LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (MODEL TOWN PULLI CHOWK SKT # 1)

ENGINEER COST ESTIMATE

SUMMARY OF COST

BILL NO	DESCRIPTION	Amount (Rs.)
1	BILL NO: 1 ROAD WORK	
2	BILL # 02 DRAIN WORK	
3	BILL # 03 OPTICAL FIBER CABLE (OFC)	
4	BILL # 4 INTELLIGENT TRAFFIC SIGNAL INTERSECTION EQUIPMENTS COMPLETE IN ALL RESPECT IN SIALKOT CITY AREA.	
5	BILL # 05 ENVIRONMENTAL MANAGEMENT COST	534,500.00
6	BILL # 06 SHIFTING OF SERVICES SESCO, SNGPL, PTCL etc. (P.S):	1,000,000.00
7	BILL # 07CREDIT OF EXISTING MATERIAL	
	Total amount (RS.)	

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (MODEL TOWN PULLI CHOWK SKT # 1)

BILL OF QUANTITES

(MRS 2nd Bi-Annual 2022) Chap#/Item	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
				In Figure	In Words	
	BILL NO: 1 ROAD WORK					
Ch. # 04 Item # 46	Dismantling and removing road pavement, etc., including screening and stacking of by products upto one chain lead (30 metre). **(With Transportation)**	100Cft	135.00			
Ch. 3 Item 2	Earthwork excavation in ashes, sand and soft soil or silt clearance, undressed lead upto 50 ft (15 metre). **(With Transportation)**	1000 Cft	9.52			
Ch. # 18 Item # 12/(iv)	Cold milling of asphalt layer/concrete surface of specified thickness,loading of debris onto haul trucks via conveyor system and disposal at appropriate place i/c the charges of self propelled milling machine of specified size, dumper, pump, water lorry, compressor and Tungsten Carbide Bits etc complete in all respect as approved by Engineer Incharge **(With Transportation)**	Per Sft	81,272.91			
Ch # 18 Item # 04/(a)	a) Providing and laying **Base Course** of crushed stone aggregate of approved quality and grade, and supply and spreading of stone screening, including placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHO dry density, including carriage of all materials to site of work except gravel and. aggregate	100Cft.	639.28			
Ch # 18 Item # /03 (a)/(ii)	(a) (ii) Providing and laying **Sub-Base Course** of stone product of approved quality and grade, including placing, mixing, spreading and compaction of sub-base material to required depth, camber, grade to achieve 100% maximum modified AASHO dry density, including carriage of all material to site of work except gravel and aggregate.	100Cft.	30.23			
Ch. # 18 Item # 06	Providing and laying **Bituminous Priming Coat**, using 10 lbs. kerosene oil and 10 lbs. binder per 100 Sft. or 0.5 Kg kerosene and 0.5 Kg binder per square metre.	100Sft	812.73			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (MODEL TOWN PULLI CHOWK SKT # 1)

BILL OF QUANTITES

Ch. # 18 Item # 07	Providing and laying **Bituminous Tack Coat**, using 10 lbs. of bitumen per 100 Sft (0.49 Kg of bitumen per sq.m.)	100Sft	812.73			
Ch. # 18 Item # 10/(iii)	Providing and laying plant premixed bituminous carpet, **Base Course** including compaction and finishing to required camber, grade and density. 4% Bitumen (Excluding carriage of crushed stone aggregate/bajri from Kirana Hill Quarry sargodha) . **(3"**	100Sft	812.73			
Ch. # 18 Item # 10/(iv)	Providing and laying plant premixed bituminous carpet, **Wearing Course** including compaction and finishing to required camber, grade and density.4.5% Bitumen (Excluding carriage of crushed stone aggregate/bajri from Kirana Hill Quarry sargodha) .	100Sft	812.73			
Ch. 01 Item #01	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone 16.1aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned	100 Cft	1,209.78			
Ch. # 10 Item # 41/(c)	Providing and laying Tuff pavers, having 7000 PSI ,crushing strength of approved manufacturer, over 2" to 3" sand cushion i /c grouting with sand in joints i/c finishing to require slope. Complete in all respect. **(50% Grey / 50% Coloured)** **c) 80-mm thick**	P.Sft	14,794.93			
Ch. # 06 Item # 52 (b)/(i)	Providing and fixing precast Edge Kerb Stone (4"to 6" thick), of 3500 PSICompressive Strength, embeded in PCC 1:2:4 over lean concrete 1:4:8 etc complete in all respect **b) With Painting** **(ii) 18" high**	Per Rft	6,962.32			
Ch. # 18 Item # 28 A/(iii)	Providing & fixing Cat Eyes of size 4" x 4" x 3/4" duly casted with specified material having plastic strip containing mini retro-reflective glass beads of color white/red/yellow having specifid reflections , quality & shape i/c the cost of self built in 12 mm diax120 mm long steel zinc plated nail,fixing to road with epoxy/ hammering with separate nail complete. **(A) Dual-Directional** **(iii) Micro Cube Corner Spark glow reflectors**	Each	1,226.01			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (MODEL TOWN PULLI CHOWK SKT # 1)

BILL OF QUANTITES

Ch. # 13 Item # 36/(ii)	Painting Traffic Lane Marking of specified width (1.5mm thick), with Thermoplastic (TP) Paint including Glass Beads, complete in all respect, as approved and directed by Engineer incharge **(ii) 6"**	Per Rft	11,034.06			
Ch. # 18 Item # 38 A/(i)	Providing and fixing Full width Gantry comprising of 3 mm thick GI sheet (Z-275) fixed over double front and back truss made with Top & bottom chords of MSangle iron L-100x100x10 mm, webs and struts of L 65x65x8 mm welded with top and bottom truss of webs and struts of 65x65x8 mm duly supported on specified vertical posts of double columns of MS pipe of size 7500x219x8 mm thick duly welded with Base plate of 600x400x50 mm with MS stiffners of 350x150x15 mm thick MS sheet for each column fixed in prelaid RCC footing i/c the cost of polyurethene Paint to MS skeleton but excluding the cost of lettering/printing as approved and directed by the Engineer Incharge a **(i) Two Supports**	P.Sft	150.00			
Ch. # 18 Item # 25/(a/i)	Providing, fabrication and fixing pole mounted Direction Board / road delineator of any shape and size, with pecified Sheet and thickness, supported with G.I Channel, (excluding the cost of vertical post and painting) etc complete in all respect. **(a) RECTANGULAR SHAPE** **(i) 12-48 sft**	P.Sft	200.00			
Ch. # 18 Item # 27/(c)	Providing, fabrication and fixing Vertical Post comprising of medium quality G.I Pipe of specified diameter, including the cost of clamping arrangements, top cover, hold fasts embeded in PCC 1:2:4 etc complete in all respect. **(c) 4 inch diameter**	P.Rft	100.00			
				Total Amount (Rs.)		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (MODEL TOWN PULLI CHOWK SKT # 1)

BILL OF QUANTITES

NSI-08	Providing and laying of Garden Soil 300mm deep complete in all respects and as the daricted by the engineer incharge.	100 Cft	57.10			
				Total Amount (Rs.)		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (MODEL TOWN PULLI CHOWK SKT # 1)

BILL OF QUANTITES

BILL # 02 DRAIN WORK

Ch. # 04 Item # 20	Dismantling cement concrete reinforced, separating reinforcement from concrete,cleaning and straightening the same.	100Cft	6.67			
Ch. # 04 Item #19/(c)	Dismantling cement concrete plain **c) Dismantling cement concrete 1:2:4 plain.**	100Cft.	1.88			
Ch. # 04 Item # 13	Dismantling brick work in lime or cement mortar.	100Cft.	37.50			
Ch. # 04 Item # 19/a	Dismantling in lime or cement mortar. **(a) Cement Concrete Plain 1:4:8**	100Cft.	6.66			
Ch. # 03 Item #10/(i)	Earthwork excavation in irrigation channels, drains, etc. to designed section, grades and profiles, excavated material disposed off and dressed within 50 ft. (15 m) lead:- **(With Transportation)**	1000 Cft	10.65			
Ch. # 03 Item # 27	Extra for slush or Daldal including dewatering.	1000 Cft	2.00			
Ch. 7/30	Supplying and filling Sand	100 Cft	20.00			
Ch. # 06 Item # 05/(i)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(i) Ratio 1: 4: 8**	100Cft	23.21			
Ch. # 06 Item # 05/(h)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(h) Ratio 1: 3: 6**	100Cft	43.16			
Ch. # 07 Item # 04	Pacca brick work in foundation and plinth in:- **(i) Cement, sand mortar:- Ratio 1:3**	100Cft	205.66			
Ch # 11 Item #8/(b)	Cement plaster 1:3 upto 20' (6.00 m) height :- **b) ½" (13 mm) thick**	100 Sft.	174.10			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (MODEL TOWN PULLI CHOWK SKT # 1)

BILL OF QUANTITES

Ch # 06 Item # 06	(a) (i) Rei nf orced cement concret e i n roof sl ab, beams, columns lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects:- **(3) Type C (nominal mix 1: 2: 4)**	Per Cft	4,932.83			
Ch. # 06 Item # 11/(ii)	Fabrication of mild steel reinforcement for cement concrete, including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars): **(ii) Deformed bars (Grade-60)**	100 kg	268.35			
Ch. 01 Item #01	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone 16.1aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (Carriage 200 Km)	100 Cft	105.29			
Ch # 21 Item # 15	Providing and fixing 6"(150mm) thick R.C.C manhole cover 550mm (22") i/c C.I frame weighing 37.324 Kg as per standard drawing STD/PD No. 6 of 1977complete in all respects.	Per Set	20.00			
				Total Amount (Rs.)		

BILL # 4 CREDIT OF EXISTING MATERIAL

1	Recovery against Existing Brick Work	No	20,250.00			
2	Recovery against Existing Steel	Tonne	1.04			
				Total Amount (Rs.)		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (MODEL TOWN PULLI CHOWK SKT # 1)

BILL OF QUANTITES

Sr. No	(MRS 2nd Bi-Annual 2022) Chap#/Item#	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
					In Figure	In Words	
Network connectivity for the ITS Equpiment with site compatibility.							
1	NSI-75	Trench work in Normal/ Hard soil including 40 mm HDPE pipe as per site requirement and engineers incharge satisfaction and as the daricted by the engineer incharge.	Rft	6,000.00			
2	NSI-76	Trench work in Concerete/ Tuff tiles including 40 mm HDPE pipe as per site requirement and engineers incharge satisfaction and as the daricted by the engineer incharge.	Rft	3,000.00			
3	NSI-77	Providing, Laying and splicing of 16F OFC cable as per engineers approval including Joint boxes and splicing trays etc complete in all respect and as the daricted by the engineer incharge.	Rft	6,500.00			
4	NSI-78	Supply, Construction and placement of Handhole/ Out pit including RCC cover (every 150 meter maximum) and as the daricted by the engineer incharge.	Each	20.00			
5	NSI-79	Route Makers of RCC as per requirement and as the daricted by the engineer incharge.	Each	30.00			
						Total Amount (Rs.)	

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (BHED PULLI CHOWK SK # 05)SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (MODEL TOWN PULLI CHOWK SKT # 1)

BILL OF QUANTITES

Sr. No.	(MRS 2nd Bi-Annual 2022) Chap#/Item #	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
					In Figure	In Words	
1	NSI-1	Providing/Installation of Intelligent Urban advanced traffic signal controller (Imported) The max channel is 44 channel driving control (36 channel for vehicle lights, 8 channel for pedestrian lights). GPS time synchronization, traffic actuation, green wave optional, Ethernet/ WIFI connectivity possible, real time vehicle analysis, Pedestrian/ pelican button operation supported, wifi setting, setting via hand held or PC software, Mobile App remote monitoring and time plan setting, Multi-MCU, modular design, compact and reasonable structure, easy to maintain and expand functionality. Output Module with SSR, Night flashing Mode, working voltage: 110VAC/220VAC, with IP-55 powder coated High quality MS sheet Cabinet 16 gauge with Lock & Key arrangements, proper ventilation arrangement complete in all aspects.Impoted) and as directed by the Engineer Incharge	Each	1.00			
2	NSI-2	Supply, Installation of 3 Aspect 300 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 12 - 15 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	3.00			

3	NSI-3	Supply, Installation of 3 Aspect 200 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 8 - 10 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/Sinowatcher/ GE / DIA Light or Equivalent and as directed by the Engineer Incharge	Each	4.00			
4	NSI-4	Supply, Installation of 1 Aspect 300 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green 3 in 1 Arrow modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 10 - 12 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	3.00			
5	NSI-5	Supply, Installation of 2 Aspect Pedestrian Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Green Pedestrian modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 10 - 12 Watt i/c imported polycarbonated housing, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	3.00			
6	NSI-6	Supply, Installation of High Voltage Wired Blind Clock with Pedestrian push button,display symbol:Wait,and print symbol:Red hand,with normally sound,working ,5pcs wires connection with wired output.Volume adjustable voltage:220VAC and as directed by the Engineer Incharge	Each	3.00			
7	NSI-7	Supply, Installation of Intelligent UTC controller compatible Count Down Meter with Digit 199 (2.5 Digit) LED type made of MS Sheet Body, Gasket, hood / visor, set of Mounting / hanging Brackets Complete and as directed by the Engineer Incharge	Each	3.00			

8	NSI-8	Providing and fixing of Single Standard Straight Pole with 10 feet height GI Pipe 4" Dia complete with base plate and stiffener as per standard given i/c paint and as directed by the Engineer Incharge	Each	2.00			
9	NSI-9	Providing and fixing of Single Standard Straight Pole with 15 feet height GI Pipe 4" Dia complete with base plate and stiffener as per standard given i/c paint and as directed by the Engineer Incharge	Each	2.00			
10	NSI-10	Providing and fixing of cantiliver Single Arm, 6m high pole of 5 inch / 3 inch dia GI pipe with Base plate 400 x 400 x 18mm thick with 4 nos 1/2" thickness with pole cap as per drawing given i/c with 4 nos 3/8" stiffners 1 ft long and i/c paint and as directed by the Engineer Incharge	Each	3.00			
11	NSI-11	Providing and fixing of cantiliver Double Arm, 6m high pole of 5 inch / 3 inch dia GI pipe with Base plate 400 x 400 x 18mm thick with 4 nos 1/2" thickness with pole cap as per drawing given i/c with 4 nos 3/8" stiffners 1 ft long and i/c paint and as directed by the Engineer Incharge	Each	6.00			
12	NSI-12	Foundation Making for centiliver pole traffic pole including 1" Dia 4ft long J-Bolts nuts washers inclusive of sundry material like cement, sand, concrete with paint and lab our charges and as directed by the Engineer Incharge	Each	3.00			
13	NSI-13	Foundation Making for standard traffic pole including 3/4" Dia 2.5ft long J-Bolts nuts washers inclusive of Sundaryof sundry material like cement, sand, concrete (PCC) with paint and labour charges and as directed by the Engineer Incharge	Each	2.00			
14	NSI-14	Construction of 2'x2'x2' inner draw pits with PCC cover and as directed by the Engineer Incharge	Each	2.00			
15	NSI-15	Foundation making for controller inclusive of sundry material like cement sand concrete i/c painting and labor charges and as directed by the Engineer Incharge	Each	1.00			
16	NSI-16	Metallic road cut 4" - 6" depth, Providing /laying of PVC Pipe (Polyethlene) without joint 1-1/2" / 2” dia including road cutting and refilling 1:2:4 cement, Crush Stone, sand as per site requirment and as directed by the Engineer Incharge	Per RFT	380.00			

17	NSI-17	Providing , laying testing and commisioning of flexible Multicore PVC insulated sheathed copper conducter cable (New Age , Pakistan cable, Age or Pioneer, Fast Cable) 0.50mm2 1mm2 multicore as per site requirement and as directed by the Engineer Incharge	Per RFT	890.0			
18	NSI-18	Providing earth upto water level with 16mm Dia and one meter long copper rod connected with 8 mm wire as per Requirement and as directed by the Engineer Incharge	Each	1.00			
19	NSI-19	Providing & installation of Pure Sine Wave Power Inverter having Flexible configuration 12 volts with operating temperature 0-55C, overload Protection, LCD Display, Reverse polarity protection by Fuse/ Diode, Output Short Circuit protection, Temperature Protection, Input (Low/ High) Voltage Protection, Input & Output isolated, Multi Stage Charger, Auto Temperature fan, Low Battery Alarm & Shutdown Fast Action, AC Synchronized transfer Switch having board configuration Facility with Maintenance Free Batteries 12 volt; 1110 AH x 2 No. high standard deep cell charging, have a long life maintenance free life span with weather/ Temprature proof, Theft Proof battery storage underground arrangement complete in all respect and as directed by the Engineer Incharge	Each	1.00			
20	NSI-20	Retermination of Complete Intersection including Connetor Strip, Testing and Commsioning the Existing pre laid Cabling as site, includes grouping in junction box as well controller and as directed by the Engineer Incharge	Job	1.00			
					Total Amount (Rs.)		

B Video Based Actuated traffic Signal Equipment. (For Full ITS Functionality)

21	NSI-21	Providing/Installation of 4G router for remote data communication supporting Intelligent Urban advanced traffic signal controllers communication protocols and as directed by the Engineer Incharge	Each	1.00			
22	NSI-22	Providing/Installation of Camera Detector Controller; 4 camera detector signal input; 16 channel optical relay output; 4 error signal; output interface: RS485; operating voltage:12-42VAC complete in all respect and as directed by the Engineer Incharge	Each	1.00			
23	NSI-23	Providing/Installation of IP-56 camera detectors with Max 8 Detection Zones,Vehicle presence + data+ video, Resolution: 640x480 pixels, Aluminum weather proof housing with operating voltage:12-42VAC and as directed by the Engineer Incharge	Each	3.00			
24	NSI-24	Providing/Installation of IP-56 Antennas for Camera wireless operation, 16 channels, working voltage: 24VDC, with POE output to camera detector and as directed by the Engineer Incharge	Each	4.00			
25	NSI-25	Providing/Installation of Video pusher/ Network vedio recorder for data transmission and stoage and as directed by the Engineer Incharge	Each	1.00			
26	NSI-26	Providing/Installation of PGETR Conversion power supply 220VAC to 24VDC. Connect camera to output board then its High voltage contorller can working with low voltage camera detector and as directed by the Engineer Incharge	Each	4.00			
27	NSI-27	Central Control Room Server Software for system surviellance, control and operation. (Per intersection cost) and as directed by the Engineer Incharge	Each	1.00			
					Total Amount (Rs.)		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (CIVIL LINE/ JAIL CHOWK SK # 02)

SUMMARY OF COST

BILL NO	DESCRIPTION	Amount (Rs.)
1	BILL NO: 1 ROAD WORK	
2	BILL # 02 DRAIN WORK	
3	BILL # 03 CENTRAL CONTROL ROOM FACILITY	
4	BILL # 4 INTELLIGENT TRAFFIC SIGNAL INTERSECTION EQUIPMENTS COMPLETE IN ALL RESPECT IN SIALKOT CITY AREA.	
5	BILL # 05 ENVIRONMENTAL MANAGEMENT COST	534,500.00
6	BILL # 06 SHIFTING OF SERVICES SESCO, SNGPL, PTCL etc. (P.S):	1,000,000.00
7	BILL # 07CREDIT OF EXISTING MATERIAL	
	Total amount (RS.)	

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (CIVIL LINE/ JAIL CHOWK SK # 02)

ENGINEER COST ESTIMATE

(MRS 2nd Bi-Annual 2022) Chap#/Item #	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
				In Figure	In Words	
	BILL NO: 1 ROAD WORK					
Ch. # 04 Item # 46	Dismantling and removing road pavement, etc., including screening and stacking of by products upto one chain lead (30 metre). **(With Transportation)**	100Cft	180.00			
Ch. 3 Item 2	Earthwork excavation in ashes, sand and soft soil or silt clearance, undressed lead upto 50 ft (15 metre). **(With Transportation)**	1000 Cft	19.14			
Ch. # 18 Item # 12/(iv)	Cold milling of asphalt layer/concrete surface of specified thickness,loading of debris onto haul trucks via conveyor system and disposal at appropriate place i/c the charges of self propelled milling machine of specified size, dumper, pump, water lorry, compressor and Tungsten Carbide Bits etc complete in all respect as approved by Engineer Incharge **(With Transportation)** **(iv) 0 ~ 4" thick**	Per Sft	119,348.85			
Ch # 18 Item # 04/(a)	a) Providing and laying **Base Course** of crushed stone aggregate of approved quality and grade, and supply and spreading of stone screening, including placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHO dry density, including carriage of all materials to site of work except gravel and. aggregate	100Cft.	551.74			
Ch. # 18 Item # 06	Providing and laying **Bituminous Priming Coat**, using 10 lbs. kerosene oil and 10 lbs. binder per 100 Sft. or 0.5 Kg kerosene and 0.5 Kg binder per square metre.	100Sft	1,193.49			
Ch. # 18 Item # 07	Providing and laying **Bituminous Tack Coat**, using 10 lbs. of bitumen per 100 Sft (0.49 Kg of bitumen per sq.m.)	100Sft	1,193.49			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (CIVIL LINE/ JAIL CHOWK SK # 02)

ENGINEER COST ESTIMATE

Ch. # 18 Item # 10/(iii)	Providing and laying plant premixed bituminous carpet, **Base Course** including compaction and finishing to required camber, grade and density. 4% Bitumen (Excluding carriage of crushed stone aggregate/bajri from Kirana Hill Quarry sargodha) . **(3" Thickness)**	100Sft	1,193.49				
Ch. # 18 Item # 10/(iv)	Providing and laying plant premixed bituminous carpet, **Wearing Course** including compaction and finishing to required camber, grade and density.4.5% Bitumen (Excluding carriage of crushed stone aggregate/bajri from Kirana Hill Quarry sargodha) . **(2"Thickness)**	100Sft	1,193.49				
Ch. 01 Item #01	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone 16.1aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor.	100 Cft	454.50				
Ch. # 10 Item # 41/(c)	Providing and laying Tuff pavers, having 7000 PSI ,crushing strength of approved manufacturer, over 2" to 3" sand cushion i /c grouting with sand in joints i/c finishing to require slope. Complete in all respect. **(50% Grey / 50% Coloured)** **c) 80-mm thick**	P.Sft	29,063.40				
Ch. # 06 Item # 52 (b)/(i)	Providing and fixing precast Edge Kerb Stone (4"to 6" thick), of 3500 PSICompressive Strength, embeded in PCC 1:2:4 over lean concrete 1:4:8 etc complete in all respect **b) With Painting** **(ii) 18" high**	Per Rft	9,852.00				
Ch. # 18 Item # 28 A/(iii)	Providing & fixing Cat Eyes of size 4" x 4" x 3/4" duly casted with specified material having plastic strip containing mini retro-reflective glass beads of color white/red/yellow having specifid reflections , quality & shape i/c the cost of self built in 12 mm diax120 mm long steel zinc plated nail,fixing to road with epoxy/ hammering with separate nail complete. **(A) Dual-Directional** **(iii) Micro Cube Corner Spark glow reflectors**	Each	1,642.00				

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (CIVIL LINE/ JAIL CHOWK SK # 02)

ENGINEER COST ESTIMATE

Ch. # 13 Item # 36/(ii)	Painting Traffic Lane Marking of specified width (1.5mm thick), with Thermoplastic (TP) Paint including Glass Beads, complete in all respect, as approved and directed by Engineer incharge **(ii) 6"**	Per Rft	11,886.00			
Ch. # 18 Item # 38 A/(i)	Providing and fixing Full width Gantry comprising of 3 mm thick GI sheet (Z-275) fixed over double front and back truss made with Top & bottom chords of MSangle iron L-100x100x10 mm, webs and struts of L 65x65x8 mm welded with top and bottom truss of webs and struts of 65x65x8 mm duly supported on specified vertical posts of double columns of MS pipe of size 7500x219x8 mm thick duly welded with Base plate of 600x400x50 mm with MS stiffners of 350x150x15 mm thick MS sheet for each column fixed in prelaid RCC footing i/c the cost of polyurethene Paint to MS skeleton but excluding the cost of lettering/printing as approved and directed by the Engineer Incharge a **(i) Two Supports**	P.Sft	150.00			
Ch. # 18 Item # 25/(a/i)	Providing, fabrication and fixing pole mounted Direction Board / road delineator of any shape and size, with pecified Sheet and thickness, supported with G.I Channel, (excluding the cost of vertical post and painting) etc complete in all respect. **(a) RECTANGULAR SHAPE** **(i) 12-48 sft**	P.Sft	200.00			
Ch. # 18 Item # 27/(c)	Providing, fabrication and fixing Vertical Post comprising of medium quality G.I Pipe of specified diameter, including the cost of clamping arrangements, top cover, hold fasts embeded in PCC 1:2:4 etc complete in all respect. **(c) 4 inch diameter**	P.Rft	100.00			
				Total Amount (Rs.)		
NSI-08	Providing and laying of Garden Soil 300mm deep complete in all respects	100 Cft	80.79			
				Total Amount (Rs.)		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (CIVIL LINE/ JAIL CHOWK SK # 02)

ENGINEER COST ESTIMATE

BILL # 02 DRAIN WORK

Ch. # 04 Item # 20	Dismantling cement concrete reinforced, separating reinforcement from concrete,cleaning and straightening the same.	100Cft	6.67			
Ch. # 04 Item #19/(c)	Dismantling cement concrete plain **c) Dismantling cement concrete 1:2:4 plain.**	100Cft.	1.88			
Ch. # 04 Item # 13	Dismantling brick work in lime or cement mortar.	100Cft.	37.50			
Ch. # 04 Item # 19/a	Dismantling in lime or cement mortar. **(a) Cement Concrete Plain 1:4:8**	100Cft.	6.66			
Ch. # 03 Item #10/(i)	Earthwork excavation in irrigation channels, drains, etc. to designed section, grades and profiles, excavated material disposed off and dressed within 50 ft. (15 m) lead:- **(With Transportation)** **i) Ordinary**	1000 Cft	18.77			
Ch. # 03 Item # 27	Extra for slush or Daldal including dewatering.	1000 Cft	2.00			
Ch. 7/30	Supplying and filling Sand	100 Cft	20.00			
Ch. # 06 Item # 05/(i)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(i) Ratio 1: 4: 8**	100Cft	32.84			
Ch. # 06 Item # 05/(h)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(h) Ratio 1: 3: 6**	100Cft	61.06			
Ch. # 07 Item # 04	Pacca brick work in foundation and plinth in:- **(i) Cement, sand mortar:- Ratio 1:3**	100Cft	290.94			
Ch # 11 Item #8/(b)	Cement plaster 1:3 upto 20' (6.00 m) height :- **b) ½" (13 mm) thick**	100 Sft.	246.30			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (CIVIL LINE/ JAIL CHOWK SK # 02)

ENGINEER COST ESTIMATE

Ch # 06 Item # 06	(a) (i) Rei nf orced cement concret e i n roof sl ab, beams, columns lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects:- **(3) Type C (nominal mix 1: 2: 4)**	Per Cft	6,978.50			
Ch. # 06 Item # 11/(ii)	Fabrication of mild steel reinforcement for cement concrete, ncluding cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars): **(ii) Deformed bars (Grade-60)**	100 kg	379.63			
Ch. 01 Item #01	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone 16.1aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (Carriage 200 Km)	100 Cft	148.95			
Ch # 21 Item # 15	Providing and fixing 6"(150mm) thick R.C.C manhole cover 550mm (22") i/c C.I frame weighing 37.324 Kg as per standard drawing STD/PD No. 6 of 1977complete in all respects.	Per Set	20.00			
				Total Amount (Rs.)		
BILL # 4 CREDIT OF EXISTING MATERIAL						
1	Recovery against Existing Brick Work	No	20,250.00			
2	Recovery against Existing Steel	Tonne	1.04			
				Total Amount (Rs.)		

