

PRINT DATE: 01/27/2020
 M:\City_of_Tulsa\71st\Drawings\17TUL03_T05_71st_Memorial_Cover.dwg

SYMBOL LEGEND

- - CONTROL POINT
- ◆ - SURVEYED BENCHMARK
- ⊕ - AIR RELEASE VALVE
- ⊕ - ELECTRIC CONTROL BOX
- ⊕ - MONITORING WELL
- ⊕ - ELECTRIC METER
- ⊕ - FIRE HYDRANT
- ⊕ - FLAG POLE
- ⊕ - GATE POST
- ⊕ - GUARD RAIL POST
- ⊕ - GUY ANCHOR
- ⊕ - GUY POLE
- ⊕ - LIGHT POLE
- ⊕ - MAIL BOX
- ⊕ - POWER POLE/TELEPHONE POLE
- ⊕ - MANHOLE SANITARY, STORM
- ⊕ - SIGN
- ⊕ - SPIGOT
- ⊕ - SANITARY SEWER CLEAN OUT
- ⊕ - SANITARY SEWER LAMPHOLE
- ⊕ - WATER VALVE
- ⊕ - WATER METER
- ⊕ - TELEPHONE BOX
- ⊕ - TELEPHONE RISER
- ⊕ - GAS METER
- ⊕ - GAS VALVE
- ⊕ - BUSH/HEDGE
- ⊕ - SMALL CONIFEROUS TREE
- ⊕ - LARGE CONIFEROUS TREE
- ⊕ - SMALL DECIDUOUS TREE
- ⊕ - LARGE DECIDUOUS TREE
- - - - - Fence Line (All Types)
- - - - - OHE - Overhead Electric
- - - - - UGE - Underground Electric
- - - - - OHT - Overhead Telephone
- - - - - UGT - Underground Telephone
- - - - - CATV - Underground Cable Television
- - - - - G - Natural Gas Line
- - - - - FOC - Fiber Optic Cable
- - - - - W - Water Line
- - - - - Existing Storm Sewer
- - - - - Sanitary Sewer Line
- - - - - Proposed C.R.L.

DATUM INFORMATION

HORIZONTAL DATUM
 NAD '83 (1993 HARN)

VERTICAL DATUM
 NAVD '88 (GEOID 12B)

ADS 64 - 1-1/2" ALUMINUM CAP
 N=440109.581
 E=2568295.152
 ELEV.=651.716

ADS #190 - P.K. NAIL AND SHINER
 N=392569.216
 E=2593180.490
 ELEV.=744.323

CONSTRUCTION PLANS FOR 71ST & MEMORIAL STORM SEWER IMPROVEMENTS

PROJECT NO. 173120-2

ACCOUNT NO. 6041-5451101-040522173120

CITY OF TULSA, OKLAHOMA

ENGINEERING SERVICES DEPARTMENT

DRAWING INDEX

- 1 - COVER SHEET
- 2 - CONSTRUCTION NOTES AND PAY ITEMS
- 3-4 - CONSTRUCTION DETAILS / JUNCTION BOX DETAILS
- 5 - SURVEY DATA / RIGHT-OF-WAY
- 6 - STORM SEWER KEY PLAN / GEOMETRIC DATA
- 7-8 - STORM SEWER PLAN AND PROFILE
- 9 - PATCHING INSET
- 10 - STORM SEWER PROFILES
- 11-17 - CROSS SECTIONS

DRAWING REFERENCE LEGEND

- ⊗ REFERS TO A PROFILE OR ELEVATION
- 7/8 PROFILE NUMBER SHEET NUMBER ON WHICH IT IS LOCATED
- ① DETAIL DESCRIPTION
SCALE: 1"=XX'

NOTE:

ALL CONSTRUCTION TO BE IN STRICT ACCORDANCE WITH CURRENT CITY OF TULSA ENGINEERING SERVICES DEPARTMENT, STANDARDS AND SPECIFICATIONS.

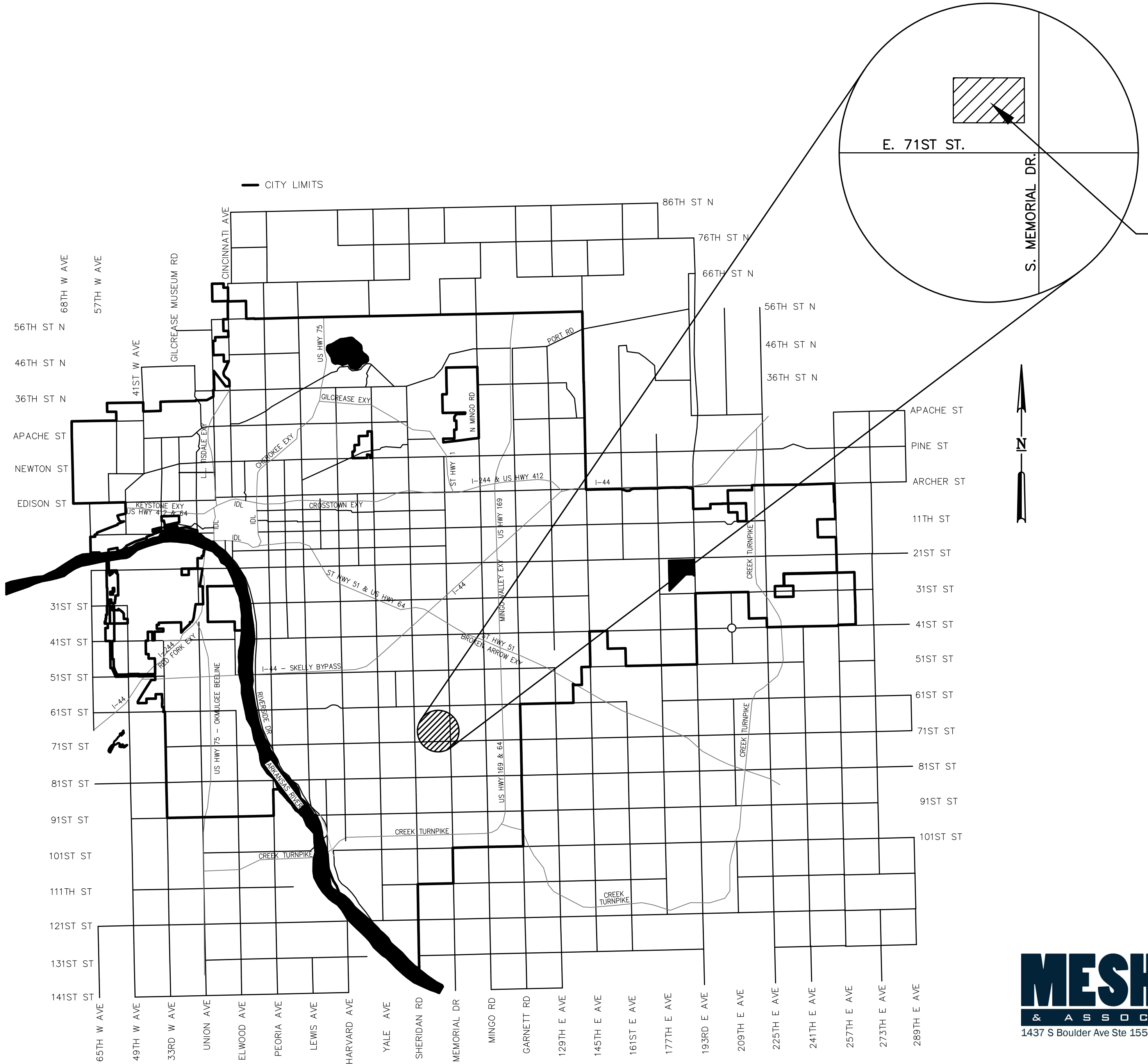
THIS PROJECT COMPLIES WITH ALL OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ) REQUIREMENTS.

