Standard Bridge introduces our 100-year bridge

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STANDARD BRIDGE CO.

the NEW standard

PREDESIGNED & PREFAB BRIDGE SYSTEM
Spans of 60ft to 150ft lengths,
With a limited 50,000lb axle overload capability.

Once the bridge is fabricated,
only 30 working days to be complete and ready for traffic

With the deteriorating state of America's infrastructure, the federal government challenged the world to build a bridge for the future setting forth the following criteria…

Longevity - we want a hundred-year bridge

Speed - a bridge design for rapid replacement. Time is money

Environmental - build us a bridge with the fewest scars on mother nature. Again, damage equals money

Safety - reduce worker hazard

Overload capacity - if we're building a hundred-year bridge, we need to think of potential future loads

Cost - infrastructure is a shared tax payer expense. Reduce with value engineering and readily available components

Here's how Standard Bridge has addressed the challenges...

Longevity - by reducing the stresses from tension to compression as well as the girders being galvanized
Speed - pre-manufactured, eliminating time consuming field work

Environmental - we take pride in following the current Environmental laws. With our special abutment design with a spread footing, we can have a bridge built where it would be hard to tell if any construction went on at the bridge site. Plus, we consider weathering steel to be an environmental issue, that is why we choose to galvanize all our steel girder (which cannot be done to the custom design girders).

Safety - meets and exceeds all OSHA safety standards No one needs to walk our steel girders in the shop or in the field

Overload capacity - with a limited 50,000lb axle overload capability today. With future capacity, we have the capability of increasing this without replacing the girder with modification of the keystone section of our girder

Cost - we can reduce your engineering cost by only needing the engineering for a hydraulic study, geological study and site survey, plus traffic data. We reduce your construction cost by not having our fabricators reinvent the wheel every time in their shops (as custom designs always require them to do), plus any local contractor can erect our bridge system which increase the bidding pool.
We reduce the transportation cost of girders as they are delivered in 3 pieces by a normal 65ft tractor trailer (ex. the 150ft girder is broke down into 2-55ft & 1-60ft section).

We at Standard Bridge believe that we have not only met but have exceeded the FHWA expectations as well as ASHTO design specifications.

Our predesigned & prefabricated bridge system can span from 60ft to 150ft lengths with clear roadway widths of 28ft to 44ft. Plus we can do multiple span combinations using our prefab pier system (that only take 4 days to build) and not be restricted by the continues moment distribution method that regular girders must meet for its span lengths.

