and shall ensure that all visitors are duly recorded.		
	Carried to Collection KES		

Item	Description	AMOUNT KES	
	GENERAL PRELIMINARIES (CONT'D)		
	SITE SAFETY AND FIRST AID FACILITIES		
	The Contractor shall instigate and maintain such site safety measures as are required by virtue of the Works and shall comply fully with all regulations, by-laws and the like concerning or touching on the works contained herein.	50,000	
	ADDITIONAL HOARDING		
	Additional to the Normal hoarding as hereunder provided, the contractor shall provide a covered board walk two metres wide around the perimeter of the whole building constructed of 25mm thick timber floor boarding on 100 x 50mm bearers at 600mm centres both ways: in both ground and first floor levels: 24 gauge galvanized corrugated iron sheet walls and truncated roof cover onto 150 x 50mm and 100 x 50mm timber frames at 600mm centres vertically and horizontally respectively.		
	DUST SCREENS		
	Additional to protection of site as hereunder provided, the Contractor shall provide and install on site 20gauge construction dust nets/screens with a 30% minimum shade rate and a minimum net weight of 50g/m2. The dust screens should cover completely the active site i.e Cover all the 3new floors levels completely to mitigate on noise pollution to sorrunding buildings.		
	Asbestos disposal		
	All resultant asbestos materials to be handled, removed and disposed off in strict adherence to NEMA guidelines on safe management and disposal of asbestos dated April 2013 (copy attached) read in conjunction with the EMCA act 2012. All asbestos works must be executed by NEMA licensed contractors and personnel only. The contractor may enter into a sub-contract or joint venture with a registered company should they not possess all the required licenses to undertake these works.		
	COPYRIGHT		
	The copyright of these documents is vested in the Quantity Surveyor and they may not be reproduced in whole or in part without the Quantity Surveyor's written permission.		
	Carried to Collection KES	**50,000**	

Item	Description	AMOUNT KES	
	PAGE NO. 2/1		
	PAGE NO 2/2		
	PAGE NO. 2/3		
	PAGE NO. 2/4		
	PAGE NO. 2/5	125,000	
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	PAGE NO. 2/13	50,000	
	PAGE NO. 2/14	75,000	
	PAGE NO. 2/15	20,000	
	PAGE NO. 2/16	60,000	
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	PAGE NO. 2/18	60,000	
	PAGE NO. 2/19	50,000	
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	PAGE NO. 2/23	35,000	
	PAGE NO 2/24		
	PAGE NO 2/25	50,000	
	TOTAL CARRIED TO MAIN SUMMARY KES	**550,000.00**	

GROUND FLOOR

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 3				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 1				
	GROUND FLOOR				
	WASHROOM				
	Demolish individual structures setting aside materials for re-use; carting away arising debris and non re-useable materials from site; all as directed by the interior designer; all works to be executed as per Architectural drawings				
A	Carefully demolish existing masonry walls irrespective of size; making good disturbed surfaces including any necessary filling to voids with approved materials ; consolidate and dispose off the resultant debris off site to an approved dumpsite or as per county government regulations.	SM	9	1,200.00	10,800.00
B	Carefully hack out existing floor tile finish irrespective of size; making good disturbed surfaces including any necessary filling to voids with approved materials;consolidate and dispose off resulting debris as directed by the interior designer and or as per county government regulations.	SM	15	1,000.00	15,000.00
C	Ditto: But to wall tiles	SM	57	1,000.00	57,000.00
D	Carefully take out existing doors size 800 x 2100mm high complete with all framings and ironmongery / accessories; making good disturbed surfaces including any necessary filling to voids with approved materials; Dispose off resulting debris as directed by the Architect and or as per the county government regulations. Hand over to Employer's warehouse for custody.	NO	2	3,000.00	6,000.00
	Carried to Collection			**KSHS**	**88,800.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	DOORS				
	Flush Door				
	Supply and fix preformed MDF doors as supplied by M/s Shah timber: or equal and approved supplier to architectural details.				
A	Single leaf door overall size 900 x 2400mm high; comprising of 1No. Opennable leaf size 800 x 2100mm high	NO	2	25,000.00	50,000.00
	Frames and linings: mahogany or equal approved hardwood: selected and kept clean				
B	200 x 50 mm Frames: Three labours: plugged	LM	12	2,000.00	24,000.00
C	20 x 40 mm Architrave: screwed to frame and pellated	LM	12	360.00	4,320.00
D	20 x 20 mm Quadrant beading: one labour: ditto	LM	12	360.00	4,320.00
E	10 x 20 mm Glazing beads	LM	5	360.00	1,800.00
F	100 x 50 mm Transomes; plug jointed to frames	LM	2	1,600.00	3,200.00
	Supply and fix the following ironmongery to timber complete with matching screws and keys as per 'UNION' catalogue				
G	100 mm x 76 x 2.50 stainless steel hinges; complete with pin and screws as per Union Catalogue number HN -DW - 403020 - SSS	PRS	3	500.00	1,500.00
H	Polished Brass three lever mortice door lock, brass handle and furniture set;(keyhole escutcheons, cylinder and latch) Reference to "UNION" Catalogue NO.2000-32SS- Tourcan or equal approved door lock complete with handles.	NO	2	3,500.00	7,000.00
I	Polished stainless steel door handles to UNION catlague number 2000 - 32 SS - Toucan.	NO	2	2,000.00	4,000.00
	Carried to Collection			**KSHS**	**100,140.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
A	38 mm diameter satin anodized aluminium door stop; rawl bolted to floor or wall; reference to UNION catalogue number DS-01AS	NO	2	300.00	600.00
	6 mm Clear sheet fanlight glass and glazing to timber with beads (measured separately)				
B	In panes not exceeding 0.1 square metres	SM	1	2,000.00	2,000.00
	Prepare and apply one coat aluminium wood primer: before fixing: on wood: to				
C	Surfaces not exceeding 100 mm girth	LM	29	100.00	2,900.00
D	Ditto: over 100 but not exceeding 200 mm girth	LM	14	100.00	1,400.00
	Prepare and apply three coats first grade polyurethane clear varnish: on wood: to				
E	Flush doors: general surfaces	SM	7	400.00	2,800.00
F	Frames: over 100 but not exceeding 200 mm girth	LM	12	100.00	1,200.00
G	Transomes: ditto	LM	2	100.00	200.00
H	Architraves: not exceeding 100 mm girth	LM	12	100.00	1,200.00
I	Quadrant beading : not exceeding 100 mm girth	LM	12	100.00	1,200.00
K	Glazing beads: ditto	LM	5	100.00	500.00
	Bench				
L	Bench overall size 800mm x 300mm x 600mm high; made of 100mm thick pressure treated hardwood timber; spray painted with waterproof wood paint; supported on and including timber side panel supports and backrest; complete with all fixing accessories and labours.	NO	1	10,000.00	10,000.00
	Carried to Collection			**KSHS**	**24,000.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	FLOOR FINISHES				
	Cement and sand (1:4) screeded beds ; on concrete : to				
A	40 mm Thick floors: finished to receive tile finish	SM	15	500.00	7,500.00
	Supply and fix 600 x 600 x 10mm Thick non-slip Granito floor tiles as supplied by M/s Saj Ceramics Ltd or equal and approved supplier: bedding and jointed using approved tile adhesive; grouting with propriety grouting on cement and sand screeded beds (m/s).				
B	Floors	SM	15	4,000.00	60,000.00
C	12 mm Thick x 150 mm high skirting with rounded top	LM	24	600.00	14,400.00
	WALL FINISHES				
	Supply and fix 200 x 900 x 8mm Thick porcelain wall tiles as supplied by M/s Saj Ceramics or equal and approved : on screeded beds(m/s); bedded and jointed in waterproof cement grout: to				
D	Walls upto 2100mm high.	SM	37	3,000.00	111,000.00
E	Aluminium edge beading for fair edges	LM	18	250.00	4,500.00
	12 mm Cement and sand (1:4) backings: on concrete or blockwork: to				
F	Walls: finished to receive glazed tiles	SM	37	500.00	18,500.00
	Carried to Collection			**KSHS**	**215,900.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	Sand scrape and brush: existing plastered walls: feather off rough edges and fill cracks and defects with polyfilla: treat with fungicide and dust off; prepare and apply three finishing coats of premium grade silk vinyl emulsion paint: to				
A	Existing walls	SM	49	600.00	29,400.00
	CEILING FINISHES				
B	Carefully demolish existing asbestos ceilings finish; making good disturbed surfaces with and including any necessary filling to voids with approved materials; consolidate and dispose off resulting debris as directed by the Architect, county government and or NEMA regulations.	SM	15	1,200.00	18,000.00
	Gypsum ceilings				
	12mm Thick Waterproof Gypsum ceiling board (1/2 hour fire rating) on and including aluminium channel framing; plugged onto walls and ceilings soffits; 62.5 x 25mm aluminium channel joists at 600mm centres both ways; complete with high tensile suspension wires including all labours of hoisting and fixing to position at a height not exceeding 3600mm above finished floor level in recessed and or flat pattern to I.D details.				
C	Ceilings	SM	15	3,000.00	45,000.00
D	Ditto: 100mm wide cornice.	LM	24	600.00	14,400.00
E	50 x 25mm Thick moulded plained mahogany timber strips along ceiling grids to match existing to architectuctural details.	LM	34	640.00	21,760.00
	Prepare and apply one undercoat and three coats premium grade silk vinyl emulsion paint with teflon surface protector as supplied by Crown paints: on plastered surfaces: to				
F	Sides and Soffits of suspended Gypsum Ceilings & eaves	SM	15	400.00	6,000.00
G	Ditto: cornice surfaces : 0-100mm girth	LM	24	100.00	2,400.00
H	Ditto two pack polyurethane Varnish to timber stripes surfaces	LM	34	100.00	3,400.00
	Carried to Collection			**KSHS**	**140,360.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	ELECTRICAL INSTALLATIONS				
	Final sub-circuits complete with accessories and fittings as detailed below and in the drawing wired in HG PVC conduits concealed in the floor, walls and roof space.				
A	Lighting points, wired in 3x1.5mm sq single core cables for one/two way switching in 20mm HG PVC pipe enclosed and concealed in floor, walls and roof space.	NO.	7	2,000.00	14,000.00
	LIGHT FITTINGS AND ACCESSORIES				
	Supply and install Lighting control accessories, light fittings as shown in the drawings complete with associated wiring terminations and fixing materials				
B	10A One gang one way switch as ART DNA B9-BK1A	NO.	1	1,000.00	1,000.00
C	10A Two gang one way switch as ARD DNA B9-BK2A	NO.	1	1,000.00	1,000.00
D	Carpi large flash ceiling light in brushed aluminium finish with a white diffusser for bathroom as Eglo 90448 as light E	NO.	4	9,000.00	36,000.00
E	Nlux 8W led bathroom shaver light mirror light made of polycarbonate 240v IP20	NO.	2	3,600.00	7,200.00
F	Mestre large ceiling light in antique brown/gold complete with frosted shade as EGLO MESTRE 86713 as light C	NO.	1	10,000.00	10,000.00
	Carried to Collection			**KSHS**	**69,200.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	PLUMBING & DRAINAGE WORKS				
	Sanitaryware & fittings				
	Supply, deliver and install the following sanitary fittings including all the necessary fittings and jointing.**Tenderers to note that ANY ALTERNATIVE will ONLY be considerd if they MATCH of exceed the specified items interms of TECHNICAL capabilities and MUST be accompanied with PRODUCT CATALOGUES**				
	WC Suite				
A	"Duravit Durastyle" close coupled WC suite in white, Vitreous China complete with 9.0 litre cistern with lever and valveless fittings having plastic syphon complete with inlet, outlet, dual flush press button overflow supporting brackets & heavy-duty soft closing seat and cover.	2	No.	50,000.00	100,000.00
B	WC "S" or "P" connector to drain pipe for horizontal outlet WC Pan	2	No.	2,000.00	4,000.00
C	Double toilet roll holder with spindle system for recessed mounting, stainless steel, surface satin finish, material thickness, folded front cover, cylinder lock with standard key for 2 rolls inclusive with all mounting accessories to Engineer's approval.	2	No.	15,000.00	30,000.00
	Coat hook				
D	Allow for Hansgrohe coat hooks to Engineer's approval.	2	No.	5,000.00	10,000.00
	Wash Hand Basin				
E	"Duravit Durastyle" Wash hand basin countertop in vitreous china with 1 No. center tap-hole or equal and approved size 650 x 500mm complete with the following:- - Hansgrohe Chrome plated waste fitting . - Wall hangers - Chrome plated bottle trap - Hansgrohe Chrome plated bottle trap	2	No.	40,000.00	80,000.00
	Whb tap				
F	Hansgrohe mixer basin tap or an approved equivalent	2	No.	25,000.00	50,000.00
	Carried to Collection			**KSHS**	**274,000.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	Plain size bevelled glass plate mirror size 750 x 500mm complete with dome headed chrome plated fixing screws.	2	No.	12,000.00	24,000.00
B	Ditto but 200mm diameter retractable mirror with retractabl and foldable holders and brackets, ultra light design, smooth rotation, no glare and crystal clear to Engineer's approval.	2	No	20,000.00	40,000.00
	SHOWER MIXERS				
C	Hansgrohe: Focus E2 Single Lever 4 Way Concealed Shower Fitting Consisting of : 4 Way Concealed Body and Single Lever Finish set Ref : 31741180 , 31947 Hansgrohe: Crometta Shower Rose 1 Function With Shower arm Ref : 28424 , 27411 Hansgrohe : Shower Spout	2	SET	200,000.00	400,000.00
	Soap Dish				
D	Hansgroge on wall crome plated soap dish	2	No.	5,000.00	10,000.00
	Towel Rack				
E	Hansgrohe Chrome plated towel rack to Engineer's approval.	2	No.	15,000.00	30,000.00
	Hand sanitizer point				
F	Mediclinics Touch free soap dispenser as mediclinics or approved equivalent for wall mounting, stainless steel hand sanitizer of 1 litre. To be refill type with infra red sensor activity for non touch operation complete with all mounting accessories. Rates to allow for initial charge.	1	No.	15,000.00	15,000.00
	Carried to Collection			**KSHS**	**519,000.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	COLD /HOT WATER PIPEWORK				
	Supply, deliver and install cold water polypropylene PP-R pipes and fittings to relevant B.S DIN and local standards. Tenderers must allow in their pipework prices for all the couplings, unions, connectors, joints, bypass bends, loop expansion bends, etc. in running lengths of pipes. Jointing & installation methods shall be as per manufacturers' recommendations only. All pipe diameters are internal diameters. **Polypropylene pipes as ARIETE® – 25 manufactured by EFFEGISRL has been used as a guide to the type and quality expected. Equal and approved brands shall be accepted only with the Engineers approval.** **Tenderers must allow in their prices for all couplings, connectors, holding brackets expansion joints as required in the running lengths of pipes.**				
A	**Pipes**				
	a) 25mm diameter PP-R pipe	24	LM	350.00	8,400.00
	b) 32mm ditto	15	LM	400.00	6,000.00
	c) 40mm ditto	20	LM	580.00	11,600.00
B	**Elbow and Bends**				
	a) 25mm diameter PP-R elbow/bend	4	No	100.00	400.00
	b) 32mm ditto	4	No	100.00	400.00
	c) 40mm ditto	2	No.	100.00	200.00
C	**Reducers**				
	a) 40x32mm ditto	2	No.	50.00	100.00
	b) 32x25mm ditto	4	No.	50.00	200.00
D	**Tees**				
	a) 25mm diameter PP-R equal tee	2	No	50.00	100.00
	b) 32mm ditto	2	No	70.00	140.00
	c) 40mm ditto	1	No.	80.00	80.00
	Carried to Collection			**KSHS**	**27,620.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	**Female threaded joints**				
	a) 25mm diameter PP-R Female threaded joint	2	No.	50.00	100.00
	b) 32mm ditto	2	No.	70.00	140.00
	c) 40mm ditto	1	No.	80.00	80.00
B	**Male threaded joints**				
	a) 25mm diameter PP-R Male threaded joints	2	No.	50.00	100.00
	b) 32mm ditto	2	No.	70.00	140.00
	c) 40mm ditto	1	No.	80.00	80.00
C	**Isolation Valves**				
	(a) 25mm diameter isolation valves	2	No.	2,500.00	5,000.00
	(b) 32mm ditto	2	No.	2,700.00	5,400.00
	(c) 40mm ditto	`1	No.	3,200.00	3,200.00
D	9 Litre water/carbon dioxide gas fire extinguishers complete with pressure gauge, initial charge and mounting brackets.	1	NO	12,000.00	12,000.00
E	9 Kg carbon dioxide gas fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	1	NO	12,000.00	12,000.00
F	4.5 kg dry powder fire extinguisher complete with initial charge and mounting brackets.	1	NO	12,000.00	12,000.00
G	8" x 8" Fire Blanket	1	NO	5,500.00	5,500.00
	All pipes to be as "Key Terrain" or "Metro" and prices to include connectors, adaptors, socket reducers, etc.				
H	**Pipes**				
	a) 100mm diameter UPVC grey pipe	12	LM	1,100.00	13,200.00
	b) 40mm ditto	15	LM	600.00	9,000.00
	c) 32mm ditto	15	LM	560.00	8,400.00
I	**Bends**				
	a) 100mm diameter UPVC access bend	1	No.	300.00	300.00
	b) 100mm diameter UPVC sweep bend	1	No.	250.00	250.00
	c) 40mm ditto	2	No.	120.00	240.00
	d) 32mm ditto	2	No.	120.00	240.00
	Carried to Collection			**KSHS**	**87,370.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	**Tees**				
	a) 100mm diameter single branch	1	No.	300.00	300.00
	b) 40mm diameter tee	3	No.	120.00	360.00
B	**Boss Connectors**				
	a) 100mm diameter boss connector	2	No.	150.00	300.00
	b) 40mm ditto	4	No.	100.00	400.00
	c) 32mm ditto	3	No.	100.00	300.00
C	**Inspection Plugs (Rodding eyes)**				
	a) 100mm diameter inspection plugs	1	No.	350.00	350.00
	b) 40mm ditto	2	No.	300.00	600.00
	c) 32mm ditto	2	No.	200.00	400.00
D	Four-way 100 x 50mm floor trap complete with stainless steel grating.	4	No.	3,000.00	12,000.00
	Carried to Collection				**15,010.00**
	COLLECTION				
	PAGE NO: 3/1				88,800.00
	PAGE NO: 3/2				100,140.00
	PAGE NO: 3/3				24,000.00
	PAGE NO: 3/4				215,900.00
	PAGE NO: 3/5				140,360.00
	PAGE NO: 3/6				69,200.00
	PAGE NO: 3/7				274,000.00
	PAGE NO: 3/8				519,000.00
	PAGE NO: 3/9				27,620.00
	PAGE NO: 3/10				87,370.00
	PAGE NO: 3/11				15,010.00
				KSHS	**1,561,400.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 3				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 2				
	GROUND FLOOR - LEISURE ROOM				
	ASBESTOS DISPOSAL				
	Carefully demolish existing asbestos ceilings finish; making good disturbed surfaces with and including any necessary filling to voids with approved materials; consolidate and dispose off resulting debris as directed by the Architect, county government and or NEMA regulations.				
A	Ceilings	SM	78	1,200.00	93,600.00
	Gypsum ceilings				
	12mm Thick Gypsum Bulkhead ceiling board (1/2 hour fire rating) on and including aluminium channel framing; plugged onto walls and ceilings soffits; 62.5 x 25mm aluminium channel joists at 600mm centres both ways; complete with high tensile suspension wires including all labours of hoisting and fixing to position at a height not exceeding 3600mm above finished floor level in recessed and or flat pattern as per interior designer's details.				
B	Ceilings	SM	78	3,000.00	234,000.00
C	Ditto: 100 x 50mm thick gypsum moulded Cornice	LM	37	500.00	18,500.00
D	50 x 25mm Thick moulded plained mahogany timber strips along ceiling grids to match existing to architectuctural details.	LM	118	640.00	75,520.00
	Prepare and apply one undercoat and three coats premium grade silk vinyl emulsion paint with teflon surface protector as supplied by Crown paints: on plastered surfaces: to				
E	Sides and Soffits of suspended Gypsum Ceilings	SM	78	400.00	31,200.00
F	Cornice surfaces: 0-100mm girth	LM	37	100.00	3,700.00
G	Ditto two pack polyurethane varnish to timber strip surfaces	LM	118	100.00	11,800.00
	Sand scrape and brush: existing plastered walls: feather off rough edges and fill cracks and defects with polyfilla: treat with fungicide and dust off; prepare and apply three finishing coats of premium grade silk vinyl emulsion paint: to				
H	Existing walls	SM	130	600.00	78,000.00
	TOTAL CARRIED TO SUMMARY			**KSHS**	**546,320.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 3				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 3				
	GROUND FLOOR - UTILITY & KITCHEN ROOM				
	ASBESTOS DISPOSAL				
	Carefully demolish existing asbestos ceilings finish; making good disturbed surfaces with and including any necessary filling to voids with approved materials; consolidate and dispose off resulting debris as directed by the Architect, county government and or NEMA regulations.				
A	Ceilings	SM	21	1,200.00	25,200.00
	Gypsum ceilings				
	12mm Thick Gypsum Bulkhead ceiling board (1/2 hour fire rating) on and including aluminium channel framing; plugged onto walls and ceilings soffits; 62.5 x 25mm aluminium channel joists at 600mm centres both ways; complete with high tensile suspension wires including all labours of hoisting and fixing to position at a height not exceeding 3600mm above finished floor level in recessed and or flat pattern as per interior designer's details.				
B	Ceilings	SM	21	3,000.00	63,000.00
C	Ditto: 100 x 50mm thick gypsum moulded Cornice	LM	20	500.00	10,000.00
D	50 x 25mm Thick moulded plained mahogany timber strips along ceiling grids to match existing to architectuctural details.	LM	71	640.00	45,440.00
	Prepare and apply one undercoat and three coats premium grade silk vinyl emulsion paint with teflon surface protector as supplied by Crown paints: on plastered surfaces: to				
E	Sides and Soffits of suspended Gypsum Ceilings	SM	21	400.00	8,400.00
F	Cornice surfaces: 0-100mm girth	LM	20	400.00	8,000.00
G	Ditto two pack polyurethane varnish to timber strip surfaces	LM	71	100.00	7,100.00
	Sand scrape and brush: existing plastered walls: feather off rough edges and fill cracks and defects with polyfilla: treat with fungicide and dust off; prepare and apply three finishing coats of premium grade silk vinyl emulsion paint: to				
H	Existing walls	SM	167	600.00	100,200.00
	TOTAL CARRIED TO SUMMARY			**KSHS**	**267,340.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 3				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 4				
	GROUND FLOOR - CORRIDOR / LOBBY AREA				
	ASBESTOS DISPOSAL				
	Carefully demolish existing asbestos ceilings finish; making good disturbed surfaces with and including any necessary filling to voids with approved materials; consolidate and dispose off resulting debris as directed by the Architect, county government and or NEMA regulations.				
A	Ceilings	SM	16	1,200.00	19,200.00
	Gypsum ceilings				
	12mm Thick Gypsum Bulkhead ceiling board (1/2 hour fire rating) on and including aluminium channel framing; plugged onto walls and ceilings soffits; 62.5 x 25mm aluminium channel joists at 600mm centres both ways; complete with high tensile suspension wires including all labours of hoisting and fixing to position at a height not exceeding 3600mm above finished floor level in recessed and or flat pattern as per interior designer's details.				
B	Ceilings	SM	16	3,000.00	48,000.00
C	Ditto: 100 x 50mm thick gypsum moulded Cornice	LM	26	500.00	13,000.00
D	50 x 25mm Thick moulded plained mahogany timber strips along ceiling grids to match existing to architectuctural details.	LM	22	640.00	14,080.00
	Prepare and apply one undercoat and three coats premium grade silk vinyl emulsion paint with teflon surface protector as supplied by Crown paints: on plastered surfaces: to				
E	Sides and Soffits of suspended Gypsum Ceilings	SM	16	400.00	6,400.00
F	Cornice surfaces: 0-100mm girth	LM	26	400.00	10,400.00
G	Ditto two pack polyurethane varnish to timber strip surfaces	LM	22	100.00	2,200.00
	Sand scrape and brush: existing plastered walls: feather off rough edges and fill cracks and defects with polyfilla: treat with fungicide and dust off; prepare and apply three finishing coats of premium grade silk vinyl emulsion paint: to				
H	Existing walls	SM	127	600.00	76,200.00
	TOTAL CARRIED TO SUMMARY			**KSHS**	**189,480.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 3				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 5				
	GROUND FLOOR - STORE ROOM				
	ASBESTOS DISPOSAL				
	Carefully demolish existing asbestos ceilings finish; making good disturbed surfaces with and including any necessary filling to voids with approved materials; consolidate and dispose off resulting debris as directed by the Architect, county government and or NEMA regulations.				
A	Ceilings	SM	6	1,200.00	7,200.00
	Gypsum ceilings				
	12mm Thick Gypsum Bulkhead ceiling board (1/2 hour fire rating) on and including aluminium channel framing; plugged onto walls and ceilings soffits; 62.5 x 25mm aluminium channel joists at 600mm centres both ways; complete with high tensile suspension wires including all labours of hoisting and fixing to position at a height not exceeding 3600mm above finished floor level in recessed and or flat pattern as per interior designer's details.				
B	Ceilings	SM	6	3,000.00	18,000.00
C	Ditto: 100 x 50mm thick gypsum moulded Cornice	LM	10	500.00	5,000.00
D	50 x 25mm Thick moulded plained mahogany timber strips along ceiling grids to match existing to architectuctural details.	LM	8	640.00	5,120.00
	Prepare and apply one undercoat and three coats premium grade silk vinyl emulsion paint with teflon surface protector as supplied by Crown paints: on plastered surfaces: to				
E	Sides and Soffits of suspended Gypsum Ceilings	SM	6	400.00	2,400.00
F	Cornice surfaces: 0-100mm girth	LM	10	400.00	4,000.00
G	Ditto two pack polyurethane varnish to timber strip surfaces	LM	8	100.00	800.00
	Sand scrape and brush: existing plastered walls: feather off rough edges and fill cracks and defects with polyfilla: treat with fungicide and dust off; prepare and apply three finishing coats of premium grade silk vinyl emulsion paint: to				
H	Existing walls	SM	31	600.00	18,600.00
	TOTAL CARRIED TO SUMMARY			**KSHS**	**61,120.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 3				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 6				
	GROUND FLOOR - DINING AREA				
	ASBESTOS DISPOSAL				
	Carefully demolish existing asbestos ceilings finish; making good disturbed surfaces with and including any necessary filling to voids with approved materials; consolidate and dispose off resulting debris as directed by the Architect, county government and or NEMA regulations.				
A	Ceilings	SM	31	1,200.00	37,200.00
	Gypsum ceilings				
	12mm Thick Gypsum Bulkhead ceiling board (1/2 hour fire rating) on and including aluminium channel framing; plugged onto walls and ceilings soffits; 62.5 x 25mm aluminium channel joists at 600mm centres both ways; complete with high tensile suspension wires including all labours of hoisting and fixing to position at a height not exceeding 3600mm above finished floor level in recessed and or flat pattern as per interior designer's details.				
B	Ceilings	SM	31	3,000.00	93,000.00
C	Ditto: 100 x 50mm thick gypsum moulded Cornice	LM	22	500.00	11,000.00
D	50 x 25mm Thick moulded plained mahogany timber strips along ceiling grids to match existing to architectuctural details.	LM	28	640.00	17,920.00
	Prepare and apply one undercoat and three coats premium grade silk vinyl emulsion paint with teflon surface protector as supplied by Crown paints: on plastered surfaces: to				
D	Sides and Soffits of suspended Gypsum Ceilings	SM	31	400.00	12,400.00
E	Cornice surfaces: 0-100mm girth	LM	22	100.00	2,200.00
G	Ditto two pack polyurethane varnish to timber strip surfaces	LM	28	100.00	2,800.00
	Sand scrape and brush: existing plastered walls: feather off rough edges and fill cracks and defects with polyfilla: treat with fungicide and dust off; prepare and apply three finishing coats of premium grade silk vinyl emulsion paint: to				
H	Existing walls	SM	114	600.00	68,400.00
	TOTAL CARRIED TO SUMMARY			**KSHS**	**244,920.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 3				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 7				
	GROUND FLOOR - ENTRANCE HALL				
	ASBESTOS DISPOSAL				
	Carefully demolish existing asbestos ceilings finish; making good disturbed surfaces with and including any necessary filling to voids with approved materials; consolidate and dispose off resulting debris as directed by the Architect, county government and or NEMA regulations.				
A	Ceilings	SM	45	1,200.00	54,000.00
	Gypsum ceilings				
	12mm Thick Gypsum Bulkhead ceiling board (1/2 hour fire rating) on and including aluminium channel framing; plugged onto walls and ceilings soffits; 62.5 x 25mm aluminium channel joists at 600mm centres both ways; complete with high tensile suspension wires including all labours of hoisting and fixing to position at a height not exceeding 3600mm above finished floor level in recessed and or flat pattern as per interior designer's details.				
B	Ceilings	SM	45	3,000.00	135,000.00
C	Ditto: 100 x 50mm thick gypsum moulded Cornice	LM	29	500.00	14,500.00
D	50 x 25mm Thick moulded plained mahogany timber strips along ceiling grids to match existing to architectuctural details.	LM	33	640.00	21,120.00
	Prepare and apply one undercoat and three coats premium grade silk vinyl emulsion paint with teflon surface protector as supplied by Crown paints: on plastered surfaces: to				
E	Sides and Soffits of suspended Gypsum Ceilings	SM	45	400.00	18,000.00
F	Cornice surfaces: 0-100mm girth	LM	29	100.00	2,900.00
G	Ditto two pack polyurethane varnish to timber strip surfaces	LM	33	100.00	3,300.00
	Sand scrape and brush: existing plastered walls: feather off rough edges and fill cracks and defects with polyfilla: treat with fungicide and dust off; prepare and apply three finishing coats of premium grade silk vinyl emulsion paint: to				
H	Existing walls	SM	101	600.00	60,600.00
	TOTAL CARRIED TO SUMMARY			**KSHS**	**309,420.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 3				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 8				
	GROUND FLOOR - LIVING ROOM				
	ASBESTOS DISPOSAL				
	Carefully demolish existing asbestos ceilings finish; making good disturbed surfaces with and including any necessary filling to voids with approved materials; consolidate and dispose off resulting debris as directed by the Architect, county government and or NEMA regulations.				
A	Ceilings	SM	58	1,200.00	69,600.00
	Gypsum ceilings				
	12mm Thick Gypsum Bulkhead ceiling board (1/2 hour fire rating) on and including aluminium channel framing; plugged onto walls and ceilings soffits; 62.5 x 25mm aluminium channel joists at 600mm centres both ways; complete with high tensile suspension wires including all labours of hoisting and fixing to position at a height not exceeding 3600mm above finished floor level in recessed and or flat pattern as per interior designer's details.				
B	Ceilings	SM	58	3,000.00	174,000.00
C	Ditto: 100 x 50mm thick gypsum moulded Cornice	LM	31	500.00	15,500.00
D	50 x 25mm Thick moulded plained mahogany timber strips along ceiling grids to match existing to architectuctural details.	LM	50	640.00	32,000.00
	Prepare and apply one undercoat and three coats premium grade silk vinyl emulsion paint with teflon surface protector as supplied by Crown paints: on plastered surfaces: to				
E	Sides and Soffits of suspended Gypsum Ceilings	SM	58	400.00	23,200.00
F	Cornice surfaces: 0-100mm girth	LM	31	400.00	12,400.00
G	Ditto two pack polyurethane varnish to timber strip surfaces	LM	50	100.00	5,000.00
	Sand scrape and brush: existing plastered walls: feather off rough edges and fill cracks and defects with polyfilla: treat with fungicide and dust off; prepare and apply three finishing coats of premium grade silk vinyl emulsion paint: to				
H	Existing walls	SM	174	600.00	104,400.00
	TOTAL CARRIED TO SUMMARY			**KSHS**	**436,100.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 3				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 9				
	GROUND FLOOR - PAINTING WORKS				
	INTERNAL PAINT WORKS				
	Sand scrape and brush: existing plastered walls: feather off rough edges and fill cracks and defects with polyfilla: treat with fungicide and dust off; prepare and apply three finishing coats of premium grade silk vinyl emulsion paint: to				
A	Existing walls: Study room	SM	73	600.00	43,800.00
B	Ditto: Pantry	SM	42	600.00	25,200.00
C	Ditto: Laundry	SM	47	600.00	28,200.00
D	Ditto: Wine store	SM	48	600.00	28,800.00
E	Ditto: Cloak room	SM	66	600.00	39,600.00
F	Ditto: Foyer	SM	45	600.00	27,000.00
G	Ditto : Gaming room	SM	110	600.00	66,000.00
	EXTERNAL PAINT WORKS				
	Sand scrape and brush: existing plastered walls: feather off rough edges and fill cracks and defects with polyfilla: treat with fungicide and dust off; prepare and apply three finishing coats of premium grade Crown permacote ultraguard silicone exterior paint: to				
H	Existing walls: externally	SM	613	800.00	490,400.00
	TOTAL CARRIED TO SUMMARY			**KSHS**	**749,000.00**

ITEM	DESCRIPTION	PAGE NO.	AMOUNT
	SECTION NO. 3		
	PROPOSED RENNOVATIONS TO SPANISH AMBASSADOR'S RESIDENCE		
	GROUND FLOOR SUMMARY		
	ELEMENT	**PAGE NO**	
1	WASHROOMS	**3/11**	1,561,400.00
2	LEISURE ROOM	**3/12**	546,320.00
3	UTILITY/ KITCHEN ROOM	**3/13**	267,340.00
4	CORRIDOR/ LOBBY AREA	**3/14**	189,480.00
5	STORE ROOM	**3/15**	61,120.00
6	DINING AREA	**3/16**	244,920.00
7	ENTRANCE HALL	**3/17**	309,420.00
8	LIVING ROOM	**3/18**	436,100.00
8	PAINT WORKS	**3/19**	749,000.00
	TOTAL CARRIED TO MAIN SUMMARY		**4,365,100.00**