2009 OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION SHALL GOVERN. CITY OF TULSA ENGINEERING SERVICES DEPARTMENT CURRENT STANDARDS WILL BE USED AS APPLICABLE.

ENTIRE PROJECT IS WITHIN CORPORATE LIMITS OF CITY OF TULSA (COT)



UTILITY COORDINATION BOX		
	NUMBER	NOTIFIED
WATER DESIGN	918-596-9580	
WASTEWATER DESIGN	918-596-9564	
TRANSPORTATION DESIGN	918-596-9636	
UTILITY COORDINATION - CHRIS KOVAC	918-596-9649	
STORMWATER DESIGN	918-596-9498	
PSO - ADAM FIELDS	877-250-6257	
ONG - JONATHON MEADOWS	918-831-8215	
AT&T - AL NICHOLS	918-596-4237	
COX COMMUNICATION - BRANDON WADE	918-286-4716	
MTTA - ERIC SMITH	918-830-0024	



PROJECT SITE

APPLICABLE STANDARDS:
 CITY OF TULSA:
 SEE SHEET 2

ODOT:
 SEE SHEET 2

APPROVED BY _____
 CITY ENGINEER _____ DATE _____

ADVERTISEMENT DATE _____

Prepared By:
 MESHEK & ASSOCIATES, L.L.C.

RYAN PIERCE, P.E. #27211
 MESHEK & ASSOCIATES, L.L.C.



3/17/2020
DATE



MESHEK & ASSOCIATES, L.L.C.
 C.A. 1487 EXPIRES 6/30/21
 1437 S. BOULDER AVE, STE. 1550
 TULSA, OK 74119
 (PH) 918-392-5620
 (FAX) 918-392-5621

2019 CITY OF TULSA, TULSA COUNTY, OKLAHOMA PROJECT NO. 173120-2 71ST & MEMORIAL STORM SEWER IMPROVEMENTS

PRINT DATE: 03/02/2021 M:\City_of_Tulsa\17TUL03_Or_Cell_Stormwater_Services_2017\TO_5_71st_Memorial_Design\Drawings\17TUL03_TO5_71ST_MEMORIAL_NOTES_PAY_ITEMS.dwg

GENERAL (G1 - G10) (11/14/2018)

- G-1: LOCATIONS TO BE DETERMINED IN THE FIELD AND WORK TO BE PERFORMED AT THE DIRECTION OF THE FIELD ENGINEER. QUANTITY IS ESTIMATED AND MAY BE OMITTED IN ITS ENTIRETY.
G-2: MAXIMUM OVERALL DOLLAR AMOUNT AND SCHEDULE OF PAYMENTS SHALL BE IN ACCORDANCE SECTION 641 OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, CURRENT EDITION. EXCLUDES MOBILIZATION FOR WATERLINE WORK.
G-3: CONSTRUCTION STAKING SHALL INCLUDE SURVEYING AND THE FURNISHING, PLACING, AND MAINTAINING OF THE CONSTRUCTION LAYOUT STAKES NECESSARY FOR THE PROPER COMPLETION AND INSPECTION OF THE ENTIRE PROJECT.
G-4: THE COST TO REPLACE REMOVED OR DAMAGED SECTION CORNERS AND ALL OTHER PERMANENT RIGHT OF WAY MARKERS SHALL BE INCLUDED IN THE PRICE BID FOR THIS ITEM. NO ADDITIONAL PAYMENT WILL BE MADE.
G-5: CONTRACTOR SHALL REPAIR ANY IRRIGATION SYSTEMS DAMAGED OR REQUIRING RELOCATION DURING THE CONSTRUCTION OF THE PROJECT TO THE SATISFACTION OF THE PROPERTY OWNER AND CITY ARBORIST. COST SHALL BE INCLUDED IN THE PRICE BID.
G-6: ALL HOUSE NUMBERS SHALL BE REPLACED/ REESTABLISHED THROUGHOUT PROJECT LIMITS. COST TO BE INCLUDED IN URBAN RIGHT OF WAY RESTORATION. CONTRACTOR SHALL REESTABLISH DRAINS, ROOF DRAINS AND OTHER DRAINAGE THROUGH THE CURBS IN ACCORDANCE WITH CITY OF TULSA STANDARD 758. NO NEW CURB OUTLETS SHALL BE CONSTRUCTED WITHOUT APPROVAL OF THE ENGINEER.
G-7: AN INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA) CERTIFIED ARBORIST SHALL OVERSEE ALL PLANTINGS AND/OR REMOVAL OF TREES. CONTACT CITY ARBORIST TO ACCEPT FINAL PLANTINGS. CONTACT #: 918-596-2548
G-8: TREE GRATES ARE NOT ACCEPTABLE PER CITY ARBORIST. CONCRETE PAVERS ARE TO BE USED AS NECESSARY AROUND TREES.
G-9: CONTRACTOR SHALL COORDINATE WITH HOMEOWNERS TO RESET ALL PAVERS, LANDSCAPE STONE, PRIVATE SIDEWALKS AND FENCES THAT ARE DISTURBED DURING CONSTRUCTION OPERATIONS. ALL MATERIALS, LABOR, AND EQUIPMENT REQUIRED FOR RESETTING OF SUCH ITEMS IS TO BE INCLUDED IN PRICE BID FOR URBAN RIGHT OF WAY RESTORATION.
G-10: PAY ITEM INCLUDES ALL MOWING WITHIN THE RIGHT-OF-WAY AS DIRECTED DURING CONSTRUCTION.

