

June 29, 2022

Robert J. Chankalian, P.E., CME
Township Engineer
Township of Toms River
Division of Engineering
33 Washington Street
Toms River, NJ 08753

Proposal for Professional Services
Township of Toms River Municipal Parking Garage
Toms River, Ocean County, New Jersey
Colliers Engineering & Design Proposal No.: TRT0015P

Dear Mr. Chankalian,

Colliers Engineering & Design, Inc. is pleased to submit this proposal to provide structural engineering services for the repair work required for the municipal parking garage at the above referenced address. This proposal is based on the findings and recommendations detailed in our Structural Report dated 4/5/19, a copy of which is included herewith.

This proposal is divided into four sections as follows:

Section I – Scope of Services

Section II – Business Terms and Conditions

Section III – Technical Staff Hourly Rate Schedule and Reimbursable Expenses

Section IV – Client Contract Authorization

Section I – Scope of Services

Based on the above, we propose to complete the following:

TASK 1.0 STRUCTURAL ENGINEERING DESIGN AND DRAWINGS

Colliers Engineering & Design (CED) will provide the following structural engineering services associated with the repairs of the parking garage referenced above:

- Perform up to three (3) site visits to review the existing structural conditions for the parking garage and retaining wall as referenced in our 4/5/19 report and note any new structural deterioration. It is assumed that the stucco finishes on the exposed side of the upper retaining wall will be removed by the Township prior to our site visits. This is necessary for our office to review the structural conditions behind the wall's finishes.
- Design the structural repairs for the parking garage as noted in our 4/5/19 report.
- Design the structural repairs for the retaining walls as noted in our 4/5/19 report.
- Coordinate the design requirements with the client.

With the design finalized, our office will then prepare structural drawings that can be used for permitting and construction. Our drawings will be signed and sealed by a Professional Engineer licensed in the State of New Jersey. All elements will be designed in accordance with the New Jersey Building Construction Code. Structural technical specifications will be provided in digital format. It is our understanding that the front end of the specifications will be provided by the Township.

Task 1.0 Fee Hourly Not to Exceed: **\$22,500.00**

TASK 2.0 BID SUPPORT SERVICES

CED will provide the following services associated with bid support of the structural contract documents:

- Prepare a rough order of magnitude of construction cost based on our design drawings.
- Attend one (1) pre-bid meeting at the site.
- Review and reply to bidder's Requests for Information (RFIs).
- Review bids and advise.

Task 2.0 Fee Hourly Not to Exceed: **\$4,500.00**

TASK 3.0 CONSTRUCTION SUPPORT SERVICES

CED will provide the following services associated with the structural contract documents during construction:

- Attend one (1) preconstruction meeting.
- Review Contractor's submittals and shop drawings.
- Respond to Requests for Information (RFIs).
- Perform up to two (2) site visits during construction for limited review of the construction associated with the structural drawings. We will prepare a site visit memorandum after each visit. Our site visit memorandums are not to be construed as inspections or sign offs.

Task 3.0 Fee Hourly Not to Exceed: **\$10,000.00**

Schedule of Fees

For your convenience, we have broken down the total estimated cost of the project into the categories identified within the scope of services.

Task Name	Fee
Task 1.0 Structural Engineering Design and Drawings	\$22,500.00
Task 2.0 Bid Support Services	\$4,500.00
Task 3.0 Construction Support Services	\$10,000.00
Total Not-to-Exceed	\$37,000.00

Exclusions and Understandings

Services relating to the following items are not anticipated for the project or cannot be quantified at this time. Therefore, any service associated with the following items is specifically excluded from the scope of professional services within this agreement.

- Services not specifically outlined above in Section I;
- Design of mechanical, electrical, and plumbing systems;
- Geotechnical investigation or reporting;
- Design and detailing of site civil elements, including but not limited to light pole footings, signs, fencing and their footings, parking area, sidewalks, walkways, curbing and landscaping;
- Review of any architectural code-related issues;
- Coordinating any required building department forms;
- Design of building waterproofing or roofing;
- Design and attachment of exterior wall veneers or exterior wall finishes;
- Verification, review, and coordination of any flood zone requirements;
- Our work does not include any scope related to means and methods of construction such as shoring, bracing, sheeting, temporary framing and any other temporary or permanent stability and safety measures;
- Changes or revisions beyond our control or changes in basic concept after design service has been accomplished;
- Substantial plan revisions, changes, or preparation of additional design support requested by regulatory agencies during the course of project review;
- Inspections, special inspections, sign-offs, or construction reports;
- Additional site visits and meeting beyond those noted above;
- Preparation of as-built drawings.

If an item listed herein, or otherwise not specifically mentioned within this agreement, is deemed necessary, Colliers Engineering & Design may prepare an addendum to this agreement for your review, outlining the scope of additional services and associated professional fees regarding the extra services.

Section II – Business Terms and Conditions

Business terms and conditions are on file with the Township

Section III – Technical Staff Hourly Rate Schedule and Reimbursable Expenses

The Rate Schedule is on file with the Township of Toms River.

Section IV – Client Contract Authorization

I hereby declare that I am duly authorized to sign binding contractual documents. I also declare that I have read, understand, and accept this contract.

Signature

Date

Printed Name

Title

If you find this proposal acceptable, please sign where indicated above in Section IV, and return one signed copy to this office. This proposal is valid until 60 days per business terms.

