envision™
A Rating System for Sustainable Infrastructure

Presentation to

April 26, 2013

Tim Psomas
Board Member & Founding Chair, ISI
Institute for Sustainable Infrastructure
2050 Is Being Built Today

URGENT ISSUE!
Three founding partners, committed to sustainability, developed a number of tools and resource libraries

- APWA — Center for Sustainability
- ASCE — Committee on Sustainability
- ACEC — Green Scorecard

ISI Formation

- Leveraging value of a consolidated approach
- Creating a framework for convergence of 900+ rating systems globally
- Getting suppliers and manufacturers on board with sustainability
Concurrently, the Zofnass Program for Sustainable Infrastructure at Harvard University collaborated in creating an infrastructure tool similar to envision™. ISI and Zofnass/Harvard agreed to harmonize both tools together to have one U.S. tool...
Should be relevant, supportive, usable, and productive E-version:

- Interactive
- Instructive
- Outcome-based
- Process-supportive
- Outputs
Constructing the Rating System

Should be scalable according to complexity and size

- Checklist and Self Assessment
- Stage 2: Comprehensive consideration of multiple criteria and core system
- Stage 3: Focused project assessment (+ operations, existing facilities)... To be developed
- Stage 4: Multi-attribute, complex, contested, triple bottom line (TBL) balancing including economics ... To be developed

Agencies, owners, consultants, communities should be able to use approach to reach consensus through informed decision making
Triple Bottom Line

1. Economic
2. Social
3. Environmental
envision™ Categories

- **Purpose, Community, Wellbeing**
- **Collaboration, Management, Planning**
- **Materials, Energy, Water**
- **Siting, Land & Water, Biodiversity**
- **Emission, Resilience**
envision™ Scoring Allocation

809 total possible points

- Quality of Life: 22%
- Natural World: 25%
- Resource Allocation: 23%
- Leadership: 15%
- Climate and Risk: 15%

Total: 809 points
• 60 secondary criteria and narrative guidance
• A sustainability “score” and road map
• Supports consideration of performance achievement (higher efficiency) as well as process improvement (pathway to supportable and effective approaches)
• Stage 2 Version 2.0 launched in January 2012
• Checklist launched in September 2012

• [link: www.sustainableinfrastructure.org]
# envision™ Project Credits

<table>
<thead>
<tr>
<th><strong>Quality of Life</strong></th>
<th><strong>Leadership</strong></th>
<th><strong>Resource Allocation</strong></th>
<th><strong>Natural World</strong></th>
<th><strong>Climate and Risk</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>QL1.1 Community Quality of life</td>
<td>LD1.1 Effective Leadership</td>
<td>RA1.1 Embodied Energy</td>
<td>NW1.1 Prime Habitat</td>
<td>CR1.1 Greenhouse Gas Emissions</td>
</tr>
<tr>
<td>QL1.2 Stimulate Sustainable Growth</td>
<td>LD1.2 Sustainability Management System</td>
<td>RA1.2 Procurement</td>
<td>NW1.2 Wetlands Surfacing Water</td>
<td>CR1.2 Air Pollutants</td>
</tr>
<tr>
<td>QL1.3 Local Skills</td>
<td>LD1.3 Collaboration</td>
<td>RA1.3 Recycling</td>
<td>NW1.3 Prime Farmland</td>
<td>CR2.1 Climate Threat</td>
</tr>
<tr>
<td>QL2.1 Public Health and Safety</td>
<td>LD1.4 Stakeholder Involvement</td>
<td>RA1.4 Regional Materials</td>
<td>NW1.4 Geologic Hazards</td>
<td>CR2.2 Traps and Vulnerabilities</td>
</tr>
<tr>
<td>QL2.2 Noise and Vibration</td>
<td>LD2.1 By-Product Synergy</td>
<td>RA1.5 Divert Waste</td>
<td>NW1.5 Floodplains</td>
<td>CR2.3 Long-term Adaptability</td>
</tr>
<tr>
<td>QL2.3 Light Pollution</td>
<td>LD2.2 Integration</td>
<td>RA1.6 Reduce Material Export</td>
<td>NW1.6 Steep Slopes</td>
<td>CR2.4 Short-term Hazards</td>
</tr>
<tr>
<td>QL2.4 Mobility and Access</td>
<td>LD3.1 Long Term Monitoring and Maintenance</td>
<td>RA1.7 Deconstruction</td>
<td>NW1.7 Greenfields</td>
<td>CR2.5 Heat Islands</td>
</tr>
<tr>
<td>QL2.5 Alternative Transportation Modes</td>
<td>LD3.2 Regulatory/Policy Conflicts</td>
<td>RA2.1 Reduce Energy Consumption</td>
<td>NW2.1 Storm water</td>
<td>CR0.0 Innovation</td>
</tr>
<tr>
<td>QL2.6 Site Accessibility</td>
<td>LD3.3 Extend Useful Life</td>
<td>RA2.2 Renewable Energy</td>
<td>NW2.2 Pesticides</td>
<td></td>
</tr>
<tr>
<td>QL3.1 Historic and Cultural</td>
<td>LD0.0 Innovation</td>
<td>RA2.3 Monitor Energy Systems</td>
<td>NW2.3 Water Contamination</td>
<td></td>
</tr>
<tr>
<td>QL3.2 Views, Local Character</td>
<td></td>
<td>RA3.1 Water Availability</td>
<td>NW3.1 Biodiversity</td>
<td></td>
</tr>
<tr>
<td>QL3.3 Public Space</td>
<td></td>
<td>RA3.2 Water Consumption</td>
<td>NW3.2 Invasive Species</td>
<td></td>
</tr>
<tr>
<td>QL0.0 Innovation</td>
<td></td>
<td>RA3.3 Monitor Water Systems</td>
<td>NW3.3 Disturbed Soils</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>RA0.0 Innovation</td>
<td>NW3.4 Maintain Water Functions</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>NW0.0 Innovation</td>
<td></td>
</tr>
</tbody>
</table>
## QL1.1 IMPROVE COMMUNITY QUALITY OF LIFE

