

### Aggregate suitability for drainage systems



### What are the problems currently?

- Aggregates for subsurface drains are mostly bought based on preference and availability
- Size, as specified by the quarries, do not give a fair reflection of the true gradation of aggregates being sold
- Sizes commonly used are larger than what is suitable

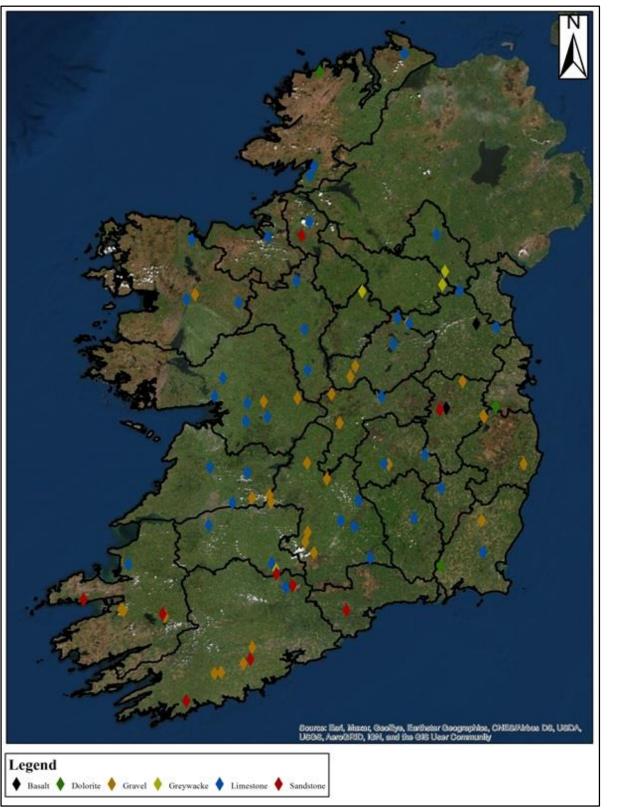
# Why selecting the right size aggregate is important?

Appropriate aggregate offers:

- Increased lifespan of the drain and improved drainage function
- Reduced sediment and nutrient loss into drainage ditches
- Better bedding and protection of the drainpipe



"50 mm" aggregates from quarries have a visible variance in size



Quarry locations across Ireland, by lithology

## Current drainage research

- Determining a suitable aggregate grade for Irish heavy soils
- Applicability of geotextiles for use in subsurface drains in Ireland

#### Take home messages

- An aggregate grading should always be obtained from the quarry
- A clean single sized aggregate in the 10 - 20 mm range offers best results in the majority of soils