We very much appreciate the opportunity of submitting this proposal and look forward to performing these services for you.

Sincerely,

Colliers Engineering & Design, Inc.



William Doll, PE
Senior Project Manager

WD/dm

Cc: Robert A. Mullin, PE, PP, CME, CPWM (via email)

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Structural Report

Township Municipal Parking Garage
Toms River, NJ 08753

04/05/19

Prepared For

Robert J. Chankalian, P.E., CME
Township Engineer
Toms River Township
Division of Engineering
33 Washington St.
Toms River, NJ 08753

Prepared By

Maser Consulting P.A.
331 Newman Springs Road, Suite 203
Red Bank, NJ 07701
732.383.1950

A handwritten signature in blue ink, appearing to read 'W. Doll', is written over a light blue rectangular background.

William Doll, PE
Project Manager

MC Project No. 18008784G



Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

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Township Municipal Parking Garage Structural Report

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April 5, 2019

Robert J. Chankalian, P.E., CME
Township Engineer
Township of Toms River
Division of Engineering
33 Washington Street
Toms River, NJ 08753

Re: Proposal for Professional Services
Township of Toms River Municipal Parking Garage
Toms River, Ocean County, New Jersey
MC Proposal No. 18008784G

Dear Mr. Chankalian:

On 3/8/19, Maser Consulting conducted a site visit and review of the existing conditions of the parking levels of the Toms River Township Municipal Parking Garage and the existing retaining wall located to the West of the parking garage. The site visit consisted of a comprehensive visual review of the existing structural conditions of the parking garage levels and retaining wall due to water leaks and water damage. The information contained in this report is based solely on visual observations of the parking garage floors and retaining walls. No probing or removing of material was conducted during our site visit. This report represents our best effort at describing the exposed existing structural conditions of the noted elements and providing repair recommendations where required.

General Description

The parking garage is located between Wilsey Way, Robbins St., Horner St. and E. Water St. in downtown Toms River. It is a three (3) level structure that provides parking services for the municipal building directly to the North and the other surrounding businesses (see Photo A). It has an approximate footprint of 136'-0"x250'-0".

The structure of the building consists of precast concrete columns supporting precast concrete inverted "T" girders. The girders support precast double "T" floor beams. The lower garage level is a concrete slab on grade and the middle and upper levels are the double "T" floor beams. Based on the original building drawings supplied to our office, the construction of the building dates to 1977. Renovations to the building were conducted in 2011. The renovations included the addition of a new roof system over the original upper level and miscellaneous repairs of the original precast structural elements. The new roof supports solar panels. The new roof structural system consisted of a metal roof deck supported by steel framing. The steel framing is supported by new steel columns that extend through the parking garage and bear on new concrete reinforced footings at the lower level. For purposes of this study, our office only reviewed the



condition of the original precast members, but we did observe, only within the parking garage, the conditions of the steel columns that support the newer roof.

Detached and located to the West of the parking garage is a two (2) tiered retaining wall (see photo B and C). The wall spans approximately 150'-0" and separates a high and low parking area. The total change in elevation height between the high and low parking areas is approximately 8'-0" to 10'-0". The construction of the retaining wall consists of a concrete stem wall with a stucco finish at the upper tier and a stepped modular block wall at the lower tier.

Parking Garage Upper Level Observations & Findings:

Our office reviewed the structural conditions of the top and underside of the parking garage's upper level. In general, the structural conditions of the upper level appear to be structurally sufficient except for some deteriorated items at a few areas. These areas of deterioration appear to be caused by water damage. Our survey of the top and underside of the upper level is shown in Attachment "A" at the end of this report. The survey denotes the type, area and some estimated quantities of deterioration. Below is a summary of the observed deteriorated items on the top and underside of the upper level:

- Compressible filler joints between some edges of the "T" beams are missing or worn thin (see Photo #U1). The deteriorated filler is due to normal wear and tear and aging of the building.
- Compressible filler joints around the perimeter of the slab and the exterior walls are missing or worn thin (see Photo #U2). The deteriorated filler is due to normal wear and tear and aging of the building.
- Compressible filler joints down the center of the slab is missing or worn thin (see Photo #U3). The deteriorated filler is due to normal wear and tear and aging of the building.
- Spalling concrete was observed at some of the inverted "T" girders, the "T" beams, the columns and corbels. The concrete spalling is due to rusting of the member's rebar which was caused by water infiltration. In addition, at some areas, the bearing plates at the ends of the "T" beams and the "T" girders are also rusting due to water infiltration (see Photo #U4 & #U5).
- Cracks in the concrete inverted "T" girders, the "T" beams, the column corbels, and at the top slab stair railing were observed (see photo #U6 - #U8). This is due to rusting of the reinforcement on the interior of the members. The rust is caused by water infiltration.
- Water ponding due to poor drainage within the center of the level was observed. This could be due to clogged drains and poor sloping in the topside of the concrete (see Photo #U9 - #U10).
- Bolts remaining from removed lights at the top of the slab were observed. The bolts are starting to rust and could cause future cracking in the concrete (see Photo #U11).
- Some sections of the original timber guardrails around the perimeter and down the center of the level was observed to be rotted or deteriorated (see Photo #U12).



