

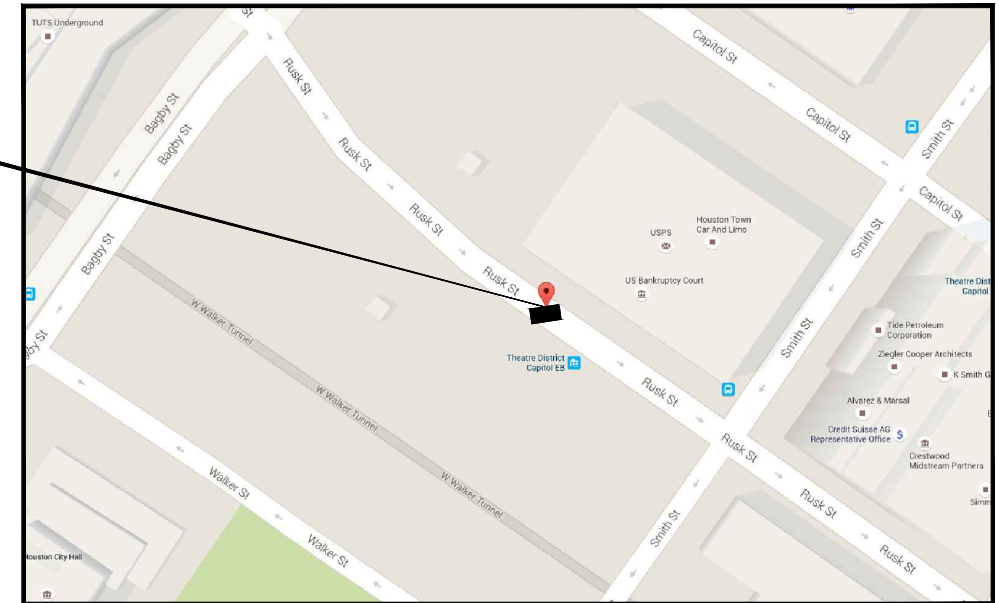
# CIVIC & TRANQUILITY PARKING STRUCTURE

HOUSTON, TEXAS

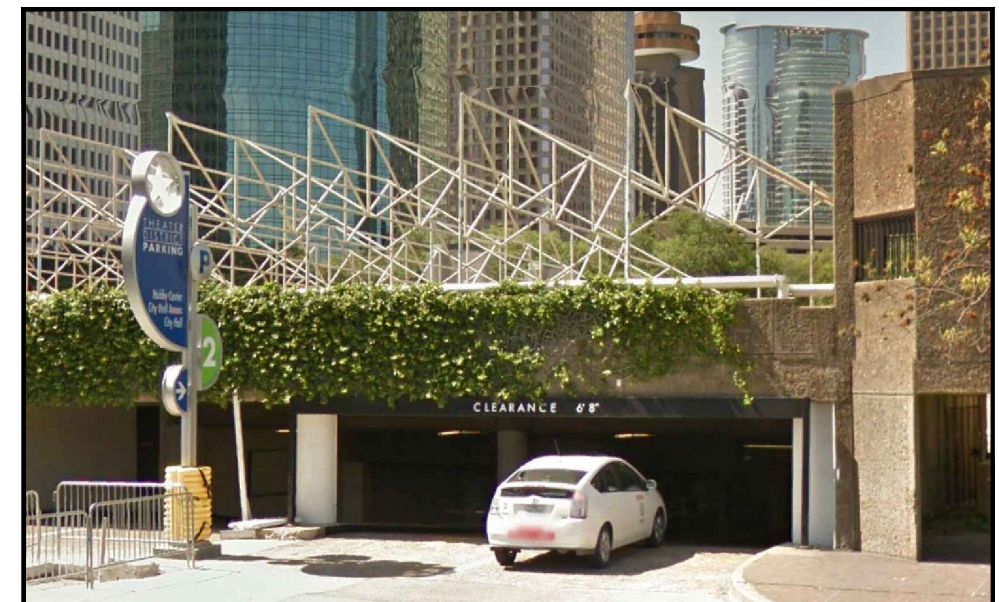
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R-000	COVER SHEET
R-100	GENERAL NOTES
R-101A	CIVIC GARAGE LEVEL 1
R-101B	CIVIC GARAGE LEVEL 1
R-102A	CIVIC GARAGE LEVEL 2
R-102B	CIVIC GARAGE LEVEL 2
R-103A	CIVIC GARAGE LEVEL 3
R-103B	CIVIC GARAGE LEVEL 3
R-104A	TRANQUILITY GARAGE LEVEL 1
R-104B	TRANQUILITY GARAGE LEVEL 1
R-105A	TRANQUILITY GARAGE LEVEL 2
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R-106A	TRANQUILITY GARAGE LEVEL 3
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R-500	REPAIR DETAILS
R-501	REPAIR DETAILS
R-502	REPAIR DETAILS
R-503	REPAIR DETAILS
R-504	REPAIR DETAILS
R-505	REPAIR DETAILS