UPPER FLOOR

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 4 - UPPER FLOOR				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 1 (PROVISIONAL)				
	ROOFING AND RAINWATER DISPOSAL				
	Roofing tile removal works				
A	Carefully take out existing clay roofing tiles; store on site for re-use into the project; make good disturbed surfaces; consolidate and dispose off resultant debris as per county govt regulations.	SM	624	600.00	374,400.00
	32gauge mini corrugated GCI sheet ; with 150mm side and end laps; on timber members: to				
B	Underlay to roofs	SM	624	1,000.00	624,000.00
	Structural timbers: sawn cypress: celcure treated: with and including making holes,nailing plates & cleats, bolting , nailing, joining with hoop iron and all labours for fixing all structural members and hoisting to roof members				
C	50 x 50 mm roofing batterns at 300mm centres	LM	3744	200.00	748,800.00
D	75 x 50mm purlins	LM	1248	300.00	374,400.00
E	Allow for trearments of existing structural roofing timber with xylophagous agents; with and inckuding surface preparation works before application.	SM	624	400.00	249,600.00
	Carried to collection			**KSHS**	**2,371,200.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	Interlocking clay roofing tiles overall size 400 x 250mm wide x 50mm thick at 3.1kg/unit; including inbuilt vents where necessary: laid on and including 50 x 50 mm celcure treated cypress battens at 300 mm centres: to				
A	Roof coverings	SM	125	2,500.00	312,500.00
B	Ridge capping	LM	13	500.00	6,500.00
C	Hip/valley capping	LM	21	500.00	10,500.00
D	Extra over labour item for raking cutting on roofing tiles	LM	68	100.00	6,800.00
	Roofing tile fixing works				
E	Take delivery from site clay roofing tiles and fix on GCI underlay (m/s): laid on and including 50 x 50mm celcure treated cypress batterns at 300mm centres to roof coverings.	SM	624	600.00	374,400.00
	Gutter re-painting works				
F	Carefully clean, apply one coat zinc chromate primer and three finishing coats of gloss oil paint to steel gutter surfaces.	LM	201	200.00	40,200.00
	Fascia/Eaves				
	12mm Thick waterproof gypsum boards to:				
G	Exposed roofing eaves secretly nailed to and including 50 x 50mm sawn celcured cypress battens at 300mm c/c with and including one undercoat and three finishing coats of silk vinyl emulsion paint.	SM	195	3,000.00	585,000.00
H	Ditto: Cornice beading at both edges.	LM	402	500.00	201,000.00
	Carried to collection			**KSHS**	**1,536,900.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	Roof Insulation				
	10mm Thick foil roof insulation material as supplied by M/s Jumbo Chem kenya ltd made from 100% closed cell polythene foam and fused with reinforced aluminium foil facing with a thermal conductivity of 0.0298W/m.K with and including all all labours of hoisting to a height not exceeding 7500mm high above finished floor level.				
A	Roof insulation	SM	624	1,200.00	748,800.00
	20mm Thick mastic asphalt tanking : on screeded beds(m/s): fixed with approved adhesive in accordance with manufacturer's specifications: to				
B	Roofs : Horizontal falls not exceeding 15 degrees : Wine store	SM	13	2,000.00	26,000.00
C	Ditto : part utility/kitchen room roofs	SM	30	2,000.00	60,000.00
	Carried to collection			**KSHS**	**834,800.00**
	COLLECTION				
	PAGE NO : 4/1				**2,371,200.00**
	PAGE NO : 4/2				**1,536,900.00**
	PAGE NO : 4/3				**834,800.00**
	TOTAL CARRIED TO SUMMARY			**KSHS**	**4,742,900.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 4 - UPPER FLOOR				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 2				
	UPPER FLOOR				
	BEDROOM 06				
	Demolish individual structures setting aside materials for re-use; carting away arising debris and non re-useable materials from site; all as directed by the interior designer; all works to be executed as per Architectural drawings				
A	Carefully demolish existing masonry walls irrespective of size; making good disturbed surfaces including any necessary filling to voids with approved materials ; consolidate and dispose off the resultant debris off site to an approved dumpsite or as per county government regulations.	SM	8	1,200.00	9,600.00
B	Carefully hack out existing floor tile finish irrespective of size; making good disturbed surfaces including any necessary filling to voids with approved materials;consolidate and dispose off resulting debris as directed by the interior designer and or as per county government regulations.	SM	7	1,000.00	7,000.00
C	Ditto: But to wall tiles	SM	40	1,000.00	40,000.00
D	Carefully take out existing doors size 800 x 2100mm high complete with all framings and ironmongery / accessories; making good disturbed surfaces including any necessary filling to voids with approved materials; Dispose off resulting debris as directed by the Architect and or as per the county government regulations. Hand over to Employer's warehouse for custody.	NO	2	3,000.00	6,000.00
	Carried to Collection			**KSHS**	**62,600.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	DOORS				
	Flush Door				
	Supply and fix preformed MDF doors as supplied by M/s Shah timber: or equal and approved supplier to architectural details.				
A	Single leaf door overall size 900 x 2400mm high; comprising of 1No. Opennable leaf size 800 x 2100mm high	NO	1	25,000.00	25,000.00
	Frames and linings: mahogany or equal approved hardwood: selected and kept clean				
B	200 x 50 mm Frames: Three labours: plugged	LM	6	2,000.00	12,000.00
C	20 x 40 mm Architrave: screwed to frame and pellated	LM	6	360.00	2,160.00
D	20 x 20 mm Quadrant beading: one labour: ditto	LM	6	360.00	2,160.00
E	10 x 20 mm Glazing beads	LM	3	360.00	1,080.00
F	100 x 50 mm Transomes; plug jointed to frames	LM	1	1,600.00	1,600.00
	Supply and fix the following ironmongery to timber complete with matching screws and keys as per 'UNION' catalogue				
G	100 mm x 76 x 2.50 stainless steel hinges; complete with pin and screws as per Union Catalogue number HN -DW - 403020 - SSS	PRS	1.5	500.00	750.00
H	Polished Brass three lever mortice door lock, brass handle and furniture set;(keyhole escutcheons, cylinder and latch) Reference to "UNION" Catalogue NO.2000-32SS- Tourcan or equal approved door lock complete with handles.	NO	1	3,500.00	3,500.00
I	Polished stainless steel door handles to UNION catlague number 2000 - 32 SS - Toucan.	NO	1	2,000.00	2,000.00
	Carried to Collection			**KSHS**	**50,250.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
A	38 mm diameter satin anodized aluminium door stop; rawl bolted to floor or wall; reference to UNION catalogue number DS-01AS	NO	1	300.00	300.00
	6 mm Clear sheet fanlight glass and glazing to timber with beads (measured separately)				
B	In panes not exceeding 0.1 square metres	SM	1	2,000.00	2,000.00
	Prepare and apply one coat aluminium wood primer: before fixing: on wood: to				
C	Surfaces not exceeding 100 mm girth	LM	15	100.00	1,500.00
D	Ditto: over 100 but not exceeding 200 mm girth	LM	7	100.00	700.00
	Prepare and apply three coats first grade polyurethane clear varnish: on wood: to				
E	Flush doors: general surfaces	SM	4	400.00	1,600.00
F	Frames: over 100 but not exceeding 200 mm girth	LM	6	100.00	600.00
G	Transomes: ditto	LM	1	100.00	100.00
H	Architraves: not exceeding 100 mm girth	LM	6	100.00	600.00
I	Quadrant beading : not exceeding 100 mm girth	LM	6	100.00	600.00
J	Glazing beads: ditto	LM	3	100.00	300.00
	Frameless Glass door & Partition				
K	12mm Thick Laminated frameless glass partition; complete with and including heavy duty floor springs; bevelled edges complete with and including stainless steel patch fittings, fixing accessories and all ironmongery to Assa abloy kenya catalogue specifications; with and including doors overall size 800 x 2100mm high (1No.) and all fixing accessories and door ironmongery.	SM	4	18,000.00	72,000.00
	Carried to Collection			**KSHS**	**80,300.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	Window roller blinds				
A	2000mm x 2000mm high roller window blinds ; made from water proof black out fabric with and including running tracks and guides; compete with roller up and down motorized or non motorized mechanism.	SM	4	5,000.00	20,000.00
	FLOOR FINISHES				
	Cement and sand (1:4) screeded beds ; on concrete : to				
B	40 mm Thick floors: finished to receive tile finish	SM	15	500.00	7,500.00
	Supply and fix 600 x 600 x 10mm Thick non-slip Granito floor tiles as supplied by M/s Saj Ceramics Ltd or equal and approved supplier: bedding and jointed using approved tile adhesive; grouting with propriety grouting on cement and sand screeded beds (m/s).				
C	Floors	SM	15	4,000.00	60,000.00
D	12 mm Thick x 150 mm high skirting with rounded top	LM	24	600.00	14,400.00
	WALL FINISHES				
	Natural Quarry stone walling with a minimum of 5.0 N/mm2 average compessive strength to B.S 5390; bedded and jointed in cement and sand (1:4) mortar ; reinforced with 25 x 3 mm hick hoop iron strips at alternate courses to: -				
E	200 mm Thick machine walls	SM	2	2,000.00	4,000.00
	Supply and fix 200 x 900 x 8mm Thick porcelain wall tiles as supplied by M/s Saj Ceramics or equal and approved : on screeded beds(m/s); bedded and jointed in waterproof cement grout: to				
F	Walls upto 2100mm high.	SM	22	3,000.00	66,000.00
G	Aluminium edge beading for fair edges	LM	11	200.00	2,200.00
	Carried to Collection			**KSHS**	**174,100.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	12 mm Cement and sand (1:4) backings: on concrete or blockwork: to				
A	Walls: finished to receive glazed tiles	SM	22	500.00	11,000.00
	Sand scrape and brush: existing plastered walls: feather off rough edges and fill cracks and defects with polyfilla: treat with fungicide and dust off; prepare and apply three finishing coats of premium grade silk vinyl emulsion paint: to				
B	Existing walls	SM	65	600.00	39,000.00
	12 mm Thick lime plaster: with and including sika waterproofing admixture: steel trowelled: on concrete or blockwork: to				
C	Walls surfaces	SM	4	500.00	2,000.00
	Prepare and apply three coats premium grade silk vinyl emulsion paint: on plaster: to				
D	Walls surfaces	SM	4	500.00	2,000.00
	<u>CEILING FINISHES</u>				
E	Carefully demolish existing asbestos ceilings finish; making good disturbed surfaces with and including any necessary filling to voids with approved materials; consolidate and dispose off resulting debris as directed by the Architect, county government and or NEMA regulations.	SM	31	1,200.00	37,200.00
	Gypsum ceilings				
	12mm Thick Waterproof Gypsum ceiling board (1/2 hour fire rating) on and including aluminium channel framing; plugged onto walls and ceilings soffits; 62.5 x 25mm aluminium channel joists at 600mm centres both ways; complete with high tensile suspension wires including all labours of hoisting and fixing to position at a height not exceeding 3600mm above finished floor level in recessed and or flat pattern to I.D details.				
G	Ceilings	SM	31	3,000.00	93,000.00
	Carried to Collection			**KSHS**	**184,200.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	Ditto: 100mm wide cornice.	LM	39	600.00	23,400.00
B	50 x 25mm Thick moulded plained mahogany timber strips along ceiling grids to match existing to architectuctural details.	LM	20	640.00	12,800.00
	Prepare and apply one undercoat and three coats premium grade silk vinyl emulsion paint with teflon surface protector as supplied by Crown paints: on plastered surfaces: to				
C	Sides and Soffits of suspended Gypsum Ceilings & eaves	SM	31	400.00	12,400.00
D	Ditto: cornice surfaces : 0-100mm girth	LM	39	100.00	3,900.00
E	Ditto two pack polyurethane varnish to timber strip surfaces	LM	20	100.00	2,000.00
	ELECTRICAL INSTALLATIONS				
	Final sub-circuits complete with accessories and fittings as detailed below and in the drawing wired in HG PVC conduits concealed in the floor, walls and roof space.				
F	Lighting points, wired in 3x1.5mm sq single core cables for one/two way switching in 20mm HG PVC pipe enclosed and concealed in floor, walls and roof space.	NO.	2	2,000.00	4,000.00
	LIGHT FITTINGS AND ACCESSORIES				
	Supply and install Lighting control accessories, light fittings as shown in the drawings complete with associated wiring terminations and fixing materials				
G	10A One gang one way switch as ART DNA B9-BK1A	NO.	1	1,000.00	1,000.00
H	Carpi large flash ceiling light in brushed aluminium finish with a white diffusser for bathroom as Eglo 90448 as light E	NO.	1	9,000.00	9,000.00
I	Nlux 8W led bathroom shaver light mirror light made of polycarbonate 240v IP20	NO.	1	3,600.00	3,600.00
	Carried to Collection			**KSHS**	**72,100.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	PLUMBING & DRAINAGE WORKS				
	Sanitaryware & fittings				
	Supply, deliver and install the following sanitary fittings including all the necessary fittings and jointing.**Tenderers to note that ANY ALTERNATIVE will ONLY be considerd if they MATCH of exceed the specified items interms of TECHNICAL capabilities and MUST be accompanied with PRODUCT CATALOGUES**				
	WC Suite				
A	"Duravit Durastyle" close coupled WC suite in white, Vitreous China complete with 9.0 litre cistern with lever and valveless fittings having plastic syphon complete with inlet, outlet, dual flush press button overflow supporting brackets & heavy-duty soft closing seat and cover.	1	No.	50,000.00	50,000.00
B	WC "S" or "P" connector to drain pipe for horizontal outlet WC Pan	1	No.	2,000.00	2,000.00
C	Double toilet roll holder with spindle system for recessed mounting, stainless steel, surface satin finish, material thickness, folded front cover, cylinder lock with standard key for 2 rolls inclusive with all mounting accessories to Engineer's approval.	1	No.	15,000.00	15,000.00
	Coat hook				
D	Allow for Hansgrohe coat hooks to Engineer's approval.	1	No.	5,000.00	5,000.00
	Wash Hand Basin				
E	"Duravit Durastyle" Wash hand basin countertop in vitreous china with 1 No. center tap-hole or equal and approved size 650 x 500mm complete with the following:- - Hansgrohe Chrome plated waste fitting . - Wall hangers - Chrome plated bottle trap - Hansgrohe Chrome plated bottle trap	1	No.	40,000.00	40,000.00
	Whb tap				
F	Hansgrohe mixer basin tap or an approved equivalent	1	No.	25,000.00	25,000.00
	Carried to Collection			**KSHS**	**137,000.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	Plain size bevelled glass plate mirror size 750 x 750mm complete with dome headed chrome plated fixing screws.	1	No.	15,000.00	15,000.00
B	Ditto but 200mm diameter retractable mirror with retractabl and foldable holders and brackets, ultra light design, smooth rotation, no glare and crystal clear to Engineer's approval.	1	No	20,000.00	20,000.00
	SHOWER MIXERS				
C	Hansgrohe: Focus E2 Single Lever 4 Way Concealed Shower Fitting Consisting of : 4 Way Concealed Body and Single Lever Finish set Ref : 31741180 , 31947 Hansgrohe: Crometta Shower Rose 1 Function With Shower arm Ref : 28424 , 27411 Hansgrohe : Shower Spout	1	SET	200,000.00	200,000.00
	Soap Dish				
D	Hansgroge on wall crome plated soap dish	1	No.	5,000.00	5,000.00
	Towel Rack				
E	Hansgrohe Chrome plated towel rack to Engineer's approval.	1	No.	15,000.00	15,000.00
	Hand sanitizer point				
F	Mediclinics Touch free soap dispenser as mediclinics or approved equivalent for wall mounting, stainless steel hand sanitizer of 1 litre. To be refill type with infra red sensor activity for non touch operation complete with all mounting accessories. Rates to allow for initial charge.	1	No.	25,000.00	25,000.00
	Carried to Collection			**KSHS**	**280,000.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	COLD /HOT WATER PIPEWORK				
	Supply, deliver and install cold water polypropylene PP-R pipes and fittings to relevant B.S DIN and local standards. Tenderers must allow in their pipework prices for all the couplings, unions, connectors, joints, bypass bends, loop expansion bends, etc. in running lengths of pipes. Jointing & installation methods shall be as per manufacturers' recommendations only. All pipe diameters are internal diameters.				
	Polypropylene pipes as ARIETE® – 25 manufactured by EFFEGISRL has been used as a guide to the type and quality expected. Equal and approved brands shall be accepted only with the Engineers approval.				
	Tenderers must allow in their prices for all couplings, connectors, holding				
A	**Pipes**				
	a) 25mm diameter PP-R pipe	28	LM	350.00	9,800.00
	b) 32mm ditto	15	LM	400.00	6,000.00
	c) 40mm ditto	20	LM	580.00	11,600.00
B	**Elbow and Bends**				
	a) 25mm diameter PP-R elbow/bend	4	No	100.00	400.00
	b) 32mm ditto	4	No	100.00	400.00
	c) 40mm ditto	2	No.	100.00	200.00
C	**Reducers**				
	a) 40x32mm ditto	2	No.	50.00	100.00
	b) 32x25mm ditto	4	No.	50.00	200.00
D	**Tees**				
	a) 25mm diameter PP-R equal tee	2	No	50.00	100.00
	b) 32mm ditto	2	No	70.00	140.00
	c) 40mm ditto	1	No.	80.00	80.00
E	**Female threaded joints**				
	a) 25mm diameter PP-R Female threaded joint	2	No.	50.00	100.00
	b) 32mm ditto	2	No.	70.00	140.00
	c) 40mm ditto	1	No.	80.00	80.00
	Carried to Collection			**KSHS**	**29,340.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	**Male threaded joints**				
	a) 25mm diameter PP-R Male threaded joints	2	No.	50.00	100.00
	b) 32mm ditto	2	No.	70.00	140.00
	c) 40mm ditto	1	No.	80.00	80.00
B	**Isolation Valves**				
	(a) 25mm diameter isolation valves	2	No.	2,500.00	5,000.00
	(b) 32mm ditto	2	No.	2,700.00	5,400.00
	(c) 40mm ditto	1	No.	3,200.00	3,200.00
	All pipes to be as "Key Terrain" or "Metro" and prices to include connectors, adaptors, socket reducers, etc.				
C	**Pipes**				
	a) 100mm diameter UPVC grey pipe	15	LM	1,100.00	16,500.00
	b) 40mm ditto	15	LM	600.00	9,000.00
	c) 32mm ditto	15	LM	560.00	8,400.00
D	**Bends**				
	a) 100mm diameter UPVC access bend	1	No.	300.00	300.00
	b) 100mm diameter UPVC sweep bend	1	No.	250.00	250.00
	c) 40mm ditto	2	No.	120.00	240.00
	d) 32mm ditto	2	No.	120.00	240.00
E	**Tees**				
	a) 100mm diameter single branch	1	No.	300.00	300.00
	b) 40mm diameter tee	3	No.	120.00	360.00
F	**Boss Connectors**				
	a) 100mm diameter boss connector	2	No.	150.00	300.00
	b) 40mm ditto	4	No.	100.00	400.00
	c) 32mm ditto	3	No.	100.00	300.00
G	**Inspection Plugs (Rodding eyes)**				
	a) 100mm diameter inspection plugs	1	No.	350.00	350.00
	b) 40mm ditto	2	No.	300.00	600.00
	c) 32mm ditto	2	No.	200.00	400.00
H	Four-way 100 x 50mm floor trap complete with stainless steel grating.	2	No.	3,000.00	6,000.00
	Carried to Collection			**KSHS**	**57,860.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	COLLECTION				
	PAGE NO: 4/4				62,600.00
	PAGE NO: 4/5				50,250.00
	PAGE NO: 4/6				80,300.00
	PAGE NO: 4/7				174,100.00
	PAGE NO: 4/8				184,200.00
	PAGE NO: 4/9				72,100.00
	PAGE NO: 4/10				137,000.00
	PAGE NO: 4/11				280,000.00
	PAGE NO: 4/12				29,340.00
	PAGE NO: 4/13				57,860.00
				KSHS	**1,127,750.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SECTION NO. 4 - UPPER FLOOR				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 3				
	BEDROOM 05				
	Demolish individual structures setting aside materials for re-use; carting away arising debris and non re-useable materials from site; all as directed by the interior designer; all works to be executed as per Architectural drawings				
A	Carefully hack out existing floor tile finish irrespective of size; making good disturbed surfaces including any necessary filling to voids with approved materials;consolidate and dispose off resulting debris as directed by the interior designer and or as per county government regulations.	SM	5	1,000.00	5,000.00
B	Ditto: But to wall tiles	SM	39	1,000.00	39,000.00
	Frameless Glass door & Partition				
C	12mm Thick Laminated frameless glass partition; complete with and including heavy duty floor springs; bevelled edges complete with and including stainless steel patch fittings, fixing accessories and all ironmongery to Assa abloy kenya catalogue specifications; with and including doors overall size 800 x 2100mm high (1No.) and all fixing accessories and door ironmongery.	SM	3	18,000.00	54,000.00
	FLOOR FINISHES				
	Cement and sand (1:4) screeded beds ; on concrete : to				
D	40 mm Thick floors: finished to receive tile finish	SM	5	500.00	2,500.00
	Carried to Collection			**KSHS**	**100,500.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	Supply and fix 600 x 600 x 10mm Thick non-slip Granito floor tiles as supplied by M/s Saj Ceramics Ltd or equal and approved supplier: bedding and jointed using approved tile adhesive; grouting with propriety grouting on cement and sand screeded beds (m/s).				
A	Floors	SM	5	4,000.00	20,000.00
B	12 mm Thick x 150 mm high skirting with rounded top	LM	11	600.00	6,600.00
	WALL FINISHES				
	Supply and fix 200 x 900 x 8mm Thick porcelain wall tiles as supplied by M/s Saj Ceramics or equal and approved : on screeded beds(m/s); bedded and jointed in waterproof cement grout: to				
C	Walls upto 2100mm high	SM	23	3,000.00	69,000.00
D	Aluminium edge beading for fair edges	LM	11	200.00	2,200.00
	12 mm Cement and sand (1:4) backings: on concrete or blockwork: to				
E	Walls: finished to receive glazed tiles	SM	23	400.00	9,200.00
	Sand scrape and brush: existing plastered walls: feather off rough edges and fill cracks and defects with polyfilla: treat with fungicide and dust off; prepare and apply three finishing coats of premium grade silk vinyl emulsion paint: to				
F	Existing walls	SM	77	600.00	46,200.00
	CEILING FINISHES				
G	Carefully demolish existing asbestos ceilings finish; making good disturbed surfaces with and including any necessary filling to voids with approved materials; consolidate and dispose off resulting debris as directed by the Architect, county government and or NEMA regulations.	SM	26	1,200.00	31,200.00
	Carried to Collection			**KSHS**	**184,400.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	Gypsum ceilings				
	12mm Thick Waterproof Gypsum ceiling board (1/2 hour fire rating) on and including aluminium channel framing; plugged onto walls and ceilings soffits; 62.5 x 25mm aluminium channel joists at 600mm centres both ways; complete with high tensile suspension wires including all labours of hoisting and fixing to position at a height not exceeding 3600mm above finished floor level in recessed and or flat pattern to I.D details.				
A	Ceilings	SM	26	3,000.00	78,000.00
B	Ditto: 100mm wide cornice.	LM	25	600.00	15,000.00
C	50 x 25mm Thick moulded plained mahogany timber strips along ceiling grids to match existing to architectuctural details.	LM	26	640.00	16,640.00
	Prepare and apply one undercoat and three coats premium grade silk vinyl emulsion paint with teflon surface protector as supplied by Crown paints: on plastered surfaces: to				
D	Sides and Soffits of suspended Gypsum Ceilings & eaves	SM	26	400.00	10,400.00
E	Ditto: cornice surfaces : 0-100mm girth	LM	25	100.00	2,500.00
F	Ditto two pack polyurethane varnish to timber strip surfaces	LM	26	100.00	2,600.00
	ELECTRICAL INSTALLATIONS				
	Final sub-circuits complete with accessories and fittings as detailed below and in the drawing wired in HG PVC conduits concealed in the floor, walls and roof space.				
E	Lighting points, wired in 3x1.5mm sq single core cables for one/two way switching in 20mm HG PVC pipe enclosed and concealed in floor, walls and roof space.	NO.	2	2,000.00	4,000.00
	LIGHT FITTINGS AND ACCESSORIES				
	Supply and install Lighting control accessories, light fittings as shown in the drawings complete with associated wiring terminations and fixing materials				
F	10A One gang one way switch as ART DNA B9-BK1A	NO.	1	1,000.00	1,000.00
G	Carpi large flash ceiling light in brushed aluminium finish with a white diffusser for bathroom as Eglo 90448 as light E	NO.	1	9,000.00	9,000.00
H	Nlux 8W led bathroom shaver light mirror light made of polycarbonate 240v IP20	NO.	1	3,600.00	3,600.00
	Carried to Collection			**KSHS**	**142,740.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	PLUMBING & DRAINAGE WORKS				
	Sanitaryware & fittings				
	Supply, deliver and install the following sanitary fittings including all the necessary fittings and jointing.Tenderers to note that ANY ALTERNATIVE will ONLY be considerd if they MATCH of exceed the specified items interms of TECHNICAL capabilities and MUST be accompanied with PRODUCT CATALOGUES				
	WC Suite				
	"Duravit Durastyle" close coupled WC suite in white, Vitreous China complete with 9.0 litre cistern with lever and valveless fittings having plastic syphon complete with inlet, outlet, dual flush press button overflow supporting brackets & heavy-duty soft closing seat and cover.	1	No.	50,000.00	50,000.00
B	WC "S" or "P" connector to drain pipe for horizontal outlet WC Pan	1	No.	2,000.00	2,000.00
C	Double toilet roll holder with spindle system for recessed mounting, stainless steel, surface satin finish, material thickness, folded front cover, cylinder lock with standard key for 2 rolls inclusive with all mounting accessories to Engineer's approval.	1	No.	15,000.00	15,000.00
	Coat hook				
D	Allow for Hansgrohe coat hooks to Engineer's approval.	1	No.	5,000.00	5,000.00
	Wash Hand Basin				
E	"Duravit Durastyle" Wash hand basin countertop in vitreous china with 1 No. center tap-hole or equal and approved size 650 x 500mm complete with the following:- - Hansgrohe Chrome plated waste fitting . - Wall hangers - Chrome plated bottle trap - Hansgrohe Chrome plated bottle trap	1	No.	40,000.00	40,000.00
	Whb tap				
F	Hansgrohe mixer basin tap or an approved equivalent	1	No.	25,000.00	25,000.00
	Carried to Collection			**KSHS**	**137,000.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	Plain size bevelled glass plate mirror size 750 x 750mm complete with dome headed chrome plated fixing screws.	1	No.	15,000.00	15,000.00
B	Ditto but 200mm diameter retractable mirror with retractabl and foldable holders and brackets, ultra light design, smooth rotation, no glare and crystal clear to Engineer's approval.	1	No	20,000.00	20,000.00
	SHOWER MIXERS				
C	Hansgrohe: Focus E2 Single Lever 4 Way Concealed Shower Fitting Consisting of : 4 Way Concealed Body and Single Lever Finish set Ref : 31741180 , 31947 Hansgrohe: Crometta Shower Rose 1 Function With Shower arm Ref : 28424 , 27411 Hansgrohe : Shower Spout	1	SET	200,000.00	200,000.00
	Soap Dish				
D	Hansgroge on wall crome plated soap dish	1	No.	5,000.00	5,000.00
	Towel Rack				
E	Hansgrohe Chrome plated towel rack to Engineer's approval.	1	No.	15,000.00	15,000.00
	Hand sanitizer point				
F	Mediclinics Touch free soap dispenser as mediclinics or approved equivalent for wall mounting, stainless steel hand sanitizer of 1 litre. To be refill type with infra red sensor activity for non touch operation complete with all mounting accessories. Rates to allow for initial charge.	1	No.	25,000.00	25,000.00
	Carried to Collection			**KSHS**	**280,000.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	COLD /HOT WATER PIPEWORK				
	Supply, deliver and install cold water polypropylene PP-R pipes and fittings to relevant B.S DIN and local standards. Tenderers must allow in their pipework prices for all the couplings, unions, connectors, joints, bypass bends, loop expansion bends, etc. in running lengths of pipes. Jointing & installation methods shall be as per manufacturers' recommendations only. All pipe diameters are internal diameters. **Polypropylene pipes as ARIETE® – 25 manufactured by EFFEGISRL has been used as a guide to the type and quality expected. Equal and approved brands shall be accepted only with the Engineers approval.** **Tenderers must allow in their prices for all couplings, connectors, holding brackets expansion joints as required in the running lengths of pipes.**				
A	**Pipes**				
	a) 25mm diameter PP-R pipe	28	LM	350.00	9,800.00
	b) 32mm ditto	15	LM	400.00	6,000.00
	c) 40mm ditto	20	LM	580.00	11,600.00
B	**Elbow and Bends**				
	a) 25mm diameter PP-R elbow/bend	4	No	100.00	400.00
	b) 32mm ditto	4	No	100.00	400.00
	c) 40mm ditto	2	No.	100.00	200.00
C	**Reducers**				
	a) 40x32mm ditto	2	No.	50.00	100.00
	b) 32x25mm ditto	4	No.	50.00	200.00
D	**Tees**				
	a) 25mm diameter PP-R equal tee	2	No	50.00	100.00
	b) 32mm ditto	2	No	70.00	140.00
	c) 40mm ditto	1	No.	80.00	80.00
E	**Female threaded joints**				
	a) 25mm diameter PP-R Female threaded joint	2	No.	50.00	100.00
	b) 32mm ditto	2	No.	70.00	140.00
	c) 40mm ditto	1	No.	80.00	80.00
	Carried to Collection			**KSHS**	**29,340.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	**Male threaded joints**				
	a) 25mm diameter PP-R Male threaded joints	2	No.	50.00	100.00
	b) 32mm ditto	2	No.	70.00	140.00
	c) 40mm ditto	1	No.	80.00	80.00
B	**Isolation Valves**				
	(a) 25mm diameter isolation valves	2	No.	2,500.00	5,000.00
	(b) 32mm ditto	2	No.	2,700.00	5,400.00
	(c) 40mm ditto	1	No.	3,200.00	3,200.00
	All pipes to be as "Key Terrain" or "Metro" and prices to include connectors, adaptors, socket reducers, etc.				
C	**Pipes**				
	a) 100mm diameter UPVC grey pipe	15	LM	1,100.00	16,500.00
	b) 40mm ditto	15	LM	600.00	9,000.00
	c) 32mm ditto	15	LM	560.00	8,400.00
D	**Bends**				
	a) 100mm diameter UPVC access bend	1	No.	300.00	300.00
	b) 100mm diameter UPVC sweep bend	1	No.	250.00	250.00
	c) 40mm ditto	2	No.	120.00	240.00
	d) 32mm ditto	2	No.	120.00	240.00
E	**Tees**				
	a) 100mm diameter single branch	1	No.	300.00	300.00
	b) 40mm diameter tee	3	No.	120.00	360.00
F	**Boss Connectors**				
	a) 100mm diameter boss connector	2	No.	150.00	300.00
	b) 40mm ditto	4	No.	100.00	400.00
	c) 32mm ditto	3	No.	100.00	300.00
G	**Inspection Plugs (Rodding eyes)**				
	a) 100mm diameter inspection plugs	1	No.	350.00	350.00
	b) 40mm ditto	2	No.	300.00	600.00
	c) 32mm ditto	2	No.	200.00	400.00
H	Four-way 100 x 50mm floor trap complete with stainless steel grating.	2	No.	3,000.00	6,000.00
	Carried to Collection			**KSHS**	**57,860.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	COLLECTION				
	PAGE NO: 4/15				100,500.00
	PAGE NO: 4/16				184,400.00
	PAGE NO: 4/17				142,740.00
	PAGE NO: 4/18				137,000.00
	PAGE NO: 4/19				280,000.00
	PAGE NO: 4/20				29,340.00
	PAGE NO: 4/21				57,860.00
	TOTAL CARRIED TO SUMMARY			**KSHS**	**931,840.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 4 - UPPER FLOOR				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 4				
	BEDROOM 04				
	Demolish individual structures setting aside materials for re-use; carting away arising debris and non re-useable materials from site; all as directed by the interior designer; all works to be executed as per Architectural drawings				
A	Carefully hack out existing floor tile finish irrespective of size; making good disturbed surfaces including any necessary filling to voids with approved materials;consolidate and dispose off resulting debris as directed by the interior designer and or as per county government regulations.	SM	11	800.00	8,800.00
B	Ditto: But to wall tiles	SM	54	800.00	43,200.00
	Frameless Glass door & Partition				
C	12mm Thick Laminated frameless glass partition; complete with and including heavy duty floor springs; bevelled edges complete with and including stainless steel patch fittings, fixing accessories and all ironmongery to Assa abloy kenya catalogue specifications; with and including doors overall size 800 x 2100mm high (1No.) and all fixing accessories and door ironmongery.	SM	6	12,000.00	72,000.00
	FLOOR FINISHES				
	Cement and sand (1:4) screeded beds ; on concrete : to				
D	40 mm Thick floors: finished to receive tile finish	SM	11	400.00	4,400.00
	Carried to Collection			**KSHS**	**128,400.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	Supply and fix 600 x 600 x 10mm Thick non-slip Granito floor tiles as supplied by M/s Saj Ceramics Ltd or equal and approved supplier: bedding and jointed using approved tile adhesive; grouting with propriety grouting on cement and sand screeded beds (m/s).				
A	Floors	SM	11	3,500.00	38,500.00
B	12 mm Thick x 150 mm high skirting with rounded top	LM	15	400.00	6,000.00
	WALL FINISHES				
	Supply and fix 200 x 900 x 8mm Thick porcelain wall tiles as supplied by M/s Saj Ceramics or equal and approved : on screeded beds(m/s); bedded and jointed in waterproof cement grout: to				
C	Walls upto 2100mm high	SM	32	2,500.00	80,000.00
D	Aluminium edge beading for fair edges	LM	15	100.00	1,500.00
	12 mm Cement and sand (1:4) backings: on concrete or blockwork: to				
E	Walls: finished to receive glazed tiles	SM	32	400.00	12,800.00
	Sand scrape and brush: existing plastered walls: feather off rough edges and fill cracks and defects with polyfilla: treat with fungicide and dust off; prepare and apply three finishing coats of premium grade silk vinyl emulsion paint: to				
F	Existing walls	SM	107	500.00	53,500.00
	CEILING FINISHES				
G	Carefully demolish existing asbestos ceilings finish; making good disturbed surfaces with and including any necessary filling to voids with approved materials; consolidate and dispose off resulting debris as directed by the Architect, county government and or NEMA regulations.	SM	42	1,000.00	42,000.00
	Carried to Collection			**KSHS**	**234,300.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	Gypsum ceilings				
	12mm Thick Waterproof Gypsum ceiling board (1/2 hour fire rating) on and including aluminium channel framing; plugged onto walls and ceilings soffits; 62.5 x 25mm aluminium channel joists at 600mm centres both ways; complete with high tensile suspension wires including all labours of hoisting and fixing to position at a height not exceeding 3600mm above finished floor level in recessed and or flat pattern to I.D details.				
A	Ceilings	SM	42	2,250.00	94,500.00
B	Ditto: 100mm wide cornice.	LM	39	600.00	23,400.00
C	50 x 25mm Thick moulded plained mahogany timber strips along ceiling grids to match existing to architectuctural details.	LM	44	500.00	22,000.00
	Prepare and apply one undercoat and three coats premium grade silk vinyl emulsion paint with teflon surface protector as supplied by Crown paints: on plastered surfaces: to				
D	Sides and Soffits of suspended Gypsum Ceilings & eaves	SM	42	400.00	16,800.00
E	Ditto: cornice surfaces : 0-100mm girth	LM	39	100.00	3,900.00
F	Ditto two pack polyurethane varnish to timber strip surfaces	LM	44	100.00	4,400.00
	ELECTRICAL INSTALLATIONS				
	Final sub-circuits complete with accessories and fittings as detailed below and in the drawing wired in HG PVC conduits concealed in the floor, walls and roof space.				
G	Lighting points, wired in 3x1.5mm sq single core cables for one/two way switching in 20mm HG PVC pipe enclosed and concealed in floor, walls and roof space.	NO.	3	2,000.00	6,000.00
	LIGHT FITTINGS AND ACCESSORIES				
	Supply and install Lighting control accessories, light fittings as shown in the drawings complete with associated wiring terminations and fixing materials				
H	10A One gang one way switch as ART DNA B9-BK1A	NO.	1	1,000.00	1,000.00
I	Carpi large flash ceiling light in brushed aluminium finish with a white diffusser for bathroom as Eglo 90448 as light E	NO.	1	9,000.00	9,000.00
J	Nlux 8W led bathroom shaver light mirror light made of polycarbonate 240v IP20	NO.	2	3,600.00	7,200.00
	Carried to Collection			**KSHS**	**188,200.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	PLUMBING & DRAINAGE WORKS				
	Sanitaryware & fittings				
	Supply, deliver and install the following sanitary fittings including all the necessary fittings and jointing.**Tenderers to note that ANY ALTERNATIVE will ONLY be considerd if they MATCH of exceed the specified items interms of TECHNICAL capabilities and MUST be accompanied with PRODUCT CATALOGUES**				
	WC Suite				
A	"Duravit Durastyle" close coupled WC suite in white, Vitreous China complete with 9.0 litre cistern with lever and valveless fittings having plastic syphon complete with inlet, outlet, dual flush press button overflow supporting brackets & heavy-duty soft closing seat and cover.	1	No.	50,000.00	50,000.00
B	WC "S" or "P" connector to drain pipe for horizontal outlet WC Pan	1	No.	2,000.00	2,000.00
C	Double toilet roll holder with spindle system for recessed mounting, stainless steel, surface satin finish, material thickness, folded front cover, cylinder lock with standard key for 2 rolls inclusive with all mounting accessories to Engineer's approval.	1	No.	15,000.00	15,000.00
	Coat hook				
D	Allow for Hansgrohe coat hooks to Engineer's approval.	1	No.	5,000.00	5,000.00
	Wash Hand Basin				
E	"Duravit Durastyle" Wash hand basin countertop in vitreous china with 1 No. center tap-hole or equal and approved size 650 x 500mm complete with the following:- - Hansgrohe Chrome plated waste fitting . - Wall hangers - Chrome plated bottle trap - Hansgrohe Chrome plated bottle trap	1	No.	40,000.00	40,000.00
	Whb tap				
F	Hansgrohe mixer basin tap or an approved equivalent	1	No.	25,000.00	25,000.00
	Carried to Collection			**KSHS**	**137,000.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	Plain size bevelled glass plate mirror size 750 x 750mm complete with dome headed chrome plated fixing screws.	1	No.	15,000.00	15,000.00
B	Ditto but 200mm diameter retractable mirror with retractabl and foldable holders and brackets, ultra light design, smooth rotation, no glare and crystal clear to Engineer's approval.	1	No	20,000.00	20,000.00
	SHOWER MIXERS				
C	Hansgrohe: Focus E2 Single Lever 4 Way Concealed Shower Fitting Consisting of : 4 Way Concealed Body and Single Lever Finish set Ref : 31741180 , 31947 Hansgrohe: Crometta Shower Rose 1 Function With Shower arm Ref : 28424 , 27411 Hansgrohe : Shower Spout	1	SET	200,000.00	200,000.00
	Soap Dish				
D	Hansgroge on wall crome plated soap dish	1	No.	5,000.00	5,000.00
	Towel Rack				
E	Hansgrohe Chrome plated towel rack to Engineer's approval.	1	No.	15,000.00	15,000.00
	Carried to Collection			**KSHS**	**255,000.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	COLD /HOT WATER PIPEWORK				
	Supply, deliver and install cold water polypropylene PP-R pipes and fittings to relevant B.S DIN and local standards. Tenderers must allow in their pipework prices for all the couplings, unions, connectors, joints, bypass bends, loop expansion bends, etc. in running lengths of pipes. Jointing & installation methods shall be as per manufacturers' recommendations only. All pipe diameters are internal diameters. **Polypropylene pipes as ARIETE® – 25 manufactured by EFFEGISRL has been used as a guide to the type and quality expected. Equal and approved brands shall be accepted only with the Engineers approval.** **Tenderers must allow in their prices for all couplings, connectors, holding brackets expansion joints as required in the running lengths of pipes.**				
A	**Pipes**				
	a) 25mm diameter PP-R pipe	28	LM	350.00	9,800.00
	b) 32mm ditto	15	LM	400.00	6,000.00
	c) 40mm ditto	20	LM	580.00	11,600.00
B	**Elbow and Bends**				
	a) 25mm diameter PP-R elbow/bend	4	No	100.00	400.00
	b) 32mm ditto	4	No	100.00	400.00
	c) 40mm ditto	2	No.	100.00	200.00
C	**Reducers**				
	a) 40x32mm ditto	2	No.	50.00	100.00
	b) 32x25mm ditto	4	No.	50.00	200.00
D	**Tees**				
	a) 25mm diameter PP-R equal tee	2	No	50.00	100.00
	b) 32mm ditto	2	No	70.00	140.00
	c) 40mm ditto	1	No.	80.00	80.00
E	**Female threaded joints**				
	a) 25mm diameter PP-R Female threaded joint	2	No.	50.00	100.00
	b) 32mm ditto	2	No.	70.00	140.00
	c) 40mm ditto	1	No.	80.00	80.00
	Carried to Collection			**KSHS**	**29,340.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	**Male threaded joints**				
	a) 25mm diameter PP-R Male threaded joints	2	No.	50.00	100.00
	b) 32mm ditto	2	No.	70.00	140.00
	c) 40mm ditto	1	No.	80.00	80.00
B	**Isolation Valves**				
	(a) 25mm diameter isolation valves	2	No.	2,500.00	5,000.00
	(b) 32mm ditto	2	No.	2,700.00	5,400.00
	(c) 40mm ditto	1	No.	3,200.00	3,200.00
	All pipes to be as "Key Terrain" or "Metro" and prices to include connectors, adaptors, socket reducers, etc.				
C	**Pipes**				
	a) 100mm diameter UPVC grey pipe	15	LM	1,100.00	16,500.00
	b) 40mm ditto	15	LM	600.00	9,000.00
	c) 32mm ditto	15	LM	560.00	8,400.00
D	**Bends**				
	a) 100mm diameter UPVC access bend	1	No.	300.00	300.00
	b) 100mm diameter UPVC sweep bend	1	No.	250.00	250.00
	c) 40mm ditto	2	No.	120.00	240.00
	d) 32mm ditto	2	No.	120.00	240.00
E	**Tees**				
	a) 100mm diameter single branch	1	No.	300.00	300.00
	b) 40mm diameter tee	3	No.	120.00	360.00
F	**Boss Connectors**				
	a) 100mm diameter boss connector	2	No.	150.00	300.00
	b) 40mm ditto	4	No.	100.00	400.00
	c) 32mm ditto	3	No.	100.00	300.00
G	**Inspection Plugs (Rodding eyes)**				
	a) 100mm diameter inspection plugs	1	No.	350.00	350.00
	b) 40mm ditto	2	No.	300.00	600.00
	c) 32mm ditto	2	No.	200.00	400.00
H	Four-way 100 x 50mm floor trap complete with stainless steel grating.	2	No.	3,000.00	6,000.00
	Carried to Collection			**KSHS**	**57,860.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	COLLECTION				
	PAGE NO: 4/23				128,400.00
	PAGE NO: 4/24				234,300.00
	PAGE NO: 4/25				188,200.00
	PAGE NO: 4/26				137,000.00
	PAGE NO: 4/27				255,000.00
	PAGE NO: 4/28				29,340.00
	PAGE NO: 4/29				57,860.00
	TOTAL CARRIED TO SUMMARY			**KSHS**	**1,030,100.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 4 - UPPER FLOOR				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 5				
	MASTER BEDROOM				
	Demolish individual structures setting aside materials for re-use; carting away arising debris and non re-useable materials from site; all as directed by the interior designer; all works to be executed as per Architectural drawings				
A	Carefully hack out existing floor tile finish irrespective of size; making good disturbed surfaces including any necessary filling to voids with approved materials;consolidate and dispose off resulting debris as directed by the interior designer and or as per county government regulations.	SM	10	1,000.00	10,000.00
B	Ditto: But to wall tiles	SM	48	1,000.00	48,000.00
	Frameless Glass door & Partition				
C	12mm Thick Laminated frameless glass partition; complete with and including heavy duty floor springs; bevelled edges complete with and including stainless steel patch fittings, fixing accessories and all ironmongery to Assa abloy kenya catalogue specifications; with and including doors overall size 800 x 2100mm high (1No.) and all fixing accessories and door ironmongery.	SM	6	18,000.00	108,000.00
	Window roller blinds				
D	2000mm x 2000mm high roller window blinds ; made from water proof black out fabric with and including running tracks and guides; compete with roller up and down motorized or non motorized mechanism.	SM	4	5,000.00	20,000.00
	FLOOR FINISHES				
	Cement and sand (1:4) screeded beds ; on concrete : to				
E	40 mm Thick floors: finished to receive tile finish	SM	10	500.00	5,000.00
	Carried to Collection			**KSHS**	**191,000.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	Supply and fix 600 x 600 x 10mm Thick non-slip Granito floor tiles as supplied by M/s Saj Ceramics Ltd or equal and approved supplier: bedding and jointed using approved tile adhesive; grouting with propriety grouting on cement and sand screeded beds (m/s).				
A	Floors	SM	10	4,000.00	40,000.00
B	12 mm Thick x 150 mm high skirting with rounded top	LM	13	600.00	7,800.00
	WALL FINISHES				
	Supply and fix 200 x 900 x 8mm Thick porcelain wall tiles as supplied by M/s Saj Ceramics or equal and approved : on screeded beds(m/s); bedded and jointed in waterproof cement grout: to				
C	Walls upto 2100mm high	SM	28	3,000.00	84,000.00
D	Aluminium edge beading for fair edges	LM	13	200.00	2,600.00
	12 mm Cement and sand (1:4) backings: on concrete or blockwork: to				
E	Walls: finished to receive glazed tiles	SM	28	400.00	11,200.00
	Sand scrape and brush: existing plastered walls: feather off rough edges and fill cracks and defects with polyfilla: treat with fungicide and dust off; prepare and apply three finishing coats of premium grade silk vinyl emulsion paint: to				
F	Existing walls	SM	151	600.00	90,600.00
	CEILING FINISHES				
G	Carefully demolish existing asbestos ceilings finish; making good disturbed surfaces with and including any necessary filling to voids with approved materials; consolidate and dispose off resulting debris as directed by the Architect, county government and or NEMA regulations.	SM	53	1,200.00	63,600.00
	Carried to Collection			**KSHS**	**299,800.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	Gypsum ceilings				
	12mm Thick Waterproof Gypsum ceiling board (1/2 hour fire rating) on and including aluminium channel framing; plugged onto walls and ceilings soffits; 62.5 x 25mm aluminium channel joists at 600mm centres both ways; complete with high tensile suspension wires including all labours of hoisting and fixing to position at a height not exceeding 3600mm above finished floor level in recessed and or flat pattern to I.D details.				
A	Ceilings	SM	53	3,000.00	159,000.00
B	Ditto: 100mm wide cornice.	LM	43	600.00	25,800.00
C	50 x 25mm Thick moulded plained mahogany timber strips along ceiling grids to match existing to architectuctural details.	LM	52	640.00	33,280.00
	Prepare and apply one undercoat and three coats premium grade silk vinyl emulsion paint with teflon surface protector as supplied by Crown paints: on plastered surfaces: to				
D	Sides and Soffits of suspended Gypsum Ceilings & eaves	SM	53	400.00	21,200.00
E	Ditto: cornice surfaces : 0-100mm girth	LM	43	100.00	4,300.00
F	Ditto two pack polyurethane varnish to timber strip surfaces	LM	52	100.00	5,200.00
	ELECTRICAL INSTALLATIONS				
	Final sub-circuits complete with accessories and fittings as detailed below and in the drawing wired in HG PVC conduits concealed in the floor, walls and roof space.				
G	Lighting points, wired in 3x1.5mm sq single core cables for one/two way switching in 20mm HG PVC pipe enclosed and concealed in floor, walls and roof space.	NO.	3	2,000.00	6,000.00
	LIGHT FITTINGS AND ACCESSORIES				
	Supply and install Lighting control accessories, light fittings as shown in the drawings complete with associated wiring terminations and fixing materials				
H	10A One gang one way switch as ART DNA B9-BK1A	NO.	1	1,000.00	1,000.00
I	Carpi large flash ceiling light in brushed aluminium finish with a white diffusser for bathroom as Eglo 90448 as light E	NO.	1	9,000.00	9,000.00
J	Nlux 8W led bathroom shaver light mirror light made of polycarbonate 240v IP20	NO.	2	3,600.00	7,200.00
	Carried to Collection			**KSHS**	**271,980.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	PLUMBING & DRAINAGE WORKS				
	Sanitaryware & fittings				
	Supply, deliver and install the following sanitary fittings including all the necessary fittings and jointing.**Tenderers to note that ANY ALTERNATIVE will ONLY be considerd if they MATCH of exceed the specified items interms of TECHNICAL capabilities and MUST be accompanied with PRODUCT CATALOGUES**				
	WC Suite				
A	"Duravit Durastyle" close coupled WC suite in white, Vitreous China complete with 9.0 litre cistern with lever and valveless fittings having plastic syphon complete with inlet, outlet, dual flush press button overflow supporting brackets & heavy-duty soft closing seat and cover.	1	No.	50,000.00	50,000.00
B	WC "S" or "P" connector to drain pipe for horizontal outlet WC Pan	1	No.	2,000.00	2,000.00
C	Double toilet roll holder with spindle system for recessed mounting, stainless steel, surface satin finish, material thickness, folded front cover, cylinder lock with standard key for 2 rolls inclusive with all mounting accessories to Engineer's approval.	1	No.	15,000.00	15,000.00
	Coat hook				
D	Allow for Hansgrohe coat hooks to Engineer's approval.	1	No.	5,000.00	5,000.00
	Wash Hand Basin				
E	"Duravit Durastyle" Wash hand basin countertop in vitreous china with 1 No. center tap-hole or equal and approved size 650 x 500mm complete with the following:- - Hansgrohe Chrome plated waste fitting . - Wall hangers - Chrome plated bottle trap - Hansgrohe Chrome plated bottle trap	2	No.	40,000.00	80,000.00
	Whb tap				
F	Hansgrohe mixer basin tap or an approved equivalent	2	No.	25,000.00	50,000.00
	Carried to Collection			**KSHS**	**202,000.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	Plain size bevelled glass plate mirror size 750 x 750mm complete with dome headed chrome plated fixing screws.	1	No.	15,000.00	15,000.00
B	Ditto but 200mm diameter retractable mirror with retractabl and foldable holders and brackets, ultra light design, smooth rotation, no glare and crystal clear to Engineer's approval.	2	No	20,000.00	40,000.00
	SHOWER MIXERS				
C	Hansgrohe: Focus E2 Single Lever 4 Way Concealed Shower Fitting Consisting of : 4 Way Concealed Body and Single Lever Finish set Ref : 31741180 , 31947 Hansgrohe: Crometta Shower Rose 1 Function With Shower arm Ref : 28424 , 27411 Hansgrohe : Shower Spout	1	SET	200,000.00	200,000.00
	Soap Dish				
D	Hansgroge on wall crome plated soap dish	1	No.	5,000.00	5,000.00
	Towel Rack				
E	Hansgrohe Chrome plated towel rack to Engineer's approval.	1	No.	15,000.00	15,000.00
F	Hansgrohe 4-way deck mounted bath mixer complete with hand shower set, telephone hand shower rose and arm and Diverter for tap for bath tub.	1	No.	50,000.00	50,000.00
G	Duravit Durastyle 700231 Bathtub rectangle, built-in, central outlet, 4 mm sanitary acrylic bath tub, nominal dimensions 1700 x 750mm, complete with twin removable hand grip contoured back test, slip resistance shower base, adjustable cradle and complete with chrome plated deck mounted bath shower mixer including handles and telephone shower fitting with wall hang support or equal and approved.	1	No.	120,000.00	120,000.00
	Carried to Collection			**KSHS**	**445,000.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	COLD /HOT WATER PIPEWORK				
	Supply, deliver and install cold water polypropylene PP-R pipes and fittings to relevant B.S DIN and local standards. Tenderers must allow in their pipework prices for all the couplings, unions, connectors, joints, bypass bends, loop expansion bends, etc. in running lengths of pipes. Jointing & installation methods shall be as per manufacturers' recommendations only. All pipe diameters are internal diameters. **Polypropylene pipes as ARIETE® – 25 manufactured by EFFEGISRL has been used as a guide to the type and quality expected. Equal and approved brands shall be accepted only with the Engineers approval.** **Tenderers must allow in their prices for all couplings, connectors, holding brackets expansion joints as required in the running lengths of pipes.**				
A	**Pipes**				
	a) 25mm diameter PP-R pipe	28	LM	350.00	9,800.00
	b) 32mm ditto	15	LM	400.00	6,000.00
	c) 40mm ditto	20	LM	580.00	11,600.00
B	**Elbow and Bends**				
	a) 25mm diameter PP-R elbow/bend	4	No	100.00	400.00
	b) 32mm ditto	4	No	100.00	400.00
	c) 40mm ditto	2	No.	100.00	200.00
C	**Reducers**				
	a) 40x32mm ditto	2	No.	50.00	100.00
	b) 32x25mm ditto	4	No.	50.00	200.00
D	**Tees**				
	a) 25mm diameter PP-R equal tee	2	No	50.00	100.00
	b) 32mm ditto	2	No	70.00	140.00
	c) 40mm ditto	1	No.	80.00	80.00
E	**Female threaded joints**				
	a) 25mm diameter PP-R Female threaded joint	2	No.	50.00	100.00
	b) 32mm ditto	2	No.	70.00	140.00
	c) 40mm ditto	1	No.	80.00	80.00
	Carried to Collection			**KSHS**	**29,340.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	**Male threaded joints**				
	a) 25mm diameter PP-R Male threaded joints	2	No.	50.00	100.00
	b) 32mm ditto	2	No.	70.00	140.00
	c) 40mm ditto	1	No.	80.00	80.00
B	**Isolation Valves**				
	(a) 25mm diameter isolation valves	2	No.	2,500.00	5,000.00
	(b) 32mm ditto	2	No.	2,700.00	5,400.00
	(c) 40mm ditto	1	No.	3,200.00	3,200.00
	All pipes to be as "Key Terrain" or "Metro" and prices to include connectors, adaptors, socket reducers, etc.				
C	**Pipes**				
	a) 100mm diameter UPVC grey pipe	15	LM	1,100.00	16,500.00
	b) 40mm ditto	15	LM	600.00	9,000.00
	c) 32mm ditto	15	LM	560.00	8,400.00
D	**Bends**				
	a) 100mm diameter UPVC access bend	1	No.	300.00	300.00
	b) 100mm diameter UPVC sweep bend	1	No.	250.00	250.00
	c) 40mm ditto	2	No.	120.00	240.00
	d) 32mm ditto	2	No.	120.00	240.00
E	**Tees**				
	a) 100mm diameter single branch	1	No.	300.00	300.00
	b) 40mm diameter tee	3	No.	120.00	360.00
F	**Boss Connectors**				
	a) 100mm diameter boss connector	2	No.	150.00	300.00
	b) 40mm ditto	4	No.	100.00	400.00
	c) 32mm ditto	3	No.	100.00	300.00
G	**Inspection Plugs (Rodding eyes)**				
	a) 100mm diameter inspection plugs	1	No.	350.00	350.00
	b) 40mm ditto	2	No.	300.00	600.00
	c) 32mm ditto	2	No.	200.00	400.00
H	Four-way 100 x 50mm floor trap complete with stainless steel grating.	2	No.	3,000.00	6,000.00
	Carried to Collection			**KSHS**	**57,860.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	COLLECTION				
	PAGE NO: 4/31				191,000.00
	PAGE NO: 4/32				299,800.00
	PAGE NO: 4/33				271,980.00
	PAGE NO: 4/34				202,000.00
	PAGE NO: 4/35				445,000.00
	PAGE NO: 4/36				29,340.00
	PAGE NO: 4/37				57,860.00
	TOTAL CARRIED TO SUMMARY			**KSHS**	**1,496,980.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 4 - UPPER FLOOR				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 6				
	DISABLED WASHROOM				
	Demolish individual structures setting aside materials for re-use; carting away arising debris and non re-useable materials from site; all as directed by the interior designer; all works to be executed as per Architectural drawings				
A	Carefully hack out existing floor tile finish irrespective of size; making good disturbed surfaces including any necessary filling to voids with approved materials;consolidate and dispose off resulting debris as directed by the interior designer and or as per county government regulations.	SM	6	1,000.00	6,000.00
B	Ditto: But to wall tiles	SM	32	1,000.00	32,000.00
	Shower Curtain				
	Purpose made shower curtain and hanging rode made from PVC water repellant material; with and including hook holes and all all fixing accessories and labours.				
C	Shower curtain overall size 2400mm long x 2000mm high.	SM	5	3,000.00	15,000.00
	FLOOR FINISHES				
	Cement and sand (1:4) screeded beds ; on concrete : to				
D	40 mm Thick floors: finished to receive tile finish	SM	6	500.00	3,000.00
	Carried to Collection			**KSHS**	**56,000.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	Supply and fix 600 x 600 x 10mm Thick non-slip Granito floor tiles as supplied by M/s Saj Ceramics Ltd or equal and approved supplier: bedding and jointed using approved tile adhesive; grouting with propriety grouting on cement and sand screeded beds (m/s).				
A	Floors	SM	6	4,000.00	24,000.00
B	12 mm Thick x 150 mm high skirting with rounded top	LM	9	400.00	3,600.00
	WALL FINISHES				
	Supply and fix 200 x 900 x 8mm Thick porcelain wall tiles as supplied by M/s Saj Ceramics or equal and approved : on screeded beds(m/s); bedded and jointed in waterproof cement grout: to				
C	Walls upto 2100mm high	SM	19	3,000.00	57,000.00
D	Aluminium edge beading for fair edges	LM	19	100.00	1,900.00
	12 mm Cement and sand (1:4) backings: on concrete or blockwork: to				
E	Walls: finished to receive glazed tiles	SM	19	500.00	9,500.00
	Sand scrape and brush: existing plastered walls: feather off rough edges and fill cracks and defects with polyfilla: treat with fungicide and dust off; prepare and apply three finishing coats of premium grade silk vinyl emulsion paint: to				
F	Existing walls	SM	14	600.00	8,400.00
	Carried to Collection			**KSHS**	**104,400.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	CEILING FINISHES				
A	Carefully demolish existing asbestos ceilings finish; making good disturbed surfaces with and including any necessary filling to voids with approved materials; consolidate and dispose off resulting debris as directed by the Architect, county government and or NEMA regulations.	SM	6	1,200.00	7,200.00
	Gypsum ceilings				
	12mm Thick Waterproof Gypsum ceiling board (1/2 hour fire rating) on and including aluminium channel framing; plugged onto walls and ceilings soffits; 62.5 x 25mm aluminium channel joists at 600mm centres both ways; complete with high tensile suspension wires including all labours of hoisting and fixing to position at a height not exceeding 3600mm above finished floor level in recessed and or flat pattern to I.D details.				
B	Ceilings	SM	6	3,000.00	18,000.00
C	Ditto: 100mm wide cornice.	LM	9	600.00	5,400.00
D	50 x 25mm Thick moulded plained mahogany timber strips along ceiling grids to match existing to architectuctural details.	LM	9	640.00	5,760.00
	Prepare and apply one undercoat and three coats premium grade silk vinyl emulsion paint with teflon surface protector as supplied by Crown paints: on plastered surfaces: to				
E	Sides and Soffits of suspended Gypsum Ceilings & eaves	SM	6	400.00	2,400.00
F	Ditto: cornice surfaces : 0-100mm girth	LM	9	100.00	900.00
G	Ditto two pack polyurethane varnish to timber strip surfaces	LM	9	100.00	900.00
	Carried to Collection			**KSHS**	**39,660.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	ELECTRICAL INSTALLATIONS				
	Final sub-circuits complete with accessories and fittings as detailed below and in the drawing wired in HG PVC conduits concealed in the floor, walls and roof space.				
A	Lighting points, wired in 3x1.5mm sq single core cables for one/two way switching in 20mm HG PVC pipe enclosed and concealed in floor, walls and roof space.	NO.	2	2,000.00	4,000.00
	LIGHT FITTINGS AND ACCESSORIES				
	Supply and install Lighting control accessories, light fittings as shown in the drawings complete with associated wiring terminations and fixing materials				
B	10A One gang one way switch as ART DNA B9-BK1A	NO.	1	1,000.00	1,000.00
C	Carpi large flash ceiling light in brushed aluminium finish with a white diffusser for bathroom as Eglo 90448 as light E	NO.	1	9,000.00	9,000.00
D	Nlux 8W led bathroom shaver light mirror light made of polycarbonate 240v IP20	NO.	1	3,600.00	3,600.00
	Carried to Collection			**KSHS**	**17,600.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	PLUMBING & DRAINAGE WORKS				
	Supply, deliver and install the following sanitary fittings including all the necessary fittings and jointing.**Tenderers to note that ANY ALTERNATIVE will ONLY be considerd if they MATCH of exceed the specified items interms of TECHNICAL capabilities and MUST be accompanied with PRODUCT CATALOGUES**				
	WC Suite				
A	"Duravit Durastyle" close coupled WC suite in white, Vitreous China complete with 9.0 litre cistern with lever and valveless fittings having plastic syphon complete with inlet, outlet, dual flush press button overflow supporting brackets & heavy-duty soft closing seat and cover.	1	No.	50,000.00	50,000.00
B	WC "S" or "P" connector to drain pipe for horizontal outlet WC Pan	1	No.	2,000.00	2,000.00
C	Double toilet roll holder with spindle system for recessed mounting, stainless steel, surface satin finish, material thickness, folded front cover, cylinder lock with standard key for 2 rolls inclusive with all mounting accessories to Engineer's approval.	1	No.	15,000.00	15,000.00
	Coat hook				
D	Allow for Hansgrohe coat hooks to Engineer's approval.	1	No.	5,000.00	5,000.00
	Wash Hand Basin				
E	"Duravit Durastyle" Wash hand basin countertop in vitreous china with 1 No. center tap-hole or equal and approved size 650 x 500mm complete with the following:- - Hansgrohe Chrome plated waste fitting . - Wall hangers - Chrome plated bottle trap - Hansgrohe Chrome plated bottle trap	1	No.	40,000.00	40,000.00
	Whb tap				
F	Hansgrohe mixer basin tap or an approved equivalent	1	No.	25,000.00	25,000.00
G	Plain size bevelled glass plate mirror size 750 x 750mm complete with dome headed chrome plated fixing screws.	1	No.	15,000.00	15,000.00
	Carried to Collection			**KSHS**	**152,000.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Towel Rack				
A	Hansgrohe Chrome plated towel rack to Engineer's approval.	1	No.	15,000.00	15,000.00
	GRAB RAILS				
B	Mediclinic Hinge Down Grab Rail, L-Shaped Grab Rail, collapsible rail and 2 No. 600mm rail.	SET	1	120,000.00	120,000.00
	Hand sanitizer point				
C	Mediclinics Touch free sanitizing dispenser as mediclinics or approved equivalent for wall mounting, stainless steel hand sanitizer of 1 litre. To be refill type with infra red sensor activity for non touch operation complete with all mounting accessories. Rates to allow for initial charge.	1	No.	25,000.00	25,000.00
D	Thermostatic shower set	SET	1	200,000.00	200,000.00
	Soap Dish				
E	Hansgroge on wall crome plated soap dish	1	No.	5,000.00	5,000.00
	Carried to Collection			**KSHS**	**365,000.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	COLD /HOT WATER PIPEWORK				
	Supply, deliver and install cold water polypropylene PP-R pipes and fittings to relevant B.S DIN and local standards. Tenderers must allow in their pipework prices for all the couplings, unions, connectors, joints, bypass bends, loop expansion bends, etc. in running lengths of pipes. Jointing & installation methods shall be as per manufacturers' recommendations only. All pipe diameters are internal diameters. **Polypropylene pipes as ARIETE® – 25 manufactured by EFFEGISRL has been used as a guide to the type and quality expected. Equal and approved brands shall be accepted only with the Engineers approval.** **Tenderers must allow in their prices for all couplings, connectors, holding brackets expansion joints as required in the running lengths of pipes.**				
A	**Pipes**				
	a) 25mm diameter PP-R pipe	12	LM	350.00	4,200.00
	b) 32mm ditto	12	LM	400.00	4,800.00
	c) 40mm ditto	6	LM	580.00	3,480.00
B	**Elbow and Bends**				
	a) 25mm diameter PP-R elbow/bend	4	No	100.00	400.00
	b) 32mm ditto	4	No	100.00	400.00
	c) 40mm ditto	2	No.	100.00	200.00
C	**Reducers**				
	a) 40x32mm ditto	2	No.	50.00	100.00
	b) 32x25mm ditto	4	No.	50.00	200.00
D	**Tees**				
	a) 25mm diameter PP-R equal tee	2	No	50.00	100.00
	b) 32mm ditto	2	No	70.00	140.00
	c) 40mm ditto	1	No.	80.00	80.00
E	**Female threaded joints**				
	a) 25mm diameter PP-R Female threaded joint	2	No.	50.00	100.00
	b) 32mm ditto	2	No.	70.00	140.00
	c) 40mm ditto	1	No.	80.00	80.00
	Carried to Collection			**KSHS**	**14,420.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	**Male threaded joints**				
	a) 25mm diameter PP-R Male threaded joints	2	No.	50.00	100.00
	b) 32mm ditto	2	No.	70.00	140.00
	c) 40mm ditto	1	No.	80.00	80.00
B	**Isolation Valves**				
	(a) 25mm diameter isolation valves	2	No.	2,500.00	5,000.00
	(b) 32mm ditto	2	No.	2,700.00	5,400.00
	(c) 40mm ditto	1	No.	3,200.00	3,200.00
	All pipes to be as "Key Terrain" or "Metro" and prices to include connectors, adaptors, socket reducers, etc.				
C	**Pipes**				
	a) 100mm diameter UPVC grey pipe	6	LM	1,100.00	6,600.00
	b) 40mm ditto	6	LM	600.00	3,600.00
	c) 32mm ditto	6	LM	560.00	3,360.00
D	**Bends**				
	a) 100mm diameter UPVC access bend	1	No.	300.00	300.00
	b) 100mm diameter UPVC sweep bend	1	No.	250.00	250.00
	c) 40mm ditto	2	No.	120.00	240.00
	d) 32mm ditto	2	No.	120.00	240.00
E	**Tees**				
	a) 100mm diameter single branch	1	No.	300.00	300.00
	b) 40mm diameter tee	3	No.	120.00	360.00
F	**Boss Connectors**				
	a) 100mm diameter boss connector	2	No.	150.00	300.00
	b) 40mm ditto	4	No.	100.00	400.00
	c) 32mm ditto	3	No.	100.00	300.00
G	**Inspection Plugs (Rodding eyes)**				
	a) 100mm diameter inspection plugs	1	No.	350.00	350.00
	b) 40mm ditto	2	No.	300.00	600.00
	c) 32mm ditto	2	No.	200.00	400.00
H	Four-way 100 x 50mm floor trap complete with stainless steel grating.	2	No.	3,000.00	6,000.00
	Carried to Collection			**KSHS**	**37,520.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	COLLECTION				
	PAGE NO: 4/39				56,000.00
	PAGE NO: 4/40				104,400.00
	PAGE NO: 4/41				39,660.00
	PAGE NO: 4/42				17,600.00
	PAGE NO: 4/43				152,000.00
	PAGE NO: 4/44				365,000.00
	PAGE NO: 4/45				14,420.00
	PAGE NO: 4/46				37,520.00
	TOTAL CARRIED TO SUMMARY			**KSHS**	**786,600.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 4 - UPPER FLOOR				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 7				
	CORRIDOR / LOBBY WASHROOM				
	Demolish individual structures setting aside materials for re-use; carting away arising debris and non re-useable materials from site; all as directed by the interior designer; all works to be executed as per Architectural drawings				
A	Carefully hack out existing floor tile finish irrespective of size; making good disturbed surfaces including any necessary filling to voids with approved materials;consolidate and dispose off resulting debris as directed by the interior designer and or as per county government regulations.	SM	2	1,000.00	2,000.00
B	Ditto: But to wall tiles	SM	15	1,000.00	15,000.00
	FLOOR FINISHES				
	Cement and sand (1:4) screeded beds ; on concrete : to				
C	40 mm Thick floors: finished to receive tile finish	SM	2	500.00	1,000.00
	Carried to Collection			**KSHS**	**18,000.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	Supply and fix 600 x 600 x 10mm Thick non-slip full body Granito floor tiles as supplied by M/s Saj Ceramics Ltd or equal and approved supplier: bedding and jointed using approved tile adhesive; grouting with propriety grouting on cement and sand screeded beds (m/s).				
A	Floors	SM	2	4,000.00	8,000.00
B	12 mm Thick x 150 mm high skirting with rounded top	LM	5	600.00	3,000.00
	WALL FINISHES				
	Supply and fix 200 x 900 x 10mm Thick full body porcelain wall tiles as supplied by M/s Saj Ceramics or equal and approved : on screeded beds(m/s); bedded and jointed in waterproof cement grout: to				
C	Walls upto 2100mm high.	SM	9	3,000.00	27,000.00
D	Aluminium edge beading for fair edges	LM	13	200.00	2,600.00
	12 mm Cement and sand (1:4) backings: on concrete or blockwork: to				
E	Walls: finished to receive glazed tiles	SM	9	400.00	3,600.00
	Sand scrape and brush: existing plastered walls: feather off rough edges and fill cracks and defects with polyfilla: treat with fungicide and dust off; prepare and apply three finishing coats of premium grade silk vinyl emulsion paint: to				
F	Existing walls	SM	7	600.00	4,200.00
	Carried to Collection			**KSHS**	**48,400.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	CEILING FINISHES				
A	Carefully demolish existing asbestos ceilings finish; making good disturbed surfaces with and including any necessary filling to voids with approved materials; consolidate and dispose off resulting debris as directed by the Architect, county government and or NEMA regulations.	SM	2	1,200.00	2,400.00
	Gypsum ceilings				
	12mm Thick Waterproof Gypsum ceiling board (1/2 hour fire rating) on and including aluminium channel framing; plugged onto walls and ceilings soffits; 62.5 x 25mm aluminium channel joists at 600mm centres both ways; complete with high tensile suspension wires including all labours of hoisting and fixing to position at a height not exceeding 3600mm above finished floor level in recessed and or flat pattern to I.D details.				
B	Ceilings	SM	2	3,000.00	6,000.00
C	Ditto: 100mm wide cornice.	LM	5	600.00	3,000.00
D	50 x 25mm Thick moulded plained mahogany timber strips along ceiling grids to match existing to architectuctural details.	LM	4	640.00	2,560.00
	Prepare and apply one undercoat and three coats premium grade silk vinyl emulsion paint with teflon surface protector as supplied by Crown paints: on plastered surfaces: to				
E	Sides and Soffits of suspended Gypsum Ceilings & eaves	SM	2	400.00	800.00
F	Ditto: cornice surfaces : 0-100mm girth	LM	5	100.00	500.00
G	Ditto two pack polyurethane varnish to timber strip surfaces	LM	4	100.00	400.00
	Carried to Collection			**KSHS**	**15,660.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	ELECTRICAL INSTALLATIONS				
	Final sub-circuits complete with accessories and fittings as detailed below and in the drawing wired in HG PVC conduits concealed in the floor, walls and roof space.				
A	Lighting points, wired in 3x1.5mm sq single core cables for one/two way switching in 20mm HG PVC pipe enclosed and concealed in floor, walls and roof space.	NO.	2	2,000.00	4,000.00
	LIGHT FITTINGS AND ACCESSORIES				
	Supply and install Lighting control accessories, light fittings as shown in the drawings complete with associated wiring terminations and fixing materials				
B	10A One gang one way switch as ART DNA B9-BK1A	NO.	1	1,000.00	1,000.00
C	Carpi large flash ceiling light in brushed aluminium finish with a white diffusser for bathroom as Eglo 90448 as light E	NO.	1	9,000.00	9,000.00
D	Nlux 8W led bathroom shaver light mirror light made of polycarbonate 240v IP20	NO.	1	3,600.00	3,600.00
	PLUMBING & DRAINAGE WORKS				
	Supply, deliver and install the following sanitary fittings including all the necessary fittings and jointing.**Tenderers to note that ANY ALTERNATIVE will ONLY be considerd if they MATCH of exceed the specified items interms of TECHNICAL capabilities and MUST be accompanied with PRODUCT CATALOGUES**				
	WC Suite				
E	"Duravit Durastyle" close coupled WC suite in white, Vitreous China complete with 9.0 litre cistern with lever and valveless fittings having plastic syphon complete with inlet, outlet, dual flush press button overflow supporting brackets & heavy-duty soft closing seat and cover.	1	No.	50,000.00	50,000.00
	Carried to Collection			**KSHS**	**67,600.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	WC "S" or "P" connector to drain pipe for horizontal outlet WC Pan	1	No.	2,000.00	2,000.00
B	Double toilet roll holder with spindle system for recessed mounting, stainless steel, surface satin finish, material thickness, folded front cover, cylinder lock with standard key for 2 rolls inclusive with all mounting accessories to Engineer's approval.	1	No.	15,000.00	15,000.00
	Coat hook				
C	Allow for Hansgrohe coat hooks to Engineer's approval.	1	No.	5,000.00	5,000.00
	Wash Hand Basin				
D	"Duravit Durastyle" Wash hand basin countertop in vitreous china with 1 No. center tap-hole or equal and approved size 650 x 500mm complete with the following:- - Hansgrohe Chrome plated waste fitting . - Wall hangers - Chrome plated bottle trap - Hansgrohe Chrome plated bottle trap	1	No.	40,000.00	40,000.00
	Whb tap				
E	Hansgrohe mixer basin tap or an approved equivalent	1	No.	25,000.00	25,000.00
F	Plain size bevelled glass plate mirror size 750 x 750mm complete with dome headed chrome plated fixing screws.	1	No.	15,000.00	15,000.00
G	Ditto but 200mm diameter retractable mirror with retractabl and foldable holders and brackets, ultra light design, smooth rotation, no glare and crystal clear to Engineer's approval.	1	No.	20,000.00	20,000.00
	Towel Rack				
H	Hansgrohe Chrome plated towel rack to Engineer's approval.	1	No.	15,000.00	15,000.00
	Soap Dish				
I	Hansgroge on wall crome plated soap dish	1	No.	5,000.00	5,000.00
J	Hansgrohe: Focus E2 Single Lever 4 Way Concealed Shower Fitting Consisting of : 4 Way Concealed Body and Single Lever Finish set Ref : 31741180 , 31947 Hansgrohe: Crometta Shower Rose 1 Function With Shower arm Ref : 28424 , 27411 Hansgrohe : Shower Spout	1	SET	200,000.00	200,000.00
	Soap Dish				
K	Hansgroge on wall crome plated soap dish	1	No.	5,000.00	5,000.00
	Towel Rack				
L	Hansgrohe Chrome plated towel rack to Engineer's approval.	1	No.	15,000.00	15,000.00
	Carried to Collection			**KSHS**	**362,000.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	COLD /HOT WATER PIPEWORK				
	Supply, deliver and install cold water polypropylene PP-R pipes and fittings to relevant B.S DIN and local standards. Tenderers must allow in their pipework prices for all the couplings, unions, connectors, joints, bypass bends, loop expansion bends, etc. in running lengths of pipes. Jointing & installation methods shall be as per manufacturers' recommendations only. All pipe diameters are internal diameters. **Polypropylene pipes as ARIETE® – 25 manufactured by EFFEGISRL has been used as a guide to the type and quality expected. Equal and approved brands shall be accepted only with the Engineers approval.** **Tenderers must allow in their prices for all couplings, connectors, holding brackets expansion joints as required in the running lengths of pipes.**				
A	**Pipes**				
	a) 25mm diameter PP-R pipe	28	LM	350.00	9,800.00
	b) 32mm ditto	15	LM	400.00	6,000.00
	c) 40mm ditto	20	LM	580.00	11,600.00
B	**Elbow and Bends**				
	a) 25mm diameter PP-R elbow/bend	4	No	100.00	400.00
	b) 32mm ditto	4	No	100.00	400.00
	c) 40mm ditto	2	No.	100.00	200.00
C	**Reducers**				
	a) 40x32mm ditto	2	No.	50.00	100.00
	b) 32x25mm ditto	4	No.	50.00	200.00
D	**Tees**				
	a) 25mm diameter PP-R equal tee	2	No	50.00	100.00
	b) 32mm ditto	2	No	70.00	140.00
	c) 40mm ditto	1	No.	80.00	80.00
E	**Female threaded joints**				
	a) 25mm diameter PP-R Female threaded joint	2	No.	50.00	100.00
	b) 32mm ditto	2	No.	70.00	140.00
	c) 40mm ditto	1	No.	80.00	80.00
	Carried to Collection			**KSHS**	**29,340.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	**Male threaded joints**				
	a) 25mm diameter PP-R Male threaded joints	2	No.	50.00	100.00
	b) 32mm ditto	2	No.	70.00	140.00
	c) 40mm ditto	1	No.	80.00	80.00
B	**Isolation Valves**				
	(a) 25mm diameter isolation valves	2	No.	2,500.00	5,000.00
	(b) 32mm ditto	2	No.	2,700.00	5,400.00
	(c) 40mm ditto	1	No.	3,200.00	3,200.00
	All pipes to be as "Key Terrain" or "Metro" and prices to include connectors, adaptors, socket reducers, etc.				
C	**Pipes**				
	a) 100mm diameter UPVC grey pipe	15	LM	1,100.00	16,500.00
	b) 40mm ditto	15	LM	600.00	9,000.00
	c) 32mm ditto	15	LM	560.00	8,400.00
D	**Bends**				
	a) 100mm diameter UPVC access bend	1	No.	300.00	300.00
	b) 100mm diameter UPVC sweep bend	1	No.	250.00	250.00
	c) 40mm ditto	2	No.	120.00	240.00
	d) 32mm ditto	2	No.	120.00	240.00
E	**Tees**				
	a) 100mm diameter single branch	1	No.	300.00	300.00
	b) 40mm diameter tee	3	No.	120.00	360.00
F	**Boss Connectors**				
	a) 100mm diameter boss connector	2	No.	150.00	300.00
	b) 40mm ditto	4	No.	100.00	400.00
	c) 32mm ditto	3	No.	100.00	300.00
G	**Inspection Plugs (Rodding eyes)**				
	a) 100mm diameter inspection plugs	1	No.	350.00	350.00
	b) 40mm ditto	2	No.	300.00	600.00
	c) 32mm ditto	2	No.	200.00	400.00
H	Four-way 100 x 50mm floor trap complete with stainless steel grating.	2	No.	3,000.00	6,000.00
	Carried to Collection			**KSHS**	**57,860.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	COLLECTION				
	PAGE NO: 4/48				18,000.00
	PAGE NO: 4/49				48,400.00
	PAGE NO: 4/50				15,660.00
	PAGE NO: 4/51				67,600.00
	PAGE NO: 4/52				362,000.00
	PAGE NO: 4/53				29,340.00
	PAGE NO: 4/54				57,860.00
	TOTAL CARRIED TO SUMMARY			**KSHS**	**598,860.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 4 - UPPER FLOOR				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 8				
	BOILER ROOM				
	Demolish individual structures setting aside materials for re-use; carting away arising debris and non re-useable materials from site; all as directed by the interior designer; all works to be executed as per Architectural drawings				
A	Carefully hack out existing floor tile finish irrespective of size; making good disturbed surfaces including any necessary filling to voids with approved materials;consolidate and dispose off resulting debris as directed by the interior designer and or as per county government regulations.	SM	3	1,000.00	3,000.00
	FLOOR FINISHES				
	Cement and sand (1:4) screeded beds ; on concrete : to				
B	40 mm Thick floors: finished to receive tile finish	SM	3	500.00	1,500.00
	Supply and fix 600 x 600 x 10mm Thick non-slip Granito floor tiles as supplied by M/s Saj Ceramics Ltd or equal and approved supplier: bedding and jointed using approved tile adhesive; grouting with propriety grouting on cement and sand screeded beds (m/s).				
C	Floors	SM	3	4,000.00	12,000.00
D	12 mm Thick x 150 mm high skirting with rounded top	LM	7	600.00	4,200.00
	Sand scrape and brush: existing plastered walls: feather off rough edges and fill cracks and defects with polyfilla: treat with fungicide and dust off; prepare and apply three finishing coats of premium grade silk vinyl emulsion paint: to				
E	Existing walls	SM	21	600.00	12,600.00
	Carried to Collection			**KSHS**	**33,300.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	CEILING FINISHES				
A	Carefully demolish existing asbestos ceilings finish; making good disturbed surfaces with and including any necessary filling to voids with approved materials; consolidate and dispose off resulting debris as directed by the Architect, county government and or NEMA regulations.	SM	3	1,200.00	3,600.00
	Gypsum ceilings				
	12mm Thick Waterproof Gypsum ceiling board (1/2 hour fire rating) on and including aluminium channel framing; plugged onto walls and ceilings soffits; 62.5 x 25mm aluminium channel joists at 600mm centres both ways; complete with high tensile suspension wires including all labours of hoisting and fixing to position at a height not exceeding 3600mm above finished floor level in recessed and or flat pattern to I.D details.				
B	Ceilings	SM	3	3,000.00	9,000.00
C	Ditto: 100mm wide cornice.	LM	6	600.00	3,600.00
D	50 x 25mm Thick moulded plained mahogany timber strips along ceiling grids to match existing to architectuctural details.	LM	7	640.00	4,480.00
	Prepare and apply one undercoat and three coats premium grade silk vinyl emulsion paint with teflon surface protector as supplied by Crown paints: on plastered surfaces: to				
E	Sides and Soffits of suspended Gypsum Ceilings & eaves	SM	3	400.00	1,200.00
F	Ditto: cornice surfaces : 0-100mm girth	LM	6	100.00	600.00
G	Ditto two pack polyurethane varnish to timber strip surfaces	LM	7	100.00	700.00
	Shelving				
H	450 x 450 x 2700mm high Shelving at 600mm high centres made from 25mm thick laminated MDF with and including metal brackets or other appropriate supports at 600mm centres.	NO	1	20,000.00	20,000.00
	Carried to Collection			**KSHS**	**43,180.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	ELECTRICAL INSTALLATIONS				
	Final sub-circuits complete with accessories and fittings as detailed below and in the drawing wired in HG PVC conduits concealed in the floor, walls and roof space.				
A	Lighting points, wired in 3x1.5mm sq single core cables for one/two way switching in 20mm HG PVC pipe enclosed and concealed in floor, walls and roof space.	NO.	2	2,000.00	4,000.00
	LIGHT FITTINGS AND ACCESSORIES				
	Supply and install Lighting control accessories, light fittings as shown in the drawings complete with associated wiring terminations and fixing materials				
B	10A One gang one way switch as ART DNA B9-BK1A	NO.	1	1,000.00	1,000.00
C	Carpi large flash ceiling light in brushed aluminium finish with a white diffusser for bathroom as Eglo 90448 as light E	NO.	1	9,000.00	9,000.00
D	Nlux 8W led bathroom shaver light mirror light made of polycarbonate 240v IP20	NO.	1	3,600.00	3,600.00
	PLUMBING & DRAINAGE WORKS				
	Boiler cylinders				
E	Aristol/Heatre Sadia/Bosch 400 Ltrs Long life hot water storage tank including outer jacket excellent insulation casing for indefinite life, cylinder internally piped to optimise hot water availability and a built in electric booster. To be supplied with Hot water outlet pipe, cold water inlet with valve, Temperature/pressure relief valve, power cable, overflow pipe, outer jacket in approved materials, drain valve, lower and upper hesting elements and thermostats, dip tube, anode rod and all other accesories and fixtures for proper functioning of the system. The system to be supplied with vertical installation brackets. The system to come with easy-to-use control and display of essential parameters, alarm and troubleshooting enablement.	NO	2	447,000.00	894,000.00
	Carried to Collection			**KSHS**	**911,600.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	COLLECTION				
	PAGE NO: 4/56				33,300.00
	PAGE NO: 4/57				43,180.00
	PAGE NO: 4/58				911,600.00
	TOTAL CARRIED TO SUMMARY			**KSHS**	**988,080.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 4 - UPPER FLOOR				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 9				
	BEDROOM 03				
	Sand scrape and brush: existing plastered walls: feather off rough edges and fill cracks and defects with polyfilla: treat with fungicide and dust off; prepare and apply three finishing coats of premium grade silk vinyl emulsion paint: to				
A	Existing walls	SM	73	600.00	43,800.00
	CEILING FINISHES				
B	Carefully demolish existing asbestos ceilings finish; making good disturbed surfaces with and including any necessary filling to voids with approved materials; consolidate and dispose off resulting debris as directed by the Architect, county government and or NEMA regulations.	SM	22	1,200.00	26,400.00
	Gypsum ceilings				
	12mm Thick Waterproof Gypsum ceiling board (1/2 hour fire rating) on and including aluminium channel framing; plugged onto walls and ceilings soffits; 62.5 x 25mm aluminium channel joists at 600mm centres both ways; complete with high tensile suspension wires including all labours of hoisting and fixing to position at a height not exceeding 3600mm above finished floor level in recessed and or flat pattern to I.D details.				
C	Ceilings	SM	22	3,000.00	66,000.00
D	Ditto: 100mm wide cornice.	LM	21	600.00	12,600.00
D	50 x 25mm Thick moulded plained mahogany timber strips along ceiling grids to match existing to architectuctural details.	LM	27	640.00	17,280.00
	Prepare and apply one undercoat and three coats premium grade silk vinyl emulsion paint with teflon surface protector as supplied by Crown paints: on plastered surfaces: to				
E	Sides and Soffits of suspended Gypsum Ceilings & eaves	SM	22	400.00	8,800.00
F	Ditto: cornice surfaces : 0-100mm girth	LM	21	100.00	2,100.00
G	Ditto two pack polyurethane varnish to timber strip surfaces	LM	27	100.00	2,700.00
	TOTAL CARRIED TO SUMMARY			**KSHS**	**179,680.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 4 - UPPER FLOOR				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 10				
	BEDROOM 02				
	Sand scrape and brush: existing plastered walls: feather off rough edges and fill cracks and defects with polyfilla: treat with fungicide and dust off; prepare and apply three finishing coats of premium grade silk vinyl emulsion paint: to				
A	Existing walls	SM	72	600.00	43,200.00
	CEILING FINISHES				
B	Carefully demolish existing asbestos ceilings finish; making good disturbed surfaces with and including any necessary filling to voids with approved materials; consolidate and dispose off resulting debris as directed by the Architect, county government and or NEMA regulations.	SM	21	1,200.00	25,200.00
	Gypsum ceilings				
	12mm Thick Waterproof Gypsum ceiling board (1/2 hour fire rating) on and including aluminium channel framing; plugged onto walls and ceilings soffits; 62.5 x 25mm aluminium channel joists at 600mm centres both ways; complete with high tensile suspension wires including all labours of hoisting and fixing to position at a height not exceeding 3600mm above finished floor level in recessed and or flat pattern to I.D details.				
C	Ceilings	SM	21	3,000.00	63,000.00
D	Ditto: 100mm wide cornice.	LM	20	600.00	12,000.00
E	50 x 25mm Thick moulded plained mahogany timber strips along ceiling grids to match existing to architectuctural details.	LM	29	640.00	18,560.00
	Prepare and apply one undercoat and three coats premium grade silk vinyl emulsion paint with teflon surface protector as supplied by Crown paints: on plastered surfaces: to				
E	Sides and Soffits of suspended Gypsum Ceilings & eaves	SM	21	400.00	8,400.00
F	Ditto: cornice surfaces : 0-100mm girth	LM	20	100.00	2,000.00
G	Ditto two pack polyurethane varnish to timber strip surfaces	LM	29	100.00	2,900.00
	TOTAL CARRIED TO SUMMARY			**KSHS**	**175,260.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 4 - UPPER FLOOR				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 11				
	BEDROOM 07				
	Sand scrape and brush: existing plastered walls: feather off rough edges and fill cracks and defects with polyfilla: treat with fungicide and dust off; prepare and apply three finishing coats of premium grade silk vinyl emulsion paint: to				
A	Existing walls	SM	68	600.00	40,800.00
	CEILING FINISHES				
B	Carefully demolish existing asbestos ceilings finish; making good disturbed surfaces with and including any necessary filling to voids with approved materials; consolidate and dispose off resulting debris as directed by the Architect, county government and or NEMA regulations.	SM	21	1,200.00	25,200.00
	Gypsum ceilings				
	12mm Thick Waterproof Gypsum ceiling board (1/2 hour fire rating) on and including aluminium channel framing; plugged onto walls and ceilings soffits; 62.5 x 25mm aluminium channel joists at 600mm centres both ways; complete with high tensile suspension wires including all labours of hoisting and fixing to position at a height not exceeding 3600mm above finished floor level in recessed and or flat pattern to I.D details.				
C	Ceilings	SM	21	3,000.00	63,000.00
D	Ditto: 100mm wide cornice.	LM	19	600.00	11,400.00
D	50 x 25mm Thick moulded plained mahogany timber strips along ceiling grids to match existing to architectuctural details.	LM	33	640.00	21,120.00
	Prepare and apply one undercoat and three coats premium grade silk vinyl emulsion paint with teflon surface protector as supplied by Crown paints: on plastered surfaces: to				
E	Sides and Soffits of suspended Gypsum Ceilings & eaves	SM	21	400.00	8,400.00
F	Ditto: cornice surfaces : 0-100mm girth	LM	19	100.00	1,900.00
G	Ditto two pack polyurethane varnish to timber strip surfaces	LM	33	100.00	3,300.00
	TOTAL CARRIED TO SUMMARY			**KSHS**	**171,820.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 4 - UPPER FLOOR				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 12				
	CORRIDOR / LOBBY AREAS				
	Sand scrape and brush: existing plastered walls: feather off rough edges and fill cracks and defects with polyfilla: treat with fungicide and dust off; prepare and apply three finishing coats of premium grade silk vinyl emulsion paint: to				
A	Existing walls	SM	285	600.00	171,000.00
	CEILING FINISHES				
B	Carefully demolish existing asbestos ceilings finish; making good disturbed surfaces with and including any necessary filling to voids with approved materials; consolidate and dispose off resulting debris as directed by the Architect, county government and or NEMA regulations.	SM	75	1,200.00	90,000.00
	Gypsum ceilings				
	12mm Thick Waterproof Gypsum ceiling board (1/2 hour fire rating) on and including aluminium channel framing; plugged onto walls and ceilings soffits; 62.5 x 25mm aluminium channel joists at 600mm centres both ways; complete with high tensile suspension wires including all labours of hoisting and fixing to position at a height not exceeding 3600mm above finished floor level in recessed and or flat pattern to I.D details.				
C	Ceilings	SM	75	3,000.00	225,000.00
D	Ditto: 100mm wide cornice.	LM	82	600.00	49,200.00
E	50 x 25mm Thick moulded plained mahogany timber strips along ceiling grids to match existing to architectuctural details.	LM	54	640.00	34,560.00
	Prepare and apply one undercoat and three coats premium grade silk vinyl emulsion paint with teflon surface protector as supplied by Crown paints: on plastered surfaces: to				
F	Sides and Soffits of suspended Gypsum Ceilings & eaves	SM	75	400.00	30,000.00
G	Ditto: cornice surfaces : 0-100mm girth	LM	82	100.00	8,200.00
H	Ditto two pack polyurethane varnish to timber strip surfaces	LM	54	100.00	5,400.00
	TOTAL CARRIED TO SUMMARY			**KSHS**	**613,360.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 4 - UPPER FLOOR				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 13				
	COLD / HOT WATER PIPEWORK DISTRIBUTION				
	Supply, deliver and install cold water polypropylene PP-R pipes and fittings to relevant B.S DIN and local standards. Tenderers must allow in their pipework prices for all the couplings, unions, connectors, joints, bypass bends, loop expansion bends, etc. in running lengths of pipes. Jointing & installation methods shall be as per manufacturers' recommendations only. All pipe diameters are internal diameters. **Polypropylene pipes as ARIETE® – 25 manufactured by EFFEGISRL has been used as a guide to the type and quality expected. Equal and approved brands shall be accepted only with the Engineers approval.** **Tenderers must allow in their prices for all couplings, connectors, holding brackets expansion joints as required in the running lengths of pipes.**				
A	**Pipes**				
	a) 25mm diameter PP-R pipe	120	LM	350.00	42,000.00
	b) 32mm ditto	48	LM	400.00	19,200.00
	c) 40mm ditto	24	LM	580.00	13,920.00
B	**Elbow and Bends**				
	a) 25mm diameter PP-R elbow/bend	12	No	100.00	1,200.00
	b) 32mm ditto	10	No	100.00	1,000.00
	c) 40mm ditto	4	No.	100.00	400.00
C	**Reducers**				
	a) 40x32mm ditto	6	No.	50.00	300.00
	b) 32x25mm ditto	8	No.	50.00	400.00
D	**Tees**				
	a) 25mm diameter PP-R equal tee	6	No	50.00	300.00
	b) 32mm ditto	6	No	70.00	420.00
	c) 40mm ditto	4	No.	80.00	320.00
	Carried to Collection			**KSHS**	**79,460.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A	**Female threaded joints**				
	a) 25mm diameter PP-R Female threaded joint	6	No.	50.00	300.00
	b) 32mm ditto	6	No.	70.00	420.00
	c) 40mm ditto	4	No.	80.00	320.00
B	**Male threaded joints**				
	a) 25mm diameter PP-R Male threaded joints	6	No.	50.00	300.00
	b) 32mm ditto	6	No.	70.00	420.00
	c) 40mm ditto	4	No.	80.00	320.00
C	**Isolation Valves**				
	(a) 25mm diameter isolation valves	4	No.	2,500.00	10,000.00
	(b) 32mm ditto	4	No.	2,700.00	10,800.00
	(c) 40mm ditto	2	No.	3,200.00	6,400.00
	Carried to Collection			**KSHS**	**29,280.00**
	COLLECTION				
	PAGE NO: 4/63				79,460.00
	PAGE NO: 4/64				29,280.00
	TOTAL CARRIED TO SUMMARY			**KSHS**	**108,740.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 4 - UPPER FLOOR				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 14				
	EXTERNAL PAINTING WORKS				
	Sand scrape and brush: existing plastered walls: feather off rough edges and fill cracks and defects with polyfilla: treat with fungicide and dust off; prepare and apply three finishing coats of premium grade Crown permacote ultraguard silicone exterior paint: to				
A	Existing walls: externally	SM	401	800.00	320,800.00
	TOTAL CARRIED TO SUMMARY			**KSHS**	**320,800.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 4 - UPPER FLOOR				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 15				
	GUTTERS AND DOWNPIPES				
	26 gauge metal sheet as described in:-				
A	150 x 150mm boxed gutter jointed with mastic and hemp gasket and held to fascia boards with and including mild steel brackets at 600mm c/c primed with one coat of two pack zinc chromate antirust primer.	LM	201	800.00	160,800.00
B	Extra over for boxed end size 150 x 150mm ditto.	NO	23	500.00	11,500.00
	26 Gauge galvanized mild steel				
C	100 mm Diameter down pipes: fixed to concrete column at 600 mm centres with steel holder bats	LM	87	1,500.00	130,500.00
D	Extra over pipe for Horse shoe bends	NO	12	1,000.00	12,000.00
E	Extra over pipe for swan necked projections: 600mm long	NO	12	1,000.00	12,000.00
	Prepare and apply three coats of premium grade gloss oil paint to: -				
F	General surfaces of steel members : 200 - 300mm girth	LM	288	100.00	28,800.00
	TOTAL CARRIED TO SUMMARY			**KSHS**	**355,600.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 4 - UPPER FLOOR				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 16				
	GENERAL ITEMS				
A	Prepare and submit Working Drawings comprising the following to the satisfaction of the Engineer both in hard and soft copy. All drawings to be in Autocad® 2013 format or an approved higher version: - i) Fully dimensioned drawings of all plants and apparatus. ii) General arrangement drawings of equipment, plant etc. iii) Routes – types and sizes and arrangement of all pipe work. iv) Wiring and piping diagrams of plant and apparatus. v) Schematic diagram of individual plants and switch and control boards. vi) All the required operating instructions for all panels, boards, control panels etc. **(Note: Full set of electrical and Mechanical engineering services drawings to be presented as per drawing list).**	ITEM			100,000.00
	TOTAL CARRIED TO SUMMARY			**KSHS**	**100,000.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KES)	AMOUNT (KES)
	SECTION NO. 4				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 16				
	BUILDERS WORK TO ENGINEERING SERVICES				
	Electrical Engineering Service Installations				
	Builders work in connection to electrical services Cut and/or chase and make good thereafter for electrical installations including associated switches and concealed conduits therewith: for				
A	Allow for Builders Work in connection to services		ITEM		50,000.00
	Mechanical Engineering Service Installations				
	Builders work in connection to mechanical Engineering services: cut and/or leave and make good thereafter for sanitary fittings, equipments and pipe work therein: concealed type plumbing and ducting				
B	Allow for Builders Work in connection to services		ITEM		50,000.00
	TOTAL CARRIED TO SUMMARY			**KES**	**100,000.00**

