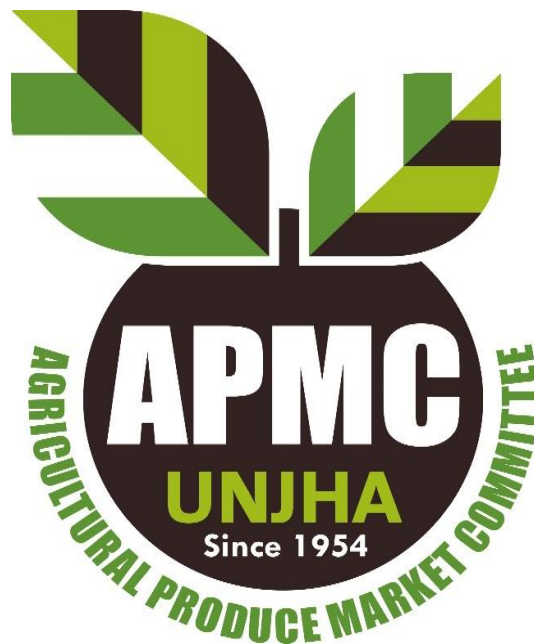


THE AGRICULTURE PRODUCE MARKET COMMITTEE

UNJHA

**NAME OF WORK :- BUTIFICATION OF AGRICULTURE
PRODUCE MARKET COMMITTEE CIRCLE AT STATE
HIGHWAY NO 41 AT UNJHA, TA UNJHA, DISTRICT:
MEHSANA.**

ESTIMATED COST ₹. 15,42,500.00



SPECIFICATION

**CHAIRMAN
THE AGRICULTURE PRODUCE AMRKET COMMITTEE
UNJHA**

INDEX OF SPECIFICATION AND DETAIL SPECIFICATION

Sr No	Item	Building Specificati on Book P.No	Item No	Remarks
1	2	3	4	5
A	COLOUR WORKS			
1	Providing & Applying 2 coats of Apex Ultima of desired shade from Asian Paints or equivalent approved make with 10-year performance warranty. Paint (40% dilution with water). Application through roller, brush not airless spray on concrete or plaster surface as instructed with necessary scaffolding, lift or by any other suitable means (Zula) at all heights / all levels / all floor. If the desired finish is not achieved, then further more coat shall be applied as instructed by APMC Unjha without any extra charges. Including thoroughly brushing the surface free from mortar, droppings and other foreign matter and making the same sand paper smooth, The paint shall be applied after applying one coat of exterior primer and filling of all the holes, cracks and minor touch ups by means of water proof putty.		As per attached separate specification	
2	Providing & Applying 2 coats of P.U Paint on sculpture of desired shade from Asian Paints or equivalent approved make with 10-year performance warranty. Paint application through roller, brush not airless spray on stone or plaster surface as instructed with necessary scaffolding, lift or by any other suitable means (Zula) at all heights / all levels / all floor. If the desired finish is not achieved, then further more coat shall be applied as instructed by APMC Unjha without any extra charges. Including thoroughly brushing the surface free from mortar, droppings and other foreign matter and making the same sand paper smooth, The paint shall be applied after filling of all the holes, cracks and minor touch ups by means of Crack seal.		As per attached separate specification	

Sr No	Item	Building Specificati on Book P.No	Item No	Remarks
1	2	3	4	5
3	Providing & Applying 2 coats of Enamel Paint of desired shade from Asian Paints or equivalent approved make. Paint application through roller, brush not airless spray on metal surface as instructed with necessary scaffolding, lift or by any other suitable means (Zula) at all heights / all levels / all floor. If the desired finish is not achieved, then further more coat shall be applied as instructed by APMC Unjha without any extra charges. Including thoroughly brushing the surface free from mortar, droppings and other foreign matter and making the same sand paper smooth, The paint shall be applied after filling of all the holes, cracks and minor touch ups by means of putty as per the manufacturer's specifications.		As per attached separate specification	
	Total A			
B	PLANTATION			
1	Supply of Kapp / garden soil free from debris, weeds, seeds or bulbs stone etc and unloading it for further use in the garden.		As per attached separate specification	
2	Supplying and spreading of Vermicompost Manure as per the Instructions of APMC Unjha.		As per attached separate specification	
3	Supplying and Planting of Shrubs and Creepers by using the soil / manure (either carted or supplied or excavated or available) propping it with bamboo stick using jute string and watering it immediately, maintaining (application of liquid manure / growth promoters / pesticides as per need, weeding and gap filling regularly so as to keep the plant healthy all the time) as per the specification it's for period of 180 days from the date of completion of job. (water supply line for horticulture will be provided by the client.)		As per attached separate specification	
a	Red Bougainvillea (2 Ft height / 2 to 3 branches)			
b	Kevado (1 Ft height / 2 to 3 branches)			
c	White Bougainvillea (2 Ft height / 2 to 3 branches)			