PROJECT SITE



LOCATION MAP



PROJECT LOCATION



THESE DRAWINGS ARE PRELIMINARY AND RELEASED UNDER THE SUPERVISION OF ALFREDO E BUSTAMANTE, PE 94588

ISSUED FOR BIDDING - NOT FOR CONSTRUCTION

**GENERAL RESTORATION NOTES**

- A. CONSTRUCTION**
- The Contractor shall perform Work in accordance with all applicable Federal, State, and Local Codes, Laws and Ordinances. The Contractor shall promptly notify the Engineer of any known nonconformity with the intent of the Construction Documents and as-built conditions to the applicable Codes, Laws or Ordinances and request clarification from the Engineer prior to proceeding with Work which is deemed in conflict with the applicable Codes, Laws or Ordinances.
  - Fire Safety during construction, alteration or demolition shall comply with 2006 NFPA 1.
  - This structure is classified as a parking structure, occupancy Group S-CCC, and as construction Type CCC, Unprotected, Non-Combustible.
  - Prior to fabrication of any material or placement of concrete, field verify all existing dimensions and conditions shown on Drawings. Report all discrepancies to the Engineer immediately.
  - Do Not Scale Drawings.

- B. CONSTRUCTION DOCUMENTS**
- The extent of repair areas shown on the drawings indicates Engineer's estimates only. The estimated unit quantities included in the bid documents are based on Engineer's estimated units for bid purposes only. The Contractor is responsible for determining the actual extent and locations of repair areas. The actual repair quantities shall be verified and agreed upon by the Engineer prior to commencing the repair Work.
  - Work shall be performed in coordination with construction observations by the Engineer to determine if the exposed existing construction is as assumed in the design.
  - Dimensions shown on plans are based on original construction documents. The Contractor is required to field verify all conditions for the purpose of preparing the bid and performing the Work.
  - Refer to Specifications for scope, description and requirements of Work.

- C. EXAMINATION OF CONTRACT DOCUMENTS AND SITE**
- Bidders shall carefully examine contract documents and site to obtain first-hand knowledge of existing conditions. No subsequent extras will be allowed due to any claim of lack of knowledge for conditions which can be determined by examining the site and contract documents.
- Design Live Loads for the Existing Structure were assumed to be (all loads are service loads unless noted)
- | DESCRIPTION                                       | LOAD         |
|---|--------------|
| a. Floors   | 50 psf       |
| b. Floors (Roof)                                  | 100 psf      |
| c. Concentrated Wheel Load (4.5 in x 4.5 in area) | 3000 lb      |
| d. Slabs on Grade                                 | 40 or 50 psf |
- To the Engineer's knowledge, no outstanding environmental concerns are present on site. If an outstanding environmental concern is identified during construction, the Contractor is to bring this to the attention of the Engineer and Owner.
  - It is the Contractor's responsibility to familiarize itself with the original construction drawings for the Work areas. All significant deviations are to be brought to the attention of the Engineer.

- D. DETAILS AND SYMBOLS**
- Repair details are shown on drawing series R-501 through R-504, and are identified as two-digit (X-X) details.
  - Three-digit repair details (X.X.X) do not represent a separate price item. These details supplement the basic detail to provide additional information or show variation of the typical condition.
  - Where the Work Item bubble is noted "TYP," it means the Work Item occurs at all locations where the applicable deterioration or designation symbol occurs on that plan.
  - Where "T.A.R." is noted, it means there may be areas of this work in addition to the particular designated areas.
  - Where two or more Work Item Bubbles are grouped together, it means any or all of the referenced work items may be applicable.
  - When a Work Item or Detail is listed as incidental, this work is included in the pay unit of other work items and does not have a separate price.
  - When a Detail is labeled (FOR REFERENCE ONLY) it provides information only about incidental work and does not have a pay unit.