ITEM	DESCRIPTION	PAGE NO.	AMOUNT
	SECTION NO. 4 - UPPER FLOOR		
	PROPOSED RENNOVATIONS TO SPANISH AMBASSADOR'S RESIDENCE		
	UPPER FLOOR SUMMARY		
	ELEMENT	**PAGE NO**	
1	ROOFING AND RAINWATER DISPOSAL	**4/3**	4,742,900.00
2	BEDROOM 06	**4/14**	1,127,750.00
3	BEDROOM 05	**4/22**	931,840.00
4	BEDROOM 04	**4/30**	1,030,100.00
5	MASTER BEDROOM	**4/38**	1,496,980.00
6	DISABLED WASHROOM	**4/47**	786,600.00
7	CORRIDOR/LOBBY WASHROOM	**4/55**	598,860.00
8	BOILER ROOM	**4/59**	988,080.00
9	BEDROOM 03	**4/60**	179,680.00
10	BEDROOM 02	**4/61**	175,260.00
11	BEDROOM 07	**4/62**	171,820.00
12	CORRIDOR / LOBBY AREAS	**4/63**	613,360.00
13	COLD/HOT WATER DISTRIBUTION PIPEWORK	**4/65**	108,740.00
14	EXTERNAL PAINTING WORKS	**4/66**	320,800.00
15	GUTTERS & DOWNPIPES	**4/67**	355,600.00
16	GENERAL ITEMS	**4/68**	100,000.00
17	B.W.I.C TO ENGINEERING SERVICES	**4/69**	100,000.00
	TOTAL CARRIED TO MAIN SUMMARY		**13,828,370.00**