Subject: Establishment/ Installation of Central control room for Intelligent Traffic Signal complete in all respect for Sialkot City

S.NO	(MRS 2nd Bi-Annual 2022) Chap#/Item	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
					In Figure	In Words	
A	**CENTRAL CONTROL ROOM FACILITY**						
	Central Control Room shall be established for System Display& Control, Video Surveillance, Configuration, diagnostics, , Monitoring and Management of all Traffic Signals.						
1	NSI-58	55'' Video Wall monitor Original 3.5mm bezel,1920x1080 and as the directed by the engineer incharge and as directed by the Engineer Incharge	Each	6			
2	NSI-59	HDMI Matrix / Splitter and as directed by the Engineer Incharge	Each	1			
3	NSI-60	Bracket wall mount for video wall screens as per standard and as directed by the Engineer Incharge	Each	6			
4	NSI-61	Complete Accessories English Manual,IR Controller, DVI/HDMI cable,power cable,RJ45 cable, IR receiver,remote controller,HDMI/DVI cable, USB-RS232 converter, RS232 to RJ45 converter and as directed by the Engineer Incharge	Each	1			
5	NSI-62	Video wall software and as directed by the Engineer Incharge	Each	1			
6	NSI-63	Supply and installation of keyboard, mouse, Dual core. Harddisk: 500G, RAM:8G, OS: Windows, with all accessories with Electronic cash drawer or Manual Toll ticket printer as per requirement and as directed by the Engineer Incharge	Each	4			
7	NSI-64	Controll room furniture complete in all respect as per international standards and as directed by the Engineer Incharge	Each	1			
8	NSI-65	Supply and installation of UPS 5KVA; Online, UPS 5000VA, 230V Rackmount/Tower and as directed by the Engineer Incharge	Each	2			
9	NSI-66	Supply and installation of Data Server rack complete in all aspects and as the daricted by the engineer incharge and as directed by the Engineer Incharge	Each	2			
10	NSI-67	Switch / Hub to connect all the cable and networking of complete toll plaza and for connectivity with central control centre and as directed by the Engineer Incharge	Each	1			

11	NSI-68	Installation and commisioning of complete system as per standard including engineering and designing cost and as directed by the Engineer Incharge	Each	1			
12	NSI-69	Supply and installation of 4.0 MP Bullet/ Fixed type network / IP camera and as directed by the Engineer Incharge	Each	6			
13	NSI-70	Supply and installation of 2.0 MP PTZ network / IP camera and as directed by the Engineer Incharge	Per RFT	2			
14	NSI-71	Cabling, industrial power supply and installation of CCTV cameras as per site requirement and as directed by the Engineer Incharge	Per RFT	1			
15	NSI-72	Supply and installation of 8 Channel NVR for network Cameras with 10 days video back-up and as directed by the Engineer Incharge	Each	1			
16	NSI-73	Industrial Grade computer server with all necessary components and storages as per standard system installation and as directed by the Engineer Incharge	Each	1			
17	NSI-74	Providing and Installation of Air conditionor 1.5 Ton DC Inverter Heeat & Cool including indoor & outdoor fittings as per approved manufacture complete in all respects and as directed by the Engineer Incharge	Each	3			
18	NSI-75	One Year Operation and Maintenance including 4G Connection Cost for 1 Years and as directed by the Engineer Incharge	Each	12			
					Total Amount (Rs.)		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (CIVIL LINE/ JAIL CHOWK SK # 02)

BILL OF QUANTITES

Sr. No.	(MRS 2nd Bi-Annual 2022) Chap#/Item #	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
					In Figure	In Words	
1	NSI-1	Providing/Installation of Intelligent Urban advanced traffic signal controller (Imported) The max channel is 44 channel driving control (36 channel for vehicle lights, 8 channel for pedestrian lights). GPS time synchronization, traffic actuation, green wave optional, Ethernet/ WIFI connectivity possible, real time vehicle analysis, Pedestrian/ pelican button operation supported, wifi setting, setting via hand held or PC software, Mobile App remote monitoring and time plan setting, Multi-MCU, modular design, compact and reasonable structure, easy to maintain and expand functionality. Output Module with SSR, Night flashing Mode, working voltage: 110VAC/220VAC, with IP-55 powder coated High quality MS sheet Cabinet 16 gauge with Lock & Key arrangements, proper ventilation arrangement complete in all aspects.Impoted) and as directed by the Engineer Incharge	Each	1.00			
2	NSI-2	Supply, Installation of 3 Aspect 300 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 12 - 15 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	8.00			

3	NSI-3	Supply, Installation of 3 Aspect 200 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 8 - 10 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/Sinowatcher/ GE / DIA Light or Equivalent and as directed by the Engineer Incharge	Each	4.00			
4	NSI-4	Supply, Installation of 1 Aspect 300 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green 3 in 1 Arrow modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 10 - 12 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	8.00			
5	NSI-5	Supply, Installation of 2 Aspect Pedestrian Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Green Pedestrian modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 10 - 12 Watt i/c imported polycarbonated housing, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	7.00			
6	NSI-6	Supply, Installation of High Voltage Wired Blind Clock with Pedestrian push button,display symbol:Wait,and print symbol:Red hand,with normally sound,working ,5pcs wires connection with wired output.Volume adjustable voltage:220VAC and as directed by the Engineer Incharge	Each	7.00			
7	NSI-7	Supply, Installation of Intelligent UTC controller compatible Count Down Meter with Digit 199 (2.5 Digit) LED type made of MS Sheet Body, Gasket, hood / visor, set of Mounting / hanging Brackets Complete and as directed by the Engineer Incharge	Each	4.00			

8	NSI-8	Providing and fixing of Single Standard Straight Pole with 10 feet height GI Pipe 4" Dia complete with base plate and stiffener as per standard given i/c paint and as directed by the Engineer Incharge	Each	6.00			
9	NSI-9	Providing and fixing of Single Standard Straight Pole with 15 feet height GI Pipe 4" Dia complete with base plate and stiffener as per standard given i/c paint and as directed by the Engineer Incharge	Each	1.00			
10	NSI-10	Providing and fixing of cantiliver Single Arm, 6m high pole of 5 inch / 3 inch dia GI pipe with Base plate 400 x 400 x 18mm thick with 4 nos 1/2" thickness with pole cap as per drawing given i/c with 4 nos 3/8" stiffners 1 ft long and i/c paint and as directed by the Engineer Incharge	Each	4.00			
11	NSI-11	Providing and fixing of cantiliver Double Arm, 6m high pole of 5 inch / 3 inch dia GI pipe with Base plate 400 x 400 x 18mm thick with 4 nos 1/2" thickness with pole cap as per drawing given i/c with 4 nos 3/8" stiffners 1 ft long and i/c paint and as directed by the Engineer Incharge	Each	2.00			
12	NSI-12	Foundation Making for centiliver pole traffic pole including 1" Dia 4ft long J-Bolts nuts washers inclusive of sundry material like cement, sand, concrete with paint and lab our charges and as directed by the Engineer Incharge	Each	4.00			
13	NSI-13	Foundation Making for standard traffic pole including 3/4" Dia 2.5ft long J-Bolts nuts washers inclusive of Sundaryof sundry material like cement, sand, concrete (PCC) with paint and labour charges and as directed by the Engineer Incharge	Each	1.00			
14	NSI-14	Construction of 2'x2'x2' inner draw pits with PCC cover and as directed by the Engineer Incharge	Each	2.00			
15	NSI-15	Foundation making for controller inclusive of sundry material like cement sand concrete i/c painting and labor charges and as directed by the Engineer Incharge	Each	1.00			
16	NSI-16	Metallic road cut 4" - 6" depth, Providing /laying of PVC Pipe (Polyethlene) without joint 1-1/2" / 2” dia including road cutting and refilling 1:2:4 cement, Crush Stone, sand as per site requirment and as directed by the Engineer Incharge	Per RFT	478.00			

17	NSI-17	Providing , laying testing and commisioning of flexible Multicore PVC insulated sheathed copper conducter cable (New Age , Pakistan cable, Age or Pioneer, Fast Cable) 0.50mm2 1mm2 multicore as per site requirement and as directed by the Engineer Incharge	Per RFT	980.00			
18	NSI-18	Providing earth upto water level with 16mm Dia and one meter long copper rod connected with 8 mm wire as per Requirement and as directed by the Engineer Incharge	Each	1.00			
19	NSI-19	Providing & installation of Pure Sine Wave Power Inverter having Flexible configuration 12 volts with operating temperature 0-55C, overload Protection, LCD Display, Reverse polarity protection by Fuse/ Diode, Output Short Circuit protection, Temperature Protection, Input (Low/ High) Voltage Protection, Input & Output isolated, Multi Stage Charger, Auto Temperature fan, Low Battery Alarm & Shutdown Fast Action, AC Synchronized transfer Switch having board configuration Facility with Maintenance Free Batteries 12 volt; 1110 AH x 2 No. high standard deep cell charging, have a long life maintenance free life span with weather/ Temprature proof, Theft Proof battery storage underground arrangement complete in all respect and as directed by the Engineer Incharge	Each	1.00			
20	NSI-20	Retermination of Complete Intersection including Connetor Strip, Testing and Commsioning the Existing pre laid Cabling as site, includes grouping in junction box as well controller and as directed by the Engineer Incharge	Job	1.00			
Total Amount (Rs.)							

B Video Based Actuated traffic Signal Equipment. (For Full ITS Functionality)

21	NSI-21	Providing/Installation of 4G router for remote data communication supporting Intelligent Urban advanced traffic signal controllers communication protocols and as directed by the Engineer Incharge	Each	1.00			
22	NSI-22	Providing/Installation of Camera Detector Controller; 4 camera detector signal input; 16 channel optical relay output; 4 error signal; output interface: RS485; operating voltage:12-42VAC complete in all respect and as directed by the Engineer Incharge	Each	1.00			
23	NSI-23	Providing/Installation of IP-56 camera detectors with Max 8 Detection Zones,Vehicle presence + data+ video, Resolution: 640x480 pixels, Aluminum weather proof housing with operating voltage:12-42VAC and as directed by the Engineer Incharge	Each	4.00			
24	NSI-24	Providing/Installation of IP-56 Antennas for Camera wireless operation, 16 channels, working voltage: 24VDC, with POE output to camera detector and as directed by the Engineer Incharge	Each	5.00			
25	NSI-25	Providing/Installation of Video pusher/ Network vedio recorder for data transmission and stoage and as directed by the Engineer Incharge	Each	1.00			
26	NSI-26	Providing/Installation of PGETR Conversion power supply 220VAC to 24VDC. Connect camera to output board then its High voltage contorller can working with low voltage camera detector and as directed by the Engineer Incharge	Each	5.00			
27	NSI-27	Central Control Room Server Software for system surviellance, control and operation. (Per intersection cost) and as directed by the Engineer Incharge	Each	1.00			
Total Amount (Rs.)							

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (12 PATHAR/ LARI ADDA CHOWK SK #03)

SUMMARY OF BILLS

BILL NO	DESCRIPTION	TOTAL COST (RS)
1	BILL NO: 1 ROAD WORK	
2	BILL # 02 DRAIN WORK	
3	BILL # 03 OPTICAL FIBER CABLE (OFC)	
4	BILL # 4 INTELLIGENT TRAFFIC SIGNAL INTERSECTION EQUIPMENTS COMPLETE IN ALL RESPECT IN SIALKOT CITY AREA.	
5	BILL # 05 ENVIRONMENTAL MANAGEMENT COST	534,500.00
6	BILL # 06 SHIFTING OF SERVICES SESCO, SNGPL, PTCL etc. (P.S):	1,000,000.00
7	BILL # 07 CREDIT OF EXISTING MATERIAL	
	TOTAL AMOUNT (RS.)	

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (12 PATHAR/ LARI ADDA CHOWK SK #03)

BILL OF QUANTITES

(MRS 2nd Bi-Annual 2022) Chap#/Item	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
				In Figure	In Words	
BILL NO: 1 ROAD WORK						
Ch. # 04 Item # 46	Dismantling and removing road pavement, etc., including screening and stacking of by products upto one chain lead (30 metre). **(With Transportation)**	100Cft	90.00			
Ch. 3 Item 2	Earthwork excavation in ashes, sand and soft soil or silt clearance, undressed lead upto 50 ft (15 metre). **(With Transportation)**	1000 Cft	29.18			
Ch. # 18 Item # 12/(iv)	Cold milling of asphalt layer/concrete surface of specified thickness,loading of debris onto haul trucks via conveyor system and disposal at appropriate place i/c the charges of self propelled milling machine of specified size, dumper, pump, water lorry, compressor and Tungsten Carbide Bits etc complete in all respect as approved by Engineer Incharge **(With Transportation)**	Per Sft	95,690.00			
Ch # 18 Item # 04/(a)	a) Providing and laying **Base Course** of crushed stone aggregate of approved quality and grade, and supply and spreading of stone screening, including placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHO dry density, including carriage of all materials to site of work except gravel and. aggregate	100Cft.	242.01			
Ch. # 18 Item # 06	Providing and laying **Bituminous Priming Coat**, using 10 lbs. kerosene oil and 10 lbs. binder per 100 Sft. or 0.5 Kg kerosene and 0.5 Kg binder per square metre.	100Sft	956.90			
Ch. # 18 Item # 07	Providing and laying **Bituminous Tack Coat**, using 10 lbs. of bitumen per 100 Sft (0.49 Kg of bitumen per sq.m.)	100Sft	956.90			
Ch. # 18 Item # 10/(iii)	Providing and laying plant premixed bituminous carpet, **Base Course** including compaction and finishing to required camber, grade and density. 4% Bitumen (Excluding carriage of crushed stone aggregate/bajri from Kirana Hill Quarry sargodha) . **(3"**	100Sft	956.90			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (12 PATHAR/ LARI ADDA CHOWK SK #03)

BILL OF QUANTITES

Ch. # 18 Item # 10/(iv)	Providing and laying plant premixed bituminous carpet, **Wearing Course** including compaction and finishing to required camber, grade and density.4.5% Bitumen (Excluding carriage of crushed stone aggregate/bajri from Kirana Hill Quarry sargodha) .	100Sft	956.90			
Ch. 01 Item #01	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone 16.1aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned	100 Cft	478.45			
Ch. # 10 Item # 41/(c)	Providing and laying Tuff pavers, having 7000 PSI ,crushing strength of approved manufacturer, over 2" to 3" sand cushion i /c grouting with sand in joints i/c finishing to require slope. Complete in all respect. **(50% Grey / 50% Coloured)** **c) 80-mm thick**	P.Sft	12,490.30			
Ch. # 06 Item # 52 (b)/(i)	Providing and fixing precast Edge Kerb Stone (4"to 6" thick), of 3500 PSICompressive Strength, embeded in PCC 1:2:4 over lean concrete 1:4:8 etc complete in all respect **b) With Painting** **(ii) 18" high**	Per Rft	6,368.00			
Ch. # 18 Item # 28 A/(iii)	Providing & fixing Cat Eyes of size 4" x 4" x 3/4" duly casted with specified material having plastic strip containing mini retro-reflective glass beads of color white/red/yellow having specifid reflections , quality & shape i/c the cost of self built in 12 mm diax120 mm long steel zinc plated nail,fixing to road with epoxy/ hammering with separate nail complete. **(A) Dual-Directional** **(iii) Micro Cube Corner Spark glow reflectors**	Each	1,417.00			
Ch. # 13 Item # 36/(ii)	Painting Traffic Lane Marking of specified width (1.5mm thick), with Thermoplastic (TP) Paint including Glass Beads, complete in all respect, as approved and directed by Engineer incharge **(ii) 6"**	Per Rft	12,753.00			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (12 PATHAR/ LARI ADDA CHOWK SK #03)

BILL OF QUANTITES

Ch. # 18 Item # 38 A/(i)	Providing and fixing Full width Gantry comprising of 3 mm thick GI sheet (Z-275) fixed over double front and back truss made with Top & bottom chords of MSangle iron L-100x100x10 mm, webs and struts of L 65x65x8 mm welded with top and bottom truss of webs and struts of 65x65x8 mm duly supported on specified vertical posts of double columns of MS pipe of size 7500x219x8 mm thick duly welded with Base plate of 600x400x50 mm with MS stiffners of 350x150x15 mm thick MS sheet for each column fixed in prelaid RCC footing i/c the cost of polyurethene Paint to MS skeleton but excluding the cost of lettering/printing as approved and directed by the Engineer Incharge a **(i) Two Supports**	P.Sft	150.00			
Ch. # 18 Item # 25/(a/i)	Providing, fabrication and fixing pole mounted Direction Board / road delineator of any shape and size, with pecified Sheet and thickness, supported with G.I Channel, (excluding the cost of vertical post and painting) etc complete in all respect. **(a) RECTANGULAR SHAPE** **(i) 12-48 sft**	P.Sft	200.00			
Ch. # 18 Item # 27/(c)	Providing, fabrication and fixing Vertical Post comprising of medium quality G.I Pipe of specified diameter, including the cost of clamping arrangements, top cover, hold fasts embeded in PCC 1:2:4 etc complete in all respect. **(c) 4 inch diameter**	P.Rft	100.00			
				Total		
NSI-08	Providing and laying of Garden Soil 300mm deep complete in all respects	Cft	22.97			
				Total		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (12 PATHAR/ LARI ADDA CHOWK SK #03)

BILL OF QUANTITES

BILL # 02 DRAIN WORK

Ch. # 04 Item # 20	Dismantling cement concrete reinforced, separating reinforcement from concrete,cleaning and straightening the same.	100Cft	6.67			
Ch. # 04 Item #19/(c)	Dismantling cement concrete plain **c) Dismantling cement concrete 1:2:4 plain.**	100Cft.	1.88			
Ch. # 04 Item # 13	Dismantling brick work in lime or cement mortar.	100Cft.	37.50			
Ch. # 04 Item # 19/a	Dismantling in lime or cement mortar. **(a) Cement Concrete Plain 1:4:8**	100Cft.	6.66			
Ch. # 03 Item #10/(i)	Earthwork excavation in irrigation channels, drains, etc. to designed section, grades and profiles, excavated material disposed off and dressed within 50 ft. (15 m) lead:- **(With Transportation)**	1000 Cft	8.97			
Ch. # 03 Item # 27	Extra for slush or Daldal including dewatering.	1000 Cft	2.00			
Ch. 7/30	Supplying and filling Sand	100 Cft	20.00			
Ch. # 06 Item # 05/(i)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(i) Ratio 1: 4: 8**	100Cft	21.23			
Ch. # 06 Item # 05/(h)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(h) Ratio 1: 3: 6**	100Cft	39.47			
Ch. # 07 Item # 04	Pacca brick work in foundation and plinth in:- **(i) Cement, sand mortar:- Ratio 1:3**	100Cft	188.06			
Ch # 11 Item #8/(b)	Cement plaster 1:3 upto 20' (6.00 m) height :- **b) ½" (13 mm) thick**	100 Sft.	159.20			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (12 PATHAR/ LARI ADDA CHOWK SK #03)

BILL OF QUANTITES

Ch # 06 Item # 06	(a) (i) Rei nf orced cement concret e i n roof sl ab, beams, columns lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects:- **(3) Type C (nominal mix 1: 2: 4)**	Per Cft	4,510.67			
Ch. # 06 Item # 11/(ii)	Fabrication of mild steel reinforcement for cement concrete, including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars): **(ii) Deformed bars (Grade-60)**	100 kg	245.38			
Ch. 01 Item #01	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone 16.1aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (Carriage 200 Km)	100 Cft	96.28			
Ch # 21 Item # 15	Providing and fixing 6"(150mm) thick R.C.C manhole cover 550mm (22") i/c C.I frame weighing 37.324 Kg as per standard drawing STD/PD No. 6 of 1977complete in all respects.	Per Set	20.00			
				Total		

BILL # 4 CREDIT OF EXISTING MATERIAL

1	Recovery against Existing Brick Work	No	20,250.00			
2	Recovery against Existing Steel	Tonne	1.04			
				Total:		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (12 PATHAR/ LARI ADDA CHOWK SK #03)

BILL OF QUANTITES

Sr. No.	(MRS 2nd Bi-Annual 2022) Chap#/Item #	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
					In Figure	In Words	
1	NSI-1	Providing/Installation of Intelligent Urban advanced traffic signal controller (Imported) The max channel is 44 channel driving control (36 channel for vehicle lights, 8 channel for pedestrian lights). GPS time synchronization, traffic actuation, green wave optional, Ethernet/ WIFI connectivity possible, real time vehicle analysis, Pedestrian/ pelican button operation supported, wifi setting, setting via hand held or PC software, Mobile App remote monitoring and time plan setting, Multi-MCU, modular design, compact and reasonable structure, easy to maintain and expand functionality. Output Module with SSR, Night flashing Mode, working voltage: 110VAC/220VAC, with IP-55 powder coated High quality MS sheet Cabinet 16 gauge with Lock & Key arrangements, proper ventilation arrangement complete in all aspects.Impoted) and as directed by the Engineer Incharge	Each	1.00			
2	NSI-2	Supply, Installation of 3 Aspect 300 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 12 - 15 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	4.00			

3	NSI-3	Supply, Installation of 3 Aspect 200 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 8 - 10 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/Sinowatcher/ GE / DIA Light or Equivalent and as directed by the Engineer Incharge	Each	5.00			
4	NSI-4	Supply, Installation of 1 Aspect 300 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green 3 in 1 Arrow modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 10 - 12 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	4.00			
5	NSI-5	Supply, Installation of 2 Aspect Pedestrian Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Green Pedestrian modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 10 - 12 Watt i/c imported polycarbonated housing, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	4.00			
6	NSI-6	Supply, Installation of High Voltage Wired Blind Clock with Pedestrian push button,display symbol:Wait,and print symbol:Red hand,with normally sound,working ,5pcs wires connection with wired output.Volume adjustable voltage:220VAC and as directed by the Engineer Incharge	Each	4.00			
7	NSI-7	Supply, Installation of Intelligent UTC controller compatible Count Down Meter with Digit 199 (2.5 Digit) LED type made of MS Sheet Body, Gasket, hood / visor, set of Mounting / hanging Brackets Complete and as directed by the Engineer Incharge	Each	3.00			

8	NSI-8	Providing and fixing of Single Standard Straight Pole with 10 feet height GI Pipe 4" Dia complete with base plate and stiffener as per standard given i/c paint and as directed by the Engineer Incharge	Each	3.00			
9	NSI-9	Providing and fixing of Single Standard Straight Pole with 15 feet height GI Pipe 4" Dia complete with base plate and stiffener as per standard given i/c paint and as directed by the Engineer Incharge	Each	1.00			
10	NSI-10	Providing and fixing of cantiliver Single Arm, 6m high pole of 5 inch / 3 inch dia GI pipe with Base plate 400 x 400 x 18mm thick with 4 nos 1/2" thickness with pole cap as per drawing given i/c with 4 nos 3/8" stiffners 1 ft long and i/c paint and as directed by the Engineer Incharge	Each	3.00			
11	NSI-11	Providing and fixing of cantiliver Double Arm, 6m high pole of 5 inch / 3 inch dia GI pipe with Base plate 400 x 400 x 18mm thick with 4 nos 1/2" thickness with pole cap as per drawing given i/c with 4 nos 3/8" stiffners 1 ft long and i/c paint and as directed by the Engineer Incharge	Each	6.00			
12	NSI-12	Foundation Making for centiliver pole traffic pole including 1" Dia 4ft long J-Bolts nuts washers inclusive of sundry material like cement, sand, concrete with paint and lab our charges and as directed by the Engineer Incharge	Each	3.00			
13	NSI-13	Foundation Making for standard traffic pole including 3/4" Dia 2.5ft long J-Bolts nuts washers inclusive of Sundaryof sundry material like cement, sand, concrete (PCC) with paint and labour charges and as directed by the Engineer Incharge	Each	1.00			
14	NSI-14	Construction of 2'x2'x2' inner draw pits with PCC cover and as directed by the Engineer Incharge	Each	2.00			
15	NSI-15	Foundation making for controller inclusive of sundry material like cement sand concrete i/c painting and labor charges and as directed by the Engineer Incharge	Each	1.00			
16	NSI-16	Metallic road cut 4" - 6" depth, Providing /laying of PVC Pipe (Polyethlene) without joint 1-1/2" / 2" dia including road cutting and refilling 1:2:4 cement, Crush Stone, sand as per site requirment and as directed by the Engineer Incharge	Per RFT	340.00			

17	NSI-17	Providing , laying testing and commisioning of flexible Multicore PVC insulated sheathed copper conducter cable (New Age , Pakistan cable, Age or Pioneer, Fast Cable) 0.50mm2 - 1mm2 multicore as per site requirement and as directed by the Engineer Incharge	Per RFT	880.00			
18	NSI-18	Providing earth upto water level with 16mm Dia and one meter long copper rod connected with 8 mm wire as per Requirement and as directed by the Engineer Incharge	Each	1.00			
19	NSI-19	Providing & installation of Pure Sine Wave Power Inverter having Flexible configuration 12 volts with operating temperature 0-55C, overload Protection, LCD Display, Reverse polarity protection by Fuse/ Diode, Output Short Circuit protection, Temperature Protection, Input (Low/ High) Voltage Protection, Input & Output isolated, Multi Stage Charger, Auto Temperature fan, Low Battery Alarm & Shutdown Fast Action, AC Synchronized transfer Switch having board configuration Facility with Maintenance Free Batteries 12 volt; 1110 AH x 2 No. high standard deep cell charging, have a long life maintenance free life span with weather/ Temprature proof, Theft Proof battery storage underground arrangement complete in all respect and as directed by the Engineer Incharge	Each	1.00			
20	NSI-20	Retermination of Complete Intersection including Connetor Strip, Testing and Commsioning the Existing pre laid Cabling as site, includes grouping in junction box as well controller and as directed by the Engineer Incharge	Job	1.00			
Total Amount (Rs.)							

