

# Dirt, Gravel, and Low Volume Road Program Summary of Typical Costs

April, 2015



This sheet presents rough cost estimates for typical deliverables on Dirt, Gravel, and Low Volume Road Projects. This is intended as a rough price guide only. Prices vary widely around the State. PEMA / FEMA rates may have changed since the date of this publication. Always check current listings.

| Item                                 | Unit       | Expected Cost per Unit |                       | Typical DGLVR Program Use and Notes   |
|--------------------------------------|------------|------------------------|-----------------------|---|
|                                      |            | Material Only          | Installed / Completed |   |
| <b>STONE</b>                         |            |                        | <i>Note:</i>          | <i>Installed cost of stone products is highly dependent on trucking distance.</i> |
| Driving Surface Aggregate (DSA)      | Ton        | \$15-\$25              | \$20-\$35             | Driving surface   |
| AASHTO #1 Stone (PA #4, ballast)     | Ton        | \$10-\$20              | \$15-\$25             | 4" top size. Fill for French mattress, road fill to allow drainage, underdrains   |
| AASHTO #3 Stone (PA 3A)              | Ton        | \$10-\$20              | \$15-\$25             | 3" top size. Road fill to allow drainage.   |
| AASHTO #10 Stone (screenings)        | Ton        | \$10-\$20              | \$15-\$25             | Pipe Bedding  |
| AASHTO #57 Stone (PA 2B)             | Ton        | \$10-\$20              | \$15-\$25             | 1.5" top size. Clean stone for underdrains, road sub-base or fill                 |
| 2A Stone                             | Ton        | \$10-\$20              | \$15-\$25             | 2" top size. Graded, clean. Road sub-base   |
| 2RC Stone                            | Ton        | \$10-\$15              | \$14-\$20             | 2" top size. Graded, highly variable composition. Road sub-base or fill           |
| Riprap R-3                           | Ton        | \$16-\$22              | \$26-\$32             | 6" top size. Outlet stabilization, road base.                                     |
| Riprap R-4                           | Ton        | \$18-\$24              | \$28-\$34             | 12" top size. Concentrated flow stabilization (ditches, outlets)                  |
| Riprap R-5                           | Ton        | \$20-\$26              | \$32-\$38             | 18" top size. Concentrated flow stabilization (ditches, outlets)                  |
| Riprap R-6                           | Ton        | \$22-\$28              | \$36-\$44             | 24" top size. Concentrated flow stabilization (stream banks, outlets)             |
| <b>DRAINAGE</b>                      |            |                        | <i>Note:</i>          | <i>installed cost for pipes includes backfill, inside diameters listed.</i>       |
| 4" perforated                        | Linear Ft. | \$2-\$4                | \$6-\$8               | Underdrain  |
| 6" perforated                        | Linear Ft. | \$3-\$5                | \$7-\$9               | Underdrain  |
| 12" HDPE, dual-wall smooth bore      | Linear Ft. | \$7-\$11               | \$20-\$30             | Drainage culverts ( <b>HDPE = High-density polyethylene (plastic pipe)</b> )      |
| 15" HDPE, dual-wall smooth bore      | Linear Ft. | \$8-\$12               | \$40-\$50             | Drainage culverts   |
| 18" HDPE, dual-wall smooth bore      | Linear Ft. | \$14-\$18              | \$45-\$55             | Drainage culvert in larger drainages.   |
| 24" HDPE, dual-wall smooth bore      | Linear Ft. | \$18-\$22              | \$50-\$60             | Drainage culvert, stream crossing.  |
| 30" HDPE, dual-wall smooth bore      | Linear Ft. | \$24-\$30              | \$60-\$70             | Drainage culvert, stream crossing.  |
| 36" HDPE, dual-wall smooth bore      | Linear Ft. | \$28-\$34              | \$70-\$80             | Drainage culvert, stream crossing.  |
| Stone Headwall or Endwall            | Each       | \$50-\$100             | \$100-\$200           | Protect pipes ends from erosion. (price is each, budget two per pipe)             |
| French Mattress (18"D x 20"W x 50"L) | Each       | ~\$2,800               | ~\$4,000              | Stone structure wrapped in fabric under a road to allow water to flow freely      |
| <b>GEO-FABRICS</b>                   |            |                        |                       |   |
| Fabric, 2A non-woven (12.5'Wx432'L)  | Each       | \$300-400              | \$500-\$700           | Separate layers in road, French mattress, underdrain, under rip-rap               |
| Geogrid (13'W x 150'L)               | Each       | \$500-\$750            | \$750 - \$900         | Road base reinforcement   |

