

WATER TREATMENT PLANT IMPROVEMENTS REHABILITATION OF EXISTING FILTERS



CITY COMMISSION

RICHARD R. MOLINA GILBERT ENRIQUEZ JORGE LUIS SALINAS JOHNY GARCIA DAVID WHITE RON GARZA MAYOR
MAYOR-PRO TEM
COUNCILMEMBER
COUNCILMEMBER
COUNCILMEMBER
CITY MANAGER



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PROJECT LOCATION:

EDINBURG, TEXAS

PROJECT DESCRIPTION / NOTES:

THIS PROJECT INCLUDES IMPROVEMENTS TO THE EDINBURG WATER TREATMENT PLANT. FILTER UBDERDRAINS IMPROVEMENTS

ISSUED:

ISSUED FOR FINAL REVIEW AND APPROVAL. APRIL 5, 2021

VICINITY MAP:



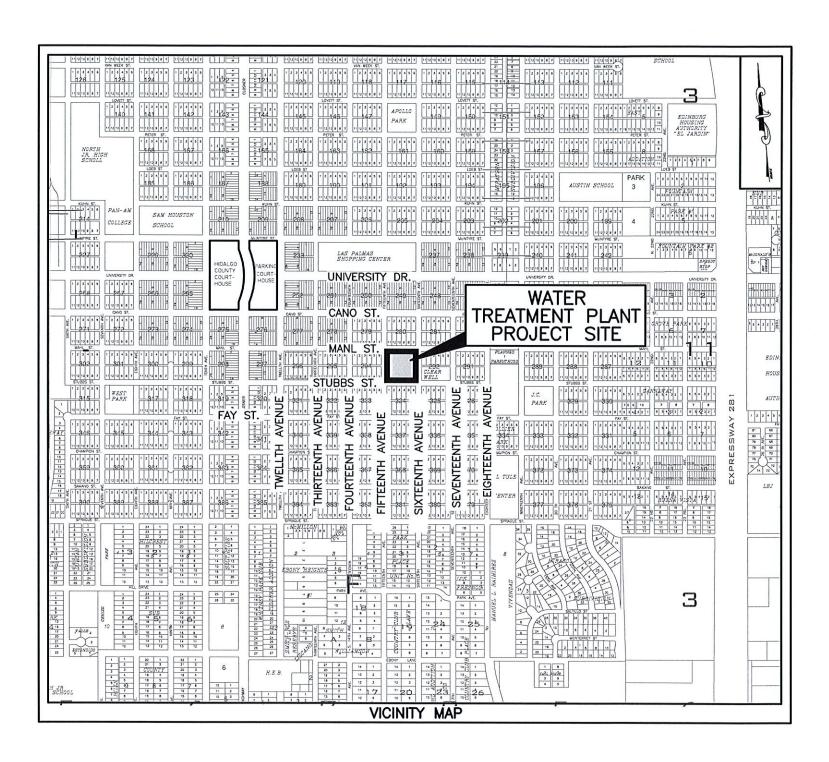


CRUZ - HOGAN

ENGINEERS | PLANNERS

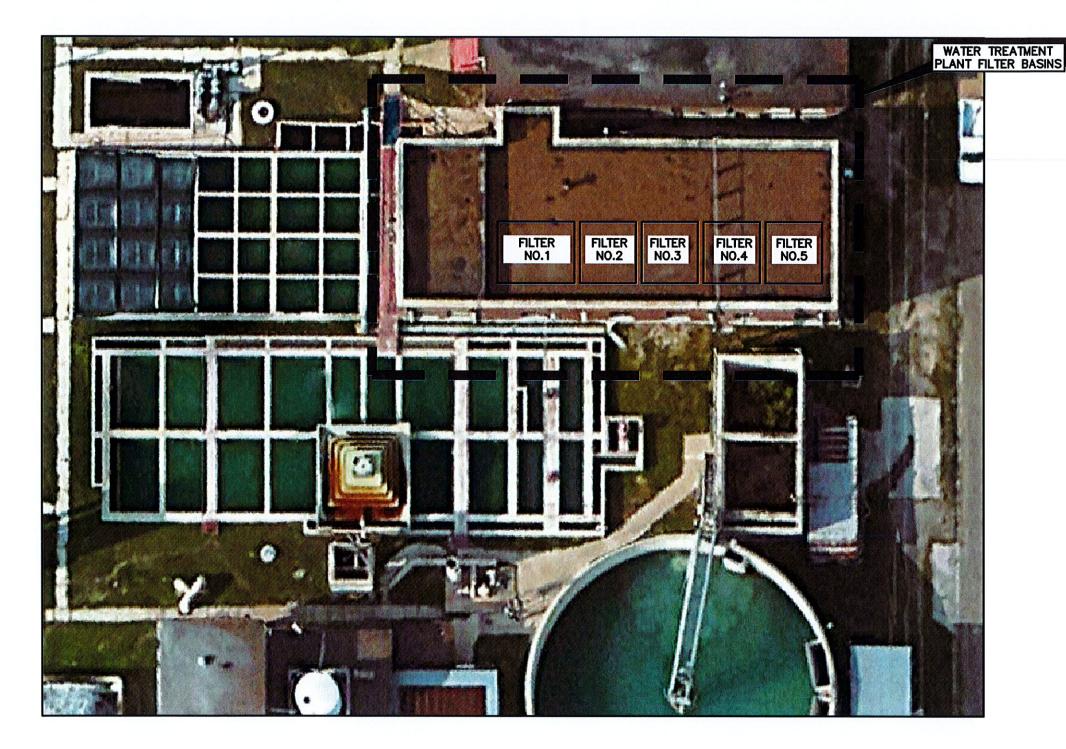
McAllen | Harlingen | Weslaco TBPE FIRM REGISTRATION No: F - 4860

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WATER TREATMENT PLAN FILTER BASIN LOCATION



(Cruz-Hogan Consultan)\CHC Weslaco AutoCAD Files

PROJECT GENERAL NOTES

- ALL IMPROVEMENTS TO BE IN ACCORDANCE WITH ALL LOCAL CODES, STATE, AND FEDERAL REGULATIONS.
- 2. THE DRAWINGS SHOW AS MUCH INFORMATION AS CAN BE REASONABLY OBTAINED BY AN ENGINEERING SURVEY PARTY AND FROM UTILITY COMPANY RECORDS REGARDING THE LOCATION AND NATURE OF PIPELINES, STORM SEWER, TELEPHONE CONDUITS, ELECTRICAL LINES, SANITARY SEWER LINES, WATERLINE, GAS LINES, ETC. HOWEVER, THE ACCURACY OR COMPLETENESS OF SUCH INFORMATION IS NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE CITY OF FALFURRIAS AND WASTEWATER SYSTEM EMPLOYEES TO LOCATE SUCH UNDERGROUND FEATURES SUFFICIENTLY IN ADVANCE TO PRECLUDE DAMAGE TO SAME.

IN THE EVENT THAT UNDERGROUND UTILITIES AND FACILITIES NOT SHOWN ON THE DRAWING ARE ENCOUNTERED, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE SUCH UNDERGROUND FEATURES SUFFICIENTLY IN ADVANCE OF OPERATIONS TO PRECLUDE DAMAGE TO SAME.