B Video Based Actuated traffic Signal Equipment. (For Full ITS Functionality)

21	NSI-21	Providing/Installation of 4G router for remote data communication supporting Intelligent Urban advanced traffic signal controllers communication protocols and as directed by the Engineer Incharge	Each	1.00			
22	NSI-22	Providing/Installation of Camera Detector Controller; 4 camera detector signal input; 16 channel optical relay output; 4 error signal; output interface: RS485; operating voltage:12-42VAC complete in all respect and as directed by the Engineer Incharge	Each	1.00			
23	NSI-23	Providing/Installation of IP-56 camera detectors with Max 8 Detection Zones,Vehicle presence + data+ video, Resolution: 640x480 pixels, Aluminum weather proof housing with operating voltage:12-42VAC and as directed by the Engineer Incharge	Each	3.00			
24	NSI-24	Providing/Installation of IP-56 Antennas for Camera wireless operation, 16 channels, working voltage: 24VDC, with POE output to camera detector and as directed by the Engineer Incharge	Each	4.00			
25	NSI-25	Providing/Installation of Video pusher/ Network vedio recorder for data transmission and stoage and as directed by the Engineer Incharge	Each	1.00			
26	NSI-26	Providing/Installation of PGETR Conversion power supply 220VAC to 24VDC. Connect camera to output board then its High voltage contorller can working with low voltage camera detector and as directed by the Engineer Incharge	Each	4.00			
27	NSI-27	Central Control Room Server Software for system surviellance, control and operation. (Per intersection cost) and as directed by the Engineer Incharge	Each	1.00			
Total Amount (Rs.)							

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (GODHPURA CHOWK SK #04)

SUMMARY OF COST

BILL NO	DESCRIPTION	Amount (Rs.)
1	BILL NO: 1 ROAD WORK	
2	BILL # 02 DRAIN WORK	
3	BILL # 03 OPTICAL FIBER CABLE (OFC)	
4	BILL # 4 INTELLIGENT TRAFFIC SIGNAL INTERSECTION EQUIPMENTS COMPLETE IN ALL RESPECT IN SIALKOT CITY AREA.	
5	BILL # 05 ENVIRONMENTAL MANAGEMENT COST	534,500.00
6	BILL # 06 SHIFTING OF SERVICES SESCO, SNGPL, PTCL etc. (P.S):	1,000,000.00
7	BILL # 07CREDIT OF EXISTING MATERIAL	
	Total amount (RS.)	

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (GODHPURA CHOWK SK #04)

ENGINEER COST ESTIMATE

(MRS 2nd Bi-Annual 2022) Chap#/Item	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
				In Figure	In Words	
	BILL NO: 1 ROAD WORK					
Ch. # 04 Item # 46	Dismantling and removing road pavement, etc., including screening and stacking of by products upto one chain lead (30 metre). **(With Transportation)**	100Cft	180.00			
Ch. 3 Item 2	Earthwork excavation in ashes, sand and soft soil or silt clearance, undressed lead upto 50 ft (15 metre). **(With Transportation)**	1000 Cft	40.84			
Ch. # 18 Item # 12/(iv)	Cold milling of asphalt layer/concrete surface of specified thickness,loading of debris onto haul trucks via conveyor system and disposal at appropriate place i/c the charges of self propelled milling machine of specified size, dumper, pump, water lorry, compressor and Tungsten Carbide Bits etc complete in all respect as approved by Engineer Incharge **(With Transportation)** **(iv) 0 ~ 4" thick**	Per Sft	131,400.00			
Ch # 18 Item # 04/(a)	a) Providing and laying **Base Course** of crushed stone aggregate of approved quality and grade, and supply and spreading of stone screening, including placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHO dry density, including carriage of all materials to site of work except gravel and. aggregate	100Cft.	92.97			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (GODHPURA CHOWK SK #04)

ENGINEER COST ESTIMATE

Ch. # 18 Item # 06	Providing and laying **Bituminous Priming Coat**, using 10 lbs. kerosene oil and 10 lbs. binder per 100 Sft. or 0.5 Kg kerosene and 0.5 Kg binder per square metre.	100Sft	1,314.00			
Ch. # 18 Item # 07	Providing and laying **Bituminous Tack Coat**, using 10 lbs. of bitumen per 100 Sft (0.49 Kg of bitumen per sq.m.)	100Sft	1,314.00			
Ch. # 18 Item # 10/(iii)	Providing and laying plant premixed bituminous carpet, **Base Course** including compaction and finishing to required camber, grade and density. 4% Bitumen (Excluding carriage of crushed stone aggregate/bajri from Kirana Hill Quarry sargodha) . **(3" Thickness)**	100Sft	1,314.00			
Ch. # 18 Item # 10/(iv)	Providing and laying plant premixed bituminous carpet, **Wearing Course** including compaction and finishing to required camber, grade and density.4.5% Bitumen (Excluding carriage of crushed stone aggregate/bajri from Kirana Hill Quarry sargodha) . **(2"Thickness)**	100Sft	1,314.00			
Ch. 01 Item #01	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone 16.1aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor.	100 Cft	657.00			
Ch. # 10 Item # 41/(c)	Providing and laying Tuff pavers, having 7000 PSI ,crushing strength of approved manufacturer, over 2" to 3" sand cushion i /c grouting with sand in joints i/c finishing to require slope. Complete in all respect. **(50% Grey / 50% Coloured)** **c) 80-mm thick**	P.Sft	31,010.40			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (GODHPURA CHOWK SK #04)

ENGINEER COST ESTIMATE

Ch. # 06 Item # 52 (b)/(i)	Providing and fixing precast Edge Kerb Stone (4"to 6" thick), of 3500 PSICompressive Strength, embeded in PCC 1:2:4 over lean concrete 1:4:8 etc complete in all respect **b) With Painting** **(ii) 18" high**	Per Rft	10,512.00			
Ch. # 18 Item # 28 A/(iii)	Providing & fixing Cat Eyes of size 4" x 4" x 3/4" duly casted with specified material having plastic strip containing mini retro-reflective glass beads of color white/red/yellow having specifid reflections , quality & shape i/c the cost of self built in 12 mm diax120 mm long steel zinc plated nail,fixing to road with epoxy/ hammering with separate nail complete. **(A) Dual-Directional** **(iii) Micro Cube Corner Spark glow reflectors**	Each	1,898.00			
Ch. # 13 Item # 36/(ii)	Painting Traffic Lane Marking of specified width (1.5mm thick), with Thermoplastic (TP) Paint including Glass Beads, complete in all respect, as approved and directed by Engineer incharge **(ii) 6"**	Per Rft	18,396.00			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (GODHPURA CHOWK SK #04)

ENGINEER COST ESTIMATE

Ch. # 18 Item # 38 A/(i)	Providing and fixing Full width Gantry comprising of 3 mm thick GI sheet (Z-275) fixed over double front and back truss made with Top & bottom chords of MSangle iron L-100x100x10 mm, webs and struts of L 65x65x8 mm welded with top and bottom truss of webs and struts of 65x65x8 mm duly supported on specified vertical posts of double columns of MS pipe of size 7500x219x8 mm thick duly welded with Base plate of 600x400x50 mm with MS stiffners of 350x150x15 mm thick MS sheet for each column fixed in prelaid RCC footing i/c the cost of polyurethene Paint to MS skeleton but excluding the cost of lettering/printing as approved and directed by the Engineer Incharge a **(i) Two Supports**	P.Sft	150.00			
Ch. # 18 Item # 25/(a/i)	Providing, fabrication and fixing pole mounted Direction Board / road delineator of any shape and size, with pecified Sheet and thickness, supported with G.I Channel, (excluding the cost of vertical post and painting) etc complete in all respect. **(a) RECTANGULAR SHAPE** **(i) 12-48 sft**	P.Sft	200.00			
Ch. # 18 Item # 27/(c)	Providing, fabrication and fixing Vertical Post comprising of medium quality G.I Pipe of specified diameter, including the cost of clamping arrangements, top cover, hold fasts embeded in PCC 1:2:4 etc complete in all respect. **(c) 4 inch diameter**	P.Rft	100.00			
				Total Amount (Rs.)		
NSI-08	Providing and laying of Garden Soil 300mm deep complete in all respects	Cft	87.90			
				Total Amount (Rs.)		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (GODHPURA CHOWK SK #04)

ENGINEER COST ESTIMATE

BILL # 02 DRAIN WORK

Ch. # 04 Item # 20	Dismantling cement concrete reinforced, separating reinforcement from concrete,cleaning and straightening the same.	100Cft	6.67			
Ch. # 04 Item #19/(c)	Dismantling cement concrete plain **c) Dismantling cement concrete 1:2:4 plain.**	100Cft.	1.88			
Ch. # 04 Item # 13	Dismantling brick work in lime or cement mortar.	100Cft.	37.50			
Ch. # 04 Item # 19/a	Dismantling in lime or cement mortar. **(a) Cement Concrete Plain 1:4:8**	100Cft.	6.66			
Ch. # 03 Item #10/(i)	Earthwork excavation in irrigation channels, drains, etc. to designed section, grades and profiles, excavated material disposed off and dressed within 50 ft. (15 m) lead:- **(With Transportation)** **i) Ordinary**	1000 Cft	20.63			
Ch. # 03 Item # 27	Extra for slush or Daldal including dewatering.	1000 Cft	2.00			
Ch. 7/30	Supplying and filling Sand	100 Cft	20.00			
Ch. # 06 Item # 05/(i)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(i) Ratio 1: 4: 8**	100Cft	35.04			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (GODHPURA CHOWK SK #04)

ENGINEER COST ESTIMATE

Ch. # 06 Item # 05/(h)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(h) Ratio 1: 3: 6**	100Cft	65.15			
Ch. # 07 Item # 04	Pacca brick work in foundation and plinth in:- **(i) Cement, sand mortar:- Ratio 1:3**	100Cft	310.43			
Ch # 11 Item #8/(b)	Cement plaster 1:3 upto 20' (6.00 m) height :- **b) ½" (13 mm) thick**	100 Sft.	262.80			
Ch # 06 Item # 06	(a) (i) Rei nf orced cement concret e i n roof sl ab, beams, columns lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects:- **(3) Type C (nominal mix 1: 2: 4)**	Per Cft	7,446.00			
Ch. # 06 Item # 11/(ii)	Fabrication of mild steel reinforcement for cement concrete, including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars): **(ii) Deformed bars (Grade-60)**	100 kg	405.06			
Ch. 01 Item #01	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone 16.1aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (Carriage 200 Km)	100 Cft	158.93			
Ch # 21 Item # 15	Providing and fixing 6"(150mm) thick R.C.C manhole cover 550mm (22") i/c C.I frame weighing 37.324 Kg as per standard drawing STD/PD No. 6 of 1977complete in all respects.	Per Set	20.00			
				Total Amount (Rs.)		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (GODHPURA CHOWK SK #04)

ENGINEER COST ESTIMATE

BILL # 4 CREDIT OF EXISTING MATERIAL

1	Recovery against Existing Brick Work	No	20,250.00			
2	Recovery against Existing Steel	Tonne	1.04			
				Total Amount (Rs.)		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (GODHPURA CHOWK SK #04)

BILL OF QUANTITES

Sr. No.	(MRS 2nd Bi-Annual 2022) Chap#/Item #	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
					In Figure	In Words	
1	NSI-1	Providing/Installation of Intelligent Urban advanced traffic signal controller (Imported) The max channel is 44 channel driving control (36 channel for vehicle lights, 8 channel for pedestrian lights). GPS time synchronization, traffic actuation, green wave optional, Ethernet/ WIFI connectivity possible, real time vehicle analysis, Pedestrian/ pelican button operation supported, wifi setting, setting via hand held or PC software, Mobile App remote monitoring and time plan setting, Multi-MCU, modular design, compact and reasonable structure, easy to maintain and expand functionality. Output Module with SSR, Night flashing Mode, working voltage: 110VAC/220VAC, with IP-55 powder coated High quality MS sheet Cabinet 16 gauge with Lock & Key arrangements, proper ventilation arrangement complete in all aspects.Impoted) and as directed by the Engineer Incharge	Each	1.00			
2	NSI-2	Supply, Installation of 3 Aspect 300 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 12 - 15 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	8.00			

3	NSI-3	Supply, Installation of 3 Aspect 200 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 8 - 10 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/Sinowatcher/ GE / DIA Light or Equivalent and as directed by the Engineer Incharge	Each	5.00			
4	NSI-4	Supply, Installation of 1 Aspect 300 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green 3 in 1 Arrow modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 10 - 12 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	8.00			
5	NSI-5	Supply, Installation of 2 Aspect Pedestrian Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Green Pedestrian modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 10 - 12 Watt i/c imported polycarbonated housing, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	8.00			
6	NSI-6	Supply, Installation of High Voltage Wired Blind Clock with Pedestrian push button,display symbol:Wait,and print symbol:Red hand,with normally sound,working ,5pcs wires connection with wired output.Volume adjustable voltage:220VAC and as directed by the Engineer Incharge	Each	8.00			
7	NSI-7	Supply, Installation of Intelligent UTC controller compatible Count Down Meter with Digit 199 (2.5 Digit) LED type made of MS Sheet Body, Gasket, hood / visor, set of Mounting / hanging Brackets Complete and as directed by the Engineer Incharge	Each	5.00			

8	NSI-8	Providing and fixing of Single Standard Straight Pole with 10 feet height GI Pipe 4" Dia complete with base plate and stiffener as per standard given i/c paint and as directed by the Engineer Incharge	Each	5.00			
9	NSI-9	Providing and fixing of Single Standard Straight Pole with 15 feet height GI Pipe 4" Dia complete with base plate and stiffener as per standard given i/c paint and as directed by the Engineer Incharge	Each	1.00			
10	NSI-10	Providing and fixing of cantiliver Single Arm, 6m high pole of 5 inch / 3 inch dia GI pipe with Base plate 400 x 400 x 18mm thick with 4 nos 1/2" thickness with pole cap as per drawing given i/c with 4 nos 3/8" stiffners 1 ft long and i/c paint and as directed by the Engineer Incharge	Each	4.00			
11	NSI-11	Providing and fixing of cantiliver Double Arm, 6m high pole of 5 inch / 3 inch dia GI pipe with Base plate 400 x 400 x 18mm thick with 4 nos 1/2" thickness with pole cap as per drawing given i/c with 4 nos 3/8" stiffners 1 ft long and i/c paint and as directed by the Engineer Incharge	Each	8.00			
12	NSI-12	Foundation Making for centiliver pole traffic pole including 1" Dia 4ft long J-Bolts nuts washers inclusive of sundry material like cement, sand, concrete with paint and lab our charges and as directed by the Engineer Incharge	Each	4.00			
13	NSI-13	Foundation Making for standard traffic pole including 3/4" Dia 2.5ft long J-Bolts nuts washers inclusive of Sundaryof sundry material like cement, sand, concrete (PCC) with paint and labour charges and as directed by the Engineer Incharge	Each	1.00			
14	NSI-14	Construction of 2'x2'x2' inner draw pits with PCC cover and as directed by the Engineer Incharge	Each	3.00			
15	NSI-15	Foundation making for controller inclusive of sundry material like cement sand concrete i/c painting and labor charges and as directed by the Engineer Incharge	Each	1.00			
16	NSI-16	Metallic road cut 4" - 6" depth, Providing /laying of PVC Pipe (Polyethlene) without joint 1-1/2" / 2” dia including road cutting and refilling 1:2:4 cement, Crush Stone, sand as per site requirment and as directed by the Engineer Incharge	Per RFT	670.00			

17	NSI-17	Providing , laying testing and commisioning of flexible Multicore PVC insulated sheathed copper conducter cable (New Age , Pakistan cable, Age or Pioneer, Fast Cable) 0.50mm2 1mm2 multicore as per site requirement and as directed by the Engineer Incharge	Per RFT	1,290.00			
18	NSI-18	Providing earth upto water level with 16mm Dia and one meter long copper rod connected with 8 mm wire as per Requirement and as directed by the Engineer Incharge	Each	1.00			
19	NSI-19	Providing & installation of Pure Sine Wave Power Inverter having Flexible configuration 12 volts with operating temperature 0-55C, overload Protection, LCD Display, Reverse polarity protection by Fuse/ Diode, Output Short Circuit protection, Temperature Protection, Input (Low/ High) Voltage Protection, Input & Output isolated, Multi Stage Charger, Auto Temperature fan, Low Battery Alarm & Shutdown Fast Action, AC Synchronized transfer Switch having board configuration Facility with Maintenance Free Batteries 12 volt; 1110 AH x 2 No. high standard deep cell charging, have a long life maintenance free life span with weather/ Temprature proof, Theft Proof battery storage underground arrangement complete in all respect and as directed by the Engineer Incharge	Each	1.00			
20	NSI-20	Retermination of Complete Intersection including Connetor Strip, Testing and Commsioning the Existing pre laid Cabling as site, includes grouping in junction box as well controller and as directed by the Engineer Incharge	Job	1.00			
Total Amount (Rs.)							

B Video Based Actuated traffic Signal Equipment. (For Full ITS Functionality)

21	NSI-21	Providing/Installation of 4G router for remote data communication supporting Intelligent Urban advanced traffic signal controllers communication protocols and as directed by the Engineer Incharge	Each	1.00			
22	NSI-22	Providing/Installation of Camera Detector Controller; 4 camera detector signal input; 16 channel optical relay output; 4 error signal; output interface: RS485; operating voltage:12-42VAC complete in all respect and as directed by the Engineer Incharge	Each	1.00			
23	NSI-23	Providing/Installation of IP-56 camera detectors with Max 8 Detection Zones,Vehicle presence + data+ video, Resolution: 640x480 pixels, Aluminum weather proof housing with operating voltage:12-42VAC and as directed by the Engineer Incharge	Each	4.00			
24	NSI-24	Providing/Installation of IP-56 Antennas for Camera wireless operation, 16 channels, working voltage: 24VDC, with POE output to camera detector and as directed by the Engineer Incharge	Each	5.00			
25	NSI-25	Providing/Installation of Video pusher/ Network vedio recorder for data transmission and stoage and as directed by the Engineer Incharge	Each	1.00			
26	NSI-26	Providing/Installation of PGETR Conversion power supply 220VAC to 24VDC. Connect camera to output board then its High voltage contorller can working with low voltage camera detector and as directed by the Engineer Incharge	Each	5.00			
27	NSI-27	Central Control Room Server Software for system surviellance, control and operation. (Per intersection cost) and as directed by the Engineer Incharge	Each	1.00			
Total Amount (Rs.)							

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (BHED PULLI CHOWK SK # 05)

ENGINEER COST ESTIMATE

SUMMARY OF COST

BILL NO	DESCRIPTION	Amount (Rs.)
1	BILL NO: 1 ROAD WORK	
2	BILL # 02 DRAIN WORK	
3	BILL # 03 OPTICAL FIBER CABLE (OFC)	
4	BILL # 4 INTELLIGENT TRAFFIC SIGNAL INTERSECTION EQUIPMENTS COMPLETE IN ALL RESPECT IN SIALKOT CITY AREA.	
5	BILL # 05 ENVIRONMENTAL MANAGEMENT COST	534,500.00
6	BILL # 06 SHIFTING OF SERVICES SESCO, SNGPL, PTCL etc. (P.S):	1,000,000.00
7	BILL # 07CREDIT OF EXISTING MATERIAL	
	Total amount (RS.)	

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (BHED PULLI CHOWK SK # 05)

ENGINEER COST ESTIMATE

(MRS 2nd Bi-Annual 2022) Chap#/Item	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
				In Figure	In Words	
	BILL NO: 1 ROAD WORK					
Ch. # 04 Item # 46	Dismantling and removing road pavement, etc., including screening and stacking of by products upto one chain lead (30 metre). **(With Transportation)**	100Cft	180.00			
Ch. 3 Item 2	Earthwork excavation in ashes, sand and soft soil or silt clearance, undressed lead upto 50 ft (15 metre). **(With Transportation)**	1000 Cft	71.83			
Ch. # 18 Item # 12/(iv)	Cold milling of asphalt layer/concrete surface of specified thickness,loading of debris onto haul trucks via conveyor system and disposal at appropriate place i/c the charges of self propelled milling machine of specified size, dumper, pump, water lorry, compressor and Tungsten Carbide Bits etc complete in all respect as approved by Engineer Incharge **(With Transportation)** **(iv) 0 ~ 4" thick**	Per Sft	110,670.00			
Ch # 18 Item # 04/(a)	a) Providing and laying **Base Course** of crushed stone aggregate of approved quality and grade, and supply and spreading of stone screening, including placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHO dry density, including carriage of all materials to site of work except gravel and. aggregate	100Cft.	68.78			
Ch. # 18 Item # 06	Providing and laying **Bituminous Priming Coat**, using 10 lbs. kerosene oil and 10 lbs. binder per 100 Sft. or 0.5 Kg kerosene and 0.5 Kg binder per square metre.	100Sft	1,106.70			
Ch. # 18 Item # 07	Providing and laying **Bituminous Tack Coat**, using 10 lbs. of bitumen per 100 Sft (0.49 Kg of bitumen per sq.m.)	100Sft	1,106.70			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (BHED PULLI CHOWK SK # 05)

ENGINEER COST ESTIMATE

Ch. # 18 Item # 10/(iii)	Providing and laying plant premixed bituminous carpet, **Base Course** including compaction and finishing to required camber, grade and density. 4% Bitumen (Excluding carriage of crushed stone aggregate/bajri from Kirana Hill Quarry sargodha) . **(3" Thickness)**	100Sft	1,106.70			
Ch. # 18 Item # 10/(iv)	Providing and laying plant premixed bituminous carpet, **Wearing Course** including compaction and finishing to required camber, grade and density.4.5% Bitumen (Excluding carriage of crushed stone aggregate/bajri from Kirana Hill Quarry sargodha) . **(2"Thickness)**	100Sft	1,106.70			
Ch. 01 Item #01	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone 16.1aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor.	100 Cft	553.35			
Ch. # 10 Item # 41/(c)	Providing and laying Tuff pavers, having 7000 PSI ,crushing strength of approved manufacturer, over 2" to 3" sand cushion i /c grouting with sand in joints i/c finishing to require slope. Complete in all respect. **(50% Grey / 50% Coloured)** **c) 80-mm thick**	P.Sft	38,689.82			
Ch. # 06 Item # 52 (b)/(i)	Providing and fixing precast Edge Kerb Stone (4"to 6" thick), of 3500 PSICompressive Strength, embeded in PCC 1:2:4 over lean concrete 1:4:8 etc complete in all respect **b) With Painting** **(ii) 18" high**	Per Rft	8,648.00			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (BHED PULLI CHOWK SK # 05)

ENGINEER COST ESTIMATE

Ch. # 18 Item # 28 A/(iii)	Providing & fixing Cat Eyes of size 4" x 4" x 3/4" duly casted with specified material having plastic strip containing mini retro-reflective glass beads of color white/red/yellow having specifid reflections , quality & shape i/c the cost of self built in 12 mm diax120 mm long steel zinc plated nail,fixing to road with epoxy/ hammering with separate nail complete. **(A) Dual-Directional (iii) Micro Cube Corner Spark glow reflectors**	Each	1,644.44				
Ch. # 13 Item # 36/(ii)	Painting Traffic Lane Marking of specified width (1.5mm thick), with Thermoplastic (TP) Paint including Glass Beads, complete in all respect, as approved and directed by Engineer incharge **(ii) 6"**	Per Rft	14,800.00				
Ch. # 18 Item # 38 A/(i)	Providing and fixing Full width Gantry comprising of 3 mm thick GI sheet (Z-275) fixed over double front and back truss made with Top & bottom chords of MSangle iron L-100x100x10 mm, webs and struts of L 65x65x8 mm welded with top and bottom truss of webs and struts of 65x65x8 mm duly supported on specified vertical posts of double columns of MS pipe of size 7500x219x8 mm thick duly welded with Base plate of 600x400x50 mm with MS stiffners of 350x150x15 mm thick MS sheet for each column fixed in prelaid RCC footing i/c the cost of polyurethene Paint to MS skeleton but excluding the cost of lettering/printing as approved and directed by the Engineer Incharge a **(i) Two Supports**	P.Sft	150.00				
Ch. # 18 Item # 25/(a/i)	Providing, fabrication and fixing pole mounted Direction Board / road delineator of any shape and size, with pecified Sheet and thickness, supported with G.I Channel, (excluding the cost of vertical post and painting) etc complete in all respect. **(a) RECTANGULAR SHAPE (i) 12-48 sft**	P.Sft	200.00				

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (BHED PULLI CHOWK SK # 05)

ENGINEER COST ESTIMATE

Ch. # 18 Item # 27/(c)	Providing, fabrication and fixing Vertical Post comprising of medium quality G.I Pipe of specified diameter, including the cost of clamping arrangements, top cover, hold fasts embeded in PCC 1:2:4 etc complete in all respect. **(c) 4 inch diameter**	P.Rft	100.00			
				Total Amount (Rs.)		
NSI-08	Providing and laying of Garden Soil 300mm deep complete in all respects	Cft	70.91			
				Total Amount (Rs.)		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (BHED PULLI CHOWK SK # 05)

ENGINEER COST ESTIMATE

BILL # 02 DRAIN WORK

Ch. # 04 Item # 20	Dismantling cement concrete reinforced, separating reinforcement from concrete,cleaning and straightening the same.	100Cft	6.67			
Ch. # 04 Item #19/(c)	Dismantling cement concrete plain **c) Dismantling cement concrete 1:2:4 plain.**	100Cft.	1.88			
Ch. # 04 Item # 13	Dismantling brick work in lime or cement mortar.	100Cft.	37.50			
Ch. # 04 Item # 19/a	Dismantling in lime or cement mortar. **(a) Cement Concrete Plain 1:4:8**	100Cft.	6.66			
Ch. # 03 Item #10/(i)	Earthwork excavation in irrigation channels, drains, etc. to designed section, grades and profiles, excavated material disposed off and dressed within 50 ft. (15 m) lead:- **(With Transportation)** **i) Ordinary**	1000 Cft	15.39			
Ch. # 03 Item # 27	Extra for slush or Daldal including dewatering.	1000 Cft	2.00			
Ch. 7/30	Supplying and filling Sand	100 Cft	20.00			
Ch. # 06 Item # 05/(i)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(i) Ratio 1: 4: 8**	100Cft	28.83			
Ch. # 06 Item # 05/(h)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(h) Ratio 1: 3: 6**	100Cft	53.60			
Ch. # 07 Item # 04	Pacca brick work in foundation and plinth in:- **(i) Cement, sand mortar:- Ratio 1:3**	100Cft	255.39			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (BHED PULLI CHOWK SK # 05)

ENGINEER COST ESTIMATE

Ch # 11 Item #8/(b)	Cement plaster 1:3 upto 20' (6.00 m) height :- **b) ½" (13 mm) thick**	100 Sft.	216.20			
Ch # 06 Item # 06	(a) (i) Rei nf orced cement concret e i n roof sl ab, beams, columns lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects:- **(3) Type C (nominal mix 1: 2: 4)**	Per Cft	6,125.67			
Ch. # 06 Item # 11/(ii)	Fabrication of mild steel reinforcement for cement concrete, including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars): **(ii) Deformed bars (Grade-60)**	100 kg	333.24			
Ch. 01 Item #01	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone 16.1aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (Carriage 200 Km)	100 Cft	130.75			
Ch # 21 Item # 15	Providing and fixing 6"(150mm) thick R.C.C manhole cover 550mm (22") i/c C.I frame weighing 37.324 Kg as per standard drawing STD/PD No. 6 of 1977complete in all respects.	Per Set	20.00			
				Total Amount (Rs.)		