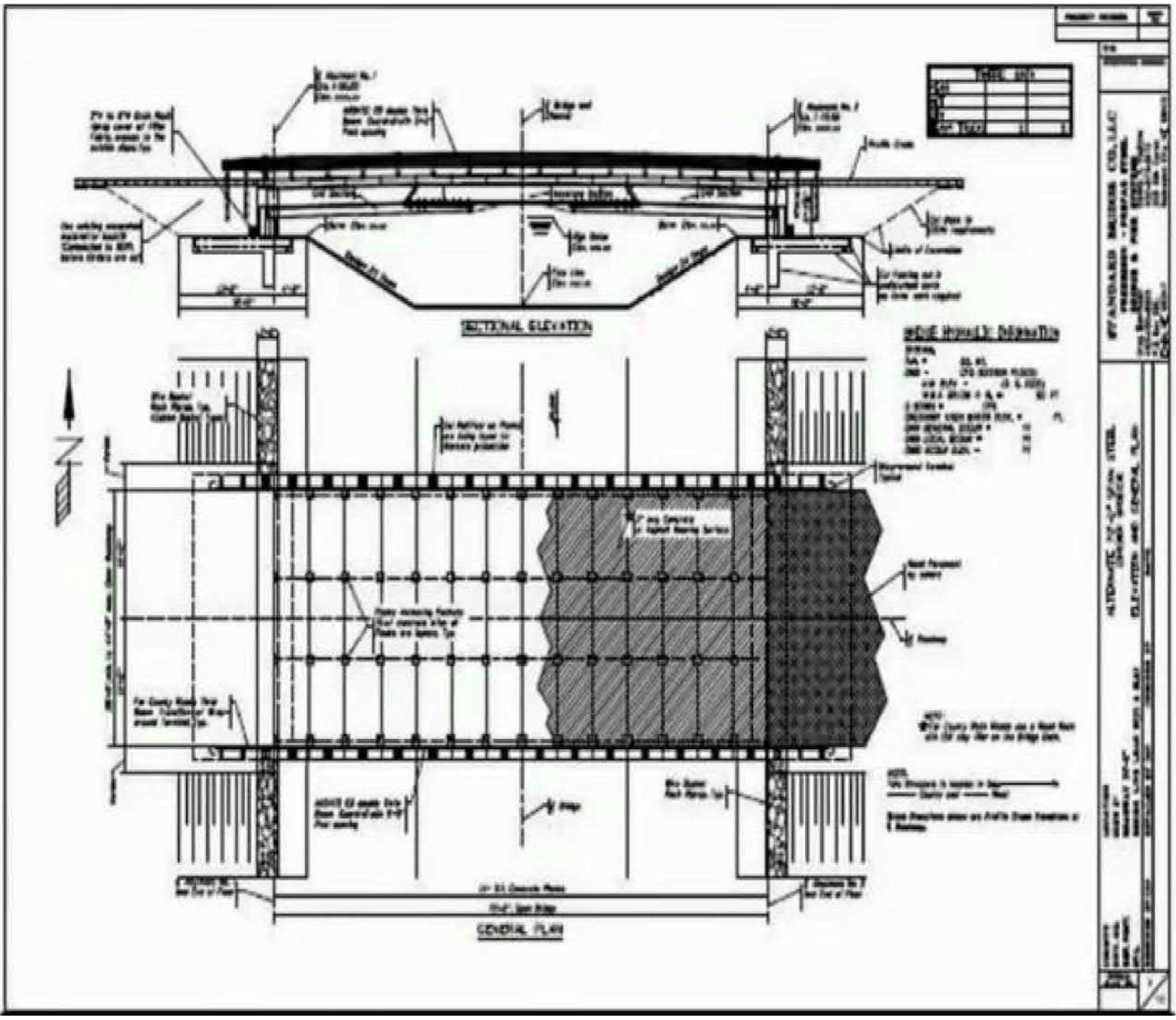
- PREDESIGN-PREFAB BRIDGE SYSTEM -
- 70 FT. DESIGN BRIDGE -

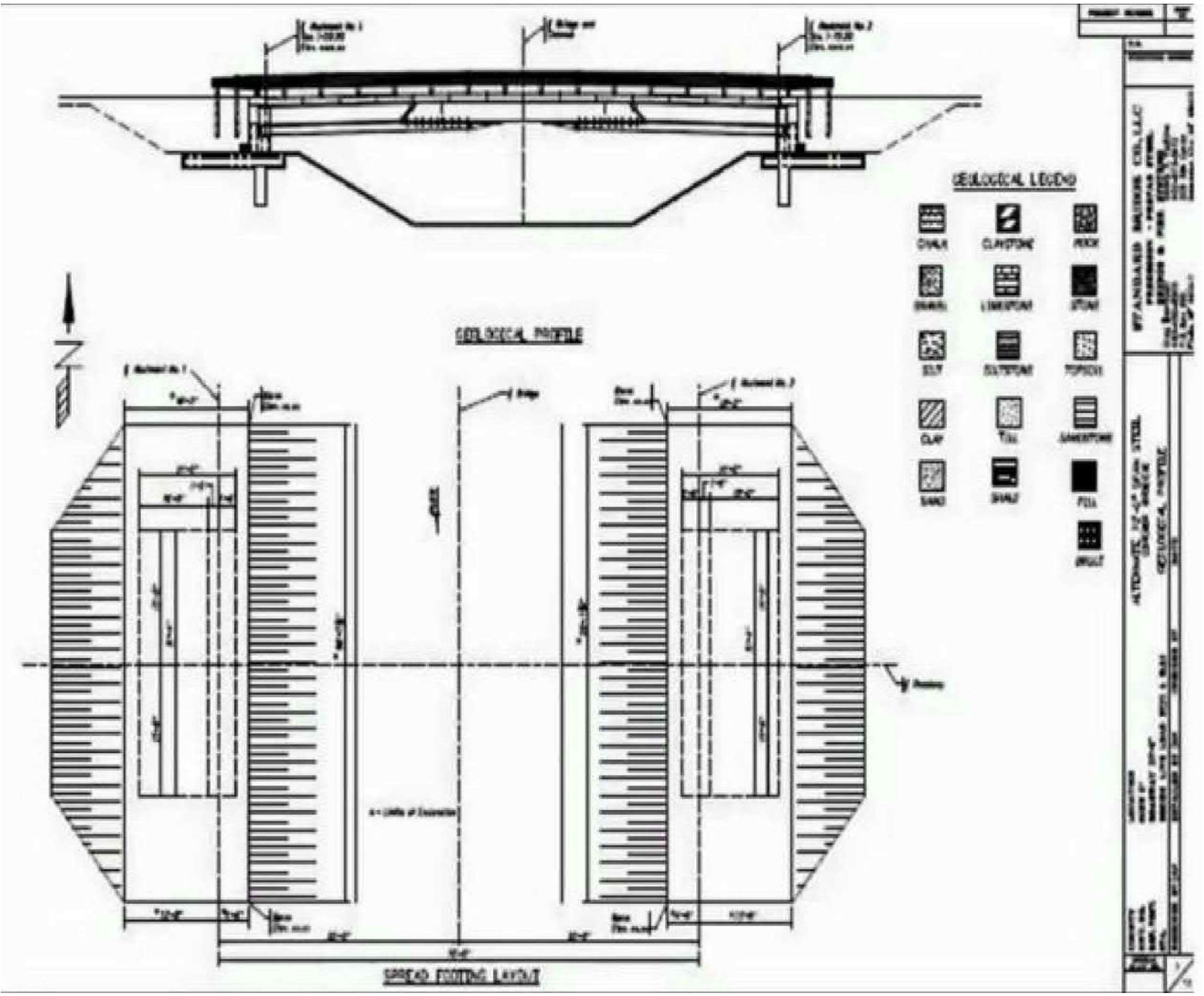
- NOTES -

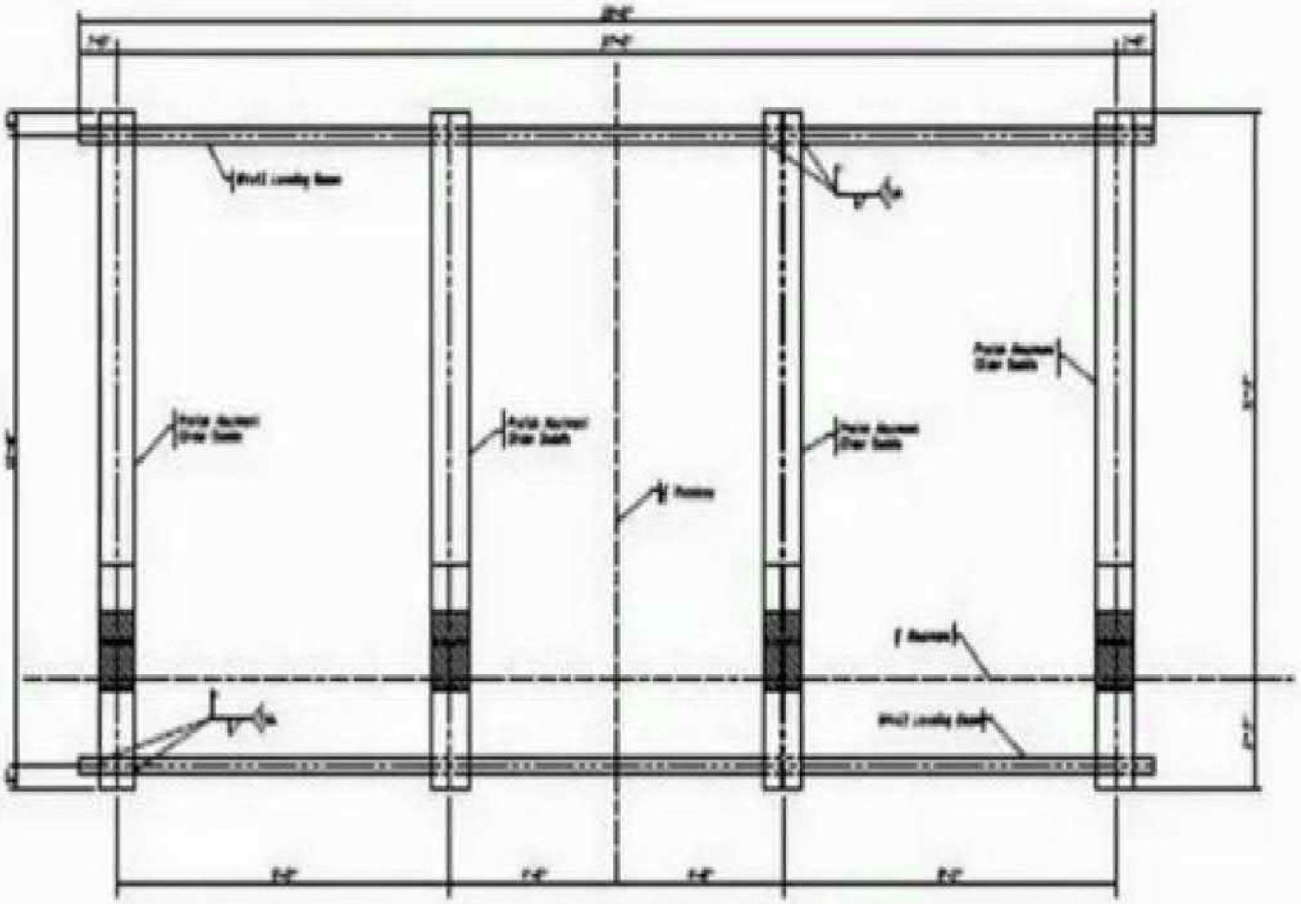
- QUANTITIES -

- INDEX -

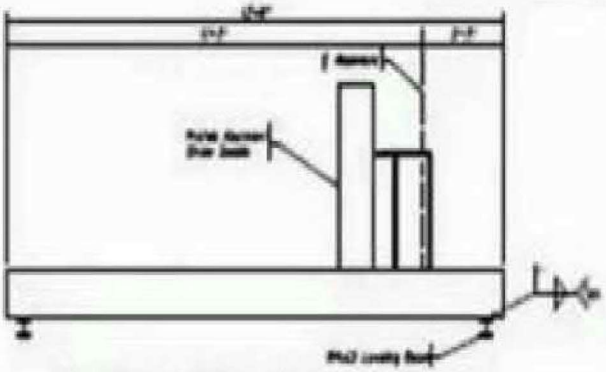