- Traffic surfaces around turn radius were worn down (see Photo #U13).
- Floor drains and drain pipes have signs of rust (see Photo #U14).
- Some areas of the newer steel that were part of the 2011 renovation show signs of minor rust (see Photo #U15).
- Cracks in the brick mortar joints were observed at some of the exterior wall piers (see Photo #U16).
- The material in the building expansion joints at the entrance and middle of the building are deteriorated due to wear and tear (see Photo #U17).

Parking Garage Upper Level Repair Recommendations:

Our repair recommendations for upper level are as follows:

- Deteriorated filler in joints is allowing water infiltration through the levels. The deteriorated compressible fillers between the beam joints should be scraped out and replaced with new compressible filler for the full length of the joint.
- The compressible filler at the joints around the perimeter of the slab and the exterior walls should be scraped out and replaced with new compressible filler for the full length of the joint.
- The deteriorated compressible fillers down the center of the level at joints on both sides of the guardrails should be scraped out and replaced with new compressible filler for the full length of the joints.
- The spalling concrete at the girders, beams, columns and corbels should be cleaned out and all loose concrete removed. Any exposed rusted rebar should be scraped clean of rust, reinforced where needed and coated with a protective application. The spalled areas should then be patched with a concrete patching mortar to restore the same profile of the original member. The rusted bearing plates at the ends of the beams and girders should be scraped clean of rust and painted with a protective coating.
- Cracks in the concrete girders, beams, columns corbels, and at stair rails should be filled solid with an epoxy injection crack repair system and then coated with a surface sealer.
- The floor drains should be periodically cleaned to insure water is not ponding. The top surface of the slab at the center of the level should be verified to insure there is proper slope to the floor drains. If areas of the center of the level are too “flat”, new concrete topping may be placed at some areas to direct the water.
- The abandoned bolts from the removed lights should be removed and the concrete slab at removed bolts area should be patched. The concrete patching procedure should be similar to the concrete spall repair at the girders, beams, columns and corbels.
- The deteriorated timber guardrails sections should be removed and replaced with similar timber ties. The new ties can be bolted back to the existing guardrail posts.



- Worn down traffic surfaces should be scraped clean from the top of the slab and a new traffic coating surface should be applied.
- Rust on floor drains and drain pipes should be scraped off and the drains and pipes should be cleaned and repainted with an exterior paint suitable for application to steel.
- The minor rust areas of the new steel columns should be scraped and cleaned. After cleaning the areas should be touched up with zinc rich paint.
- Cracks in the brick mortar joints should be routed out and repointed or patched.
- The expansion material for the building expansion joints at the entrances and middle of the building should be cleaned out and replaced for the full length of the joints.
- After completion of the recommended repairs, the entire floor level should be power washed.

Parking Garage Middle Level Observations & Findings:

Our office reviewed the structural conditions of the top and underside of the parking garage's middle level. In general, the structural conditions of the middle level appear to be structurally sufficient except for some deteriorated items at a few areas. Similar to the upper level, these areas of deterioration appear to be caused by water damage. Our survey of the top and underside of the middle level is shown in Attachment "B" at the end of this report. The survey denotes the type, area and some estimated quantities of deterioration. Below is a summary of the observed deteriorated items on the top and underside of the middle level:

- Compressible filler joints between some edges of the "T" beams are missing or worn thin (see Photo #M1). The deteriorated filler is due to normal wear and tear and aging of the building.
- Compressible filler joints around the perimeter of the slab and the exterior walls are missing or worn thin (see Photo #M2). The deteriorated filler is due to normal wear and tear and aging of the building.
- Compressible filler joints down the center of the slab are missing or worn thin (see Photo #M3). The deteriorated filler is due to normal wear and tear and aging of the building.
- Spalling concrete was observed at some of the inverted "T" girders, the "T" beams, the columns and corbels. The concrete spalling is due to rusting of the member's rebar which was caused by water infiltration. In addition, at some areas, the bearing plates at the ends of the "T" beams and the "T" girders are also rusting due to water infiltration (see Photo #M4 - #M5).
- Spalling concrete and cracks in the concrete were observed at the underside of the stairs on the Northwest corner of the parking garage. The spalling and cracks are caused by rusting of the stairs reinforcement due to water infiltration (see Photo #M6 - #M7).
- Cracks in the concrete inverted "T" girders, the "T" beams, the column corbels, and the stairs were observed (see photo #M8 - #M9). This is due to rusting of the reinforcement on the interior of the members. The rust is caused by water infiltration.



- Water ponding due to poor drainage within the center of the level was observed. This could be due to clogged drains and poor sloping in the topside of the concrete (see Photo #M10 - #M11).
- A cracked section in the “T” beams was observed at the topside of the level at the building entrance. Filler joints around this area are also worn thin and the exterior slab at the face of the entrance seems to have settled in relationship to the parking garage level (see Photo #M12). The crack and thin joints appear to be allowing water into the lower level of the parking garage.
- Some sections of the original timber guardrails around the perimeter and down the center of the level was observed to be rotted or deteriorated (see Photo #M13).
- Traffic surfaces around turn radius were worn down (see Photo #M14).
- Floor drains and drain pipes have signs of rust (see Photo #M15).
- Some areas of the newer steel that was part of the 2011 renovation show signs of minor rust (see Photo #M16).
- The material for the building expansion joint at the middle of the building is deteriorated due to wear and tear (see Photo #M17).