IN THE EVENT OF DAMAGE TO UNDERGROUND FACILITIES, WHETHER SHOWN OR NOT ON THE DRAWINGS, THE CONTRACTOR SHALL MAKE THE NECESSARY REPAIRS TO PLACE THE FACILITIES BACK IN SERVICE AT NO INCREASE IN THE CONTRACTOR'S PRICE AND SUCH REPAIRS SHALL CONFORM TO THE REQUIREMENTS OF THE CITY OR AGENCY SERVICING THE FACILITY.

- 3. CONTRACTOR TO VERIFY LOCATION AND ELEVATIONS OF EXISTING FACILITIES PRIOR TO CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR PROTECTION AND/OR SAFETY OF THE WORK SITE, WORKERS, SUBCONTRACTORS, MATERIALS AND/OR EQUIPMENT.
- 5. BOUNDARY FENCES OR OTHER IMPROVEMENTS REMOVED TO PERMIT CONSTRUCTION SHALL BE REPLACED IN THE SAME LOCATION AND IN A CONDITION AS GOOD OR BETTER THAN IN WHICH THEY WERE FOUND. NO COMPENSATION SHALL BE GIVEN TO THE CONTRACTOR FOR REMOVAL AND REPLACEMENT OF FENCES.
- 6. THESE PLANS PREPARED BY CRUZ-HOGAN CONSULTANTS, INC. DO NOT EXTEND TO OR INCLUDE DESIGN OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF CRUZ-HOGAN CONSULTANTS, INC. REGISTERED PROFESSIONAL ENGINEER (S) HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED IN THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPIATE SAFETY SYSTEMS, INCLUDING THE PLANS AND SPECIFICATIONS REQUIRED BY THE HOUSE BILLS 662 AND 665 ENACTED BY THE TEXAS LEGISLATURE IN THE 70TH LEGISLATURE REGULAR SESSION.
- AT LEAST 72 HOURS PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND THE CITY OF EDINBURG.

- 8. CONTRACTOR SHALL GIVE NOTICE TO ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS, OR PERSONS IN CHARGE OF PRIVATE AND CITY UTILITIES AFFECTED BY HIS OPERATIONS 72 HOURS PRIOR TO COMMENCEMENT OF WORK. NOTIFY TEXAS 811 AND CALL ANY AFFECTED UTILITY COMPANIES FOR UTILITY LOCATIONS PRIOR TO ANY AND ALL EXCAVATIONS. CONTRACTOR IS RESPONSIBLE FOR COST OF ALL RETESTS.
- 9. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING ADJACENT STREETS, ROADWAYS AND SIDEWALKS TO PROJECT SITE FREE OF MUD AND DEBRIS FROM THE CONSTRUCTION. CONTRACTOR TO IMPLEMENT A POLLUTION PREVENTION AND SOIL EROSION PLAN.
- 10. CONTRACTOR SHALL NOT PLACE FILL OR WASTE MATERIAL ON ANY PRIVATE PROPERTY WITHOUT PRIOR WRITTEN AGREEMENT WITH THE PROPERTY OWNER.
- 11. BEFORE FINAL COMPLETION OF THIS PROPOSED WORK, ALL ROADWAY, SLOPES, DITCHES AND BERMS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION.
- 12. CONTRACTOR TO CONFIRM ACTUAL HORIZONTAL ELEVATION AND VERTICAL LOCATION OF ALL EXISTING STRUCTURES, PIPING, PAVING, FENCING AND ALL OTHER EXISTING FACILITIES PRIOR TO CONSTRUCTION.
- 13. REMOVE AND DISPOSE OF TREES, STUMPS, BRUSH, ROOTS, VEGETATION, LOGS, RUBBISH, AND OTHER OBJECTIONABLE MATTER WITHIN THE LIMITS OF THE AREA AFFECTED BY THE WORK, INCLUDING ALL AREAS TO BE RE-GRADED OR FINISH GRADED. PROTECT TREES, SHRUBS, AND OTHER LANDSCAPE FEATURES SPECIFICALLY DESIGNATED FROM DAMAGE DURING CONSTRUCTION OPERATIONS.
- 14. THE CONTRACTOR SHALL PROVIDE A SAFE WORK SITE AND LEAVE NO OPEN EXCAVATIONS OVERNIGHT.
- 15. WORK TO OCCUR DURING REGULAR WORKING HOURS (8:00am TO 5:00pm), MONDAY THROUGH FRIDAY, UNLESS APPROVED BY THE CITY.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS NEEDED FOR CONSTRUCTION AT HIS EXPENSE.
- 17. THE CONTRACTOR SHALL HOLD HARMLESS THE CITY OF EDINBURG AND THE PROJECT ENGINEER AGAINST ANY ACTION FOR PERSONAL INJURY OR PROPERTY DAMAGE SUSTAINED BY REASON OF THE EXERCISE OF THIS CONSTRUCTION.

- 18. THE CONTRACTOR SHALL HAVE A FULL TIME SUPERINTENDENT AT PROJECT SITE DURING THE DURATION OF THE PROJECT AND AT ALL TIMES DURING ANY CONSTRUCTION ACTIVITIES. THE SUPERINTENDENT SHALL BE A DIRECT EMPLOYEE OF THE CONTRACTOR.
- 19. THE CONTRACTOR SHALL LEAVE SITE IN CONDITION FOUND. ANY DISTURBED AREAS SHALL BE BROUGHT TO CONDITION FOUND. ALL DISTURBED AREAS SHALL BE RE—SEEDED BY USE OF HYDROMOLCH.

20. SCHEDULE REQUIREMENTS

CONSTRUCTION IS TO BE COMPLETED DURING THE TIME ALLOWED IN THE PROJECT. THE CONTRACT WILL ALLOW 180 CALENDAR DAYS FOR COMPLETION OF THE PROJECT.

SPECIAL NOTE SHALL BE TAKEN ON THE GENERAL AND SUPPLEMENTARY CONDITIONS TO THE CONTRACT ENTITLED "TIME OF COMPLETION" AND "PENALTY FOR DELAYS".