QUANTITIES FOR INFORMATION


SECTIONAL ELEVATION
GENERAL PLAN

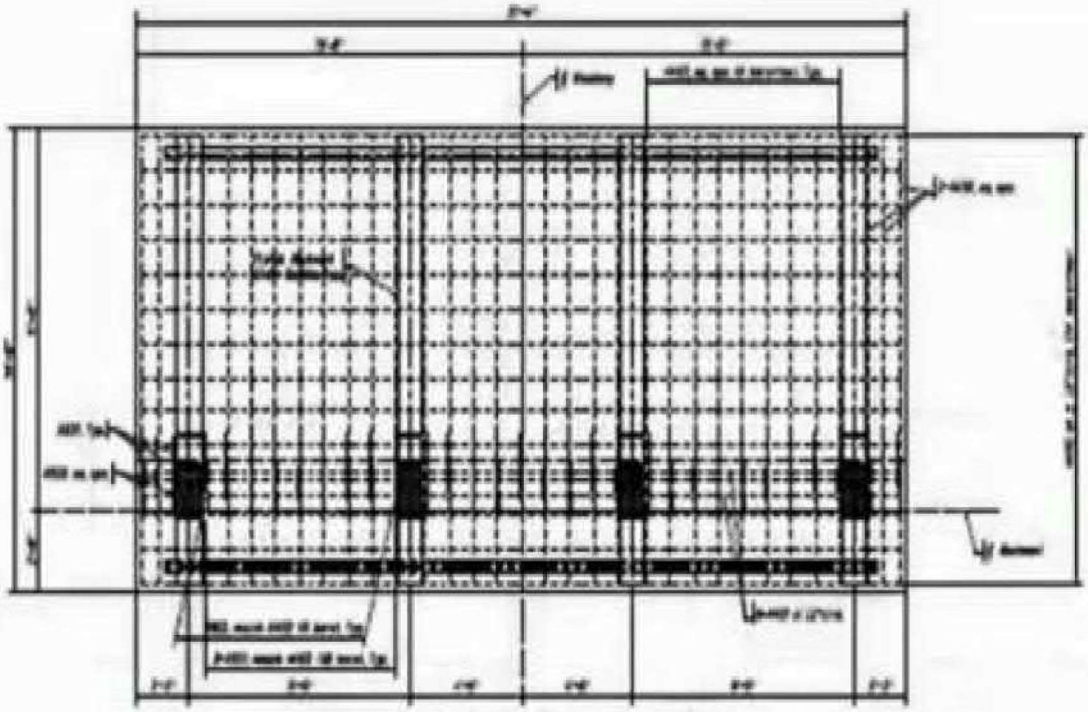

GEOLOGICAL LEGEND
CHALK
CLAYSTONE
ROCK
LIMESTONE
SILT
SILTSTONE
TOPSOIL
CLAY
SAND
SHALE
FILL
GRAVEL
GEOLOGICAL PROFILE
SPREAD FOOTING LAYOUT