Parking Garage Middle Level Repair Recommendations:

Our repair recommendations for middle level are as follows:

- Deteriorated filler in joints is allowing water infiltration through the levels. The deteriorated compressible fillers between the beam joints should be scraped out and replaced with new compressible filler for the full length of the joint.
- The compressible filler at the joints around the perimeter of the slab and the exterior walls should be scraped out and replaced with new compressible filler for the full length of the joint.
- The deteriorated compressible fillers down the center of the level at joints on both sides of the guardrails should be scraped out and replaced with new compressible filler for the full length of the joints.
- The spalling concrete at the girders, beams, columns and corbels should be cleaned out and all loose concrete removed. Any exposed rusted rebar should be scraped clean of rust, reinforced where needed and coated with a protective application. The spalled areas should then be patched with a concrete patching mortar to restore the same profile of the original member. The rusted bearing plates at the ends of the beams and girders should be scraped clean of rust and painted with a protective coating.
- The spalling concrete at the stair should be cleaned and patched similar to the procedure for the spalling at the girders, beams, columns and corbels. The cracks in the stair concrete should be filled solid with an epoxy injection crack repair system and then coated with a surface sealer.



- Cracks in the concrete girders, beams, columns and corbels should be filled solid with an epoxy injection crack repair system and then coated with a surface sealer.
- The floor drains should be periodically cleaned to insure water is not ponding. The top surface of the slab at the center of the level should be verified to insure there is proper slope to the floor drains. If areas of the center of the level are too “flat”, new concrete topping may be placed at some areas to direct the water.
- In order to match the settlement at the exterior slab, the top surface of the floor slab can be slightly ground down. The crack in the slab at the building entrance needs to be routed out and patched with a concrete patching mortar. The filler in the joints around this area all need to be scraped clean and then the joints can be filled with a new compressible filler. A new traffic surface should be applied over this area to protect the joints, repaired crack and the ground down surface of the floor slab.
- The deteriorated timber guardrail sections should be removed and replaced with similar timber ties. The new ties can be bolted back to the existing guardrail posts.
- Worn down traffic surfaces should be scraped clean from the top of the slab and a new traffic coating surface should be applied.
- Rust on floor drains and drain pipes should be scraped off and the drains and pipes should be cleaned and repainted with an exterior paint suitable for application to steel.
- The minor rust areas of the new steel columns should be scraped and cleaned. After cleaning, the areas should be touched up with zinc rich paint.
- The expansion material for the building expansion joints at the middle of the building should be cleaned out and replaced for the full length of the joints.
- After completion of the recommended repairs, the entire floor level should be power washed.

Retaining Wall Observations & Findings:

The retaining wall is detached from the parking garage on the West side of the site. It consists of two tiered walls with a planting bed between the two walls (see Photo R1). The upper wall is concrete poured wall with a stucco finish and a cast stone coping at the top. The lower wall is a modular block wall with a sloped batter on its exterior surface. The retaining walls support a parking lot area approximately 8'-0" to 10'-0" above the lower area.

The lower modular block retaining wall appears to be in sufficient structural condition (see Photo R2). However, the upper concrete retaining wall has cracks (see Photo R3) and areas of failing sections in the stucco (see Photo R4) along most of the wall's length. Upon reviewing the condition of the concrete behind the stucco it appears that the concrete is in sufficient structural condition. Only the stucco on the upper retaining wall appears to be failing. Water might be getting trapped behind the stucco finish and freezing and thawing. The freezing and thawing of the water may be causing cracks and failure in the stucco.



Retaining Repair Recommendations:

At the upper concrete retaining wall, the existing stucco finish should be removed for the full height and length of the wall. A review of the concrete condition of the upper retaining wall will be required upon removal of the stucco finish. It should be assumed that some patching of deteriorated concrete will be required at the exterior face of the retaining wall. New core drilled weep holes through the concrete wall may need to be provided if none are currently present in the wall. After the wall is repaired it should be painted with an exterior painting system that is suitable to be applied to a concrete surface. No repair work on the modular block retaining wall is required at this time.

Summary of Repair Recommendations:

Based on our office's noted observations of the parking garage levels and retaining wall it is our office's opinion that the deterioration observed has been caused by general wear and tear and water damage. However, at this time, the deterioration has not caused significant structural damage to the parking garage levels and retaining walls, but if left untreated, the deterioration may further expand and eventually cause structural damage. To maintain the structural integrity of the parking garage and retaining walls, the recommended repairs should be applied, and a general maintenance program should be provided.

The following are repair recommendations for both parking garage levels:

- Remove and replace deteriorated compressible filler between the beam joints, down the center of the levels and around the perimeter of the levels.
- Patching of spalled concrete and epoxy injection of concrete cracks are required at beams, girders, columns, corbels and stair members.
- Floor drains should be routinely cleaned to insure water drainage. New topping concrete may need to be added in order to slope the water to the drains.
- The concrete slab at the middle entrance will need to be ground down and patched. Compressible filler in the joints in the area, will need to be removed and replaced. The top surface for this area will need to be recoated.
- Deteriorated timber guardrails should be replaced in-kind.
- Abandoned bolts in slab should be removed and slab patched.
- Worn down traffic surfaces should be reapplied.
- Rust on drains, drain pipes, and steel columns should be removed, and the members should be repainted.
- Cracks in exterior brick piers should be repointed or patched.
- Material in building expansion joints should be removed and replaced.
- The floor levels should be power washed.