PAY ITEM NOTES (11/14/2018)

EARTHWORK / EROSION CONTROL / SITE PREPARATION (E1 - E11)

- E-2: ALL EXISTING DRAINAGE STRUCTURES SHALL BE CLEANED AND CLEARED OF ALL SEDIMENTATION AND DEBRIS TO THE RIGHT OF WAY. COST OF CLEARING SHALL BE INCLUDED IN THE PRICE BID.
E-3: THE CONTRACTOR SHALL BE PAID FOR UNCLASSIFIED EXCAVATION ON THE BASIS OF PLAN QUANTITY. ANY ADDITIONAL EXCAVATION REQUIRED OR OVERRUN OF PLAN QUANTITY WILL BE PAID FOR ON THE BASIS OF UNIT PRICE BID FOR THE ITEM. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SURVEY TO VERIFY ANY ADDITIONAL QUANTITIES.
E-4: UNCLASSIFIED EXCAVATION INCLUDES REMOVAL OF AGGREGATE BASE AND MODIFIED SUBGRADE UNDER EXISTING PAVEMENT TO BE REPAIRED.
E-5: THIS QUANTITY INCLUDES AN ADDITIONAL 10% ABOVE PLAN QUANTITY FOR UNDERCUTTING OF UNSUITABLE SUBGRADE MATERIAL OR ADDITIONAL PATCHING AS DIRECTED BY THE ENGINEER.
E-6: THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROL AND MAINTENANCE OF THE STORM WATER DRAINAGE FROM THE CONSTRUCTION SITE. STORM WATER PONDING ON THE CONSTRUCTION SITE THAT IS THE RESULT OF CONSTRUCTION WILL NOT BE ALLOWED. ALL COST ASSOCIATED WITH STORM WATER MANAGEMENT, AS WELL AS REMOVAL OF ALL SILT AND DEBRIS FROM ALL DRAINAGE STRUCTURES, STORM SEWER PIPES AND APPURTENANCES WITHIN THE PROJECT LIMITS AT END OF PROJECT, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.
E-7: EROSION PROTECTION SHALL BE PLACED AS FOLLOWS:
A) AROUND INLETS TO PREVENT INFLOW OF ERODED MATERIAL INTO STORM SEWER SYSTEM;
B) IN LOCATIONS THROUGHOUT PROJECT SITE, AS DETERMINED BY THE ENGINEER, TO PREVENT WASH OF ERODED MATERIAL ONTO ADJACENT PROPERTY;
C) FOR ENTIRE DURATION OF PROJECT, WITH MAINTENANCE AND REPLACEMENTS, AS DIRECTED BY THE ENGINEER;
D) WITH PERIODIC REMOVAL OF SEDIMENT IN ACCORDANCE WITH STORMWATER MANAGEMENT PLAN. ALL COST FOR ITEMS A-D ABOVE SHALL BE INCLUDED IN UNIT PRICE BID FOR THIS ITEM.
E-8: PRICE BID SHALL INCLUDE MAINTENANCE, SEDIMENT REMOVAL, DISPOSAL, AND REMOVAL OF FILTERS AT PROJECT COMPLETION.

SURFACING / STRUCTURES (S1 - S21)

- S-1: TYPE A AGGREGATE BASE WAS ESTIMATED TO BE USED AS THE BASE MATERIAL FOR 90% OF THE PATCHING. QUICK SET FLOWABLE FILL WAS ESTIMATED TO BE USED AS THE BASE MATERIAL FOR 10% OF THE PATCHING. ACTUAL QUANTITIES TO BE DETERMINED BY THE ENGINEER.
S-2: INCLUDES COMPACTION OF AGGREGATE TO 98% AASHTO T180 MODIFIED PROCTOR.
S-3: SEPARATOR FABRIC SHALL BE USED AT ALL PAVEMENT PATCHES AND RECONSTRUCTION SECTIONS. THE SEPARATOR FABRIC SHALL BE CUT AND OVERLAPPED A MINIMUM OF 2 FT AT ALL EDGES OF THE REPAIR.
S-4: FABRIC REINFORCEMENT SHALL BE USED ON OVERLAY AREAS. THE COST OF BITUMINOUS BINDER FOR FABRIC REINFORCEMENT SHALL BE INCLUDED IN THE UNIT COST OF THIS PAY ITEM. THE BITUMINOUS BINDER SHALL MEET ODOT STANDARD SPECIFICATIONS AND THE RECOMMENDATIONS OF THE FABRIC REINFORCEMENT MANUFACTURER.
S-5: THE COST OF TACK COAT, EDGE JOINT SEAL MATERIAL AND SCREENINGS FOR BLOTING, AND ALL LABOR ASSOCIATED WITH THESE ITEMS, SHALL BE INCLUDED IN ASPHALT CONCRETE.
S-6: ESTIMATED AT 112 LBS PER SQ YD PER 1 INCH THICK.
S-7: ODOT PAY FACTOR FOR AVERAGE LOT DENSITY SHALL NOT BE USED FOR THIS PROJECT. FAILURE TO REACH AVERAGE LOT DENSITY OF 92%-97% WILL RESULT IN REJECTION OF WORK.
S-8: A HIGHER GRADE OF ASPHALT BINDER THAN IS INDICATED ON THE PLANS MAY BE USED, BUT AT NO ADDITIONAL COST TO THE CITY.

Table with 4 columns: BINDER GRADE, MESALs, ADT1, NOTES. Contains specifications for PG 64-22 OK, PG 70-28 OK, PG 76-28 OK, and PG 76-28 E.

- S-11: CONCRETE PAVEMENT SHALL BE COMPLETE IN PLACE. NO PARTIAL OR FINAL PAYMENT SHALL BE MADE UNTIL PAVEMENT HAS BEEN SAWED AND SEALED. ANY SECTIONS OF PAVEMENT WITH UNAPPROVED DEVIATIONS FROM THE JOINT LAYOUT PROVIDED IN THE PLANS MAY BE REJECTED AT THE DISCRETION OF THE ENGINEER.
S-12: THE USE OF FLY-ASH IN CONCRETE IS PROHIBITED.
S-13: INCLUDES ALL COST OF SAWED JOINTS AND SEALING OF ALL JOINTS INCLUDING LONGITUDINAL JOINTS.
S-15: THIS ITEM SHALL BE MEASURED AS THE ACTUAL AMOUNT OF CURB AND/OR GUTTER INSTALLED. NO PAYMENT WILL BE MADE FOR CURB AND/OR GUTTER THROUGH DRIVEWAYS AND INLETS.
S-19: STANDARD BEDDING MATERIAL TO BE TYPE A AGGREGATE BASE COMPACTED TO 95% STANDARD PROCTOR DENSITY (AASHTO T-99). TYPE A AGGREGATE BASE IN THE ROADWAY SHALL BE COMPACTED TO 98% MODIFIED PROCTOR (AASHTO T-180).
S-20: QUANTITY SHALL BE MEASURED AND PAID FOR AS FOLLOWS:
A. FOR ANY CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BOX (RCB) LARGER THAN 4' BY 4', USE NEAT LINES THAT ARE 4" BELOW THE BOTTOM OF THE RCB AND 4'-0" BEYOND THE OUTSIDE WALL.
B. UNDER ROADWAY PAY QUANTITY SHALL BE PAID FOR FROM THE BOTTOM OF TRENCH, AS DESCRIBED, TO THE BOTTOM OF ROADWAY AGGREGATE BASE.
S-21: THIS PAY ITEM INCLUDES THE FOLLOWING:
A. SAW CUTTING
B. REMOVAL OF THE EXISTING CONCRETE AND/OR ASPHALTIC CONCRETE ROADWAY (CY)
C. TYPE S3 ASPHALTIC CONCRETE OR PC CONCRETE COMPLETE AND IN PLACE PER DETAIL
D. SEALING OF EDGES AND TACK COAT
DOES NOT INCLUDE THE FOLLOWING:
A. UNCLASSIFIED EXCAVATION
B. SUBGRADE METHOD B (SY)
C. SEPARATOR FABRIC (SY)
D. AGGREGATE BASE (TYPE A)
E. ASPHALT CONCRETE LEVELING OR SURFACE COURSE