PREFAB ABUTMENT CORDER SADDLE LAYOUT

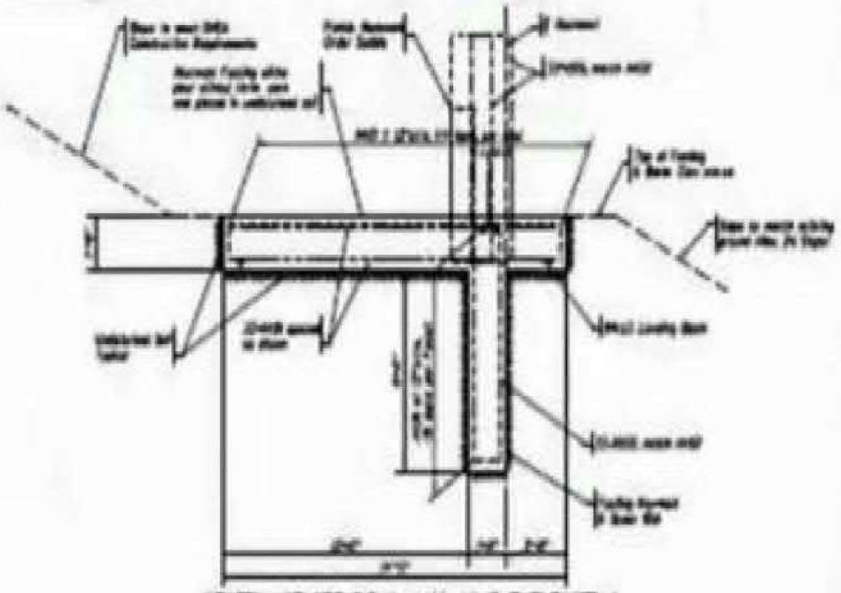


ELEVATION OF PREFAB ABUTMENT CORDER SADDLE

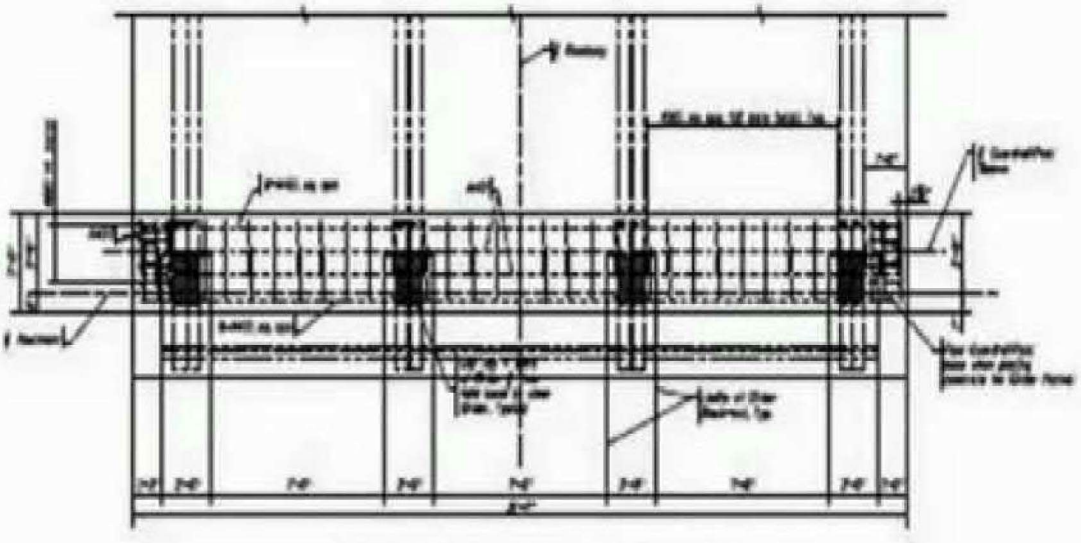


PLAN OF RETAINING WALL ABUTMENT FIXTING

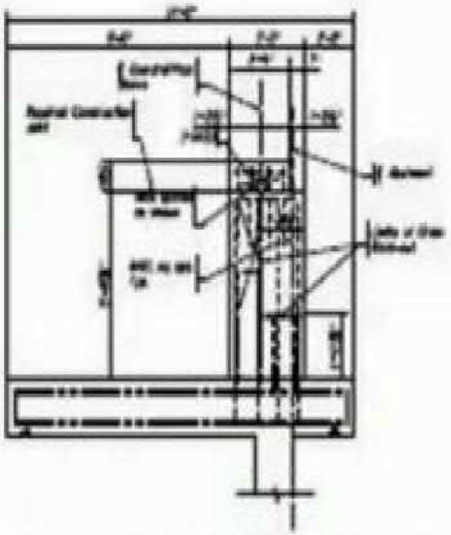
BILL OF BARS



SECTION OF RETAINING WALL ABUTMENT FIXTING



PLAN OF RETAINING WALL ABUTMENT BACKWALL



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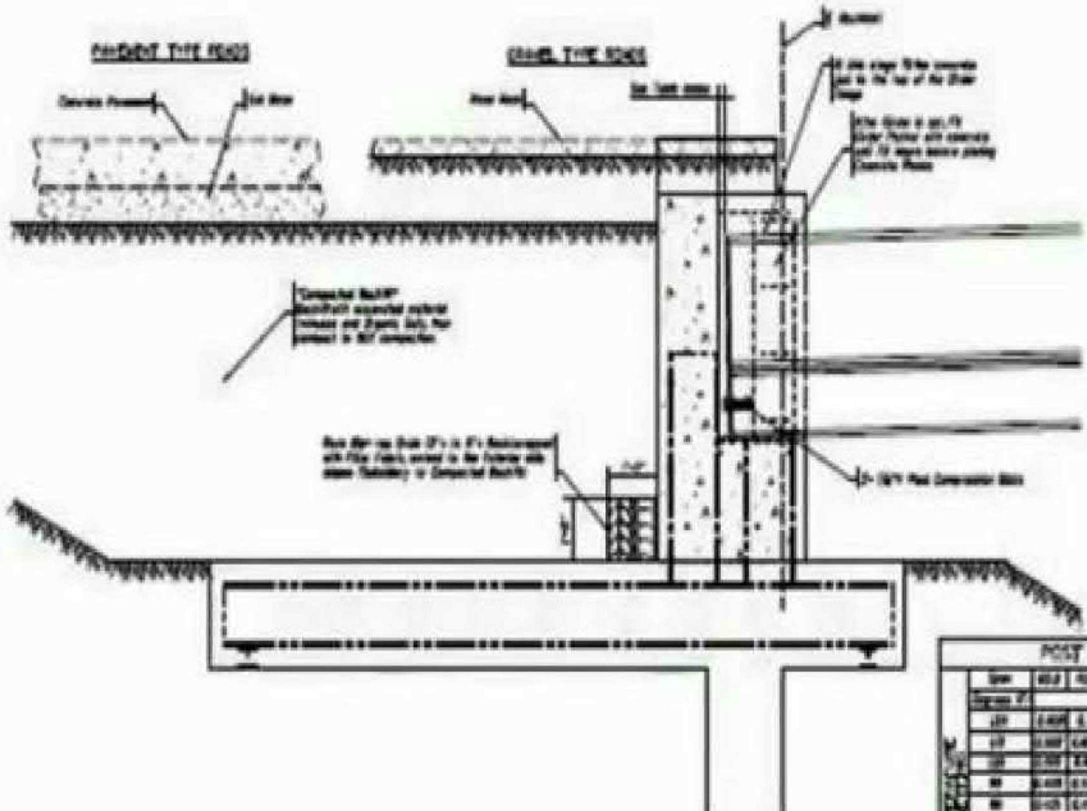

SECTION OF RETAINING WALL ABUTMENT – BACKFILL & GIRDER PLACEMENT

POST COMPRESSION SCREW SETTING

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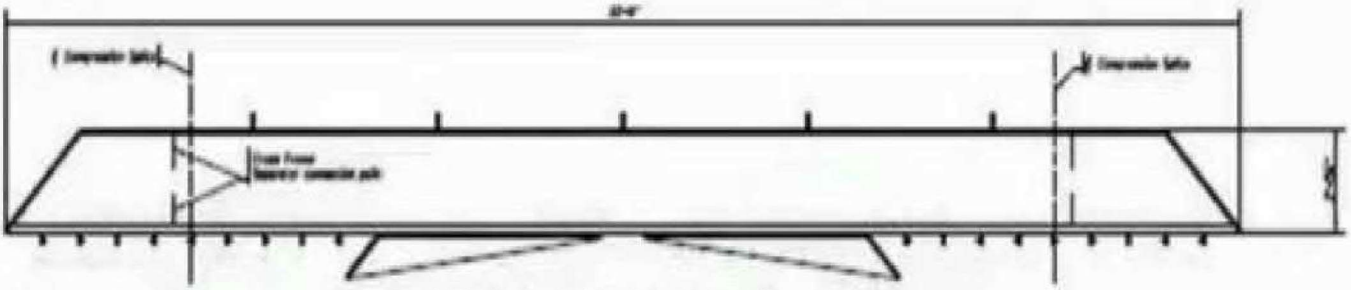
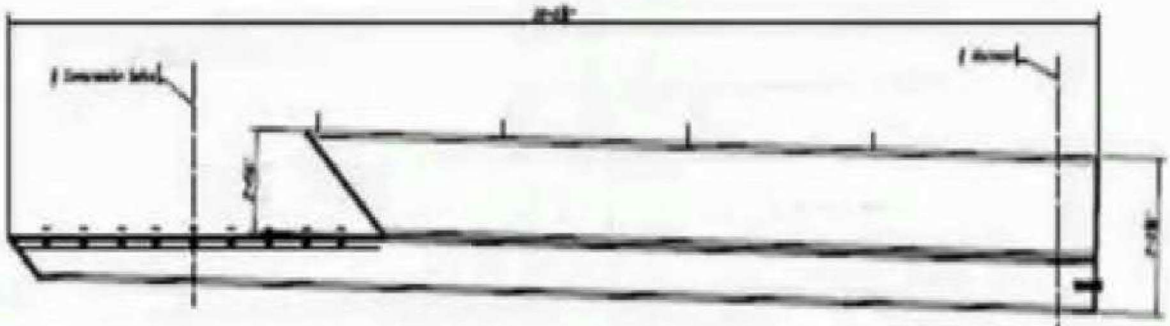
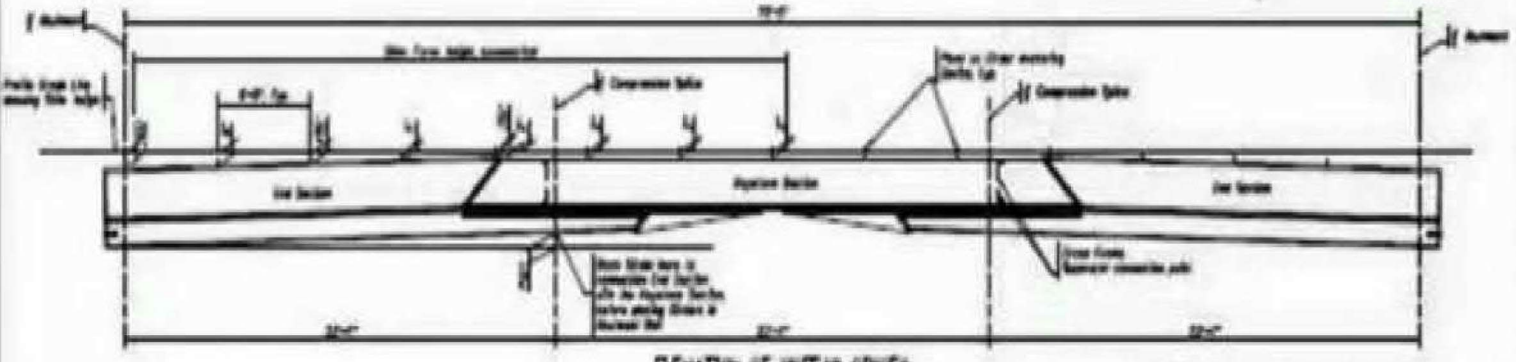