**INTENT:**
Improve the net quality of life of all communities affected by the project and mitigate negative impacts to communities.

**METRIC:**
Measures taken to assess community needs and improve quality of life while minimizing negative impacts.

## LEVELS OF ACHIEVEMENT

<table>
<thead>
<tr>
<th>IMPROVED</th>
<th>ENHANCED</th>
<th>SUPERIOR</th>
<th>CONSERVING</th>
<th>RESTORATIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2) Internal focus. The project team has located and reviewed the most recent and relevant community planning information. Some, but not systematic outreach to stakeholders and decision makers has taken place. Some relatively easy, but not particularly important or meaningful changes made to the project. No significant adverse community effects are caused by the project (A, B, C)</td>
<td>(5) Community linkages. More substantive efforts to locate, review, assess and incorporate the needs, goals and plans of the host community into the project. Most potential negative adverse impacts of the project on the host community are reduced or eliminated. Key stakeholders are involved in the project decision-making process. (A, B, C)</td>
<td>(10) Broad community alignment. All relevant community plans are reviewed and verified through stakeholder input. The project team works to achieve good project alignment with community plans, recognizing that the scope of the project is a limiting factor. Potential negative impacts on nearly affected communities are reduced or eliminated. (A, B, C)</td>
<td>(20) Holistic assessment and collaboration. The project makes a net positive contribution to the quality of life of the host and nearby affected communities. The project team makes a holistic assessment of community needs, goals and plans, incorporating meaningful stakeholder input. Project meets or exceeds important identified community needs and long-term requirements for sustainability. Remaining adverse impacts are minimal, mostly accepted as reasonable tradeoffs for benefits achieved. The project has broad community endorsement. (A, B, C)</td>
<td>(25) Community renaissance. Through rehabilitation of important community assets, upgraded and extended access, increased safety, improved environmental quality and additional infrastructure capacity, the project substantially reinvigorates the host and nearby communities. Working in genuine collaboration with stakeholders and community decision-makers, the project owner and the project team scope the project in a way that elevates community awareness and pride. Overall quality of life in these communities is markedly elevated. (A, B, C, D)</td>
</tr>
</tbody>
</table>

### DESCRIPTION
This credit addresses the extent to which the project contributes to the quality of life of the host community; the community in which the constructed works is situated and directly affects. This determination is based on how well the project team has identified and assessed community needs, goals and objectives, and incorporated them into the project. Relevant community plans are assumed to be a viable expression of those needs, goals, objectives and aspirations. In a real sense, they are the community’s expression of their desired quality of life.
YES/NO: Has an action been done or an outcome achieved? For example, “person appointed,” “policy issued,” or “brownfield land used instead of greenfield.”