REMOVAL / ADJUSTMENT (R1 - R6)

- R-1: WASTE MATERIAL TO BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE IN A MANNER APPROVED BY THE ENGINEER.
R-2: ALL SAW CUTTING AND REMOVAL SHALL BE INCLUDED IN THE COST OF THE ITEM TO BE ADJUSTED, REMOVED, REPAIRED, OR REPLACED.
R-3: PAY ITEM INCLUDES REMOVAL OF ALL STRUCTURES AND OBSTRUCTIONS WITHIN PROJECT LIMITS NOT SPECIFIED BY OTHER ITEMS OF WORK.
R-4: INCLUDES SAWING NOT INCLUDED IN OTHER ITEMS OF WORK.
R-5: ITEMS TO BE REMOVED MAY OR MAY NOT BE PRESENT IN ANY SPECIFIED CONDITION.
R-6: SHALL INCLUDE ALL COSTS ASSOCIATED WITH PLUGGING/ PATCHING HOLES IN EXISTING STRUCTURES TO REMAIN.

DRAINAGE (D1 - D15)

- D-1: THIS ITEM SHALL INCLUDE THE COST OF NEW MANHOLE FRAME AND COVER PER CITY OF TULSA STD NOS.752, 753, 754, 761, 762, 769A, 769B AND 775.
D-2: THE TOTAL COST FOR RUBBERIZED ASPHALT AND/OR SILICONE AT MANHOLES, VALVE BOXES, INLETS, AND INLET APRONS, SHALL BE INCLUDED.
D-3: NO MASONRY STRUCTURES SHALL BE CONSTRUCTED WITHIN THE RIGHT OF WAY.
D-5: ALL MANHOLES SHALL BE COMPLETE IN PLACE. THIS PAY ITEM INCLUDES FRAME, COVER, CONCRETE AND ALL OTHER INCIDENTALS REQUIRED FOR PLACEMENT.
D-7: INCLUDES THE COST REQUIRED TO MAKE CONNECTION AND REMOVAL OF EXISTING INLETS. THE COST OF PC CONCRETE CURB AND GUTTER THROUGH THE INLET, 5' EACH SIDE OF THE INLET, AND THE PC CONCRETE INLET APRON SHALL BE INCLUDED. GRATE AND FLOWLINE ELEVATIONS SHALL MATCH EXISTING CONDITIONS UNLESS OTHERWISE NOTED IN THE PLANS.
D-8: QUICKSET FLOWABLE FILL SHALL BE USED TO BACKFILL AROUND STREET CURB INLETS AND REINFORCED CONCRETE PIPE, AS NEEDED, AT THE DIRECTION OF THE ENGINEER.
D-9: ALL INLETS, COMPLETE IN PLACE, SHALL BE CAST IN PLACE CONCRETE OR PRECAST CONCRETE. THIS PAY ITEM INCLUDES ANY INLET FRAME(S), GRATE(S), HOOD(S) AND CONCRETE REQUIRED FOR COMPLETE INSTALLATION OF STRUCTURE PER THE CONSTRUCTION DOCUMENTS.
D-10: ADDITIONAL DEPTH QUANTITIES SHALL BE MEASURED AND PAID FOR ALL INLETS EXCEEDING STANDARD DEPTH. STANDARD DEPTHS ARE AS FOLLOWS:
A) CAST IRON CURB INLET: 3.71 VF, MEASURED FROM CENTER ELEVATION OF LOWEST CAST IRON CURB TO FLOWLINE OF OUTLET PIPE.
B) RECESSED CURB INLET: 3.00 VF, MEASURED FROM TOP OF SLAB TO FLOWLINE OF OUTLET PIPE.
C) STANDARD DROP INLET: SEE STANDARD DETAILS 770, 771, 772 AND 773 - VARIES BASED ON PIPE SIZE, MEASURED FROM LOWEST ELEVATION OF INFLOW APRON TO FLOWLINE OF OUTLET PIPE.
D-12: REINFORCED CONCRETE PIPE TO BE CLASS III. ALL REINFORCED CONCRETE PIPE AND MANHOLES TO BE SUPPLIED WITH AN IMINI-FLEX JOINT GASKET OR APPROVED EQUAL. MASTIC JOINT SEALANT SHALL NOT BE ALLOWED.
D-13: THIS PAY ITEM SHALL BE COMPLETE IN PLACE AND SHALL INCLUDE ALL PIPE, STANDARD BEDDING MATERIAL AND TRENCH EXCAVATION, JOINT GASKETS AND ALL OTHER INCIDENTALS. NO ADDITIONAL COST WILL BE MADE. PRIOR TO ACCEPTANCE, INTERIOR OF PIPE SHALL BE INSPECTED FOR DEFECTS USING SELF-PROPELLED MOBILE CLOSED-CIRCUIT CAMERA SYSTEM.
D-14: WHERE CORRUGATED POLYPROPYLENE PIPE CONNECTS TO REINFORCED CONCRETE STRUCTURES, CONTRACTOR SHALL ENSURE CONNECTIONS ARE WATER-TIGHT AND FULLY SEALED AGAINST SOIL INFILTRATION.
D-15: WHERE QUICKSET FLOWABLE FILL IS USED TO BACKFILL AROUND CORRUGATED POLYPROPYLENE PIPE, THE CONTRACTOR SHALL UTILIZE AN ANCHORING SYSTEM APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. ALL COSTS FOR LABOR, EQUIPMENT AND MATERIALS REQUIRED TO IMPLEMENT APPROVED ANCHORING SYSTEM INCLUDED IN PRICE BID FOR CORRUGATED POLYPROPYLENE PIPE.

TRAFFIC (T1 - T7)

- T-1: ALL TRAFFIC MATERIALS REMOVED SHALL BE HANDLED PER COT SPECIFICATION 625 REMOVAL OF TRAFFIC ITEMS.
T-2: REFLECTORIZED SHEETING ON SIGNS AND BARRICADES SHALL BE OF A CUBIC PRISMATIC TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4956-01 TYPE IX RETROREFLECTIVE SHEETING. REFLECTORIZED SHEETING ON DRUMS AND TUBE CHANNELIZERS SHALL BE OF A HIGH-INTENSITY TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4956-01 TYPE III RETROREFLECTIVE SHEETING.
T-3: ALL PLASTIC PAVEMENT MARKINGS SHALL BE EITHER:
EXTRUDED-APPLIED THERMOPLASTIC (USE ON ASPHALT PAVEMENT). THERMOPLASTIC PAVEMENT MARKINGS SHALL ONLY BE APPLIED WHEN THE SURFACE TEMPERATURE EXCEEDS 55°F FOR ALL OF THE SIX HOURS PRIOR TO INSTALLATION AND MAXIMUM WIND GUSTS ARE BELOW 15 MPH AT THE TIME OF APPLICATION. PRICE BID TO INCLUDE FLEX TABS OR LIKE KIND FOR POST CONSTRUCTION LANE MARKING/SEPARATION. MECHANICALLY APPLIED PREFORMED PLASTIC TAPE ("COLD TAPE") WILL NOT BE ACCEPTED.
T-5: IF WARNING LIGHTS ARE TO BE USED ON TRAFFIC CONTROL DEVICES, TYPE "A" LIGHTS SHALL ONLY BE USED ON DEVICES WARNING OF UNEXPECTED HAZARDS, AND SHALL NOT BE USED FOR DELINEATION OF THE TRAVELED WAY. ONLY TYPE "C" WARNING LIGHTS SHALL BE USED FOR DELINEATION OF THE TRAVELED WAY, AND TYPE "C" LIGHTS SHALL NOT BE USED FOR ANY OTHER PURPOSE.
T-7: PRICE BID FOR THIS ITEM INCLUDES INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF PROJECT SIGN.