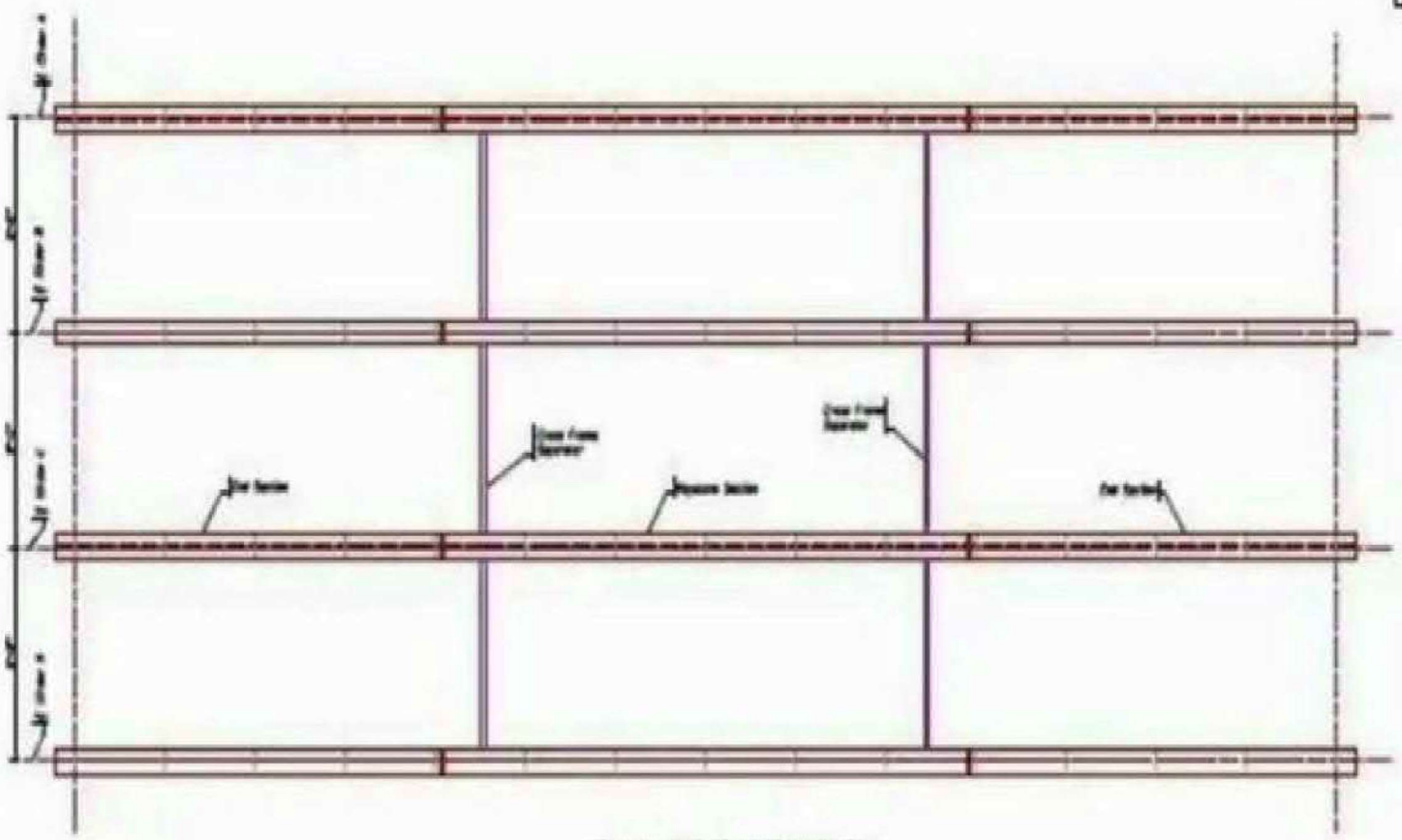
ELEVATION OF PREFAB KEYSTONE SECTION



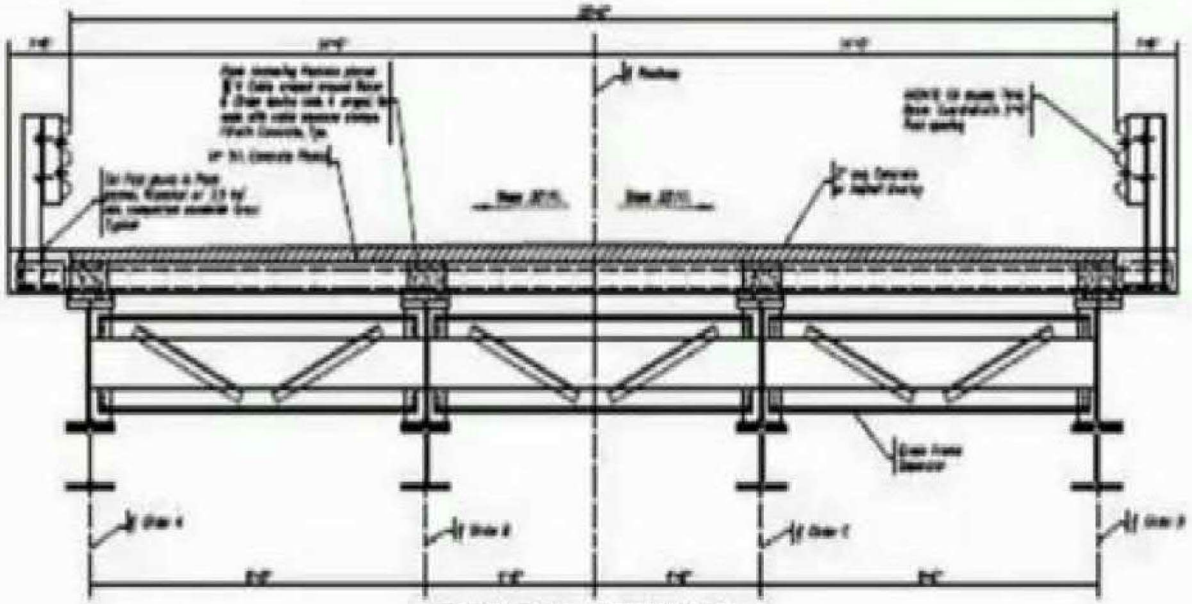
ELEVATION OF PREFAB END SECTION



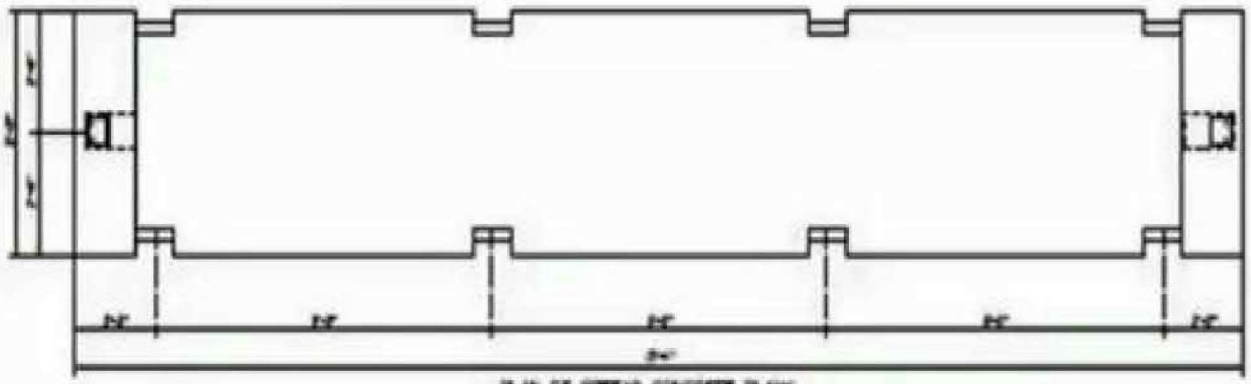
ELEVATION OF PREFAB CENTER



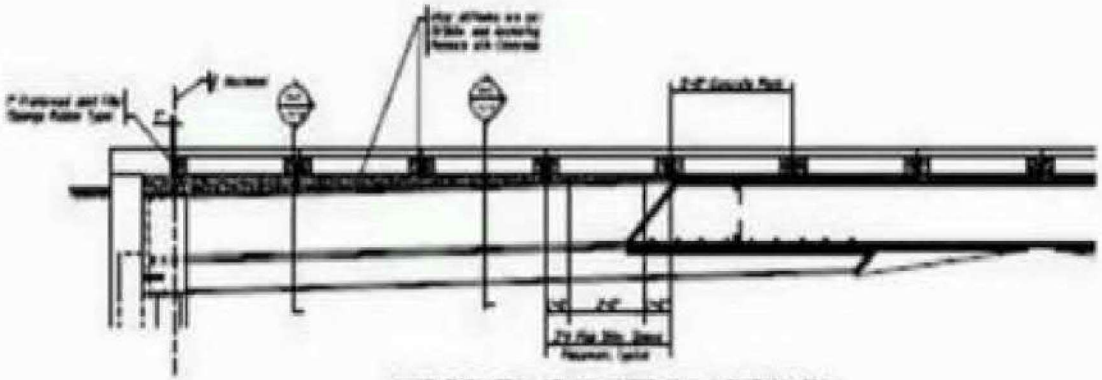
PLAN LAYOUT OF PREFAB SHED



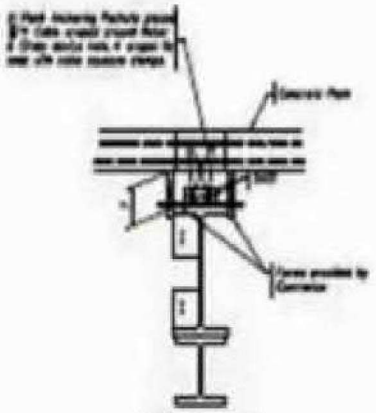
TYPICAL ROADWAY CROSS SECTION



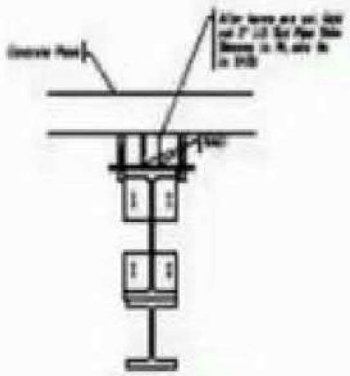
PLAN OF PRECAST CONCRETE PLANK



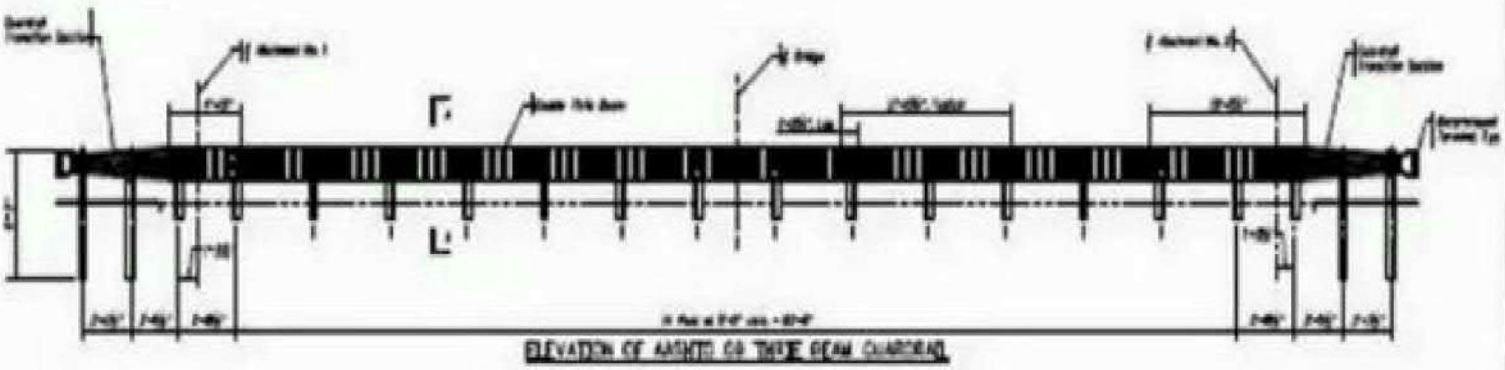
PART ELEVATION OF CONCRETE SLAB INSTALLATION



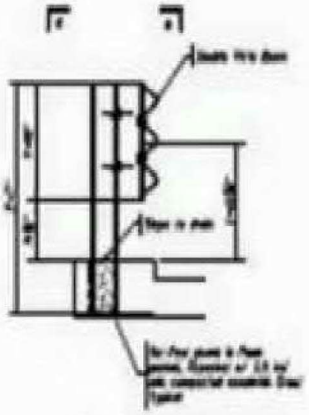
SECTION A-A



SECTION B-B



ELEVATION OF ABUTMENT OR THRU BEAM (SIMILAR)



SECTION A-A

SECTION B-B

About Us

Standard Bridge was created by Dennis A. Vodicka and Greg Henriksen, an idea born of necessity.

Our Bridge Girder Design is based on using a buildup combination of Roll Beams with a compression splice developed in 1996 by Dennis A.Vodicka, a Structural Bridge Designer with over 37 years of experience in Engineering, 32 years for NDOR Bridge Division.