Sr No	Item	Building Specificati on Book P.No	Item No	Remarks
1	2	3	4	5
d	Ficus Panda (3 Ft height / 2 to 3 branches)			
4	Supply and planting of Carpet Lawn grass as per instruction of APMC, Unjha without disturbing desired gradient and level, watering thoroughly within 8 hours of planting by using the soil / manure (either carted or supplied or excavated or available) maintaining (forking, mowing, weeding, fertilizer application) as per the specifications it's for period of 180 days from the date of completion of job. (water supply line for horticulture will be provided by the client.)		As per attached separate specification	
	Total B			
C	ELECTRIFICATION			
1	Supply, testing and laying XLPE steel / GI wire / flat armoured / unarmoured cable of 1100 V grade of Aluminium / Copper Conductor of following sizes in Pre laid conduits (DWC 40 mm Dia including all the necessary excavation and backfilling required) or mounted on wall with necessary clamping arrangement. The vertical cable on wall shall be drawn in pre laid conduit for vertical mechanical support complete in all respect as per directed by APMC Unjha. Philips / Havells make		Separate Book Attached for Electric Work	
a	4 Sq.mm x 4 C Copper Flexible Cable			
2	SITC of 4.50 Mtrs FRP pole with necessary Reducer / Coupler for fixing of light fixtures of BAJAJ make or equivalent make with integral type junction box consisting of 8-way connector with required MCB, din rail channel etc with hinged type, flush type access door with Allen key with gasket as directed by APMC Unjha. (Sample to be approved)			
	1) 8-way connector and suitable MCB inside pole			
	2) 40 mm diameter DWC pipe for each cable entry / exit.			

Sr No	Item	Building Specificati on Book P.No	Item No	Remarks
1	2	3	4	5
	3) Wiring up to the light fixture from the junction box using 3 nos x 1.5 sq.mm flexible copper wires of specified makes.			
	4) Concrete coping with base plate as per standards.			
	5) Excavation for erection of poles.			
	6) 1000 mm Double Arm bracket.			
	7) LED Fixtures 40W - Havells / Philips			
3	SITC of following type Street Light Fixture with all necessary hardware, internal wiring with Lamp / Ballast etc, all required accessories complete in all respect.			
	1) LED Flood Light 100 W of Philips / Havells make			
4	SITC of SPN Distribution Board (16-way D.B) as per instructions of APMC Unjha. Including required MCBs, MCCBs, ELCBs, Caution Boards, End cable termination with all the required accessories and having Degree of Protection IP 65 etc complete as per the instructions of APMC unjha			

Detail Specification

Item No 1

Providing & Applying 2 coats of Apex Ultima of desired shade from Asian Paints or equivalent approved make with 10-year performance warranty. Paint (40% dilution with water). Application through roller, brush not airless spray on concrete or plaster surface as instructed with necessary scaffolding, lift or by any other suitable means (Zula) at all heights / all levels / all floor. If the desired finish is not achieved, then further more coat shall be applied as instructed by APMC Unjha without any extra charges. Including thoroughly brushing the surface free from mortar, droppings and other foreign matter and making the same sand paper smooth, The paint shall be applied after applying one coat of exterior primer and filling of all the holes, cracks and minor touch ups by means of water proof putty

Materials:

The water shall conform to M-1. Weather proof exterior Ultima paint shall conform to I.S. and Asian paint brand. All specification follow as per item description.

Workmanship:

Scaffolding: Wherever scaffolding is necessary it shall be erected in such a way that as far as possible on part of scaffolding shall rest against the surface to be white or colour washed. A properly secured strong and well-tied suspended platform (Zoola) may be used for white washing. Where ladders are used, Pieces of old gunny bags shall be tied at top and bottom to prevent scratches to the floors and walls. For white washing of ceilings proper stage scaffolding shall be erected where necessary.

Preparation of Surface: The relevant specifications of item No. 18.11 shall be followed except that the word white wash colour wash shall be substitute with water-proofing cement paint. The surface shall be thoroughly wetted with clean water before cement water proofing paint is applied.

Preparation of Paint: As per Instruction of in charge Engineer. All materials required for the execution of painting work shall be obtained direct from approved manufacturers and shall be brought to the site in makers drums, kegs etc. With seals unbroken.

If in case of ready mixed paints, thinning, if necessary, the brand of thinner shall be as per recommendations of the manufacturer.

Application of Paints:

No painting shall be done when the paint is likely to be exposed to a temperature of below 7° C within 48 hours after application. When weather conditions are such as to cause damage the work shall be carried out “in the shadow” as far as possible. This helps the proper hardening of the paint film by keeping the surface moist for a longer period. To maintain the uniform mixture and to prevent segregation, the paint shall be stirred frequently in the bucket. For undercoated surfaces, the surfaces shall be treated with minimum two coats of waterproof cement paint. Not less than 24 hours shall be allowed between two coats. Next coat shall not be started until the preceding coat has become sufficiently hard to resist marking by the brush being used. In hot dry weather, the preceding coat shall be allowed between two coats. Next coat shall not be started until the preceding coat has become sufficiently. Hard to resist marking by the brush being used. In hot dry weather, the preceding coat shall be slightly moistened before applying the subsequent coat. The finished surface shall be even and uniform shade, without patches, brush marks, paint drop etc. The cement paint shall be applied with a brush with relatively short stiff hog or fibre bristles. The paint shall be brushed in uniform thickness and shall be free from excessive heavy brush marks. The lamps shall be well brushed out. Water proof cement paint shall not be applied on surface already tested with white wash colour wash, distemper dry or oil bounds varnishes, paints etc. it shall not applied on gypsum. Wood and metal surfaces.