The following are repair recommendations for the upper retaining wall:

- Remove all stucco finish on the upper concrete wall.
- Patching and deteriorated concrete on the exterior surface of the upper wall.
- Provide core drilled weep holes through the upper concrete wall if none currently are present.
- Paint the upper concrete wall with an exterior paint suitable for a concrete surface.

**Preliminary Repair Cost Estimate:**

Based on the extent of the work, the anticipated preliminary construction cost estimate for the noted repair work of all the garage levels and the retaining wall repair, will be within the range of \$300,000 to \$400,000 depending on the chosen contractor (See Attachment “C”). This estimate includes the material and labor for the selective demolition, slab joint replacement, concrete repair work, power-washing, and coating surfaces of all the concrete. In addition, it also includes the general construction conditions, the contractor’s profit and overhead and a contingency of 20% of the base line construction costs.

Recommended Future Maintenance Program:

Since the garage is open on four sides, eliminating all water from the garage is not possible and future concrete spalling and cracking is inevitable. Therefore, it is recommended that the conditions of the concrete be verified every 5 to 10 years for signs of new deterioration.

In order to mitigate water infiltration and future damage to the concrete, insuring the quality of the compressible filler at all slab joints is important. The quality of the joints should be reviewed at least every 5 to 10 years and it should be assumed that the replacement of the compressible filler be on the same time frame.

Repainting of floor drains, drain pipes and steel should be conducted every 5 to 10 years. The floor drains should be checked monthly to insure the water is draining properly.

Report Closure:

In summary the overall structure condition of the parking garage levels and retaining walls are in sufficient condition. However, general repair of the concrete and slab joint replacement at some areas of both the upper and middle levels are required and the removal of the stucco at the upper retaining walls is recommended. Please note the purpose of this report was to solely review the visually exposed structural conditions of parking garage levels and retaining walls. It may not be complete in every respect. In addition, our office did not conduct any probing of the floor levels or retaining walls and have not performed any analysis on any structural elements. Types of repair and quantities may need to be adjusted based on a full comprehensive review.

If you have any questions or require additional information, please contact our office.

Very truly yours,

MASER CONSULTING P.A.

A handwritten signature in blue ink, appearing to read 'W. Doll', is written over a horizontal line.

William Doll, P.E.
Project Manager
Bridges & Structures

WD/dm



Photo A: Exterior View of the Parking Garage



Photo B: Retaining Wall (Looking West)



Photo C: Retaining Wall (Looking East)