BILL # 4 CREDIT OF EXISTING MATERIAL

1	Recovery against Existing Brick Work	No	20,250.00			
2	Recovery against Existing Steel	Tonne	1.04			
				Total Amount (Rs.)		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (BHED PULLI CHOWK SK # 05)

BILL OF QUANTITES

Sr. No.	(MRS 2nd Bi-Annual 2022) Chap#/Item #	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
					In Figure	In Words	
1	NSI-1	Providing/Installation of Intelligent Urban advanced traffic signal controller (Imported) The max channel is 44 channel driving control (36 channel for vehicle lights, 8 channel for pedestrian lights). GPS time synchronization, traffic actuation, green wave optional, Ethernet/ WIFI connectivity possible, real time vehicle analysis, Pedestrian/ pelican button operation supported, wifi setting, setting via hand held or PC software, Mobile App remote monitoring and time plan setting, Multi-MCU, modular design, compact and reasonable structure, easy to maintain and expand functionality. Output Module with SSR, Night flashing Mode, working voltage: 110VAC/220VAC, with IP-55 powder coated High quality MS sheet Cabinet 16 gauge with Lock & Key arrangements, proper ventilation arrangement complete in all aspects.Impoted) and as directed by the Engineer Incharge	Each	1.00			
2	NSI-2	Supply, Installation of 3 Aspect 300 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 12 - 15 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	8.00			

3	NSI-3	Supply, Installation of 3 Aspect 200 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 8 - 10 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/Sinowatcher/ GE / DIA Light or Equivalent and as directed by the Engineer Incharge	Each	5.00			
4	NSI-4	Supply, Installation of 1 Aspect 300 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green 3 in 1 Arrow modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 10 - 12 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	8.00			
5	NSI-5	Supply, Installation of 2 Aspect Pedestrian Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Green Pedestrian modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 10 - 12 Watt i/c imported polycarbonated housing, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	4.00			
6	NSI-6	Supply, Installation of High Voltage Wired Blind Clock with Pedestrian push button,display symbol:Wait,and print symbol:Red hand,with normally sound,working ,5pcs wires connection with wired output.Volume adjustable voltage:220VAC and as directed by the Engineer Incharge	Each	4.00			
7	NSI-7	Supply, Installation of Intelligent UTC controller compatible Count Down Meter with Digit 199 (2.5 Digit) LED type made of MS Sheet Body, Gasket, hood / visor, set of Mounting / hanging Brackets Complete and as directed by the Engineer Incharge	Each	4.00			

8	NSI-8	Providing and fixing of Single Standard Straight Pole with 10 feet height GI Pipe 4" Dia complete with base plate and stiffener as per standard given i/c paint and as directed by the Engineer Incharge	Each	4.00			
9	NSI-9	Providing and fixing of Single Standard Straight Pole with 15 feet height GI Pipe 4" Dia complete with base plate and stiffener as per standard given i/c paint and as directed by the Engineer Incharge	Each	1.00			
10	NSI-10	Providing and fixing of cantiliver Single Arm, 6m high pole of 5 inch / 3 inch dia GI pipe with Base plate 400 x 400 x 18mm thick with 4 nos 1/2" thickness with pole cap as per drawing given i/c with 4 nos 3/8" stiffners 1 ft long and i/c paint and as directed by the Engineer Incharge	Each	4.00			
11	NSI-11	Providing and fixing of cantiliver Double Arm, 6m high pole of 5 inch / 3 inch dia GI pipe with Base plate 400 x 400 x 18mm thick with 4 nos 1/2" thickness with pole cap as per drawing given i/c with 4 nos 3/8" stiffners 1 ft long and i/c paint and as directed by the Engineer Incharge	Each	8.00			
12	NSI-12	Foundation Making for centiliver pole traffic pole including 1" Dia 4ft long J-Bolts nuts washers inclusive of sundry material like cement, sand, concrete with paint and lab our charges and as directed by the Engineer Incharge	Each	4.00			
13	NSI-13	Foundation Making for standard traffic pole including 3/4" Dia 2.5ft long J-Bolts nuts washers inclusive of Sundaryof sundry material like cement, sand, concrete (PCC) with paint and labour charges and as directed by the Engineer Incharge	Each	1.00			
14	NSI-14	Construction of 2'x2'x2' inner draw pits with PCC cover and as directed by the Engineer Incharge	Each	2.00			
15	NSI-15	Foundation making for controller inclusive of sundry material like cement sand concrete i/c painting and labor charges and as directed by the Engineer Incharge	Each	1.00			
16	NSI-16	Metallic road cut 4" - 6" depth, Providing /laying of PVC Pipe (Polyethlene) without joint 1-1/2" / 2” dia including road cutting and refilling 1:2:4 cement, Crush Stone, sand as per site requirment and as directed by the Engineer Incharge	Per RFT	530.00			

17	NSI-17	Providing , laying testing and commisioning of flexible Multicore PVC insulated sheathed copper conducter cable (New Age , Pakistan cable, Age or Pioneer, Fast Cable) 0.50mm2 1mm2 multicore as per site requirement and as directed by the Engineer Incharge	Per RFT	1,080.0			
18	NSI-18	Providing earth upto water level with 16mm Dia and one meter long copper rod connected with 8 mm wire as per Requirement and as directed by the Engineer Incharge	Each	1.00			
19	NSI-19	Providing & installation of Pure Sine Wave Power Inverter having Flexible configuration 12 volts with operating temperature 0-55C, overload Protection, LCD Display, Reverse polarity protection by Fuse/ Diode, Output Short Circuit protection, Temperature Protection, Input (Low/ High) Voltage Protection, Input & Output isolated, Multi Stage Charger, Auto Temperature fan, Low Battery Alarm & Shutdown Fast Action, AC Synchronized transfer Switch having board configuration Facility with Maintenance Free Batteries 12 volt; 1110 AH x 2 No. high standard deep cell charging, have a long life maintenance free life span with weather/ Temprature proof, Theft Proof battery storage underground arrangement complete in all respect and as directed by the Engineer Incharge	Each	1.00			
20	NSI-20	Retermination of Complete Intersection including Connetor Strip, Testing and Commsioning the Existing pre laid Cabling as site, includes grouping in junction box as well controller and as directed by the Engineer Incharge	Job	1.00			
					Total Amount (Rs.)		

B Video Based Actuated traffic Signal Equipment. (For Full ITS Functionality)

21	NSI-21	Providing/Installation of 4G router for remote data communication supporting Intelligent Urban advanced traffic signal controllers communication protocols and as directed by the Engineer Incharge	Each	1.00			
22	NSI-22	Providing/Installation of Camera Detector Controller; 4 camera detector signal input; 16 channel optical relay output; 4 error signal; output interface: RS485; operating voltage:12-42VAC complete in all respect and as directed by the Engineer Incharge	Each	1.00			
23	NSI-23	Providing/Installation of IP-56 camera detectors with Max 8 Detection Zones,Vehicle presence + data+ video, Resolution: 640x480 pixels, Aluminum weather proof housing with operating voltage:12-42VAC and as directed by the Engineer Incharge	Each	4.00			
24	NSI-24	Providing/Installation of IP-56 Antennas for Camera wireless operation, 16 channels, working voltage: 24VDC, with POE output to camera detector and as directed by the Engineer Incharge	Each	5.00			
25	NSI-25	Providing/Installation of Video pusher/ Network vedio recorder for data transmission and stoage and as directed by the Engineer Incharge	Each	1.00			
26	NSI-26	Providing/Installation of PGETR Conversion power supply 220VAC to 24VDC. Connect camera to output board then its High voltage contorller can working with low voltage camera detector and as directed by the Engineer Incharge	Each	5.00			
27	NSI-27	Central Control Room Server Software for system surviellance, control and operation. (Per intersection cost) and as directed by the Engineer Incharge	Each	1.00			
					Total Amount (Rs.)		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (RANGPURA CHOWK SK # 06)

SUMMARY OF COST

BILL NO	DESCRIPTION	Amount (Rs.)
1	BILL NO: 1 ROAD WORK	
2	BILL # 02 DRAIN WORK	
3	BILL # 03 OPTICAL FIBER CABLE (OFC)	
4	BILL # 4 INTELLIGENT TRAFFIC SIGNAL INTERSECTION EQUIPMENTS COMPLETE IN ALL RESPECT IN SIALKOT CITY AREA.	
5	BILL # 05 ENVIRONMENTAL MANAGEMENT COST	534,500.00
6	BILL # 06 SHIFTING OF SERVICES SESCO, SNGPL, PTCL etc. (P.S):	1,000,000.00
7	BILL # 07CREDIT OF EXISTING MATERIAL	
	Total amount (RS.)	

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (RANGPURA CHOWK SK # 06)

ENGINEER COST ESTIMATE

(MRS 2nd Bi-Annual 2022) Chap#/Item	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
				In Figure	In Words	
	BILL NO: 1 ROAD WORK					
Ch. # 04 Item # 46	Dismantling and removing road pavement, etc., including screening and stacking of by products upto one chain lead (30 metre). **(With Transportation)**	100Cft	135.00			
Ch. 3 Item 2	Earthwork excavation in ashes, sand and soft soil or silt clearance, undressed lead upto 50 ft (15 metre). **(With Transportation)**	1000 Cft	18.30			
Ch. # 18 Item # 12/(iv)	Cold milling of asphalt layer/concrete surface of specified thickness,loading of debris onto haul trucks via conveyor system and disposal at appropriate place i/c the charges of self propelled milling machine of specified size, dumper, pump, water lorry, compressor and Tungsten Carbide Bits etc complete in all respect as approved by Engineer Incharge **(With Transportation)** **(iv) 0 ~ 4" thick**	Per Sft	74,880.00			
Ch # 18 Item # 04/(a)	a) Providing and laying **Base Course** of crushed stone aggregate of approved quality and grade, and supply and spreading of stone screening, including placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHO dry density, including carriage of all materials to site of work except gravel and. aggregate	100Cft.	33.71			
Ch. # 18 Item # 06	Providing and laying **Bituminous Priming Coat**, using 10 lbs. kerosene oil and 10 lbs. binder per 100 Sft. or 0.5 Kg kerosene and 0.5 Kg binder per square metre.	100Sft	748.80			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (RANGPURA CHOWK SK # 06)

ENGINEER COST ESTIMATE

Ch. # 18 Item # 07	Providing and laying **Bituminous Tack Coat**, using 10 lbs. of bitumen per 100 Sft (0.49 Kg of bitumen per sq.m.)	100Sft	748.80			
Ch. # 18 Item # 10/(iii)	Providing and laying plant premixed bituminous carpet, **Base Course** including compaction and finishing to required camber, grade and density. 4% Bitumen (Excluding carriage of crushed stone aggregate/bajri from Kirana Hill Quarry sargodha) . **(3" Thickness)**	100Sft	748.80			
Ch. # 18 Item # 10/(iv)	Providing and laying plant premixed bituminous carpet, **Wearing Course** including compaction and finishing to required camber, grade and density.4.5% Bitumen (Excluding carriage of crushed stone aggregate/bajri from Kirana Hill Quarry sargodha) . **(2"Thickness)**	100Sft	748.80			
Ch. 01 Item #01	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone 16.1aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor.	100 Cft	374.40			
Ch. # 10 Item # 41/(c)	Providing and laying Tuff pavers, having 7000 PSI ,crushing strength of approved manufacturer, over 2" to 3" sand cushion i /c grouting with sand in joints i/c finishing to require slope. Complete in all respect. **(50% Grey / 50% Coloured)** **c) 80-mm thick**	P.Sft	34,661.72			
Ch. # 06 Item # 52 (b)/(i)	Providing and fixing precast Edge Kerb Stone (4"to 6" thick), of 3500 PSICompressive Strength, embeded in PCC 1:2:4 over lean concrete 1:4:8 etc complete in all respect **b) With Painting** **(ii) 18" high**	Per Rft	7,748.00			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (RANGPURA CHOWK SK # 06)

ENGINEER COST ESTIMATE

Ch. # 18 Item # 28 A/(iii)	Providing & fixing Cat Eyes of size 4" x 4" x 3/4" duly casted with specified material having plastic strip containing mini retro-reflective glass beads of color white/red/yellow having specifid reflections , quality & shape i/c the cost of self built in 12 mm diax120 mm long steel zinc plated nail,fixing to road with epoxy/ hammering with separate nail complete. **(A) Dual-Directional** **(iii) Micro Cube Corner Spark glow reflectors**	Each	1,262.44			
Ch. # 13 Item # 36/(ii)	Painting Traffic Lane Marking of specified width (1.5mm thick), with Thermoplastic (TP) Paint including Glass Beads, complete in all respect, as approved and directed by Engineer incharge **(ii) 6"**	Per Rft	11,362.00			
Ch. # 18 Item # 38 A/(i)	Providing and fixing Full width Gantry comprising of 3 mm thick GI sheet (Z-275) fixed over double front and back truss made with Top & bottom chords of MSangle iron L-100x100x10 mm, webs and struts of L 65x65x8 mm welded with top and bottom truss of webs and struts of 65x65x8 mm duly supported on specified vertical posts of double columns of MS pipe of size 7500x219x8 mm thick duly welded with Base plate of 600x400x50 mm with MS stiffners of 350x150x15 mm thick MS sheet for each column fixed in prelaid RCC footing i/c the cost of polyurethene Paint to MS skeleton but excluding the cost of lettering/printing as approved and directed by the Engineer Incharge a **(i) Two Supports**	P.Sft	150.00			
Ch. # 18 Item # 25/(a/i)	Providing, fabrication and fixing pole mounted Direction Board / road delineator of any shape and size, with pecified Sheet and thickness, supported with G.I Channel, (excluding the cost of vertical post and painting) etc complete in all respect. **(a) RECTANGULAR SHAPE** **(i) 12-48 sft**	P.Sft	200.00			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (RANGPURA CHOWK SK # 06)

ENGINEER COST ESTIMATE

Ch. # 18 Item # 27/(c)	Providing, fabrication and fixing Vertical Post comprising of medium quality G.I Pipe of specified diameter, including the cost of clamping arrangements, top cover, hold fasts embeded in PCC 1:2:4 etc complete in all respect. **(c) 4 inch diameter**	P.Rft	100.00			
				Total Amount (Rs.)		
NSI-08	Providing and laying of Garden Soil 300mm deep complete in all respects	100 Cft	63.53			
				Total Amount (Rs.)		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (RANGPURA CHOWK SK # 06)

ENGINEER COST ESTIMATE

BILL # 02 DRAIN WORK

Ch. # 04 Item # 20	Dismantling cement concrete reinforced, separating reinforcement from concrete,cleaning and straightening the same.	100Cft	6.67			
Ch. # 04 Item #19/(c)	Dismantling cement concrete plain **c) Dismantling cement concrete 1:2:4 plain.**	100Cft.	1.88			
Ch. # 04 Item # 13	Dismantling brick work in lime or cement mortar.	100Cft.	37.50			
Ch. # 04 Item # 19/a	Dismantling in lime or cement mortar. **(a) Cement Concrete Plain 1:4:8**	100Cft.	6.66			
Ch. # 03 Item #10/(i)	Earthwork excavation in irrigation channels, drains, etc. to designed section, grades and profiles, excavated material disposed off and dressed within 50 ft. (15 m) lead:- **(With Transportation)** **i) Ordinary**	1000 Cft	12.85			
Ch. # 03 Item # 27	Extra for slush or Daldal including dewatering.	1000 Cft	2.00			
Ch. 7/30	Supplying and filling Sand	100 Cft	20.00			
Ch. # 06 Item # 05/(i)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(i) Ratio 1: 4: 8**	100Cft	25.83			
Ch. # 06 Item # 05/(h)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(h) Ratio 1: 3: 6**	100Cft	48.02			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (RANGPURA CHOWK SK # 06)

ENGINEER COST ESTIMATE

Ch. # 07 Item # 04	Pacca brick work in foundation and plinth in:- **(i) Cement, sand mortar:- Ratio 1:3**	100Cft	228.81			
Ch # 11 Item #8/(b)	Cement plaster 1:3 upto 20' (6.00 m) height :- **b) ½" (13 mm) thick**	100 Sft.	193.70			
Ch # 06 Item # 06	(a) (i) Rei nf orced cement concret e i n roof sl ab, beams, columns lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects:- **(3) Type C (nominal mix 1: 2: 4)**	Per Cft	5,488.17			
Ch. # 06 Item # 11/(ii)	Fabrication of mild steel reinforcement for cement concrete, including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars): **(ii) Deformed bars (Grade-60)**	100 kg	298.56			
Ch. 01 Item #01	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone 16.1aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (Carriage 200 Km)	100 Cft	117.14			
Ch # 21 Item # 15	Providing and fixing 6"(150mm) thick R.C.C manhole cover 550mm (22") i/c C.I frame weighing 37.324 Kg as per standard drawing STD/PD No. 6 of 1977complete in all respects.	Per Set	20.00			
				Total Amount (Rs.)		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (RANGPURA CHOWK SK # 06)

ENGINEER COST ESTIMATE

BILL # 4 CREDIT OF EXISTING MATERIAL

1	Recovery against Existing Brick Work	No	20,250.00			
2	Recovery against Existing Steel	Tonne	1.04			
				Total Amount (Rs.)		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (RANGPURA CHOWK SK # 06)

BILL OF QUANTITES

Sr. No.	(MRS 2nd Bi-Annual 2022) Chap#/Item#	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
					In Figure	In Words	
1	NSI-1	Providing/Installation of Intelligent Urban advanced traffic signal controller (Imported) The max channel is 44 channel driving control (36 channel for vehicle lights, 8 channel for pedestrian lights). GPS time synchronization, traffic actuation, green wave optional, Ethernet/ WIFI connectivity possible, real time vehicle analysis, Pedestrian/ pelican button operation supported, wifi setting, setting via hand held or PC software, Mobile App remote monitoring and time plan setting, Multi-MCU, modular design, compact and reasonable structure, easy to maintain and expand functionality. Output Module with SSR, Night flashing Mode, working voltage: 110VAC/220VAC, with IP-55 powder coated High quality MS sheet Cabinet 16 gauge with Lock & Key arrangements, proper ventilation arrangement complete in all aspects.Impoted) and as directed by the Engineer Incharge	Each	1.00			
2	NSI-2	Supply, Installation of 3 Aspect 300 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 12 - 15 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	5.00			

3	NSI-3	Supply, Installation of 3 Aspect 200 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 8 - 10 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/Sinowatcher/ GE / DIA Light or Equivalent and as directed by the Engineer Incharge	Each	3.00			
4	NSI-4	Supply, Installation of 1 Aspect 300 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green 3 in 1 Arrow modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 10 - 12 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	5.00			
5	NSI-5	Supply, Installation of 2 Aspect Pedestrian Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Green Pedestrian modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 10 - 12 Watt i/c imported polycarbonated housing, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	4.00			
6	NSI-6	Supply, Installation of High Voltage Wired Blind Clock with Pedestrian push button,display symbol:Wait,and print symbol:Red hand,with normally sound,working ,5pcs wires connection with wired output.Volume adjustable voltage:220VAC and as directed by the Engineer Incharge	Each	4.00			
7	NSI-7	Supply, Installation of Intelligent UTC controller compatible Count Down Meter with Digit 199 (2.5 Digit) LED type made of MS Sheet Body, Gasket, hood / visor, set of Mounting / hanging Brackets Complete and as directed by the Engineer Incharge	Each	3.00			

8	NSI-8	Providing and fixing of Single Standard Straight Pole with 10 feet height GI Pipe 4" Dia complete with base plate and stiffener as per standard given i/c paint and as directed by the Engineer Incharge	Each	6.00			
9	NSI-9	Providing and fixing of Single Standard Straight Pole with 15 feet height GI Pipe 4" Dia complete with base plate and stiffener as per standard given i/c paint and as directed by the Engineer Incharge	Each	2.00			
10	NSI-10	Providing and fixing of cantiliver Single Arm, 6m high pole of 5 inch / 3 inch dia GI pipe with Base plate 400 x 400 x 18mm thick with 4 nos 1/2" thickness with pole cap as per drawing given i/c with 4 nos 3/8" stiffners 1 ft long and i/c paint and as directed by the Engineer Incharge	Each	3.00			
11	NSI-11	Providing and fixing of cantiliver Double Arm, 6m high pole of 5 inch / 3 inch dia GI pipe with Base plate 400 x 400 x 18mm thick with 4 nos 1/2" thickness with pole cap as per drawing given i/c with 4 nos 3/8" stiffners 1 ft long and i/c paint and as directed by the Engineer Incharge	Each	6.00			
12	NSI-12	Foundation Making for centiliver pole traffic pole including 1" Dia 4ft long J-Bolts nuts washers inclusive of sundry material like cement, sand, concrete with paint and lab our charges and as directed by the Engineer Incharge	Each	3.00			
13	NSI-13	Foundation Making for standard traffic pole including 3/4" Dia 2.5ft long J-Bolts nuts washers inclusive of Sundaryof sundry material like cement, sand, concrete (PCC) with paint and labour charges and as directed by the Engineer Incharge	Each	2.00			
14	NSI-14	Construction of 2'x2'x2' inner draw pits with PCC cover and as directed by the Engineer Incharge	Each	2.00			
15	NSI-15	Foundation making for controller inclusive of sundry material like cement sand concrete i/c painting and labor charges and as directed by the Engineer Incharge	Each	1.00			
16	NSI-16	Metallic road cut 4" - 6" depth, Providing /laying of PVC Pipe (Polyethlene) without joint 1-1/2" / 2" dia including road cutting and refilling 1:2:4 cement, Crush Stone, sand as per site requirment and as directed by the Engineer Incharge	Per RFT	390.00			

17	NSI-17	Providing , laying testing and commisioning of flexible Multicore PVC insulated sheathed copper conducter cable (New Age , Pakistan cable, Age or Pioneer, Fast Cable) 0.50mm2 - 1mm2 multicore as per site requirement and as directed by the Engineer Incharge	Per RFT	880.00			
18	NSI-18	Providing earth upto water level with 16mm Dia and one meter long copper rod connected with 8 mm wire as per Requirement and as directed by the Engineer Incharge	Each	1.00			
19	NSI-19	Providing & installation of Pure Sine Wave Power Inverter having Flexible configuration 12 volts with operating temperature 0-55C, overload Protection, LCD Display, Reverse polarity protection by Fuse/ Diode, Output Short Circuit protection, Temperature Protection, Input (Low/ High) Voltage Protection, Input & Output isolated, Multi Stage Charger, Auto Temperature fan, Low Battery Alarm & Shutdown Fast Action, AC Synchronized transfer Switch having board configuration Facility with Maintenance Free Batteries 12 volt; 1110 AH x 2 No. high standard deep cell charging, have a long life maintenance free life span with weather/ Temprature proof, Theft Proof battery storage underground arrangement complete in all respect and as directed by the Engineer Incharge	Each	1.00			
20	NSI-20	Retermination of Complete Intersection including Connetor Strip, Testing and Commsioning the Existing pre laid Cabling as site, includes grouping in junction box as well controller and as directed by the Engineer Incharge	Job	1.00			
Total Amount (Rs.)							