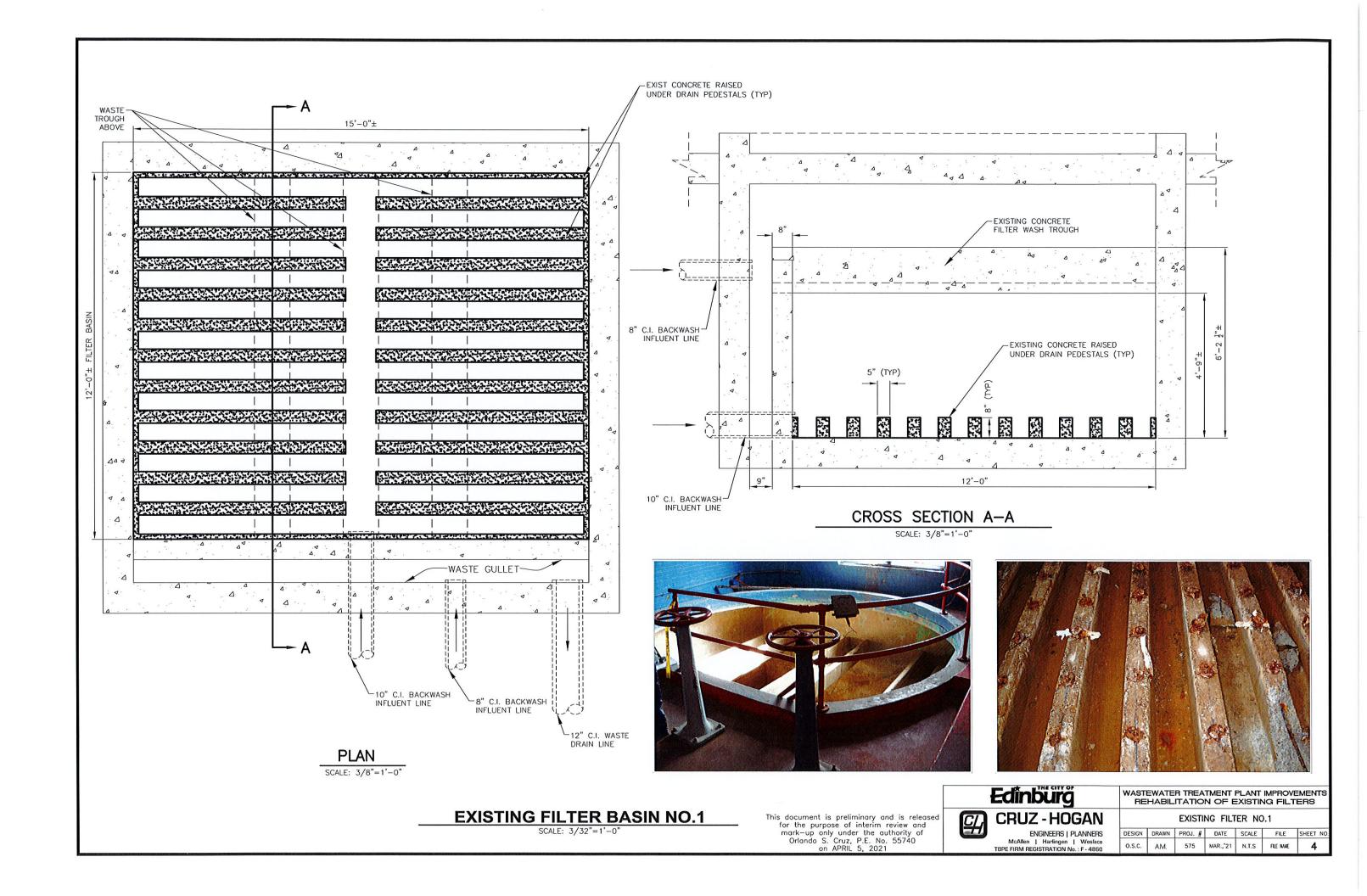
21. TESTING

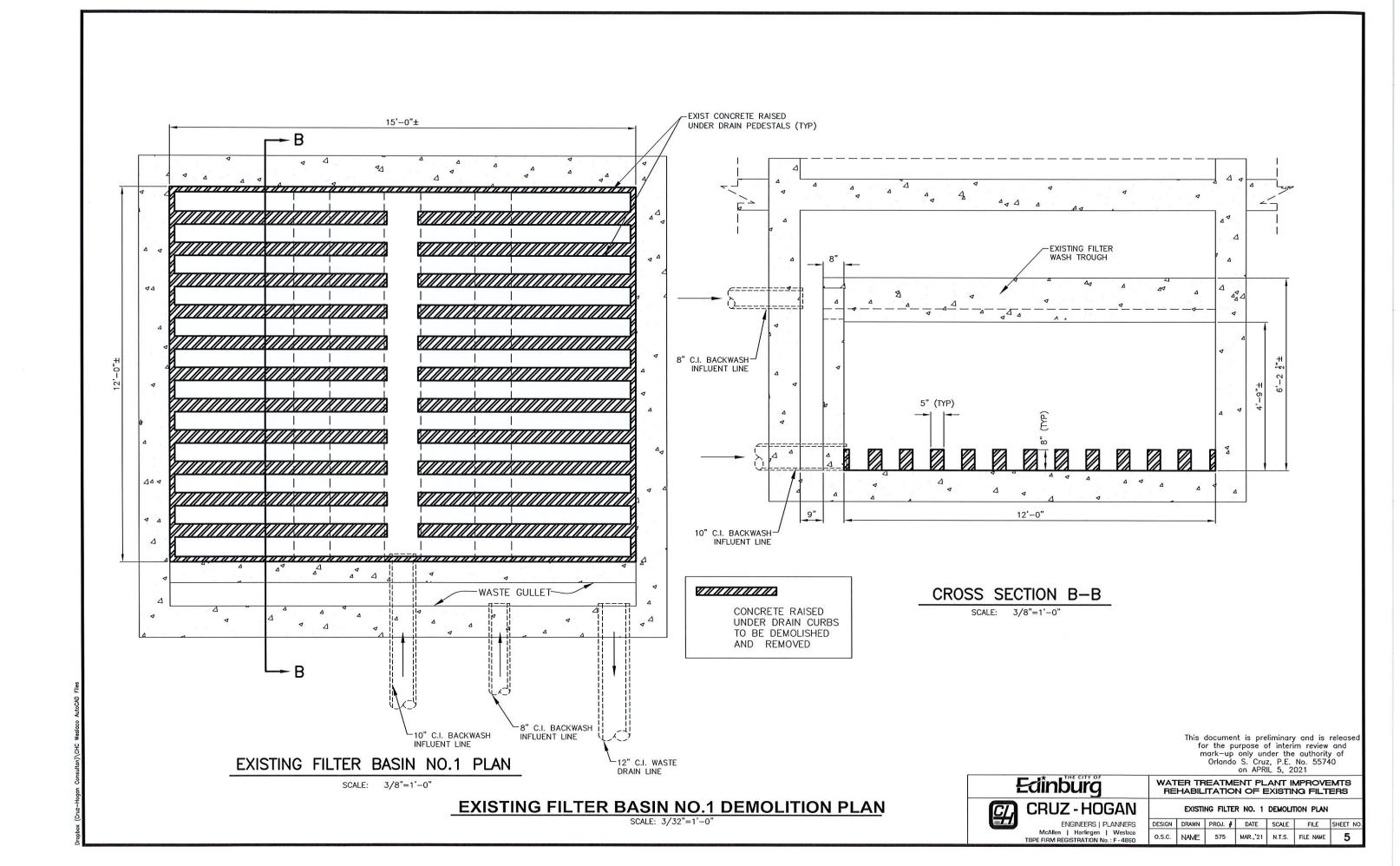
A. ALL TESTING AND SOIL ANALYSIS REQUIRED TO BE PAID BY THE CITY. CONTRACTOR TO ARRANGE FOR ALL TESTING. ANY RE-TESTS, DUE TO FAILURE, SHALL BE PAID FOR BY THE CONTRACTOR.