BOREHOLE INSTALLATIONS

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 5				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 1 - BOREHOLE INSTALLATIONS				
	Site Investigations				
A	Allow for hydro geological/geophysical survey of the demarcated land and submit a complete report of the survey including any permit applications payable to Hydrologist/Geologist in full.	SUM		200,000.00	200,000.00
B	Allow for application, liaisons, follow up and payment for Borehole Drilling licenses from Water Recourses Management Authority (WRMA)/NEMA Licences	SUM		100,000.00	100,000.00
C	Mobilization	SUM		50,000.00	50,000.00
D	Demobilization of drilling unit, equipment, materials, personnel and all other required supplies	SUM		25,000.00	25,000.00
E	Erecting/dismantling of drilling unit	SUM		30,000.00	30,000.00
F	Drilling 203 mm diameter borehole from 0-100 m below surface.	LM	100	4,000.00	400,000.00
G	Drilling from 100-250 m	LM	150	4,500.00	675,000.00
H	Supply and installation of 152 mm diameter plain black steel casings class-B.	LM	160	4,500.00	720,000.00
I	Supply and installation of 152 mm diameter machine-cut black steel screens class-B.	LM	90	4,500.00	405,000.00
J	Supply and installation of filter gravel pack.	TON	12	5,000.00	60,000.00
K	Allow for standby time	HRS	4	5,000.00	20,000.00
L	Allow for reaming, supply and installation surface casings on request by the Consultant.	SUM		15,000.00	15,000.00
M	Allow for removal of the above temporary casings.	SUM		5,000.00	5,000.00
N	Development works.	HRS	4	5,000.00	20,000.00
O	Test pumping to ascertain borehole yield for at least 24 hours including installation and withdrawal of pumping unit and recovery measurements.	SUM		50,000.00	50,000.00
P	Construction of mass concrete plinth around well head of 1.5 x 1.5 x 0.5 m.(Normal borehole slab).	NO	1	15,000.00	15,000.00
	Carried to collection			**KSHS**	**2,790,000.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
A	Borehole capping	NO	1	200,000.00	200,000.00
B	Allow for all costs involved in providing water for all requirements of the contract drilling, field camp e.t.c.	SUM		20,000.00	20,000.00
C	Water chemical and bacteriological analyses and borehole completion report	ITEM		25,000.00	25,000.00
D	Allow for application, liaison, follow up and payment for County Water Meter including necessary connections.	ITEM		25,000.00	25,000.00
E	Allow for Borehole water utilization License from Water Resources Management Authority (WRMA).	ITEM		5,000.00	5,000.00
	Installation of Submersible Pump,control panel , pipework and fittings, electrical connections and commissioning.				
F	Supply, installation, testing and commissioning of submersible pump (3 phase, 12 kW). as Grundfos SP 17-27 complete with a sealed, liquid cooled 2-pole synchronous GRUNDFOS motor constructed of stainless steel with ceramic bearings.	NO	1	350,000.00	350,000.00
	Control Panel				
G	Supply, install, test and commission control panel for Grundfos SP 17-27 c/w Star-Delta System Starter, phase failure, low/high level cut-outs, indicator lights, switch-over gear, ammeter, voltmeter, hour meter, etc	NO	1	50,000.00	50,000.00
	Rising Main and Collection pipework (provisional): Tenderer to allow for all couplings, bends, unions, holding brackets and other fixing accessories in the rates for pipe running lengths.				
H	50mm (2”) diameter galvanized steel pipe, heavy duty class C, as rising main, including threads and high pressure steam sockets	LM	300	1,500.00	450,000.00
I	50mm(2”) diameter union class C GS	NO	50	1,000.00	50,000.00
J	50m (2”) diameter gate valves class C GS	NO	2	800.00	1,600.00
K	50m (2”) diameter non-return valve class C GS, Peglar make or equivalent	NO	2	25,000.00	50,000.00
L	Underground concrete chamber for water metre of dimensions 600x400x400mm c/w lockable cover	NO	1	15,000.00	15,000.00
M	50m (2”) diameter bends class C GS	NO	1	500.00	500.00
N	50m (2”) diameter Plugs class C GS	NO	1	500.00	500.00
O	25mm (2”) diameter Upvc dipper tube	LM	300	600.00	180,000.00
	Carried to collection			**KSHS**	**1,422,600.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	Electrical works				
A	Supply and install electrical 25mm2submersible drop cable as per specification for the above pump. Cable to have capacity for 3 phase power supply, 12 kW.	LM	300	2,000.00	600,000.00
B	Provide electrical connection to control panel, over a distance of approximately 50 metres, including two splicing kits, 16mm2 underground armoured cable, 25mm Upvc conduit, and additional items required for proper operation	ITEM		3,500.00	3,500.00
C	Supply and install Cable glands for above	NO	6	500.00	3,000.00
D	Supply and install start/stop electrode pair, including 500m of 0.75mm2 electrode cable and relays	NO	1	1,200.00	1,200.00
E	Provide all electrical connections between control panel and power source (distance approximately 15metres). Allow for liaison with Electrical Sub-contractor.	ITEM		12,000.00	12,000.00
F	Allow for One year Defects Liability period and quarterly inspections of entire the borehole system including pumping and coontrols to ensure propoer functioning.	ITEM		25,000.00	25,000.00
					644,700.00
	COLLECTION				
	PAGE NO : 5/1				**2,790,000.00**
	PAGE NO : 5/2				**1,422,600.00**
	PAGE NO : 5/3				**644,700.00**
	TOTAL CARRIED TO SUMMARY			**KSHS**	**4,857,300.00**

CONTINGENCIES

ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	SECTION NO. 6				
	PROPOSED SPANISH AMBASSADOR RESIDENCE				
	ELEMENT NO. 1 (PROVISIONAL)				
	CONTINGENCIES				
A	Allow a Contingency Sum of Kenya Shillings One Million Only 1,000,000.00) Only to be expended in whole or part as directed by the Architect	SUM			1,000,000.00
	The Contingencies shall include but is not limited to:				
1	All completions, and finishing works justified if and when they are needed - 400,000.00				
2	Extra Demolition works necessary to allow for commencement of new works justified if and when they are needed - 200,000.00.				
3	Aids for any masonry works necessary for plumbing and drainage installations if they are needed - 100,000.00				
4	Aids for any masonry works necessary for electrical installations if they are needed - 100,000.00				
5	Aids for any masonry works necessary for hot and cold water pipe installations if they are needed - 100,000.00				
6	Any other works omitted / not captured adequately in the Bills of Quantities and or those that may require specification changes due to material obseleteness and or unavailability if justified and when they are needed - 100,000.00				
	Carried to collection			**KSHS**	**1,000,000.00**

MAIN SUMMARY

ITEM	DESCRIPTION		KShs
	PROPOSED SPANISH AMBASSADOR'S RESIDENCE RENNOVATIONS		
	MAIN SUMMARY		
	SECTION	**PAGE NO**	
1	PRELIMINARIES	2/26	550,000.00
2	GROUND FLOOR	3/19	4,365,100.00
3	UPPER FLOOR	4/67	13,828,370.00
4	BOREHOLE INSTALLATIONS	5/1	4,857,300.00
5	CONTINGENCIES	SUM	1,000,000.00
	TOTAL CARRIED TO FORM OF TENDER		**24,600,770.00**

EMPLOYER **CONTRACTOR**

NAME…… NAME……..…..…….

…… ……..……..……

SIGNATURE…… SIGNATURE……...……..

ADDRESS…… ADDRESS……..……..

…….. ……

DATE……DATE……..……..……..

ANNEXTURE 1

ASBESTOS DISPOSAL GUIDELINES

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

NATIONAL GUIDELINES ON SAFE MANAGEMENT AND DISPOSAL OF ASBESTOS

April 2013

nema

mazingira yetu | uhai wetu | wajibu wetu

National Guidelines On Safe Management And Disposal Of Asbestos

Prepared by: Taskforce on Asbestos Guidelines

Creation Date: 10/10/2011

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Version: 1.0

Towards achievement of Vision 2030

ISO 9001:2008 Certified

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Acronyms

CCN	City Council of Nairobi
CDE	County Director of Environment
DOSHS	Directorate of Occupational Safety and Health Services
EIA	Environmental Impact Assessment
EMC	Environmental Management and Coordination
EMCA	Environmental Management and Coordination Act, 1999
MoPHS	Ministry of Public Health and Sanitation
NEMA	National Environment Management Authority
OSHA	Occupational Safety and Health Act, 2007
PPE	Personal Protective Equipment
SWSI	Surface Water Supply Index

INTERPRETATION OF TERMS

In these guidelines;

"Asbestos waste" means waste containing asbestos and may include waste from renovation, demolition and repair of asbestos roofing sheets, asbestos ceiling boards and asbestos clutch plates, brake pads and linings and insulation materials.

"Authority" means the National Environment Management Authority established under section 7 of Environmental Management and Coordination Act (EMCA), 1999.

"County Director of Environment" means an officer of the National Environment Management Authority in charge of a County.

"Disposal site" means any area licensed by the Authority for disposal of Asbestos waste.

"Employee" means a person who works under contract or employment and related expressions shall be construed accordingly.

"Contractor" means any person or firm engaged in handling, removal and disposal of asbestos.

"Safe management" means the handling of asbestos materials in a manner that minimizes risk of exposure.

"Asbestos material" means any material that contains asbestos.

"Waste generator" means any person carrying out activities that generate asbestos waste.

"Encapsulation" means a process in which a material containing asbestos is treated with a product that covers the material and prevents the fibres from being released.

"Friable materials" means materials that, when dry, can be easily crumbled or powdered by hand when disturbed

"Asbestos-containing materials" means any manufactured articles or other materials that contain 1 % or more asbestos by weight at the time of manufacture.

FOREWORD

The Government of Kenya is committed to ensuring a clean and healthy environment for its citizenry. The constitution of Kenya espouses the tenets, duties and responsibilities of the state and its institutions to eradicate all forms of environmental degradation to promote sustainable development. As Kenya develops towards achieving Vision 2030 its imperative that all forms of development and waste associated with it is managed in a responsible manner.

The development of Guidelines on Safe Management and Disposal of Asbestos has been necessitated by the need to safeguard human health and environment from adverse impacts related to asbestos materials. According to the Legal Notice No. 121 of the Environmental Management and Coordination (Waste Management) Regulations, 2006, wastes containing asbestos in the form of dust or fibres are classified as hazardous wastes. In addition, the Legal Notice requires that hazardous waste be disposed off in a specific manner as approved by the National Environment Management Authority (NEMA). Due to the risks associated with Asbestos fibre or dust, there the need to give clear guidelines on the safe handling management and disposal of Asbestos material.

In the 1960s and 1970s, Asbestos was a material of choice in the construction industry. A number of facilities including food manufacturing industries as well as residential homes used asbestos roofing material due to its durability and fire resistance characteristics. These roofing materials have deteriorated over time requiring their replacement with more environmentally safe materials necessitating their removal and disposal. Due to the lack of appropriate and licensed disposal facilities and the increased demand for the safe disposal, NEMA as the principal environmental regulator found it prudent to inform the public and manage Asbestos material by formulating operational guidelines. This process has been through a multi-sectoral as well as interdisciplinary approach.

I recognize the effort that NEMA has put in formulating necessary regulations and guidelines to serve the interest of the citizens of Kenya to ensure better management of the environment.

Hon. Amb. Chirau Ali Mwakwere, EGH, FCILT, MP

Minister for Environment and Mineral Resources

PREFACE

This guideline is one of the tools for environmental management in Kenya under the Environmental Management and Coordination Act (EMCA), 1999 and the Environmental Management and Coordination (Waste Management) Regulations, 2006.

The guideline is aimed at a broad readership, which will include government agencies (who are responsible for decision making, formulating policies, and enforcing health and safety aspects on asbestos management in the country), manufacturers and assemblers of asbestos materials, garage operators, contractors and all institutions that have asbestos material in their premises and other interested stakeholders.

This guideline provides direction for safe management of Asbestos waste and shall be the main regulatory reference material for Asbestos waste in Kenya. The document has been designed to apply common approaches on safe handling, packaging, transportation and final disposal of asbestos waste. The guideline will be reviewed from time to time as deemed necessary.

Mr. Ali D. Mohamed, CBS

Permanent Secretary

Ministry of Environment and Mineral Resources

ACKNOWLEDGEMENT

The Asbestos Guidelines have been produced through consultative and collective efforts of NEMA and the relevant lead agencies namely; Ministry of Public Health and Sanitation, Directorate of Occupational Safety and Health Services and City Council of Nairobi.

NEMA profoundly acknowledges the noble role played by NEMA Board of Management by providing the necessary resources and conducive environment which cannot be gainsaid to have tremendously contributed to the finalization of this document.

The Authority greatly appreciates the commitment and dedication demonstrated by the Director Compliance and Enforcement and the Task Force that led to the successful completion of the Guidelines.

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CHAPTER 1

INTRODUCTION

1.1 Background Information on Asbestos

Asbestos is a group of six fibrous minerals that occur naturally in metamorphic deposits located around the world. Of the hydrous magnesium silicate variety, the six types include tremolite, actinolite, anthophyllite, chrysotile, amosite and crocidolite. The major producers of asbestos include Canada, Kazharkstan, Ukraine, Russia, India, South Africa and Zimbabwe. Asbestos used to be mined in Kenya in the past but was stopped.

Asbestos is a chemically inert mineral that is fire resistant and does not conduct heat or electricity thus making it a commonly used insulator. It has high tensile strength, insoluble and odourless. Due to these properties, asbestos has been used in a wide range of manufactured goods, including roofing materials, ceiling and floor tiles, paper and cement products, textiles, coatings and friction products such as automobile clutch, brake, transmission parts and sewer pipes. When used due to its resistance to fire or heat, it is woven into fabrics or mats while when used for building material such as roofing sheets, it is often mixed with cement.

Asbestos is a hazardous material with extremely fine fibres and can remain suspended in air for hours. If handled without caution,it may cause serious chronic health problems such as asbestosis, lung cancer and mesothelioma. The diseases cause long term serious social, economic and emotional problems.

When left intact and undisturbed, asbestos materials do not pose a health risk. It becomes a problem when, due to damage, disturbance, or deterioration over time, the material releases fibres into the air. Exposure to air containing the fibres increases the risk of inhaling the fibres and developing the associated diseases.

There is increased removal and disposal of asbestos roofing materials due to globalawareness of its negative health effects, deterioration of asbestos sheets over time and increased drive

towards roof water harvesting. The removal and disposal of asbestos has not been done in accordance with any guideline. In order to increase awareness and toreduce or eliminatetherisk of exposure to asbestos fibresandthustherisk of disease, a consistent approach to management of asbestos especially handling, demolitions, renovations and repairs is therefore required.

The Authority in consultation with relevant lead agencies namely the Ministry of Public Health and Sanitation (MoPHS), Directorate of Occupational Safety and Health Services (DOSHS) and City Council of Nairobi (CCN) developed these guidelines.

1.2 Objectives

The main objective of these guidelines is to protect the environment and minimise risk to workers and public from asbestos fibers.

Specific objectives of the guidelines are;

1. To ensure environmentally sound disposal of asbestos
2. To provide assistance compliance with Environmental Management and Coordination (EMC) Waste Management Regulations, 2006
3. To ensure safe removal, handling, packaging and transportation of asbestos.
4. To create and raise awareness on hazards of asbestos.

1.3 Scope

These guidelines will apply to all persons or firms operating in facilities and premises in which asbestos materials may be handled during installation, demolition, renovation, repair or removal for disposal.

1.4 Regulatory and Institutional Framework

1.4.1 Regulatory Framework

Environmental Management and Coordination Act, 1999 section 91 (1-7)

The EMCA, 1999 requires the Authority to categorize hazardous wastes on the recommendation of Standards Enforcement and Review Committee (SERC) and to issue guidelines and regulations for the management of each category of hazardous wastes. The categorization has been done under the EMC (Waste Management) Regulations, 2006, while these guidelines provide for safe management of asbestos and its wastes.

Environmental Management and Coordination (Waste Management) Regulations, 2006.

Asbestos has been classified as hazardous waste under the Waste Management Regulations, 2006

1) Every person who generates toxic or hazardous waste shall treat or cause to be treated such hazardous waste using the classes of incinerators prescribed in the Third Schedule to these Regulations or any other appropriate technology approved by the Authority.
2) Any leachate or other by-products of such treated waste shall be disposed of or treated in accordance with the conditions laid down in the license or in

accordance with guidelines issued by the Authority in consultation with the relevant lead agency.

3) In issuing a licence for the disposal of waste, the Authority shall clearly indicate the disposal operation permitted and identified for the particular waste

Public Health Act Cap 242 Sections 11-13 –

An act of parliament to make provision for securing and maintaining health. Section 13 states that it shall be the duty of every health authority to take all lawful, necessary and under its circumstances reasonably practicable measures for preventing the occurrence or dealing with any outbreak, or prevalence of any infections, communicable or preventable diseases or conditions to safeguard and promote the public health and to exercise the powers and perform the duties in respect of the public health conferred or imposed on it by this act or by any other law.

The Public Health Act Cap 247, Section 3 gives provisions for use of poisonous substances. It refers to regulations for protection of persons against risk of poisoning, imposing restrictions or conditions on the importation, sale, disposal, storage, transportation or use of poisonous substances. This Act also requires persons concerned with importation, sale, disposal storage, transportation or use of poisonous substances to be registered and licensed and provides measures for detecting and investigating cases in which poisoning has occurred.

The Public Health Act Sec 126 A, empowers municipal councils, urban and area councils to make by laws for all or any of the following matters with regards to buildings for -

- controlling the construction of buildings and the materials to be used in the construction of buildings;
- Preventing the occupation of a new or altered building until a certificate of the fitness thereof for occupation or habitation has been issued by such local authority.
- To compel owners to repair order to demolish unsafe, dangerous or dilapidated buildings.

The Act further gives the municipal Urban or area councils power to require removal or alteration of work in certain cases the local authority may by notice to the owner either require him to pull down or remove the work, or if he so elects to comply with any other requirements.

The Occupational Safety and Health Act, No. 15 of 2007

The purpose of the **Occupational Safety and Health Act (OSHA)** is to provide for the safety, health and welfare of workers and all persons lawfully present at workplaces and to provide for the establishment of the National Council for Occupational Safety and Health and for connected purposes.

Though not explicitly provided, the act and the rules made there under have various sections on hazardous materials that apply to Asbestos.

The OSHA stipulates that an employer shall not require or permit his employee to engage in the manual handling or transportation of a load which by reason of its nature is likely to cause the employee to suffer bodily injury.

It also states that any person supplying, distributing, conveying or holding in chemicals or other toxic substances shall ensure that they are packaged, conveyed, handled and distributed in a safe manner so as not to cause any ill effect to any person or the immediate environment.

The Factories and Other Places of Work (Hazardous Substances) Rules, 2007

Asbestos has been listed as a hazardous substance and its threshold limit values given, therefore these rules apply to all workplaces where asbestos is present.

The Factories (Building, Operations and Work of Engineering Construction) Rules, Legal Notice No. 40 of 1984

The Factories (Building, Operations and Work of Engineering Construction) Rules, Legal Notice No 40 of 1984, rules 20 and 21 prohibit any inhalation of dust and fumes. In any building operation or work of engineering construction where dust or fumes likely to be injurious to the health of persons employed are given off, all reasonably practicable measures shall be taken to prevent the inhalation of dust or fumes by the person employed by ensuring adequate ventilation or providing suitable respirators at the place where the operation or work is carried on.

The Local Government Act, Chapter 265

Section 160 (a) of The Local GovernmentAct, Chapter 265 empowers every municipal council, town council and every urban council to establish and maintain sanitary services for the removal and destruction of, or otherwise dealing with, all kinds of refuse and effluent and, where any such service is established, to compel the use of such service by persons to whom the service is available.

Section 201(1) – (4) expands the jurisdiction of local authority to make by-laws in respect of all such matters as are necessary or desirable for the maintenance of the health, safety and well-being of the inhabitants of its area or any part thereof and for the good rule and government of such area or any part thereof and for the prevention and suppression of nuisances. The by-laws so made may control, regulate, prevent, prohibit or compel certain activities to be undertaken and prescribe offences in case of contraventions.

1.4.2 Institutional Framework

National Environment Management Authority

The Authority is established to exercise general supervision and co-ordination over all matters relating to the environment and to be the principal instrument of Government in the implementation of all policies relating to the environment. Its mandate includes implementation of Legal Notice no. 121 on Environmental Management and Coordination (Waste Management) Regulations, 2006 which stipulates the disposal of Hazardous waste such as asbestos.

Local Authorities

The ministry of local government is charged with the responsibility of providing guidance, supervisory sand monitoring services of local authorities in matters of infrastructure development and service delivery including solid waste.

Directorate of Occupational Safety and Health Services

The department is mandated to implement all rules pertaining to the protection and prevention of workers from occupational hazards and ensure safe working environment. The Directorate implements the OSHA, 2007 and various rules made there under.

Ministry of Public Health and Sanitation

The mandate of MoPHS is to support the attainment of the health goals of the people of Kenya by implementing priority interventions in public health, guided by the strategic framework provided from the medium-term Plan 2008-2012 and the wider health sector.

The ministry is involved in prevention of communicable and non-communicable diseases, health promotions, and curative services at all levels.

The department of environmental health and sanitation aims to reduce disease burden arising from environmental pollution, by preventing disease transmission from general environmental health pollutants.

CHAPTER 2

EXPOSURE AND EFFECTS OF ASBESTOS

2.1 *Types Of Asbestos*

Asbestos is a group of six fibrous minerals that occur naturally in metamorphic deposits located around the world. Of the hydrous magnesium silicate variety, the six types include tremolite, actinolite, anthophyllite, chrysotile,amosite and crocidolite (see Annex 1).

2.2 Uses of Asbestos

Asbestos fibres are incredibly strong and have properties that make them resistant to heat. Many products are in use today that contain asbestos. Most of these materials are used in buildings as roofing, sound proofing, ceilings and tiles; as insulation materials in boilers, steam pipes, water heaters, brake linings, clutch plate, bonnet lining; and in protective gears as fire resistant blankets, jackets and gloves.

2.3 People at risk

Historically, asbestos exposure has been of greatest concern to those involved in mining and milling of the raw material, people in the construction trades, and workers engaged manufacturing or using products containing asbestos.

Secondary exposure occurs when people who do not work directly with asbestos are inadvertently exposed to fibres as a result of sharing workspaces where others handle asbestos.

In addition to people who work with asbestos either directly or indirectly, workers' families and other household contacts are also at risk from asbestos workers who go home covered in asbestos dust; family and household members are then exposed via inhalation of the dust from workers' skin, hair, and clothing, and during laundering of contaminated work clothes.

Asbestos is released into the air and soil around facilities such as refineries, power plants, factories, shipyards, steel mills, vermiculite mines, and building demolitions. People living around these sites are also exposed to asbestos

Other groups at risk of developing an asbestos-related disease are the people who are involved in rescue, recovery, and cleanup of disaster sites where construction materials used contain asbestos.

2.4 Sources of Exposure

Currently, the people most heavily exposed to asbestos are those in construction trades, and most occupational exposures occur during repair, renovation, removal or maintenance of asbestos that was installed years ago.

2.4.1 Installation and Repair

As brake pads and linings with asbestos material wear down, asbestos is exposed and fibres are released into the air. The dust can also gather on other brake parts. Mechanics often blow dust away with an air hose or by mouth, oblivious of the inherent dangers. It is impossible to tell whether or not a car has asbestos-containing brake pads merely by looking at it, mechanics should always exercise caution when working on a car's brake system by wearing a respirator or other protective mask.

Technicians involved in either installation or repair works of materials containing asbestos such as buildings and boilers should always observe the precautions.

2.4.2 Manufacturing

The ore contains only about 10% asbestos, which must be carefully separated from the rock to avoid fracturing the very thin fibres. The most common method of separation is called dry milling. In this method, the primary separation is done in a series of crushing and vacuum aspirating operations in which the asbestos fibres are literally sucked out of the ore.

Manufacturing processes involve mixing asbestos materials with cement, ceramics e.t.c. during which dust is likely to be generated. Machining and cutting activities during manufacturing will generate substantial dust that will cause exposure of asbestos dust to the workers and people nearby. In Kenyan situation, however, only machining and cutting processes take place.

2.4.3 Removal and Disposal Operations

During the removal operations there are bound to be breakages that will generate dust therefore inhalation will occur.

2.4.4 Environment

Due to the fibrous nature of the asbestos, airborne dust is likely to be present in the environment close to the premises where asbestos is handled. All people within that vicinity are likely to be exposed to the dust in the air.

2.4.5 Mining

The asbestos ore deposits are loosened from the surrounding rock by careful drilling and blasting with explosives. The resulting rocky debris is loaded into large rubber-tired haul trucks and brought out of the mine. Some operations use an excavation technique called block caving, in which a section of the ore deposit is under-cut until it crumbles under its own weight and slides down a chute into the waiting haul trucks. During the process, asbestos dust will be generated, hence exposing the workers and people nearby. However, mining is not a major source of exposure in Kenya since it was stopped.

2.5 Effects of Asbestos Exposure

2.5.1 Health Effects

Fibres embedded in lung tissue over time may cause serious lung diseases including asbestosis, lung cancer or mesothelioma. Smoking increases the risk of developing illness from asbestos exposure. Disease symptoms may take several years to develop following exposure.

The major health effects associated with asbestos exposure includes:

- **Asbestosis** -- Asbestosis is a serious, progressive, long-term non-cancer disease of the lungs. Symptoms of asbestosis include shortness of breath and a dry, crackling sound in the lungs while inhaling. There is no effective treatment for asbestosis.

- **Lung Cancer** -- People who work in the mining, milling, manufacturing of asbestos, and those who use asbestos and its products are more likely to develop lung cancer than the general population. The most common symptoms of lung cancer are coughing and a change in breathing. Other symptoms include shortness of breath, persistent chest pains, hoarseness, and anaemia.
- **Mesothelioma** --this is a rare form of cancer that is found in the lung, chest, abdomen, and heart and almost all cases are linked to exposure to asbestos. This disease may not show up until many years after asbestos exposure.

2.5.2 Socio-Economic Effects

Asbestos is considered as one of the biggest occupational health risk faced by workers, and the related diseases arereaching epidemic proportions in many parts of the world. Studies carried out in Canada, Australia and the UK indicate that death continues to be one of the worst consequences of asbestos exposure which is the mostcommon cause of asbestos related diseases in the workplace. Death due to asbestos may be as high as 100,000, assuming that the world labor force is about 2.7 billion (Takala, 2002). Experts suggest that the number of deaths from asbestos related diseases will rise in future.

The social and emotional impacts of people affected by asbestos disease and associated issues were demonstrated by Walker and LaMontagne in 2004. Workers' and community members' knowledge and awareness about asbestos grew as a result of increased deaths, fear of living with risk of the past exposure and experience with medical professionals. Living with asbestos related disease has been identified as capable of affecting identity by the conversion from being a healthy and independent person to being physically limited and reliant on family and others,this leads to feelings of anger, frustration, fear and uncertainty (Walker and LaMontagne (2004).

The economic impacts in terms of medical costs, legal costs and scientific investigations are enormous. In short, asbestos disease is a serious public health worldwide whose impacts are only starting to emerge after 100 years of misuse and therefore deserve commensurate public health response.The primary strategy to address this problem is prevention, with worldwide elimination of asbestos use and replacement of asbestos by safe substitutes (Tushar K.J. et al., 2003).

CHAPTER 3

PRE –REMOVAL AND PRE- DISPOSAL ACTIVITIES

This chapter covers the activities to be undertaken before the removal and disposal of the asbestos.

3.1 Precautionary Measures

In view of the adverse health effects posed by exposure to asbestos fibres, the Guidelines highlights the precautions necessary to reduce or mitigate risks of exposure. It is therefore necessary that the facility owners undertake the following;

1) Keep an updated inventory of all asbestos containing materials in the work place;
2) Notify the Authority by filling in the notification form (ANNEX 2);
3) Ensure that all asbestos containing materials are clearly marked and visible;
4) Develop safe work procedures including the correct use of personal protective equipment (PPE) for workers who may work near asbestos containing materials(ANNEX 3);
5) Instruct all workers who would be exposed in all aspects of the asbestos management;
6) Prepare written work procedures specific to each job site and make them available to all workers;
7) Ensure that work is carried out under the supervision of experienced and qualified personnel;
8) Keep accurate and complete records regarding asbestos management;
9) Conduct a risk assessment of the potential for exposure to any of the asbestos containing materials;

3.2 Risk Assessment Requirements

A risk assessment must be conducted prior to the disturbance, repair or removal of asbestos containing materials to determine which action is to be taken. The purpose is to identify the location and gauge the condition of the material prior to the work, as well as any other potential hazards that might affect the workers.

Risk assessment report should include but not limited :

a) Type of asbestos present and the percentage
b) Friability of the material
c) Condition of the material (good, poor etc)
d) Potential for occupant exposure
e) Other potential hazards present (biological, chemical, electrical, confined spaces, heat, cold etc)
f) Risk rating or classification and rationale
g) Personal protective equipment to be used

h) How the work area will be isolated from any occupants

i) Person completing the risk assessment, signature, date and phone number.

The Risk Assessment should only be conducted by a qualified person such as officers serving as Safety, Health and Environment Managers, Property Managers or a consultant.

In any building which is being altered or renovated, materials that have the potential for releasing asbestos fibres can either be removed, enclosed or encapsulated which includes coating or painting.

3.3 Environmental Impact Assessment (EIA)

a) The asbestos waste generator should ensure that a disposal site is identified and an EIA is done for removal, handling and disposal of asbestos before commencing the work process

b) The findings of the risk assessment must be included in the EIA report submitted to the authority.

c) The EIA shall specify safe conditions for removal, handling and disposal of asbestos

d) A hydrogeological report must be done to inform on the best siting of the disposal site and be included in the EIA report

e) The EIA should be carried out by experts who are registered by NEMA.

f) The EIA report should be submitted to NEMA for processing.

g) The removal, handling and disposal of asbestos shall not commence until an EIA licence is issued.

3.4 Notification

- When asbestos waste is to be generated or removed from a site, parties that may be affected shall be notified the time and nature of work to be done.
- The parties to be affected must be given at least seven (7) days notice of the intention to remove and dispose asbestos by the waste generator
- The staff, neighbors and any other person who might be at risk within the premises shall also be notified to prevent their exposure. (annex 2)

CHAPTER 4

HANDLING

This chapter outlines the steps necessary for the employer to ensure, as far as is practicable, the prevention of contamination by asbestos from any workplace; to ensure that asbestos-containing materials are stored, labelled and disposed of appropriately.

4.1 Removal

The waste generator shall ensure that the following precautions are observed when removing asbestos materials from buildings or other structures:

- Secure the site to prevent unauthorized persons and to restrict movement
- Wet the asbestos sheets before removal. If asbestos sheets should begin to crack or crumble, immediately wet the cracked or broken areas with the pintsize spray bottle or garden pump sprayer. **NB. Breakage releases asbestos fibres.**
- Remove pieces of asbestos sheets by pulling any fasteners (nails, screws, rivets) or cutting fastener heads so as to minimize breakage. If necessary, carefully lift asbestos sheets with pry tools to expose the fasteners' heads.
- Do not slide asbestos sheet over each other.
- Carefully lower removed asbestos sheets to the ground. **Do not throw or drop it.**
- Care should be taken not to stand or sit on the asbestos sheets to avoid breakage.
- The workers removing the asbestos must have the appropriate Personal protective equipment which must be removed as they enter the shower room immediately after removal of the asbestos.

4.2 Temporary Storage,

If the asbestos must be stored before disposal they must be stored in such a way that its containers are secure from accidental or deliberate damage, access by staff and the general public.

- Temporary storage refers to the time between removal and final disposal of asbestos waste. The duration for temporary storage of asbestos waste should not exceed thirty (30) days from the time of removal.
- The temporary site should be within the premises where the asbestos are being removed.
- The removed bulky asbestos, such as roofing sheets, beams, joists, and studs, should be stacked and wrapped, into stacks which can be easily loaded into the transportation vessel, in a plastic sheet of a minimum of 500 gauge double wrapped and secured with tape and labeled
- Any debris (broken pieces) should be collected in a sealed polythene woven bag or any other air tight container. The bags should then be wrapped, into stacks which can be easily loaded into the transportation vessel, in a polythene sheet awaiting final disposal.

- The bags should be considered full when half full and should be tightly sealed or whenfilled up to a level where the open neck can be twisted tightly, folded over into a "gooseneck," and the ends sealed to the side of the bag with heavy plastic tape such as duct tape.
- Care should be taken to ensure that sharp pieces do not puncher the bags/ wrappers
- Removed asbestos sheets should not be allowed to lie about the site where they may be further broken or crashed by machinery or site traffic.
- The storage area must have restricted entrance and locked or secured on a 24 hour basis.
- Warning label (**"Asbestos hazard area, keep out")** and danger signsshould be affixed to each wrapped stack or storage area using English, Swahili and Local language.

4.3 Handling of Asbestos materials in garages

This section applies to activities involving relining of brake and clutch assemblies, motor vehicle repair and maintenance and commercial garages and service stations.

1. Wherever possible, brake and clutch parts that do not contain asbestos fibre should be used.
2. Where products containing asbestos are being handled, the number of people in the area should be kept to the lowest possible figure.
3. Workshops should be isolated from other occupied parts of the building or areas that the public have access to.
4. Under no circumstances should compressed air or drybrushing be used for cleaning purposes.

4.3.1 Servicing of brakes and clutches in garages or workshops

Airborne asbestos fibre is most likely to be produced when parts are worked on by cutting or machining. The dust that accumulates during usage also contains asbestos and handling or cleaning such parts will produce airborne asbestos fibre.

1. If the brake or clutch parts are to be sent out for specialist servicing, they should be sealed in a bag to prevent the release of asbestos fibres.
2. When products are machined, the employer should ensure that the release of dust into the work environment is reduced to the lowest practicable level.
3. An effective dust-extraction system with appropriate treatment to prevent air pollution must be fitted to all equipment that is used to cut, grind or otherwise machine the asbestos materials.
4. Mechanics should always exercise caution when working on a car's brake system by wearing a respirator or other protective mask.
5. Provide air tight containers for storage of the removed parts awaiting disposal.
6. All the waste containing asbestos generated should be disposed of as stipulated in these guidelines.

CHAPTER 5

TRANSPORTATION AND DISPOSAL

This chapter deals with preparation for transportation, transportation and the actual disposal of Asbestos waste.

5.1 Preparation for Transportation

Material containing asbestos or contaminated with asbestos must be viewed as hazardous and packaged to keep fibres from getting into the air. Containers used for packaging may be hard or flexible and must seal airtight. The following are some of the precautions that should be observed in the packaging.

a) The waste transporting vessel must be lined with a 500 gauge double wrapped plastic sheet with every seam sealed with a tape and covered**.**

b) The transportation vessel should be labeled **"Danger - Contains Asbestos Fibres. Cancers and Lung Disease Hazard"**and contain the following information: (i) the identity of the hazardous waste. (ii) the name, physical address and telephone contact of the generator of waste

c) The bags and stacks should be gently loaded into transportation vessel.

d) The goosenecks should not be used as handles for carrying the bags, because that might unseal the ends or tear the bags. Tossing the bags into a waste transporting vessel must be avoided because of the risk of rupture.

e) The asbestos waste should be transported to a prepared disposal site that is authorized by NEMA.