Dennis, along with Greg Henriksen (a general contractor with over 27 years experience) started working on the idea for Standard Bridge and in 2009, tested at the University of Nebraska Omaha Engineering lab using compression theory under the supervision of Dr. Maher Tadros and Dr. George Morcous.

From those test results, here's how Standard Bridge system compares to AASTHO LRFD code…

AASTHO LRH) code - the maximum load for a county bridge is designed for 32,000 lbs per axle load and the state bridge is designed for 36,000lbs per axle load and none of these bridges have an overload capability.

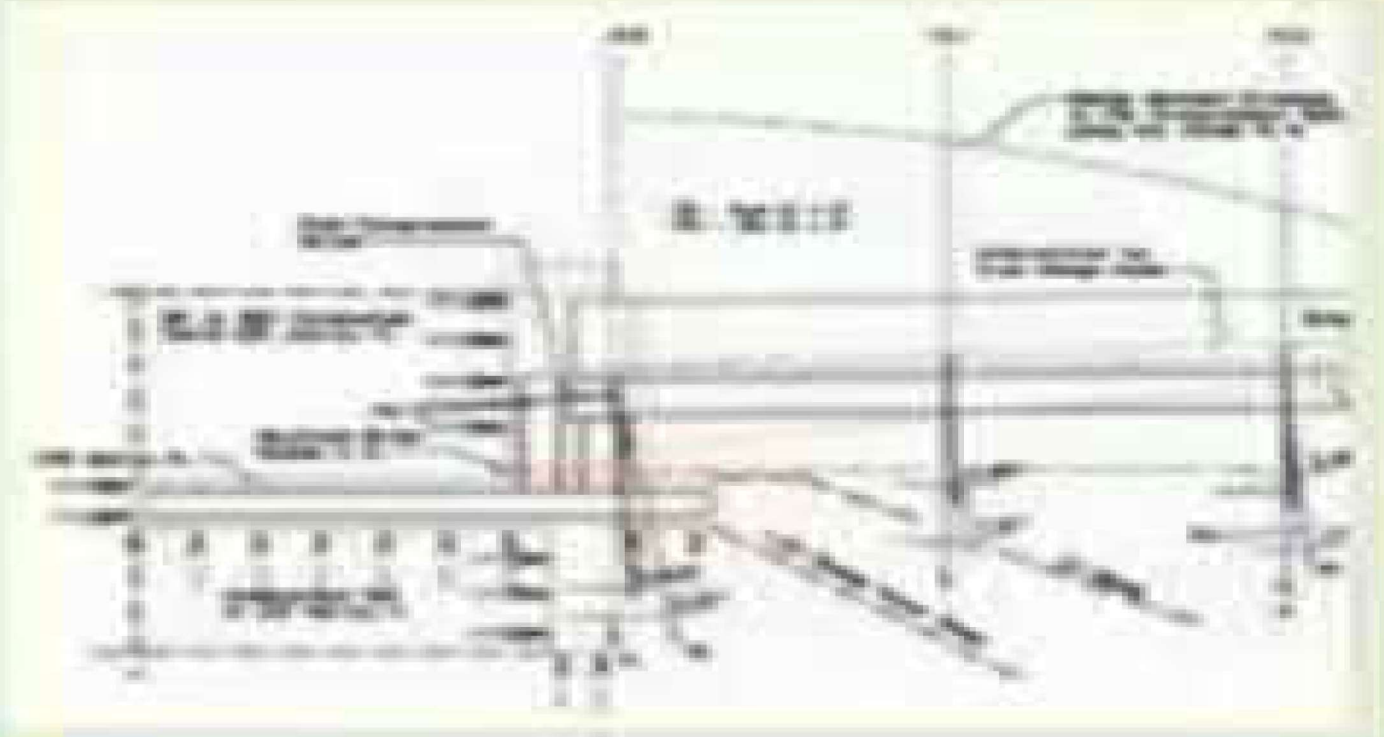
Standard Bridge System - using our new design concept we provide a 40,000 lbs axle load, with a temporary overload of 50,000lbs axle load without any damage, a benefit at Harvest time. There will be a higher live load deflection, but once this load is gone the bridge will return to normal, without having any fatigue problems. While with the AASTHO LRFD code designed girder, you cannot do this because of the high fatigue problems it would cause.