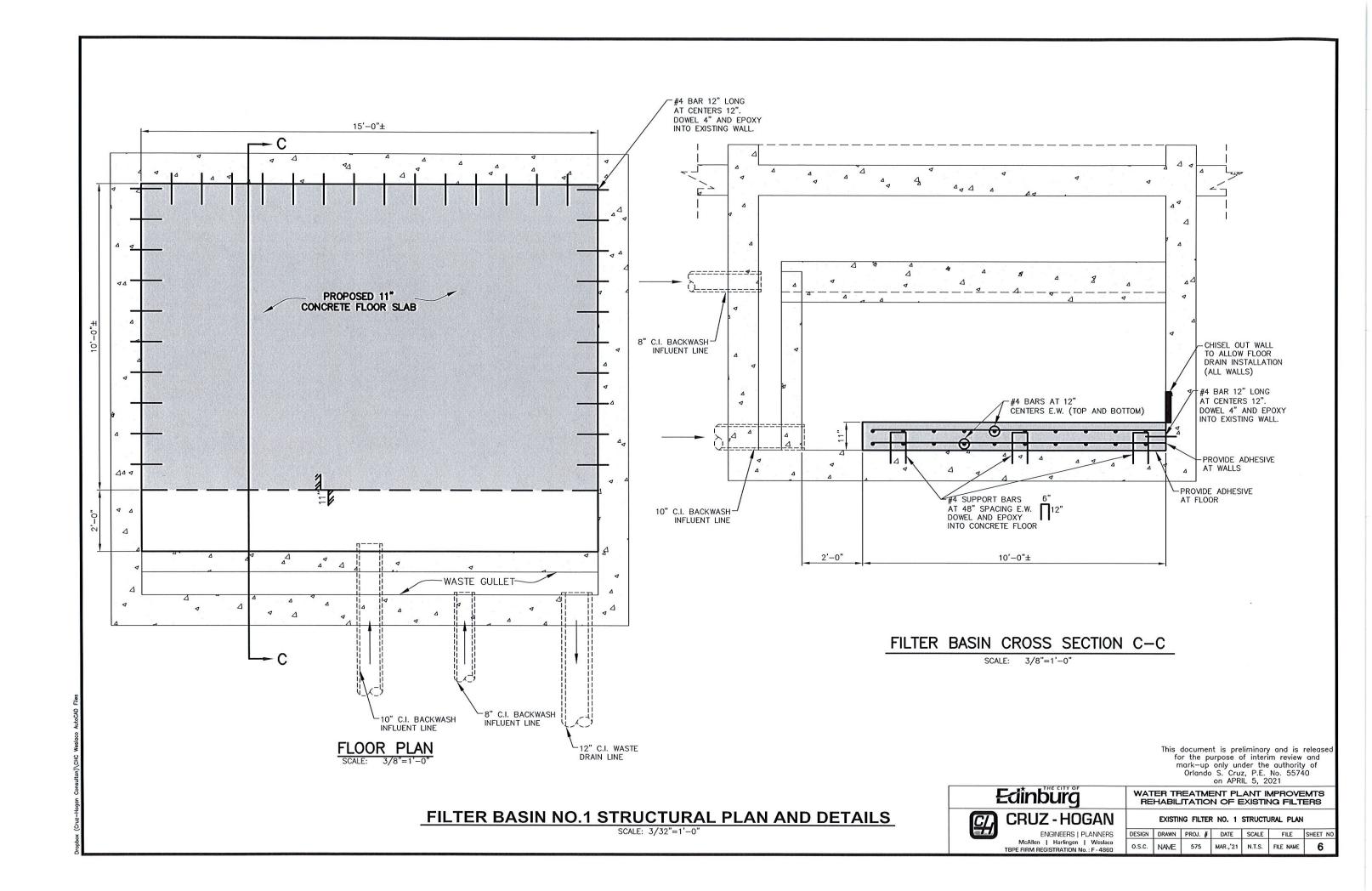
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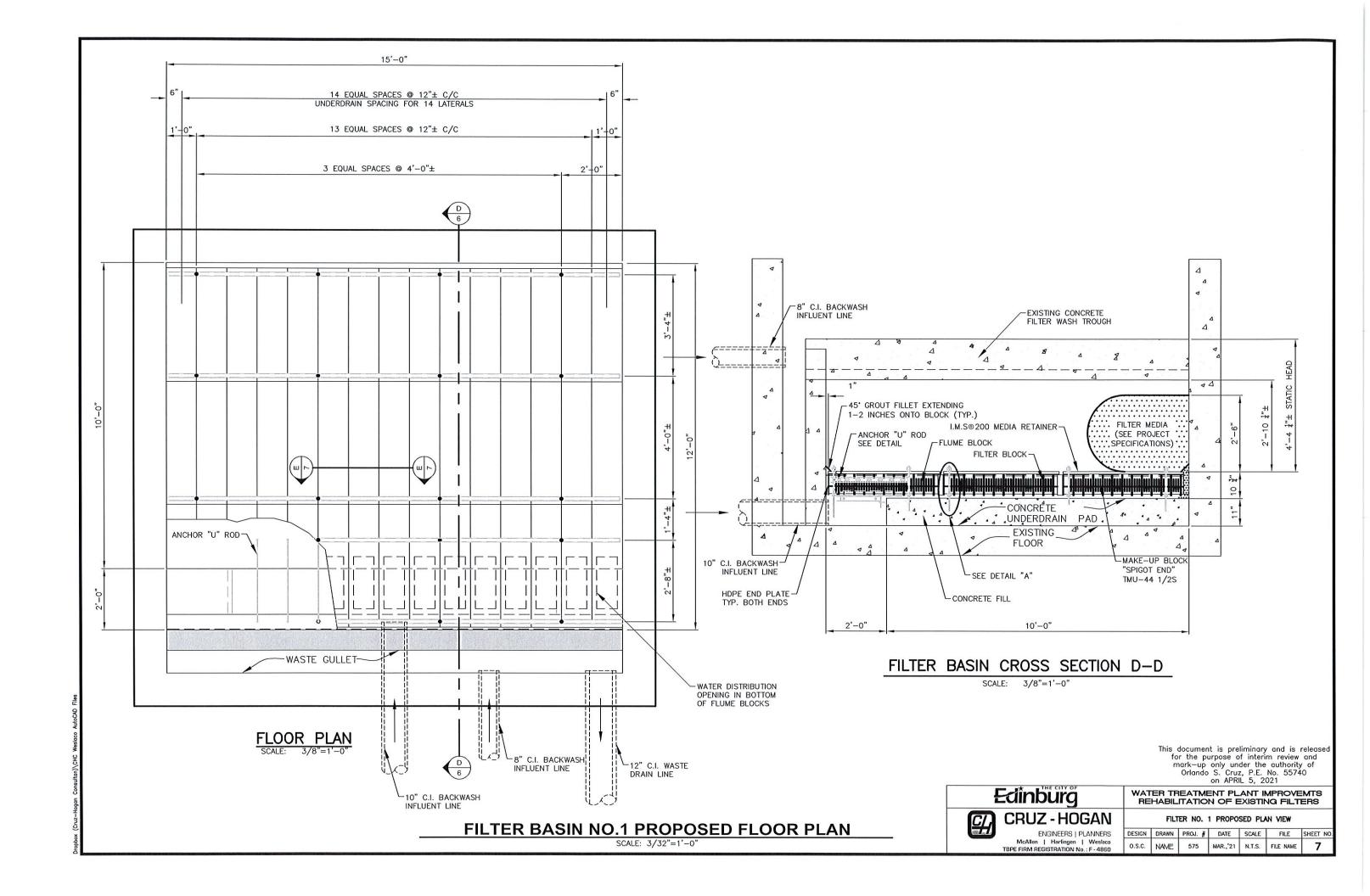