B Video Based Actuated traffic Signal Equipment. (For Full ITS Functionality)

21	NSI-21	Providing/Installation of 4G router for remote data communication supporting Intelligent Urban advanced traffic signal controllers communication protocols and as directed by the Engineer Incharge	Each	1.00			
22	NSI-22	Providing/Installation of Camera Detector Controller; 4 camera detector signal input; 16 channel optical relay output; 4 error signal; output interface: RS485; operating voltage:12-42VAC complete in all respect and as directed by the Engineer Incharge	Each	1.00			
23	NSI-23	Providing/Installation of IP-56 camera detectors with Max 8 Detection Zones,Vehicle presence + data+ video, Resolution: 640x480 pixels, Aluminum weather proof housing with operating voltage:12-42VAC and as directed by the Engineer Incharge	Each	3.00			
24	NSI-24	Providing/Installation of IP-56 Antennas for Camera wireless operation, 16 channels, working voltage: 24VDC, with POE output to camera detector and as directed by the Engineer Incharge	Each	4.00			
25	NSI-25	Providing/Installation of Video pusher/ Network vedio recorder for data transmission and stoage and as directed by the Engineer Incharge	Each	1.00			
26	NSI-26	Providing/Installation of PGETR Conversion power supply 220VAC to 24VDC. Connect camera to output board then its High voltage contorller can working with low voltage camera detector and as directed by the Engineer Incharge	Each	3.00			
27	NSI-27	Central Control Room Server Software for system surviellance, control and operation. (Per intersection cost) and as directed by the Engineer Incharge	Each	1.00			
Total Amount (Rs.)							

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (ISLAMABAD CHOWK # 07)

ENGINEER COST ESTIMATE

SUMMARY OF COST

BILL NO	DESCRIPTION	Amount (Rs.)
1	BILL NO: 1 ROAD WORK	
2	BILL # 02 DRAIN WORK	
3	BILL # 03 OPTICAL FIBER CABLE (OFC)	
4	BILL # 4 INTELLIGENT TRAFFIC SIGNAL INTERSECTION EQUIPMENTS COMPLETE IN ALL RESPECT IN SIALKOT CITY AREA.	
5	BILL # 05 ENVIRONMENTAL MANAGEMENT COST	534,500.00
6	BILL # 06 SHIFTING OF SERVICES SESCO, SNGPL, PTCL etc. (P.S):	1,000,000.00
7	BILL # 07CREDIT OF EXISTING MATERIAL	
	Total amount (RS.)	

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (ISLAMABAD CHOWK # 07)

ENGINEER COST ESTIMATE

(MRS 2nd Bi-Annual 2022) Chap#/Item	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
				In Figure	In Words	
	BILL NO: 1 ROAD WORK					
Ch. # 04 Item # 46	Dismantling and removing road pavement, etc., including screening and stacking of by products upto one chain lead (30 metre). **(With Transportation)**	100Cft	180.00			
Ch. 3 Item 2	Earthwork excavation in ashes, sand and soft soil or silt clearance, undressed lead upto 50 ft (15 metre). **(With Transportation)**	1000 Cft	16.14			
Ch. # 18 Item # 12/(iv)	Cold milling of asphalt layer/concrete surface of specified thickness,loading of debris onto haul trucks via conveyor system and disposal at appropriate place i/c the charges of self propelled milling machine of specified size, dumper, pump, water lorry, compressor and Tungsten Carbide Bits etc complete in all respect as approved by Engineer Incharge **(With Transportation)** **(iv) 0 ~ 4" thick**	Per Sft	51,417.20			
Ch # 18 Item # 04/(a)	a) Providing and laying **Base Course** of crushed stone aggregate of approved quality and grade, and supply and spreading of stone screening, including placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHO dry density, including carriage of all materials to site of work except gravel and. aggregate	100Cft.	89.83			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (ISLAMABAD CHOWK # 07)

ENGINEER COST ESTIMATE

Ch # 18 Item # /03 (a)/(ii)	(a) (ii) Providing and laying **Sub-Base Course** of stone product of approved quality and grade, including placing, mixing, spreading and compaction of sub-base material to required depth, camber, grade to achieve 100% maximum modified AASHO dry density, including carriage of all material to site of work except gravel and aggregate.	100Cft.	-			
Ch. # 18 Item # 06	Providing and laying **Bituminous Priming Coat**, using 10 lbs. kerosene oil and 10 lbs. binder per 100 Sft. or 0.5 Kg kerosene and 0.5 Kg binder per square metre.	100Sft	514.17			
Ch. # 18 Item # 07	Providing and laying **Bituminous Tack Coat**, using 10 lbs. of bitumen per 100 Sft (0.49 Kg of bitumen per sq.m.)	100Sft	514.17			
Ch. # 18 Item # 10/(iii)	Providing and laying plant premixed bituminous carpet, **Base Course** including compaction and finishing to required camber, grade and density. 4% Bitumen (Excluding carriage of crushed stone aggregate/bajri from Kirana Hill Quarry sargodha) . **(3" Thickness)**	100Sft	514.17			
Ch. # 18 Item # 10/(iv)	Providing and laying plant premixed bituminous carpet, **Wearing Course** including compaction and finishing to required camber, grade and density.4.5% Bitumen (Excluding carriage of crushed stone aggregate/bajri from Kirana Hill Quarry sargodha) . **(2"Thickness)**	100Sft	514.17			
Ch. 01 Item #01	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone 16.1aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor.	100 Cft	257.09			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (ISLAMABAD CHOWK # 07)

ENGINEER COST ESTIMATE

Ch. # 10 Item # 41/(c)	Providing and laying Tuff pavers, having 7000 PSI ,crushing strength of approved manufacturer, over 2" to 3" sand cushion i /c grouting with sand in joints i/c finishing to require slope. Complete in all respect. **(50% Grey / 50% Coloured)** **c) 80-mm thick**	P.Sft	30,498.36			
Ch. # 06 Item # 52 (b)/(i)	Providing and fixing precast Edge Kerb Stone (4"to 6" thick), of 3500 PSICompressive Strength, embeded in PCC 1:2:4 over lean concrete 1:4:8 etc complete in all respect **b) With Painting** **(ii) 18" high**	Per Rft	5,678.00			
Ch. # 18 Item # 28 A/(iii)	Providing & fixing Cat Eyes of size 4" x 4" x 3/4" duly casted with specified material having plastic strip containing mini retro-reflective glass beads of color white/red/yellow having specifid reflections , quality & shape i/c the cost of self built in 12 mm diax120 mm long steel zinc plated nail,fixing to road with epoxy/ hammering with separate nail complete. **(A) Dual-Directional** **(iii) Micro Cube Corner Spark glow reflectors**	Each	946.33			
Ch. # 13 Item # 36/(ii)	Painting Traffic Lane Marking of specified width (1.5mm thick), with Thermoplastic (TP) Paint including Glass Beads, complete in all respect, as approved and directed by Engineer incharge **(ii) 6"**	Per Rft	8,517.00			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (ISLAMABAD CHOWK # 07)

ENGINEER COST ESTIMATE

Ch. # 18 Item # 38 A/(i)	Providing and fixing Full width Gantry comprising of 3 mm thick GI sheet (Z-275) fixed over double front and back truss made with Top & bottom chords of MSangle iron L-100x100x10 mm, webs and struts of L 65x65x8 mm welded with top and bottom truss of webs and struts of 65x65x8 mm duly supported on specified vertical posts of double columns of MS pipe of size 7500x219x8 mm thick duly welded with Base plate of 600x400x50 mm with MS stiffners of 350x150x15 mm thick MS sheet for each column fixed in prelaid RCC footing i/c the cost of polyurethene Paint to MS skeleton but excluding the cost of lettering/printing as approved and directed by the Engineer Incharge a **(i) Two Supports**	P.Sft	150.00			
Ch. # 18 Item # 25/(a/i)	Providing, fabrication and fixing pole mounted Direction Board / road delineator of any shape and size, with pecified Sheet and thickness, supported with G.I Channel, (excluding the cost of vertical post and painting) etc complete in all respect. **(a) RECTANGULAR SHAPE** **(i) 12-48 sft**	P.Sft	200.00			
Ch. # 18 Item # 27/(c)	Providing, fabrication and fixing Vertical Post comprising of medium quality G.I Pipe of specified diameter, including the cost of clamping arrangements, top cover, hold fasts embeded in PCC 1:2:4 etc complete in all respect. **(c) 4 inch diameter**	P.Rft	100.00			
				Total Amount (Rs.)		
NSI-08	Providing and laying of Garden Soil 300mm deep complete in all respects	100 Cft	23.17			
				Total Amount (Rs.)		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (ISLAMABAD CHOWK # 07)

ENGINEER COST ESTIMATE

BILL # 02 DRAIN WORK						
Ch. # 04 Item # 20	Dismantling cement concrete reinforced, separating reinforcement from concrete,cleaning and straightening the same.	100Cft	6.67			
Ch. # 04 Item #19/(c)	Dismantling cement concrete plain **c) Dismantling cement concrete 1:2:4 plain.**	100Cft.	1.88			
Ch. # 04 Item # 13	Dismantling brick work in lime or cement mortar.	100Cft.	37.50			
Ch. # 04 Item # 19/a	Dismantling in lime or cement mortar. **(a) Cement Concrete Plain 1:4:8**	100Cft.	6.66			
Ch. # 03 Item #10/(i)	Earthwork excavation in irrigation channels, drains, etc. to designed section, grades and profiles, excavated material disposed off and dressed within 50 ft. (15 m) lead:- **(With Transportation)** **i) Ordinary**	1000 Cft	12.48			
Ch. # 03 Item # 27	Extra for slush or Daldal including dewatering.	1000 Cft	2.00			
Ch. 7/30	Supplying and filling Sand	100 Cft	20.00			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (ISLAMABAD CHOWK # 07)

ENGINEER COST ESTIMATE

Ch. # 06 Item # 05/(i)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(i) Ratio 1: 4: 8**	100Cft	25.81			
Ch. # 06 Item # 05/(h)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(h) Ratio 1: 3: 6**	100Cft	47.99			
Ch. # 07 Item # 04	Pacca brick work in foundation and plinth in:- **(i) Cement, sand mortar:- Ratio 1:3**	100Cft	228.69			
Ch # 11 Item #8/(b)	Cement plaster 1:3 upto 20' (6.00 m) height :- **b) ½" (13 mm) thick**	100 Sft.	193.60			
Ch # 06 Item # 06	(a) (i) Rei nf orced cement concret e i n roof sl ab, beams, columns lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects:- **(3) Type C (nominal mix 1: 2: 4)**	Per Cft	5,485.33			
Ch. # 06 Item # 11/(ii)	Fabrication of mild steel reinforcement for cement concrete, including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars): **(ii) Deformed bars (Grade-60)**	100 kg	298.40			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (ISLAMABAD CHOWK # 07)

ENGINEER COST ESTIMATE

Ch. 01 Item #01	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone 16.1aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (Carriage 200 Km)	100 Cft	117.08			
Ch # 21 Item # 15	Providing and fixing 6"(150mm) thick R.C.C manhole cover 550mm (22") i/c C.I frame weighing 37.324 Kg as per standard drawing STD/PD No. 6 of 1977complete in all respects.	Per Set	20.00			
				Total Amount (Rs.)	-	

BILL # 4 CREDIT OF EXISTING MATERIAL

1	Recovery against Existing Brick Work	No	20,250.00			
2	Recovery against Existing Steel	Tonne	1.04			
				Total Amount (Rs.)		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (ISLAMABAD CHOWK # 07)

BILL OF QUANTITES

Sr. No.	(MRS 2nd Bi-Annual 2022) Chap#/Item#	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
					In Figure	In Words	
1	NSI-1	Providing/Installation of Intelligent Urban advanced traffic signal controller (Imported) The max channel is 44 channel driving control (36 channel for vehicle lights, 8 channel for pedestrian lights). GPS time synchronization, traffic actuation, green wave optional, Ethernet/ WIFI connectivity possible, real time vehicle analysis, Pedestrian/ pelican button operation supported, wifi setting, setting via hand held or PC software, Mobile App remote monitoring and time plan setting, Multi-MCU, modular design, compact and reasonable structure, easy to maintain and expand functionality. Output Module with SSR, Night flashing Mode, working voltage: 110VAC/220VAC, with IP-55 powder coated High quality MS sheet Cabinet 16 gauge with Lock & Key arrangements, proper ventilation arrangement complete in all aspects.Impoted) and as directed by the Engineer Incharge	Each	1.00			
2	NSI-2	Supply, Installation of 3 Aspect 300 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 12 - 15 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	3.00			

3	NSI-3	Supply, Installation of 3 Aspect 200 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 8 - 10 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/Sinowatcher/ GE / DIA Light or Equivalent and as directed by the Engineer Incharge	Each	4.00			
4	NSI-4	Supply, Installation of 1 Aspect 300 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green 3 in 1 Arrow modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 10 - 12 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	3.00			
5	NSI-5	Supply, Installation of 2 Aspect Pedestrian Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Green Pedestrian modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 10 - 12 Watt i/c imported polycarbonated housing, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	3.00			
6	NSI-6	Supply, Installation of High Voltage Wired Blind Clock with Pedestrian push button,display symbol:Wait,and print symbol:Red hand,with normally sound,working ,5pcs wires connection with wired output.Volume adjustable voltage:220VAC and as directed by the Engineer Incharge	Each	3.00			
7	NSI-7	Supply, Installation of Intelligent UTC controller compatible Count Down Meter with Digit 199 (2.5 Digit) LED type made of MS Sheet Body, Gasket, hood / visor, set of Mounting / hanging Brackets Complete and as directed by the Engineer Incharge	Each	3.00			

8	NSI-8	Providing and fixing of Single Standard Straight Pole with 10 feet height GI Pipe 4" Dia complete with base plate and stiffener as per standard given i/c paint and as directed by the Engineer Incharge	Each	-			
9	NSI-9	Providing and fixing of Single Standard Straight Pole with 15 feet height GI Pipe 4" Dia complete with base plate and stiffener as per standard given i/c paint and as directed by the Engineer Incharge	Each	2.00			
10	NSI-10	Providing and fixing of cantiliver Single Arm, 6m high pole of 5 inch / 3 inch dia GI pipe with Base plate 400 x 400 x 18mm thick with 4 nos 1/2" thickness with pole cap as per drawing given i/c with 4 nos 3/8" stiffners 1 ft long and i/c paint and as directed by the Engineer Incharge	Each	3.00			
11	NSI-11	Providing and fixing of cantiliver Double Arm, 6m high pole of 5 inch / 3 inch dia GI pipe with Base plate 400 x 400 x 18mm thick with 4 nos 1/2" thickness with pole cap as per drawing given i/c with 4 nos 3/8" stiffners 1 ft long and i/c paint and as directed by the Engineer Incharge	Each	6.00			
12	NSI-12	Foundation Making for centiliver pole traffic pole including 1" Dia 4ft long J-Bolts nuts washers inclusive of sundry material like cement, sand, concrete with paint and lab our charges and as directed by the Engineer Incharge	Each	3.00			
13	NSI-13	Foundation Making for standard traffic pole including 3/4" Dia 2.5ft long J-Bolts nuts washers inclusive of Sundaryof sundry material like cement, sand, concrete (PCC) with paint and labour charges and as directed by the Engineer Incharge	Each	2.00			
14	NSI-14	Construction of 2'x2'x2' inner draw pits with PCC cover and as directed by the Engineer Incharge	Each	2.00			
15	NSI-15	Foundation making for controller inclusive of sundry material like cement sand concrete i/c painting and labor charges and as directed by the Engineer Incharge	Each	1.00			
16	NSI-16	Metallic road cut 4" - 6" depth, Providing /laying of PVC Pipe (Polyethlene) without joint 1-1/2" / 2" dia including road cutting and refilling 1:2:4 cement, Crush Stone, sand as per site requirment and as directed by the Engineer Incharge	Per RFT	380.00			

17	NSI-17	Providing , laying testing and commisioning of flexible Multicore PVC insulated sheathed copper conducter cable (New Age , Pakistan cable, Age or Pioneer, Fast Cable) 0.50mm2 - 1mm2 multicore as per site requirement and as directed by the Engineer Incharge	Per RFT	890.00			
18	NSI-18	Providing earth upto water level with 16mm Dia and one meter long copper rod connected with 8 mm wire as per Requirement and as directed by the Engineer Incharge	Each	1.00			
19	NSI-19	Providing & installation of Pure Sine Wave Power Inverter having Flexible configuration 12 volts with operating temperature 0-55C, overload Protection, LCD Display, Reverse polarity protection by Fuse/ Diode, Output Short Circuit protection, Temperature Protection, Input (Low/ High) Voltage Protection, Input & Output isolated, Multi Stage Charger, Auto Temperature fan, Low Battery Alarm & Shutdown Fast Action, AC Synchronized transfer Switch having board configuration Facility with Maintenance Free Batteries 12 volt; 1110 AH x 2 No. high standard deep cell charging, have a long life maintenance free life span with weather/ Temprature proof, Theft Proof battery storage underground arrangement complete in all respect and as directed by the Engineer Incharge	Each	1.00			
20	NSI-20	Retermination of Complete Intersection including Connetor Strip, Testing and Commsioning the Existing pre laid Cabling as site, includes grouping in junction box as well controller and as directed by the Engineer Incharge	Job	1.00			
Total Amount (Rs.)							

B Video Based Actuated traffic Signal Equipment. (For Full ITS Functionality)

21	NSI-21	Providing/Installation of 4G router for remote data communication supporting Intelligent Urban advanced traffic signal controllers communication protocols and as directed by the Engineer Incharge	Each	1.00			
22	NSI-22	Providing/Installation of Camera Detector Controller; 4 camera detector signal input; 16 channel optical relay output; 4 error signal; output interface: RS485; operating voltage:12-42VAC complete in all respect and as directed by the Engineer Incharge	Each	1.00			
23	NSI-23	Providing/Installation of IP-56 camera detectors with Max 8 Detection Zones,Vehicle presence + data+ video, Resolution: 640x480 pixels, Aluminum weather proof housing with operating voltage:12-42VAC and as directed by the Engineer Incharge	Each	3.00			
24	NSI-24	Providing/Installation of IP-56 Antennas for Camera wireless operation, 16 channels, working voltage: 24VDC, with POE output to camera detector and as directed by the Engineer Incharge	Each	4.00			
25	NSI-25	Providing/Installation of Video pusher/ Network vedio recorder for data transmission and stoage and as directed by the Engineer Incharge	Each	1.00			
26	NSI-26	Providing/Installation of PGETR Conversion power supply 220VAC to 24VDC. Connect camera to output board then its High voltage contorller can working with low voltage camera detector and as directed by the Engineer Incharge	Each	4.00			
27	NSI-27	Central Control Room Server Software for system surviellance, control and operation. (Per intersection cost) and as directed by the Engineer Incharge	Each	1.00			
Total Amount (Rs.)							

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (AIK PULLCHOWK SKT # 08)

ENGINEER COST ESTIMATE

SUMMARY OF COST

BILL NO	DESCRIPTION	Amount (Rs.)
1	BILL NO: 1 ROAD WORK	
2	BILL # 02 DRAIN WORK	
3	BILL # 03 OPTICAL FIBER CABLE (OFC)	
4	BILL # 4 INTELLIGENT TRAFFIC SIGNAL INTERSECTION EQUIPMENTS COMPLETE IN ALL RESPECT IN SIALKOT CITY AREA.	
5	BILL # 05 ENVIRONMENTAL MANAGEMENT COST	534,500.00
6	BILL # 06 SHIFTING OF SERVICES SESCO, SNGPL, PTCL etc. (P.S):	1,000,000.00
7	BILL # 07CREDIT OF EXISTING MATERIAL	
	Total amount (RS.)	

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (AIK PULLCHOWK SKT # 08)

BILL OF QUANATITES

(MRS 2nd Bi-Annual 2022) Chap#/Item	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
				In Figure	In Words	
	BILL NO: 1 ROAD WORK					
Ch. # 04 Item # 46	Dismantling and removing road pavement, etc., including screening and stacking of by products upto one chain lead (30 metre). **(With Transportation)**	100Cft	90.00			
Ch. 3 Item 2	Earthwork excavation in ashes, sand and soft soil or silt clearance, undressed lead upto 50 ft (15 metre). **(With Transportation)**	1000 Cft	5.13			
Ch. # 18 Item # 12/(iv)	Cold milling of asphalt layer/concrete surface of specified thickness,loading of debris onto haul trucks via conveyor system and disposal at appropriate place i/c the charges of self propelled milling machine of specified size, dumper, pump, water lorry, compressor and Tungsten Carbide Bits etc complete in all respect as approved by Engineer Incharge **(With Transportation)** **(iv) 0 ~ 4" thick**	Per Sft	47,626.90			
Ch # 18 Item # 04/(a)	a) Providing and laying **Base Course** of crushed stone aggregate of approved quality and grade, and supply and spreading of stone screening, including placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHO dry density, including carriage of all materials to site of work except gravel and. aggregate	100Cft.	148.34			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (AIK PULLCHOWK SKT # 08)

BILL OF QUANATITES

Ch. # 18 Item # 06	Providing and laying **Bituminous Priming Coat**, using 10 lbs. kerosene oil and 10 lbs. binder per 100 Sft. or 0.5 Kg kerosene and 0.5 Kg binder per square metre.	100Sft	476.27			
Ch. # 18 Item # 07	Providing and laying **Bituminous Tack Coat**, using 10 lbs. of bitumen per 100 Sft (0.49 Kg of bitumen per sq.m.)	100Sft	476.27			
Ch. # 18 Item # 10/(iii)	Providing and laying plant premixed bituminous carpet, **Base Course** including compaction and finishing to required camber, grade and density. 4% Bitumen (Excluding carriage of crushed stone aggregate/bajri from Kirana Hill Quarry sargodha) . **(3" Thickness)**	100Sft	476.27			
Ch. # 18 Item # 10/(iv)	Providing and laying plant premixed bituminous carpet, **Wearing Course** including compaction and finishing to required camber, grade and density.4.5% Bitumen (Excluding carriage of crushed stone aggregate/bajri from Kirana Hill Quarry sargodha) . **(2"Thickness)**	100Sft	476.27			
Ch. 01 Item #01	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone 16.1aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor.	100 Cft	238.13			
Ch. # 10 Item # 41/(c)	Providing and laying Tuff pavers, having 7000 PSI ,crushing strength of approved manufacturer, over 2" to 3" sand cushion i /c grouting with sand in joints i/c finishing to require slope. Complete in all respect. **(50% Grey / 50% Coloured)** **c) 80-mm thick**	P.Sft	13,668.60			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (AIK PULLCHOWK SKT # 08)

BILL OF QUANATITES

Ch. # 06 Item # 52 (b)/(i)	Providing and fixing precast Edge Kerb Stone (4"to 6" thick), of 3500 PSICompressive Strength, embeded in PCC 1:2:4 over lean concrete 1:4:8 etc complete in all respect **b) With Painting** **(ii) 18" high**	Per Rft	4,600.00			
Ch. # 18 Item # 28 A/(iii)	Providing & fixing Cat Eyes of size 4" x 4" x 3/4" duly casted with specified material having plastic strip containing mini retro-reflective glass beads of color white/red/yellow having specifid reflections , quality & shape i/c the cost of self built in 12 mm diax120 mm long steel zinc plated nail,fixing to road with epoxy/ hammering with separate nail complete. **(A) Dual-Directional** **(iii) Micro Cube Corner Spark glow reflectors**	Each	766.67			
Ch. # 13 Item # 36/(ii)	Painting Traffic Lane Marking of specified width (1.5mm thick), with Thermoplastic (TP) Paint including Glass Beads, complete in all respect, as approved and directed by Engineer incharge **(ii) 6"**	Per Rft	6,900.00			
Ch. # 18 Item # 38 A/(i)	Providing and fixing Full width Gantry comprising of 3 mm thick GI sheet (Z-275) fixed over double front and back truss made with Top & bottom chords of MSangle iron L-100x100x10 mm, webs and struts of L 65x65x8 mm welded with top and bottom truss of webs and struts of 65x65x8 mm duly supported on specified vertical posts of double columns of MS pipe of size 7500x219x8 mm thick duly welded with Base plate of 600x400x50 mm with MS stiffners of 350x150x15 mm thick MS sheet for each column fixed in prelaid RCC footing i/c the cost of polyurethene Paint to MS skeleton but excluding the cost of lettering/printing as approved and directed by the Engineer Incharge a **(i) Two Supports**	P.Sft	150.00			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (AIK PULLCHOWK SKT # 08)

BILL OF QUANATITES

Ch. # 18 Item # 25/(a/i)	Providing, fabrication and fixing pole mounted Direction Board / road delineator of any shape and size, with pecified Sheet and thickness, supported with G.I Channel, (excluding the cost of vertical post and painting) etc complete in all respect. **(a) RECTANGULAR SHAPE** **(i) 12-48 sft**	P.Sft	200.00			
Ch. # 18 Item # 27/(c)	Providing, fabrication and fixing Vertical Post comprising of medium quality G.I Pipe of specified diameter, including the cost of clamping arrangements, top cover, hold fasts embeded in PCC 1:2:4 etc complete in all respect. **(c) 4 inch diameter**	P.Rft	100.00			
				Total Amount (Rs.)		
NSI-08	Providing and laying of Garden Soil 300mm deep complete in all respects	100 Cft	53.59			
				Total Amount (Rs.)		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (AIK PULLCHOWK SKT # 08)

BILL OF QUANATITES

BILL # 02 DRAIN WORK						
Ch. # 04 Item # 20	Dismantling cement concrete reinforced, separating reinforcement from concrete,cleaning and straightening the same.	100Cft	6.67			
Ch. # 04 Item #19/(c)	Dismantling cement concrete plain **c) Dismantling cement concrete 1:2:4 plain.**	100Cft.	1.88			
Ch. # 04 Item # 13	Dismantling brick work in lime or cement mortar.	100Cft.	37.50			
Ch. # 04 Item # 19/a	Dismantling in lime or cement mortar. **(a) Cement Concrete Plain 1:4:8**	100Cft.	6.66			
Ch. # 03 Item #10/(i)	Earthwork excavation in irrigation channels, drains, etc. to designed section, grades and profiles, excavated material disposed off and dressed within 50 ft. (15 m) lead:- **(With Transportation)** **i) Ordinary**	1000 Cft	4.00			
Ch. # 03 Item # 27	Extra for slush or Daldal including dewatering.	1000 Cft	20.00			
Ch. 7/30	Supplying and filling Sand	100 Cft	20.00			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (AIK PULLCHOWK SKT # 08)

