

	<b>Gates</b>	'weigh hopper' to the 'mixer' - complete in all aspects including instrumentation etc.	(2+3)
8.	<b>Screw Conveyor</b>	Fly Ash & Lime conveyed from 'weigh hopper' to the 'mixer' - complete in all aspects including instrumentation etc.	5 Set (2+3)
9.	<b>Mono Rail</b>	2 Ton Mono-Rail for feeding Lime	1 Set
Note: Supply of all other standard accessories & equipment (including pipes, valves, instruments etc) to make the system fully operational.			
<b>PART B</b>			
<b>Mixing, Brick Press &amp; Pre-Curing System</b>			
1.	<b>Sun Planetary Mixer</b>	<p>Wet mixing of fly ash &amp; lime - which is required to break lump/noodle which would be generated during mixing.</p> <ul style="list-style-type: none"> <li>Rating of Mixer: Useful Volume 1.5 m<sup>3</sup></li> <li>Accessories: Dust proof stuffing box, replaceable type bottom and side wear liner plates, provided mixing and discharge blades, side scrapper &amp; corner scrapper having anti-wear special alloy steel, complete with heavy duty sturdy worm gear box powered with electric motor and electrical starter.</li> </ul>	2 Set
2.	<b>Intermediate Storage Hoppers with accessories</b>	<ul style="list-style-type: none"> <li>Capacity: minimum 1.5 m<sup>3</sup></li> <li>MOC: MS/CS</li> </ul> <p>Storage hopper not required</p>	2 Set
3.	<b>Carbonation Reactor</b>	<p>specialized mixing system designed for controlled CO<sub>2</sub> injection into a fly ash and lime paste mixture to enhance carbonation efficiency. Glass-lined or any other suitably lined interior for superior corrosion resistance and effective thermal insulation.</p> <p>Injection of CO<sub>2</sub> at 8-10 Bar in to carbonation reactor- which is required to facilitate high pressure reaction of CO<sub>2</sub> with Fly Ash- Lime Mix with dish end top mounted agitator/Paddle Mixer</p> <ul style="list-style-type: none"> <li>Geometry: Vertical/Horizontal</li> <li>Dimensions: (i) Inner diameter - 2000 mm, (ii) Cylindrical Shell Length – 4000 mm (exact dimensions shall be finalized at the stage of detailed engineering), (iii) Thickness of shell - 16 mm</li> <li>Design Parameters: (i) Pressure - 18 Bar(g), (ii) Temperature - 210C</li> <li>MOC: ASTM 516 Grade 70</li> </ul>	4 Set

		<ul style="list-style-type: none"> <li>○ Duty: Continuous with gland packing to prevent CO<sub>2</sub> leakage from reactor</li> <li>○ Accessories, valves, safety device and associated instruments all included</li> </ul>	
4.	<b>Intermediate Storage Hoppers with accessories</b>	<ul style="list-style-type: none"> <li>○ Capacity: minimum 7.5 m<sup>3</sup></li> <li>○ MOC: MS/CS</li> </ul>	4 Set
5.	<b>Attrition Mixer</b>	<p>Wet mixing of fly ash &amp; lime Carbonated Mix- which is required to break lump/noodle which would be generated during mixing.</p> <ul style="list-style-type: none"> <li>○ Type of Mixer: (i) Attrition mixer/Roller based Pan mixer for efficient mixing to achieve highest mix quality with attrition principle for mixing the fly ash lime mix thoroughly and consistently</li> <li>○ Useful Volume 1.5 m<sup>3</sup></li> </ul>	4 Set
6.	<b>Box Feeder</b>	<p>Box Feeder shall store the material from attrition mixer &amp; feed the wet mix of fly ash and lime to the 'Hydraulic Brick Press Machine' and shall be complete in all aspects including sensors &amp; instrumentation etc.</p> <ul style="list-style-type: none"> <li>○ Capacity: minimum 7.5 m<sup>3</sup></li> <li>○ MOC: MS/CS</li> </ul>	2 Set
7.	<b>Conveyor System</b>	<p>Conveying System between (i) Mixers (Sun &amp; Planetary, Carbonation &amp; Attrition) and (ii) Mixer to Intermediate Storage Hoppers and Box Feeder:</p> <p>System shall be provided to transfer wet mix of fly ash and lime and shall be automated and complete in all aspects including automated skip charger / Conveyor belt, gearbox, drive, coupling, structure, support structure, spillage protection, sensors &amp; instrumentation etc.</p>	1 Set
8.	<b>Hydraulic Brick Press</b>	<ul style="list-style-type: none"> <li>○ Pressing Capacity: 50 Ton on each brick (on 230x110 mm side)</li> <li>○ Brick Size: 230x110x75 mm (for tender purpose, to be finalized at the stage of detailed engineering)</li> <li>○ Brick Manufacturing Capacity: 2,00,000 Nos/Day (Minimum)</li> <li>○ Control: PLC with industrial HMI/OWS</li> </ul>	2 Set

		<ul style="list-style-type: none"> <li>○ Accessories: The brick press will include associated Hydraulic Power Pack, Press Feed Hopper with level sensors/switches, Brick Mould (AR Carbon Steel), Motorized Press Feeding System with Rotary / Reciprocating Arm Assembly, along with any other accessories complete in all aspects including sensors &amp; instrumentation etc.</li> </ul>	
9.	<b>Automated system for transferring 'Green Bricks' from 'Hydraulic Brick Press' to 'Pre-curing Chamber'</b>	<p>It shall comprise of following mechanized and automated systems:</p> <ul style="list-style-type: none"> <li>○ Automated 'Pallet' Collection System: Required for transferring empty 'pallets' to the 'Hydraulic Brick Press'</li> <li>○ Pallet: (i) MOC – MS/CS, Quantity – 10% over and above required for full load operation. Design of pallets shall be finalised during detailed engineering.</li> <li>○ Automated 'Pressed Green Brick' Unloader</li> <li>○ Chain/link or any other specific design conveyor (at least 1000mm width) for transferring 'Pressed Green Brick' from 'Hydraulic Brick Press' to 'Cubed Green Brick Cage' (where 'Pressed Green Brick' shall be stacked)</li> <li>○ 'Cubed Green Brick Cage': Steel cage / car where 'Pressed Green Brick' shall be stacked in 5/6 layers (to be finalized at the stage of detailed engineering). All mechanized movements shall be automated.</li> <li>○ Automated L.S.P (Lift, Shift &amp; Place) system for transfer of 'Cubed Green Brick Cage' with stack of 'Pressed Green Brick' to 'Pre-curing Chamber'</li> <li>○ Structural Steel, Handrail, Toe Guard: Mild Steel (corrosion resistant paint)</li> <li>○ Rail Track: Hot rolled steel with a grade of 1084 or higher</li> <li>○ Rollers: Alloy Steels with bearings</li> </ul>	1Set
10.	<b>Pre-curing Chamber</b>	<ul style="list-style-type: none"> <li>○ Size &amp; Number: Suitable for curing 2,00,000 bricks/day for 24 hrs,</li> <li>○ Insulation: Hot Insulation with cladding</li> <li>○ Steam Curing System: Utilization of 'Autoclave' waste steam along side pipework, humidity measurement &amp; control system, ductwork,</li> </ul>	1Set