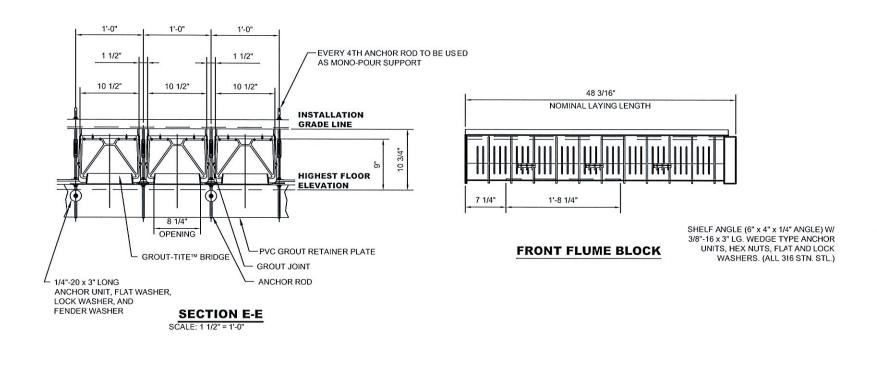
| | WATER TREATMENT PLANT IMPROVEMTS REHABILITATION OF EXISTING FILTERS | | | | | | | | |
|---|--|-------|---------|----------|--------|------------|---------|--|--|
| | PROJECT GENERAL NOTES | | | | | | | | |
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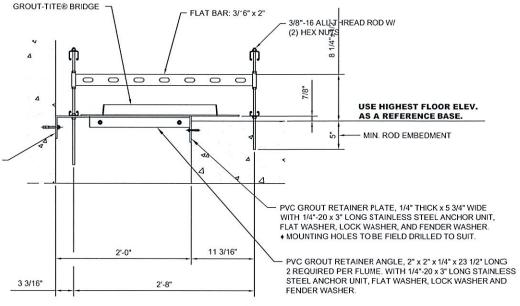




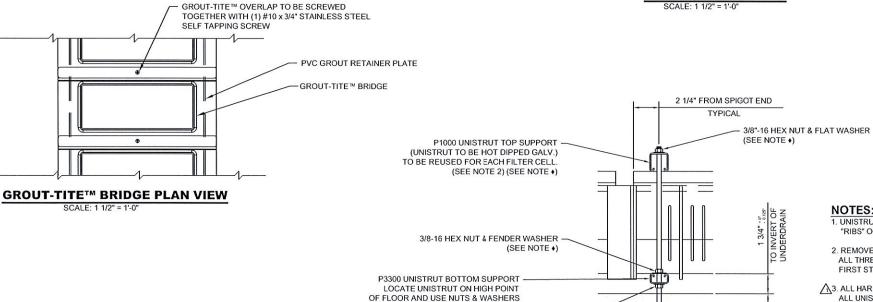




ANCHOR "U" ROD, (MAT'L.: 316 STN. STL.) DRILL (2) HOLES 5" MIN. DEEP IN FLOOR UTILIZING CROSS BAR AS TEMPLATE, FILL HOLES WITH A SUITABLE EPOXY SYSTEM, INSERT RODS INTO EPOXY WITH A TWISTING MOTION, ADJUST THE TOP OF CROSSBAR TO 8 1/4"+1/2" ABOVE HIGHEST POINT OF FLOOR, LOCK NTO POSITION WITH TOP AND BOTTOM NUTS. ♦ EPOXY SYSTEM: "HILTI HIT RE500" OR "EPCON C6". HOLE DIAMETER AS SPECIFIED BY EPOXY MANUFACTURER.



ANCHOR ROD DETAIL



AS REQUIRED TO KEEP ALL UNISTRUT

LEVEL. (SEE NOTE 1) (SEE NOTE ♦)

3/8"-16 HEX NUT, FLAT, & LOCK WASHERS

3/8"-16 x 21" ALL-THREAD ROD (18-8 STN. STL.) LOCATE ON 4'-0"± TYP. BOTH DIRECTIONS

(SEE NOTE ♦)

(SEE NOTE +)

NOTES:

- . SEE DATA SHEET TLU-PE-2 FOR ADDITIONAL MATERIAL AND INSTALLATION NOTES.
- 2. FILTER DESIGN IS BASED ON THE FOLLOWING:

HIGH RATE BACKWASH: 20 GPM/SQ.FT.

- B. EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE INSTALLATION INSTRUCTIONS AND TOLERANCES SHOWN ON THE DRAWINGS AND O & M MANUAL. READALL INSTRUCTIONS PRIOR TO RECEIVING, STORING, INSTALLING, AND OPERATING FILTER
- 4. ALL FILTER FLOORS, NEW OR EXISTING, MUST HAVE A ROUGH SURFACE EQUIVALENT TO A MINIMUM 1/8 INCH GROOVE BROOM FINISH PRIOR TO PLACING THE BASE GROUT.
- 5. ANCHOR RODS AND ANCHOR ROD EPOXY MUST BE INSTALLED IN ACCORDANCE WITH THE INSTALLATION INSTRUCTIONS AND TOLERANCES SHOWN ON ALL DRAWINGS, THE O & M MANUAL, A.ND THE EPOXY MANUFACTURER'S INSTRUCTIONS. ENSURE PROPER ANCHOR ROD LOCATIONS, HOLE SIZES, HEIGHTS, EMBEDMENT DEPTHS, AND EPOXY PENETRATION.
- 6. THE FILTER MUST NOT INCLUDE EXPANSION JOINTS WITHIN THE
- 7. DIMENSIONS AND OTHER INFORMATION PRESENTED ON THE LEOPOLD PROJECT DRAWINGS REPRESENT LEOPOLD'S BEST INTERPRETATION OF THE PROJECT PLANS AND SPECIFICATIONS AS PREPARED BY OTHERS. AS SUCH, DURING THIE APPROVAL PROCESS. THE PURCHASER SHALL THOROUGHLY REVIEW AND VERIFY ALL DIMENSIONS WITH RESPECT TO ACTUAL FIELD CONDITIONS.

NOTES:

1. UNISTRUT MUST MISS
"RIBS" ON UNDERDRAIN BLOCKS.

2. REMOVE UNISTRUT CHANNEL AND ALL THREAD AFTER COMPLETION OF FIRST STEP OF "MONO" POUR

⚠3. ALL HARDWARE TO BE TYPE 18-8 STAINLESS STEEL ALL UNISTRUT TO BE HOT DIPPED GALVANIZED.