Curing: Painted surfaces shall be sprinkled with water two or three times a day. This shall be done between coats and for at least two days following the final coat. The curing shall be started as soon as the paint has hardened so as not to be damaged by the sprinkling of water say about 12 hours after the application.

Mode of Measurements & Payment:

All the work shall be measured in the decimal system as under:

(a) Dimensions shall be measured at the nearest 0.01 M.

(b) Area in individual items shall be worked out to the nearest 0.01 Sq.m.

All the work shall be measured in Sq.m. deductions for jambs, soffits, sills etc. for opening not exceeding 0.5 Sq.m. each in area for ends of joints, posts, beams, girders, steps etc. not exceeding 0.5 Sq.m. each in area and for opening exceeding 0.3 Sq.m. and not exceeding 3.0 Sq.m. each in area deductions and additions shall be made as under: No deductions shall be made for ends of joints beams, posts etc. and openings not exceeding 0.5 Sq.m. each. No addition shall be made for reveals, jambs, soffit, sills etc. of these openings nor for finish around ends of joints, beams, posts etc

The rate shall be for a unit of one Sq.m.

Item No 2

Providing & Applying 2 coats of P.U Paint on sculpture of desired shade from Asian Paints or equivalent approved make with 10-year performance warranty. Paint application through roller, brush not airless spray on stone or plaster surface as instructed with necessary scaffolding, lift or by any other suitable means (Zula) at all heights / all levels / all floor. If the desired finish is not achieved, then further more coat shall be applied as instructed by APMC Unjha without any extra charges. Including thoroughly brushing the surface free from mortar, droppings and other foreign matter and making the same sand paper smooth, The paint shall be applied after filling of all the holes, cracks and minor touch ups by means of Crack seal.

Materials:
The water shall conform to M-1. P.U Paint on sculpture of desired shade from Asian Paints or equivalent approved make with 10-year performance warranty. All specification follow as per item description.

Workmanship:

Scaffolding: Wherever scaffolding is necessary it shall be erected in such a way that as far as possible on part of scaffolding shall rest against the surface to be white or colour washed. A properly secured strong and well-tied suspended platform (Zoola) may be used for white washing. Where ladders are used, Pieces of old gunny bags shall be tied at top and bottom to prevent scratches to the floors and walls. For white washing of ceilings proper stage scaffolding shall be erected where necessary.

Preparation of Surface: The relevant specifications of item No. 18.11 shall be followed except that the word white wash colour wash shall be substitute with water-proofing cement paint. The surface shall be thoroughly wetted with clean water before cement water proofing paint is applied.

Preparation of Paint: As per Instruction of Engineer in charge using roller paint. All materials required for the execution of painting work shall be obtained direct from approved manufacturers and shall be brought to the site in makers drums, kegs etc. With seals unbroken. If in case of ready mixed paints, thinning, if necessary, the brand of thinner shall be as per recommendations of the manufacturer.

Application of Paints:

No painting shall be done when the paint is likely to be exposed to a temperature of below 7° C within 48 hours after application. When weather conditions are such as to cause damage the

work shall be carried out “in the shadow” as far as possible. This helps the proper hardening of the paint film by keeping the surface moist for a longer period. to maintain the uniform mixture and to prevent segregation, the paint shall be stirred frequently in the bucket. For undercoated surfaces, the surfaces shall be treated with minimum two coats of waterproof cement paint. Not less than 24 hours shall be allowed between two coats. Next coat shall not be started until the preceding coat has become sufficiently hard to resist marking by the brush being used. In hot dry weather, the preceding coat shall be allowed between two coats. Next coat shall not be started until the preceding coat has become sufficiently. Hard to resist marking by the brush being used. In hot dry weather, the preceding coat shall be slightly moistened before applying the subsequent coat. The finished surface shall be even and uniform shade, without patches, brush marks, paint drop etc. The cement paint shall be applied with a brush with relatively short stiff hog or fibre bristles. The paint shall be brushed in uniform thickness and shall be free from excessive heavy brush marks. The lamps shall be well brushed out. Water proof cement paint shall not be applied on surface already tested with white wash colour wash, distemper dry or oil bounds varnishes, paints etc. it shall not applied on gypsum. Wood and metal surfaces.

Curing: Painted surfaces shall be sprinkled with water two or three times a day. This shall be done between coats and for at least two days following the final coat. The curing shall be started as soon as the paint has hardened so as not to be damaged by the sprinkling of water say about 12 hours after the application.

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The rate shall be for a unit of one Sq.m.

Item No 3

Providing & Applying 2 coats of Enamel Paint of desired shade from Asian Paints or equivalent approved make. Paint application through roller, brush not airless spray on metal surface as instructed with necessary scaffolding, lift or by any other suitable means (Zula) at all heights / all levels / all floor. If the desired finish is not achieved, then further more coat shall be applied as instructed by APMC Unjha without any extra charges. Including thoroughly brushing the surface free from mortar, droppings and other foreign matter and making the same sand paper smooth, The paint shall be applied after filling of all the holes, cracks and minor touch ups by means of putty as per the manufacturer’s specifications.