Standard Bridge System - girder, weight per foot is the same as for the **AASTHO LRFD code** steel girder weight per foot and in some cases even lighter.

Standard Bridge proposal is to provide an Alternate Bridge Design for all your bridge projects with an end result that will give you a stronger bridge at a lower cost.

How and Why Our System is Different

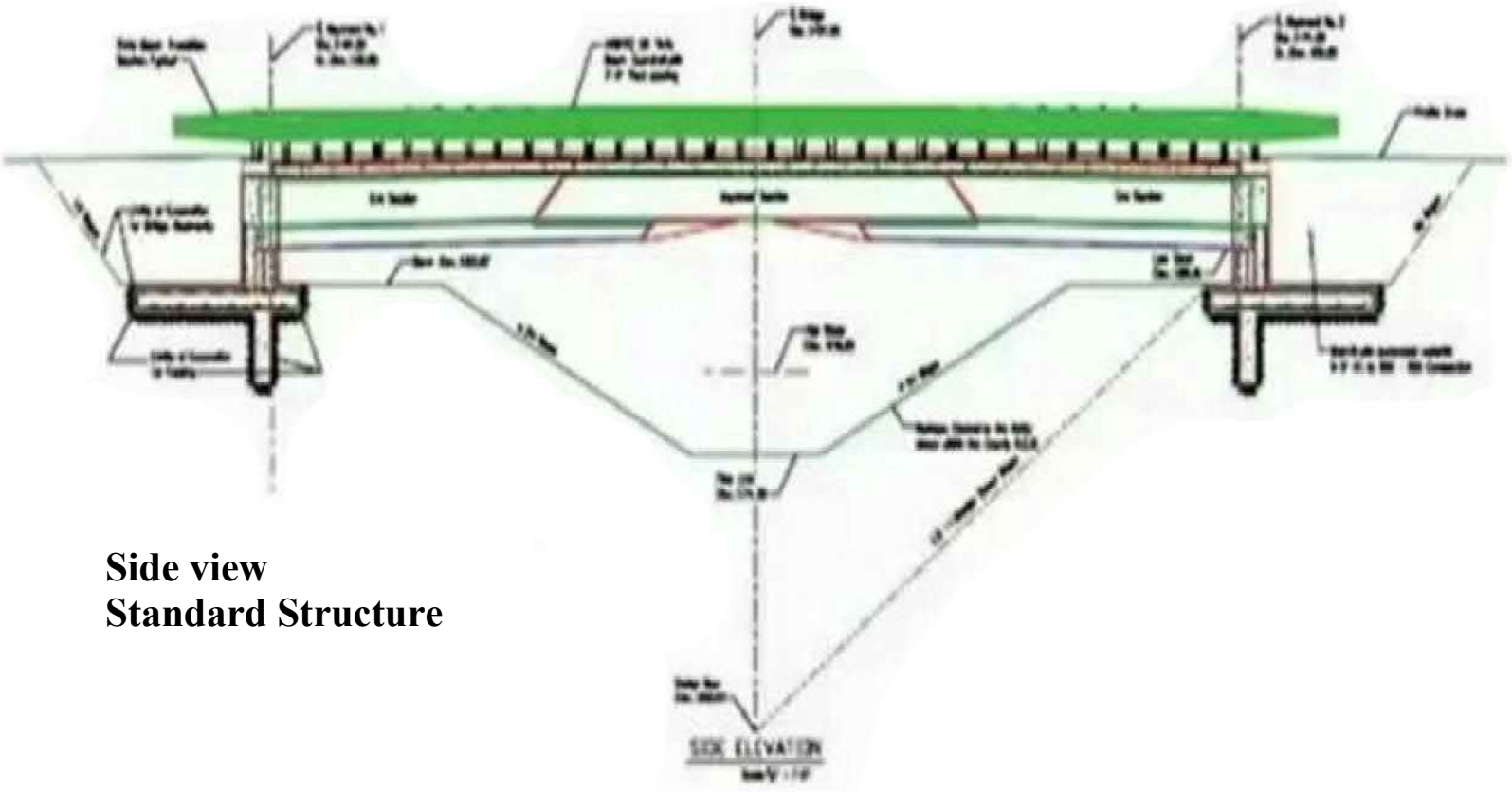
Our Bridge System is a non-composite steel beam girder system that makes use of a unique design. Which gives it superior loading ability through the use of the Momentary Arch. The Momentary Arch Transfers the load stress through the girder to the abutment walls and finally to the footings. The Arch channels the load stress to the abutment walls reducing standard deflection on the girder, as would typically occur on a traditional beam structure.



Standard Bridge System

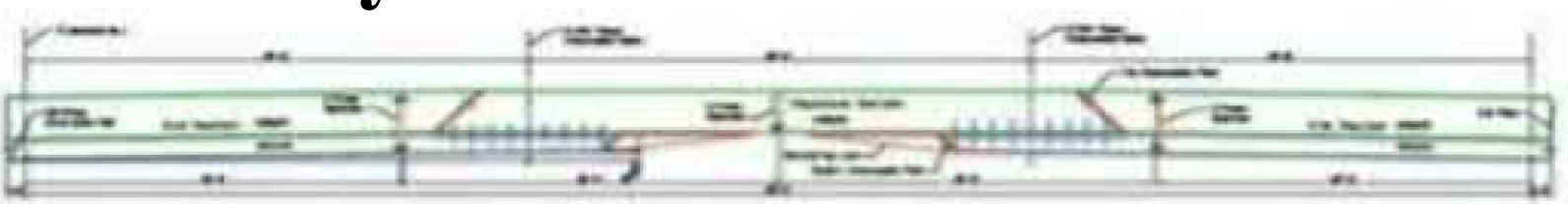
Overall, our system allow for bridges that can be constructed quickly while carrying heavier loads than conventional bridges of the same size-allowing for population growth and traffic increases. The goal of the company is to provide low maintenance, cost effective bridges with greater load capacity, longer life span and a faster build time with a lower overall cost than conventional bridges.

Ultimately providing a more cost effective structure-saving 10% to 25%.



Side view
Standard Structure

Girder System



- The girder makeup consists of five beams that interlock forming a girder that uses compression and the principals of the arch, which is formed by the girder to achieve its strength and stability.