- E. SHORING AND BRACING**
- Contractor shall provide all shoring, bracing, sheeting, etc. required for safety and proper execution of the work.
  - Contractor is solely responsible to prepare shop drawing for bracing and shoring members designed and stamped/sealed by a registered professional engineer (registered in State of Texas) and submit them to the Engineer for review.
  - The design of the shoring and bracing members shall include all changes in the structure caused by the shoring and bracing.

- F. CONSTRUCTION PHASING, SEQUENCING AND TRAFFIC MAINTENANCE**
- Owner will continue to use structure during restoration. Contractor must phase and arrange work to maintain access at all times to all areas that are not under construction for both vehicles and pedestrians.
  - Work hours are 8 am – 6 pm, Monday – Friday. The Contractor shall verify work hours with the Owner. Contractor shall coordinate off-hours, weekend, and holiday Work with Owner at least 72 hours in advance.
  - The Contractor is responsible for collection and removal of all construction debris on a daily basis, and the site shall be left in a neat and orderly condition, satisfactory to the Owner.
  - The Contractor is responsible for protecting all adjacent structures, landscaping, and other surfaces and items which could be affected by the Work.

- G. GENERAL CONCRETE REQUIREMENTS**
- LATEX MODIFIED CONCRETE PATCHING (033750)  
COMPRESSIVE STRENGTH 5000 PSI @ 28 days (2500 @ 3 days)

WATER-CEMENT RATIO	0.25 to 0.40
LATEX CONTENT	3-1/2 GAL. PER SACK OF CEMENT
MAX. SIZE AGGREGATE	1/2 IN.
SLUMP*	4 IN. ± 2 IN.
CEMENT CONTENT	658 LB/C.Y. MIN
AIR CONTENT	< 4%

- \*For concrete placed by vibratory screeds, slump shall not exceed 4 in. at point of deposit.
- PREPACKAGED REPAIR MATERIAL (033761)  
COMPRESSIVE STRENGTH 5000 psi at 28 DAYS  
ENGINEER SHALL BE NOTIFIED A MINIMUM OF 24 HOURS FOR INSPECTION OF PREPARED CONCRETE SURFACES.

**H. CONCRETE PROTECTION FOR REINFORCEMENT:**

- The following applies for full section replacement where shown on drawings.
- The minimum concrete protection for reinforcement shall be per ACI 318-08, Section 7.7.
- For pre-stressed and non-pre-stressed reinforcement in pre-stressed/pre-cast concrete members, the minimum concrete protection at top of members shall be 1-1/2 in.
- Minimum cover for reinforcing in non-pre-stressed concrete and non-post-tensioned members.

	Minimum Concrete Cover (inches)
a. Slab top reinforcement	1-1/2
b. Slab bottom reinforcement	3/4
c. Beam top reinforcement, U.N	3*
d. Beam stirrups at sides and bottom of beam	1-1/2
e. Beam stirrups at top of beam	2-1/2
f. Column ties	1-1/2

\* Or 3X bar diameter, whichever is greater.

- I. EPOXY COATING FOR REINFORCEMENT AND ANCHORS.**
- Epoxy coat all reinforcement exposed within repair areas, except welded wire reinforcement.

- J. GENERAL P-T TENDON REPAIR NOTES:**
- Tendons are near the floor surface. The contractor shall exercise extreme caution during sawcutting and removals so as not to damage existing tendons or tendon sheaths. Tendons may break with explosive force during removals or when cut. Chipping with 15lb. hammers shall be used in lieu of sawcutting near shallow tendons.
  - Caution is required when performing concrete removals. Elevations of P-T tendons in beams vary. Coordinate inspection of exposed tendons following concrete removals.
  - Contractor is solely responsible for the following:
    - Training and monitoring his work force concerning the safety procedures that should be employed in the execution of this work.
    - Maintaining stability of the structure and elements within the structure, during repair work, including but not limited to the installation of shoring and bracing.
  - Contractor shall be responsible for reviewing available original drawings. Review original drawings and coordinate repair procedures prior to proceeding with the Work. Representative locations of existing P-T tendons and anchors are shown. Exact locations shall be verified in field by Contractor prior to concrete removals. Existing reinforcing steel is not shown on the repair details (UNO). Do not cut any reinforcing, unless directed by Engineer in writing.
  - P-T repairs and de-tensioning procedures shall be reviewed at preconstruction or preinstallation meeting. No deviation from written, agreed-upon procedures will be allowed unless directed in writing by the Engineer. As a minimum, during detensioning operations, close all floor spans including level below, being detensioned, to prevent injury in the event of a tendon popping out of the slab.
  - Not all tendon failures are in areas of floor delamination. Perform removal of all sound concrete as required to expose tendons and anchors.
  - Maintain original tendon profiles within concrete removal areas. See Detail 21.6 for specific requirements. Do not remove concrete below tendons unless required for splicing repairs or to replace damaged sheathing.
  - Tendons may occur individually or banded.
  - Do not damage tendons in repair area. Contractor-caused damage to tendons shall be repaired as directed by Engineer at no cost to Owner.
  - All P-T repairs shall be reviewed by Engineer prior to commencing work related to the P-T repair.