5.2 Transportation

a) The vehicle transporting the asbestos waste should be licensed as per the EMC (Waste Management) Regulations 2006 and must be accompanied by a tracking document (Annex 4)

b) The waste shall be transported to the disposal site in an enclosed vehicle or container, capable of being washed without lodgment of debris and fibres, and secure from escape of fibres to the atmosphere.

c) The contractor should ensure that all persons involved in handling and disposal of asbestos aretrained in emergency operating procedures.These procedures shall include how thewaste is to behandled, services to be contacted during such an exposure, and additional personal protective equipments. (Annex 5)

5.3 Disposal Site

Disposal of asbestos must be at a site;

- Designated by the local authorities and licenced by NEMA;
- Privately owned disposal facility licenced by NEMA;
- Designated by the waste generator (on-site disposal).

Where a designated site by the local authorities or privately owned facility does not exist the waste generator shall identify an appropriate site, undertake an EIA and be duly licensed.

The Disposal site should be as per specifications in the EIA report. However the following minimum conditions must be observed:

i. The optimal distance of the disposal pit shall be as far as practicable from the nearest human settlement and as it shall be determined by the Ministry of Public Health and Sanitation.

ii. A lined pit that does not reach the water table or according to other standards that may be approved by NEMA.

iii. Disposed material to be one metre below ground level.

iv. Disposal site should be fenced off appropriately and the gate locked.

5.4 Disposal Operation

The waste generator shall ensure that the following precautions are observed when disposing asbestos wastes:

i. The waste generator shall notify the Authority on commencement of disposal activities. (Annex 3)

ii. Asbestos materials **must not** be reused or offered for sale.

iii. All asbestos sheets and the debris should be wrapped before it is hauled to the disposal site or transfer station in a covered vehicle.

iv. Asbestos waste must be disposed of at approved disposal sites only.

v. The depth of the disposal pit shall be as deep as practically possible to accommodate more asbestos waste but at least one (1) metre above water table.

vi. The asbestos should be lowered gently into the disposal site and should not be dropped from any height to avoid breakage.

vii. When all available asbestos has been lowered into the pit, cover with polythene paper followed by 6 inch layer of soil. Continue doing this until the pit is full or the waste is finished.

viii. The pit shall be considered full when the asbestos waste is **one meter** below the ground level or the asbestos waste is exhausted.

ix. After the pit is full, cover with 500 gauges double wrappedpolythene sheet and fill the pit with layer of soil up to the ground level.

x. Disposal site should be completely fenced off with at least chain link and a lockable gate which shall be locked at all times. The fence should be at least one (1) metre from the edge of the pit.

xi. Warning notices stating **"Asbestos hazard area, keep out"** shall be placed at the disposal site. These signs, with lettering of minimum 150mm in height, are to be placed so that they are clearly visible.

5.5 Post - Disposal

1. All transportation vessels, re-useable containers or any other similar article which have been in contact with asbestos waste shall be cleaned at the disposal site.

2. The disposal site should be maintained including the warning signs, the fence, the gate among others to prevent vandalism and interference.

3. Human activities which might interfere with the buried asbestos waste such as construction and pitting should not be allowed at the disposal site.

4. The waste generator shall notify the Authority in writingon completion of disposal of asbestos waste.

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ANNEX 1

Types of Asbestos

Asbestos is a group of six fibrous minerals that occur naturally in metamorphic deposits located around the world. Of the hydrous magnesium silicate variety, the six types include tremolite asbestos, actinolite asbestos, anthophyllite asbestos, chrysotile asbestos, amosite asbestos and crocidolite asbestos. Asbestos is a chemically inert mineral that is fire resistant and does not conduct heat or electricity (making it a commonly used insulator), is insoluble and is without odor. Asbestos' combination of properties made it a valuable resource, regularly used in buildings, automobiles, shipyards and a variety of household products.

Tremolite Asbestos

Plate 1: Tremolite

Tremolite asbestos was not often used industrially or commercially; though it could be found (uncommonly) in products such as certain talcum powders in limited amounts.

Actinolite Asbestos

Plate 2: Actinolite

Actinolite asbestos was not often used industrially or commercially. Airborne actinolitefibres are easily inhaled and severely damaging to the lungs.

Anthophyllite Asbestos

Plate 3: Anthophyllite

Like tremolite and actinolite, anthophyllite was not often used industrially or commercially; though it could occasionally be found in certain vermiculites.

Chrysotile Asbestos

Plate 4: Chrysotile

Also called white asbestos, chrysotile asbestos is unique in that it has a serpentine fiber-formation (curled fibres) compared to the amphibole fiber-formation (straight, needle-like fibres) of the other five asbestos types. Chrysotile asbestos is less friable (less-likely to be inhaled) than other types of asbestos. Chrysotile asbestos is less likely to be

inhaled and therefore viewed by many to be the safest of the asbestos types.

Amosite Asbestos

Plate 5: Amosite

Also called Grunerite or brown asbestos, amosite asbestos is an amphibole originating in Africa. Amosite was used industrially for various purposes such as cement sheet and pipe insulation.

Plate 6:Crocidolite

Also called blue asbestos, crocidolite asbestos is an amphibole mineral that can be found in Africa and Australia. On the opposite end of the spectrum than chrysotile asbestos, crocidolite is viewed to be the most dangerous type of asbestos.

Crocidolite Asbestos

ANNEX 2

ASBESTOS MATERIALS NOTIFICATION FORM

ASBESTOS MATERIALS NOTIFICATION FORM

(To be filled in triplicate)

1. GENERAL INFORMATION

a) Name of the Person/Organization

_____

b) Contact Person

_____

c) Postal Address

_____

d) Physical Address

_____

e) Telephone contact (Landline and Mobile)

_____

f) Email address

_____

g) ID Number

_____

h) PIN NO.

_____

2: PARTICULARS OF ASBESTOS MATERIAL/WASTE

a) Present use of asbestos (roofing, boilers, brake pads etc)

_____

b) Quantity of asbestos in possession (Kg./number)

_____

c) Status of the asbestos (friable, intact, broken, removed and how it is stored)

_____

d) Quantity intended for disposal (Kg./ number)

_____

d) Site Location (*Latitude and Longitude should be given to five decimal places)*

GPS Coordinates – Geographic WGS84, Latitude _____Longitude _____

LR No. _____

e) Village/Town

_____

f) Sub Location

_____

g) Location

_____

h) Division

_____

i) District/County

_____

Signature:_____

Date:_____

Official Stamp:

ANNEX 3

PERSONAL PROTECTIVE EQUIPMENTS

Personal Protective Equipment (PPE) refers to clothing and respiratory apparatus designed to shield or protect individuals from chemical, physical or biological hazards. PPE assists in providing preventive measures when used correctly. All PPE must be suitable for the person using it and provide effective protection for its intended purpose

The following are some of the protective equipment that can be used:

• Respirators - half-face, dual-cartridge respirators, each equipped with a pair of High Efficiency Particulate Air filters (HEPA).

• Coveralls – should be with built-in booties and disposed off properly in sealed asbestos disposal bags after use.

• Rubber boots - These are highly recommended so that coverall booties do not wear through. Rubber boots can be washed off later or disposed of as contaminate debris.

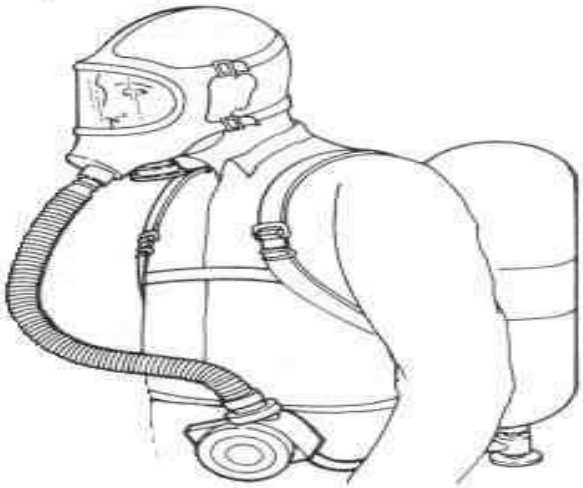
• Eye protection - Each person removing asbestos materials should wear non-fogging goggles or safety glasses.

should be worn with each re-entry.

A dust-mask respirator

A half-face cartridge respirator

A self-contained breathing apparatus (SCBA)



Coveralls

ANNEX 4

TRACKING DOCUMENT

FORM III
(To be completed in Five Copies)
TRACKING DOCUMENT
(Regulation 8)

A Transporter	**Serial No.** Registered Name of Transporter……..…….. Usual Municipality/District of operation…….……..…… License number ……. Issuing Authority …….…….
CONSIGNMENT NOTE FOR THE CARRIAGE AND DISPOSAL OF SOLID WASTE	
B Description of the waste	Area collected/facility/ person ..……..…….. Type of Waste…….…….. Description and physical nature of waste…….…….…… Quantity/size of waste …….…..…… Number of containers……..……..
C Disposer's Certificate	I certify that I have received the waste as described in A and B above.. The waste was delivered in vehicle _____(Registration No.) at _____ (time) on _____ (date) and the carrier gave his/her name as _____ on behalf of _____. The waste shall be disposed off as per disposal licence issued by the Authority. Signed: _____ Name:_____ Position: _____ Date: _____ On behalf of: _____

ANNEX 5

EMERGENCY OPERATING PROCEDURES FOR ASBESTOS -INCIDENTS

- The contactor must have written emergency procedures with details on the collection and handling of contaminated materials in such a situation.
- Contractors must give clear instructions, provisions and the means to adequately decontaminate or clean up themselves and the injured workers(s) before leaving the work site.
- Injured workers who have not been decontaminated must be covered in such away as to minimize contamination of clean areas.
- The cover should not hinder access to the worker(s) by first aid or ambulance personnel
- An employee familiar with the handling and disposal of asbestos contaminated clothing should accompany the injured worker(s) to the hospital. In case the worker is still contaminated upon arrival at the hospital, the employee must inform the hospital staff of this and instruct them on appropriate disposal of contaminated clothing.

Emergency Operating Procedures during Transportation

- Notify the police, fire brigade and NEMA immediately.
- Erect warning signs to road users
- Keep the public away from the area
- Secure the area


2011/05/29

Appendix 6 - EIA Report for removal and disposal of Asbestos

nema

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

Tel. +254 341666 ext.20722
Website: www.nema.go.ke
E-mail:nairobi@nema.go.ke

County Director of Environment
Nairobi City County, Nyayo House
P.O. Box 67839
Nairobi, Kenya

NEMA/NRB/PR/5/1/ 16377 (26729) **Date** 29/10/2021

Embassy of Spain in Kenya Ambassador's Residence
P.O Box 45503 - 00100
Nairobi.

RE: ACKNOWLEDGEMENT OF ENVIRONMENTAL IMPACT ASSESSMENT PROJECT REPORT

The National Environment Management Authority (NEMA) acknowledges receipt of ten (10) copies of your Environmental Impact Assessment project Report No. 16377 (26729) Prepared by Mr. Geoffrey W. Kololi (EIA) /Audit Lead Expert/ Firm of Experts).

The Reference Number of the EIA Project is NEMA/NRB/PR/5/1/16377 (26729) for any future correspondence.

The report will be reviewed in accordance with Environmental/Impact Assessment and Audit Regulation 2003 and NEMA will communicate its assessment/findings to you in due course.

In the interim, please do not commence or proceed with any development of the proposed project until you receive communication from NEMA on the same.

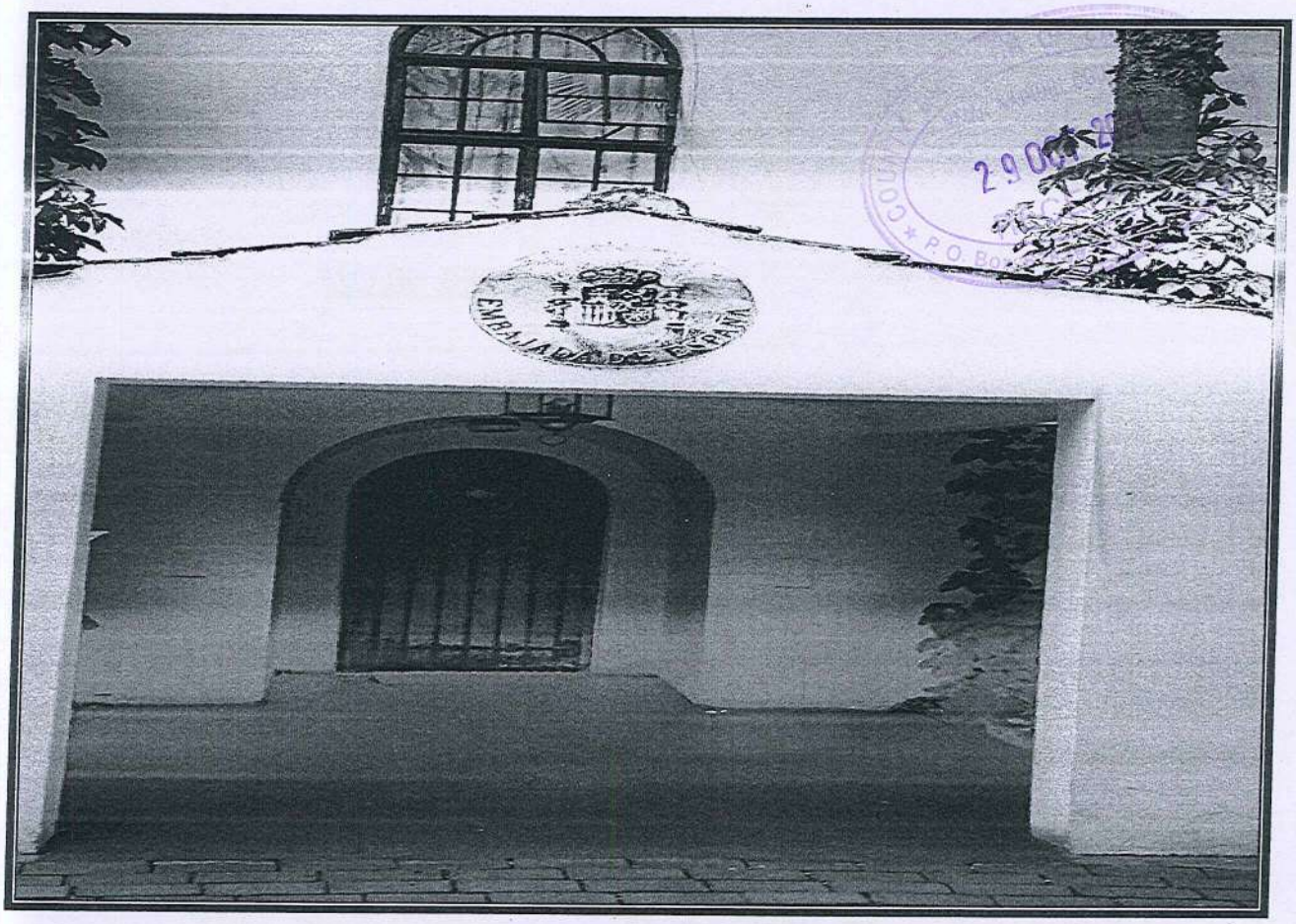
ISAAC KIMITEI
FOR: COUNTY DIRECTOR OF ENVIRONMENT
NAIROBI CITY COUNTY

COUNTY DIRECTOR OF ENVIRONMENT
NEMA NAIROBI COUNTY
29 OCT 2021
RECEIVED
P.O. Box 67839-00200, NAIROBI

ENVIRONMENTAL IMPACT ASSESSMENT

FOR THE

PROPOSED REMOVAL OF ASBESTOS CEILINGS AND ROOF RENOVATION WORKS OF EXISTING RESIDENTIAL MAISONETTE ON LR. NO. 2951/60 WITHIN LAKEVIEW ESTATE, KITISURU AREA



LEAD EXPERT:	PROPONENT:	SUBMITTED TO:
MR. GEOFFREY W. KOLOLI P.O. BOX 380 - 00517 NAIROBI. NEMA REG. NO. 1624	EMBASSY OF SPAIN IN KENYA AMBASSADOR'S RESIDENCE P.O. BOX 45503 – 00100 GPO, NAIROBI.	NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY(NEMA) **NAIROBI COUNTY** P.O. BOX 47146 NAIROBI. 16TH FLOOR, NYAYO HOUSE, NAIROBI CBD *E-MAIL DGNEMA@NEMA.GO.KE* *WWW.NEMA.GO.KE*

CERTIFICATION:

We, the under signed, hereby approve that all information given here in this report is accurate a true according to the best of our knowledge and understanding.

DECLARATION

I, Geoffrey W. Kololi. , hereby certify that the contents of this Environmental Impact Assessmer Report for this proposed Removal of Asbestos Ceiling and Roof Renovation works on the existi Residential Maisonette on L.R. No. 2951/60, within Lakeview Estate of Nairobi County, concurs t the information given herein is factual and true and that the contents conform to the guideline contained in the Environmental Management and Coordination (Environmental Impact Assessme and Audit) Regulations, 2003.

SIGNED AT NAIROBI ON THIS: ***TUESDDAY OCTOBER 28TH, 2021***

SIGNATURE. .....

Designation: **NEMA REG. NO.1624**

DECLARATION

I, ARCH. G.O. KIASONGA....., on behalf of **Spanish Embassy, Nairobi Kenya, the Proponent** of this proposed Removal of Asbestos Ceiling and Roof Renovation works on the existing Residential Maisonette on L.R. No. 2951/60, within Lakeview Estate of Nairobi County, concurs that the information given herein is factual and true and confirms that we shall ensure the implementation of the Environmental Management Plan contained in this report. I further assure that I shall adhere to any recommendations or conditions issued by NEMA and other relevant Authorities with regard to the proposed project.

SIGNED AT NAIROBI ON THIS ***TUESDDAY OCTOBER 28TH, 2021***

SIGNATURE. .....

Designation: **PROPONENT**

ACKNOWLEDGEMENT

The EIA Lead Expert would like to take this opportunity to thank various persons who provided support, information and assistance in preparation of this project report. The EIA expert is thankful to the ***Spanish Embassy, Entire Fraternity & Management of the Ambassador's Residence and Trine Architects*** *for their confidence in our competence and their immense support and integral roles in the project's management, inputs and co-ordination in the process of the EIA report's production.*

The Expert is likewise very grateful to ***Arch. Geoffrey Wasonga, Nickson, Angela*** *and the entire neighbouring residents of Lakeview Estate, particularly the immediate inhabitants and neighbours for their views and inputs during the EIA exercise.*

ACRONYMS

^0C	Degrees Celsius
CBD	Central Business District
CLPs	Consents, Licenses and Permits
CSR	Corporate Social Responsibility
EA	Environmental Audit
EAC	East African Community
EAM	Environmental Management Company
EHS	Environmental Health and Safety
EIA	Environmental Impact Assessment
EMCA	Environmental Management and Co-ordination Act
EMP	Environmental Management Plan
HCFC	Hydro-chlorofluorocarbon
HWM	Household Waste Management
KBS	Kenya Bureau of Standards
KM	Kilometres
KPLC	Kenya Power and Lighting Company
KVA	Kilo Volts Amperes
NCG	Nairobi County Government
NW&SC	Nairobi Water and Sewerage Company
NEC	National Environmental Council
NEMA	National Environment Management Authority
PPM	Parts Per Million
SHE	Safety Health and Environment
SWM	Solid Waste Management
TOR	Terms of Reference
UNEP	United Nations Environmental Programme
WRMA	Water Resources Management Authority

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EXECUTIVE SUMMARY

As a tool for better environmental planning, Environmental Impact Assessments (EIAs) have been identified as some of the key components in such like new projects' implementation. According to section 58 of the Environmental Management and Coordination Act (EMCA) No.8 of 1999 second schedule 9 (1), and Environmental (Impact Assessment and Audit) regulation, 2003, and its subsequent amendments in 2015, projects of this nature must undergo Environmental Impact Assessment. A Report of the same must be submitted to National Environment Management Authority (NEMA) for approval and issuance of relevant certificates. This is necessary as many forms of such developmental activities cause damage to the environment and hence the greatest challenge today is to maintain sustainable development without interfering with the environment.

A registered Environmental Impact Assessment Expert, was thus contracted by the Institution's Contractor, to carry out an Environmental Impact Assessment for the proposed roof renovation and re-ceiling works of the existing Ambassador of Spain's Residential building **(i.e. *removal of the existing asbestos ceilings on the earmarked main building and subsequently reroof it with modern roofing materials, re-ceiling it plus other necessary renovation works within this ambassador's residence) built on Plot LR. No. 2951/60, along Baringo Drive, Lakeview Area of Nairobi County.*** This is to comply with the Legal requirement stipulated in the Environmental Management and Coordination Act 1999 and the subsequent Legal supplement of 2003 and its subsequent amendments in 2015. More so it is a way of promoting benign environmental management for sustainable development.

The home is required to present this report in order to comply with the Environment Management Co-ordination Act 1999 and in particular part II of the Environmental (Impact Assessment and Audit) Regulations, 2003 and its subsequent amendments in 2015. The report has provided a summary statement of the likely environmental effects of the proposed project.

Since the home is located within a sparsely populated surrounding with no rich natural resources, apart from similar low-lying residential buildings and thick vegetative cover, on go-a-head, the earmarked main building will be renovated to the required standards to create a better and conducive residential environment for all the stakeholders - whose total effect to the surroundings could be mildly adverse but mitigable in the long run, when properly undertaken. Though slightly different, it's notable that the intended renovation works are in line with what exists in the surrounding areas and thus in sync with the area's up-gradation proposals.

The EIA report done is based on laid down scientific qualitative procedures with the most recent methodologies and analysis required in EIA and, with strict adherence to the relevant legislative framework governing the construction industry. Reference is also made to other EIA reports dealing with similar projects from other parts of the country and world at large. The general steps followed during the assessment were as follows:

- Environment screening, in which the project was identified as among those requiring environmental impact assessment under schedule 2 of EMCA, 1999
- Environmental scoping that provided the key environmental issues
- Desktop studies and interviews
- Physical inspection of the site and surrounding areas
- EIA Public participation via the use of questionnaires
- Reporting.

Project Description

The project will involve roof renovation and re-ceiling works of the selected Ambassador of Spain's Residential building. The project activities will be according to conventional engineering scheduling, procedures and practices. The works will include but not limited to; -

- Removal of the existing asbestos ceilings on the earmarked main building,
- Verifying of recyclable and dismissible wooden roofing materials to be reused or be replaced,
- A fresh reroofing with chosen modern roofing materials,
- Re-ceiling of the affected building's roof,
- Repainting and renovation of the buildings as the home may deem fit,

The home has committed to undertake this EIA in accordance with Sections 58 and 138 of the Environmental Management and Coordination Act (EMCA) No. 8 of 1999 and its subsequent amendments in 2015, the World Bank operational safeguard policies on environmental and social Assessment, and Environmental Impact Assessment (EIA) and Environmental Audit (EA) Regulations 2003 (Legal No. 101).

The scope of this EIA covered the nature of the project; the location of the project including the physical area that may be affected by the project's activities; the activities that shall be undertaken during the project construction, operation and phases; the materials to be handled and used, products and by-products, including waste to be generated by the project and the methods of their disposal; the potential impacts of the project and the mitigation measures to be taken during and after implementation of the project; an action plan for the prevention and management of possible adverse impacts during the project cycle; a plan to ensure the health and safety of the workers and neighbouring communities; the economic and socio-cultural impacts to the local community and the nation in general; and the project budget.

The proposed project has the overall objective of roof renovation and re-ceiling of the earmarked buildings and ancillary services for improved educational services provision. The firm carried out the assessment guided by TOR given by the home and as per EIA guidelines as per National Environment Management Authority (NEMA) requirements be followed up to completion. The procedural steps involved in the study include the following: Identification of the key stakeholders; Scoping and development of the TORs using a variety of methods and tools; Baseline studies; Consultation and public participation; Impacts identification and analysis; Development of the mitigation measures; Analysis of the project alternatives and Development of the Environmental Management Plan.

Relevant legislative and legal aspects should be taken into account when implementing the proposed housing project; they include, Environmental Policy Framework which primarily falls under EMCA and concerns environmental regulations that have to be adhered to, such as EIA; and Institutional Framework which concerns institutions that are relevant stakeholders in resources and environmental issues that affect the proposed project. In the proposed project they include National Environmental Council (NEC), National Environmental Management Authority (NEMA) and relevant conventions, which include Public Health Act (Cap. 242), Local Authority Act (Cap. 265), Physical Planning Act, 1999, Land Planning Act Cap. 303), Water Act, 2002, Building Code 2000, Penal Code Act (Cap.63), Occupational Safety and Health Act,
2007.

During the public consultation several issues were raised for the different phases of the proposed project. Employment, better service provision and economic empowerment were among the positive impacts associated with the proposed project. The negative impacts anticipated for the asbestos roofing removal phase include: Poor disposal of the asbestos sheets, contamination by the debris and asbestos dusts, Noise Pollution, Air pollution, Worker Accidents just but to mention a few. During reroofing and renovation phase, impacts anticipated include: Air pollution, Noise Pollution, Soil erosion, Worker Accidents and hazards when handling hazardous wastes, likelihood of fire during and after construction, Populations of disease vectors, Generation of construction and demolition waste amongst other impacts.

Some of the proposed mitigation measures include Reduction of Impacts at Extraction points and Efficient Use of available Raw Materials, Minimization of Renovation Wastes, Minimization of Noise and Vibrations, Reduction of Energy Consumption, Landscaping and Minimization of Water Use. Impacts mitigation during renovation phase includes Ensuring Efficient Solid Waste Management, Minimization of Sewage Released, Ensuring

Efficient Energy Consumption, inclusion of fire and life safety systems and Ensuring Efficient Water Use. Social impacts such as reduction of neighbourhood exposure to hazardous asbestos dusts have to be addressed through early sensitization and information.

The home acknowledges the fact that the proposed project activities will have some impacts on the biophysical environment, health and safety of its employees, and socio economic wellbeing of the residents within the surrounding Lakeview Estate and its environs. Thus, the main focus will be on reducing the negative impacts and maximizing the positive impacts associated with the project activities through a programme of continuous improvement.

An environmental management/monitoring plan (EMP) has been developed during this study to assist the home in mitigating and managing environmental impacts for the project cycle. The EMP has been developed to provide a basis for an Environmental Management System (EMS; ISO 14001 principles) for the project. It is noteworthy that key factors and processes may change through the life of the project and considerable provisions have been made for dynamism and flexibility of the EMP. As such, the EMP will be subject to a regular regime of periodic review.

The consultant finds the proposed project to be environmentally credible and socially friendly. Further, in view of the information collected, the consultant concludes that the proposed project is desirable and therefore it requires licensing to allow for its speedy implementation.

This project is estimated to cost approximately Four Million Kenya Shillings (Kshs. 4,000,000).

Impacts and Mitigation Measures

There are both positive and negative impacts associated with the proposed roof renovation and decommissioning of asbestos ceiling. These are identified according to phases namely: Renovation/Rehabilitation Phase, Operational Phase.

In general the following positive impacts are associated with the proposed development:-

- General improvement of the residential home,
- Little gains in the local and national economy,
- Improvements in the diplomatic services delivery,
- Some temporal employment opportunities,
- Optimal use of available resources and amenities.

The negative Impacts associated with the proposed project are:

- Noise pollution during the roof's ceiling removal and renovations,
- Exposure to hazardous asbestos dusts,
- Increased water demand during dust cleaning and general cleaning operations,
- Hazardous and general dust emissions
- Solid waste generation
- Hydrology and water quality degradation
- Workers accidents and hazards during construction
- Electricity consumption

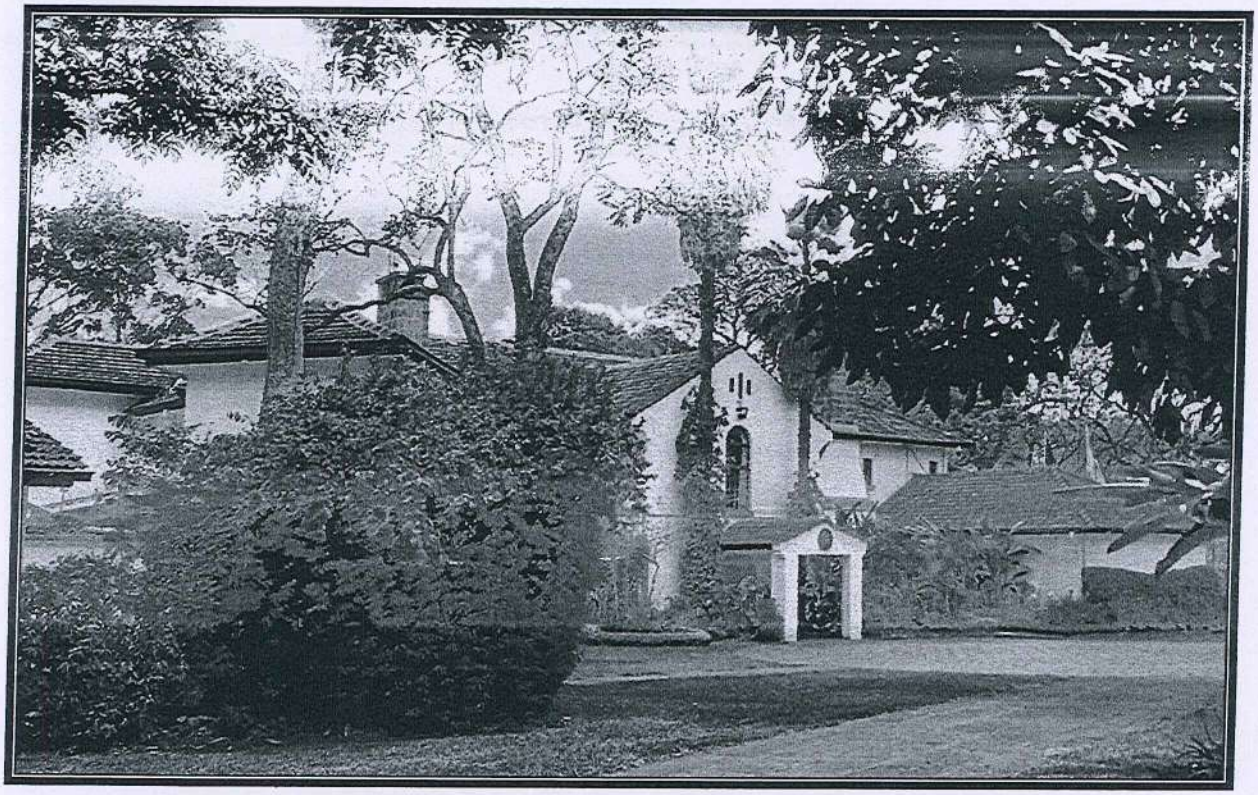
Several measures shall be put in place to mitigate the impacts that are likely to lead to environmental degradation. Some of these measures include notification of the neighbourhood inhabitants of the hazardous effects of asbestos dusts and mitigative measures to taken to reduce exposure risks, preparation of a hazardous substance control and emergency response plan that will include preparations for quick and safe clean-up cumulative dusts, accidental petroleum by-products spills, minimization of increased water and electricity demand; minimization of worker accidents and hazards during this operation; reduction of energy consumption; reduction of impacts at various materials extraction sites and efficient use of raw materials;

Minimization of solid wastes during the operation; minimization of storm water run-off and soil erosion; and minimization of vegetation disturbance which are all outlined elaborately within the environmental management/monitoring plan.

The report was based on laid down scientific qualitative procedures with the most recent methodologies and analysis required in EIA and, strictly adheres to the relevant legislative framework governing the construction industry. Reference was also made to EIA reports dealing with similar projects from other parts of the world.

Where possible, we have provided annexes such as site maps, plans and applications to local authorities to support our findings or show the depth of our investigations. We have also provided several photos of the proposed site.

We found out that, the home of the proposed project has proposed to follow the laid down regulations, standards, laws and structural drawings as laid out and proposed by the relevant authorities and professionals respectively. Our conclusion is that the project is important for economic development of the area and has balanced environmental considerations and benefits. We have given adequate measures to mitigate the negative impacts and a management plan proposed which the home should adhere to so as to curb irreparable environmental effects.



Picture 1: The main house, whose roof is earmarked for renovation.

1. INTRODUCTION

1.1. Background and Rationale for an Environmental Impact Assessment

In the 1960s and 1970s, Asbestos was a material of choice in the construction industry. A number of facilities including food manufacturing industries as well as residential homes used asbestos roofing material due to its durability and fire resistance characteristics. These roofing materials have deteriorated over time requiring their replacement with more environmentally safe materials necessitating their removal and disposal.

Asbestos is a chemically inert mineral that is fire resistant and does not conduct heat or electricity thus making it a commonly used insulator. It has high tensile strength, insoluble and odourless. Due to these properties, asbestos has been used in a wide range of manufactured goods, including roofing materials, ceiling and floor tiles, paper and cement products, textiles, coatings and friction products such as automobile clutches, brakes, transmission-parts and sewer pipes. When used, due to its resistance to fire or heat, it is woven into fabrics or mats while when used for building material such as roofing sheets, it is often mixed with cement.

Asbestos is a hazardous material with extremely fine fibres and can remain suspended in air for hours. If handled without caution, it may cause serious chronic health problems such as asbestosis, lung cancer and mesothelioma. The diseases cause long term serious social, economic and emotional problems. When left intact and undisturbed, asbestos materials do not pose a health risk. It only becomes a problem when, due to damage, disturbance, or deterioration over time, the material releases fibres into the air. Exposure to air containing the fibres increases the risk of inhaling the fibres and developing the associated diseases.

The increased removal and disposal of asbestos roofing materials, due to global awareness of its negative health effects, deterioration of asbestos sheets over time and increased drive towards roof water harvesting, thus seriously need to be reconsidered. In order to increase awareness and reduce or eliminate the risks of exposure to asbestos fibres and thus the risk of disease, a consistent approach to its management, especially handling, demolitions, renovations and repairs is therefore required.

After deliberations, the embassy has deemed it worthy to remove, renovate this house's aging roof with a more modern form of roofing materials. To meet this demand, institutions, neighbouring communities and well-wishers co-operation is very vital, in realization of such like noble endeavour.

To achieve this, the principle measure of sustainable development necessitates that all activities which are carried out to realise these developments take into account the needs of environmental conservation. The sustainability of the ecosystem requires the balance between human settlement development and the natural ecosystem, which is a symbiotic relationship. This can be achieved through careful planning and the establishment of appropriate management systems. In modern times, the need to plan activities has become an essential component of the development process. Consequently a number of planning mechanisms have been put in place to ensure that minimum damage is caused to the environment. Environmental planning is also integrated with other planning processes such as physical planning, economic planning, and development planning. Environmental Impact Assessment (EIA) is considered part of environmental planning. EIAs are undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority. In Kenya, the competent authority is the National Environment Management Authority (NEMA).

As part of the EIA process, it is necessary to devise alternatives to avoid undesirable impacts. Besides the alternative, identification of impacts may also lead to the development of mitigation measures i.e. means of

reducing the impacts. As a tool of environmental planning, EIA is therefore precautionary in nature. EIA is neither anti- development nor does it stop actions which impact the environment. It only requires that those impacts be considered. Most development activities impact the environment hence a "no impact" interpretation of environmental impact assessment could lead to no development. But a "considerable impact" interpretation of EIA will lead to better development. If environmental impacts are ignored, the project may not be sustainable in the long-run, in which case the money invested in it will have been wasted.

In this improvement proposal, the Residential home of the Embassy of Spain's Ambassador intends to initiate a major roof renovation and re-ceiling works of the selected home. It has been established that such projects have a potential of causing significant impacts on the environment. It is under this premise that the home, through its contractor, deemed it necessary to carry out an Environmental Impact Assessment (EIA) for the proposed project.

Picture 2: Back view of the earmarked house whose ceiling will be removed then reroofed and renovated.

Environmental Impact Assessments are carried out as per the provisions of Environmental Impact Assessment and Audit) Regulations, Environment Management Co-ordination Act 1999 and in particular part II of the Environmental (Impact Assessment and Audit) Regulations, 2003 and its subsequent amendments in 2015. This report is a product of the entire study and will be used in various decision making platforms including consideration for issuance with an EIA license by the National Environment Management Authority (NEMA).

1.2. Justification of the Proposed Project.

Asbestos is a chemically inert mineral that is fire resistant and does not conduct heat or electricity thus making it a commonly used insulator. It has high tensile strength, insoluble and odourless. Due to these properties, asbestos has been used in a wide range of manufactured goods, including roofing materials, ceiling and floor tiles, paper and cement products, textiles, coatings and friction products such as automobile clutch, brake, transmission parts and sewer pipes. When used, due to its resistance to fire or heat, it is woven into fabrics or mats while when used for building material such as roofing sheets, it is often mixed with cement. A number of facilities including food manufacturing industries as well as residential homes used asbestos roofing material due to its durability and fire resistance characteristics. These roofing materials have deteriorated over time requiring

their replacement with more environmentally safe materials necessitating their removal and disposal. More importantly, the design of the project is well thought out and has taken into consideration all the necessary interventions needed to take care for mitigation of negative impacts on the environment and safeguard safety of construction workers.

1.3. Project and Environmental Impact Assessment Objectives.

The project objective is to remove the old-style asbestos ceiling sheets and the old external roofing materials from the selected main buildings, then reroof and redo the ceiling with modern materials, rehabilitate and renovate this building to a modern standard.

On the other hand the EIA study objectives for the proposed project were:

To identify environmental economic, social and health impacts,

To solicit views/opinion of the public and neighbours on the impacts of the project, and

Develop an Environmental Management Plan for the project.

1.4. Scope of the EIA Study.

Arising from above objectives (Project and EIA), the scope of Environmental Impact Assessment includes the following:

- The baseline conditions of the project area,
- Description of the proposed project,
- Relevant legislative, policy and administrative frameworks,
- Views/opinions of the public,
- Identification of significant adverse impacts to the environment,
- Mitigation measures to adverse impacts, and
- An Environmental Management Plan for the proposed project.

1.5. Terms of Reference.

In September 2021 the consulate, through its contractor, contracted EIA/EA expert, to conduct an Environmental Impact Assessment and come up with a report, for the proposed rehabilitation and renovation works of the selected house.

Terms of reference, which, defined duties of the expert were as follows:

- The proposed location of the project,
- The objectives of the project,
- A concise description of the national environmental legislative and regulatory framework, baseline information and any other relevant information related to the project,
- The technology, procedures and processes to be used, in the implementation of the project,
- The products, by- products and waste generated by the project,
- A description of the potentially affected environment,
- The environmental effects of the project including the social and cultural effects and the direct, indirect, cumulative, irreversible, short term and long term effects anticipated,
- Alternative technologies and processes available and reasons for preferring the chosen technology and processes
- Analysis of alternatives including project site, design and technologies and the reasons for preferring the proposed site design and technologies,
- An environmental management plan proposing the measures for eliminating, minimizing or mitigating adverse impacts on the environment, including the cost, time frame and responsibility to

implement the measures,

- Provision of an action plan for the prevention and management of foreseeable accidents and hazardous activities in the course of carrying out activities or major industrial and other development projects,
- The measures to prevent health hazards and to ensure security in the working environment for the employees and for the management of emergencies,
- An identification of gaps in knowledge and uncertainties which, were encountered in compiling the information.
- An economic and social analysis of the project,
- An indication of whether the environment of any other state is likely to be affected and the available alternatives and mitigating measures and
- Such other matters as the authority may require.

1.6. METHODOLOGY.

1.6.1. Environmental Screening.

Environmental screening is carried out to determine whether an EIA study is necessary for this project and at what level of evaluation. This took into consideration the requirements of the Environmental Management and Coordination Act (EMCA), 1999, and specifically the second schedule of the same act. From the screening process, it was understood that this project will cause significant impacts on the environment.

1.6.2. Environmental Scoping.

In scoping, focus is on environmental impacts of great concern. Environmental issues are categorized into physical, natural/ecological and social, economic and cultural aspects. Impacts were also classified as immediate and long-term impacts. This will include assessment of the proposed project in respect of but not limited to:

Project Background: This will give the brief history of the proposed project site, the parties involved and justification of the project in terms of demand or lack of the same, the project area, relevant policy and legislation, identification of any associated project, or any planned projects including products within the region which may compete for the same resources; the project including products, by- products, processes both at implementation and operational level, resources required for successful implementation and operation of the project and the different options considered.

(i) ***The Proposed Project's Objectives:*** Both in the short and long run; and how they are linked to the overall objectives.

(ii) ***Present Environmental Conditions;*** Description of the project site, ecological zoning as well as the state of the environment and its surroundings. Attempts will state if it is already suffering from degradation. If the latter is true, the causes of the original degradation will be established and if possible, the state of the environment before the observed degradation,

(iii) ***Identification of Environmental Impacts;*** The report will distinguish between significant positive and negative impacts, direct and indirect impacts and immediate and long term impacts which are unavoidable and / or irreversible,

(iv) ***Analysis of the alternatives to the proposed project:*** This will involve description of alternatives and identifying alternatives that would achieve the same objectives. Alternatives will be compared in terms of potential environmental impacts; capital and operating costs; suitability under local conditions; and institutional training and monitoring requirements.

(v) ***Community/ Stakeholder Consultations:*** These will be undertaken to determine how the project will

affect the local people / various stakeholders.

(vi) Cost- Benefit Analysis; To evaluate the economics of the project and establish its viability in terms of the expected environmental concerns and measures.

(vii) Evaluation; An indication of how the information gathered will be evaluated to give optimum results;

(viii) Development of an Environmental Management Plan (EMP); To mitigate negative impacts, recommending feasible and cost effective measures to prevent or reduce significant negative impacts to acceptable levels,

(ix) Development of a Monitoring Plan; This will be used in monitoring the implementation of the mitigation measures and the impacts of the project during construction and operational phases, including an estimate of capital and operational costs, and Make necessary recommendations pertaining to the proposed development.

1.6.3. Desktop Study.

This involved documentary review of project documents, architectural drawings, past EIA relevant policy, legal and institutional frameworks. Documents containing climatic, demographic and hydrological data for Nairobi region were also relied upon.