OBJECTIVE: Each objective starts with an imperative statement, further explained and amplified by one or more questions.

MEASURES: Provided for each objective. These will be used as a basis for the evidence or as justification for answering questions in the affirmative.
GUIDANCE: Each of the objectives and measures will be associated with the applicable guidance designed to assist the user.

SCOPING OUT: Some of the objectives may be scoped out (deleted), not considered or counted if they are not applicable to the project.

OUTPUT: Checklist users will get a bar graph that represents the number of questions to which they answered “yes.” The score will give users the idea of how many sustainability factors were considered and/or incorporated into the project.
QL 3.1 Quality of Life (preserve historic and cultural resources)

**Intent:** Preserve or restore significant historical and cultural sites and related resources to preserve and enhance community cultural resources

**Metric:** Summary of steps taken to identify, preserve or restore cultural resources

- Will the project minimize negative impacts on historic and cultural resources? (Yes, No, NA)
- Will the project be designed so that it fully preserves and/or restores historic/cultural resources on or near the project site? (Yes, No, NA)

**TOTAL 0 of 2**
• Checklist is FREE!
• Provides a simple evaluation of projects
• If you get enough “yes’s,” you may want to consider Stage 2 and awards
• Regardless, one yes is better than none, 30 yes’s are better than 10
Checklist Scoring

- **NA**: 15%
- **No**: 11%
- **Yes**: 53%
- **Yes**: 35%
- **Yes**: 29%
- **Yes**: 57%
- **Yes**: 31%
- **Yes**: 64%
- **Yes**: 63%

Categories:
- Quality of Life
- Leadership
- Resource Allocation
- Natural World
- Climate and Risk
Stage 2 Scoring System

- Same objectives as in Checklist
- Same “scoping out” or “excluded” as Checklist
- Level of Achievement scoring (up to five levels)
  - Improved
  - Enhanced
  - Superior
  - Conserving
  - Restorative
- Guidance Manual
- Assessors to score
- ENV SP Certified Assessors
Stage 2 Scoring System

- **Does the project avoid development on land that is better used for habitats, recreation, or the production of food?**
- **Does the project preserve local habitats and biodiversity?**
- **How are invasive species managed?**
- **How does the project manage soils disturbed during construction?**
- **Does the project minimize disruption to surface water and wetlands?**
- **Does the project manage pollution in stormwater and groundwater?**
Infrastructure projects have an impact on the natural world around them - the habitats, species, and non-living natural systems - through how they are situated in these systems and what new elements they may introduce into the system.

1 SITING
NW1.1 Preserve Prime Habitat
NW1.2 Preserve Wetlands and Surface Water
NW1.3 Preserve Prime Farmland
NW1.4 Avoid Adverse Geology
NW1.5 Preserve Floodplain Functions
NW1.6 Avoid Unsuitable Development on Steep Slopes
NW1.7 Preserve Greenfields

2 LAND + WATER
NW2.1 Manage Stormwater
NW2.2 Reduce Pesticides and Fertilizer Impacts
NW2.3 Prevent Surface and Groundwater Contamination

3 BIODIVERSITY
NW3.1 Preserve Species Biodiversity
NW3.2 Control Invasive Species
NW3.3 Restore Disturbed Soils
NW3.4 Maintain Wetland and Surface Water Functions

NW0.0 Innovate or Exceed Credit Requirements
Section NW 1.2 Protect Wetlands and Surface Waters

**Intent:** Protect, enhance and restore areas designated as wetlands, shorelines, and water bodies by providing natural buffer zones, vegetation and soil protection zones.