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FILE NAME

DETAIL "A" MONOLITHIC GROUT SUPPORT INSTALLATION SCALE: 3" = 1'-0"

A 4



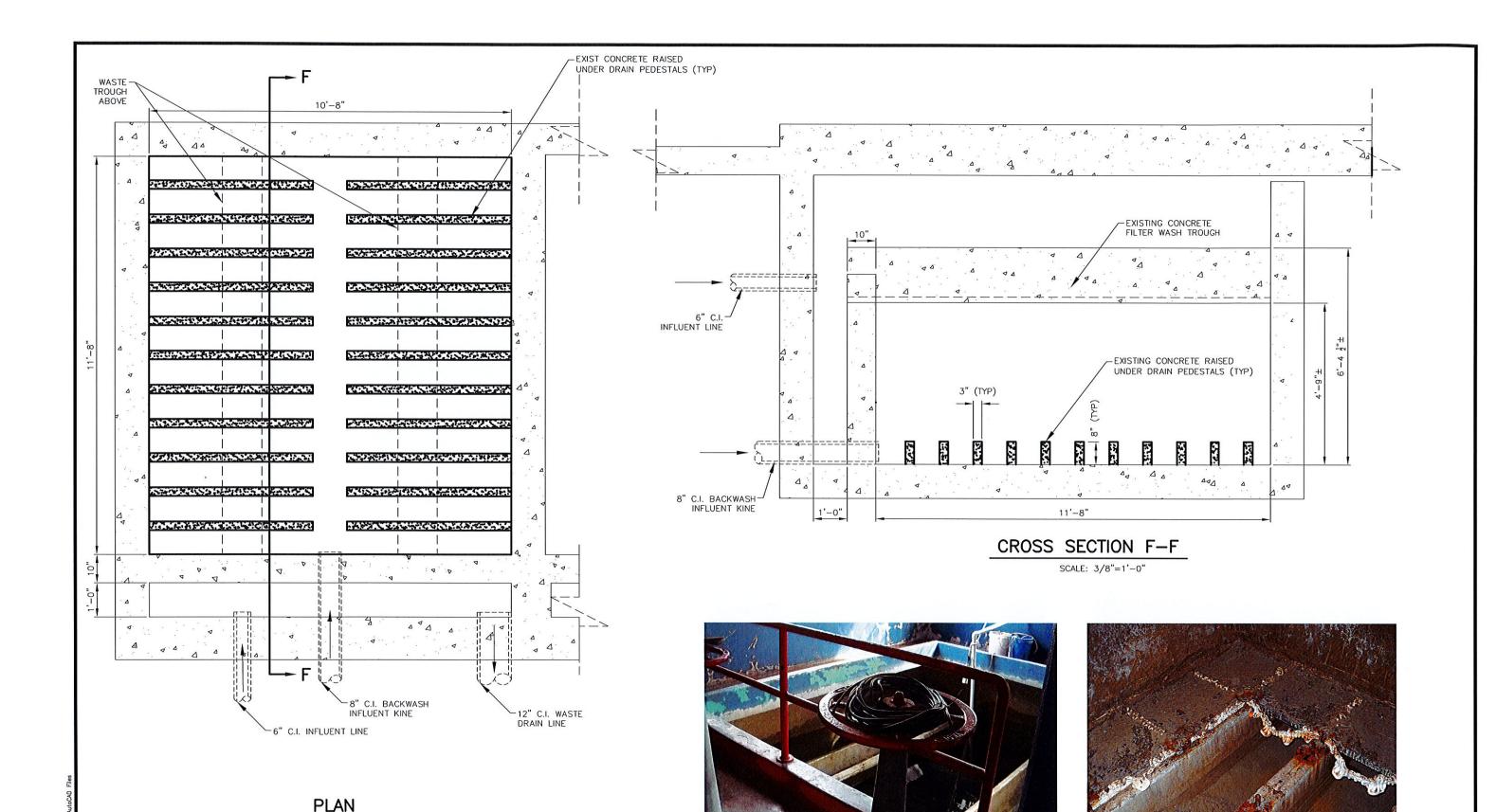
Edinburg WATER TREATMENT PLANT IMPROVEMTS REHABILITATION OF EXISTING FILTERS CRUZ - HOGAN

McAllen | Harlingen | Weslaco TBPE FIRM REGISTRATION No.: F - 4860

FILTER NO. 1 UNDERDRAIN SECTIONS, VIEWS, AND FILTER NOTES FILE SHEET NO DESIGN DRAWN PROJ. # DATE SCALE

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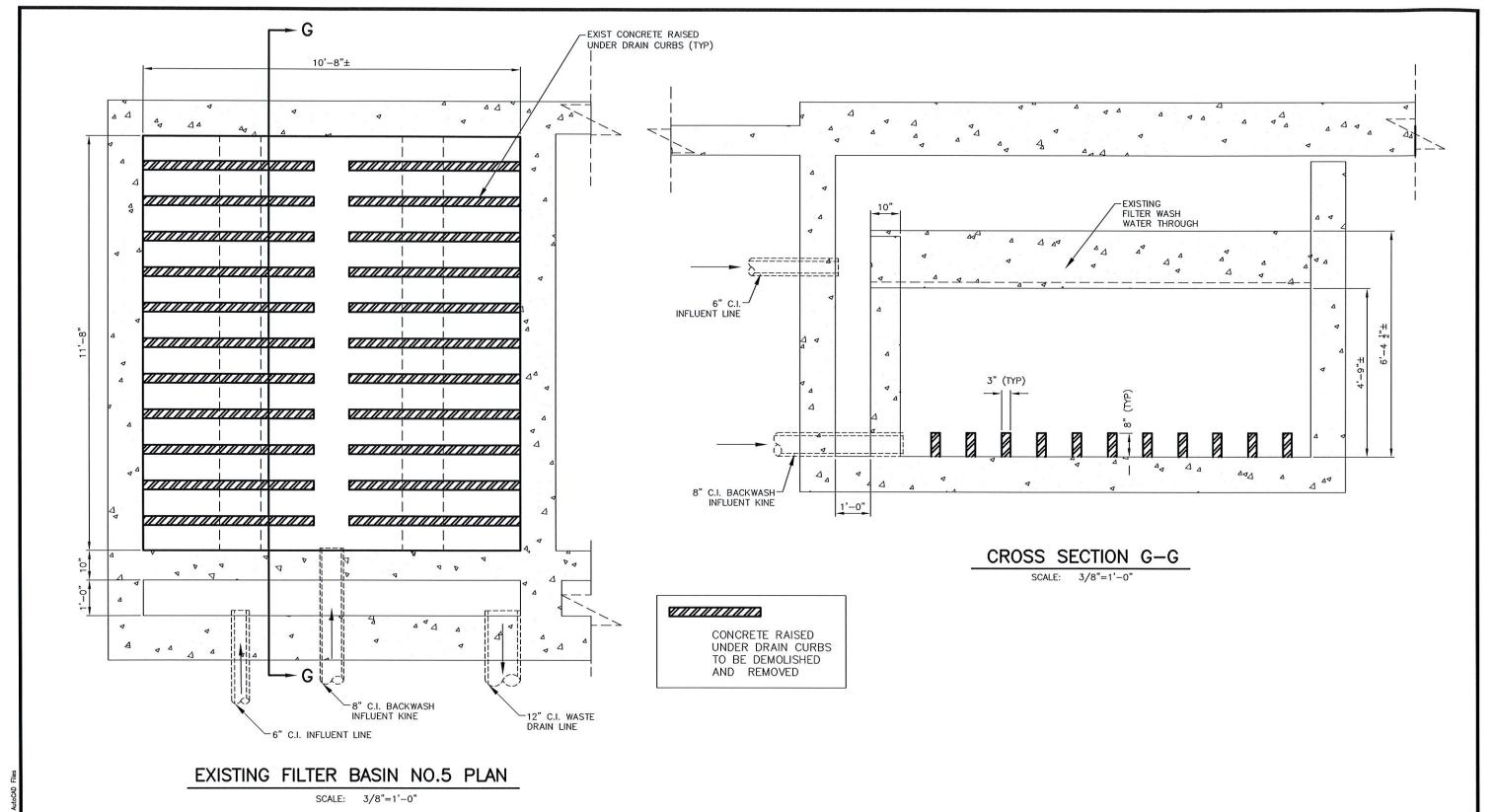
WASTEWATER TREATMENT PLANT IMPROVEMENTS REHABILITATION OF EXISTING FILTERS