BILL OF QUANATITES

Ch. # 06 Item # 05/(i)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(i) Ratio 1: 4: 8**	100Cft	15.33			
Ch. # 06 Item # 05/(h)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(h) Ratio 1: 3: 6**	100Cft	28.51			
Ch. # 07 Item # 04	Pacca brick work in foundation and plinth in:- **(i) Cement, sand mortar:- Ratio 1:3**	100Cft	135.84			
Ch # 11 Item #8/(b)	Cement plaster 1:3 upto 20' (6.00 m) height :- **b) ½" (13 mm) thick**	100 Sft.	115.00			
Ch # 06 Item # 06	(a) (i) Rei nf orced cement concret e i n roof sl ab, beams, columns lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects:- **(3) Type C (nominal mix 1: 2: 4)**	Per Cft	3,258.33			
Ch. # 06 Item # 11/(ii)	Fabrication of mild steel reinforcement for cement concrete, including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars): **(ii) Deformed bars (Grade-60)**	100 kg	177.25			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (AIK PULLCHOWK SKT # 08)

BILL OF QUANATITES

Ch. 01 Item #01	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone 16.1aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (Carriage 200 Km)	100 Cft	69.55			
Ch # 21 Item # 15	Providing and fixing 6"(150mm) thick R.C.C manhole cover 550mm (22") i/c C.I frame weighing 37.324 Kg as per standard drawing STD/PD No. 6 of 1977complete in all respects.	Per Set	20.00			
				Total Amount (Rs.)	-	

BILL # 4 CREDIT OF EXISTING MATERIAL

1	Recovery against Existing Brick Work	No	20,250.00			
2	Recovery against Existing Steel	Tonne	1.04			
				Total Amount (Rs.)		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (AIK PULLCHOWK SKT # 08)

BILL OF QUANTITES

Sr. No.	(MRS 2nd Bi-Annual 2022) Chap#/Item#	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
					In Figure	In Words	
1	NSI-1	Providing/Installation of Intelligent Urban advanced traffic signal controller (Imported) The max channel is 44 channel driving control (36 channel for vehicle lights, 8 channel for pedestrian lights). GPS time synchronization, traffic actuation, green wave optional, Ethernet/ WIFI connectivity possible, real time vehicle analysis, Pedestrian/ pelican button operation supported, wifi setting, setting via hand held or PC software, Mobile App remote monitoring and time plan setting, Multi-MCU, modular design, compact and reasonable structure, easy to maintain and expand functionality. Output Module with SSR, Night flashing Mode, working voltage: 110VAC/220VAC, with IP-55 powder coated High quality MS sheet Cabinet 16 gauge with Lock & Key arrangements, proper ventilation arrangement complete in all aspects.Impoted) and as directed by the Engineer Incharge	Each	1.00			
2	NSI-2	Supply, Installation of 3 Aspect 300 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 12 - 15 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	7.00			

3	NSI-3	Supply, Installation of 3 Aspect 200 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 8 - 10 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/Sinowatcher/ GE / DIA Light or Equivalent and as directed by the Engineer Incharge	Each	3.00			
4	NSI-4	Supply, Installation of 1 Aspect 300 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green 3 in 1 Arrow modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 10 - 12 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	7.00			
5	NSI-5	Supply, Installation of 2 Aspect Pedestrian Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Green Pedestrian modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 10 - 12 Watt i/c imported polycarbonated housing, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	6.00			
6	NSI-6	Supply, Installation of High Voltage Wired Blind Clock with Pedestrian push button,display symbol:Wait,and print symbol:Red hand,with normally sound,working ,5pcs wires connection with wired output.Volume adjustable voltage:220VAC and as directed by the Engineer Incharge	Each	6.00			
7	NSI-7	Supply, Installation of Intelligent UTC controller compatible Count Down Meter with Digit 199 (2.5 Digit) LED type made of MS Sheet Body, Gasket, hood / visor, set of Mounting / hanging Brackets Complete and as directed by the Engineer Incharge	Each	3.00			

8	NSI-8	Providing and fixing of Single Standard Straight Pole with 10 feet height GI Pipe 4" Dia complete with base plate and stiffener as per standard given i/c paint and as directed by the Engineer Incharge	Each	1.00			
9	NSI-9	Providing and fixing of Single Standard Straight Pole with 15 feet height GI Pipe 4" Dia complete with base plate and stiffener as per standard given i/c paint and as directed by the Engineer Incharge	Each	2.00			
10	NSI-10	Providing and fixing of cantiliver Single Arm, 6m high pole of 5 inch / 3 inch dia GI pipe with Base plate 400 x 400 x 18mm thick with 4 nos 1/2" thickness with pole cap as per drawing given i/c with 4 nos 3/8" stiffners 1 ft long and i/c paint and as directed by the Engineer Incharge	Each	3.00			
11	NSI-11	Providing and fixing of cantiliver Double Arm, 6m high pole of 5 inch / 3 inch dia GI pipe with Base plate 400 x 400 x 18mm thick with 4 nos 1/2" thickness with pole cap as per drawing given i/c with 4 nos 3/8" stiffners 1 ft long and i/c paint and as directed by the Engineer Incharge	Each	6.00			
12	NSI-12	Foundation Making for centiliver pole traffic pole including 1" Dia 4ft long J-Bolts nuts washers inclusive of sundry material like cement, sand, concrete with paint and lab our charges and as directed by the Engineer Incharge	Each	3.00			
13	NSI-13	Foundation Making for standard traffic pole including 3/4" Dia 2.5ft long J-Bolts nuts washers inclusive of Sundaryof sundry material like cement, sand, concrete (PCC) with paint and labour charges and as directed by the Engineer Incharge	Each	2.00			
14	NSI-14	Construction of 2'x2'x2' inner draw pits with PCC cover and as directed by the Engineer Incharge	Each	1.00			
15	NSI-15	Foundation making for controller inclusive of sundry material like cement sand concrete i/c painting and labor charges and as directed by the Engineer Incharge	Each	1.00			
16	NSI-16	Metallic road cut 4" - 6" depth, Providing /laying of PVC Pipe (Polyethlene) without joint 1-1/2" / 2" dia including road cutting and refilling 1:2:4 cement, Crush Stone, sand as per site requirment and as directed by the Engineer Incharge	Per RFT	418.00			

17	NSI-17	Providing , laying testing and commisioning of flexible Multicore PVC insulated sheathed copper conducter cable (New Age , Pakistan cable, Age or Pioneer, Fast Cable) 0.50mm2 - 1mm2 multicore as per site requirement and as directed by the Engineer Incharge	Per RFT	980.00			
18	NSI-18	Providing earth upto water level with 16mm Dia and one meter long copper rod connected with 8 mm wire as per Requirement and as directed by the Engineer Incharge	Each	1.00			
19	NSI-19	Providing & installation of Pure Sine Wave Power Inverter having Flexible configuration 12 volts with operating temperature 0-55C, overload Protection, LCD Display, Reverse polarity protection by Fuse/ Diode, Output Short Circuit protection, Temperature Protection, Input (Low/ High) Voltage Protection, Input & Output isolated, Multi Stage Charger, Auto Temperature fan, Low Battery Alarm & Shutdown Fast Action, AC Synchronized transfer Switch having board configuration Facility with Maintenance Free Batteries 12 volt; 1110 AH x 2 No. high standard deep cell charging, have a long life maintenance free life span with weather/ Temprature proof, Theft Proof battery storage underground arrangement complete in all respect and as directed by the Engineer Incharge	Each	1.00			
20	NSI-20	Retermination of Complete Intersection including Connetor Strip, Testing and Commsioning the Existing pre laid Cabling as site, includes grouping in junction box as well controller and as directed by the Engineer Incharge	Job	1.00			
Total Amount (Rs.)							

B Video Based Actuated traffic Signal Equipment. (For Full ITS Functionality)

21	NSI-21	Providing/Installation of 4G router for remote data communication supporting Intelligent Urban advanced traffic signal controllers communication protocols and as directed by the Engineer Incharge	Each	1.00			
22	NSI-22	Providing/Installation of Camera Detector Controller; 4 camera detector signal input; 16 channel optical relay output; 4 error signal; output interface: RS485; operating voltage:12-42VAC complete in all respect and as directed by the Engineer Incharge	Each	1.00			
23	NSI-23	Providing/Installation of IP-56 camera detectors with Max 8 Detection Zones,Vehicle presence + data+ video, Resolution: 640x480 pixels, Aluminum weather proof housing with operating voltage:12-42VAC and as directed by the Engineer Incharge	Each	3.00			
24	NSI-24	Providing/Installation of IP-56 Antennas for Camera wireless operation, 16 channels, working voltage: 24VDC, with POE output to camera detector and as directed by the Engineer Incharge	Each	4.00			
25	NSI-25	Providing/Installation of Video pusher/ Network vedio recorder for data transmission and stoage and as directed by the Engineer Incharge	Each	1.00			
26	NSI-26	Providing/Installation of PGETR Conversion power supply 220VAC to 24VDC. Connect camera to output board then its High voltage contorller can working with low voltage camera detector and as directed by the Engineer Incharge	Each	3.00			
27	NSI-27	Central Control Room Server Software for system surviellance, control and operation. (Per intersection cost) and as directed by the Engineer Incharge	Each	1.00			
Total Amount (Rs.)							

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (KOTLI BEHRAM CHOWK SK # 09)

SUMMARY OF COST

BILL NO	DESCRIPTION	TOTAL COST (RS)
1	BILL NO: 1 ROAD WORK	
2	BILL # 02 DRAIN WORK	
3	OPTICAL FIBER CABLE (OFC)	
4	BILL # 4 INTELLIGENT TRAFFIC SIGNAL INTERSECTION EQUIPMENTS COMPLETE IN ALL RESPECT IN SIALKOT CITY AREA.	
5	ENVIRONMENTAL MANAGEMENT COST	534,500.00
6	SHIFTING OF SERVICES SESCO, SNGPL, PTCL etc. (P.S):	1,000,000.00
7	CREDIT OF EXISTING MATERIAL	
	Total Amount (Rs.)	

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (KOTLI BEHRAM CHOWK SK # 09)

ENGINEER COST ESTIMATE

(MRS 2nd Bi-Annual 2022) Chap#/Item	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
				In Figure	In Words	
BILL NO: 1 ROAD WORK						
Ch. # 04 Item # 46	Dismantling and removing road pavement, etc., including screening and stacking of by products upto one chain lead (30 metre). **(With Transportation)**	100Cft	135.00			
Ch. 3 Item 2	Earthwork excavation in ashes, sand and soft soil or silt clearance, undressed lead upto 50 ft (15 metre). **(With Transportation)**	1000 Cft	15.26			
Ch. # 18 Item # 12/(iv)	Cold milling of asphalt layer/concrete surface of specified thickness,loading of debris onto haul trucks via conveyor system and disposal at appropriate place i/c the charges of self propelled milling machine of specified size, dumper, pump, water lorry, compressor and Tungsten Carbide Bits etc complete in all respect as approved by Engineer Incharge **(With Transportation)** **(iv) 0 ~ 4" thick**	Per Sft	158,376.10			
Ch # 18 Item # 04/(a)	a) Providing and laying **Base Course** of crushed stone aggregate of approved quality and grade, and supply and spreading of stone screening, including placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHO dry density, including carriage of all materials to site of work except gravel and. aggregate	100Cft.	1,245.45			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (KOTLI BEHRAM CHOWK SK # 09)

ENGINEER COST ESTIMATE

Ch # 18 Item # /03 (a)/(ii)	(a) (ii) Providing and laying **Sub-Base Course** of stone product of approved quality and grade, including placing, mixing, spreading and compaction of sub-base material to required depth, camber, grade to achieve 100% maximum modified AASHO dry density, including carriage of all material to site of work except gravel and aggregate.	100Cft.	104.75			
Ch. # 18 Item # 06	Providing and laying **Bituminous Priming Coat**, using 10 lbs. kerosene oil and 10 lbs. binder per 100 Sft. or 0.5 Kg kerosene and 0.5 Kg binder per square metre.	100Sft	1,583.76			
Ch. # 18 Item # 07	Providing and laying **Bituminous Tack Coat**, using 10 lbs. of bitumen per 100 Sft (0.49 Kg of bitumen per sq.m.)	100Sft	1,583.76			
Ch. # 18 Item # 10/(iii)	Providing and laying plant premixed bituminous carpet, **Base Course** including compaction and finishing to required camber, grade and density. 4% Bitumen (Excluding carriage of crushed stone aggregate/bajri from Kirana Hill Quarry sargodha) . **(3" Thickness)**	100Sft	1,583.76			
Ch. # 18 Item # 10/(iv)	Providing and laying plant premixed bituminous carpet, **Wearing Course** including compaction and finishing to required camber, grade and density.4.5% Bitumen (Excluding carriage of crushed stone aggregate/bajri from Kirana Hill Quarry sargodha) . **(2"Thickness)**	100Sft	1,583.76			
Ch. 01 Item #01	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone 16.1aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor.	100 Cft	917.58			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (KOTLI BEHRAM CHOWK SK # 09)

ENGINEER COST ESTIMATE

Ch. # 10 Item # 41/(c)	Providing and laying Tuff pavers, having 7000 PSI ,crushing strength of approved manufacturer, over 2" to 3" sand cushion i /c grouting with sand in joints i/c finishing to require slope. Complete in all respect. **(50% Grey / 50% Coloured)** **c) 80-mm thick**	P.Sft	64,158.08			
Ch. # 06 Item # 52 (b)/(i)	Providing and fixing precast Edge Kerb Stone (4"to 6" thick), of 3500 PSICompressive Strength, embeded in PCC 1:2:4 over lean concrete 1:4:8 etc complete in all respect **b) With Painting** **(ii) 18" high**	Per Rft	8,868.00			
Ch. # 18 Item # 28 A/(iii)	Providing & fixing Cat Eyes of size 4" x 4" x 3/4" duly casted with specified material having plastic strip containing mini retro-reflective glass beads of color white/red/yellow having specifid reflections , quality & shape i/c the cost of self built in 12 mm diax120 mm long steel zinc plated nail,fixing to road with epoxy/ hammering with separate nail complete. **(A) Dual-Directional** **(iii) Micro Cube Corner Spark glow reflectors**	Each	2,171.11			
Ch. # 13 Item # 36/(ii)	Painting Traffic Lane Marking of specified width (1.5mm thick), with Thermoplastic (TP) Paint including Glass Beads, complete in all respect, as approved and directed by Engineer incharge **(ii) 6"**	Per Rft	19,540.00			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (KOTLI BEHRAM CHOWK SK # 09)

ENGINEER COST ESTIMATE

Ch. # 18 Item # 38 A/(i)	Providing and fixing Full width Gantry comprising of 3 mm thick GI sheet (Z-275) fixed over double front and back truss made with Top & bottom chords of MSangle iron L-100x100x10 mm, webs and struts of L 65x65x8 mm welded with top and bottom truss of webs and struts of 65x65x8 mm duly supported on specified vertical posts of double columns of MS pipe of size 7500x219x8 mm thick duly welded with Base plate of 600x400x50 mm with MS stiffners of 350x150x15 mm thick MS sheet for each column fixed in prelaid RCC footing i/c the cost of polyurethene Paint to MS skeleton but excluding the cost of lettering/printing as approved and directed by the Engineer Incharge a **(i) Two Supports**	P.Sft	150.00			
Ch. # 18 Item # 25/(a/i)	Providing, fabrication and fixing pole mounted Direction Board / road delineator of any shape and size, with pecified Sheet and thickness, supported with G.I Channel, (excluding the cost of vertical post and painting) etc complete in all respect. **(a) RECTANGULAR SHAPE** **(i) 12-48 sft**	P.Sft	200.00			
Ch. # 18 Item # 27/(c)	Providing, fabrication and fixing Vertical Post comprising of medium quality G.I Pipe of specified diameter, including the cost of clamping arrangements, top cover, hold fasts embeded in PCC 1:2:4 etc complete in all respect. **(c) 4 inch diameter**	P.Rft	100.00			
				Total Amount (Rs.)		
NSI-08	Providing and laying of Garden Soil 300mm deep complete in all respects	100 Cft	98.34			
				Total Amount (Rs.)		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (KOTLI BEHRAM CHOWK SK # 09)

ENGINEER COST ESTIMATE

BILL # 02 DRAIN WORK

Ch. # 04 Item # 20	Dismantling cement concrete reinforced, separating reinforcement from concrete,cleaning and straightening the same.	100Cft	6.67			
Ch. # 04 Item #19/(c)	Dismantling cement concrete plain **c) Dismantling cement concrete 1:2:4 plain.**	100Cft.	1.88			
Ch. # 04 Item # 13	Dismantling brick work in lime or cement mortar.	100Cft.	37.50			
Ch. # 04 Item # 19/a	Dismantling in lime or cement mortar. **(a) Cement Concrete Plain 1:4:8**	100Cft.	6.66			
Ch. # 03 Item #10/(i)	Earthwork excavation in irrigation channels, drains, etc. to designed section, grades and profiles, excavated material disposed off and dressed within 50 ft. (15 m) lead:- **(With Transportation)** **i) Ordinary**	1000 Cft	1.60			
Ch. # 03 Item # 27	Extra for slush or Daldal including dewatering.	1000 Cft	2.00			
Ch. 7/30	Supplying and filling Sand	100 Cft	20.00			
Ch. # 06 Item # 05/(i)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(i) Ratio 1: 4: 8**	100Cft	29.56			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (KOTLI BEHRAM CHOWK SK # 09)

ENGINEER COST ESTIMATE

Ch. # 06 Item # 05/(h)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(h) Ratio 1: 3: 6**	100Cft	54.96			
Ch. # 07 Item # 04	Pacca brick work in foundation and plinth in:- **(i) Cement, sand mortar:- Ratio 1:3**	100Cft	261.88			
Ch # 11 Item #8/(b)	Cement plaster 1:3 upto 20' (6.00 m) height :- **b) ½" (13 mm) thick**	100 Sft.	221.70			
Ch # 06 Item # 06	(a) (i) Rei nf orced cement concret e i n roof sl ab, beams, columns lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects:- **(3) Type C (nominal mix 1: 2: 4)**	Per Cft	6,281.50			
Ch. # 06 Item # 11/(ii)	Fabrication of mild steel reinforcement for cement concrete, including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars): **(ii) Deformed bars (Grade-60)**	100 kg	341.71			
Ch. 01 Item #01	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone 16.1aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (Carriage 200 Km)	100 Cft	134.07			
Ch # 21 Item # 15	Providing and fixing 6"(150mm) thick R.C.C manhole cover 550mm (22") i/c C.I frame weighing 37.324 Kg as per standard drawing STD/PD No. 6 of 1977complete in all respects.	Per Set	20.00			
				Total Amount (Rs.)		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (KOTLI BEHRAM CHOWK SK # 09)

ENGINEER COST ESTIMATE

BILL # 4 CREDIT OF EXISTING MATERIAL

1	Recovery against Existing Brick Work	No	20,250.00			
2	Recovery against Existing Steel	Tonne	1.04			
				Total Amount (Rs.)		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (KOTLI BEHRAM CHOWK SKT # 09)

BILL OF QUANTITES

Sr. No.	(MRS 2nd Bi-Annual 2022) Chap#/Item #	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
					In Figure	In Words	
1	NSI-1	Providing/Installation of Intelligent Urban advanced traffic signal controller (Imported) The max channel is 44 channel driving control (36 channel for vehicle lights, 8 channel for pedestrian lights). GPS time synchronization, traffic actuation, green wave optional, Ethernet/ WIFI connectivity possible, real time vehicle analysis, Pedestrian/ pelican button operation supported, wifi setting, setting via hand held or PC software, Mobile App remote monitoring and time plan setting, Multi-MCU, modular design, compact and reasonable structure, easy to maintain and expand functionality. Output Module with SSR, Night flashing Mode, working voltage: 110VAC/220VAC, with IP-55 powder coated High quality MS sheet Cabinet 16 gauge with Lock & Key arrangements, proper ventilation arrangement complete in all aspects.Impoted) and as directed by the Engineer Incharge	Each	1.00			
2	NSI-2	Supply, Installation of 3 Aspect 300 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 12 - 15 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	8.00			

3	NSI-3	Supply, Installation of 3 Aspect 200 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 8 - 10 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/Sinowatcher/ GE / DIA Light or Equivalent and as directed by the Engineer Incharge	Each	4.00			
4	NSI-4	Supply, Installation of 1 Aspect 300 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green 3 in 1 Arrow modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 10 - 12 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	8.00			
5	NSI-5	Supply, Installation of 2 Aspect Pedestrian Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Green Pedestrian modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 10 - 12 Watt i/c imported polycarbonated housing, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	7.00			
6	NSI-6	Supply, Installation of High Voltage Wired Blind Clock with Pedestrian push button,display symbol:Wait,and print symbol:Red hand,with normally sound,working ,5pcs wires connection with wired output.Volume adjustable voltage:220VAC and as directed by the Engineer Incharge	Each	7.00			
7	NSI-7	Supply, Installation of Intelligent UTC controller compatible Count Down Meter with Digit 199 (2.5 Digit) LED type made of MS Sheet Body, Gasket, hood / visor, set of Mounting / hanging Brackets Complete and as directed by the Engineer Incharge	Each	4.00			

8	NSI-8	Providing and fixing of Single Standard Straight Pole with 10 feet height GI Pipe 4" Dia complete with base plate and stiffener as per standard given i/c paint and as directed by the Engineer Incharge	Each	4.00			
9	NSI-9	Providing and fixing of Single Standard Straight Pole with 15 feet height GI Pipe 4" Dia complete with base plate and stiffener as per standard given i/c paint and as directed by the Engineer Incharge	Each	1.00			
10	NSI-10	Providing and fixing of cantiliver Single Arm, 6m high pole of 5 inch / 3 inch dia GI pipe with Base plate 400 x 400 x 18mm thick with 4 nos 1/2" thickness with pole cap as per drawing given i/c with 4 nos 3/8" stiffners 1 ft long and i/c paint and as directed by the Engineer Incharge	Each	4.00			
11	NSI-11	Providing and fixing of cantiliver Double Arm, 6m high pole of 5 inch / 3 inch dia GI pipe with Base plate 400 x 400 x 18mm thick with 4 nos 1/2" thickness with pole cap as per drawing given i/c with 4 nos 3/8" stiffners 1 ft long and i/c paint and as directed by the Engineer Incharge	Each	8.00			
12	NSI-12	Foundation Making for centiliver pole traffic pole including 1" Dia 4ft long J-Bolts nuts washers inclusive of sundry material like cement, sand, concrete with paint and lab our charges and as directed by the Engineer Incharge	Each	4.00			
13	NSI-13	Foundation Making for standard traffic pole including 3/4" Dia 2.5ft long J-Bolts nuts washers inclusive of Sundaryof sundry material like cement, sand, concrete (PCC) with paint and labour charges and as directed by the Engineer Incharge	Each	1.00			
14	NSI-14	Construction of 2'x2'x2' inner draw pits with PCC cover and as directed by the Engineer Incharge	Each	2.00			
15	NSI-15	Foundation making for controller inclusive of sundry material like cement sand concrete i/c painting and labor charges and as directed by the Engineer Incharge	Each	1.00			
16	NSI-16	Metallic road cut 4" - 6" depth, Providing /laying of PVC Pipe (Polyethlene) without joint 1-1/2" / 2" dia including road cutting and refilling 1:2:4 cement, Crush Stone, sand as per site requirment and as directed by the Engineer Incharge	Per RFT	450.00			

17	NSI-17	Providing , laying testing and commisioning of flexible Multicore PVC insulated sheathed copper conducter cable (New Age , Pakistan cable, Age or Pioneer, Fast Cable) 0.50mm2 - 1mm2 multicore as per site requirement and as directed by the Engineer Incharge	Per RFT	970.00			
18	NSI-18	Providing earth upto water level with 16mm Dia and one meter long copper rod connected with 8 mm wire as per Requirement and as directed by the Engineer Incharge	Each	1.00			
19	NSI-19	Providing & installation of Pure Sine Wave Power Inverter having Flexible configuration 12 volts with operating temperature 0-55C, overload Protection, LCD Display, Reverse polarity protection by Fuse/ Diode, Output Short Circuit protection, Temperature Protection, Input (Low/ High) Voltage Protection, Input & Output isolated, Multi Stage Charger, Auto Temperature fan, Low Battery Alarm & Shutdown Fast Action, AC Synchronized transfer Switch having board configuration Facility with Maintenance Free Batteries 12 volt; 1110 AH x 2 No. high standard deep cell charging, have a long life maintenance free life span with weather/ Temprature proof, Theft Proof battery storage underground arrangement complete in all respect and as directed by the Engineer Incharge	Each	1.00			
20	NSI-20	Retermination of Complete Intersection including Connetor Strip, Testing and Commsioning the Existing pre laid Cabling as site, includes grouping in junction box as well controller and as directed by the Engineer Incharge	Job	1.00			
Total Amount (Rs.)							

B Video Based Actuated traffic Signal Equipment. (For Full ITS Functionality)

21	NSI-21	Providing/Installation of 4G router for remote data communication supporting Intelligent Urban advanced traffic signal controllers communication protocols and as directed by the Engineer Incharge	Each	1.00			
22	NSI-22	Providing/Installation of Camera Detector Controller; 4 camera detector signal input; 16 channel optical relay output; 4 error signal; output interface: RS485; operating voltage:12-42VAC complete in all respect and as directed by the Engineer Incharge	Each	1.00			
23	NSI-23	Providing/Installation of IP-56 camera detectors with Max 8 Detection Zones,Vehicle presence + data+ video, Resolution: 640x480 pixels, Aluminum weather proof housing with operating voltage:12-42VAC and as directed by the Engineer Incharge	Each	4.00			
24	NSI-24	Providing/Installation of IP-56 Antennas for Camera wireless operation, 16 channels, working voltage: 24VDC, with POE output to camera detector and as directed by the Engineer Incharge	Each	5.00			
25	NSI-25	Providing/Installation of Video pusher/ Network vedio recorder for data transmission and stoage and as directed by the Engineer Incharge	Each	1.00			
26	NSI-26	Providing/Installation of PGETR Conversion power supply 220VAC to 24VDC. Connect camera to output board then its High voltage contorller can working with low voltage camera detector and as directed by the Engineer Incharge	Each	4.00			
27	NSI-27	Central Control Room Server Software for system surviellance, control and operation. (Per intersection cost) and as directed by the Engineer Incharge	Each	1.00			
Total Amount (Rs.)							