**Metric:** Size of natural buffer zones established around all wetlands, shorelines, and water bodies.

- Improved: 1 point
- Enhanced: 4 points
- Superior: 9 points
- Conserving: 14 points
- Restorative: 18 points
Avoid development or buffer > 50 feet — Avoid development on sites that contain or are located within 50 feet of wetlands, shorelines, or water bodies. Additionally, if applicable, establish a vegetation and soil protective zone (VSPZ) for an area within 50 feet of any wetland areas, shoreline, or water bodies, or within setback distances from wetlands prescribed in state or local laws and/or regulations, whichever is more stringent.

Buffer > 100 feet

Buffer > 200 feet

Buffer > 300 feet

Aquatic and wetland restoration — In addition to points awarded for buffering, project may earn up to five points for restoring previously degraded buffer zones to a natural state.
Description

Wetlands, shorelines and water bodies serve a number of important ecological services, including mitigating flooding, improving water quality, and providing wildlife habitat... a buffer zone around wetlands and other water bodies plays particularly important roles in protecting wildlife habitats, providing connected habitat

- **Advancing to Higher Achievement Levels** — benchmark and performance improvements

- **Evaluation Criteria and Documentation** — if the site contains wetlands or water bodies, has the project team established a vegetation and soil protection zone (VSPZ) to provide a natural zone unaffected by development that maintains a buffer equal to a specified distance?

- **Sources** — Adapted from *The Sustainable Sites Initiative; U.S. Army Corps of Engineers Guidance on Delineating Wetlands*

- **Related Credits**
  - QL 3.2 Preserve Views and Local Character
  - NW 1.1 Preserve Prime Habitat
Quality of Life addresses a project’s impact on communities from the health and wellbeing of individuals to the wellbeing of the larger social fabric as a whole. These impacts may be physical, economic, or social.

1 PURPOSE
QL1.1 Improve Community Quality of Life
QL1.2 Stimulate Sustainable Growth and Development
QL1.3 Develop Local Skills and Capabilities

2 WELLBEING
QL2.1 Enhance Public Health and Safety
QL2.2 Minimize Noise and Vibration
QL2.3 Minimize Light Pollution
QL2.4 Improve Community Mobility and Access
QL2.5 Encourage Alternative Modes of Transportation
QL2.6 Improve Accessibility, Safety & Wayfinding

3 COMMUNITY
QL3.1 Preserve Historic and Cultural Resources
QL3.2 Preserve Views and Local Character
QL3.3 Enhance Public Space
QL0.0 Innovate or Exceed Credit Requirements
Section QL 2.5  Encourage Alternative Modes of Transportation

**Intent:** Improve accessibility to non-motorized transportation and public transit. Promote alternative transportation and reduce congestion.

**Metric:** The degree to which the project has increased walkability, use of public transit, non-motorized transit.

- Improved: 1 point
- Enhanced: 3 points
- Superior: 6 points
- Conserving: 12 points
- Restorative: 15 points
Transit Access – The constructed works allows for walking distance and pedestrian accessible to multi-modal transportation.

Non-motorized or Transit Friendly – Location encourages the use of transit or non-motorized transportation, e.g., walking or cycling.

Non-motorized and Transit Friendly – The constructed works is located in a place and configured in such a way that encourages use on non-motorized transportation and transit for access.

Public Transportation Enhancements – The project enhances public transportation facilities or implement programs to encourage use of public and non motorized transportation.

Reviving Transportation Options – The project is designed…that rehabilitates pathways, bikeways, rail..that were unused or in disrepair.
Successful sustainable projects require a new way of thinking about how projects come to life. Project teams are most successful if they communicate and collaborate early on, involve a wide variety of people in creating ideas for the project, and understand the long-term, holistic view of the project and its life.

### Stage 2 Guidance

**LEADERSHIP**

1. **COLLABORATION**
   - LD1.1 Provide Effective Leadership & Commitment
   - LD1.2 Establish a Sustainability Management System
   - LD1.3 Foster Collaboration and Teamwork
   - LD1.4 Provide for Stakeholder Involvement

2. **MANAGEMENT**
   - LD2.1 Pursue By-Product Synergy Opportunities
   - LD2.2 Improve Infrastructure Integration

3. **PLANNING**
   - LD3.1 Plan Long-Term Maintenance and Monitoring
   - LD3.2 Address Conflicting Regulations and Policies
   - LD3.3 Extend Useful Life

   - LD0.0 Innovate or Exceed Credit Requirements
Section LD 1.4  Provide for Stakeholder Involvement

Intent: Establish sound and meaningful programs for stakeholder identification, engagement and involvement in project decision making.