Materials:

The water shall conform to M-1. Weather proof exterior Enamel paint shall conform to I.S. and Asian paint brand.

Workmanship:

Scaffolding: Wherever scaffolding is necessary it shall be erected in such a way that as far as possible on part of scaffolding shall rest against the surface to be white or colour washed. A properly secured strong and well-tied suspended platform (Zoola) may be used for white

washing. Where ladders are used, Pieces of old gunny bags shall be tied at top and bottom to prevent scratches to the floors and walls. For white washing of ceilings proper stage scaffolding shall be erected where necessary.

Preparation of Surface: The relevant specifications of item No. 18.11 shall be followed except that the word white wash colour wash shall be substitute with water-proofing cement paint. The surface shall be thoroughly wetted with clean water before cement water proofing paint is applied.

Preparation of Paint: as per instruction of In charge Engineer. All materials required for the execution of painting work shall be obtained direct from approved manufacturers and shall be brought to the site in makers drums, kegs etc. With seals unbroken.

If in case of ready mixed paints, thinning, if necessary, the brand of thinner shall be as per recommendations of the manufacturer.

Application of Paints:

No painting shall be done when the paint is likely to be exposed to a temperature of below 7° C within 48 hours after application. When weather conditions are such as to cause damage the work shall be carried out “in the shadow” as far as possible. This helps the proper hardening of the paint film by keeping the surface moist for a longer period. To maintain the uniform mixture and to prevent segregation, the paint shall be stirred frequently in the bucket .For undercoated surfaces, the surfaces shall be treated with minimum two coats of waterproof cement paint. Not less than 24 hours shall be allowed between two coats. Next coat shall not be started until the preceding coat has become sufficiently hard to resist marking by the brush being used. In hot dry weather, the preceding coat shall be allowed between two coats. Next coat shall not be started until the preceding coat has become sufficiently. Hard to resist marking by the brush being used. In hot dry weather, the preceding coat shall be slightly moistened before applying the subsequent coat. The finished surface shall be even and uniform shade, without patches, brush marks, paint drop etc. The cement paint shall be applied with a brush with relatively short stiff hog or fibre bristles. The paint shall be brushed in uniform thickness and shall be free from excessive heavy brush marks. The lamps shall be well brushed out. Water proof cement paint shall not be applied on surface already tested with white wash colour wash, distemper dry or oil bounds varnishes, paints etc. it shall not applied on gypsum. Wood and metal surfaces.

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The rate shall be for a unit of one Sq.m.

PLANTATION

Item No 1

Supply of Kapp / garden soil free from debris, weeds, seeds or bulbs stone etc and unloading it for further use in the garden

Item No 2

Supplying and spreading of Vermicompost Manure as per the Instructions of APMC

Unjha

Item No 3

Supplying and Planting of Shrubs and Creepers by using the soil / manure (either carted or supplied or excavated or available) propping it with bamboo stick using jute string and watering it immediately, maintaining (application of liquid manure / growth promoters / pesticides as per need, weeding and gap filling regularly so as to keep the plant healthy all the time) as per the specification it's for period of 180 days from the date of completion of job. (water supply line for horticulture will be provided by the client.)

Red Bougainvillea (2 Ft height / 2 to 3 branches)

Kevado (1 Ft height / 2 to 3 branches)

White Bougainvillea (2 Ft height / 2 to 3 branches)

Ficus Panda (3 Ft height / 2 to 3 branches)

Item No 4

Supply and planting of Carpet Lawn grass as per instruction of APMC, Unjha without disturbing desired gradient and level, watering thoroughly within 8 hours of planting by using the soil / manure (either carted or supplied or excavated or available) maintaining (forking, mowing, weeding, fertilizer application) as per the specifications it's for period of 180 days from the date of completion of job. (water supply line for horticulture will be provided by the client.)

Note:

Before Starting of Earthwork for embankment work original levels shall be taken in presence of the contractor or his representative who shall sign in the field book in token of acceptance of the same. When the work is completed as per specifications the final levels shall be taken on the same cross-sections 'on which levels were taken before starting the work entered in the field book, and the contractor shall sign in the field book in token of the acceptance of final levels and Quantity of Earth work of embankment paid as per that Quantity.

1. The land width on which the earthwork is to be done shall be cleared of all trees having a girth of 30 cm and less, loose stones, vegetation, bushes, stumps and all other objectionable materials. All the materials cleared will be property of Government. Useful material shall be arranged in convenient stacks along the roads boundary or as directed at places within 50 meters lead, and handed over to the Authority in convenient sections. Unsuitable material shall be burnt or otherwise disposed of by the contractor at his own cost without causing any nuisance, inconvenience or damage to the works, property or people in the neighbourhood. In all cases, the materials shall be disposed of in an eat manner.