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (SHELL PUMP CHOWK SKT # 10)

ENGINEER COST ESTIMATE

SUMMARY OF BILLS

BILL NO	DESCRIPTION	TOTAL COST (RS)
1	BILL NO: 1 ROAD WORK	
2	BILL # 02 DRAIN WORK	
3	OPTICAL FIBER CABLE (OFC)	
4	BILL # 4 INTELLIGENT TRAFFIC SIGNAL INTERSECTION EQUIPMENTS COMPLETE IN ALL RESPECT IN SIALKOT CITY AREA.	
5	ENVIRONMENTAL MANAGEMENT COST	534,500.00
6	SHIFTING OF SERVICES SESCO, SNGPL, PTCL etc. (P.S):	1,000,000.00
7	CREDIT OF EXISTING MATERIAL	
	TOTAL AMOUNT (Rs.)	**1,534,500.00**

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (SHELL PUMP CHOWK SKT # 10)

ENGINEER COST ESTIMATE

(MRS 2nd Bi-Annual 2022) Chap#/Item	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
				In Figure	In Words	
BILL NO: 1 ROAD WORK						
Ch. # 04 Item # 46	Dismantling and removing road pavement, etc., including screening and stacking of by products upto one chain lead (30 metre). **(With Transportation)**	100Cft	180.00			
Ch. 3 Item 2	Earthwork excavation in ashes, sand and soft soil or silt clearance, undressed lead upto 50 ft (15 metre). **(With Transportation)**	1000 Cft	52.87			
Ch. # 18 Item # 12/(iv)	Cold milling of asphalt layer/concrete surface of specified thickness,loading of debris onto haul trucks via conveyor system and disposal at appropriate place i/c the charges of self propelled milling machine of specified size, dumper, pump, water lorry, compressor and Tungsten Carbide Bits etc complete in all respect as approved by Engineer Incharge **(With Transportation)** **(iv) 0 ~ 4" thick**	Per Sft	115,830.00			
Ch # 18 Item # 04/(a)	a) Providing and laying **Base Course** of crushed stone aggregate of approved quality and grade, and supply and spreading of stone screening, including placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHO dry density, including carriage of all materials to site of work except gravel and. aggregate	100Cft.	204.62			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (SHELL PUMP CHOWK SKT # 10)

ENGINEER COST ESTIMATE

Ch. # 18 Item # 06	Providing and laying **Bituminous Priming Coat**, using 10 lbs. kerosene oil and 10 lbs. binder per 100 Sft. or 0.5 Kg kerosene and 0.5 Kg binder per square metre.	100Sft	1,158.30			
Ch. # 18 Item # 07	Providing and laying **Bituminous Tack Coat**, using 10 lbs. of bitumen per 100 Sft (0.49 Kg of bitumen per sq.m.)	100Sft	1,158.30			
Ch. # 18 Item # 10/(iii)	Providing and laying plant premixed bituminous carpet, **Base Course** including compaction and finishing to required camber, grade and density. 4% Bitumen (Excluding carriage of crushed stone aggregate/bajri from Kirana Hill Quarry sargodha) . **(3" Thickness)**	100Sft	1,158.30			
Ch. # 18 Item # 10/(iv)	Providing and laying plant premixed bituminous carpet, **Wearing Course** including compaction and finishing to required camber, grade and density.4.5% Bitumen (Excluding carriage of crushed stone aggregate/bajri from Kirana Hill Quarry sargodha) . **(2"Thickness)**	100Sft	1,158.30			
Ch. 01 Item #01	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone 16.1aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor.	100 Cft	579.15			
Ch. # 10 Item # 41/(c)	Providing and laying Tuff pavers, having 7000 PSI ,crushing strength of approved manufacturer, over 2" to 3" sand cushion i /c grouting with sand in joints i/c finishing to require slope. Complete in all respect. **(50% Grey / 50% Coloured)** **c) 80-mm thick**	P.Sft	31,942.60			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (SHELL PUMP CHOWK SKT # 10)

ENGINEER COST ESTIMATE

Ch. # 06 Item # 52 (b)/(i)	Providing and fixing precast Edge Kerb Stone (4"to 6" thick), of 3500 PSICompressive Strength, embeded in PCC 1:2:4 over lean concrete 1:4:8 etc complete in all respect **b) With Painting** **(ii) 18" high**	Per Rft	10,828.00			
Ch. # 18 Item # 28 A/(iii)	Providing & fixing Cat Eyes of size 4" x 4" x 3/4" duly casted with specified material having plastic strip containing mini retro-reflective glass beads of color white/red/yellow having specifid reflections , quality & shape i/c the cost of self built in 12 mm diax120 mm long steel zinc plated nail,fixing to road with epoxy/ hammering with separate nail complete. **(A) Dual-Directional** **(iii) Micro Cube Corner Spark glow reflectors**	Each	1,888.56			
Ch. # 13 Item # 36/(ii)	Painting Traffic Lane Marking of specified width (1.5mm thick), with Thermoplastic (TP) Paint including Glass Beads, complete in all respect, as approved and directed by Engineer incharge **(ii) 6"**	Per Rft	16,997.00			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (SHELL PUMP CHOWK SKT # 10)

ENGINEER COST ESTIMATE

Ch. # 18 Item # 38 A/(i)	Providing and fixing Full width Gantry comprising of 3 mm thick GI sheet (Z-275) fixed over double front and back truss made with Top & bottom chords of MSangle iron L-100x100x10 mm, webs and struts of L 65x65x8 mm welded with top and bottom truss of webs and struts of 65x65x8 mm duly supported on specified vertical posts of double columns of MS pipe of size 7500x219x8 mm thick duly welded with Base plate of 600x400x50 mm with MS stiffners of 350x150x15 mm thick MS sheet for each column fixed in prelaid RCC footing i/c the cost of polyurethene Paint to MS skeleton but excluding the cost of lettering/printing as approved and directed by the Engineer Incharge a **(i) Two Supports**	P.Sft	150.00			
Ch. # 18 Item # 25/(a/i)	Providing, fabrication and fixing pole mounted Direction Board / road delineator of any shape and size, with pecified Sheet and thickness, supported with G.I Channel, (excluding the cost of vertical post and painting) etc complete in all respect. **(a) RECTANGULAR SHAPE** **(i) 12-48 sft**	P.Sft	200.00			
Ch. # 18 Item # 27/(c)	Providing, fabrication and fixing Vertical Post comprising of medium quality G.I Pipe of specified diameter, including the cost of clamping arrangements, top cover, hold fasts embeded in PCC 1:2:4 etc complete in all respect. **(c) 4 inch diameter**	P.Rft	100.00			
			Total Amount:			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (SHELL PUMP CHOWK SKT # 10)

ENGINEER COST ESTIMATE

NSI-08	Providing and laying of Garden Soil 300mm deep complete in all respects	100 Cft	88.79			
			Total Amount:			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (SHELL PUMP CHOWK SKT # 10)

ENGINEER COST ESTIMATE

BILL # 02 DRAIN WORK

Ch. # 04 Item # 20	Dismantling cement concrete reinforced, separating reinforcement from concrete,cleaning and straightening the same.	100Cft	6.67			
Ch. # 04 Item #19/(c)	Dismantling cement concrete plain **c) Dismantling cement concrete 1:2:4 plain.**	100Cft.	1.88			
Ch. # 04 Item # 13	Dismantling brick work in lime or cement mortar.	100Cft.	37.50			
Ch. # 04 Item # 19/a	Dismantling in lime or cement mortar. **(a) Cement Concrete Plain 1:4:8**	100Cft.	6.66			
Ch. # 03 Item #10/(i)	Earthwork excavation in irrigation channels, drains, etc. to designed section, grades and profiles, excavated material disposed off and dressed within 50 ft. (15 m) lead:- **(With Transportation)** **i) Ordinary**	1000 Cft	21.52			
Ch. # 03 Item # 27	Extra for slush or Daldal including dewatering.	1000 Cft	2.00			
Ch. 7/30	Supplying and filling Sand	100 Cft	20.00			
Ch. # 06 Item # 05/(i)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(i) Ratio 1: 4: 8**	100Cft	36.09			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (SHELL PUMP CHOWK SKT # 10)

ENGINEER COST ESTIMATE

Ch. # 06 Item # 05/(h)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(h) Ratio 1: 3: 6**	100Cft	67.11			
Ch. # 07 Item # 04	Pacca brick work in foundation and plinth in:- **(i) Cement, sand mortar:- Ratio 1:3**	100Cft	319.76			
Ch # 11 Item #8/(b)	Cement plaster 1:3 upto 20' (6.00 m) height :- **b) ½" (13 mm) thick**	100 Sft.	270.70			
Ch # 06 Item # 06	(a) (i) Rei nf orced cement concret e i n roof sl ab, beams, columns lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects:- **(3) Type C (nominal mix 1: 2: 4)**	Per Cft	7,669.83			
Ch. # 06 Item # 11/(ii)	Fabrication of mild steel reinforcement for cement concrete, including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars): **(ii) Deformed bars (Grade-60)**	100 kg	417.24			
Ch. 01 Item #01	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone 16.1aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (Carriage 200 Km)	100 Cft	163.71			
Ch # 21 Item # 15	Providing and fixing 6"(150mm) thick R.C.C manhole cover 550mm (22") i/c C.I frame weighing 37.324 Kg as per standard drawing STD/PD No. 6 of 1977complete in all respects.	Per Set	20.00			
			Total Amount:		-	

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (SHELL PUMP CHOWK SKT # 10)

ENGINEER COST ESTIMATE

BILL # 4 CREDIT OF EXISTING MATERIAL						
1	Recovery against Existing Brick Work	No	20,250.00			
2	Recovery against Existing Steel	Tonne	1.04			
			Total Amount:		**-**	

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (SHEEL PUMP CHOWK SKT # 10)

BILL OF QUANTITES

Sr. No.	(MRS 2nd Bi-Annual 2022) Chap#/Item #	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
					In Figure	In Words	
1	NSI-1	Providing/Installation of Intelligent Urban advanced traffic signal controller (Imported) The max channel is 44 channel driving control (36 channel for vehicle lights, 8 channel for pedestrian lights). GPS time synchronization, traffic actuation, green wave optional, Ethernet/ WIFI connectivity possible, real time vehicle analysis, Pedestrian/ pelican button operation supported, wifi setting, setting via hand held or PC software, Mobile App remote monitoring and time plan setting, Multi-MCU, modular design, compact and reasonable structure, easy to maintain and expand functionality. Output Module with SSR, Night flashing Mode, working voltage: 110VAC/220VAC, with IP-55 powder coated High quality MS sheet Cabinet 16 gauge with Lock & Key arrangements, proper ventilation arrangement complete in all aspects.Impoted) and as directed by the Engineer Incharge	Each	1.00			
2	NSI-2	Supply, Installation of 3 Aspect 300 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 12 - 15 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	8.00			

3	NSI-3	Supply, Installation of 3 Aspect 200 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 8 - 10 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/Sinowatcher/ GE / DIA Light or Equivalent and as directed by the Engineer Incharge	Each	4.00			
4	NSI-4	Supply, Installation of 1 Aspect 300 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green 3 in 1 Arrow modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 10 - 12 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	8.00			
5	NSI-5	Supply, Installation of 2 Aspect Pedestrian Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Green Pedestrian modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 10 - 12 Watt i/c imported polycarbonated housing, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	7.00			
6	NSI-6	Supply, Installation of High Voltage Wired Blind Clock with Pedestrian push button,display symbol:Wait,and print symbol:Red hand,with normally sound,working ,5pcs wires connection with wired output.Volume adjustable voltage:220VAC and as directed by the Engineer Incharge	Each	7.00			
7	NSI-7	Supply, Installation of Intelligent UTC controller compatible Count Down Meter with Digit 199 (2.5 Digit) LED type made of MS Sheet Body, Gasket, hood / visor, set of Mounting / hanging Brackets Complete and as directed by the Engineer Incharge	Each	4.00			

8	NSI-8	Providing and fixing of Single Standard Straight Pole with 10 feet height GI Pipe 4" Dia complete with base plate and stiffener as per standard given i/c paint and as directed by the Engineer Incharge	Each	3.00			
9	NSI-9	Providing and fixing of Single Standard Straight Pole with 15 feet height GI Pipe 4" Dia complete with base plate and stiffener as per standard given i/c paint and as directed by the Engineer Incharge	Each	1.00			
10	NSI-10	Providing and fixing of cantiliver Single Arm, 6m high pole of 5 inch / 3 inch dia GI pipe with Base plate 400 x 400 x 18mm thick with 4 nos 1/2" thickness with pole cap as per drawing given i/c with 4 nos 3/8" stiffners 1 ft long and i/c paint and as directed by the Engineer Incharge	Each	4.00			
11	NSI-11	Providing and fixing of cantiliver Double Arm, 6m high pole of 5 inch / 3 inch dia GI pipe with Base plate 400 x 400 x 18mm thick with 4 nos 1/2" thickness with pole cap as per drawing given i/c with 4 nos 3/8" stiffners 1 ft long and i/c paint and as directed by the Engineer Incharge	Each	8.00			
12	NSI-12	Foundation Making for centiliver pole traffic pole including 1" Dia 4ft long J-Bolts nuts washers inclusive of sundry material like cement, sand, concrete with paint and lab our charges and as directed by the Engineer Incharge	Each	4.00			
13	NSI-13	Foundation Making for standard traffic pole including 3/4" Dia 2.5ft long J-Bolts nuts washers inclusive of Sundaryof sundry material like cement, sand, concrete (PCC) with paint and labour charges and as directed by the Engineer Incharge	Each	1.00			
14	NSI-14	Construction of 2'x2'x2' inner draw pits with PCC cover and as directed by the Engineer Incharge	Each	2.00			
15	NSI-15	Foundation making for controller inclusive of sundry material like cement sand concrete i/c painting and labor charges and as directed by the Engineer Incharge	Each	1.00			
16	NSI-16	Metallic road cut 4" - 6" depth, Providing /laying of PVC Pipe (Polyethlene) without joint 1-1/2" / 2" dia including road cutting and refilling 1:2:4 cement, Crush Stone, sand as per site requirment and as directed by the Engineer Incharge	Per RFT	460.00			

17	NSI-17	Providing , laying testing and commisioning of flexible Multicore PVC insulated sheathed copper conducter cable (New Age , Pakistan cable, Age or Pioneer, Fast Cable) 0.50mm2 1mm2 multicore as per site requirement and as directed by the Engineer Incharge	Per RFT	990.00			
18	NSI-18	Providing earth upto water level with 16mm Dia and one meter long copper rod connected with 8 mm wire as per Requirement and as directed by the Engineer Incharge	Each	1.00			
19	NSI-19	Providing & installation of Pure Sine Wave Power Inverter having Flexible configuration 12 volts with operating temperature 0-55C, overload Protection, LCD Display, Reverse polarity protection by Fuse/ Diode, Output Short Circuit protection, Temperature Protection, Input (Low/ High) Voltage Protection, Input & Output isolated, Multi Stage Charger, Auto Temperature fan, Low Battery Alarm & Shutdown Fast Action, AC Synchronized transfer Switch having board configuration Facility with Maintenance Free Batteries 12 volt; 1110 AH x 2 No. high standard deep cell charging, have a long life maintenance free life span with weather/ Temprature proof, Theft Proof battery storage underground arrangement complete in all respect and as directed by the Engineer Incharge	Each	1.00			
20	NSI-20	Retermination of Complete Intersection including Connetor Strip, Testing and Commsioning the Existing pre laid Cabling as site, includes grouping in junction box as well controller and as directed by the Engineer Incharge	Job	1.00			
Total Amount (Rs.)							

B Video Based Actuated traffic Signal Equipment. (For Full ITS Functionality)

21	NSI-21	Providing/Installation of 4G router for remote data communication supporting Intelligent Urban advanced traffic signal controllers communication protocols and as directed by the Engineer Incharge	Each	1.00			
22	NSI-22	Providing/Installation of Camera Detector Controller; 4 camera detector signal input; 16 channel optical relay output; 4 error signal; output interface: RS485; operating voltage:12-42VAC complete in all respect and as directed by the Engineer Incharge	Each	1.00			
23	NSI-23	Providing/Installation of IP-56 camera detectors with Max 8 Detection Zones,Vehicle presence + data+ video, Resolution: 640x480 pixels, Aluminum weather proof housing with operating voltage:12-42VAC and as directed by the Engineer Incharge	Each	4.00			
24	NSI-24	Providing/Installation of IP-56 Antennas for Camera wireless operation, 16 channels, working voltage: 24VDC, with POE output to camera detector and as directed by the Engineer Incharge	Each	5.00			
25	NSI-25	Providing/Installation of Video pusher/ Network vedio recorder for data transmission and stoage and as directed by the Engineer Incharge	Each	1.00			
26	NSI-26	Providing/Installation of PGETR Conversion power supply 220VAC to 24VDC. Connect camera to output board then its High voltage contorller can working with low voltage camera detector and as directed by the Engineer Incharge	Each	4.00			
27	NSI-27	Central Control Room Server Software for system surviellance, control and operation. (Per intersection cost) and as directed by the Engineer Incharge	Each	1.00			
Total Amount (Rs.)							

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (KHAWAJA ANWAR CHOWK SKT # 11)

ENGINEER COST ESTIMATE

SUMMARY OF COST

BILL NO	DESCRIPTION	TOTAL AMOUNT (RS.)
1	BILL NO: 1 ROAD WORK	
2	BILL # 02 DRAIN WORK	
3	BILL # 03 OPTICAL FIBER CABLE (OFC)	
4	BILL # 4 INTELLIGENT TRAFFIC SIGNAL INTERSECTION EQUIPMENTS COMPLETE IN ALL RESPECT IN SIALKOT CITY AREA.	
5	BILL # 05 ENVIRONMENTAL MANAGEMENT COST	534,500.00
6	BILL # 06 SHIFTING OF SERVICES SESCO, SNGPL, PTCL etc. (P.S):	1,000,000.00
7	CREDIT OF EXISTING MATERIAL	
	Total Amount (Rs.)	

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (KHAWAJA ANWAR CHOWK SKT # 11)

ENGINEER COST ESTIMATE

(MRS 2nd Bi-Annual 2022) Chap#/Item #	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
				In Figure	In Words	
BILL NO: 1 ROAD WORK						
Ch. # 04 Item # 46	Dismantling and removing road pavement, etc., including screening and stacking of by products upto one chain lead (30 metre). **(With Transportation)**	100Cft	135.00			
Ch. 3 Item 2	Earthwork excavation in ashes, sand and soft soil or silt clearance, undressed lead upto 50 ft (15 metre). **(With Transportation)**	1000 Cft	31.21			
Ch. # 18 Item # 12/(iv)	Cold milling of asphalt layer/concrete surface of specified thickness,loading of debris onto haul trucks via conveyor system and disposal at appropriate place i/c the charges of self propelled milling machine of specified size, dumper, pump, water lorry, compressor and Tungsten Carbide Bits etc complete in all respect as approved by Engineer Incharge **(With Transportation)** **(iv) 0 ~ 4" thick**	Per Sft	77,658.60			
Ch # 18 Item # 04/(a)	a) Providing and laying **Base Course** of crushed stone aggregate of approved quality and grade, and supply and spreading of stone screening, including placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHO dry density, including carriage of all materials to site of work except gravel and. aggregate	100Cft.	659.09			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (KHAWAJA ANWAR CHOWK SKT # 11)

ENGINEER COST ESTIMATE

Ch # 18 Item # /03 (a)/(ii)	(a) (ii) Providing and laying **Sub-Base Course** of stone product of approved quality and grade, including placing, mixing, spreading and compaction of sub-base material to required depth, camber, grade to achieve 100% maximum modified AASHO dry density, including carriage of all material to site of work except gravel and aggregate.	100Cft.	30.79			
Ch. # 18 Item # 06	Providing and laying **Bituminous Priming Coat**, using 10 lbs. kerosene oil and 10 lbs. binder per 100 Sft. or 0.5 Kg kerosene and 0.5 Kg binder per square metre.	100Sft	776.59			
Ch. # 18 Item # 07	Providing and laying **Bituminous Tack Coat**, using 10 lbs. of bitumen per 100 Sft (0.49 Kg of bitumen per sq.m.)	100Sft	776.59			
Ch. # 18 Item # 10/(iii)	Providing and laying plant premixed bituminous carpet, **Base Course** including compaction and finishing to required camber, grade and density. 4% Bitumen (Excluding carriage of crushed stone aggregate/bajri from Kirana Hill Quarry sargodha) . **(3" Thickness)**	100Sft	776.59			
Ch. # 18 Item # 10/(iv)	Providing and laying plant premixed bituminous carpet, **Wearing Course** including compaction and finishing to required camber, grade and density.4.5% Bitumen (Excluding carriage of crushed stone aggregate/bajri from Kirana Hill Quarry sargodha) . **(2"Thickness)**	100Sft	776.59			
Ch. 01 Item #01	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone 16.1aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor.	100 Cft	425.24			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (KHAWAJA ANWAR CHOWK SKT # 11)

ENGINEER COST ESTIMATE

Ch. # 10 Item # 41/(c)	Providing and laying Tuff pavers, having 7000 PSI ,crushing strength of approved manufacturer, over 2" to 3" sand cushion i /c grouting with sand in joints i/c finishing to require slope. Complete in all respect. **(50% Grey / 50% Coloured)** **c) 80-mm thick**	P.Sft	19,375.60			
Ch. # 06 Item # 52 (b)/(i)	Providing and fixing precast Edge Kerb Stone (4"to 6" thick), of 3500 PSICompressive Strength, embeded in PCC 1:2:4 over lean concrete 1:4:8 etc complete in all respect **b) With Painting** **(ii) 18" high**	Per Rft	6,568.00			
Ch. # 18 Item # 28 A/(iii)	Providing & fixing Cat Eyes of size 4" x 4" x 3/4" duly casted with specified material having plastic strip containing mini retro-reflective glass beads of color white/red/yellow having specifid reflections , quality & shape i/c the cost of self built in 12 mm diax120 mm long steel zinc plated nail,fixing to road with epoxy/ hammering with separate nail complete. **(A) Dual-Directional** **(iii) Micro Cube Corner Spark glow reflectors**	Each	1,167.56			
Ch. # 13 Item # 36/(ii)	Painting Traffic Lane Marking of specified width (1.5mm thick), with Thermoplastic (TP) Paint including Glass Beads, complete in all respect, as approved and directed by Engineer incharge **(ii) 6"**	Per Rft	10,508.00			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (KHAWAJA ANWAR CHOWK SKT # 11)

ENGINEER COST ESTIMATE

Ch. # 18 Item # 38 A/(i)	Providing and fixing Full width Gantry comprising of 3 mm thick GI sheet (Z-275) fixed over double front and back truss made with Top & bottom chords of MSangle iron L-100x100x10 mm, webs and struts of L 65x65x8 mm welded with top and bottom truss of webs and struts of 65x65x8 mm duly supported on specified vertical posts of double columns of MS pipe of size 7500x219x8 mm thick duly welded with Base plate of 600x400x50 mm with MS stiffners of 350x150x15 mm thick MS sheet for each column fixed in prelaid RCC footing i/c the cost of polyurethene Paint to MS skeleton but excluding the cost of lettering/printing as approved and directed by the Engineer Incharge a **(i) Two Supports**	P.Sft	150.00			
Ch. # 18 Item # 25/(a/i)	Providing, fabrication and fixing pole mounted Direction Board / road delineator of any shape and size, with pecified Sheet and thickness, supported with G.I Channel, (excluding the cost of vertical post and painting) etc complete in all respect. **(a) RECTANGULAR SHAPE** **(i) 12-48 sft**	P.Sft	200.00			
Ch. # 18 Item # 27/(c)	Providing, fabrication and fixing Vertical Post comprising of medium quality G.I Pipe of specified diameter, including the cost of clamping arrangements, top cover, hold fasts embeded in PCC 1:2:4 etc complete in all respect. **(c) 4 inch diameter**	P.Rft	100.00			
			Total Amount (Rs.)			
NSI-08	Providing and laying of Garden Soil 300mm deep complete in all respects	100 Cft	59.24			
			Total Amount (Rs.)	**-**		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (KHAWAJA ANWAR CHOWK SKT # 11)

ENGINEER COST ESTIMATE

BILL # 02 DRAIN WORK

Ch. # 04 Item # 20	Dismantling cement concrete reinforced, separating reinforcement from concrete,cleaning and straightening the same.	100Cft	6.67			
Ch. # 04 Item #19/(c)	Dismantling cement concrete plain **c) Dismantling cement concrete 1:2:4 plain.**	100Cft.	1.88			
Ch. # 04 Item # 13	Dismantling brick work in lime or cement mortar.	100Cft.	37.50			
Ch. # 04 Item # 19/a	Dismantling in lime or cement mortar. **(a) Cement Concrete Plain 1:4:8**	100Cft.	6.66			
Ch. # 03 Item #10/(i)	Earthwork excavation in irrigation channels, drains, etc. to designed section, grades and profiles, excavated material disposed off and dressed within 50 ft. (15 m) lead:- **(With Transportation)** **i) Ordinary**	1000 Cft	9.54			
Ch. # 03 Item # 27	Extra for slush or Daldal including dewatering.	1000 Cft	2.00			
Ch. 7/30	Supplying and filling Sand	100 Cft	20.00			
Ch. # 06 Item # 05/(i)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(i) Ratio 1: 4: 8**	100Cft	21.89			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (KHAWAJA ANWAR CHOWK SKT # 11)

ENGINEER COST ESTIMATE

Ch. # 06 Item # 05/(h)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(h) Ratio 1: 3: 6**	100Cft	40.71			
Ch. # 07 Item # 04	Pacca brick work in foundation and plinth in:- **(i) Cement, sand mortar:- Ratio 1:3**	100Cft	193.96			
Ch # 11 Item #8/(b)	Cement plaster 1:3 upto 20' (6.00 m) height :- **b) ½" (13 mm) thick**	100 Sft.	164.20			
Ch # 06 Item # 06	(a) (i) Rei nf orced cement concret e i n roof sl ab, beams, columns lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects:- **(3) Type C (nominal mix 1: 2: 4)**	Per Cft	4,652.33			
Ch. # 06 Item # 11/(ii)	Fabrication of mild steel reinforcement for cement concrete, including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars): **(ii) Deformed bars (Grade-60)**	100 kg	253.09			
Ch. 01 Item #01	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone 16.1aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (Carriage 200 Km)	100 Cft	99.30			
Ch # 21 Item # 15	Providing and fixing 6"(150mm) thick R.C.C manhole cover 550mm (22") i/c C.I frame weighing 37.324 Kg as per standard drawing STD/PD No. 6 of 1977complete in all respects.	Per Set	20.00			
			Total Amount (Rs.)			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (KHAWAJA ANWAR CHOWK SKT # 11)

ENGINEER COST ESTIMATE

BILL # 4 CREDIT OF EXISTING MATERIAL

1	Recovery against Existing Brick Work	No	20,250.00			
2	Recovery against Existing Steel	Tonne	1.04			
	Total Amount (Rs.)					