1.6.4. Site Visits and Public Participation.

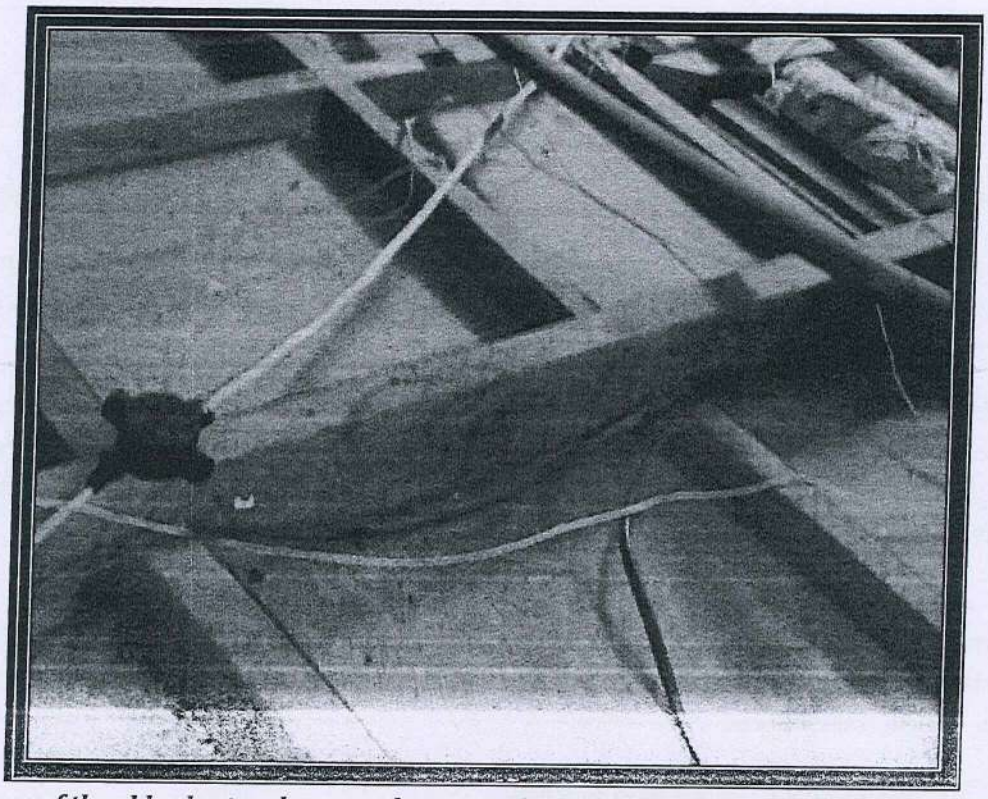
Field visits were meant for physical inspections of the project site in order to gather information on the state of environment. Several photos of the project site were taken for inclusion in this report. The study also sought public opinion/views through Consultation and Public Participation (CPP) exercise. Clip board questionnaires were administered to the public and interviews held with neighbours. The questionnaires have been included in this report.

1.6.5. Reporting.

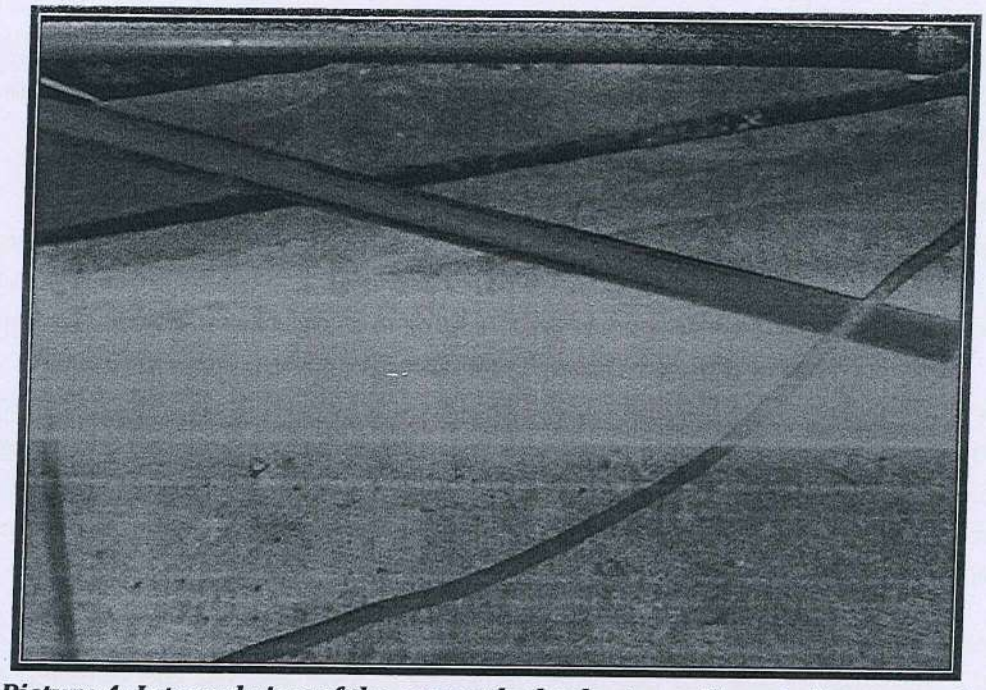
In the entire exercise, the residence and EIA consultant contacted each other on the progress of the study and signing of various documents. The home will have to submit ten copies of this report alongside a Softcopy to the National Environment Management Authority for review and issuance of an EIA Approval and subsequent License.

All the materials and workmanship used in the execution of the work shall be of the best quality and description. Any material condemned by the architect shall be removed from the site at the contractors cost. Environmental concerns need to be part of the planning and development process and not an afterthought. It is therefore advisable to avoid land use conflicts with the surrounding area through the implementation of the Environmental Management Plan (EMP).

The proposed the roof renovation and re-ceiling works of the existing Ambassador of Spain's Residential buildings (i.e. **removal of old and out-dated asbestos ceiling and the old external roofing materials on the earmarked maisonette and subsequently put a new modern ceiling materials, reroof with modern roofing materials, and other necessary renovation works within this ambassadorial residence)** situated along Baringo Drive, Lakeview Estate of Lower Kabete in Westlands Sub-County of Nairobi County, on Land Reference Number No. 2951/60, is geared towards improving its aesthetic quality and habitability.



Picture 3: Some of the old asbestos sheets on the earmarked building's roof, as captured from the rear top.



Picture 4: Internal view of the earmarked asbestos ceilings to be removed.

This home located about 7 kilometres from Nairobi City's Central Business District. It can easily be accessed via Lower Kabete road with diversion to Gatethuru road towards Lakeview Estate area with the Ambassadorial Home specifically situated along Baringo Drive, being the only access route to this up-market home in this leafy suburb.

1.7. Duties of the Institution

It will be the duty of the home to ensure that all legal requirements as pertaining to the development are met as specified by the law.

At the home, the contractor may be provided by a temporary office (should there be need) with furniture and sanitary access facilities to facilitate site management, meetings, inspections and other personnel's day to day activities.

- The home, depending on their agreement with the contractor, may also provide the contractor with a separate storage place, tentatively before they erect their own, for their usage and for use by the other subcontractors.

1.8. *Duties of the Contractor*

- Prepare and maintain an approved Time and Progress chart, showing clearly the period allowed for each section of the work
- The contractor is to comply with all regulations and by-laws of the local Authority including serving of notices and paying of the fees.
- During the night, public holidays and any other time when no work is being carried out onsite, the contractor shall accommodate only security personnel and never should a labour camp be allowed onsite.
- The contractor shall make good at his own expense any damage he may cause to public and private roads and pavements in the course of carrying out his work.
- The architect shall define the area of the site, which may be occupied by the contractor for use as storage, on the site.
- The contractor shall provide at his own risk, and cost all water required for use in connection with the works including the work including the work of subcontractors, and shall provide temporary storage tanks,
- The contractor shall make his own arrangement for sanitary conveniences for his workmen. Any arrangements so made shall be in conformity with the public health requirements for such facilities and the contractor shall be solely liable for any infringement of the requirements.
- The main contractor shall be responsible for all the actions of the subcontractor in first instance.
- The contractor shall take all possible precaution to prevent nuisance, inconvenience or injury to the neighbouring properties and to the public generally, and shall use proper precaution to ensure that safety of wheeled traffic and pedestrian.
- All work operations, which may produce under level of noise, dust vibration, or any other discomfort to the workers and/or guest of the client must be undertaken with care, with all necessary safety precautions taken.
- Workers will not be allowed to assemble or wait around the premises main gate.
- Workers will be picked from elsewhere and transported through the main entrance to the internal perimeter of the project site.
- The contractor shall take all effort of muffle/quieten the noises from his tools, equipment and workmen to not more than 70 Decibels
- The contractor shall upon completion of working, remove and clear away all plant, rubbish and unused materials and shall leave the whole of the site in a clean and tidy state to the satisfaction of the Architect. He shall also remove from the site all rubbish and dirt as it is produced to maintain the tidiness of the premises and its immediate environs.
- No unnecessary shrubs, trees, bushes or underground installations shall be removed except with the express approval of the architect.
- No blasting shall be permitted without the prior approval of the architect and the local authorities.
- Burrow pits will only be allowed to be opened up on receipt of permission from the Architect
- The standard of workmanship shall not be inferior to the current operation codes of practice and /or

the Kenya Bureau of Standards where existing. No inferior materials shall be incorporated for use in the permanent works or shall any material be used for any works or purpose other than that for which it is provided. Similarly, no material for temporary support may be used for permanent incorporation into the works.

All the materials and workmanship used in the execution of the work shall be of the best quality and description. Any material condemned by the architect shall be immediately be removed from the site at the contractors cost.

2. POLICY, INSTITUTIONAL AND LEGAL FRAMEWORK

2.1 Introduction

There is a growing concern in Kenya and at global level that many forms of development activities cause damage to the environment. Development activities have the potential to damage the natural resources upon which the economies are based. Environmental Impact Assessment is a useful tool for protection of the environment from the negative effects of developmental activities. It is now accepted that development projects must be economically viable, socially acceptable and environmentally sound.

According to Sections 58 and 138 of the Environmental Management and Coordination Act (EMCA) No. 8 of 1999 and Section 3 of the Environmental (Impact Assessment and Audit) Regulations 2003 (Legal No. 101), residential complexes require an Environmental Impact Assessment project/study report prepared and submitted to the National Environment Management Authority (NEMA) for review and eventual Licensing before the development commences. This was necessary as many forms of developmental activities cause damage to the environment and hence the greatest challenge today is to maintain sustainable development without interfering with the environment.

2.2 Environmental Problems in Kenya

There are many environmental problems and challenges in Kenya today. Among the cardinal environmental problems include: loss of biodiversity and habitat, land degradation, land use conflicts, human animal conflicts, water management and environmental pollution. This has been aggravated by lack of awareness and inadequate information amongst the public on the consequences of their interaction with the environment.

2.3 POLICY FRAMEWORK

Kenya has developed many environment-related policies in the past. Some of these have been consented while others are the draft stage. While some are sector specific, others are holistic. Some of the relevant policies and other documents include:

2.3.1 National Housing Policy for Kenya (Sessional Paper No. 3 of July 2004)

The first comprehensive Housing Policy for Kenya was developed in 1966/67 as Sessional Paper No. 5. At that time, Kenya's population was just over 9 million people, growing at a rate of 3 % p.a. for the whole country and 5 to 6 % p.a. in the urban areas. The annual housing requirements then were 7,600 and 38,000 new units in urban and rural areas respectively. The policy directed the government to provide the maximum number of people with adequate shelter and a healthy environment at the lowest possible cost.

Picture 5: Main entrance to the earmarked ambassadorial residence.

The policy advocated for slum clearance and encouraged mobilization of resources for housing development through aided self-help and cooperative efforts. Emphasis was placed on enhanced coordination to increase efficiency in the preparation of programmes and projects. Other areas included in the policy paper included increased research in locally available materials and construction techniques, and housing for civil servants through home ownership schemes in urban areas as well as institutional and pool housing schemes in remote stations.

Despite the creation of Sessional Paper No. 5, the investment in the housing sector since 1966/67 has been minimal and sporadic. The demand for housing still outstrips supply. High rate of urbanization, increasing poverty and escalation of housing costs and prices have made the provision of housing, infrastructure and community facilities one of the daunting challenges in the socio-economic development of the country. Research on low cost building materials and construction techniques has been limited, thus not providing viable guidance to the development of the sector. Moreover, stringent planning regulations and high infrastructural standards have been an impediment in the housing delivery system.

The high level of poverty has rendered access to decent housing an elusive dream to the swelling ranks of people living below the poverty line. The problem in urban areas is mainly that of acute shortage in the number of habitable dwellings, inadequate infrastructure, community facilities and services, overcrowding and extensive slums and squatter settlements.

The estimated current urban housing needs are 150,000 units per year. This level of production can be achieved if the existing resources are fully utilized by the private sector with the enabling hand of the government. It is estimated that the current production of new housing in urban areas is only 20,000-30,000 units annually, giving a shortfall of over 120,000 units per annum. This shortfall has been met through proliferation of squatter and informal settlements and overcrowding.

The overall goal of this Housing Policy is to facilitate the provision of adequate shelter and a healthy living environment at an affordable cost to all the socio-economic groups in Kenya in order to foster sustainable human settlements. This will minimize the number of citizens living in shelters that are below the habitable living conditions. It will also curtail the mushrooming of slums ad informal settlements especially in major towns.

Picture 6: The current condition of the roof, to be renovated, underneath of which the asbestos ceilings exist.

According to the housing policy, based on the 1999 National Population and Housing Census, there are about 3 million people in urban areas and about 6 million people in rural areas in urgent need of proper housing. Given the average household size of 4 persons from the census, there are about 750,000 households in urban areas and 1,500,000 households in the rural areas that need to be housed. In this policy, the government has committed itself to facilitate an annual output of 150,000 housing units in urban areas and 300,000 units in the rural areas in the next 5 years in order to meet that demand.

According to section (89) to the National Housing Policy, the private sector will be an anchor to housing development by participating in the construction of housing for all categories of the population either for rental or for sale. In this connection, the private sector will:

a) Participate in the manufacture and supply of building materials in the housing construction sector;
b) Participate in infrastructure development for human settlements;
c) Encourage and enter into joint ventures with the public sector in housing development programmes;
d) Encourage communities improve their living environment through community participation in projects.

In the Housing Policy, in order to ensure sustainable human settlements development, the following measures will be necessary:

a) Environmental Impact Assessment will be applied on sources of building materials such as quarries to check against negative impacts on the environment;
b) Developers will be required to submit an EIA report together with the development proposals. Where in the opinion of the approving authority, the development activity is likely to have injurious effect on the environment; such a development will not be approved unless remedial measures are appropriately put in place.

2.3.2 National Land Policy

Kenya has not had a single and clearly defined land policy since independence. This, together with the existence of many land laws, some of which are incompatible, has resulted in a complex land management and administrative system. The land question has manifested itself in many ways such as land fragmentation,

breakdown in land administration, disparities in land ownership and poverty. This has resulted in environmental, social, economic, and political problems including deterioration in land quality, squatting, landlessness, disinheritance of some groups and individuals, urban squalor, under-utilization and abandonment of agricultural land, tenure insecurity, and conflict.

To address these problems, the government embarked on the formulation of a National Land Policy through a wide and consultative process with the aim of producing a policy whose vision is "To guide the country towards efficient, sustainable, and equitable use of land for prosperity and posterity".

The land policy has been formulated to address critical issues of land administration, access to land, land use planning, restitution of historical injustices, environmental degradation, conflicts, unplanned proliferation of informal urban settlements, out-dated legal framework, institutional framework and information management. It recognizes the need for security of tenure for all Kenyans (all socio-economic groups, women, pastoral communities, informal settlement residents and other marginalized groups).

The policy designates all land in Kenya as Public, Community or Private. Most significantly, it recognizes and protects customary rights to land. It also recognizes and protects private land rights and provides for derivative rights from all categories of land rights holding.

According to the draft land policy, in order to promote EIA and audit as tools of land management the Government shall implement the following principles:

a) Ensure that EIAs and audits are carried out on all land developments that have a propensity to degrade the environment and implement appropriate remedial measures;
b) Monitor annually and stringently urban and rural environmental degradation to avert both current and future socio-economic negativities in infrastructural developments;
c) Encourage public participation in the monitoring and protection of the environment;
d) Institute the polluter pays principle, and provide incentives to manufacturing concerns in order to promote cleaner production and prevent pollution of soil, water and air.

The land policy has just been approved by the cabinet and now awaits passing in parliament.

2.3.3 National Environmental Policy

There has never been a national environmental policy in Kenya. However the government is currently in the process of coming up with the national environmental policy and a committee has been established to spearhead this process under the Ministry of Environment and Natural Resources.

2.3.4 The National Environment Management Authority (NEMA)

This is the government authority charged with the general supervision and coordination of all environmental matters in the Kenya. NEMA is the principal instrument of the government in the implementation of all policies relating to the environment. The authority is a creature of the Environmental Management and Coordination Act (EMCA) that came into effect on the 14th of January, year 2000.

Among others, the functions of NEMA are:

a) To coordinate various environmental management activities undertaken by lead agencies;
b) To promote the integration of environmental considerations into development actions with a view to ensuring proper management and rational utilization of environmental resources on a sustainable yield basis for the improvement of quality of life;
c) To advise the government on legislative and other measures for the management of the environment or the implementation of various international conventions, treaties and agreements in the field of

environment;

d) To identify development actions for which environmental audit and monitoring must be conducted under the Act;

e) To assess and monitor activities to ensure that the environment is not degraded by such activities, that environmental management objectives are adhered to and adequate early warning on impending environmental emergencies is given;

f) To cooperate with relevant lead agencies on environmental education and enhancement of public awareness on environmental protection;

g) To prepare and issue an annual report on the state of the environment in Kenya

Under EMCA, NEMA may delegate any of its powers on the performance of any of its functions to Provincial and District Environment Committees; NEMA officers (such as the District and Provincial Environment Officers); its employees or agents. NEMA is headed by a Director General (DG) who is appointed by the president.

2.4 INSTITUTIONAL FRAMEWORK

At present there are over twenty (20) institutions and departments which deal with environmental issues in Kenya. Some of the key institutions include the National Environmental Council (NEC), National Environment Management Authority (NEMA), the Forestry Department, Kenya Wildlife Services (KWS) and others.

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Officers); its employees or agents. NEMA is headed by a Director General (DG) who is appointed by the president.

2.4.2 Provincial and District (County) Environment Committees

According to EMCA, 1999 No. 8, the Minister by notice in the gazette appoints Provincial and District Environment Committees of the Authority in respect of every province and district respectively. The Provincial and District Environment Committees are responsible for the proper management of the environment within the Province and District in respect of which they are appointed. They are also to perform such additional functions as are prescribed by the Act or as may, from time to time be assigned by the Minister by notice in the gazette. The decisions of these committees are legal and it is an offence not to implement them.

2.4.3 Directorate of Occupational Safety and Health Services

The department is mandated to implement all rules pertaining to the protection and prevention of workers from occupational hazards and ensure safe working environment. The Directorate implements the OSHA, 2007 and various rules made there under.

2.4.4 Ministry of Health (Public Health and Sanitation Department)

The mandate of MoPHS is to support the attainment of the health goals of the people of Kenya by implementing priority interventions in public health, guided by the strategic framework provided from the medium-term Plan 2008-2012 and the wider health sector. The ministry is involved in prevention of communicable and non-communicable diseases, health promotions, and curative services at all levels. The department of environmental health and sanitation aims to reduce disease burden arising from environmental pollution, by preventing disease transmission from general environmental health pollutants.

2.4.5 Public Complaints Committee

The Committee performs the following functions:

- Investigate any allegations or complaints against any person or against the authority in relation to the condition of the environment in Kenya and on its own motion, any suspected case of environmental degradation and to make a report of its findings together with its recommendations thereon to the Council.
- Prepare and submit to the Council periodic reports of its activities which shall form part of the annual report on the state of the environment under section 9 (3) and
- To perform such other functions and excise such powers as may be assigned to it by the Council.

2.4.6 Nairobi County Council

This is a local authority that is charged with regulating developments within the city. NCC approves developments, inspects building during constructions, issues permits and necessary licences including hoarding, advertisement, waste disposal and business licences.

2.4.6.1 Nairobi County Council

Nairobi Water and Sewerage Company was established in 2003 December as the leading provider of quality water and proper sewerage to the residents of Nairobi and adjoining areas. Nairobi Water Company achieves its objective by proper utilization of available resources in an effective manner.

The services provided by Nairobi City Water Company can be broadly categorized into Water Services, and Sewerage Services. Nairobi Water Company extracts approximately 500,000 cubic meters of water from 4 different sources (Lower Kabete Dam, Sasumua Dam & Kabete Water Works), and supplies nearly 442,020 cubic meters to the city.

Nairobi City Water and Sewerage Company also undertake the following services:

(i) City sewerage service,

(ii) Sale of water – Nairobi Water Company sells water in cases of shortages or breakdown in regular supply.

(iii) Exhaust Services in areas that do not have proper sewerage facilities, usually on a prepaid service charter

2.5 LEGAL AND REGULATORY FRAMEWORK

Environmental Management and Co-ordination Act No. 8 of 1999, provide a legal and institutional framework for the management of the environmental related matters. It is the framework law on environment, which was enacted on the 14th of January 1999 and commenced in January 2002. Topmost in the administration of EMCA is National Environment Council (NEC), which formulates policies, set goals, and promotes environmental protection programmes. The implementing organ is National Environment Management Authority (NEMA). EMCA comprises of the parts covering all aspects of the environment.

Part VIII, section 72 of the Act prohibits discharging or applying poisonous, toxic, noxious or obstructing matter, radioactive or any other pollutants into aquatic environment. Section 73 requires that operators of projects which discharge effluent or other pollutants submit to NEMA accurate information about the quantities and quality of the effluent. Section 74 demands that all effluent generated from point sources are discharged only into the existing sewages system upon issuance of prescribed permit from the Local Authorities.

2.5.1 The Environmental (Impact Assessment and Audit) Regulations, 2003

The Environmental (Impact Assessment and Audit) Regulations, 2003 state in Regulation 3 that "the Regulations shall apply to all policies, plans, programmes, projects and activities specified in Part IV, Part V and the Second Schedule of the Act".

Regulation 4(1) further states that:

"…no proponent shall implement a project:

(a) Likely to have a negative environmental impact; or

(b) For which an environmental impact assessment is required under the Act or these Regulations;

Unless an environmental impact assessment has been concluded and approved in accordance with these Regulations…"

2.5.2 Environmental Management and Coordination Act (EMCA), 1999

The enactment of EMCA, 1999 was a milestone in promoting sustainable environmental management in the country. The Act provides for the harmonization of about 77 sectoral statutes, which address aspects of the environment. Some sectoral statutes have inadequate provisions for prosecution of environmental offenders, while in some penalties are not sufficiently punitive to deter offenders. EMCA, 1999 provides an institutional framework and procedures for management of the environment, including provisions for conflict resolution.

Section 3 of EMCA, 1999 states that "Every person in Kenya is entitled to a clean and healthy environment and has the duty to safeguard and enhance the environment." The Act is intended to ensure that our activities do not compromise the capacity of the resource base to meet the needs of the present generation as well as those of future generations (WCED, 1987)

2.5.3 Waste Management Regulations, 2006

Part II of the regulations regulation 4 (1) states that no person shall dispose of any waste on a public highway, street, road, recreational area or in any public place except in a designated receptacle. Regulation 4 (2) further states that a waste generator shall collect, segregate and dispose such waste in the manner provided for under these regulations.

Regulation 5 (1) provides for cleaner production methods. It states that a waste generator shall minimise the waste generated by adopting the following cleaner production methods:

(a) Improvement of production process through:

- Conserving raw materials and energy;
- Eliminating the use of toxic raw materials; and
- Reducing toxic emissions and wastes;

(b) Monitoring the product cycle from beginning to end by:

(i) Identifying and eliminating potential negative impacts of the product;

(ii) Enabling the recovery and re-use of the product where possible; and

(c) Incorporating environmental concerns in the design and disposal of a product.

Regulation 8 of the regulations provides for the responsibility of waste transporters. It states that any person granted a license to transport waste shall ensure that:

1) The collection and transportation of such waste is conducted in such a manner that will not cause scattering of the waste;
2) The vehicles and equipment for the transportation of waste are in such a state that shall cause scattering of, flowing out of waste or emission of noxious smells from such waste;
3) The vehicles for transportation and other means of conveyance of waste follow the scheduled routes approved by the Authority from the point of collection to the disposal site or plant; and
4) He or his agent (s) possess at all times during transportation of the waste, a duly filled tracking document as set out in Form III in the first schedule to these regulations and shall produce the same such tracking document on demand to any law enforcement officer.

2.5.4 EMCA – (Noise and Excessive Vibration Pollution Control) Regulations

According to Regulation 3.(1), except as otherwise provided in these Regulations, no person shall make or cause to be made any loud, unreasonable, unnecessary or unusual noise that annoys, disturbs, injures or endangers the comfort, repose, health or safety of others and the environment.

According to regulation 3 (2), in determining whether noise is loud, unreasonable, unnecessary or unusual, the following factors may be considered: -

(a) Time of the day;
(b) Proximity to residential area;
(c) Whether the noise is recurrent, intermittent or constant;
(d) The level and intensity of the noise;
(e) Whether the noise has been enhanced in level or range by any type of electronic or mechanical means; and,
(f) Whether the noise can be controlled without much effort or expense to the person making the noise.

Under Regulation 4(1), except as otherwise provided in these Regulations, no person shall-

(a) Make or cause to be made excessive vibrations that annoys, disturbs, injures or endangers the comfort, repose, health or safety of others and the environment;
(b) Cause to be made excessive vibrations that exceed 0.5 centimetres per second beyond any source, property boundary or 30 metres from any moving source.

Under Regulation (5), no person shall make, continue or cause to be made or continued any noise in excess of the noise levels set in the First Schedule to these regulations, unless such noise is reasonably necessary to the preservation of life, health, safety or property.

According to Regulation 8 (1) No person shall use or operate any radio or receiving set, musical instrument, phonograph, television set, any other machine or device for the producing or reproducing of sound or any other sound-amplifying equipment in a loud, annoying or offensive manner such that, noise from the device:-

(a) Interferes with the comfort, repose, health or safety of members of the public;

(b) Creates a risk thereof, within any building or, outside of a building, at a distance of 30 meters or more from the source of such sound; or

(c) Interferes with the conversation of members of the public who are 30 meters or more from the source of such sound.

In accordance with Regulation 9 (1), any person in charge of a party or other social event that occurs on any private or public property shall ensure that the party or event does not produce noise in a loud, annoying or offensive manner such that noise from the party interferes with the comfort, repose, health or safety of members of the public within any building or, outside of a building, or recklessly creates the risk thereof, at a distance of 30 meters or more from the source of such sound.

According to Regulation 10 (1) No person shall:-

(a) Preach, tout, advertise, promote or sell anything; or

(b) Engage in any commercial activity; in any manner so as to emit noise by shouting within a Central Business District of any town, a residential area, a silent zone, or any other area declared as a silent zone by NEMA;

In line with Regulation 11 (1) any person wishing to-

(a) Operate or repair any machinery, motor vehicle, construction equipment or other equipment, pump, fan, air-conditioning apparatus or similar mechanical device; or

(b) Engage in any commercial or industrial activity, that is likely to emit noise or excessive vibrations shall carry out the activity or activities within the relevant levels prescribed in the First Schedule to these Regulations.

In accordance with Regulation 12 (1) no person shall operate a motor vehicle that

(a) Produces any loud and unusual sound; and

(b) Exceeds 84 dB (A) when accelerating. In addition, sub-Regulation (2) states that no person shall at any time sound the horn or other warning of a vehicle except when necessary to prevent an accident or an incident.

Under Regulation 13 (1) except for the purposes specified in sub-Regulation (2) hereunder, during night time hours, no person shall operate construction equipment (including but not limited to any pile driver, steam shovel, pneumatic hammer, derrick or steam or electric hoist) or perform any outside construction or repair work so as to emit noise in excess of the permissible levels as set out in the Second Schedule to these Regulations.

According to Regulation 16. (1) where a sound source is planned, installed or intended to be installed or modified by any person in a manner that such source will create or is likely to emit noise, or excessive vibrations, or otherwise fail to comply with the provisions of these Regulations, such person shall apply for a license to the Authority. In accordance with Regulation 19 (1).no person shall carry out activities such as fireworks, demolitions, firing ranges and specific heavy industry without a valid permit issued by the Authority.

Under Regulation (26), where there is continuous emission of noise or excessive vibration after the Environmental Inspector has issued an improvement notice, the Environmental Inspector may, with the approval of the Director General, and in consultation with the relevant lead agency, order the closure of an establishment or undertaking emitting such noise or excessive vibrations.

According to Regulation (28), any person who contravenes any of the provisions of these Regulations, for which no penalty is stipulated, commits an offence and
is liable, upon conviction, to a fine of not more than three hundred and fifty thousand shillings or to imprisonment for a term of not more than eighteen months or to both such fine and imprisonment.

THE TABLES BELOW SHOW THE MAXIMUM PERMISSIBLE NOISE LIMITS FOR VARIOUS AREAS.

Table 1: First Schedule (Maximum permissible Intrusive Noise Levels).

Zone		Sound Level Limits dB(A)(Leq,14 h)		Noise Rating Level (NR) (Leq,14 h)	
		Day	Night	Day	Night
A	Silent Zone	40	35	30	25
B	Places of worship	40	35	30	25
C	Residential indoor)	45	35	35	25
	Residential indoor)	50	35	40	25
D	Office Block residential (with some commercial and places of entertainment)	55	35	50	25
E	Commercial	60	35	55	25

Time Frame:
Day: 6.01 a.m. – 8.00 p.m. (Leq, 14 h)
Night: 8.01 p.m. – 6.00 a.m. (Leq, 10h) Source: www.nema.go.ke

Table 2: Second Schedule (Maximum permissible Noise Levels for construction sites).

Facility		Maximum Noise Level Permitted (Leq) in dB(A)	
		Day	Night
(i)	Health facilities, educational institutions, homes for disabled etc.	60	35
(ii)	Residential	60	35
(iii)	Areas other than those prescribed in (i) and (ii)	75	65

Time Frame:
Day: 6.01 a.m. – 6.00 p.m. (Leq, 14 h)
Night: 6.01 p.m. – 6.00 a.m. (Leq, 14 h)

2.5.5 Water Quality Regulations, 2006

Regulation 8 of these regulations provides for compliance with water quality standards. It states that all operators and suppliers of treated water, containerised water and all water vendors shall comply with the relevant quality standards in force as may be prescribed by the relevant lead agencies.

Regulation 9 of these regulations provides for water quality monitoring. It states that the Authority in consultation with the relevant lead agency, shall maintain water quality monitoring for sources of domestic water at least twice every calendar year and such monitoring records shall be in the prescribed form as set out in the second schedule to these regulations. Table 2 below shows the quality standards for sources of domestic water.

TABLE 3: QUALITY STANDARDS FOR SOURCES OF DOMESTIC WATER

Parameter	Guide Value (Maximum allowable)
pH	6.5 – 8.5
Suspended solids	30 (mg/L)
Nitrate – NO_3	10 (mg/L)
Ammonia – NH_3	0.5 (mg/L)
Nitrate – NO_2	3 (mg/L)
Total dissolved solids	1200 (mg/L)
Ecoli	Nil/100ml
Fluoride	1.5 (mg/L)
Phenols	Nil (mg/L)
Arsenic	0.01 (mg/L)
Cadmium	0.01 (mg/L)
Lead	0.05 (mg/L)
Selenium	0.01 (mg/L)
Copper	0.05 (mg/L)
Zinc	1.5 (mg/L)
Alkyl benzyl sulphonates	0.5 (mg/L)
Permanganate Value (PV)	1.0 (mg/L)

2.5.6 Public Health Act (Cap. 242)

Part IX, section 115, of the Act states that no person/institution shall cause nuisance or condition liable to be injurious or dangerous to human health. Section 116 requires that Local Authorities take all lawful, necessary and reasonably practicable measures to maintain their jurisdiction clean and sanitary to prevent occurrence of nuisance or condition liable to be injurious or dangerous to human health. Such nuisance or conditions are defined under section 118 as waste pipes, sewers, drainers or refuse pits in such state, situated or constructed as in the opinion of the medical officer of health to be offensive or injurious to health.

2.5.7 Local Authority Act (Cap 265).

Section 160 helps Local Authorities ensure effective utilization of the sewages systems. Section 170, allows the right to access to private property at all times by Local Authorities, its officers and servants for purposes of inspection, maintenance and alteration or repairs of sewers. The Act under section 176 gives powers to Local Authority to regulate sewage and drainage, fix charges for use of sewers and drains and require connecting premises to meet the related costs. According to section 174, any charges so collected shall be deemed to be charges for sanitary services and will be recoverable from the premise owner connected to the facility. Section 264 also requires that all charges due for sewage sanitary and refuse removal shall be recovered jointly and severally from the owner and occupier of the premises in respect of which the services were rendered. This in part allows for application of the "polluter-pays-principle".

2.5.8 Water Act, 2002

Part II, section 18, of the Water Act 2002 provides for national monitoring and information system on water resources. Following on this, sub-section 3 allows the Water Resources Management Authority (WRMA) to demand from any person or institution, specified information, documents, samples or materials on water resources. Under these rules, specific records may require to be kept by a facility operator and the information thereof furnished to the Authority.

The Water Act Cap 372 vests the rights of all water to the state, and the power for the control of all body of water with the Minister, the powers is exercised through the Minister and the Director of water resources in consultation with the water catchments boards, it aims at among others:

1. Provision of conservation of water and

2. Appointment and use of water resources.

2.5.9 Building Code.

This is a composition of Local Government Adoptive building by-laws that any municipal or county council may adopt. The Building Code is comprised of the Local Government (Adoptive By-Laws) (Building) Order of 1968 and the Local Government (Adoptive By-Laws) (Grade II Building) Order 1968. According to the Building Code, any person who intends to erect a building shall submit a written application to do so in such form as the Council may require, completing all details required therein in so far as they apply to the proposals. The application form shall be signed by the developer or by a person representing himself to be his duly authorized agent in which event it shall state the name of the person on whose behalf it has been submitted. The form shall be attached to any plans or documents submitted in accordance with by-law (5) of these By-laws.

According to section (5) of these By-Laws, a person who intends to erect a building or materially change the use of a building or part of a building shall furnish the council in the manner provided in part (A) of the First Schedule of these by-laws. Section (6) (1) of the Building Code states that when a person submits an application pursuant to these by-laws, a fee shall be paid to the council in accordance pursuant to these by-laws, a fee shall be paid to the council in accordance with the charges and conditions prescribed in te10th Schedule to these By-laws. In section 7 (1), within 30 days of receipt of a duly completed application form, together with such particulars as are required by these By-laws, the council shall notify the applicant in writing whether or not the application has been approved, provided that the council may within the said 30 days extend the period in the case of any particular application for a further 30 days.

The Building code generally gives guidelines and specifications for various buildings and constructions including farm buildings, temporary buildings, temporary latrines, space in front of buildings, boundary walls, access to buildings, drainage of building sites and specifications for foundations among others. In addition, the code gives general classification and bearing capacity of sub-soils, wall foundations, dimensions for bricks and stones, fire resistance for various buildings and requirements for stairways. The code gives guidelines for ventilation, sewer and plumbing installations and load capacity of various building materials. The Building Code has 12 schedules that address various specific building requirements.

2.5.10 Occupational Safety and Health Act, 2007

This is an Act of parliament to provide for the safety, health and welfare of workers and all persons lawfully present at workplaces, to provide for the establishment of the National Council for Occupational Safety and Health and for connected purposes. According to Section 3 (1), this legislation shall apply to all workplaces where any person is employed, whether permanently or temporarily.

Under Section 3 (2), the purpose of this Act is to: -

a) Secure the safety, health and welfare of persons at work; and
b) Protect persons other than persons at work against risks to safety and health arising out of, or in connection with, the activities of persons at work.

Under Section 6 (1), every occupier shall ensure the safety, health and welfare at work of all persons working in his workplace. Under section 6 (3), every occupier shall carry out appropriate risk assessments in relation to the safety and health of persons employed, and on the basis of these results, adopt preventive and protective measures to ensure that under all conditions of their intended use, all chemicals, machinery, equipment, tools, and process under the control of the occupier are safe and without risk to health and comply with the requirements of the safety and health provisions in this Act. Under 6 (4), every occupier shall send a copy of a

report of risk assessment carried out under this section to the area occupational safety and health officer.

According to Section 6 (6), it is the duty of every occupier to register his workplace unless such workplace is exempted from registration under this Act.

Under section 7 (1) except in such cases as may be prescribed, it is the duty of every occupier to: -

a) Prepare and, as often as may be appropriate, revise a written statement of his general policy with respect to the safety and health at work of his employees and the organization and arrangements for the time being in force for carrying out that policy; and
b) To bring the statement and any revision of it to the notice of all his employees.

Under section 9 (1), every occupier shall establish a safety and health committee at the workplace in accordance with regulations prescribed by the minister if –

(a) There are twenty or more persons employed at the workplace; or
(b) The Director (of Occupational Safety and Health) directs the establishment of such committee at any other workplace.

Section 11 (1) states that the occupier of a workplace shall ensure a thorough safety and health audit of his workplace be carried out at least once in every period of 12 months by a safety and health advisor, who shall issue a report of such an audit containing the prescribed particulars to the occupier on payment of a prescribed fee and shall send a copy of the report to the Director of Occupational Safety and Health Services.

According to Section 13 (1) (c), every employee shall at all times wear or use any protective equipment or clothing provided by the employer for the purpose of preventing risks to his safety and health. Under Section 16 (1), no person shall engage in any improper activity or behaviour at the workplace which might create or constitute a hazard to that person or any other person.

In accordance with Section 21, an employer or self-employed person shall notify the area occupational safety and health officer of any accident, dangerous occurrence or occupational poisoning which has occurred at the workplace. Where an accident in a workplace causes the death of a person therein, the employer or self-employed person shall –

a) Inform the area occupational safety and health officer within 24 hours of the occurrence of the accident; and
b) Send a written notice of the accident in the prescribed form to the area occupational safety and health officer within 7 days of occurrence of the accident.

Under Section 22 (3), an occupier shall send a written notice of any disease specified in the second schedule of the Act occurring in the workplace to the Director.

Under Section 47 (1), every workplace shall be kept in a clean state, and free from effluvia arising from any drain, sanitary convenience or nuisance. In accordance with section 52 (1), sufficient and suitable sanitary conveniences for the persons employed in the workplace shall be provided, maintained and kept clean, and effective provision shall be made for lighting the conveniences; and where persons of both sexes are or are intended to be employed (except in the case of workplaces where the only persons employed are members of the same family dwelling there), such conveniences shall afford proper separate accommodation for persons of each gender.

Under section 78 (1), all stocks of highly inflammable substances shall be kept either in a fire resisting store or in a safe place outside any occupied building, provided that no such store shall be so situated as to endanger

the means of escape from the workplace or from any other part thereof in the event of fire occurring in the store.

Under Section 81 (1), in every workplace or workroom, there shall be –

a) Provided and maintained, and conspicuously displayed and free from any obstruction so as to be readily accessible, means for extinguishing fire, which shall be adequate and suitable having regard to the circumstances of each case; and

b) Present, persons trained in the correct use of such means of extinguishing fire during all working hours.

Under 81 (2), every workplace shall be provided with adequate means of escape, in case of fire, for persons employed therein, having regard to the circumstances of each case. Under 82 (1), every occupier of a workplace shall design evacuation procedures to be used during any emergency and have the procedures tested at regular intervals.

Under Section 84 (3), every employer shall ensure the availability at the workplace of material safety data sheets for all chemicals and other hazardous substances in use at the premises of the employer, containing detailed essential information regarding the identity, supplier's classification of hazards, safety precautions and emergency procedures

2.5.11 Wayleaves Act Cap 292

According to the Wayleaves Act cap 292 Section 2, Private land does not include any land sold or leased under any Act dealing with Government lands. Section 3 of the Act states that the Government may carry any sewer, drain or pipeline into, through, over or under any lands whatsoever, but may not in so doing interfere with any existing building. Section 8 further states that any person who, without the consent of the Permanent Secretary to the Ministry responsible for works (which consent shall not be unreasonably withheld), causes any building to be newly erected over any sewer, drain or pipeline the property of the Government shall be guilty of an offence and liable to a fine of one hundred and fifty shillings, and a further fine of sixty shillings for every day during which the offence is continued after written notice in that behalf from the Permanent Secretary; and the Permanent Secretary may cause any building erected in contravention of this section to be altered, demolished or otherwise dealt with as he may think fit, and may recover any expense incurred by the Government in so doing from the offender.

2.5.12 Registration of Titles Act Cap 281

Section 34 of this Act states that when land is intended to be transferred or any right of way or other easement is intended to be created or transferred, the registered proprietor or, if the proprietor is of unsound mind, the guardian or other person appointed by the court to act on his/her behalf in the matter, shall execute, in original only, a transfer in form F in the First Schedule, which transfer shall, for description of the land intended be dealt with, refer to the grant or certificate of title of the land, or shall give such description as may be sufficient to identify it, and shall contain an accurate statement of the land and easement, or the easement, intended to be transferred or created, and a memorandum of all leases, charges and other encumbrances to which the land may be subject, and of all rights-of-way, easements and privileges intended to be conveyed.

2.5.13 National Construction Authority Act, 2011

The act is set to streamline, overhaul and regulate the construction industry in Kenya for sustainable development. The NCA establishes the authority and confers on its power to register contactors within the construction industry. The act requires all the contractors, both foreign and local contractors to be registered with the authority. The act also regulates the practices of foreign contractor by limiting their work to only tender work. The foreign contractors are licensed for only a specific period and once they satisfy they are in Kenya for that specific time.

The foreign contractors must also produce a certificate of compliance. Furthermore they must lodge an affidavit with the NCA that once the project they have been licensed is over, they shall wind up their business. This prevents them from engaging in any other construction in the country.

The Proponent will ensure strict adherence to this Act for their smooth operations throughout the proposed project's phase's right from inception through to operation.