SPECIAL PAY ITEM NOTES

- 1: CONTRACTOR TO COORDINATE WITH BURLINGTON TO ESTABLISH A 2 DAY TIME FRAME THAT MAY INCLUDE WORKING EVENINGS AND/OR WEEKEND TO AVOID ANY CONFLICT WITH DELIVERY SHIPMENTS TO THE BURLINGTON LOADING DOCK ON THE NORTHWEST SIDE OF THE BUILDING.

ROADWAY & DRAINAGE BASE BID table with columns: ITEM NUMBER, SPEC NUMBER, ITEM DESCRIPTION, NOTES, UNIT, QUANTITY. Lists items 1 through 30 including excavation, aggregate base, separator fabric, fabric reinforcement, superpave, concrete, steel, barrier, inlets, pipe, manholes, mobilization, staking, traffic stripe, precast manhole, point repair, owner allowance, traffic control, and urban right-of-way restoration.

APPLICABLE CITY OF TULSA STANDARD DRAWINGS AND DETAILS REFERENCES:

- PAVEMENT CUTS FOR UTILITIES
- STD NO. 713 - STANDARD DETAIL FOR PAVEMENT REMOVAL AND REPLACEMENT
- STD NO. 714 - STANDARD DETAIL FOR PAVEMENT CUTS

- ASPHALT PAVEMENT - DETAILS
- STD NO. 730 - STANDARD ASPHALT PAVEMENT CUT AND REPAIR

- P.C. CONCRETE PAVEMENT - CURB DETAILS
- STD NO. 727 - CONCRETE PAVEMENT STANDARD DETAILS FOR RESIDENTIAL AND COLLECTOR STREETS

- STORM PIPES, DRAINAGE INLETS, GRATES, AND HOODS
- STD NO. 751 - STANDARD PIPE BEDDING DETAIL FOR STORM SEWER
- STD NO. 753 - FRAME AND LID FOR 4' AND 5' I.D. STORMWATER MANHOLE
- STD NO. 754 - FRAME AND LID FOR 6' AND 8' I.D. STORMWATER MANHOLE AND JUNCTION BOXES
- STD NO. 775 - STANDARD PRECAST CONCRETE STORMWATER MANHOLE

APPLICABLE ODOT STANDARDS:

- SMD-3-2 - STANDARD MEDIAN DRAINS

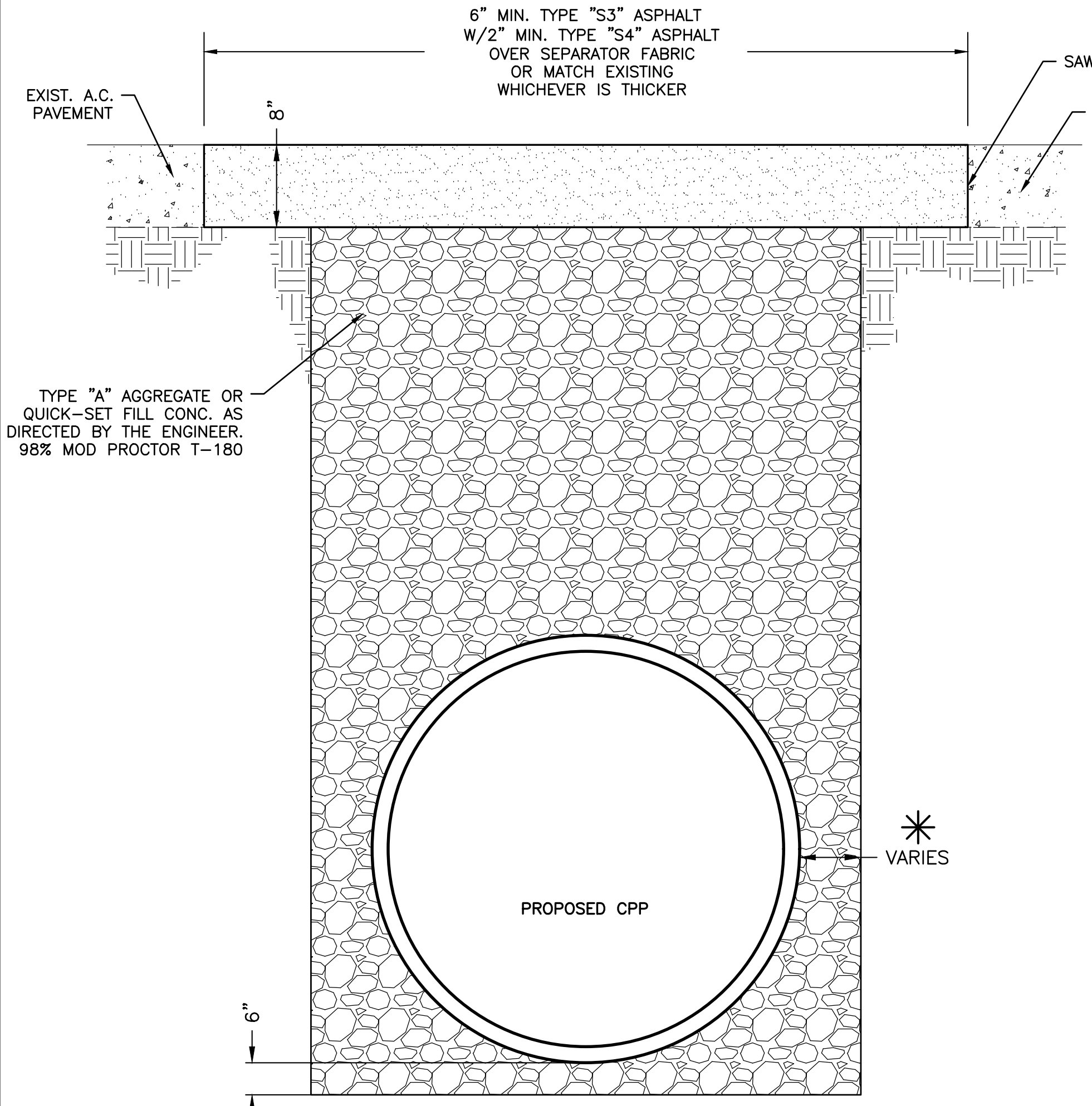


GENERAL CONSTRUCTION & PAY ITEM NOTES
PROJECT #173120-2
71ST & MEMORIAL STORM SEWER IMPROVEMENTS
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT
PLANS AND ESTIMATES PREPARED BY: Meshek & Associates, L.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

Revision table with columns: REVISION, BY, DATE, PLAN SCALE, DRAWN, DESIGNED, SURVEY, PROFILE SCALE, HORIZONTAL, VERTICAL, AND PAY ITEMS. Includes dates like 12/20, 1/21, 3/21 and scales like N/A, 1/20, 1/21.

