Intersection/Interchange Improvement Project
Steubenville OH
by
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LOOKING SOUTH OFF RR BRIDGE
LOOKING NORTH EAST
LOOKING NORTHWEST
LOOKING WEST FROM GROUND LEVEL
LOOKING SOUTH
LOOKING SOUTH AT RR BRIDGE
POTENTIAL FOR A TEMP. SET OF TRACKS
TANGENT PILE WALL
DRILLED SHAFT NUMBERS 10 & 11
REINFORCING
SOIL NAIL WALL ELEVATION VIEW
THE TWO WALLS AND LOW STRENGTH MORTAR BACKFILL
LOW STRENGTH MORTAR BACKFILL GRADING PLAN
CROSS SECTION VIEW
RAILROAD TRACK SETTLEMENT SENSORS

NOTES
1. FOLLOW INSTRUMENT MANUFACTURER’S INSTRUCTIONS FOR INSTALLING EQUIPMENT.
2. PROTECT JUMPER CABLE IN CONDUIT AND SENSORS, CABLE AND GAUGE TUBE IN SHEET METAL COVER THAT IS ATTACHED TO THE RAILROAD TIES.
3. INSTALL INSTRUMENTATION WHILE ADHERING TO ALL TRAIN SAFETY PROTOCOLS.
TILTMETER DETAIL

TILTMETER INSTALLATION ON A VERTICAL CONCRETE WALL
TILTMETER LAYOUT
EMERGENCY ACTION PLAN
SOLDIER PILE & LAGGING WALL ON SOUTH SIDE OF RAILROAD BRIDGE
SP&L WALL TO SOUTH OF TANGENT PILE WALL
SOIL NAIL WALL CONSTRUCTION OF ROW 2
SOIL NAIL WALL CONSTRUCTION/LOW HEADROOM
SOIL NAIL WALL/ROW 2 NAILS INSTALLED
TRACK SETTLEMENT
SENSORS/TILTMETERS
INSTRUMENTATION CABLES/ DATA LOGGERS, SOLAR PANEL, CELL MODEM, AND SIREN
STEEL BEAM LOWERED INTO PLACE!
EAP STEEL BEAM IN PLACE/CONSTRUCTION OF TANGENT PILES CONTINUES
SOIL NAIL WALL, TANGENT PILES, STEEL BEAM, AND SHEET PILE FIX
SHEET PILE FIX AT BASE OF SOIL NAIL WALL
TANGENT PILE WALL WITH SHOTCRETE FACING, AND TYPE D BARRIER WALL IN PLACE
WHAT THE HELL?
LESSONS LEARNED

1. Take enough borings/Utilize a remote control drill rig.
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5. Utilize geophysical exploration methods when needed
LESSONS LEARNED

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2. SNAP/SNAP 2
3. Worked well with OGE
4. Geotechnical instrumentation useful
5. Utilize geophysical exploration methods when needed
6. Possible Research
THANK YOU!

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