2.5.14 County Government Act, 2012

Section 30 (1) of the Act stipulates that no person shall carry out development within the area of a local authority without a development permission granted by the local authority under section 33. Section 29 of this Act provides for development control. It empowers the local authority to prohibit or control the use and development of land and buildings in the interests of proper and orderly development of its area. The council is further empowered by the Act to reserve and maintain all the land planned for open spaces, parks, urban forests and greenbelts in accordance with the approved physical development plan. The Act further states that, No licensing Authority shall grant, under any written law a license for commercial or industrial or occupation of any building or in respect to any premises or land, for which no development permission has been granted by the respective local authority.

The main purpose of the enactment of this Act was to give effect to Chapter Eleven of the Constitution; to provide for county governments' powers, functions and responsibilities to deliver services and for connected purposes. Functions which were carried out by local governments were effectively transferred to the county governments. The Act gives county the responsibility of planning and co-coordinating all developments within their areas of jurisdiction. Part XI (sections 102-115) of the Act provides for planning principles and responsibilities of the county governments. The land use and building plans provided for in the Act are binding on all public entities and private citizens operating within the particular county. The proposed project is within the Nairobi County Government (NCG) and thus there will be need of working in liaison with the County Government. The plans for the proposed project must be approved by the County Government and the County government may also issue directives and authorizations on various aspects e.g. waste management and fire emergency preparedness among others.

This is a local authority that is charged with regulating developments within the city. Nairobi County Government (NCG) approves developments, inspects building during constructions, issues permits and necessary licences including hoarding, advertisement, waste disposal and business licences.

2.5.15 Nuclear Regulatory Act. 29 of 2019

This ACT of Parliament provides for a comprehensive framework for the regulation of safe, secure and peaceful utilization of atomic energy and nuclear technology; the production and use of radiation sources and the management of radioactive waste; the repeal of the Radiation Protection Act and for connected purposes. *(This Act commenced on 10th January, 2020 after being assented on 23rd December, 2019).*

Part IV of the Act clearly elaborates on how such endeavours can be done by prescribing the best measures in terms of Regulatory Controls, Notifications, Authorizations, Inspections and Enforcement procedures as explained below:

Sec. 21 ***Notifications:***

who intends to engage in any activity (***meaning any undertaking that is geared towards the production, use, import and export of radiation sources for industrial, research and medical purposes; the transportation of radioactive material; the siting, construction, commissioning, operation, and decommissioning of facilities; radioactive waste management activities and site remediation)*** shall submit a notification to the Authority (***Kenya Nuclear Regulatory Authority***) of his intention to carry out such activity.

ority shall prescribe by regulations a notification regime prescribing the form, manner and s within which the notification shall be made.

Sec. 22 ***Authorization:***

(1) A person shall not carry out an activity unless the activity has been:

(a) Specifically authorized by the Authority; or

(b) Exempted, wholly or partially from regulatory control, by the Authority.

(2) An application for authorization under this section shall be in the prescribed form and manner and shall include any information and documents as required by the Authority, including:

(a) A detailed description of the activity, nuclear or radioactive material, its intended use and the facility in which it shall be used;

(b) A description of the radiation protection measures and for physical protection of the nuclear radioactive material or facility;

(c) A plan for the management of radioactive waste resulting from the use of nuclear or radioactiv material; and

(d) Proof of payment of prescribed fees.

(3) The Authority may issue an authorization:

(a) Only for activities that can be conducted in a manner that adequately ensures the protection o people, property and the environment; and

(b) Upon such other terms and conditions as may be prescribed.

(4) A person who contravenes this section commits an offence and is liable upon conviction to a fine n exceeding five million shillings or imprisonment for a term not exceeding five years or to both.

Sec. 23 ***Categories for Authorization:***

(1) The Authority may establish categories of authorization for any activity for a specified period and subject to the terms and conditions specified in the authorization.

(2) The Authority may require an authorized person to submit such reports as the Authority may from time to time request.

Sec. 24 ***Suspension, Revocation or Modification of an Authorization:***

(1) An authorization issued under this Act may be suspended, modified, or revoked by the Authority in the event of:

(a) A contravention of this Act;

(b) Violation of the terms and conditions of the authorization; or

(c) Any circumstance where the Authority determines that continued activity under the authorizati would pose a risk to people, property or the environment.

(2) A responsibility arising out of an authorization under this Act shall not be transferred unless with the written approval of the Authority.

(3) An authorization shall cease to be valid when any time limit prescribed under the provisions of this lapses or the terms and conditions of the authorization expire.

Sec. 25 ***Primary Responsibility for Safety:***

A person authorized to conduct an activity shall have the primary responsibility for the safe and secure conduct of the activity and for ensuring compliance with this Act and all applicable regulations.

Sec. 26 ***Right of Review of a Decision:***

(1) A person aggrieved by a decision of the Authority under this Part shall have the right to apply to t Authority for a review of the decision.

(2) An application for review under subsection (1) shall be filed with the Authority within thirty days c communication of the decision and shall state the factual, legal and procedural ground on which it based.

(3) The Authority shall within sixty days of receipt of an application for review, make a finding and communicate the same to the authorized person.

(4) An application for review under this section shall not have the effect of suspending the decision by the Authority.

(5) Nothing under this section stops an applicant from seeking alternative means of redress in a court c law.

Sec. 27 ***Inspection Objectives and Programmes:***

(1) The objectives of inspection and enforcement is to monitor compliance with the requirements of this Act, and the terms and conditions of the authorization issued by the Authority, such that:

(a) Facilities and activities meet the necessary regulatory requirements;

(b) Relevant documents and instructions to authorized persons are valid and are being complied with by the authorized persons, employees or agents;

(c) Persons engaged in authorized activities possess the competence necessary for their functions;

(d) deficiencies and deviations from authorization requirements are remedied without undue dela and

(e) Lessons learnt from authorized activities are communicated to other authorized persons, the Authority and any other relevant persons.

(2) The Authority shall establish a planned and systematic inspection programme consisting of routine and reactive inspections that are announced and unannounced to monitor compliance with this Act and all applicable regulations.

In case of any dealing with such like substances, the Proponent shall observe policy and regulatory requirements, should this requirement be involved, and implement the mitigation measures proposed in this document in an effort to comply with the provisions of these Regulations on abatement of air pollution.

2.5.16 SPECIFIC LEGISLATIONS ON ASBESTOS MANAGEMENT

(NATIONAL GUIDELINES ON SAFE MANAGEMENT AND DISPOSAL OF ASBESTOS NEMA 2013)

2.5.16.1 Environmental Management and Coordination Act, 1999 section 91 (1-7)

The EMCA, 1999 requires the Authority to categorize hazardous wastes on the recommendation of Standards Enforcement and Review Committee (SERC) and to issue guidelines and regulations for the management of each category of hazardous wastes. The categorization has been done under the EMC (Waste Management) Regulations, 2006. These guidelines provide for safe management of asbestos and its wastes.

2.5.16.2 Environmental Management and Coordination (Waste Management) Regulations, 2006.

Asbestos has been classified as hazardous waste under the Waste Management Regulations, 2006: and clearly stipulates that:

1) Every person who generates toxic or hazardous waste shall treat such hazardous waste using the classes of incinerators prescribed in the Third Schedule to these Regulations or any other appropriate technology approved by the Authority.

2) Any leachate or other by-products of such treated waste shall be disposed of or treated in accordance with the conditions laid down in the license or in accordance with guidelines issued by the Authority in consultation with the relevant lead agency.

3) In issuing a licence for the disposal of waste, the Authority shall clearly indicate the disposal operation permitted and identified for the particular wastes.

2.5.16.3 Public Health Act Cap 242 Sections 11-13 –

This is an act of parliament to make provision for securing and maintaining health. Section 13 states that it shall be the duty of every health authority to take all lawful, necessary and under its circumstances reasonably practicable measures for preventing the occurrence or dealing with any outbreak, or prevalence of any infections, communicable or preventable diseases or conditions to safeguard and promote the public health and to exercise the powers and perform the duties in respect of the public health conferred or imposed on it by this act or by any other
law.

The Public Health Act Cap 247, Section 3 gives provisions for use of poisonous substances. It refers to regulations for protection of persons against risk of poisoning, imposing restrictions or conditions on the importation, sale, disposal, storage, transportation or use of poisonous substances. This Act also requires persons concerned with importation, sale, disposal storage, transportation or use of poisonous substances to be registered and licensed and provides measures for detecting and investigating cases in which poisoning has occurred.

The Public Health Act Sec 126 A, empowers municipal councils, urban and area councils to make by laws for all or any of the following matters with regards to buildings for -

- Controlling the construction of buildings and the materials to be used in the construction of buildings;
- Preventing the occupation of a new or altered building until a certificate of the fitness thereof for occupation or habitation has been issued by such local authority.
- To compel owners to repair order to demolish unsafe, dangerous or dilapidated buildings.
- The Act further gives the municipal Urban or area councils power to require removal or alteration of work in certain cases the local authority may by notice to the owner either require him to pull down or remove the work, or if he so elects to comply with any other requirements.

2.5.16.4 The Occupational Safety and Health Act, No. 15 of 2007

The purpose of the **Occupational Safety and Health Act (OSHA)** is to provide for the safety, health and welfare of workers and all persons lawfully present at workplaces and to provide for the establishment of the National Council for Occupational Safety and Health and for connected purposes. Though not explicitly provided, the act and the rules made there under have various sections on hazardous materials that apply to Asbestos. The OSHA stipulates that an employer shall not require or permit his employee to engage in the manual handling or transportation of a load which by reason of its nature is likely to cause the employee to suffer bodily injury. It also states that any person supplying, distributing, conveying or holding in chemicals or other toxic substances shall ensure that they are packaged, conveyed, handled and distributed in a safe manner so as not to cause any ill effect to any person or the immediate environment.

2.5.16.5 The Factories and Other Places of Work (Hazardous Substances) Rules, 2007

Asbestos has been listed as a hazardous substance and its threshold limit values given, therefore these rules apply to all workplaces where asbestos is present.

2.5.16.6 The Factories (Building, Operations and Work of Engineering Construction) Rules, Legal Notice No. 40 of 1984

The Factories (Building, Operations and Work of Engineering Construction) Rules, Legal Notice No 40 of 1984, rules 20 and 21 prohibit any inhalation of dust and fumes. In any building operation or work of

engineering construction where dust or fumes likely to be injurious to the health of persons employed are given off, all reasonably practicable measures shall be taken to prevent the inhalation of dust or fumes by the person employed by ensuring adequate ventilation or providing suitable respirators at the place where the operation or work is carried on.

2.5.16.7 The Local Government Act, Chapter 265 (Now, County Government Act, 2012)

Section 160 (a) of The Local Government Act, Chapter 265 empowers every municipal council, town council and every urban council to establish and maintain sanitary services for the removal and destruction of, or otherwise dealing with, all kinds of refuse and effluent and, where any such service is established, to compel the use of such service by persons to whom the service is available.

Section 201(1) – (4) expands the jurisdiction of local authority to make by-laws in respect of all such matters as are necessary or desirable for the maintenance of the health, safety and well-being of the inhabitants of its area or any part thereof and for the good rule and government of such area or any part thereof and for the prevention and suppression of nuisances. The by-laws so made may control, regulate, prevent, prohibit or compel certain activities to be undertaken and prescribe offences in case of contraventions.

3. DESCRIPTION OF THE PROJECT

3.1 Introduction

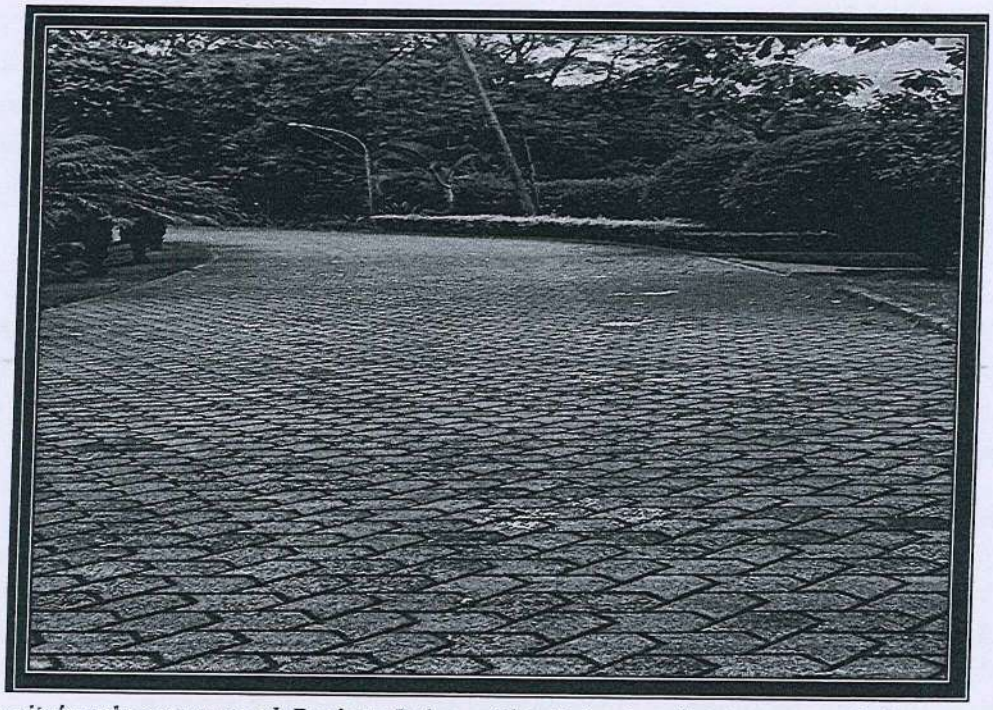
This Section describes the proposed asbestos ceiling removal, reroofing and other subsequent renovation works at the residence in greater details. It will as well highlight various aspects related to the proposed project. The aspects include the following; Client's brief, location, access and design and response to the environment.

3.2 Project location

The home is located about ten (10) kilometres from Nairobi Central Business within Lakeview Estate in this quiet leafy suburb of Nairobi county. Bordering this neighbourhood include estates like Kitisuru, Kabete, Kyuna amongst other surrounding affluent neighbours within this sparsely populated western region of Nairobi City. Surrounding the home, are similar numerous occupied homes mixed with other sporadic commercial establishments, newly constructed homes and other up-coming ones.

Picture 7: Some of the few up-market residential maisonettes under construction in this quiet neighbourhood, along Gatethuru road.

Most of the nearby roads like this Baringo drive (– pictured below), Lakeview Drive, Bogoria Street, Lakeview Drive, Lower Kabete road, Gatethuru road, amongst others in this area, are in good shape, tarmacked and are frequently used by both motorists and pedestrians. These, hopefully as population increases in the neighbourhood, may need regular repair and upgrading to improve their status to prevent deterioration. The site falls within a highly upcoming residential area with several residential and commercial premises and associated developments all coming up and combining to make the area more habitable and enjoyable. These are flanked by numerous infrastructural amenities including reliable road networks, electricity, and other infrastructural amenities.



Picture 8: The site's only access road, Baringo Drive, within Lakeview Estate, as seen in its current best state.

3.3 *Current Status of the Proposed Project Site.*

During the site visit, the study team found no renovation works has commenced on this palatial home, apart from the normal undertakings of site maintenance. This vast home is flanked by numerous old and new trees and other vegetative undergrowth's in this large compound, all of which will not be cut, cleared or unnecessarily excavated when the renovation process commences once a NEMA License is granted. The following activities are expected to be carried out at the site:

- Removal of the existing asbestos ceiling and roofing materials on the earmarked house,
- Verifying of recyclable and dismissible wooden roofing materials to be reused or be replaced,
- A fresh reroofing with chosen modern roofing materials,
- Re-ceiling of the affected building's roof,
- Repainting and renovation of the buildings as the home may deem fit.

Picture 9: Other views of the earmarked house targeted for the facelift.

3.4 *Area Land-use Zonations.*

Lakeview Estate Area consists of a blend of single homes, communal town houses/maisonettes, luxurious maisonettes and commercial establishments of varied capacities ranging from simple shops to established schools amongst other commercial structures. The home stands in its own vast compound with the proposed activities being expected to temporarily affect the tranquillity of this neighbourhood, though very timely, necessary and completely in sync the area's standards.

3.5 *Design of the project*

In general, the design of this activity will essentially optimise the use of these buildings using the best available technology to prevent or minimize potentially significant environmental impacts associated with such like projects and incorporate efficient operational controls together with trained staff, to ensure and maximize the level performance and service delivery in this consulate residence.

The proposed project will involve:

- Removal of the existing asbestos ceiling and roofing materials on the earmarked house,
- Verifying of recyclable and dismissible wooden roofing materials to be reused or be replaced,
- A fresh reroofing with chosen modern roofing materials,
- Re-ceiling of the affected building's roof,
- Repainting and renovation of the buildings as the home may deem fit.

The other components may include, general wastes removal, cleanings, electricity and water supply systems' rerouting, depending on need and convenience.

3.5.1 *Solid waste and waste water*

Solid wastes generated during this exercise will be the discarded asbestos roofing sheets, ceiling boards, old wooden fittings, roofing materials and uniting nails. Waste may be generated from cleaning of dusty furniture after completion of the renovation works. ***Due to its hazardous nature, a NEMA-Licensed remover, transporter and disposer of the asbestos sheets has been engaged from the exercise' onset.*** Other wastes like disused timber can be donated to burners or be appropriately disposed. All garbage/temporary stored wastes within the home compound must be protected from rain and scavenging animals. The waste will then be collected by a private waste management company to be composted, palletised or re-cycled depending on the waste management strategy to be adopted. Since the area is not yet connected to any of the NW&SC sewer lines, emerging water and other liquid wastes must be channeled to the existing septic tanks while waste water from this compound be channelled to the existing drainage line along the access road.

3.5.2 *Drainage system*

The building is already provided with storm water facilities from the roof top through peripheral drainage system into storm water drainage systems. Drainage pipes laid must constantly be checked to reduce blockages and water stagnation. The pipes must be inclined to a degree that does not allow stagnation of water and thus linked to storm water drainage system. All storm water drainage will be channelled into open storm water drain systems with a 300mm diameter encase in 150 concrete surround. All I.C'S and manholes in the driveway will have heavy duty covers.

Increased runoff from paved grounds and expansive roofs causing extreme flooding and overflows of drainage systems should be mitigated. Surface runoff and roof water, after removing the asbestos sheets, may be harvested and stored in underground reservoir for reuse. A storm water management plan that minimizes impervious area infiltration should be used to reduce recharge of flat areas. Detection and/or retention with graduated outlet control structures may be designed.

3.5.3 *Electrical system*

The home is already connected to the electricity main line of the Kenya Power and Lighting Company, which is used in all phases of this exercise. These various components of the electrical system comprise single and twin socket outlet, one and two way switch outlets wall mounted security bulkhead fitting, lockable meter

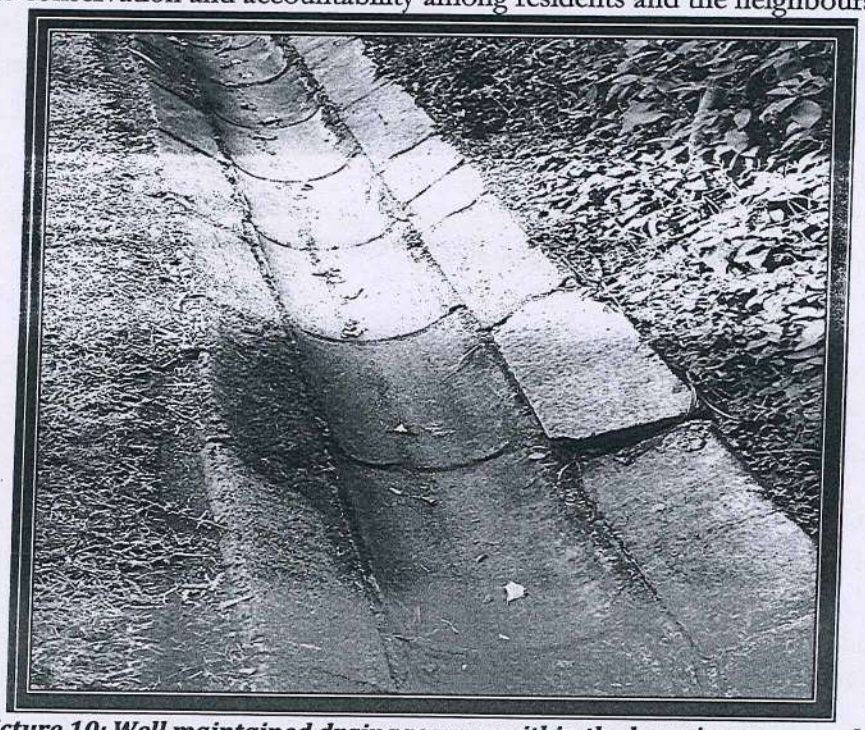
boards with glass view panel, gate lights and security alarm panel outlet. The necessary guidelines and precautionary measures relating to the use of electricity must always be adhered to.

3.5.4 Water reticulation system

Water from the nearby NW&SC's main is in use within the home. Early insufficiencies are already subsidised by the surrounding boreholes dug sometimes back. Other sources like water vendors may be called upon in times scarcity. More so there are water storage tanks to boost water capacity at the home - to the required amount.

3.5.5 Need for water harvesting and Storage

Due to ever increasing demand for water which is occasioned by gradually increasing population in Nairobi City and its environs and limited supply from the available sources, there is dire necessity to harvest and store rain water, to ensure that water storage tanks are put in place, as a backup system, in case of water shortages since rain water can be harnessed during rainy seasons for usage during dry seasons of the year. This will avert scarcity and promote conservation and accountability among residents and the neighbours.



Picture 10: Well maintained drainage ways within the home's access road.

3.5.6 Storm water run-off

All storm water drainage will be channelled into open storm water drain systems with a 300mm diameter encase in 150 concrete surround. All I.C'S and manholes in the driveway will have heavy duty covers.

3.5.7 Landscaping

The buildings' exterior surrounding may be landscaped after renovation in conjunction with support of the neighbours, using plant species available locally. This may include establishment of flower gardens and lush grass lawns to improve the visual quality of the site and its vicinity.

DESCRIPTION OF THE PROJECT'S RENOVATION ACTIVITIES

3.5.8 Pre-construction investigations

The implementation of the buildings' renovation phase will start with thorough investigation of the building's physical status in order to minimize any unforeseen adverse impacts during the project implementation.

3.5.9 Renovation Activities

The proposed project activities to be undertaken during these proposed renovations include:

- Building survey; to be done by individual inspection of the ceiling and roofing materials to be renovated,
- Earmarking and tabulating the work procedure depending the degree of removal and renovation to be done,

3.5.10 Sourcing and transportation of building materials

Building materials will be transported to the project site from their extraction, manufacture, or storage sites using transport trucks. The building materials to be used in construction of the project will be sourced from Nairobi and neighbouring areas. Greater emphasis will be laid on procurement of building materials from within the local area, which will make both economic and environmental sense as it will reduce negative impacts of transportation of the materials to the project site through reduced distance of travel by the materials transport vehicles.

3.5.11 Storage of materials

Building materials will be stored on site. Bulky reroofing materials must be carefully piled on site. To avoid piling large quantities of materials on site, the home will order bulky materials in bits. Materials such as cement, paints and glasses among others will be stored in temporary storage structures, which will be constructed within the project site for this purpose.

3.5.12 Reroofing

Reroofing activities will include raising the roofing materials such as tiles and structural timber to the roof and fastening the roofing materials to the roof.

3.5.13 Electrical work

Electrical work during renovation (should there be need) of the premises will include installation of electrical gadgets and appliances including electrical cables, lighting apparatus, sockets etc. In addition, there will be other activities involving the use of electricity such as welding and metal cutting.

3.5.14 Plumbing

Installation of new pipe-works or renovating the old water supply and distribution pipes may be carried out within the Blocks and associated facilities. In addition, pipe-work may be done to connect to restore the damaged drainage systems while water from the rooftops be channelled into the peripheral storm water drainage system. Plumbing activities may include metal and plastic cutting, the use of adhesives, metal grinding and wall drilling among others.

3.5.15 Landscaping

To improve the aesthetic value or visual quality of the site once construction ceases, the home may carry out landscaping. This may include establishment of flower gardens and grass lawns and will involve replenishment of the topsoil. It is noteworthy that the home will use plant species that are available locally preferably indigenous ones for landscaping.

3.6 DESCRIPTION OF THE PROJECT'S OPERATIONAL ACTIVITIES

3.6.1 Improved Service Delivery

Being a residential facility, the intended renovation and improvement initiatives will improve the delivery of quality services within the consulate residence.

3.6.2 Waste Management within the home

The home management, just like before, has and will continue being responsible for regular maintenance and cleaning of the pavements and compound. These will include handling of solid wastes generated during this

exercise and even later, within the facility. Dustbin cubicles for temporarily holding of wastes must be strategically placed within the premises before final collection and disposal by appropriate contracted firms. Sewage generated from the home, as always been, is continually discharged/channelled into the nearby septic tanks located within the home's periphery, since the area has not been connected to the sewer line. Storm water from the project area will be channelled into the existing nearby gravity driven storm water drainages. Cleaning operations will involve the use of substantial amounts of water, disinfectants and detergents.

3.6.3 General repairs and maintenance

The luxurious maisonette and its associated facilities should be repaired and maintained regularly during the operational phase of the project. Such activities include repair of building walls and floors, repairs and maintenance of electrical gadgets and equipment, repairs of leaking water pipes, painting, maintenance of flower gardens and grass lawns, and replacement of worn out materials among others.

4. BASELINE INFORMATION OF THE STUDY AREA

4.1 Location and Site Coordinates

Located within the leafy and sparsely populated Lakeview Estate of Lower Kabete area, this estate is serene, tranquil and well-kept by its inhabitants, save for some sporadic developments, renovations and regular maintenance and cleaning exercises. This homestead falls at an exact ***Altitude of 1776m (Lakeview Estate, Nairobi)*** above sea level, ***Latitude of 1°14.42328'*** South of Equator and ***Longitude 36°46.13688'*** East of Greenwich Meridian, approximately 7 km from the Nairobi City CBD at Lakeview Estate.

4.2 Project Geographical Location

Nairobi lies at an altitude of 1680m above sea level, but this height ranges from 1500m (to the east) to 2300m (to the West). It is located at longitude 36° 50' east and latitude 1° 18' South about 140 km South of the Equator and situated at an elevation of about 5,500 feet above sea level, placing its high affect for the cooler air to keep its temperatures moderate.

Nairobi City has experienced rapid growth both in terms of population and physical expansion. The physical area of Nairobi has been expanding tremendously from 3.84 Km^2 in 1900 to 684 Km^2 in 1963 which is the current official size of the City.

Nairobi City lies in the Athi River Drainage Basin. The major rivers that cross the City include Nairobi, Ruaraka, Ngong, Athi and Mathari River. All these drain from the West and flow towards the Eastern direction as dictated by the topographical features. As the rivers pass through the City, industrial effluents, municipal waste and siltation heavily pollute them.

4.3 CLIMATE

4.3.1 Average daily temperatures

The average daily temperature throughout the year (**See Table 4, below**) varies slightly from month to month with average temperatures of around 17 degrees Celsius during the months of July and August to about 20 degrees Celsius in March. But, the daily range is much higher, with the differences between maximum and minimum temperatures each day around 10 degrees in May and up to 15 degrees in February. Between the months of June to September, southeast winds prevail in the coastal parts of Kenya and last up to several days without a break. The clouds cause day temperatures to remain low and most times the maximum temperature stay below 18 degrees Celsius. The minimum temperatures also remain low during cloudy nights, usually hovering around 8 degrees Celsius and sometimes even reaching 6 degrees Celsius. Clear skies in January and February also bring colder nights. The highest temperature ever reached in Nairobi was 32.8 degrees Celsius and the lowest was 3.9 degrees Celsius.

	Mean Maximum	Mean Minimum	Mean Range
Months	°C	°C	°C
January	26.8	13.1	13.7
February	28.0	13.4	14.6
March	27.4	14.4	13.0
April	24.6	14.3	10.3
May	24.1	14.2	9.9
June	23.1	12.6	10.5
July	22.3	11.5	10.8

August	22.7	11.8	10.9
September	25.3	12.2	13.1
October	26.2	13.7	12.5
November	23.6	14.4	9.2
December	25.1	13.8	11.6
Year	24.9	13.3	11.6

Table 4: Average Daily Temperature in Nairobi City.

4.3.2 Average Humidity Values

Because of Nairobi's location just south of the equator in combination with humid air pumped in from the Indian Ocean, the humidity values for each day are generally on the higher end (**See Table 2**).

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
9.00 AM	79	74	82	86	85	85	83	85	82	80	36	83
3.00 PM	45	37	43	53	55	59	53	53	50	47	57	54

Table 5: Mean Relative Humidity Values (%).

This is not to say that values are always high, since the easterly winds coming off the Indian Ocean tend to keep the temperatures standard throughout the country; therefore the "warm sticky" feeling is usually not associated with Nairobi as much as one would think. In the summer to autumn months of January to April, relative humidity values have been known to plummet to anywhere from 10% to 20%. The typical day, humidity-wise, starts off with nearly saturated in the morning hours, and steadily decreases throughout the remainder of the day.

4.3.3 Average Rain Amounts

With these routinely high relative humidity figures, it is not surprising that the Nairobi climate is one that produces much rain annually. In fact, from the past 50 years, the expected amount of rain could be anywhere in the range of 500 to 1500 mm, with the average ringing in at 900 mm. The majority of these rainfall figures crash down in Nairobi in one major and one minor monsoon seasons respectively. The major monsoon season occurs within the months of March to May, and is called the "Long Rains" by the locals. The minor monsoon seasons emerges within the October to December Months, and is called the "Short Rains" by the Nairobi citizens. That is what the meteorologists as a whole know about the monsoon seasons. What they do not know is exactly when these seasons will start.

There is usually not an indication of when these rainy seasons will start, since it is difficult to determine when one starts and when the other finishes. Consequently, a person may think there is only one rainy season when looking at the annual rainfall amounts (**See Table 3**).

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
48	48	115	195	137	42	15	21	24	52	114	77

Table 6: The average rainfall (mm) for each month of the year, based on the records for 50 years.

4.3.4 Average Winds

Winds along the surface are predominantly easterly throughout the entire year. They are shifted to northeast between October and April, and they are shifted southeast between May and September. Right before the "Long Rains" season, the strongest winds occur, reaching speeds of 20 to 25 miles per hour. During the rest of the year, winds are usually at speeds of 10 to 15 miles per hour. During the night, the winds are calm.

4.3.5 Average Sunshine

Early mornings in Nairobi are often cloudy, but the sun peeks through by mid-morning. Throughout the year, there is an average of seven hours of sunshine per day. Thirty present more sunlight reaches the ground during the afternoon than in the morning. Of course, there is more sunshine during the summer months, when the sun is more overhead in the Southern Hemisphere. Infrequently during the rainy season the sun never show through the clouds. Even in August, the cloudiest month, there is an average of four hours of sunshine.

4.3.6 Infrastructure

Due to such rapid urban growth, provision of basic infrastructure for all has become an important concern of development planners in Nairobi. Basic infrastructural services that have deteriorated due to such rapid increase in population include: Solid Waste Management (SWM) system; water and sewage systems; drainage and flood protection; roads; mass transportation; electric installations; and telecommunications. Greater environmental pollution, congestion and other problems have been the result of under-provision of such basic services.

The city is well served, with good communication and transport network such as air, road, and railway. It is centrally located to serve the Eastern African countries. Bus and train stations are within an easy walk of the City Centre. The main railway line runs from Mombasa to Malaba though Nairobi City. This network facilitates transportation of agricultural products from western Kenya to the coast. The city is a hub of road transport connecting other major towns in the country. On air transport Jomo Kenyatta International airport makes it easy to transport goods from all over the world into the country and vice versa.

4.3.7 Population

The cosmopolitan capital of Kenya, currently houses over 8.34 million people with a growth rate estimated at 7% which represents 51% of the country's urban population. Nairobi City has one of the highest urban population densities in the country of up to 3,079 persons per square kilometre, bringing with it the associated needs for housing facilities. Such needs can be catered for by establishment of adequate facilities such as these houses that will provide living room for the ever-increasing population.

4.3.8 Economic Activities

Nairobi city is the centre of commercial, manufacturing, and industrial development in East Africa. The major economic activities in Nairobi City include trade. Like most modern cities, Nairobi has crowded markets and trading areas, middle class suburbs, and spacious mansions for the rich and powerful. It also has vast overcrowded tenements and slums, exploitation, and high unemployment.

5. PUBLIC PARTICIPATION

5.1 *Objectives of the Public Consultations*

The overall goal of the consultation process is to disseminate project information and to incorporate the views of the Project Affected Persons (PAPs) in the design of the mitigation measures and a management plan. The specific aims of the consultation process are to:

- Improve project design and thereby minimize conflicts and delays in implementation;
- Facilitate the development of appropriate and acceptable entitlement options;
- Increase long term project sustainability and ownership;
- Reduce problems of institutional coordination;
- Make the resettlement process transparent; and
- Increase the effectiveness and sustainability of income restoration strategies, and improve coping mechanisms.

An important element in the process of impact assessment is consulting with stakeholders to gather the information needed to complete the assessment. The main objectives of community consultations were to:

- Provide clear and accurate information about the project to the beneficiary community
- Obtain the main concerns and perceptions of the population and their representatives regarding the project;
- Obtain opinions and suggestions directly from the affected communities on their preferred mitigation measures; and
- Identify local leaders with whom further dialogue can be continued in subsequent stages of the project.

5.2 *Mode of Consultation*

Interviews were carried out in the neighbourhood by the use of one on one conversations and even printed questionnaires (attached), to find out all the views from the neighbours' towards the housing project. Neighbouring the site are several private businesses and residences. The main purpose for such interviews was to identify the positive and negative impacts and subsequently promote and mitigate them respectively. It also helped in identifying any other miscellaneous issues which may bring conflicts in case project implementation proceeds as planned.

Table 7: List of the Neighbouring Participants Interviewed during the Exercise.

	NAME	DESIGNATION/COMPANY/DEPARTMENT
1	Augustus Mutemi	Service-man, Tel: 0726-402188
2	Belinda Walker	Retired Civil Servant, Tel: 0722-410904
3	Angela I. Araka	Office Assistant, Tel: 0728-107665
4	Barnabas A. Adongo	Driver, Tel: 0722-869738
5	Francis Kh. Asega	Tel: 0724 672952
6	Isaac N. Mwangi	Driver, Tel: 0716 289884
7	Anthony G. Jadeuella	Cook, Tel: 0721-732994
8	Francis Nyambaga	Landscaper, Tel: 0723 936490
9		
10		
11		
12		

5.3 POSITIVE ISSUES RAISED

5.3.1 Infrastructural Improvement

It was acknowledged by the local community that this renovation exercise will improve infrastructural status o the home and even other amenities in the ambassadorial residence. The neighbour applauded their unity which has led to very peaceful life in this estate by working together to improve their access roads, conducting regular maintenance of roads, storm water drainage systems and power lines amongst other facilities for their owr betterment even before the intervention of the county or central governments.

5.3.2 Population surge/Employment creation

As a result of these neighbourhood improvements, the estate's general image has increased. The few and temporal jobs at the site will thus directly or indirectly improving the dependants economic per capita.

The site works will provide a market for the local construction products, thus economic improvement.

The negative impacts foreseen, due to these renovations can be increased pressure on infrastructure; air pollution; respiratory ailments and easy spread of existing ones, water pollution and generation wastes among others, all of which can however be avoided or mitigated, when necessary guidelines are followed.

5.4 NEGATIVE ISSUES RAISED

5.4.1 Noise and Air Pollution

Air pollution was noted as a possible cause of concern. Potential impacts on the air quality during the renovation stage will be due to the fugitive and hazardous dust and the exhaust gases generated in and around the renovation site by use of heavy vehicles and machinery/equipment at the site. These emissions can have significant respiratory and cardio-pulmonary effects on the local population and thus adequate mitigation measures should be implemented. Although the level of discomfort caused by noise is subjective and relies mainly on the distance between the noise source and recipients, the real impact of noise on the area's residents will depend of the nature of equipment used and the timing of their use. Even then, it is possible to avoid excessive noise through implementation of appropriate noise abatement measures during construction.

5.4.2 Water demand & Sewer system

Issues of increased water demand were partially touched in the public participation exercise. The neighbours expressed concern about the increasing demand for water and need to extend the sewerage line to this area to lessen their burden and constant reliability and dependence on exhausters which is likely to increase with the eventual population upsurge and recommended that either the NCG sewer line be extended, boreholes be sunk to remedy the situation in advance before it becomes acute in the area. Thus suggesting that the systems be extended to reach this area and be upgraded to stomach the ever increasing domestic demands.

5.4.3 Suggestions by Community Members

During the public participation exercise several suggestions were put forward by the local community members. These suggestions included:-

(a) That the local residents be considered as first priority for employment by the contractor before others

(b) That those with the capacity be allowed to supply some of the raw materials

(c) The home should do whatever he can to improve infrastructure within and around the project environs

(d) Proper waste management and disposal procedures and standards be employed

(e) Working committees be formed so as to raise their concerns to the other stakeholders and their issues to be addressed by the current as well as present owners of the land.

(f) Noise be reduced so as not to disturb neighbouring institutions and homes.

6 POTENTIAL ENVIRONMENTAL IMPACTS

6.1 Introduction

This chapter outlines the potential negative and positive impacts that will be associated with the housing project. The impacts will be related to activities to be carried out during construction of the project. The operational phase impacts of the project will be associated with the activities carried out by the residents/tenants, which will mainly be domestic. In addition, closure and decommissioning phase impacts of the project are also highlighted.

The impacts of the housing project during each of its life cycle stages (construction, operation and decommissioning) can be categorized into: impacts on the biophysical environment; health and safety and socio-economic impacts.

6.2 NEGATIVE ENVIRONMENTAL IMPACTS DURING CONSTRUCTION PHASE

6.2.1 Site Clearance and Reduced greenery

The earmarked site is currently grown and surrounded with well-maintained gardens, old trees, grass and live fence. This proposed renovation work will not lead to any loss of these vegetation as it will strictly be limited to the earmarked structure alone. However it was noted that there are no rare plant species or mature trees in the location that may be threatened by this impending work

6.2.2 Disposal of Removed Roofing Materials

All these materials need to be collected, transported and disposed of appropriately in approved designated areas. As already noted, a registered asbestos handler has been contracted to handle this, It is also encouraged that other alternative uses of these materials should be found to limit their wastage. In addition, additional solid waste will be generated at the site during construction of the building and related infrastructure. Such waste will consist of metal cuttings, rejected materials, surplus materials, surplus spoil, excavated materials, paper bags, empty cartons, empty paint and solvent containers, broken glass among others.

Such solid waste materials can be injurious to the environment through blockage of drainage systems, choking of water bodies and negative impacts on human and animal health. This may be accentuated by the fact that some of the waste materials contain hazardous substances such as paints, cement, adhesives and cleaning solvents, while some of the waste materials including metal cuttings and plastic containers are not biodegradable and can have long-term and cumulative effects on the environment.

6.2.3 Dust emissions and exhaust emissions

Particulate matter pollution is likely to occur during the site clearance, excavation of the top soil, digging of foundations and loading and transportation of the construction waste.

There is a possibility of PM10 suspended and settle-able particles affecting the site workers and even neighbours health. Exhaust emissions are likely to be generated during the construction period by the various construction machinery and equipment. Motor vehicles used to mobilize the work force and materials for construction would cause a potentially significant air quality impact by emitting pollutants through gaseous exhaust emissions.

6.2.4 Noise pollution

The construction works on site will most likely have noise operation due to the moving machines (mixers, tippers, communicating workers), incoming vehicles to deliver construction materials, workers to site and other

normal construction activities. This may prove to be a potential source of disturbance to the surrounding neighbours and a health hazard to the workers themselves. Such noise emissions should be minimized as much as possible from the source point while workers should be provided with appropriate personal protective wear.

6.2.5 Waste management

Large amounts of solid waste will be generated during renovation exercise. These will include metal cuttings, rejected materials, surplus materials, surplus spoil, excavated materials, paper bags, empty cartons, empty paint and solvent containers, broken glass among others. Solid wastes if not well managed have a potential of causing disease outbreaks due to suitable breeding conditions for vectors of cholera and typhoid. Malaria outbreak could also be exacerbated by the presence of open water ditches for breeding of anopheles mosquitoes.

The construction workers will also generate faecal waste during their day-to-day operations. The generated waste needs proper handling to prevent disease, such as cholera, typhoid and diarrhoea outbreak on the site. Unless this is addressed, it can prove to be an environmental/health hazard.

6.2.6 Extraction and use of building materials and energy used

Building materials such as hard core, ballast, cement, rough stone and sand required for renovation of the housing project will be obtained from quarries, hardware shops and sand harvesters who extract such materials from natural resource banks such as rivers and land.

Since substantial quantities of these materials may be required for construction of the buildings, the availability and sustainability of such resources at the extraction sites will be negatively affected, as they are not renewable in the short term. In addition, the sites from which the materials will be extracted may be significantly affected in several ways including landscape changes, displacement of animals and vegetation, poor visual quality and opening of depressions on the surface leading to several human and animal health impacts.

6.2.7 Exhaust emissions

The trucks used to transport various building materials from their sources to the project site will contribute to increases in emissions of CO_2, NO_x and fine particles along the way as a result of diesel combustion. Such emissions can lead to several environmental impacts including global warming and health impacts.

Because large quantities of building materials are required, some of which are sourced outside Nairobi, such emissions can be enormous and may affect a wide geographical area. The impacts of such emissions can be greater in areas where the materials are sourced and at the construction site as a result of frequent gunning of vehicle engines, frequent vehicle turning and slow vehicle movement in the loading and offloading areas.

6.2.8 Increased water demand

Both the workers and the construction works will create an increased demand for water in addition to the existing demand. Water will be mostly used in the creation of aggregates for construction works and for wetting surfaces for softening or hardening after creating the formworks.

6.2.9 Workers accidents and hazards during construction

During construction of the project, it is expected that construction workers are likely to have accidental injuries and hazards as a result of accidental occurrences, handling hazardous waste, lack or neglect of the use of protective wear etc. All necessary health and safety guidelines should be adhered to so as to avoid such circumstances.