CRUZ-HOGAN EXISTING FILTER NO.5 ENGINEERS | PLANNERS DESIGN DRAWN PROJ. # DATE SCALE FILE SHEET NO. McAllen | Harlingen | Weslaco TBPE FIRM REGISTRATION No.: F - 4860 o.s.c. AM. 575 MAR., 21 N.T.S FILE NAME

EXISTING FILTER BASIN NO.5

SCALE: 3/8"=1'-0"

SCALE: 3/32"=1'-0"



EXISTING FILTER BASIN NO.5 DEMOLITION PLAN

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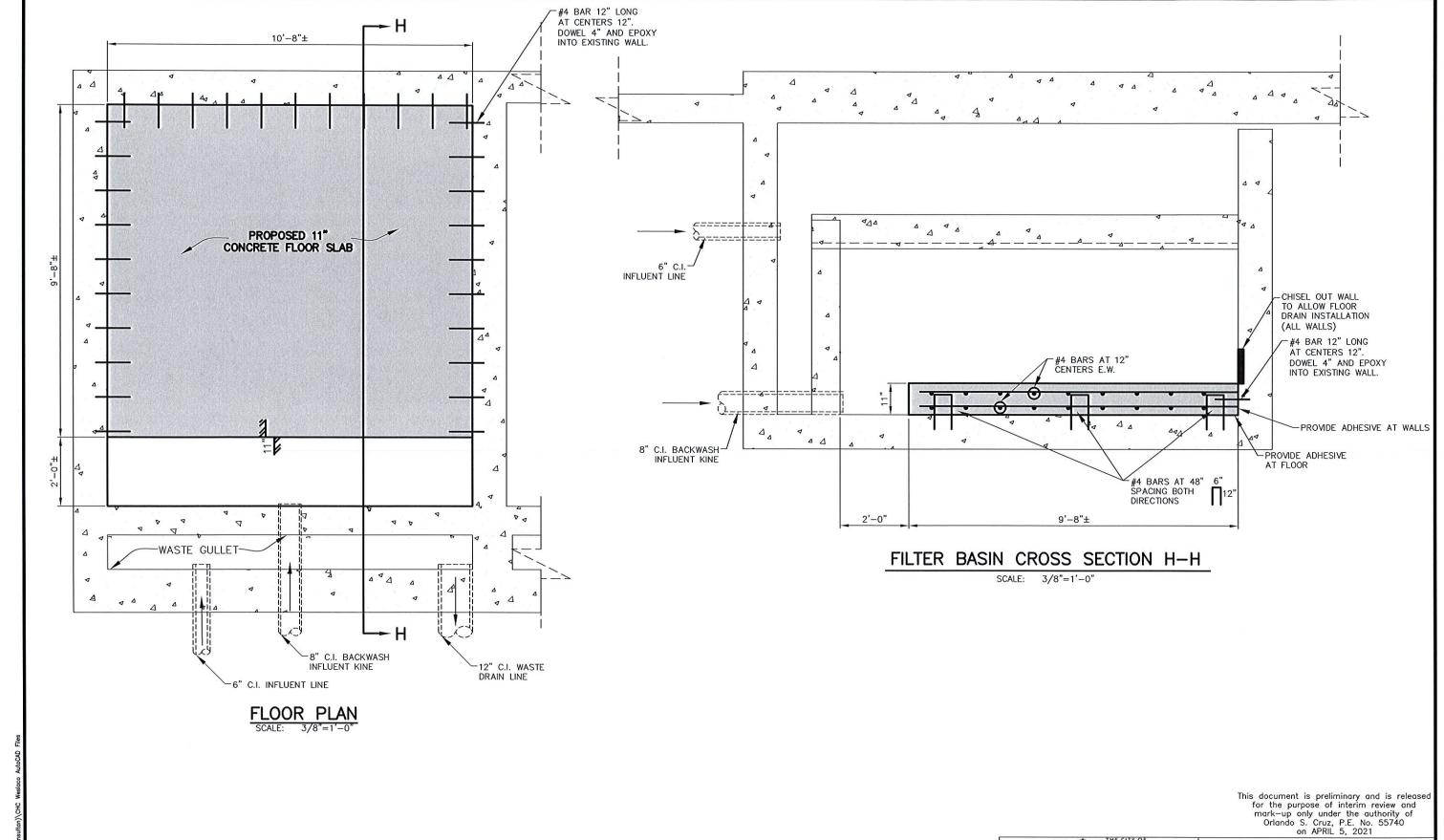


CRUZ-HOGAN

EXISTING FILTER NO.5 DEMOLITION PLAN

ENGINEERS | PLANNERS McAllen | Harlingen | Weslaco TBPE FIRM REGISTRATION No.: F - 4860

