

# M/S KANHA SWARNIMA

Reg Office: Shop No.-48, Shri Guru Angad Dev Complex, Rudrapur, Uttarakhand  
9837045864, 9927099446

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Date – 01-12-2024

## PROJECT WORK DEVELOPMENT PLAN

Crystal Valley

### 1) Boundary wall –

- I. Height: Typically 6 feet 1.8 meters high
- II. Material: brick Masonry work with 1:6 mortar (cement: sand)
- III. Thickness: 9 inches (23 cm) thick
- IV. Foundation: Deep foundation or shallow foundation depending on soil conditions
- V. Finishing: Painted, plastered, or textured finish
- VI. Gates: Single or double gates with proper locking mechanisms
- VII. Pillars: Spaced at regular intervals (about 20-30 feet) to support the wall
- VIII. Top: Flat, curved, or sloping top with optional decorative features
- IX. Drainage: Proper drainage system to prevent water accumulation
- X. Security features: Barbed wire or concertina wire,

### 2) RCC (Cement Concrete) road specifications for a colony typically include:

- I. Road width: 9-16.76 meters
- II. Pavement thickness: 150-200 mm (6-8 inches)
- III. Cement concrete mix:
  - M20 (1:1.5:3) for lightly trafficked roads
  - M25 (1:1:2) for moderately trafficked roads
  - M30 (1:0.75:1.5) for heavily trafficked roads
- iv. Aggregate size: 10-20 mm (0.5-1 inch)
- v. Sand: Zone II or III
- vi. Cement: OPC 43 or 53 grade
- vii. Water-cement ratio: 0.45-0.50

For



Mr. Kamaldeep

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- viii. For Reinforcement provide dia 12 mm C/C 300 mm.
- ix. Compaction: 90-95% Proctor density
- x. Finishing: Floating and finishing with a wooden or plastic float
- xi. Curing: Water curing for 7-14 days

### 3). Foot path –

Here are some common specifications for footpath pavement:

- I. Material:
  - Interlocking Pavers
- II. Thickness:
  - Pavers: 60-80 mm (2.5-3 inches) thick pavers on a 50-75 mm (2-3 inches) thick sand bed
- III. Mix Design:
  - Pavers: No specific mix design, but pavers should meet IS (Indian Standard) specifications
- IV. Sand:
  - Pavers: Zone II or III sand for the sand bed
- V. Cement:
  - Pavers: N/A (pavers are manufactured with cement)
- VI. Finishing:
  - Pavers: Laying pavers with a 5-10 mm (0.2-0.4 inch) gap for sand filling

### 4) DWC (Double-Walled Corrugated) pipes

- I. Material: PVC (Polyvinyl Chloride)
- II. Size: 100 mm to 600 mm (4 inches to 24 inches)
- III. Thickness:
  - 2.5 mm (0.1 inch) for 100 mm to 200 mm diameter pipes
  - 3.5 mm (0.14 inch) for 250 mm to 400 mm diameter pipes
  - 5 mm (0.2 inch) for 500 mm to 600 mm diameter pipes
- IV. Corrugation:

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- Pitch: 25 mm (1 inch)
- Depth: 10 mm (0.4 inch)
- 5. Coupling: Rubber ring or PVC coupler
- 6. Jointing: Push-fit or solvent cement jointing
- 8. Color: Black or dark gray
- 9. Standards: ISI 14930:2000 or ASTM F894

## 5) Parks –

### I. Site Preparation

- Clearing and grubbing of existing vegetation, debris, and obstacles
- Grading and leveling of the land to achieve a even surface
- Compaction of soil to create a stable base

### II. Landscape Features

- Grass lawns with a mix of shaded and sunny areas
- Flower beds with seasonal flowers and shrubs
- Trees (minimum 10-15 nos.) with a mix of deciduous and evergreen species
- Hedges and borders to define different areas within the park

