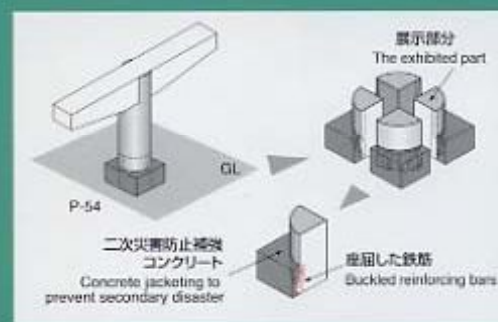


B-6 RC橋脚基部付近での曲げせん断破壊

Flexural shear failure around the base of reinforced concrete pier



■ 損傷内容 / 柱基部付近において、主鉄筋が全周にわたって座屈し、帯鉄筋がばらける激しい曲げせん断損傷が生じた

■ 位置 / 3号神戸線 神P-54 (西宮市莞茂町)

■ 構造形式 / 円形RC単柱 直径3.5m

■ 竣工時期 / 昭和44年度

■ 適用基準 / 道路橋下部構造設計指針 (昭和41年) ほか

■ 復旧方法 / 柱基部において柱を切断・撤去し、その後、直径3.9mのRC柱 (円形) を現場で構築し、工場で作成した鋼製梁を結合させ、再構築した

■ 展示物紹介 / 二次災害防止のため、コンクリートで巻き立て補強した部分を4分割したものの3つ。なお、残りの1つは「人と防災未来センター」で展示中 (橋脚の撤去は展示しているようなブロックで撤出した)

■ 展示物諸元

コンクリート設計基準強度270kgf/cm²

主鉄筋 D35 (SD30) × 2段

帯鉄筋 D16 (SD30) × 300mmピッチ

■ Damage descriptions / Severe flexural shear failure was occurred at the column base with the buckling of longitudinal reinforcement.

■ Location / P-54 on the Kobe Route #3 (Araebisucho, Nishinomiya City)

■ Structural configuration / Reinforced concrete single cylindrical column with a diameter of 3.5 m

■ Completion / 1969

■ Major standards applied / Design Guidelines for Highway Bridge Substructures (1966)

■ Restoration / The damaged column was cut at the base and removed, and subsequently a new reinforced concrete cylindrical column (diameter: 3.9 m) was built on site. Finally a factory-fabricated steel beam was connected on it to complete the pier.

■ Descriptions of the exhibits / The damaged portion of the column around which had been temporarily jacked with the concrete for secondary disaster preventions is exhibited. The column was divided into four blocks to remove from the site, as shown here. Three of them are here, and the another is exhibited at the Disaster Reduction and Human Renovation Institution.

■ Specifications of the exhibits

Designed concrete strength: 270 kgf/cm²

Longitudinal reinforcements: D35 (SD30) in double arrangement

Lateral ties: D16 (SD30) at 300 mm intervals