Upper Level



Photo #U1 – Joint at “T” Beams



Photo #U2- Joint at Perimeter Slab & Walls



Photo #U3 – Joint at Center

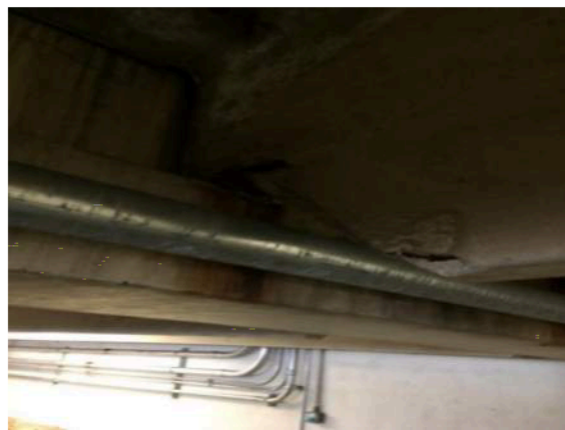


Photo #U4- Spall in “T” Girder & Beam



Photo #U5 – Spall at Col./Corbel

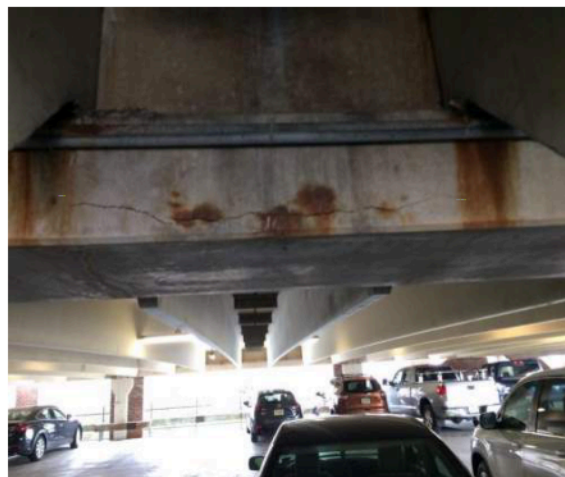


Photo #U6- Crack in “T” Girder



Photo #U7 – Crack at Stair Railing



Photo #U8- Crack at Column Corbel



Photo #U9 – Water Ponding



Photo #U10 – Clogged Drain Pipes



Photo #U11 – Bolts from Removed lights



Photo #U12- Rotted Timber Guardrail



Photo #U13 – Worn Down Traffic Surface



Photo #U14- Rusted Floor Drain and Pipes



Photo #U15 – Minor Rust at New Steel



Photo #U16 – Joint Crack in Exterior Brick



Photo #U17 – Deteriorated Expansion Joint

Middle Level



Photo #M1 – Joint at “T” Beams



Photo #M2- Joint at Perimeter Slab & Walls



Photo #M3 – Joint at Center



Photo #M4- Spall in “T” Beam



Photo #M5 – Spall at Col./Corbel



Photo #M6- Spall at Stairs



Photo #M7 – Crack at Stair



Photo #M8- Crack at “T” Girder and Beam

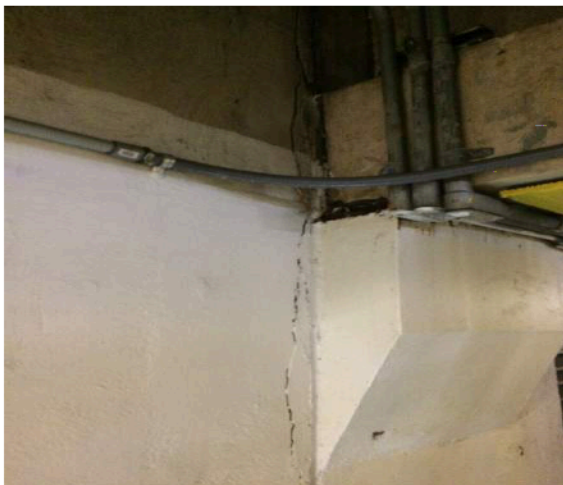


Photo #M9 – Crack Near Column Corbel



Photo #M10- Water Ponding



Photo #M11 – Clogged Drain Pipes

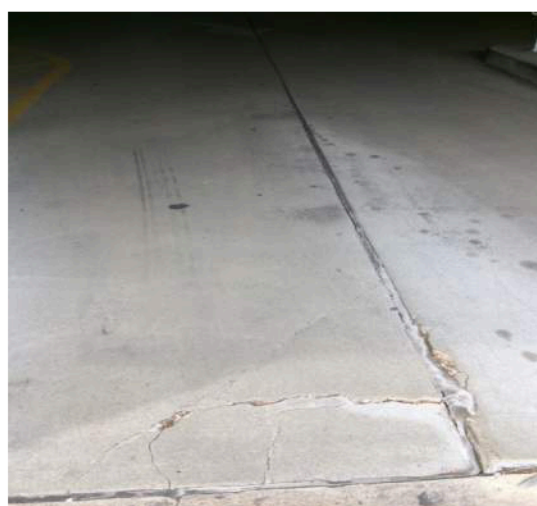


Photo #M12- Cracking in “T” Beam at Entry



Photo #M13 – Rotted Timber Guardrail

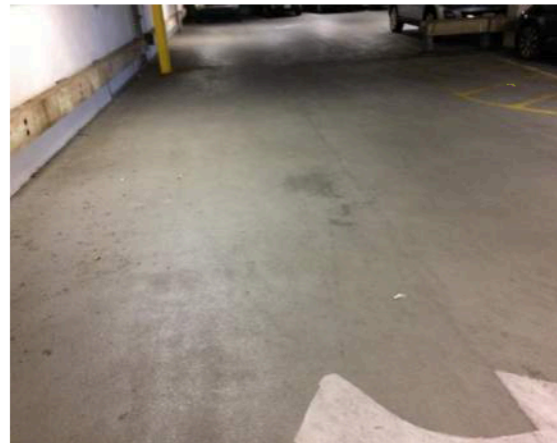


Photo #M14 – Worn Traffic Surface

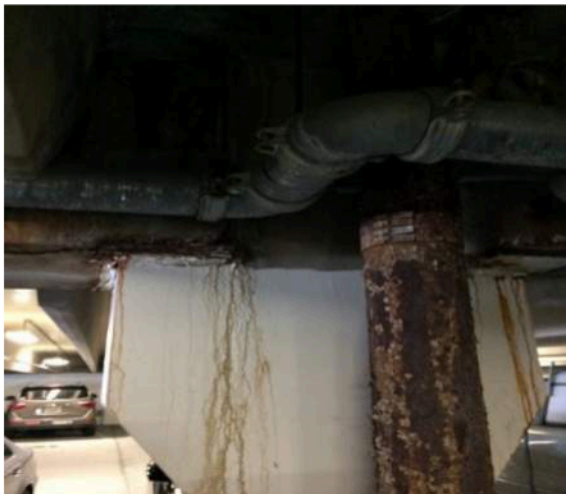


Photo #M15- Rusty Floor Drain and Pipe



Photo #M16 – Minor Rust at New Steel



Photo #M15- Deteriorated Expansion Joint

Retaining Wall



Photo #R1 – Two Tiered Retaining Wall



Photo #R2- Lower Modular Block Retaining Wall



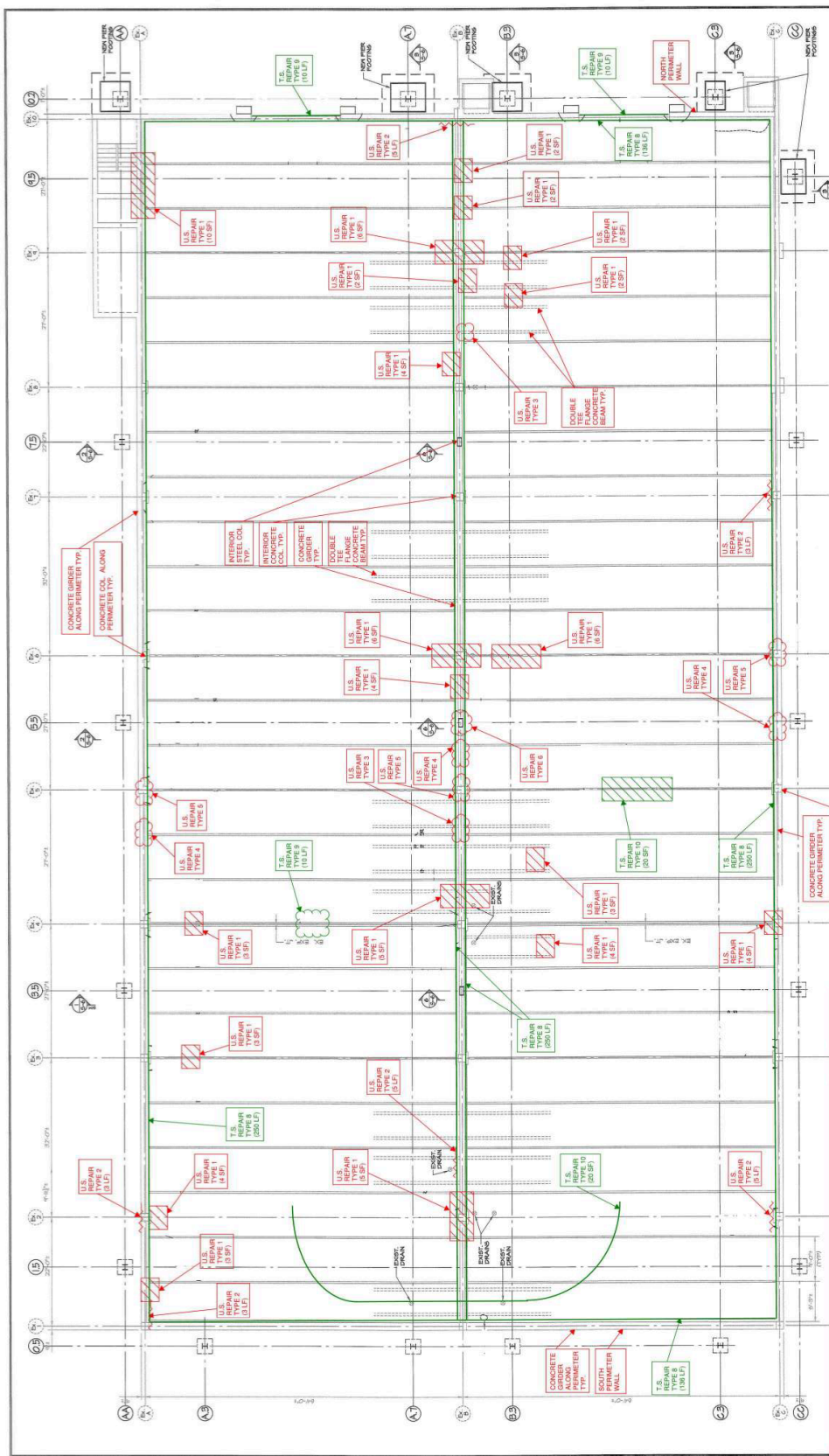
Photo #R3- Cracking in the Upper Wall Stucco



Photo #R4- Failing Sections in the Upper Wall Stucco



Attachment “A” Parking Garage Upper Level Survey



PARKING GARAGE UPPER LEVEL SURVEY