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (BKHUWAJA ANWAR CHOWK SKT # 11)

BILL OF QUANTITES

Sr. No.	(MRS 2nd Bi-Annual 2022) Chap#/Item #	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
					In Figure	In Words	
1	NSI-1	Providing/Installation of Intelligent Urban advanced traffic signal controller (Imported) The max channel is 44 channel driving control (36 channel for vehicle lights, 8 channel for pedestrian lights). GPS time synchronization, traffic actuation, green wave optional, Ethernet/ WIFI connectivity possible, real time vehicle analysis, Pedestrian/ pelican button operation supported, wifi setting, setting via hand held or PC software, Mobile App remote monitoring and time plan setting, Multi-MCU, modular design, compact and reasonable structure, easy to maintain and expand functionality. Output Module with SSR, Night flashing Mode, working voltage: 110VAC/220VAC, with IP-55 powder coated High quality MS sheet Cabinet 16 gauge with Lock & Key arrangements, proper ventilation arrangement complete in all aspects.Impoted) and as directed by the Engineer Incharge	Each	1.00			
2	NSI-2	Supply, Installation of 3 Aspect 300 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 12 - 15 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	7.00			

3	NSI-3	Supply, Installation of 3 Aspect 200 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 8 - 10 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/Sinowatcher/ GE / DIA Light or Equivalent and as directed by the Engineer Incharge	Each	3.00			
4	NSI-4	Supply, Installation of 1 Aspect 300 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green 3 in 1 Arrow modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 10 - 12 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	7.00			
5	NSI-5	Supply, Installation of 2 Aspect Pedestrian Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Green Pedestrian modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 10 - 12 Watt i/c imported polycarbonated housing, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	6.00			
6	NSI-6	Supply, Installation of High Voltage Wired Blind Clock with Pedestrian push button,display symbol:Wait,and print symbol:Red hand,with normally sound,working ,5pcs wires connection with wired output.Volume adjustable voltage:220VAC and as directed by the Engineer Incharge	Each	6.00			
7	NSI-7	Supply, Installation of Intelligent UTC controller compatible Count Down Meter with Digit 199 (2.5 Digit) LED type made of MS Sheet Body, Gasket, hood / visor, set of Mounting / hanging Brackets Complete and as directed by the Engineer Incharge	Each	3.00			

8	NSI-8	Providing and fixing of Single Standard Straight Pole with 10 feet height GI Pipe 4" Dia complete with base plate and stiffener as per standard given i/c paint and as directed by the Engineer Incharge	Each	6.00			
9	NSI-9	Providing and fixing of Single Standard Straight Pole with 15 feet height GI Pipe 4" Dia complete with base plate and stiffener as per standard given i/c paint and as directed by the Engineer Incharge	Each	2.00			
10	NSI-10	Providing and fixing of cantiliver Single Arm, 6m high pole of 5 inch / 3 inch dia GI pipe with Base plate 400 x 400 x 18mm thick with 4 nos 1/2" thickness with pole cap as per drawing given i/c with 4 nos 3/8" stiffners 1 ft long and i/c paint and as directed by the Engineer Incharge	Each	3.00			
11	NSI-11	Providing and fixing of cantiliver Double Arm, 6m high pole of 5 inch / 3 inch dia GI pipe with Base plate 400 x 400 x 18mm thick with 4 nos 1/2" thickness with pole cap as per drawing given i/c with 4 nos 3/8" stiffners 1 ft long and i/c paint and as directed by the Engineer Incharge	Each	6.00			
12	NSI-12	Foundation Making for centiliver pole traffic pole including 1" Dia 4ft long J-Bolts nuts washers inclusive of sundry material like cement, sand, concrete with paint and lab our charges and as directed by the Engineer Incharge	Each	3.00			
13	NSI-13	Foundation Making for standard traffic pole including 3/4" Dia 2.5ft long J-Bolts nuts washers inclusive of Sundaryof sundry material like cement, sand, concrete (PCC) with paint and labour charges and as directed by the Engineer Incharge	Each	2.00			
14	NSI-14	Construction of 2'x2'x2' inner draw pits with PCC cover and as directed by the Engineer Incharge	Each	1.00			
15	NSI-15	Foundation making for controller inclusive of sundry material like cement sand concrete i/c painting and labor charges and as directed by the Engineer Incharge	Each	1.00			
16	NSI-16	Metallic road cut 4" - 6" depth, Providing /laying of PVC Pipe (Polyethlene) without joint 1-1/2" / 2” dia including road cutting and refilling 1:2:4 cement, Crush Stone, sand as per site requirment and as directed by the Engineer Incharge	Per RFT	418.00			

17	NSI-17	Providing , laying testing and commisioning of flexible Multicore PVC insulated sheathed copper conducter cable (New Age , Pakistan cable, Age or Pioneer, Fast Cable) 0.50mm2 1mm2 multicore as per site requirement and as directed by the Engineer Incharge	Per RFT	980.0			
18	NSI-18	Providing earth upto water level with 16mm Dia and one meter long copper rod connected with 8 mm wire as per Requirement and as directed by the Engineer Incharge	Each	1.00			
19	NSI-19	Providing & installation of Pure Sine Wave Power Inverter having Flexible configuration 12 volts with operating temperature 0-55C, overload Protection, LCD Display, Reverse polarity protection by Fuse/ Diode, Output Short Circuit protection, Temperature Protection, Input (Low/ High) Voltage Protection, Input & Output isolated, Multi Stage Charger, Auto Temperature fan, Low Battery Alarm & Shutdown Fast Action, AC Synchronized transfer Switch having board configuration Facility with Maintenance Free Batteries 12 volt; 1110 AH x 2 No. high standard deep cell charging, have a long life maintenance free life span with weather/ Temprature proof, Theft Proof battery storage underground arrangement complete in all respect and as directed by the Engineer Incharge	Each	1.00			
20	NSI-20	Retermination of Complete Intersection including Connetor Strip, Testing and Commsioning the Existing pre laid Cabling as site, includes grouping in junction box as well controller and as directed by the Engineer Incharge	Job	1.00			
				Total Amount (Rs.)			

B Video Based Actuated traffic Signal Equipment. (For Full ITS Functionality)

21	NSI-21	Providing/Installation of 4G router for remote data communication supporting Intelligent Urban advanced traffic signal controllers communication protocols and as directed by the Engineer Incharge	Each	1.00			
22	NSI-22	Providing/Installation of Camera Detector Controller; 4 camera detector signal input; 16 channel optical relay output; 4 error signal; output interface: RS485; operating voltage:12-42VAC complete in all respect and as directed by the Engineer Incharge	Each	1.00			
23	NSI-23	Providing/Installation of IP-56 camera detectors with Max 8 Detection Zones,Vehicle presence + data+ video, Resolution: 640x480 pixels, Aluminum weather proof housing with operating voltage:12-42VAC and as directed by the Engineer Incharge	Each	3.00			
24	NSI-24	Providing/Installation of IP-56 Antennas for Camera wireless operation, 16 channels, working voltage: 24VDC, with POE output to camera detector and as directed by the Engineer Incharge	Each	4.00			
25	NSI-25	Providing/Installation of Video pusher/ Network vedio recorder for data transmission and stoage and as directed by the Engineer Incharge	Each	1.00			
26	NSI-26	Providing/Installation of PGETR Conversion power supply 220VAC to 24VDC. Connect camera to output board then its High voltage contorller can working with low voltage camera detector and as directed by the Engineer Incharge	Each	3.00			
27	NSI-27	Central Control Room Server Software for system surviellance, control and operation. (Per intersection cost) and as directed by the Engineer Incharge	Each	1.00			
					Total Amount (Rs.)		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (NIKA PURA CHOWK SKT # 12)

ENGINEER COST ESTIMATE

SUMMARY OF COST

BILL NO	DESCRIPTION	Amount (Rs.)
1	BILL NO: 1 ROAD WORK	
2	BILL # 02 DRAIN WORK	
3	BILL # 03 OPTICAL FIBER CABLE (OFC)	
4	BILL # 4 INTELLIGENT TRAFFIC SIGNAL INTERSECTION EQUIPMENTS COMPLETE IN ALL RESPECT IN SIALKOT CITY AREA.	
5	BILL # 05 ENVIRONMENTAL MANAGEMENT COST	534,500.00
6	BILL # 06 SHIFTING OF SERVICES SESCO, SNGPL, PTCL etc. (P.S):	1,000,000.00
7	BILL # 07CREDIT OF EXISTING MATERIAL	
	Total amount (RS.)	

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (NIKA PURA CHOWK SKT # 12)

ENGINEER COST ESTIMATE

(MRS 2nd Bi-Annual 2022) Chap#/Item	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
				In Figure	In Words	
	BILL NO: 1 ROAD WORK					
Ch. # 04 Item # 46	Dismantling and removing road pavement, etc., including screening and stacking of by products upto one chain lead (30 metre). **(With Transportation)**	100Cft	135.00			
Ch. 3 Item 2	Earthwork excavation in ashes, sand and soft soil or silt clearance, undressed lead upto 50 ft (15 metre). **(With Transportation)**	1000 Cft	2.77			
Ch. # 18 Item # 12/(iv)	Cold milling of asphalt layer/concrete surface of specified thickness,loading of debris onto haul trucks via conveyor system and disposal at appropriate place i/c the charges of self propelled milling machine of specified size, dumper, pump, water lorry, compressor and Tungsten Carbide Bits etc complete in all respect as approved by Engineer Incharge **(With Transportation)** **(iv) 0 ~ 4" thick**	Per Sft	95,583.20			
Ch # 18 Item # 04/(a)	a) Providing and laying **Base Course** of crushed stone aggregate of approved quality and grade, and supply and spreading of stone screening, including placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHO dry density, including carriage of all materials to site of work except gravel and. aggregate	100Cft.	1,288.53			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (NIKA PURA CHOWK SKT # 12)

ENGINEER COST ESTIMATE

Ch # 18 Item # /03 (a)/(ii)	(a) (ii) Providing and laying **Sub-Base Course** of stone product of approved quality and grade, including placing, mixing, spreading and compaction of sub-base material to required depth, camber, grade to achieve 100% maximum modified AASHO dry density, including carriage of all material to site of work except gravel and aggregate.	100Cft.	25.07			
Ch. # 18 Item # 06	Providing and laying **Bituminous Priming Coat**, using 10 lbs. kerosene oil and 10 lbs. binder per 100 Sft. or 0.5 Kg kerosene and 0.5 Kg binder per square metre.	100Sft	955.83			
Ch. # 18 Item # 07	Providing and laying **Bituminous Tack Coat**, using 10 lbs. of bitumen per 100 Sft (0.49 Kg of bitumen per sq.m.)	100Sft	955.83			
Ch. # 18 Item # 10/(iii)	Providing and laying plant premixed bituminous carpet, **Base Course** including compaction and finishing to required camber, grade and density. 4% Bitumen (Excluding carriage of crushed stone aggregate/bajri from Kirana Hill Quarry sargodha) . **(3" Thickness)**	100Sft	955.83			
Ch. # 18 Item # 10/(iv)	Providing and laying plant premixed bituminous carpet, **Wearing Course** including compaction and finishing to required camber, grade and density.4.5% Bitumen (Excluding carriage of crushed stone aggregate/bajri from Kirana Hill Quarry sargodha) . **(2"Thickness)**	100Sft	955.83			
Ch. 01 Item #01	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone 16.1aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor.	100 Cft	508.00			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (NIKA PURA CHOWK SKT # 12)

ENGINEER COST ESTIMATE

Ch. # 10 Item # 41/(c)	Providing and laying Tuff pavers, having 7000 PSI ,crushing strength of approved manufacturer, over 2" to 3" sand cushion i /c grouting with sand in joints i/c finishing to require slope. Complete in all respect. **(50% Grey / 50% Coloured)** **c) 80-mm thick**	P.Sft	22,467.20			
Ch. # 06 Item # 52 (b)/(i)	Providing and fixing precast Edge Kerb Stone (4"to 6" thick), of 3500 PSICompressive Strength, embeded in PCC 1:2:4 over lean concrete 1:4:8 etc complete in all respect **b) With Painting** **(ii) 18" high**	Per Rft	7,616.00			
Ch. # 18 Item # 28 A/(iii)	Providing & fixing Cat Eyes of size 4" x 4" x 3/4" duly casted with specified material having plastic strip containing mini retro-reflective glass beads of color white/red/yellow having specifid reflections , quality & shape i/c the cost of self built in 12 mm diax120 mm long steel zinc plated nail,fixing to road with epoxy/ hammering with separate nail complete. **(A) Dual-Directional** **(iii) Micro Cube Corner Spark glow reflectors**	Each	1,269.33			
Ch. # 13 Item # 36/(ii)	Painting Traffic Lane Marking of specified width (1.5mm thick), with Thermoplastic (TP) Paint including Glass Beads, complete in all respect, as approved and directed by Engineer incharge **(ii) 6"**	Per Rft	12,014.00			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (NIKA PURA CHOWK SKT # 12)

ENGINEER COST ESTIMATE

Ch. # 18 Item # 38 A/(i)	Providing and fixing Full width Gantry comprising of 3 mm thick GI sheet (Z-275) fixed over double front and back truss made with Top & bottom chords of MSangle iron L-100x100x10 mm, webs and struts of L 65x65x8 mm welded with top and bottom truss of webs and struts of 65x65x8 mm duly supported on specified vertical posts of double columns of MS pipe of size 7500x219x8 mm thick duly welded with Base plate of 600x400x50 mm with MS stiffners of 350x150x15 mm thick MS sheet for each column fixed in prelaid RCC footing i/c the cost of polyurethene Paint to MS skeleton but excluding the cost of lettering/printing as approved and directed by the Engineer Incharge a **(i) Two Supports**	P.Sft	150.00			
Ch. # 18 Item # 25/(a/i)	Providing, fabrication and fixing pole mounted Direction Board / road delineator of any shape and size, with pecified Sheet and thickness, supported with G.I Channel, (excluding the cost of vertical post and painting) etc complete in all respect. **(a) RECTANGULAR SHAPE** **(i) 12-48 sft**	P.Sft	200.00			
Ch. # 18 Item # 27/(c)	Providing, fabrication and fixing Vertical Post comprising of medium quality G.I Pipe of specified diameter, including the cost of clamping arrangements, top cover, hold fasts embeded in PCC 1:2:4 etc complete in all respect. **(c) 4 inch diameter**	P.Rft	100.00			
				Total Amount (Rs.)		
NSI-08	Providing and laying of Garden Soil 300mm deep complete in all respects	100 Cft	76.16			
				Total Amount (Rs.)		

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (NIKA PURA CHOWK SKT # 12)

ENGINEER COST ESTIMATE

BILL # 02 DRAIN WORK						
Ch. # 04 Item # 20	Dismantling cement concrete reinforced, separating reinforcement from concrete,cleaning and straightening the same.	100Cft	6.67			
Ch. # 04 Item #19/(c)	Dismantling cement concrete plain **c) Dismantling cement concrete 1:2:4 plain.**	100Cft.	1.88			
Ch. # 04 Item # 13	Dismantling brick work in lime or cement mortar.	100Cft.	37.50			
Ch. # 04 Item # 19/a	Dismantling in lime or cement mortar. **(a) Cement Concrete Plain 1:4:8**	100Cft.	6.66			
Ch. # 03 Item #10/(i)	Earthwork excavation in irrigation channels, drains, etc. to designed section, grades and profiles, excavated material disposed off and dressed within 50 ft. (15 m) lead:- **(With Transportation)** **i) Ordinary**	1000 Cft	12.48			
Ch. # 03 Item # 27	Extra for slush or Daldal including dewatering.	1000 Cft	2.00			
Ch. 7/30	Supplying and filling Sand	100 Cft	20.00			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (NIKA PURA CHOWK SKT # 12)

ENGINEER COST ESTIMATE

Ch. # 06 Item # 05/(i)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(i) Ratio 1: 4: 8**	100Cft	25.39			
Ch. # 06 Item # 05/(h)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): **(h) Ratio 1: 3: 6**	100Cft	47.20			
Ch. # 07 Item # 04	Pacca brick work in foundation and plinth in:- **(i) Cement, sand mortar:- Ratio 1:3**	100Cft	224.91			
Ch # 11 Item #8/(b)	Cement plaster 1:3 upto 20' (6.00 m) height :- **b) ½" (13 mm) thick**	100 Sft.	190.40			
Ch # 06 Item # 06	(a) (i) Rei nf orced cement concret e i n roof sl ab, beams, columns lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects:- **(3) Type C (nominal mix 1: 2: 4)**	Per Cft	5,394.67			
Ch. # 06 Item # 11/(ii)	Fabrication of mild steel reinforcement for cement concrete, including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars): **(ii) Deformed bars (Grade-60)**	100 kg	293.47			

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (NIKA PURA CHOWK SKT # 12)

ENGINEER COST ESTIMATE

Ch. 01 Item #01	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone 16.1aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (Carriage 200 Km)	100 Cft	115.14			
Ch # 21 Item # 15	Providing and fixing 6"(150mm) thick R.C.C manhole cover 550mm (22") i/c C.I frame weighing 37.324 Kg as per standard drawing STD/PD No. 6 of 1977complete in all respects.	Per Set	20.00			
				Total Amount (Rs.)	-	

BILL # 4 CREDIT OF EXISTING MATERIAL

1	Recovery against Existing Brick Work	No	20,250.00			
2	Recovery against Existing Steel	Tonne	1.04			
				Total Amount (Rs.)	-	

LOCAL GOVERNMENT AND COMMUNITY DEPARTMENT GOVERNMENT OF PUNJAB

PUNJAB INTERMEDIATE CITIES IMPROVEMENT PROGRAME (PCIIP)

SIGNAL AND JUNCTION IMPROVEMENT (SIALKOT) (AIMAN ABAD LINK CHOWK SKT # 12)

BILL OF QUANTITES

Sr. No.	(MRS 2nd Bi-Annual 2022) Chap#/Item#	DESCRIPTION	Unit	QTY	Rate (Rs.)		AMOUNT (Rs.)
					In Figure	In Words	
1	NSI-1	Providing/Installation of Intelligent Urban advanced traffic signal controller (Imported) The max channel is 44 channel driving control (36 channel for vehicle lights, 8 channel for pedestrian lights). GPS time synchronization, traffic actuation, green wave optional, Ethernet/ WIFI connectivity possible, real time vehicle analysis, Pedestrian/ pelican button operation supported, wifi setting, setting via hand held or PC software, Mobile App remote monitoring and time plan setting, Multi-MCU, modular design, compact and reasonable structure, easy to maintain and expand functionality. Output Module with SSR, Night flashing Mode, working voltage: 110VAC/220VAC, with IP-55 powder coated High quality MS sheet Cabinet 16 gauge with Lock & Key arrangements, proper ventilation arrangement complete in all aspects.Impoted) and as directed by the Engineer Incharge	Each	1.00			
2	NSI-2	Supply, Installation of 3 Aspect 300 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 12 - 15 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	8.00			

3	NSI-3	Supply, Installation of 3 Aspect 200 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 8 - 10 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/Sinowatcher/ GE / DIA Light or Equivalent and as directed by the Engineer Incharge	Each	4.00			
4	NSI-4	Supply, Installation of 1 Aspect 300 mm Traffic Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Amber, Green 3 in 1 Arrow modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 10 - 12 Watt i/c imported polycarbonated housing or Alluminium Die Cast, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	8.00			
5	NSI-5	Supply, Installation of 2 Aspect Pedestrian Light, Light Emitting Diode (LED) optical System (Central Light Source)/High Intensity with Red, Green Pedestrian modules, phantom light reduction, colour stability, operation volages 230V-240V and power consumption 10 - 12 Watt i/c imported polycarbonated housing, with hood / visor door etc including wiring termination, testing and commissioning complete in all respect (Imported) Brand: LASIM AFORICA/ ZAMTAS/ Aldridge/ Sinowatcher/ GE/ DIA Light or Equivalent and as directed by the Engineer Incharge	Each	7.00			
6	NSI-6	Supply, Installation of High Voltage Wired Blind Clock with Pedestrian push button,display symbol:Wait,and print symbol:Red hand,with normally sound,working ,5pcs wires connection with wired output.Volume adjustable voltage:220VAC and as directed by the Engineer Incharge	Each	7.00			
7	NSI-7	Supply, Installation of Intelligent UTC controller compatible Count Down Meter with Digit 199 (2.5 Digit) LED type made of MS Sheet Body, Gasket, hood / visor, set of Mounting / hanging Brackets Complete and as directed by the Engineer Incharge	Each	4.00			

8	NSI-8	Providing and fixing of Single Standard Straight Pole with 10 feet height GI Pipe 4" Dia complete with base plate and stiffener as per standard given i/c paint and as directed by the Engineer Incharge	Each	3.00			
9	NSI-9	Providing and fixing of Single Standard Straight Pole with 15 feet height GI Pipe 4" Dia complete with base plate and stiffener as per standard given i/c paint and as directed by the Engineer Incharge	Each	1.00			
10	NSI-10	Providing and fixing of cantiliver Single Arm, 6m high pole of 5 inch / 3 inch dia GI pipe with Base plate 400 x 400 x 18mm thick with 4 nos 1/2" thickness with pole cap as per drawing given i/c with 4 nos 3/8" stiffners 1 ft long and i/c paint and as directed by the Engineer Incharge	Each	4.00			
11	NSI-11	Providing and fixing of cantiliver Double Arm, 6m high pole of 5 inch / 3 inch dia GI pipe with Base plate 400 x 400 x 18mm thick with 4 nos 1/2" thickness with pole cap as per drawing given i/c with 4 nos 3/8" stiffners 1 ft long and i/c paint and as directed by the Engineer Incharge	Each	8.00			
12	NSI-12	Foundation Making for centiliver pole traffic pole including 1" Dia 4ft long J-Bolts nuts washers inclusive of sundry material like cement, sand, concrete with paint and lab our charges and as directed by the Engineer Incharge	Each	4.00			
13	NSI-13	Foundation Making for standard traffic pole including 3/4" Dia 2.5ft long J-Bolts nuts washers inclusive of Sundaryof sundry material like cement, sand, concrete (PCC) with paint and labour charges and as directed by the Engineer Incharge	Each	1.00			
14	NSI-14	Construction of 2'x2'x2' inner draw pits with PCC cover and as directed by the Engineer Incharge	Each	2.00			
15	NSI-15	Foundation making for controller inclusive of sundry material like cement sand concrete i/c painting and labor charges and as directed by the Engineer Incharge	Each	1.00			
16	NSI-16	Metallic road cut 4" - 6" depth, Providing /laying of PVC Pipe (Polyethlene) without joint 1-1/2" / 2" dia including road cutting and refilling 1:2:4 cement, Crush Stone, sand as per site requirment and as directed by the Engineer Incharge	Per RFT	450.00			

17	NSI-17	Providing , laying testing and commisioning of flexible Multicore PVC insulated sheathed copper conducter cable (New Age , Pakistan cable, Age or Pioneer, Fast Cable) 0.50mm2 - 1mm2 multicore as per site requirement and as directed by the Engineer Incharge	Per RFT	970.00			
18	NSI-18	Providing earth upto water level with 16mm Dia and one meter long copper rod connected with 8 mm wire as per Requirement and as directed by the Engineer Incharge	Each	1.00			
19	NSI-19	Providing & installation of Pure Sine Wave Power Inverter having Flexible configuration 12 volts with operating temperature 0-55C, overload Protection, LCD Display, Reverse polarity protection by Fuse/ Diode, Output Short Circuit protection, Temperature Protection, Input (Low/ High) Voltage Protection, Input & Output isolated, Multi Stage Charger, Auto Temperature fan, Low Battery Alarm & Shutdown Fast Action, AC Synchronized transfer Switch having board configuration Facility with Maintenance Free Batteries 12 volt; 1110 AH x 2 No. high standard deep cell charging, have a long life maintenance free life span with weather/ Temprature proof, Theft Proof battery storage underground arrangement complete in all respect and as directed by the Engineer Incharge	Each	1.00			
20	NSI-20	Retermination of Complete Intersection including Connetor Strip, Testing and Commsioning the Existing pre laid Cabling as site, includes grouping in junction box as well controller and as directed by the Engineer Incharge	Job	1.00			
Total Amount (Rs.)							

B Video Based Actuated traffic Signal Equipment. (For Full ITS Functionality)

21	NSI-21	Providing/Installation of 4G router for remote data communication supporting Intelligent Urban advanced traffic signal controllers communication protocols and as directed by the Engineer Incharge	Each	1.00			
22	NSI-22	Providing/Installation of Camera Detector Controller; 4 camera detector signal input; 16 channel optical relay output; 4 error signal; output interface: RS485; operating voltage:12-42VAC complete in all respect and as directed by the Engineer Incharge	Each	1.00			
23	NSI-23	Providing/Installation of IP-56 camera detectors with Max 8 Detection Zones,Vehicle presence + data+ video, Resolution: 640x480 pixels, Aluminum weather proof housing with operating voltage:12-42VAC and as directed by the Engineer Incharge	Each	4.00			
24	NSI-24	Providing/Installation of IP-56 Antennas for Camera wireless operation, 16 channels, working voltage: 24VDC, with POE output to camera detector and as directed by the Engineer Incharge	Each	5.00			
25	NSI-25	Providing/Installation of Video pusher/ Network vedio recorder for data transmission and stoage and as directed by the Engineer Incharge	Each	1.00			
26	NSI-26	Providing/Installation of PGETR Conversion power supply 220VAC to 24VDC. Connect camera to output board then its High voltage contorller can working with low voltage camera detector and as directed by the Engineer Incharge	Each	4.00			
27	NSI-27	Central Control Room Server Software for system surviellance, control and operation. (Per intersection cost) and as directed by the Engineer Incharge	Each	1.00			
Total Amount (Rs.)							