### III. Infrastructure

- Walkways and pathways (minimum 1.5 meters wide) made of concrete, asphalt, or pavers
- Seating areas with benches and pergolas
- Lighting (minimum 10-12 nos.) with a combination of high-mast and bollard lights
- Water supply and drainage system for irrigation and other purposes

### IV. Amenities

- Children's play area with equipment like swings, slides, and seesaws
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- Open gym or fitness station with equipment like parallel bars, leg press, and chest press
- Multipurpose court for games like basketball, badminton, and tennis
- Community garden or green space for residents to grow their own herbs and vegetables

## V. Safety and Security

- Boundary wall or fencing to define the park's perimeter
- Gates with secure locking systems and access control
- CCTV cameras at strategic locations
- Emergency response plan and first aid kit

## VI. Sustainability

- Rainwater harvesting system to collect and store rainwater for irrigation
- Solar-powered lighting and other sustainable energy solutions
- Waste management system with recycling facilities
- Use of drought-resistant plants and efficient irrigation systems

## 6) Lighting poles

### I. General Requirements

- Material: Galvanized steel, aluminum, or fiberglass
- Height: 4-12 meters (12-36 feet)
- Color: Black, gray, or silver
- Finish: Powder coated or hot dip galvanized

### II. Electrical Specifications

- Voltage: 230V AC, 50Hz
- Power consumption: 50-200W

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- Lumen output: 5000-15000 lumens
- Light source: LED, HPS, or MH

### III. Optics and Photometrics

- Beam angle: 120-180 degrees
- Distribution: Symmetrical or asymmetrical
- Illuminance: 10-50 lux
- Uniformity: 0.5-1.5

### IV. Pole and Bracket Specifications

- Pole diameter: 60-150 mm (2.5-6 inches)
- Bracket type: Single, double, or triple arm
- Bracket material: Galvanized steel or aluminum
- Bracket finish: Powder coated or hot dip galvanized

### V. Safety Features

- Lightning protection: Surge arresters and earthing
- Overheat protection: Thermal cut-offs or current limiting devices
- Vibration resistance: Anti-vibration mounts or dampers

### VI. Environmental Considerations

- Wind resistance: Up to 180 km/h (110 mph)
- Corrosion resistance: Hot dip galvanized or powder coated
- UV resistance: UV-stabilized materials

### VII. Installation and Maintenance

- Foundation: Concrete or direct burial
- Mounting: Flange

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- Maintenance access: Easy access for lamp replacement and maintenance

## 7) Water system

### I. Water Source

- Connection to municipal water supply or borewell
- Water treatment plant (if required)

### II. Storage

- Underground water tank: 50,000-100,000 liters
- Material: RCC, steel

### III. Distribution

- Pipe material: CI, PVC, or PPR
- Pipe size: 50-150 mm
- Distribution network: Gravity-fed or pumped
- Valves and fittings: ISI-marked

### IV. Water Treatment

- Water filtration: Sand, carbon, and membrane filters
- Water purification: Chlorination, UV, or RO systems
- Water testing: Regular testing for pH, turbidity, and bacterial contaminants

### V. Pumps and Motors

- Centrifugal pumps or submersible pumps
- Motor power: 1-5 HP
- Material: Stainless steel or cast iron

### VI. Electrical Controls

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- Control panel: PLC or relay-based
- Sensors: Level, pressure, and flow sensors
- Electrical protection: MCB, RCCB, and ELCB

## VII. Safety Features

- Water overflow alarm and shut-off system
- Electrical shock protection
- Fire-resistant materials

## VIII. Maintenance and Upkeep

- Regular cleaning and maintenance of tanks and pipes
- Periodic testing and calibration of equipment
- Annual budget allocation for maintenance and upgrades

## IX. Certifications and Compliance

- ISI or equivalent certification
- Compliance with local regulations and standards

## X. Additional Features

- Water metering and billing system
- Leak detection and repair system
- Water conservation measures (e.g., rainwater harvesting)

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