NOTES:
1) ALL LOCATIONS AND QUANTITIES OF REPAIR SHOWN IN THE ABOVE
PLAN ARE ESTIMATES. FINAL LOCATIONS AND QUANTITIES OF REPAIRS
SHOULD BE FIELD VERIFIED PRIOR TO ANY WORK.

2) U.S. DENOTES UNDERSIDE OF DRIVING SURFACE REPAIR LOCATION

3) T.S. DENOTES TOP SIDE OF DRIVING SURFACE REPAIR LOCATION.

LEGEND	REFRAN TYPE	DESCRIPTION	UNIT	QUANTITY
	1	SPALL IN CONCRETE	SF	80
	2	CRACK IN CONCRETE	LF	25
	3	AT THE DOUBLE TEE FLANGE CONCRETE BEAM AND SUPPORTS WHERE THE REBAR ON THE CONCRETE GIRDER, SCRAP AND REMOVE ANY LOOSE AND DETRIMENTED CONCRETE FROM THE BEAM AND SUPPORTS. REPAIR THE CONCRETE BY 1" TO 2" OF ALL EXPOSED TEE CONCRETE BEAM AND SUPPORTS	SF	300
	4	AT THE CONCRETE GIRDERS, SCRAP AND REMOVE ANY LOOSE AND DETRIMENTED CONCRETE FROM THE GIRDERS. REPAIR THE CONCRETE BY 1" TO 2" OF ALL EXPOSED GIRDERS. LEAVE FLATS FOR ALL THE CONCRETE GARDERS.	LF	340
	5	AT THE CONCRETE COLUMNS AND CORNERS, SCRAP AND REMOVE ANY LOOSE AND DETRIMENTED CONCRETE FROM THE CORNERS AND COLUMNS. REPAIR THE CONCRETE BY 1" TO 2" OF ALL EXPOSED CORNERS AND COLUMNS.	SF	35
	6	AT LOCATIONS OF COLUMN TOP, BEARING, OR BASE PLATES, SCRAP AND REMOVE ALL CONCRETE AND REBAR. REPAIR THE CONCRETE BY 1" TO 2" OF ALL EXPOSED NEW PANT ON REINFORCED SURFACE OF PLATE.	SF	10
	7	AT THE EXISTING PIPE DRAIN, SCRAP AND REMOVE ALL EXTERIOR SURFACE BURY AND DISTRIBUTION, CLEAN INTERIOR AND EXTERIOR OF PIPE DRAIN AND APPLY NEW PANT ON EXTERIOR SURFACE OF PIPE FOR ALL EXISTING PIPE DRAIN.	EA	8
	8	AT THE EXISTING DOUBLE TEE BEAM AND EXTERIOR WALLS. SCRAP AND REMOVE ALL EXTERIOR SURFACE OF THE BEAM AND EXTERIOR WALLS. REPAIR THE CONCRETE BY 1" TO 2" OF ALL EXPOSED NEW PANT ON REINFORCED SURFACE OF PLATE.	LF	140
	9	AT THE EXISTING JOISTS, REMOVE AND REPAIR THE COMPRESSIBLE FILLER BETWEEN THE EDGES OF THE DOUBLE TEE FLANGE CONCRETE BEAMS.	LF	300
	10	POWER WASH PATCH AND PAINT THE TOP SIDE TRAFFIC SURFACE	SF	40