Workers are also likely to be exposed to diseases from contact with potentially harmful building materials. It is therefore recommended that before the construction commences, there is need for the materials to be well inspected and harmonized to the occupational health and safety standards.

6.3 POSITIVE ENVIRONMENTAL IMPACTS DURING CONSTRUCTION PHASE

6.3.1 Employment opportunities

One of the main positive impacts during projects construction phase will be the availability of employment opportunities especially to casual workers and several other specialized workers. Employment opportunities are of benefit both economically and in a social sense. In the economic sense it means abundant unskilled labour will be used in construction hence economic production.

6.3.2 Boosting of the informal sector

There are usually several informal businesses which come up during the construction periods of such projects. These include activities such as food vending who benefit directly from the construction staff members who buy food and other commodities from them. This will promote the informal sector in securing some temporary revenue and hence livelihood.

6.3.3 Provision of market for supply of building materials

The project will require supply of large quantities of building materials most of which will be sourced locally and within the surrounding areas. This provides ready market for building material suppliers such as quarrying companies, hardware shops and individuals with such materials.

6.4 NEGATIVE ENVIRONMENTAL IMPACTS DURING OPERATION PHASE

6.4.1 Electricity consumption

In completion, the project shall consume substantial amounts of electricity due to the number of the units being proposed and the activities that will take place once the project is complete. Since electric energy in Kenya is generated mainly through natural resources, namely water and geothermal resources, increased use of electricity have adverse impacts on these natural resources base and their sustainability.

6.4.2 Solid waste generation

A lot of domestic waste such as organic waste, empty plastic containers, waste paper etc. will be generated during the operational phase of the project. Once the project is complete and operational, it's expected to generate a large amount of solid waste on a daily basis whose composition will vary from organic to inorganic substances.

Picture 11: Gradient-driven septic tanks within the compound, separately for the main house and servants' quarter.

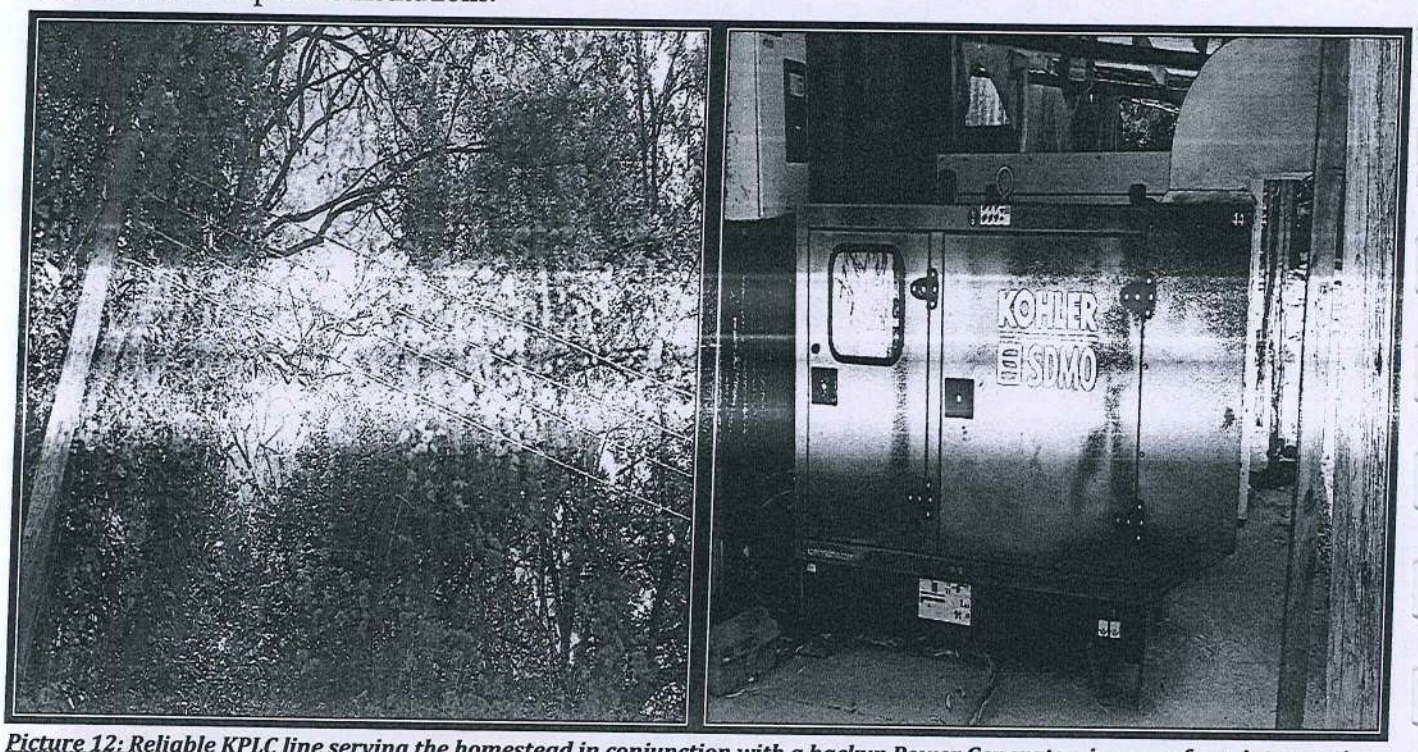
6.5 POSITIVE ENVIRONMENTAL IMPACTS DURING OPERATION PHASE

6.5.1 Employment opportunities

Employment opportunities may come as one of the short term impacts when this renovation exercise is implemented as well as maintenance of the building, in general. These will create temporary sources of employment for the sustenance of the involved individuals.

6.5.2 Increase in revenue to national and local governments

The commissioning of the proposed project will result in positive gains for numerous authorities- Kenya Revenue Authority (KRA), KPLC and Nairobi County Government through payment of relevant taxes, rates and fees to the respective institutions.



Picture 12: Reliable KPLC line serving the homestead in conjunction with a backup Power Generator, in case of any interruption.

6.5.3 Provision of modern housing

The well renovated housing unit will add to the existing usable housing stock in the home thus marginally alleviating the dearth of houses, as may be currently experienced by the consulate. This is in line with the vision of the existing government which implies generally of the need to engage private developers in the provision of free education to her citizenry within a set time frame.

6.5.4 Improved land value

The home's value, once these renovation exercises are completed, is expected to increase. This is a great bonus to the consulate since it will increase the morale and thus boost the quality of services provided therein.

6.5.5 Increased security

Security around the project site will be increased due to the introduction rehabilitative works by either reinforcing the surrounding fences and additional streetlights. Day and night security guards around the home may as well be upgraded.

6.6 POSITIVE ENVIRONMENTAL IMPACTS OF THE RENOVATION WORKS

6.6.1 Rehabilitation

Upon decommissioning of the proposed exercise, rehabilitation of the buildings will be carried out to restore the site to its original status or to a better state than it was originally. This will include replacement of damaged and defunct amenities and re-vegetation which will lead to improved visual quality of the area.

6.6.2 Employment opportunities

For these renovation works to be implemented, properly and in good time, few picked people will be involved. As a result several employment opportunities will be created for the renovation staff during this phase of the proposed project.

6.7 DECOMMISSIONING PHASE (JUST IN CASE)

6.7.1 Noise and vibration

During these renovation works, created noises will lead to significant deterioration of the acoustic environment within the project site and the surrounding areas. This will be as a result of the noise and vibration that will be experienced as a result of demolishing the proposed project.

6.7.2 Solid waste generation

Removal of the buildings' roof and related infrastructure will result in large quantities of solid waste. The waste will contain the materials used in construction including concrete, metal, drywall, wood, glass, paints, adhesives, sealants and fasteners. Although removal waste is generally considered as less harmful to the environment since they are composed of inert materials, there is growing evidence that large quantities of such waste may lead to release of certain hazardous chemicals into the environment. In addition, even the generally non-toxic chemicals such as chloride, sodium, sulphate and ammonia which may be released as a result of leaching of demolition waste, are known to lead to degradation of groundwater quality.

6.7.3 Dust

Large quantities of dust will be generated during the intended roofs removal works. These will affect involved staff as well as the neighbouring residents.

7 IMPACTS' MITIGATION AND MONITORING

7.1 *Introduction*

This section highlights the necessary mitigation measures for the expected negative impacts of the propose project. The potential impacts and the possible mitigation measures have herein been analysed under thr categories as done in Chapter Six. These are Roofs removal phase, Renovation phase or Decommissioni Phase (later, should it be). References are made as to where decommissioning mitigation measures can be sought.

7.2 *REMOVAL RELATED IMPACTS*

7.2.1 *Minimization of air pollution and noise*

Clearance of the old and dilapidated roofing materials on the earmarked roofs to pave way for the installatio of new ones. However, the contractor must ensure proper demarcation of the section, priorly notify the area inhabitants of the asbestos dust to ensure protective measures are employed by the affected populace and th workers during that exercise. This is aimed at ensuring that any disturbance or negative effects - to the neighbouring populace is restricted or minimized. Avoidance of spill over effects on the neighbouring areas must be minimized. In the same vein, there will be strict control of the involved vehicles must be observed to ensur that they operate only within the area to be disturbed by access routes and other works. In addition, the home should endeavour to re-vegetate some of the disturbed areas through implementation of a well-designe landscaping programme.

7.2.2 *Controlling soil erosion, water logging and siltation of could-be surrounding water bodies*

The home will put in place some measures aimed at minimizing soil erosion and water logging of the surrounding areas. These measures will include:-

- Terracing, levelling and ripping off compacted areas around the site to reduce run-off velocity and increase infiltration of storm water into the soil,
- Digging trenches and cut-off drains to channel runoffs into storm water drains,
- Landscaping and construction of retention walls to control soil erosion,
- Surface runoff and roof water may be harvested and stored in underground reservoir for reuse,
- A storm water management plan that minimizes impervious area infiltration by use of recharge areas and use of detention and/or retention with graduated outlet control structures should be designed.

7.2.3 *Minimization of waste generation*

It is recommended that recyclable wastes be or reused to ensure that materials that would otherwise be disposed of, as waste, are diverted for productive uses. In this regard, the home should ensure that construction materials left over at the end of construction will be used in other projects rather than being disposed of. In addition, damaged or wasted construction materials will be recovered for refurbishing and use in other projects. Such measures will involve the sale or donation of such recyclable/reusable materials to construction companies, local community groups, institutions and individual residents or home owners.

The home should put in place measures to ensure that construction materials requirements are carefully budgeted and to ensure that the amount of construction materials left on site after construction is kept minimal. It is further recommended that the home should consider the use of recycled or refurbished construction materials. Purchasing and using once- used or recovered construction materials will lead to financial savings and reduction of the amount of construction debris disposed of as waste.

Additional recommendations for minimization of solid waste during this renovation exercise may include:-

- Use of durable, long- lasting materials that will not need to be replaced as often, thereby

reducing the amount of construction waste generated over time.

- Provision of facilities for proper handling and storage of construction materials to reduce the amount o waste caused by damage or exposure to the elements.
- Use of building materials that have minimal packaging to avoid the generation of excessive packagin waste.
- Use of construction materials containing recycled content when possible and in accordance wit accepted standards.

7.2.4 *Minimization of air quality degradation*

Controlling dust during renovation is useful in minimizing nuisance conditions and consequently health (respiratory and eye) complications. It is recommended that a standard set of feasible dust control measures be implemented for all construction activities. Emissions of other contaminants (Nitrogen oxides, Carbon dioxide, Sulphur oxides, and diesel related Particulate Matter PM10) that would occur in the exhaust from heavy equipment are also included.

The home should commit to implement measures that shall reduce air quality impacts associated with construction. All personnel working on the project will be trained prior to starting construction on methods for minimizing air quality impacts during construction. This means that construction workers will be trained regarding the minimization of emissions during construction. Specific training will be focused on minimizing dust and exhaust gas emissions from heavy construction vehicles. Construction vehicles drivers will be under strict instructions to minimize unnecessary trips, refill petrol fuel tanks in the afternoon, and minimize idling of engines.

Dust emissions will be controlled by the following measures:-

- Watering all active construction areas when necessary.
- Cover all trucks hauling soil, sand and other loose materials or require all trucks to maintain at least two feet of freeboard.
- Pave, apply water when necessary, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites.
- Fast growing trees will be planted around the project area to act as a wind breaker to reduce the particulate matter that lead to respiratory diseases.

7.2.5 *Minimization of noise pollution*

Significance of noise impacts depends on whether the project would increase noise levels above the existing ambient levels by introducing new sources of noise. Noise impacts would be considered significant if the project would result in the following:-

- Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Exposure of persons to, or generation of, excessive ground-borne vibration or ground-borne noise levels.
- A substantial permanent increase in ambient noise levels (more than five dBA) in the project vicinity above levels existing without the project.
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

The institutions shall put in place several measures that will mitigate noise pollution arising during the construction phase. The following noise-suppression techniques will be employed to minimize the impact of temporary construction noise at the project site.

- Install portable barriers to shield compressors and other small stationary equipment whe necessary.
- Use quiet equipment (i.e. equipment designed with noise control elements).
- Co-ordinate with relevant agencies regarding all substation construction activities in the residential areas.
- Install sound barriers for pile driving activity.
- Limit pickup trucks and other small equipment to an idling time of five minutes, observe a commoı sense approach to vehicle use, and encourage workers to shut off vehicle engines whenever possible.

7.2.6 Minimization of exhaust emission

In order to control exhaust emissions the following measures shall be implemented during construction.

- Vehicle idling time shall be minimized
- Alternatively, fuelled construction equipment shall be used where feasible
- Equipment shall be properly tuned and maintained

7.2.7 Efficient sourcing and use of raw materials

The home will source building materials such as sand, ballast and hard core from registered quarry and sand mining firms, whose projects have undergone satisfactory environmental impact assessment/audit anc received NEMA approval. Since such firms are expected to apply acceptable environmental performance standards, the negative impacts of their activities at the extraction sites are considerably well mitigated.

To reduce the negative impacts on availability and sustainability of the materials, the Institution will only order for what will be required through accurate budgeting and estimation of actual construction requirements. This will ensure that materials are not extracted or purchased in excessive quantities. Moreover, the Institution will ensure that wastage, damage or loss (through run-off, wind, etc.) of materials at the construction site is kept minimal, as these would lead to additional demand for and extraction or purchase materials.

In addition to the above measures, the home shall consider reuse of building materials and use of recycled building materials. This will lead to reduction in the amount of raw materials extracted from natural resources as well as reducing impacts at the extraction sites.

7.2.8 Minimization of water use

The home shall ensure that water is used efficiently at the site by sensitizing construction staff to avoid irresponsible water usage.

7.2.9 Curbing worker accidents and hazards when handling hazardous wastes

Necessary health and safety rules shall be enforced by the site foreman to ensure that all staff members adhere to these standards and are thus safe. Adequate collection and storage of waste on site and safe transportation to the disposal sites and disposal methods at designated area shall be provided. In addition covers for refuse containers and appropriate personal protective equipment to be used by workers shall also be provided by the home.

Workers accidents especially in deep trenching operations and from gas accumulation in sewers and other confined spaces shall be mitigated by enforcing adherence to safety procedures and preparing contingency plan for accident response in addition safety education and training shall be emphasized.

7.3 OPERATION RELATED IMPACTS

7.3.1 Ensure efficient energy consumption

The home should plan and install an energy-efficient lighting system in the buildings or parking areas. This will contribute immensely to energy conservation during the operational phase within the home. In

addition, users should be sensitised to ensure energy efficiency in their operations.

7.3.2 Ensuring efficient solid waste management

The home will be responsible or appoint a caretaker who will be responsible for the efficient management o solid waste generated by the project during its operation. In this regard, the home will provide waste handlin facilities such as waste bins and skips for temporarily holding waste generated within various sections of th compound. In addition, the home will ensure that they are disposed of regularly and appropriately It is recommended that the home puts in place measures to ensure that all residents and workers manage thei waste efficiently through recycling, reuse and proper disposal procedures.

7.3.3 Ensure efficient water use

The home should install water-conserving automatic taps and toilets. Moreover, any water leaks through damaged pipes and faulty taps will be fixed promptly by qualified staff. In addition, the occupants of the houses will be sensitized to use water efficiently.

7.4 DECOMMISSIONING RELATED IMPACTS

In case of decommissioning of the project an Environmental Impact Assessment will be carried out whereby necessary mitigation measures of all potential impacts will be proposed.

8 ANALYSIS OF PROJECT ALTERNATIVES

This section analyses the project alternatives in terms of site, technology scale and waste management options.

8.1 ANALYSIS OF THE CONSTRUCTION MATERIALS AND TECHNOLOGY

This maisonette's roof will be renovated using modern, locally and internationally accepted materials to achieve public health, safety, security and environmental aesthetic requirements. Equipment that saves energy and water will be given first priority without compromising on cost or availability factors. The roofing materials will be sourced locally as well as stones, cement, sand (washed and clean), metal bars and fittings that meet the Kenya Bureau of Standards requirements.

Beautiful and durable iron sheets, tiles and even the ceiling materials will be sourced locally as long as they're good quality, good heat insulation. This will ensure that the rainwater harvested will be used in gardening. Heavy use of timber during construction is discouraged because of destruction of forests. The exotic species would be preferred to indigenous species in the construction where need will arise.

8.2 SOLID WASTE MANAGEMENT ALTERNATIVES

A lot of solid wastes generated from the proposed exercise must be properly managed. An integrated solid waste management system is recommendable.

First, the home will give priority to Reduction at Source of the materials. This option will demand a solid waste management awareness programme incorporating both the management and the residents.

Secondly, Recycling, Reuse and composting of the waste will be the second alternative in priority. This will call for a source separation programme to be put in place. The waste will be sold to waste buyers within the surrounding area or be collected by a private waste management company.

The third priority in the hierarchy of options is combustion of the waste that is not recyclable.

Finally, sanitary land filling will be the last option for the home.

8.3 NO PROJECT ALTERNATIVE

The No Project option in respect to the proposed project implies that the status quo is maintained. This option is the most suitable alternative from an extreme environmental perspective as it ensures non-interference with the existing conditions, which direly need to be changed. This option will however, involve several losses both to the home and the community as a whole. The home will continue operating minimally, with under-utilized amenities at the expense of the consulate's operations. The No Project Option is the least preferred from the socio-economic and partly environmental perspective due to the following factors:

- The consulate's social and economic health prospects, as well as those of the home's occupants, dependents and the local people would remain unchanged.
- The local productivity and skills would remain underutilized.
- Reduced consulate and its dependant's output due to under-utilized buildings at the residence.
- Reduced interaction both at local and national levels.
- No employment opportunities will be created for numerous numbers of Kenyans who will be involved either directly or indirectly in this renovation project.
- Indirectly increased urban poverty and crime in its surrounding.
- All the potential benefits would be lost

From the analysis above, it becomes apparent that the No Project alternative is no alternative to the local people Kenyans, and the government of Kenya.

8.4 CARRYING ON WITH THE PROPOSED DEVELOPMENT ALTERNATIVE

Under the proposed alternative, the residence would be given ago a head. On licensing, NEMA would approve the home's proposed development, provided all environmental measures are complied with during the construction period and occupation phases. This alternative consists of the applicant's final proposal with the inclusion of the NEMA regulations and procedures as stipulated in the environmental impacts to the maximum extent practicable. This is the most suitable option.

8.5 Rain water harvesting

Rain water that has been flowing into drainage systems during rainy seasons should be harnessed and stored in ground or underground tanks. The home should put measures to ensure that its harvested and stored then can be used in the watering flower gardens, toilets and cleaning.

9 ENVIRONMENTAL MANAGEMENT/MONITORING PLAN

9.1 Introduction

This proposed renovation exercise and its associated activities will have some impacts on the biophysic environment, health and safety of its employees and members of the public, and socio economic well-being of the local residents. Thus, its main aim focuses on reducing the negative impacts and maximizing the positiv impacts associated with its activities through a programme of continuous improvement.

An environmental management/monitoring plan has been developed to assist the home in mitigating an managing environmental impacts associated with the life cycle of the project. The EMP has been developed to provide a basis for an Environmental Management System (EMS; ISO 14001 principles) for the project. It i noteworthy that key factors and processes may change through the life of the project and considerabl provisions have been made for dynamism and flexibility of the EMP. As such, the EMP will be subject to a regular regime of periodic review.

Tables 5 and 6, form the core of this EMP for the construction, operational and decommissioning phases of the housing project. In general, the Tables outline the potential safety, health and environmental risks associated witl the project and detail all the necessary mitigation measures, their financial costs, as well as the person responsible for their implementation and monitoring. The EMP will be used as checklist in future environmental audits.

9.2 Construction and operational phase EMP

The necessary objectives, activities, mitigation measures, and allocation of costs and responsibilities pertaining tc prevention, minimization and monitoring of significant negative impacts and maximization of positive impacts associated with the construction and operational phases the housing project are outlined in Table 8 below.

Table 8: ENVIRONMENTAL MANAGEMENT & MONITORING MATRIX FOR THE CONSTRUCTION PHASE.

Expected Negative	Recommended Mitigation Measures	Responsible Party	Time Frame	Cost (Kshs.)
1. Minimization of Hazardous Wastes				
Asbestos: ***Removal***	**1.** Ensure that a NEMA-Licenced handler with a team with trained, experienced and properly adorned workers are contracted from the onset to remove them **2.** The home's furniture, residential materials and personal belonging must be removed from the room when asbestos roofing sheet are being removed to reduce dust contamination. **3.** Neighbouring inhabitants, institutions and area operators must be informed in prior to the designated removal days to observe necessary precautions to avoid/reduce hazardous asbestos dusts during the exercise **4.** Once the asbestos roofing sheet have been removed, dust contaminated ceiling boards must be removed, to reduce the dusts' later contamination. **5.** On completion of the exercise, the may-be contaminated house's furniture, other consulate's and employees belonging, contaminated with asbestos dust, must be thoroughly washed to reduce later dust contamination. **6.** Designate a clear access routes and temporary asbestos storage place/room or covered place within the home for the asbestos roofing sheets.	Contractor, Project Manager Institution Nema Consultant	Removed asbestos per tonne	50,000 **(Varies depending on the company involved)**
Transportation	**7.** Ensure that a NEMA-Licenced transporter with a registered transportation means and trained, experienced and properly adorned workers are contracted from the onset to transport them to the licenced disposal point.	Institution Project Manager Contractor Nema Consultant	Removed asbestos per tonne	50,000 **(Varies depending on the company involved)**
Disposal	**8.** Ensure that a NEMA-Licenced disposer, with a registered transportation means to the disposal site and with trained, experienced and properly adorned workers are contracted from the onset to dispose them appropriately.	Institution Project Manager Contractor Nema Consultant	Removed asbestos per tonne	200,000 **(Varies depending on the company involved)**
2. Minimize Extraction Site Impacts And Ensure Efficient Use Of Raw Materials In Construction				
High Demand Of Raw Material	**1.** Source building materials from local suppliers who use environmentally friendly processes in their operations.	Project Manager & Contractor	Throughout construction period	0
	2. Ensure accurate budgeting and estimation of actual construction material requirements to ensure that the least amount of material necessary is ordered.	Project Manager & Contractor	Throughout construction period	0
	3. Ensure that damage or loss of materials at the construction site is kept minimal through proper storage.	Project Manager & Contractor	Throughout construction period	0
	4. Use at least 5%-10% recycled, refurbished or salvaged materials to reduce the use of raw materials and divert material from landfills	Project Manager & Contractor	Throughout construction period	0

3. Reduce Storm-Water, Runoff And Soil Erosion				
Increased Storm Water, Run-Off And Soil Erosion	1. Surface runoff and roof water shall be harvested and stored in underground reservoir tanks for reuse.	The Construction Team	2 months	10,000 per unit **(Varies depending on the company involved)**
	2. A storm water management plan that minimizes impervious area infiltration by use of recharge areas and use of detention and/or retention with graduated outlet control structure will be designed.	The Construction Team	1 month	
	3. Apply soil erosion control measures such as levelling of the project site to reduce run-off velocity and increase infiltration of storm water into the soil.	The Construction Team	1 months	
	4. Ensure that construction vehicles are restricted to existing graded roads to avoid soil compaction within the project site.	The Construction Team	Throughout construction period	
	5. Ensure that any compacted areas are ripped to reduce run-off.	The Construction Team	2 months	
	6. Site excavation works to be planned such that a section is completed and rehabilitated before another section begins.	Project Manager & contractor	Throughout construction period	5,000 per unit **(Varies depending on the company involved)**
	7. Open drains all interconnected will be provided on site and linked to peripheral storm water drains.	Civil Engineer	Throughout construction	5,000 per unit **(Varies depending on the company involved)**
	8. Roof catchments will be used to collect the storm water for some other uses.	Civil Engineer	Throughout construction	
	9. Construction of water storage tanks to collect storm water for other uses.	Civil Engineer	Throughout construction period	
4. Minimize Solid Waste Generation And Ensure Efficient Solid Waste Management During Construction				
Increased Solid Waste Generation	**1.** Use of an integrated solid waste management system i.e. through a hierarchy of options: 1. Source reduction 2. Recycling 3.Composting and reuse 4. Combustion 5. Sanitary land filling.	Project Manager & Contractor	Throughout construction period	500,000 **(Varies depending on the company involved)**
	2. Through accurate estimation of the sizes and quantities of materials required, order materials in the sizes and quantities they will be needed, rather than cutting them to size, or having large quantities of residual materials.	Project Manager & Contractor	One-off	0
	3. Ensure that construction materials left over at the end of construction will be used in other projects rather than being disposed of.	Project Manager & Contractor	One-off	0
	4. Ensure that damaged or wasted construction materials including cabinets, doors, plumbing and lighting fixtures, marbles and glass will be recovered for refurbishing and use in other projects	Project Manager & Contractor	One-off	0
	5. Donate recyclable/reusable or residual materials to local community groups, institutions and individual local residents or home owners.	Project Manager & Contractor	One-off	0

	6. Use of durable, long-lasting materials that will not need to be replaced as often, thereby reducing the amount of construction waste generated over time	Project Manager & Contractor	Throughout construction period	0
	7.Provide facilities for proper handling and storage of construction materials to reduce the amount of waste caused by damage or exposure to the elements	Project Manager & Contractor	One-off	50,000 **(Varies depending on the company involved)**
	8. Use building materials that have minimal or no packaging to avoid the generation of excessive packaging waste	Project Manager & Contractor	Throughout construction period	0
5. Reduce Dust Emissions				
Dust Emission	1. Ensure strict enforcement of on-site speed limit regulations	Project Manager & Contractor	N/A	
	2. Avoid excavation works in extremely dry weathers	Project Manager & Contractor	Throughout construction period	5,000 per month
	3. Sprinkle water on graded access routes when necessary to reduce dust generation by construction vehicles	Project Manager &	Throughout construction period	
	4. Personal Protective equipment to be worn	Project Manager	Throughout construction period	20,000
6. Minimization Of Exhaust Emissions				
Exhaust Emission	1. Vehicle idling time shall be minimized	Project Manager & Contractor	Throughout construction period	0
	2. Alternatively fuelled construction equipment shall be used where feasible equipment shall be properly tuned and maintained	Project Manager & Contractor	Throughout construction period	0
	3. Sensitize truck drivers to avoid unnecessary racing of vehicle engines at loading/offloading points and parking areas, and to switch off or keep vehicle engines at these points	Project Manager & Contractor	Throughout construction period	0
7. Minimization Of Noise And Vibration				
Noise And Vibration	1. Sensitize construction vehicle drivers and machinery operators to switch off engines of vehicles or machinery not being used	Project Manager & Contractor	Throughout construction period	0
	2. Sensitize construction drivers to avoid gunning of vehicle engines or hooting especially when passing through sensitive areas such as churches, residential areas and schools	Project Manager & Contractor	Throughout construction period	0
	3. Ensure that construction machinery are kept in good condition to reduce noise generation	Project Manager & Contractor	Throughout construction period	10,000
	4. Ensure that all generators and heavy duty equipment are insulated or placed in enclosures to minimize ambient noise levels.	Project Manager & Contractor	Throughout construction period	100,000
	5. The noisy construction works will entirely be planned to be during day time when most of the neighbours will be at work.	Project Manager & Contractor	Throughout construction period	50,000

8. Minimization Of Energy Consumption				
Increased Energy Consumption	1.Ensure electrical machinery, equipment, appliances and lights are switched off when not being used	Project Manager & Contractor	Throughout construction period	0
	2. Install energy saving fluorescent tubes at all lighting points instead of bulbs which consume higher electric energy	Project Manager & Contractor	Throughout construction period	10,000
9. Minimize Water Consumption And Ensure More Efficient And Safe Water Use				
High Water Demand	1. Promptly detect and repair of water pipe and tank leaks	Institution	Continuous	2000 per month
	2. Encourage and sensitize staff on water conservation techniques	Institution	Continuous	550 per month
	3. Ensure taps are not running when not in use	Institution	Continuous	500/month
	4. Install water conserving taps that turn-off automatically when water is not being used	Institution	One-off	200 % higher than ordinary taps
	5. Install a discharge meter at water outlets to determine and monitor total water usage	Institution	One-off	100,000
10. Minimize Release Of Liquid Effluent				
Generation of wastewater	Provide means for handling sewage generated by construction workers e.g. use mobile toilets	Mechanical Engineer & Project Manager	One-off	30,000 per unit
11. Minimize Occupational Health And Safety Risks				
Approval Of Building Plans	☐ Ensure that all building plans are approved by the Local Authority and the Local Occupational Health and Safety Office	Developer	One-off	100,000
Site Organization	☐ Develop a clear site organization plan and construction schedule	The Contractor, Project Manager	Continuous	5,000
	☐ Deliver and store materials at appropriate locations	The Contractor, Project Manager	Continuous	10,000
	☐ Hire the right number of workers with clear work schedule and appropriate dress gear	The Contractor, Project Manager	Continuous	1,000,000
Security	☐ Ensure the general safety and security at all times by providing day and night security guards and adequate lighting within and around the premises.	Institution	Continuous	50,000
Personal Protective Gear (PPG)	☐ Suitable overalls, safety footwear, dust masks, gas masks, respirators, gloves, ear protection equipment etc. should be made available and construction personnel must be trained to use the equipment	Institution & Contractor	Once off	200,000

Health And Safety Impacts	☐ Implement all necessary measures to ensure health and safety of workers and the general public during operation of the housing project as stipulated in OSHA Act 2007. ☐ PPE must be worn during the handling of the hazardous asbestos sheets to reduce the envisaged health risks. ☐ Surround neighbours should be warned during the removal period to protect themselves and their families against any possible health risks. ☐ Thorough cleaning and proper house/area decontamination must be done to minimize the risk effects of residual asbestos particles after removal.	Institution	Continuous	-
First Aid	☐ Well stocked first aid box which is easily available and accessible should be provided within the premises	Institution & Contractor	One-off	5,000
	☐ Provision must be made for persons to be trained in first aid, with a certificate issued by a recognized body.	Institution & Contractor	One-off	40,000
Fire Protection	☐ Fire-fighting equipment such as fire extinguishers should be provided at strategic locations such as stores and construction areas.	Institution & Contractor	One-off	40,000
	☐ Regular inspection and servicing of the equipment must be undertaken by a reputable service provider and records of such inspections maintained	Institution & Contractor	Every 3 months	20,000
	☐ Signs such as **"NO SMOKING"** must be prominently displayed within the premises, especially in parts where inflammable materials are stored	Institution & Contractor	One-off	2,000
Machinery/ Equipment Safety	☐ Ensure that machinery, equipment, personal protective equipment, appliances and hand tools used in construction do comply with the prescribed safety and health standards and be appropriately installed maintained and safeguarded	Project Manager, Developer & Contractor	One-off	0
	☐ All machines and other moving parts of equipment must be enclosed or guarded to protect all workers from injury	Project Manager	One-off	0
	☐ Arrangements must be in place to train and supervise inexperienced workers regarding construction machinery use and other procedures/operations	Project Manager	Continuous	5,000 per training
	☐ Reports of machinery inspection/examinations must be presented in prescribed forms, signed by the examiner and attached to the general register	Project Manager	Continuous	2,000 per examination
Storage Of Materials	☐ Ensure that materials are stored or stacked in such manner as to ensure their stability and prevent any fall or collapse.	Project Manager	Continuous	15,000
	☐ Ensure that items are not stored/stacked against weak walls and partitions	Project Manager	Continuous	0
Safe Means of	☐ All floors, steps, stairs and passages at the construction site must be of sound construction and properly maintained	Project Manager & Contractor	Continuous	0

Access a nd Safe Place of Employment	☐ Securely fence or cover all openings in ground, floors	Project Manager & Contractor	One-off	0
	☐ All ladders used in construction works must be of good construction and sound material of adequate strength and be properly maintained	Project Manager & Contractor	One-off	0
	☐ Ensure that construction workers are not locked up such that they would not escape in case of an emergency	Project Manager & Contractor	Continuous	0

TABLE 9: ENVIRONMENTAL MANAGEMENT & MONITORING MATRIX FOR THE OPERATION PHASE.

Expected Negative Impact	Recommended Mitigation Measures	Responsible Party	Time Frame	Cost (Kshs)
Minimization Of Solid Waste Generation And Ensuring More Efficient Solid Waste Management				
Solid Waste Generation	1. Provide solid waste handling facilities such as waste bins and skips	Institution	One-off	20,000
	2. Ensure that solid waste generated at the premise is regularly disposed of appropriately at authorized dumping sites	Institution	Continuous	500 per house per month
	3. Ensure that occupants of the houses manage their waste efficiently through recycling, reuse and proper disposal procedures.	Institution	Continuous	–
	4. Donate redundant but serviceable equipment to charities and institutions	Institution	Continuous	0
Minimize Risks Of Sewage Release Into Environment				
Sewage Disposal	1. Provide adequate, safe and reliable pipe connections to the existing septic tanks to avoid blockages, stagnation and improper flow to the main collection points.	Institution	One-off	2,540,000
	2. Conduct regular inspections for sewage pipe blockages or damages and exhaust appropriately when necessary	Institution	Continuous	500 per inspection 7000 per exhaust
Minimize Energy Consumption				
Energy Resource Utilization	1. Switch off electrical equipment, appliances and lights when not being used	Tenants	Continuous	–
	2. Install energy saving fluorescent tubes at all lighting points e.g. security lights and within the houses instead of bulbs which consume higher electric energy	Institution/ Tenants	One-off	200% higher than ordinary lighting
	3. Monitor energy use during the operation of the project and set targets for efficient energy use	Tenants	Continuous	5000/month
	4. Sensitize tenants to use energy efficiently	Institution	Continuous	500/month
Minimize Water Consumption And Ensure More Efficient And Safe Water Use				
Water	1. Promptly detect and repair water pipe and tank leaks	Institution/ Tenant	Continuous	2,000/month
	2. Encourage residents to conserve water	Institution/ Tenant	Continuous	-

Consumption	3. Ensure taps are not running when not in use	Tenant	Continuous	500/month
Ensure The General Safety And Security Of The Premises And Surrounding Areas				
Ensure the general safety and security at all times by providing day and night security guards and adequate lighting within and around the premises.		Institution	Continuous	100,000/month
Minimization Of Health And Safety Impacts				
Implement all necessary measures to ensure health and safety of the general public during operation of the project as stipulated in Occupational Safety and Health Act , 2007		Institution	Continuous	_
Environmental Monitoring Of The Project				
Due to the magnitude of the project, the Firm of Experts will undertake continuous environmental monitoring of the project for all the Phases in liaison to the National Environment Management Authority and the home. This will ensure that environmental concerns are integrated into the project at every stage of implementation. An initial environmental audit will also be carried within a period of 12 months after commencement of the operations		Institution, Firm of Experts and NEMA	Continuous	-

9.3 DECOMMISSIONING PHASE

Although there are no plans to decommission the planned exercise any time in the foreseeable future, decommissioning phase is still an important phase in the project life cycle. In the event that the proposed residence is to be decommissioned at the end of the project life cycle or sooner, the following will be the potential positive and negative impacts

9.3.1 *Negative Impacts*

These would include: -

- Loss of employment to would-be contracted people.
- Reduction in the availability of a conducive residence for the consulate and his assistants' stay and usage.
- Continual generation of solid waste and hazardous dusts from asbestos sheets at the detriment of the occupants and the area's populace.
- Occupational health and safety impacts.
- Disturbance to neighbours from hazardous dusts.

9.3.2 *Positive Impacts*

These would include: -

- Minimal generation of wastes and reduced wastewater

In addition to the mitigation measures provided in Table 9 above, it is necessary to outline some basic mitigation measures that will be required to be undertaken once all operational activities of the housing project have ceased. The necessary objectives, mitigation measures, allocation of responsibilities, time frames and costs pertaining to prevention, minimization and monitoring of all potential impacts associated with the decommissioning and closure phase of the housing project are outlined in Table 10 below.

Table 10: ENVIRONMENTAL MANAGEMENT & MONITORING MATRIX FOR THE DECOMMISSIONING PHASE.

Expected Negative	Recommended Mitigation Measures	Responsible Party	Time Frame	Cost (Kshs)
1. Demolition Waste Management				
Sewage Disposal	1. Use of an integrated solid waste management system i.e. through a hierarchy of options: 2. Source reduction, Recycling, Composting and Reuse, Combustion, Sanitary land filling. 3.Donate redundant but serviceable equipment to charities and institutions	Contractor & Project Manager	One-off	-
	4. All buildings, machinery, equipment, structures and partitions that will not be used for other purposes must be removed and recycled/reused as far as possible	Contractor & Project Manager	One-off	-
	5. All foundations must be removed and recycled, reused or disposed of at a licensed disposal site	Contractor & Project Manager	One-off	-
	6. Where recycling/reuse of the machinery, equipment, implements, structures, partitions and other demolition waste is not possible, the materials should be taken to a licensed waste disposal site	Contractor & Project Manager	One-off	-
	7. Donate reusable demolition waste to charitable organizations, individuals and institutions	Contractor & Project Manager	One-off	-

9.3.3 *Statement of Impacts*

From the identification and analysis of the potential impacts of this proposed renovation exercise to be done at the Residential Home of Spanish Ambassador in Kenya, located at Lakeview Estate, Lower Kabete area of Nairobi County, the EIA Consultant finds that there are really are no potentially significant adverse environmental or socio-economic impacts. The key negative impacts include possible disturbance of the immediate neighbourhood at the construction stages and felling of trees for the construction. However, these are impacts that can be mitigated if the recommendations made in the Environmental Management Plan are undertaken.

10 AUXILLIARY INFORMATION

10.1 Monitoring Guidelines

Continuous observations and assessment is essential so that if foreseen safety dangers are noticed, alternatives must be sort for. Risk assessment of fire outbreaks, and others should not be ignored in the construction plan. Waste management in the block should be strictly followed. Mitigation measures of storm water management are also essential. Safety standards should constantly be maintained, in brief, monitoring guidelines could be based on the following parameters:

- Physical water qualities including colour and other variables like Biological Oxygen Demand and Chemical Oxygen Demand (COD). This is to be done with guidance from the NW & SC as the lead agency responsible for water issues.
- Floral and faunal life including the species of either that is in the surrounding
- Health and safety measures using such standards as OHSAS 18001: 2007 and OSHA 2007 guidelines
- Waste management
- Examine the changing land use patterns including those for residential ecological and economic purposes
- Accidents and risk assessment arising from the use of water, roads, electricity and or any other amenity

10.2 Reporting

Constant reporting by the site contractor to the architect is necessary to ensure the project is executed as per the architectural drawings. The safety officer should always remain on site to report any safety concerns for urgent mitigation. He should also at all times enforce safety requirements as per the relevant legislation. The contractor must consult the architect to maintain a clear understanding of all the aspects of the project

11 CONCLUSION AND RECOMMENDATION

11.1 Recommendations

- Consult all relevant service providers and authorities (i.e. Nairobi County Council, KPLC, Nairobi Water and Sewerage Company, NEMA, amongst others) so as to harmonize the projects infrastructural and socio-economic developments with existing facilities.
- Adhere to all relevant construction, occupational, health and safety regulations and any other relevant law.
- Ensure Water and Energy Management Systems are put in place as outlined within the report and incorporate rain water harvesting facilities.
- Solid waste management during construction and operational phases of the project must adhere to the Environmental Management and Coordination (Waste Management) Regulations, 2006.
- Ensure strict adherence to provisions of Environmental Management and Coordination
- (Noise and Excessive Vibrations Pollution) Regulations, 2009.
- Ensure waste water is disposed off as per standards set in the Environmental
- Management and Coordination (Water Quality) Regulations, 2006.
- Ensure strict adherence to Occupational Health and Safety Act, 2007
- Ensure an elaborate landscaping program is put in place as the construction phase is being concluded so as to replenish vegetation around the project site by planting trees, flowers and lawns where applicable.

11.2 Conclusion

This proposed renovations exercise shall have several positive impacts emanating from both the renovation and operational phases. These positive impacts including creation of employment; provision of quality shelter, increase in better housing facilities for the consulate residents and employees as well as increase in revenue among others as has been outlined within the report.

The proposed project will also provide some negative impacts which in turn need to be minimized and mitigated during the construction and the operational phases. Several of these negative impacts are rated low and short-term thus have minimal impacts. The negative environmental impacts that will result from establishment of the project include increased population without commensurate services and facilities; increased pressure on infrastructure; air pollution; water pollution and generation wastes among others.

The site of the proposed project shall be committed to putting in place several measures to mitigate the negative environmental, safety, health and social impacts associated with the life cycle of the project as outlined within the report. It is recommended that in addition to this commitment, the home shall focus on implementing the measures outlined in the EMP as well as adhering to all relevant national and international environmental, health and safety standards, policies and regulations that govern establishment and operation of such projects.

It is also recommended that the positive impacts that emanate from such activities shall be maximized as much as possible. It is expected that these measures will go a long way in ensuring the best possible environmental compliance and performance standards.

12 APPENDICES & REFERENCES

12.1 APPENDICES:

- ***Copy of the Plot's Title Deed.***
- ***Questionnaires From Public Interviews Conducted.***

12.2 REFERENCES

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Nairobi County Development Plan

(In Nomine Domini Nostri Jesu Christi)