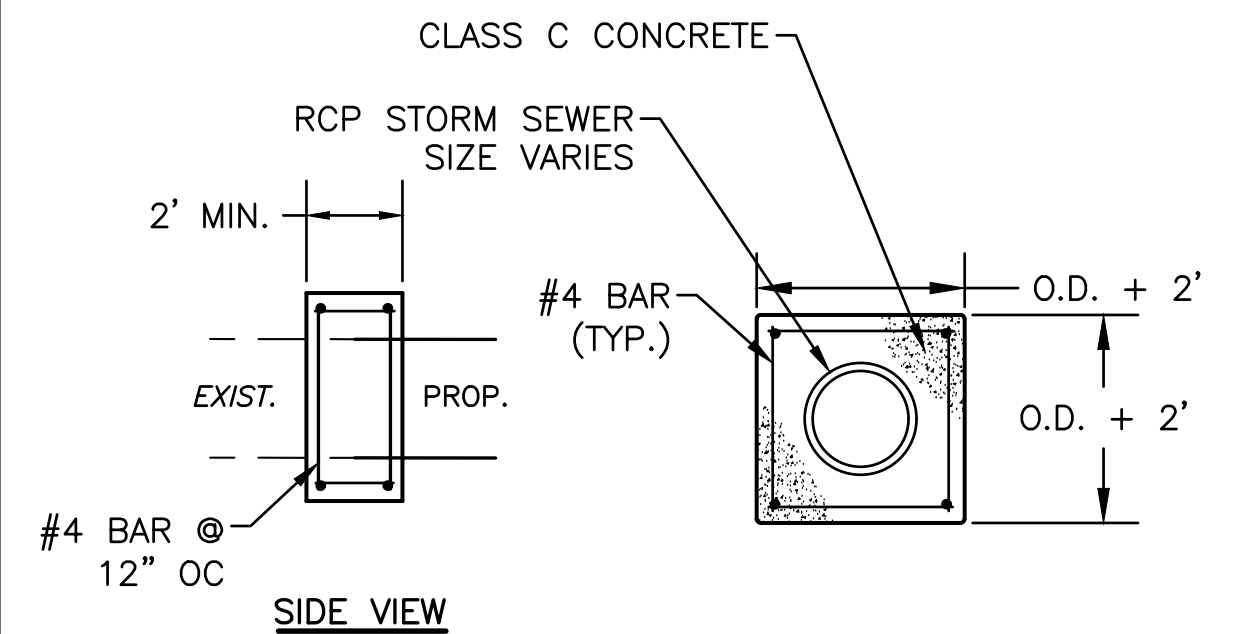
Approval table with columns: APPROVED, CITY ENGINEER, DATE. Includes a signature line and date field.

M:\City_of_Tulsa\171UL03_On_Cell_Stormwater_Services_2017\TO_5_71st_Memorial_Design\Drawings\171UL03_TO5_71ST_MEMORIAL_DETAIL.S.dwg