Attachment “B” Parking Garage Middle Level Survey



Attachment “C” Preliminary Cost Estimate Breakdown

 Consulting, Municipal & Environmental Engineers Planners • Surveyors • Landscape Architects		Cost Estimate Toms River Municipal Parking Garage for Township of Toms River Division of Engineering MC PROJECT NO. 18008784A April 5, 2019			
ITEM	DESCRIPTION	UNIT	QTY	UNIT PRICE	ITEM TOTAL
A	PARKING GARAGE UPPER LEVEL				
1	CONCRETE SPALL REPAIR	C.F.	408	\$150.00	\$61,200.00
2	EPOXY INJECTION CRACK REPAIR	L.F.	25	\$75.00	\$1,875.00
3	POWER WASH CONCRETE SURFACES	S.F.	815	\$2.50	\$2,037.50
4	RE-COATING SECTIONS OF CONCRETE SURFACES	S.F.	150	\$3.00	\$450.00
5	SCRAPE, CLEAN, AND PAINT STEEL	S.F.	10	\$45.00	\$450.00
6	SCRAPE, CLEAN, AND PAINT DRAIN PIPES	EA	9	\$20.00	\$180.00
7	NEW FILLER IN EXISTING JOINTS	L.F.	2000	\$10.00	\$20,000.00
8	REPLACE BUILDING EXPANSION JOINT MATERIAL	L.F.	100	\$20.00	\$2,000.00
9	REMOVE AND REPLACE TIMBER RAILS	L.F.	200	\$50.00	\$10,000.00
10	REPOINT/REPAIR BRICK MORTAR JOINTS	S.F.	50	\$35.00	\$1,750.00
				Upper Level Total	\$88,192.50
B	PARKING GARAGE MIDDLE LEVEL				
1	CONCRETE SPALL REPAIR	C.F.	408	\$150.00	\$61,200.00
2	EPOXY INJECTION CRACK REPAIR	L.F.	30	\$75.00	\$2,250.00
3	POWER WASH CONCRETE SURFACES	S.F.	815	\$2.50	\$2,037.50
4	RE-COATING SECTIONS OF CONCRETE SURFACES	S.F.	150	\$3.00	\$450.00
5	SCRAPE CLEAN, AND PAINT STEEL	S.F.	10	\$45.00	\$450.00
6	SCRAPE, CLEAN, AND PAINT DRAIN PIPES	EA.	7	\$20.00	\$140.00
7	NEW FILLER IN EXISTING JOINTS	L.F.	2000	\$10.00	\$20,000.00
8	REPLACE BUILDING EXPANSION JOINTS MATERIAL	L.F.	50	\$20.00	\$1,000.00
9	REMOVE AND REPLACE TIMBER RAILS	L.F.	200	\$50.00	\$10,000.00
				Middle Level Total	\$97,527.50
C	RETAINING WALL				
1	REMOVE STUCCO FINISH	L.F.	160	\$1.50	\$240.00
				Total	\$240.00
2	POWER WASH CONCRETE SURFACE	S.F.	800	\$2.50	\$2,000.00
				Total	\$2,000.00
3	PATCH CONCRETE SURFACE	S.F.	200	\$150.00	\$30,000.00
				Total	\$30,000.00
4	PROVIDE WEEP HOLES ALONG CONCRETE WALL	EA.	10	\$30.00	\$300.00
				Total	\$300.00
5	COATING AT CONCRETE SURFACE	S.F.	800	\$3.00	\$2,400.00
				Total	\$2,400.00
				Retaining Wall Total	\$34,940.00
				Total	\$220,660.00
General Requirements includes but not limited to: field personnel, insurance, permits, testing, temp. utilities, field office, storage facilities, equipment mobilization and demobilization, winter protection, temporary barricades and fencing, security, signs, field engineering and layout, and final cleaning and commissioning				*General Conditions (25%)	\$55,165.00
				Subtotal	\$275,825.00
				G.C. P & O (10%)	\$27,582.50
				Subtotal	\$303,407.50
				Contingency (20%)	\$60,681.50
				Subtotal	\$364,089.00
				Grand Total	\$364,089.00