2. After clearing the site, the alignment of the road shall be properly set out true to line, curves, slopes grades and sections as shown in the plan or directed by the Engineer-in-charge, The contractor shall provide all labours and materials such as lime, string, pegs, nails, bamboos, stones, mortar, concrete etc. required for setting out, establishing Bench Marks and giving profiles. The contractor shall be responsible for maintaining the B.MS. Profiles alignments and other marks as long as they are required for the work in the opinion of the Engineer-in-charge. If the contractor defaults in this respect the authority at the cost of the contractor.3. When an existing embankment is to be widened, continuous, horizontal benches, each at least 0.3 meter wide, shall be cut into existing slope for ensuring adequate bond with the fresh embankment material to be added the material obtained from the cutting of benches can be utilized in the widening of the embankment. Where the width of the widened portions is insufficient to permit

the use of usual rollers, compactions shall be carried out with the help of tandem/sheep foot rollers, mechanical tampers or other approved plant. The dumping of material from trucks for widening operations shall be avoided except in difficult circumstances when the extra width is too narrow to permit the movement of any other type of hauling equipment.

4. The soil to be used for embankment shall be free from trees, stumps, roots, rubbish or any other objectionable materials. Only materials considered suitable by the Engineer-in-charge shall be used for the construction and that considered unsuitable other disposed off as directed by him. The selection of the materials to be used in the construction of embankment shall be made after soil surveys and investigations carried out by the Department. The embankment shall consist of earth available from roadside borrow pits on either side with all lead and all lifts.

5. Department will extend all necessary co-operation in helping contractor to get borrow area from nearby Government or Panchayat land, if available. However, department is not responsible if not such area is made available to the contractor and in the case, contractor will have to make his own arrangement to get borrow area for borrow in gearth of the quantity even by making temporary arrangement with the private land owners.

6. The embankment shall be constructed in uniform layers not exceeding 250mm in loose thickness. The soil shall be spread uniformly over the entire width of the embankment. Unless otherwise directed by the Engineer-in-charge. All clods of hard lumps if earth shall be broken to have maximum size of 15cm when being placed in the embankment

and a maximum of size 5cm when being placed in the top 45cm of the embankment. The work of next layer shall be allowed only after the first layer below it has been thoroughly compacted.

7. Where an embankment is to be placed on sloping ground, the surface of the ground shall be benched in the steps of trenches or broken up in such a manner that the new material shall have perfect bond with the existing surface. Where the embankment is to be placed over an existing surface. When the embankment is to be placed over an existing road surface, the surface shall be scarified to minimum depth of a 5cm so as to provide ample bond between

the old and new material. However when the embankment. If the existing road surface is of granular or bituminous type and lies within 1 Mt. of the new sub grade level, the same shall be scarified to a depth of minimum 50mm so as to provide ample bond between the old and the new material.

8. To avoid interference with the construction of abutment, wing walls or return walls of culverts/bridge structures, the contractor shall, at point to be determined by the Engineer-in-charge, suspend work on embankments forming approaches to such structures, until such time as the construction of the latter is sufficiently advanced to permit the completion of approaches without the risk of interference of damage to the bridge work. Unless directed otherwise the filling ground culverts, bridges and other structures up to a distance of twice the height of embankment. The fill materials shall not be placed against any abutment or wing wall unless permission has been given 14 days, the embankment shall be brought up simultaneously in equal layers on each side of the structure to avoid displacement and unequal pressure. The sequence of work in this regard shall be got approved from the Engineer-in-charge. Where the provision of any filter medium is specified behind the abutment, the same shall be laid in layers simultaneously with the laying of fill material. The material used for the filter shall confirm to the requirements for filler medium and will be paid extra in the relevant item.

9. The embankment shall be finished in conformity with the alignment, level, and cross section and dimensions shown on the plans or as directed by the Engineer-in-charge. Where the alignment of the road is in a curve, the top of the embankment shall be formed with the super elevation and the increased width shown on the drawings or as the Engineer-in-charge may direct. Finishing operations shall include the work of shaping and dressing the shoulder, roadbed and the slopes to conform to the cross section.

10. The earthwork measurement shall be paid on cross sectional measurements and computing the volumes of earthwork in cubic meters by average area method. The contractor shall sign day to day levelling work and also original cross sections in token of his acceptance etc. the working sections both longitudinal and cross of the ground shall be taken by the Engineer-in-charge before the actual earthwork is started. The contractor or his authorized representative shall attend day-to-day levelling work. And sign with date the field book daily, in token of this acceptance. If there is any disagreement the contractor shall inform of it in writing to the officer concerned of any complaint shall be taken. Merely not signing of the level book shall not be deemed as disagreement. The Executive Engineer shall also verify levelling work to the extent of 5% before commencement of earthwork and on finalization.

The contractor shall maintain the embankment by filling in ruts, rain cuts depression due to shrinkage etc. to proper formation and grade till this item is finally measured and accepted by the authority. Measurement shall be taken on compacted earthwork; no deduction for shrinkage shall be made from gross measured quantity of compacted

earthwork. However the contractor shall have to bear loss of quantity due to all settlement as well as other types of deformations etc. if any that might have taken place at the time of taking the final measurement of this item If the authority does not do the Compaction as stipulated in para-10 in that case shrinkage from such earthwork quantity shall be deducted as per norms i.e. 10% after monsoon and 15% before monsoon. However the contractor shall have to bear loss of quantity due to all settlements as well as other types of deformations etc. if any, which might have taken place at the time of taking the final measurements of the item. If usable approved material is available within the land width of road, the same shall be permitted for use in the road embankment subject to the following conditions: -

(i) The borrow pits will be so excavated as to form a road side longitudinal gutter to drain the water, interrupted by such gutter.