Metric: The extent to which project stakeholders are identified and engaged in project decision making. Satisfaction of stakeholders and decision makers in the involvement process.

- Improved 1 point
- Enhanced 5 points
- Superior 9 points
- Conserving 14 points
- Restorative no rating
Stage 2 Guidance Example

Improved
(1) Information Transfer – A limited program established for stakeholder communication and information transfer. Some planning and commitment to action, actions taken based on input received.

Enhanced
(5) Active Engagement and Dialog – Lead person works with stakeholder groups to understand communication needs, potential for involvement. Active engagement and dialog planned.

Superior
(9) Open to Wider Community – Engagements expand to wider community, people and relevant groups that are effected by or have interest in the project.

Conserving
(14) Community Relationship Building – buy-in that the process for making project decisions is fair and equitable. Feedback programs are designed to give complete, credible feedback regarding communications.

Restorative
(0) None
Stage 2 Guidance

- Does the project minimize the use of fossil-fuel based energy?
- Does the project utilize local materials?
- How is waste from the project handled?
- Does the project use sustainable materials, such as recycled, reused, or certified materials?
- Does the project consider the life cycle of the materials used, and plan for their end-of-life?
- Does the project protect freshwater availability by minimizing its potable water use?
Resources are the assets that are needed to build infrastructure (construction) and keep it running (operations). This category is broadly concerned with the quantity, source, and characteristics of these three resources and their impacts on the overall sustainability of the project.

1 MATERIALS
- RA1.1 Reduce Net Embodied Energy
- RA1.2 Support Sustainable Procurement Practices
- RA1.3 Use Recycled Materials
- RA1.4 Use Regional Materials
- RA1.5 Divert Waste from Landfills
- RA1.6 Reduce Excavated Materials Taken Off Site
- RA1.7 Provide for Deconstruction and Recycling

2 ENERGY
- RA2.1 Reduce Energy Consumption
- RA2.2 Use Renewable Energy
- RA2.3 Commission and Monitor Energy Systems

3 WATER
- RA3.1 Protect Fresh Water Availability
- RA3.2 Reduce Potable Water Consumption
- RA3.3 Monitor Water Systems

RA0.0 Innovate or Exceed Credit Requirements
Section RA 1.3  Use Recycled Materials

**Intent:** Reduce the use of virgin materials and avoid sending useful materials to landfills by specifying reused materials, including structures, and material with recycled content.

**Metric:** Percentage of project materials that are reused or recycled.

- Improved 2 points
- Enhanced 5 points
- Superior 11 points
- Conserving 14 points
- Restorative no rating
Stage 2 Guidance Example

**Improved**

(2) 5% to less than 20% – 5% to less than 20% by weight or volume of the materials used are from reclaimed or recycled materials.

**Enhanced**

(5) 20% to less than 50%

**Superior**

(11) 50% to less than 80%

**Conserving**

(14) 80% or more

**Restorative**

(0) None

Note: Mechanical, electrical, and water equipment, and their components may be excluded from the calculations.
The general scope of Climate and Risk is two-fold: to minimize emissions that may contribute to increased short- and long-term risks, and to ensure infrastructure projects are resilient to short-term hazards or long-term altered future conditions.

1 EMISSIONS
CR1.1 Reduce Greenhouse Gas Emissions
CR1.2 Reduce Air Pollutant Emissions

2 RESILIENCE
CR2.1 Assess Climate Threat
CR2.2 Avoid Traps and Vulnerabilities
CR2.3 Prepare For Long-Term Adaptability
CR2.4 Prepare for Short-Term Hazards
CR2.5 Manage Heat Island Effects

CR0.0 Innovate or Exceed Credit Requirements
Section CR 1.1 Reduce Greenhouse Gas Emissions

**Intent:** Conduct a comprehensive life-cycle carbon analysis and use this assessment to reduce the anticipated amount of net greenhouse gas emissions during the life cycle of the project, reducing project contribution to climate change.

