Generalized characteristic of the bridge and its reconstruction

1. Name of the Project **Za Černým mostem Y502, Praha 9, č. akce 999639**
2. Description of the key works of the reconstruction
   Creation of the 'zero section' on the railway track and provisional pedestrian bridge
   Removal of bridge accessories, demolish the superstructure, abutments and retaining walls
   Buuild new retaining walls and abutments, refurbishment of the part of the abutments which are kept intact
   Installation of precast beams of the superstructure, cast the composite concrete deck
   Install expansion joints and remaining accessories incl. the pavement on the areaa neighbouring to the bridge
3. Year of construction 1978
4. The last reconstruction: No previous reconstruction
5. History of previous repairs:
   a. years:
      2016,
      2017,
      2018
   b. short description of repair works
      - repair of footways and waterproofing in 2016,
      - production and installation of staircase, painting of protection meshes and handrails 2017,
      - overall cleaning, removal of growing vegetation, removal and repair of road pavement, mastix added 2018
   c. financial costs of the repair (excl. VAT)
      - 181 105,20 in 2016
      - 266 376,50 in 2017
      - 363 668,40 in 2018
6. Main characteristics of the bridge:
   a. type of structure single span bridge from precast prestressed concrete beams, abutments with spread footing
   b. road pavement surface asphalt concrete
   c. footways surface in situ reinforced concrete
   d. number of spans 1
   e. superstructure supports elastomeric bearings
   f. spanned obstacle 3-track railway line Praha Hlavní nádraží - Turnov v žkm : 10,800 - 10,900 and Lysá nad Labem - Praha Vysočany v žkm: 24,800 – 24,900
   g. free width of the bridge 12,5 m; 11,3 m
   h. superstrucure lenght and bridged length 30,5 m; 43,0 m
   i. height (of bridge, free, construction) 8,4 m; min. 6,577 m; 1,86 m

j. substructure material — massive plain concrete abutments concrete B135, abutment top from reinforced concrete C 30/37-XF4
k. superstructure material — beams C 45/55-XF2, deck C30/37-XF2
l. drainage — transverse and longitudinal slope into the gullies behind the bridge
m. networks — public lighting
n. waterproofing — bitumenous heat-glued stripes
o. noise barriers — none
p. carrying capacity — to be calculated after the bridge is finished; expected minimum values are V_n=32t; V_r=80t; V_e=180t acc. to ČSN EN 73 6222 zm. Z1
q. traffic on the bridge:
   - public mass transport on rails (ANO/NE) — No
   - public mass transport other (ANO/NE) — Yes
   - IAD (ANO/NE) — ANO
   - Separate cycling path — No
   - Footways — Yes
   - Number of lanes — 1+1

7. State of the bridge:
   a. substructure — IV. – very poor
   b. superstructure — IV. – very poor
   c. diagnostics results (short description)
   For description of the status of the structure see:
   Diagnostics inspection of the bridge, Kaplan Tomáš, Ing., Pontex spol. s r. o., 04/2017

   The complete bridge diagnostics is included as an attachment.

8. Photos of side of the bridge and of space on the bridge

Obr. 1 - Side view

Obr. 2 – Arrangement on the bridge