(ii) The width of the drain shall be restricted to 1.5 meter only. The depth will be restricted to such grade so as to drain the water efficiently. All balance quantity of earth shall be brought from distant borrow areas only.

(iii) If there is top layer of black cotton or other objectionable soils, the same shall be removed and disposed of elsewhere and usable material found at the lower level will only be used in the earthen embankment, if the contractor chooses to utilize this material.

(iv) The drain should be aligned along the boundary of the land width of the road. Not pit, other than this drain, shall be dug within 5 meters of the toe to the final section of the road embankment.

(v) No borrow pits shall be allowed in the length in which earth obtained for cutting from cutting is specified to be used in embankment.

11. The rate of earthwork includes clearing jungles, dog belling, fixing profiles, erecting necessary pillars or stones for bench mark for levelling purpose, excavating earth from borrow pits, breaking clods, conveying and spreading earth in layers with all lead and lift, finishing the entire embankment to the proper profile camber, grade and slopes. The rate also includes all labour, material, tools, equipment and incidentals necessary to complete the work according to the specification. Cutting stuff of cutting in ordinary soil, soft murrum, soft rock, hard murrum and hard rock shall be utilized in embankment construction under this item within the lead specified in that particular item No payment shall be made under this item for the cutting stuff used in the embankment but labour for cutting will be paid as per specifications in the particular item and only balance quantity brought from borrow pits will be paid in this item.

Mode of measurement & payment.-

Measurement shall be on cross-sectional basis as per the cross-sectional levels taken before starting and after completion of the work and payment shall be made on **Cubic meter** for the work actually done.

Planting of Lawn: After excavating soil up to 30 cm depth, preparing soil for planting by supplying and mixing preparing soil for planting by supplying and mixing preparing soil for planting by supplying and mixing farm Yard manure at the rate of 5 Cu.m. per 100 sq.mt area, providing and planting suckers of pure dharo (doob)grass roughly at 10 cm x 10 cm distance and maintaining till well established etc. complete (about 45 days)

LAWN: Area cleaning and side grading, removing unwanted materials, Plants, shrubs, wild grass, weeds, debris, rubbish, etc. Excavating up to depth 30 C.M surface dressing leveling, making slopes for drainage according to landscape, Disposal of unwanted materials with all labour and tools. Development of lawn including preparation of bed ground, spreading and mixing the good soil with Farm Yard Manure, Gypsum, fertilizer soil with farm Yard Manure, Gypsum, Fertilizer bas required hand specified. Planting of lawn grass bits roots of approved quality, watering and specified. Planting of lawn grass bits roots of approved quality, watering, and specified. Planting of lawn grass watering mowing, weeding etc. maintenance of developed lawn for a period of 6 months. Supplying and stacking of fertile soil at site including royalty and carriage for all leads. (Top 6 inches of good Earth Soil)Road side plantation will include planting of avenue trees, includes cost of plant, preparation of the pit, manuring as well as the planter for protection of the plant. Palms like Areca, cabbage, Jaggery, fox tail, fish tail, royal, cycus etc.(av. 2.5-3.0 mt. ht.)Flowering trees Champa, Kachnar, Banaba plant, Kadamb, Arjuna, Gulmohar, Parijat, Neem, rubber plant, ficus,

Badam etc. (av. 2.5-3.0 mt. ht.)Ground covers and climbers Development of Lawns, grasses and groundcovers This includes cleaning of existing soil by excavation and removing unwanted materials including the weeds, stones, masonry pieces etc. which may cause damage to growth of the plant materials immediately or in the future and making a good base level. Spreading of good quality garden soil (as per 3.15) evenly as directed. The compact soil layer shall be 30cmdeep, spread evenly on all the areas, including hillock top surfaces. Supplement it with the mixture of FYM and fertilizer for which an average layer shall be of minimum 6cm. The mixture shall be laid to proper slopes for surface drainage. The soil shall be properly raked and watered thoroughly before receiving the planting material brought from out-side or before plantation of good quality rooted cutting of grass variety. The contractor shall be required to do proper top dressing, rolling and periodical hand cutting or machine mowing as per consultant's instructions during development and maintenance periods in order to bring and maintain the ground cover in perfect condition Development & Maintenance of Lawns:

a. This includes cleaning of the area of unwanted materials including the weeds, stones, masonry pieces etc. and all such matter, which may cause damage to growth of the plant materials immediately or in future and making a good base level as directed by Garden Superintendent.

b. Spreading of good quality garden soil, evenly as directed. The compact soil layer shall be 150 mm deep, spread evenly on all the areas, including hillock top surfaces.

c. Spreading and mixing of good quality F.Y.M. (Farm Yard Manure). The quality to be used shall be an average layer of minimum 12 cms. Thick.

d. The manure to be mixed proper leveled as properly rolled watered. Areas to be rolled and leveled as per the drawing/ instructions of the Engineer-in- Charge.

e. Planting of good quality lawn approved by Garden Department shallbedone60mm apart Sq. and at each place minimum 3-4 cuttings of 80/90 mm. length shall be planted. The cuttings shall be firmly embedded in the ground.

f. After planting area is to be watered with sprinklers. All planting operations must be completed within a period of 7 days from the day the plant in operations starts at site.