**K. STRUCTURAL STEEL NOTES**

	FY, psi	ASTM
1. Structural Shapes		
a. W-shapes	50,000	A992
b. M-shapes, S-shapes, HP-shapes, channels, angles	36,000	A36
2. Hollow Structural Sections		
a. Rectangular and square	46,000	A500 GR. B
b. Round	42,000	A500 GR. B
3. Steel Pipes	35,000	A53 GR. B
4. Structural Plates and Bars	36,000	A36
5. Bolts		
a. 1/2" dia. to 1" dia., UN	92,000	A325
b. 1-1/8" dia. to 1-1/2" dia., UN	81,000	A325
6. Anchor Rods	36,000	F1554 GR. 36
7. Welding Electrodes	70 KSI-	AWS D1.1-YY Low Hydrogen

Shop drawings shall be submitted by the contractor for Engineer's review prior to any fabrication.

- L. POST-INSTALLED ANCHORS**
- Expansion Anchors – Hilti Kwik Bolt III, Unless noted.
  - Adhesive Anchors – Hilti HY 200, Unless noted.
  - Contractor shall locate existing embedded reinforcement using non-destructive testing prior to fabrication of attachments or drilling of holes. Notify Engineer of obstructions that will prevent installation of anchors at design locations.
  - Post-installed Anchors must be installed using the spacing and edge distances given on the plans or details. If field conditions dictate that the anchor spacing or edge distance be modified, the Contractor shall submit a field sketch to the Engineer for review prior to making any modifications.
  - Post-installed anchor holes shall be drilled per manufacturer's written instructions.
  - Adhesive Anchors shall be installed by an ACI-CRSI Certified "Adhesive Anchor Installer"

- M. MASONRY**
- Compressive strength of masonry, f<sub>m</sub> = 2000 psi.
  - Mortar type "S".

- N. Abbreviations**
- |               |   |                                  |
|---------------|---|----------------------------------|
| 1. APPROX     | = | Approximately                    |
| 2. AGG        | = | Aggregate                        |
| 3. BM         | = | Beam                             |
| 4. BOT        | = | Bottom                           |
| 5. CIP        | = | Cast in Place                    |
| 6. CJ         | = | Construction Joint/Control Joint |
| 7. CLR        | = | Clearance                        |
| 8. COL        | = | Column                           |
| 9. CONC       | = | Concrete                         |
| 10. DET       | = | Detail                           |
| 11. EA        | = | Each                             |
| 12. E.E.      | = | Each End                         |
| 13. E.S.      | = | Each Side                        |
| 14. Embed     | = | Embedment length                 |
| 15. EJ        | = | Expansion Joint                  |
| 16. EXIST     | = | Existing                         |
| 17. FIN       | = | Finished                         |
| 18. FL        | = | Floor                            |
| 19. IN        | = | Inches                           |
| 20. INC       | = | Incidental                       |
| 21. LF        | = | Linear Foot                      |
| 22. LS        | = | Lump Sum                         |
| 23. MAX       | = | Maximum                          |
| 24. MIN       | = | Minimum                          |
| 25. N/A       | = | Not Applicable                   |
| 26. OC        | = | On Center                        |
| 27. OH        | = | Opposite Hand                    |
| 28. P/C       | = | Precast                          |
| 29. REINF     | = | Reinforcement                    |
| 30. REQD      | = | Required                         |
| 31. SF        | = | Square Foot                      |
| 32. SIM       | = | Similar                          |
| 33. SOG       | = | Slab on Ground                   |
| 34. SPEC      | = | Specification                    |
| 35. SUPT      | = | Supported                        |
| 36. T         | = | Top                              |
| 37. TAR       | = | Typical as Required              |
| 38. TYP       | = | Typical                          |
| 39. UN or UNO | = | Unless Noted Otherwise           |
| 40. WI        | = | Work Item                        |
| 41. WWR       | = | Welded Wire Reinforcement        |



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		Job No: 25-1863.00 R-100
		Date:

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