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|---|------|------------------------|-----------------------|--|
|   |      | Material Only          | Installed / Completed |  |
| PAVING: note: paving cost will vary widely based on location, trucking distance, and job size. Small jobs will cost significantly more per unit for mobilization. |      |                        |                       |  |
| Pavement Milling  | SY   | -                      | \$4 - \$8             | Remove existing pavement and leave stone sub-base in place.        |
| Chip-seal ("Tar and Chip")  | SY   | -                      | \$1 - \$4             | Application of binder and stone separately to form wearing course. |
| note: cost of "chip-sealing" is highly variable based on location, size of job, amount and type of sealant, and amount and type of stone used                     |      |                        |                       |  |
| 1.5" SuperPave 9.5 mm   | SY   | -                      | \$8-\$12              | Pavement wearing course (exposed to traffic)                       |
| 2" SuperPave 12.5mm   | SY   | -                      | \$10-\$14             | Pavement wearing course (exposed to traffic)                       |
| 4" SuperPave 19mm   | SY   | -                      | \$18-\$22             | Pavement base course   |
| 4" SuperPave 25mm Base  | SY   | -                      | \$18-\$22             | Pavement base course   |

| Item                               | Rental   | FEMA/PEMA Rate* | Typical DGLVR Program Use and Notes        |
|------------------------------------|--|-----------------|--|
| <b>EQUIPMENT</b>                   | <i>Notes: FEMA/FEMA rates do not include labor and do not apply to contracted equipment</i>  |                 |  |
| Dozer, crawler, up to 75 HP        | Rental rates are highly variable based on location, for a general estimate, multiply the hourly FEMA/PEMA rate by 10-15 to estimate a daily rental rate. (i.e. small dozer @\$31/hr = \$310-\$465/day) | \$31/hr         | Spread material                            |
| Dozer, crawler, to 105 HP          |  | \$40/hr         | Spread material                            |
| Dozer, crawler, to 160 HP          |  | \$65/hr         | Spread material                            |
| Dozer, wheel up to 300 HP          |  | \$55/hr         | Spread material                            |
| Grader, up to 110 HP and 10' blade |  | \$34/hr         | Re-shape road surface.                     |
| Grader, up to 150 HP and 12' blade |  | \$58/hr         | Re-shape road surface.                     |
| Excavator, 1 CY Bucket             |  | \$39/hr         | Excavate trenches, pits and place material |
| Excavator, 1.5 CY Bucket           |  | \$65/hr         | Excavate trenches, pits and place material |
| Backhoe, 1 CY Bucket               |  | \$23.5/hr       | Excavate trenches, pits and place material |
| Backhoe, 1.5 CY Bucket             |  | \$33/hr         | Excavate trenches, pits and place material |
| Loader, Skid Steer, (2,000lb cap.) |  | \$18/hr         | Loading and moving material.               |
| Trucking (~22 tonTriaxle)          |  | \$65/hr         | Hauling material                           |
| Paver, up to 125 HP                |  | \$115/hr        | Place asphalt and DSA                      |
| Paver, to 175 HP                   |  | \$125/hr        | Place asphalt and DSA                      |
| Roller, 8 Ton Vibratory            |  | \$25/hr         | Compact asphalt, DSA and sub-base material |
| Roller, 10 Ton Vibratory           |  | \$29/hr         | Compact asphalt, DSA and sub-base material |
| Jumping Jack                       | \$60-\$80/day  | -               | Compact pipe bedding                       |

**Expected Cost:** An estimated cost range based on past experience of Center staff. Cost will vary by location.

**\*PEMA/FEMA Rate:** Establishes maximum charge for equipment for in-kind contributions. Applicant owned equipment charges are limited to the PEMA/FEMA rates. Rate does not include labor. Does not apply to contracted equipment. **Rates may have changed, always check current rates.**

Current rates at: <https://www.fema.gov/schedule-equipment-rates>

**Prevailing Wage:** Note that Prevailing Wage applies to all contracted (not municipal) labor if the total value of the DGLVRP Project is over \$25,000.