Development of Hedge including planting of plants for a period of 6 months

Plant Materials: The plant list attached to the tender is indicative and not exclusive. The contractor shall be allotted a place on site to establish his nursery.

All plant materials shall be procured as per the specified specifications in Drawings, care should be taken especially for height of the plant. Along with 3-4 major branches for the trees. A much branched shrub sapling sare desirable for the desired growth of the plants. All plants shall be in good shape and healthy. No protruding root system from its container shall be selected I procured. Containers of plants shall be in good condition, cracked or deformed containers shall be avoided. The supervisor in charge reserves the right to reject any plant material.

Plant Height:-

Trees are to be supplied in varieties shown on the final Plan as specified below Deciduous tree saplings are to be supplied with 4'-0" to 6'-0" straight stems with well-formed heads. Branches for pole planting to be minimum 8' -0" straight poles. Evergreen trees are to be supplied minimum 3'-0" overall height. Measurement:-

Height of the plants shall be considered from of the soil of the bag I container to the top most edge of the foliage. The height of the container shall not be Included. And the width of the foliage shall be equivalent to the diameter of the crown. In case of ground covers the length shall be equivalent to the length of the major branch from the top of the soil of the container to the end leaf.

Plant Form:-

Foliage's of plants as per its container shall be well grown with prominent major branches area full of leaves. A -Single stemmed plant materials shall be avoided.

Quality Health:

All plants shall be in good health. All trees shall be free from any kind of diseases or insects especially the fruit plants. Prior to procurement of plants, all plants shall be sprayed with anti-disinfectants. Containers of all plants shall be in proportion to the spread of its foliage. A well spread foliage with too small bag shall be avoided as It may have comp'lected growth of the root system. Pruning:

All plant materials shall be in cleaned and pruned at the time of its procurement. All plants shall be cleansed off from all dead unwanted branches and containers shall be free from all kinds of weeds, insects. Approval:

Plants, which do not meet the specifications, shall be rejected by the consultants. No substitutions may be made without the consultant's written authority. The consultant shall approve the plant material prior to planting. Rejected plant material shall not be planted under any circumstances. The record of checking procedure is to be maintained by the site engineer...Naming:

All plant materials shall be labeled by its botanical and common names and shall not be removed even after the planting work.

Vermi-compost manure:

Shall be well decomposed cow dung or horse dung manure, in dry condition and free from straws, sail or pebbles. River Sand or "Sweet pano" :- (fine sand) shall be free from stones and pebbles and free from any vegetable matter.

Development of trees, shrubs and creepers Cleaning of area including removal of unwanted material, debris, weeds, bushes, stones, and masonry pieces etc.

and grading of the area up to finished level. Each tree sapling shall be planted in position shown on plan or as per instructions given at site by Site Supervisor in the pits admeasuring at least 60cm x 60cm x 60cm. The size ofpit will be checked by a standard wooden box of this size. Removing and dumping of infertile soil at a given site and refilling pits with a well-mixed composition of the following ingredients. A. Garden earth (1 part) B. Farm yard manure (1 part)

and C. River sand "Sweet Pano" (1part)The quality of all the above materials as mentioned in 3.2 should be as per the specification by our consultants

The soil-manure mixture filling shall be well watered in order to settle soil and to remove air pockets. Level of the pit shall be obtained by adding soil plus manure mixture, wherever required. Treating each pit for white ant treatment as specified. Planting of well grown sapling, seedling or graft of desired species. Development period for trees, shrubs, and creepers shall be of 12 months or till the satisfactory development of saplings, attaining the appropriate height and growth whichever is later from the date of planting. Maintenance period shall be of 12 months. During development and maintenance periods, routine operations such as timely

watering, pruning, stacking, weeding, mulching and spraying of weedicides, fungicides and application of fertilizers as per guidelines from the consultants will have to be carried out and record of it will have to be maintained. During the maintenance period the growth of plant material according to its natural behavior in the particular climatic conditions is also expected as part of the proper performance from the contractor. In case of death of a plant or major decay of the plant due to contractor's negligence or inadequate efforts, The contractor shall replace the same with a properly grown healthy plant of equivalent height and type. Any failure on part of the contractors to provide plant material of specified size (unless otherwise authorized by the consultants) or to ensure proper growth of plants during maintenance period shall be treated as if the entire item being not executed and the cost of the entire item shall be deducted from the bill amount. Any

consideration for part payment for these items shall be entirely at the consultants" discretion in case of justifiable circumstances.

Applying of survive, and the same will have to be replaced .Measurement shall be per number for survival no. Of plants.

Notes on Stakes:

Each tree shall be secured to a stout, straight stake of average diameter of 2". These stakes of softwood or bamboo should have a clear height of 6"-0" above ground and 2"-0" below ground. They shall be driven into the hole before the tree is planted and the tree shall be secured to it immediately below the bottom branch. The

second tie is to be secured loosely to the tree as high up the stake as practicable. The shrubs shall be supported if necessary with diagonally driven stakes.

