

# Munich

## Gut Großlappen Sewage Treatment Plant Process Optimisation, 2. Biological Stage



Regierungsbaumeister  
**SCHLEGEL**



### Client

Münchner Stadtentwässerung  
[Munich Urban Drainage]

### Period

2001 - 2005

### Project Cost

12.230.000 €

### Abstract

While optimising the process of denitrification, the sedimentation tanks in the 2. biological purification stage are overloaded due to the high nitrification recirculation, necessary for achieving adequate denitrification in the first biological stage. Therefore, process optimisation of the second biological purification stage has been required, basically including alteration of the two-stage clarification to a single final sedimentation.

In addition, technical measures have been made for targeted nitrification of the central incineration unit for sludge drainage, so that the West primary clarifier is also included. Besides, modernisation of the clarifier scrapers and adjustment of the activated sludge pumping stations have been considered in this project.

### Scope of Service

pre-design, design, approval design,  
execution design, preparation of tender  
documents, construction supervision, site  
supervision  
planning of structural framework

safety and health protection  
commissioning

### Technical Data

Minimum inflow	$Q_{\min} = 3.00 \text{ m}^3/\text{s}$
Maximum inflow	$Q_{\max} = 10.00 \text{ m}^3/\text{s}$
Inflow from sewage sludge incinerator	$Q_{\text{centrate}} = 0.21 \text{ m}^3/\text{s}$
Activated sludge pumping station 1	$Q_{\max} = 1.25 \text{ m}^3/\text{s}$
Activated sludge pumping station 2	$Q_{\max} = 1.25 \text{ m}^3/\text{s}$
Activated sludge pumping station 3	$Q_{\max} = 1.80 \text{ m}^3/\text{s}$
Activated sludge pumping station 4	$Q_{\max} = 1.35 \text{ m}^3/\text{s}$
Activated sludge pumping station 5	$Q_{\max} = 0.59 \text{ m}^3/\text{s}$