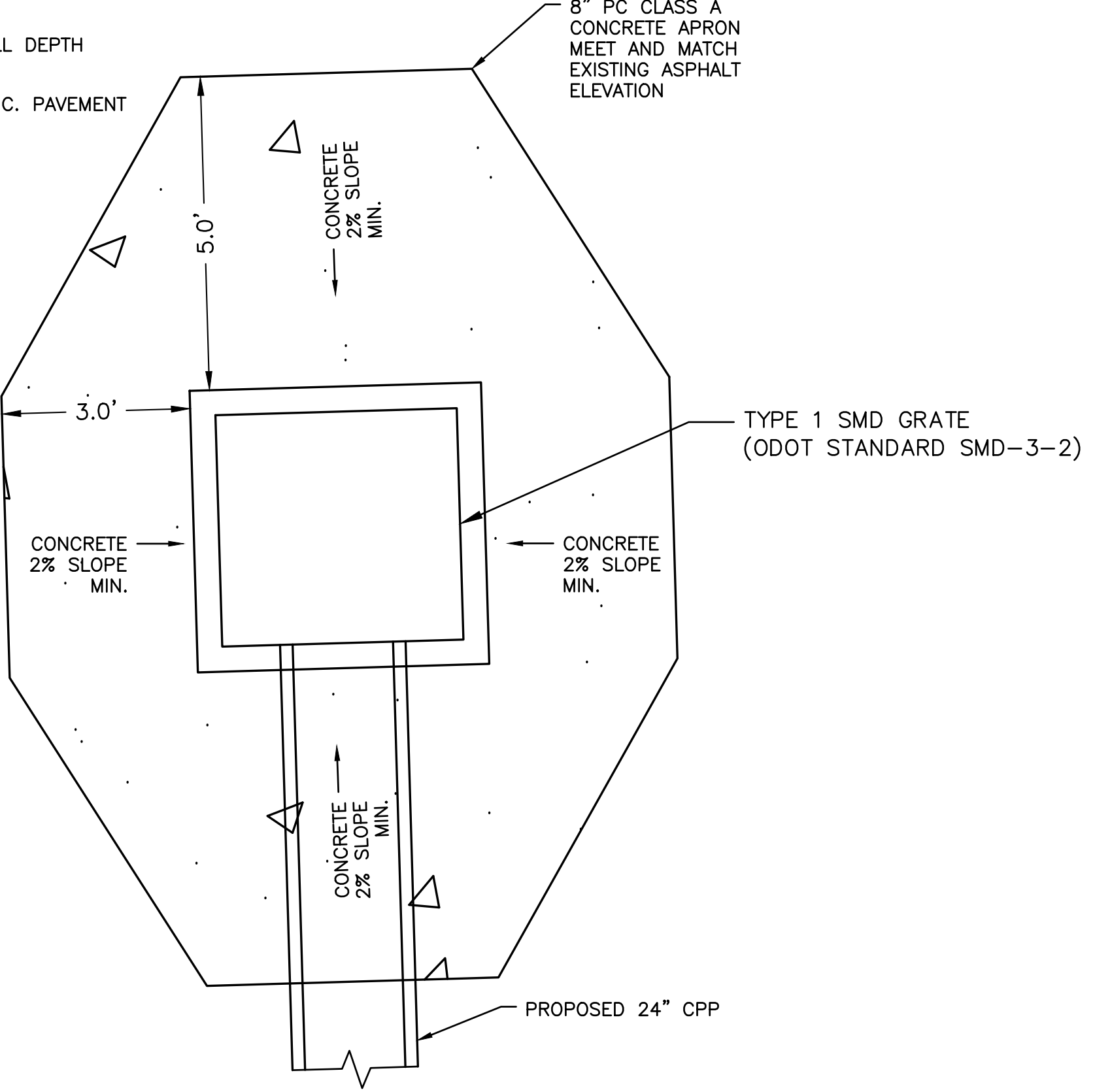


1 ASPHALT PARKING LOT PATCH
SCALE: NONE

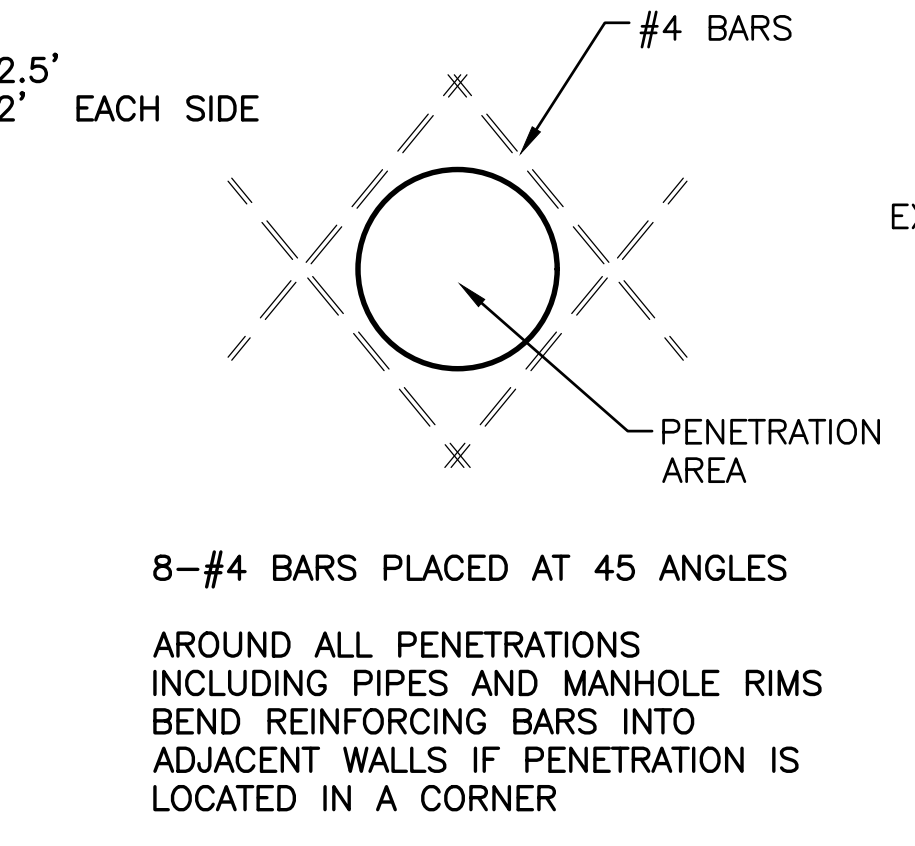
* 24" TRENCH WIDTH: O.D. + 2.5'
60" TRENCH WIDTH: O.D. + 2' EACH SIDE



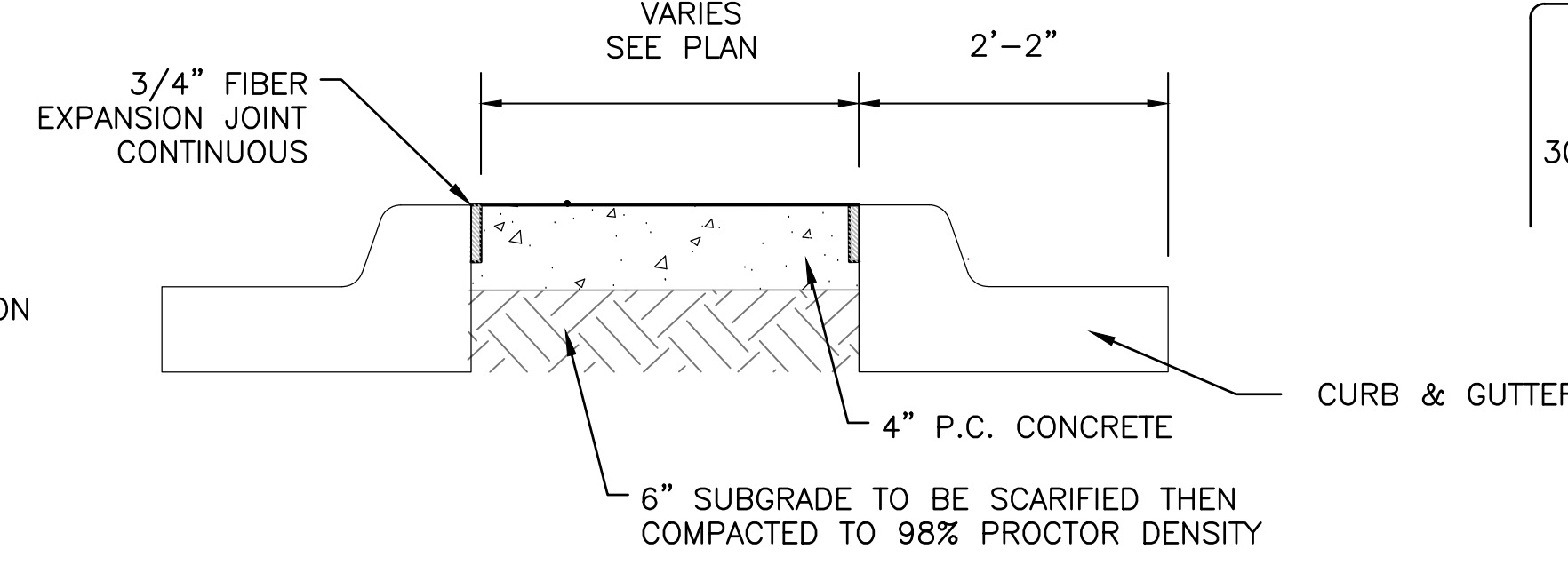
4 CONCRETE FIELD COLLAR
SCALE: NONE
NOTE: TO BE INSTALLED @ ALL PROPOSED TO EXISTING PIPE CONNECTIONS. COST TO BE INCLUDED IN THE COST OF PIPE.