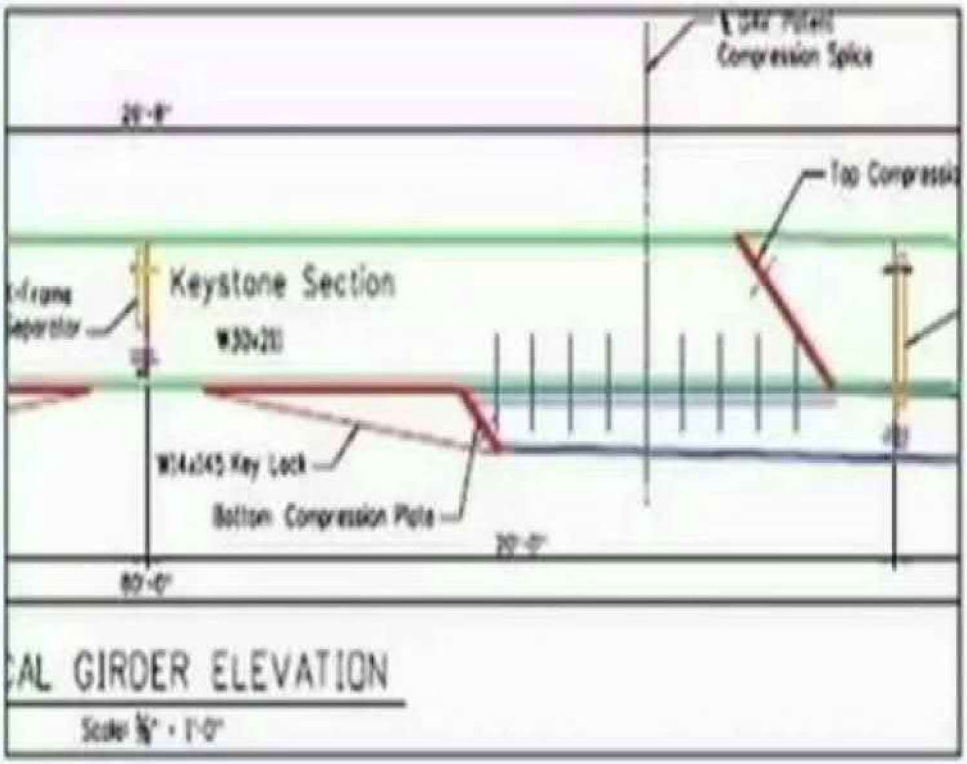
- Compression Joints are used where beams are joined together to form the girder and where the abutment walls join with the girder ends.

- A Compression Splice is used to mate the end beams with the bottom beams and is the primary anchoring joint that prevents the two beams from moving laterally.

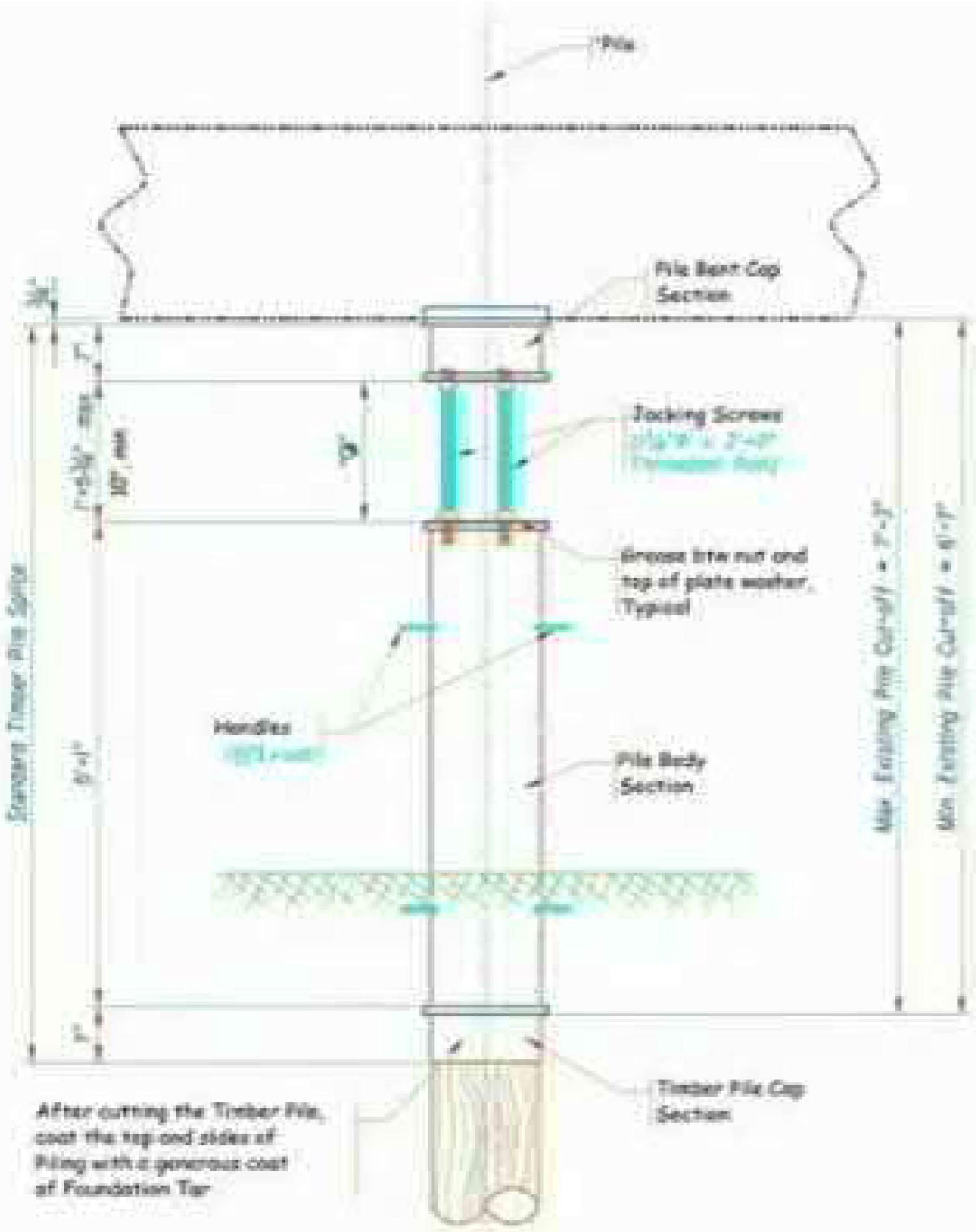
- The keystone and key lock system is what securely ties the center, end and bottom beams together forming the arch Thus, giving the girder its superior loading ability.

- Due to the unique design our Momentary Arch transfers the load stress and deflection through the girder to the abutment walls and finally to the footing, which with traditional beam structures are not possible

Key Lock



Our girder consists of five beams that interlock. Four of the five beams are combined to make two girder sections via the compression splice. The crucial locking component is the key lock, which joins a center girder section and two end sections to form the girder system. The girder system, with its compression splices and key locks, transfers the weight to the abutments and footings allowing for greater loading, Strength and stability is accomplished using the momentary arch formed by the girder.



Standard Timber Pile Splice

Scale: 1" = 1' - 0"

Mission Statement

To provide a Standard Steel Bridge System that EXCEEDS AASHTO Standard Specificationas well as the new AASHTO LRFD Specification for highway bridges with a working life ofover 100 years. To be able to meet and handle all the heavy farm equipment and trafficof today and in the future. In addition, provide a bridge that is economically saving tax dollars to the taxpayers.

Goals

1) Make available a steel bridge system that can compete with the custom design and custom built bridges.

2) Make our steel bridge fabricators independent of the steel producers rolling production schedule.

3) To have a standard steel bridge system that a local contractor can build, so that the tax dollars spent can stay in the county or local district that the bridge will be built in.

4) To be the mast "Environmentally Friendly Bridge System" in the nation. Once the bridge is finished, it would be hard to tell if any construction was done at the site.

5) Worker safely Jo provide a safe work place and to meet and exceed all OSHA safety standards. No one needs to walk our steel girders in the shop or in the field.

6) To erect a single span bridge in 30 days or less.