Maintenance of Lawn

The lawn shall be watered regularly and shall not be allowed to dry out for any reason. Watering shall be done by sprinklers or by hose pipes. If watering is done by hose-pipes, attachment of appropriate fine-holed nozzle is must. At no time the watering shall be done by flooding method. The lawn shall be cut regularly depending up on the season, but on an average at an interval of 8 to 10 days.

The height of the lawn mower cutting unit shall be set as per the guidelines and instructions from the consultants.

The Blades of the Lawn mower shall be sharp so as not to harm the grass. Mowing of lawn to the ground level should be carried out once a year or as per the direction of the consultants.

This should be followed by top- dressing with soil plus manure.

The soil shall be well screened, free of clods, mixed with a fine mixture of manures and fertilizers.

The blades of the lawn mower shall be sharp so as not to damage the grass. Rolling shall be done at least once in fifteen days. Rolling shall be done in same direction as lawn mowing.

Lawn mowing shall always be done in same direction. Cross cutting is not allowed.

Constant watch shall be kept to keep the lawn clean and free of all weeds. If required weedicides can be used.

Lawn can be fed with fertilizers once a month to maintain firm structure, texture and colour. Immediately after mowing with lawn mower, grass areas edges to be trimmed by shears or electrical equipments to maintain a uniform growth and development.

The rate shall be inclusive of the maintenance of trees, shrubs, creepers, flowerbeds, etc. within the lawn area, for which no extra charges shall be paid.

Yearly top- dressing with soil plus manure mixture shall be done. The soil shall be well screened, free of clods, mixed with a fine mixture of F.Y.M. The rate shall be inclusive of the maintenance of shrubs, creepers, and flower beds etc. within the lawn area, for which no extra charges shall be paid.

The tenderers are requested to go through the special conditions attached to the schedule before quoting their rates. The tenderers should quote their rates both in words and figures. In case of discrepancy, the rate quoted in words will be taken as final.

The tenderer shall maintain the garden by watering, mowing, trimming and applying fertilizers with contractor's men and materials, tools etc., complete during contract period including period of extension, if any.

The ownership of the land lies absolutely with the Railways and the contractor shall have no claim or right whatsoever on the land garden that is maintained.

On completion of contract, the garden shall be handed over to the Railways and no material, plant whatsoever will be allowed to be taken away by the contractor.

At the end of every month it is to be certified by the Engineer-in-charge that the garden is maintained in all

respects. Payment will be made only after certification by the Engineer-in-charge.

Water will be supplied and recovery will be made at the rate of 1% of the bill amount, as per the extent rules. Necessary extensions to the existing pipe line may be done by contractor and no additional payment will be made for this. In case railway is unable to supply water due to failure of pumps or shortage of water or it isolated locations, contractor has to make arrangements, for filling the empty tankers at the Re-Cycling plant.

No additional payment will be made for this.

The contractor during the currency of the contract is required to safe guard the lawn! Landscape etc., at his own cost and ensure that there is no damage to the plant, grass etc., In case of any damage to plants! Grass, due to the negligence of the contractor the same shall good made at his own cost and no extra payment shall be made on account of this.

The rate quoted includes removal of weeds as and when required.

The quoted rates include repairs! Replacement of grass! Plants wherever required as per the instructions of railways. No extra payment shall be made on account of this. The rate also includes replanting of dried / dead area/Plants/Hedging.

The rate also includes manuring by top dressing and aerial application of nutrients and fertilizers as per specification enclosed.

The rate also includes supply of the enlisted manures & fertilizers and plant protection, chemicals etc, The rate also includes plant protection treatments with pesticides & fungicides specified as per list.

Daily watering and cleaning the lawn area at least once in a day, and as directed by the Engineer- in-charge with all lead and lifts etc., (All labour, material, tools and implements to be supplied by the tendered! contractor only).

Maintenance of Lawn! Land Scraped area, for a period of 6months by watering, mowing, trimming and applying fertilizers! Pesticides including removal of weeds etc., and repair! Replacement of grass / flowers with contractor's labour, material, tools, etc., complete and as per the instructions of officials. The Contractor /Agency shall water all trees, shrubs, ground cover and other planting areas as often as necessary to keep the ground mist all around and to the full depth of the roots of the plants. Watering should be done every day and soil working

shall be done twice a week. Water shall be applied using an approved hose or sprinkler so as not to cause compaction or washouts of the soil or loosening of plants.

All plant beds to be kept in a weed free condition with a weeding operation once a month. The Contractor /Agency shall remove all the weeds, stones and rubbish collected from this operation from the site. After weeding, the soil surface is to be lightly broken up between plants using a pronged fork at least once a month, taking care not to disturb the root systems.

All shrubs and ground cover has to be pruned as and when required during the maintenance period to promote

bushy growth and good flowering characteristics.

Selective pruning of flowering plants shall be done where special flowering characteristics are required and experienced workers must do this operation. The Contractor /Agency shall allow for regular fertilizer operation. Only approved slow release fertilizer / organic fertilizer shall be applied as per the requirement of different plants. The Contractor /Agency shall make regular checks to ensure that the plant material is insect, pest and fungus free. No pesticides may be used unless prior approval is taken. The rate will be paid on each item as per Schedule B.

Chairman
APMC Unjha