DESIGN DRAWN PROJ. # DATE SCALE FILE SHEET NO o.s.c. 575 NAME MAR., 21 N.T.S. FILE NAME



FILTER BASIN NO.5 STRUCTURAL PLAN AND DETAILS

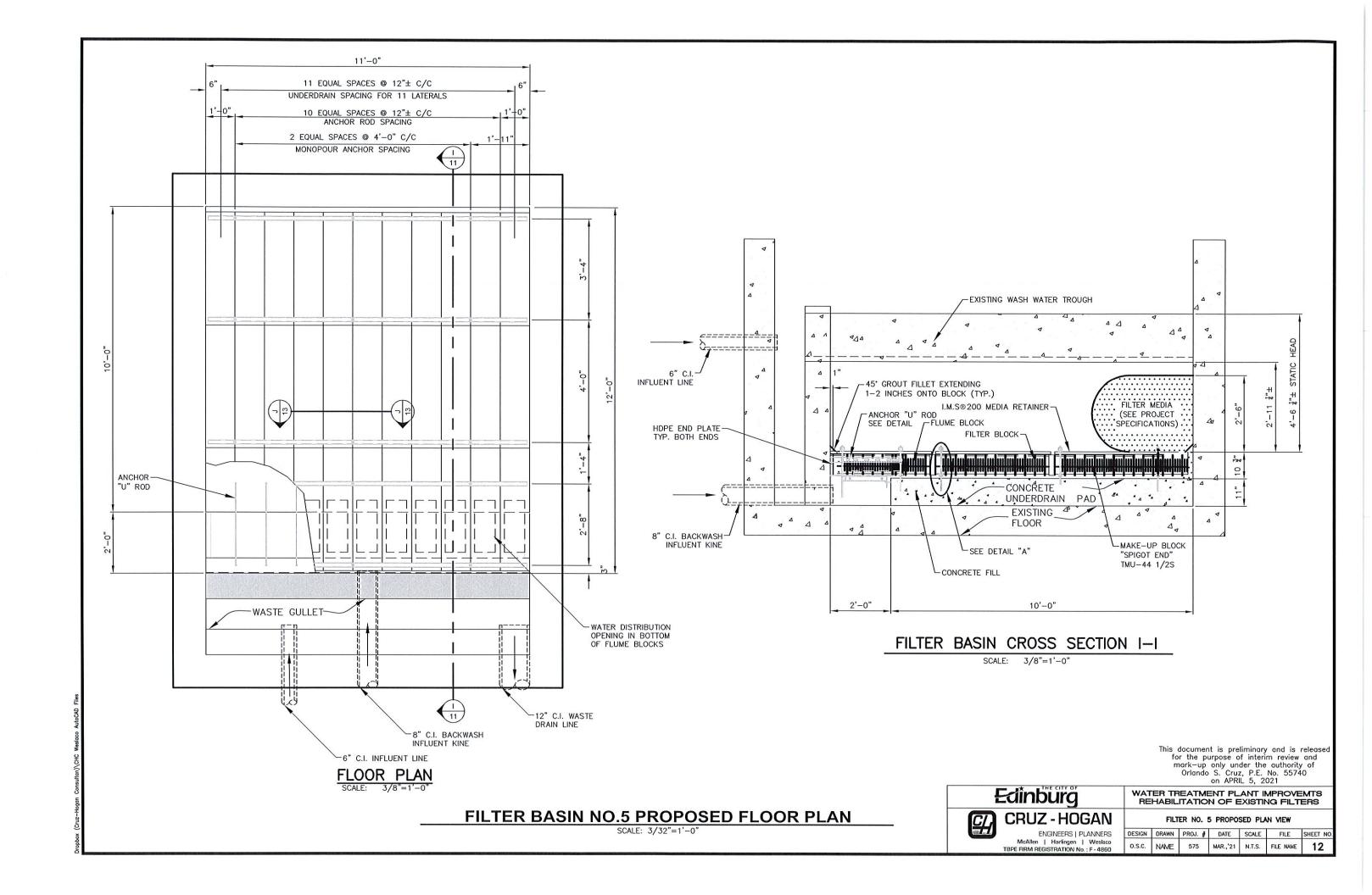
ON APRIL 5, 2021

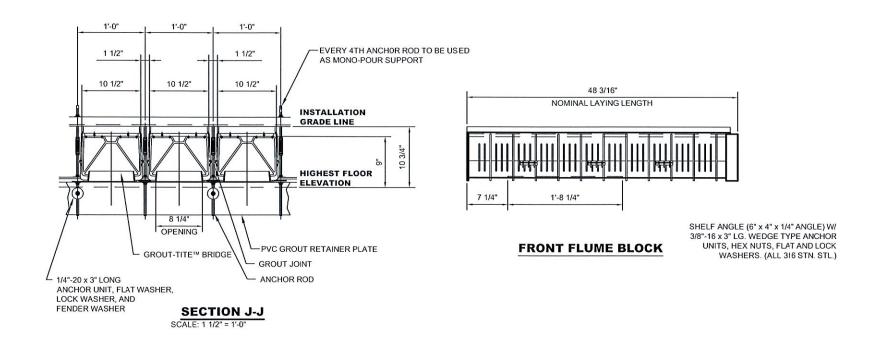
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WATER TREATMENT PLANT IMPROVEMTS REHABILITATION OF EXISTING FILTERS

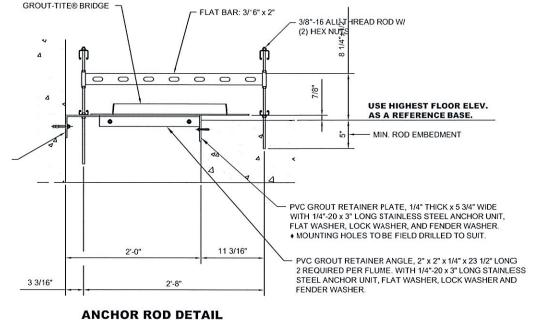
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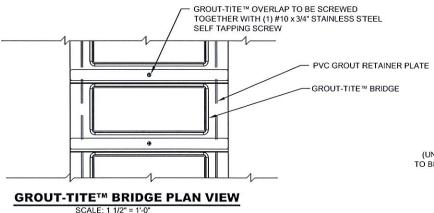
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ANCHOR "U" ROD, (MAT'L.: 316 STN. STL.) DRILL (2) HOLES 5" MIN. DEEP IN FLOOR UTILIZING CROSS BAR AS TEMPLATE, FILL HOLES WITH A SUITABLE EPOXY SYSTEM, INSERT RODS INTO EPOXY WITH A TWISTING MOTION, ADJUST THE TOP OF CROSSBAR TO 8 1/4"±1/2" ABOVE HIGHEST POINT OF FLOOR, LOCK NTO POSITION WITH TOP AND BOTTOM NUTS. \$ EPOXY SYSTEM: "HILTI HIT RE500" OR "EPCON C6". HOLE DIAMETER AS SPECIFIED BY EPOXY MANUFACTURER.





NOTES:

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P1000 UNISTRUT TOP SUPPORT (UNISTRUT TO BE HOT DIPPED GALV.) TO BE REUSED FOR EACH FILTER CELL. (SEE NOTE 2) (SEE NOTE 4) NOTES: 1. UNISTRUT 78BS**O 2. REMOVE ALL THRE FIRST ST LOCATE UNISTRUT ON HIGH POINT OF FLOOR AND USE NUTS & WASHERS AS REQUIRED TO KEEP ALL UNISTRUT LEVEL. (SEE NOTE 4) 3/8*-16 HEX NUT, FLAT, & LOCK WASHERS (SEE NOTE 4) 3/8*-16 HEX NUT, FLAT, & LOCK WASHERS (SEE NOTE 5) 3/8*-16 HEX NUT, FLAT, & LOCK WASHERS (SEE NOTE 6) 3/8*-16 HEX NUT, FLAT, & LOCK WASHERS (SEE NOTE 6) 3/8*-16 HEX NUT, FLAT, & LOCK WASHERS (SEE NOTE 6) 3/8*-16 HEX NUT, FLAT, & LOCK WASHERS (SEE NOTE 6) 3/8*-16 HEX NUT, FLAT, & LOCK WASHERS (SEE NOTE 6)

NOTES:

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DETAIL "A"
MONOLITHIC GROUT
SUPPORT INSTALLATION
SCALF: 3" = 11-0"

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2 1/4" FROM SPIGOT END

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WATER TREATMENT PLANT IMPROVEMTS REHABILITATION OF EXISTING FILTERS FILTER NO. 5 UNDERDRAIN SECTIONS, VIEWS, AND FILTER NOTES

DESIGN DRAWN PROJ. # DATE SCALE FILE SHEET NO.S.C. NAME 575 MAR., '21 N.T.S. FILE NAME 13