**Metric:** Life-cycle net carbon dioxide equivalent (CO2e) emissions.

- Improved: 4 points
- Enhanced: 7 points
- Superior: 13 points
- Conserving: 18 points
- Restorative: 25 points
Stage 2 Guidance Example

Improved
(4) Life-cycle Carbon Assessment – A comprehensive life-cycle carbon assessment has been undertaken in order to estimate the carbon emissions due to materials extraction and processing, material transportation...and project maintenance and operation including vehicle traffic.

Enhanced
(7) 10 to 40% Reduction

Superior
(13) 41 to 80% Reduction

Conserving
(18) Carbon Neutral – (does not produce any net carbon emissions or 100% reduction).

Restorative
(25) Net Carbon negative – sequesters more carbon than it produces....Extensive use of renewable energy and carbon sinks.
Stage 2 Scoring Summary

"Prairie Waters Project"

Section Totals Summary

<table>
<thead>
<tr>
<th>Section</th>
<th>Maximum Possible Score</th>
<th>Section Points</th>
<th>Innovation Points</th>
<th>Total Points Earned</th>
</tr>
</thead>
<tbody>
<tr>
<td>QL</td>
<td>155</td>
<td>11</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>LD</td>
<td>121</td>
<td>10</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>RA</td>
<td>182</td>
<td>29</td>
<td>0</td>
<td>29</td>
</tr>
<tr>
<td>NW</td>
<td>203</td>
<td>46</td>
<td>8</td>
<td>54</td>
</tr>
<tr>
<td>CR</td>
<td>122</td>
<td>12</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>Total Project Points</td>
<td>783</td>
<td>108</td>
<td>14</td>
<td>122</td>
</tr>
</tbody>
</table>

Envision™ Section Scores

- QL: 155 (106 Unachieved, 49 Total Points Earned)
- LD: 121 (107 Unachieved, 14 Total Points Earned)
- RA: 182 (171 Unachieved, 11 Total Points Earned)
- NW: 203 (184 Unachieved, 19 Total Points Earned)
- CR: 122 (112 Unachieved, 10 Total Points Earned)
Updates on ISI and envision™

• The Rating System
  – For planning and design is complete
  – Construction credits and Economic tool under development

• Online Resources
  – Guidance Manual – html & downloadable
  – Envision Checklist – downloadable
  – Envision Workbook – online scoring tool for self-assessment of projects – ISI does not track
  – Envision Verification tool – for projects that will be submitted for 3rd party verification
Updates on ISI and envision™

Credentialing

- ~ 400 ENV SP credential holders
- ~ 250 taken training awaiting testing
- 4 companies committed to 100+ credentialed by EOY
- 20% of ENV SPs work for public agencies
- Goal for 2013 = 1,000 ENV SPs

Verification

- 14 firms in pool to provide verification for ISI
- West Coast training June 25 and 26 in Santa Ana
Updates on ISI and envision™

Project Review
- 12 projects in the Verification pipeline

Active Committees
- Professional Development
- Academic
- Economic
- Research
- Marketing
- Technical
- Accreditation
- Recognition
- Membership
- Global Issues
What We Have Learned

This is a long term process
- Not 1 or 100 or 1,000 projects
- Iterative process

Triple Bottom Line
- Must respect budgets, environment and community
- Perfect projects won’t be built
- Each a little better will get us there
Using *envisio*n™ is a team sport

- Owners, policy makers, key constituents, public administrators,
- Regulators at all levels of government
- Engineers, planners, scientists, environmental consultants
- Lenders, bankers, investors
- Contractors, const. managers, material & equipment suppliers
- Users, rate payers, tax payers, citizens
What We Have Learned

Many participants are non-technical
• Occasionally interact with government
• Need a common language and system
• Policy makers and governing bodies wear multiple hats, serve on different boards

Currently over 900 rating systems
• Many excellent, but narrow focus

Not practical to expect participants to understand nuances of each.
• Efforts underway to map over to envision™
envision™ is a universally accessible tool. Can help create confidence in the process of developing civil infrastructure. Voter and policy maker confidence will help increase funding for facilities and O&M
Institute for Sustainable Infrastructure
www.sustainableinfrastructure.org

Tim Psomas
ISI Board Member, Founding Chair
3 Hutton Centre Drive, Suite 200
Santa Ana, CA  92707
tpsomas@psomas.com
714/751-7373