2 CONCRETE APRON DETAIL
SCALE: NONE

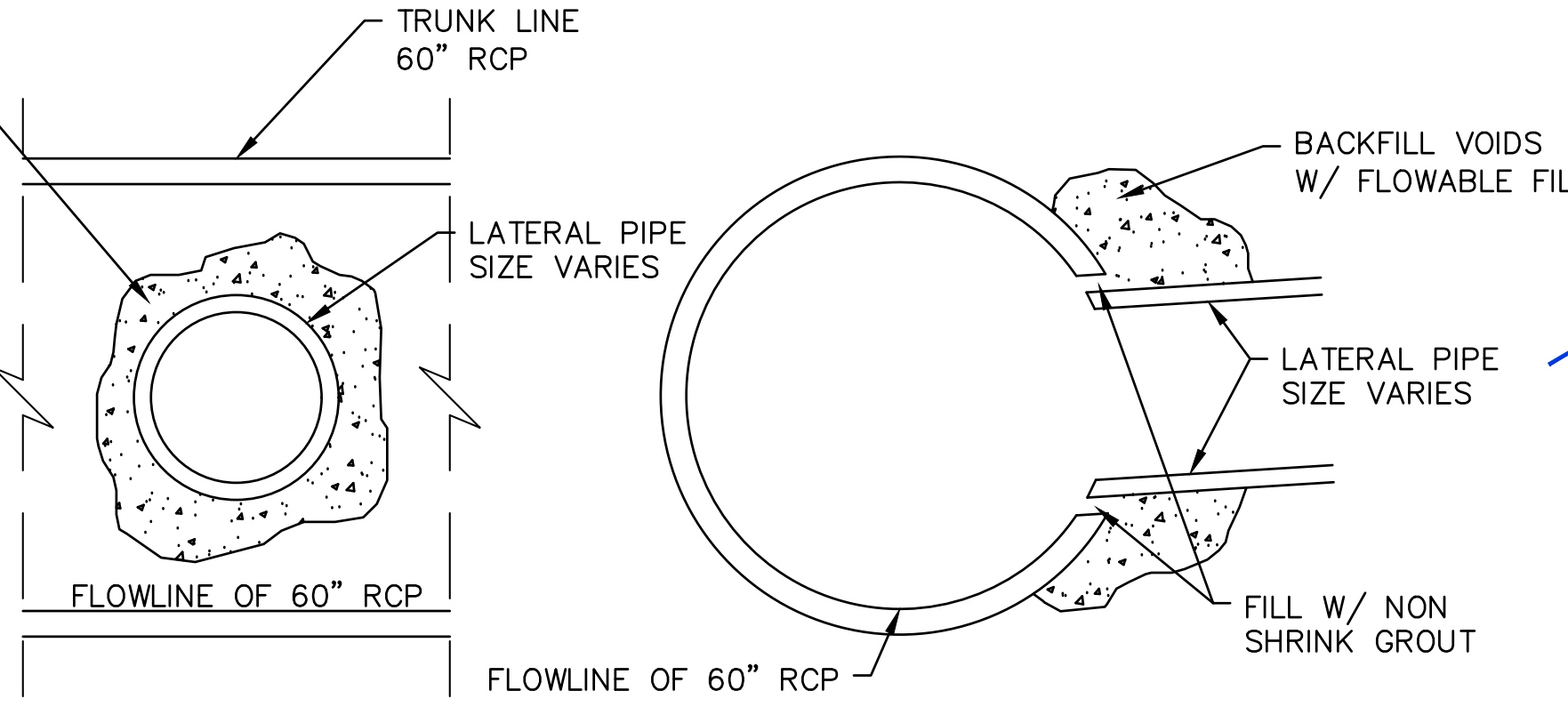


3 PIPE PENETRATION DETAIL
SCALE: NONE

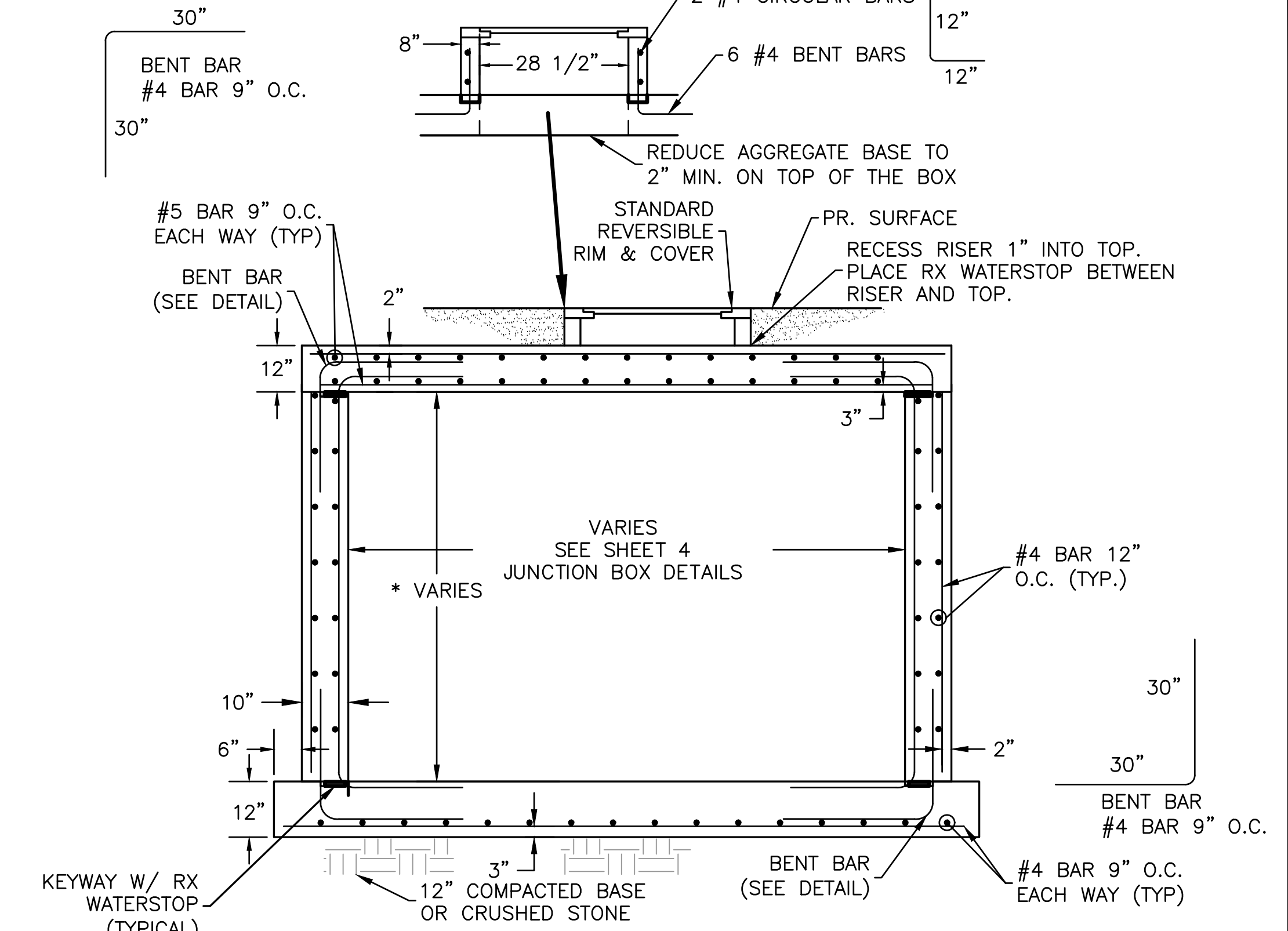


5 CONCRETE ISLAND DETAIL
SCALE: NONE

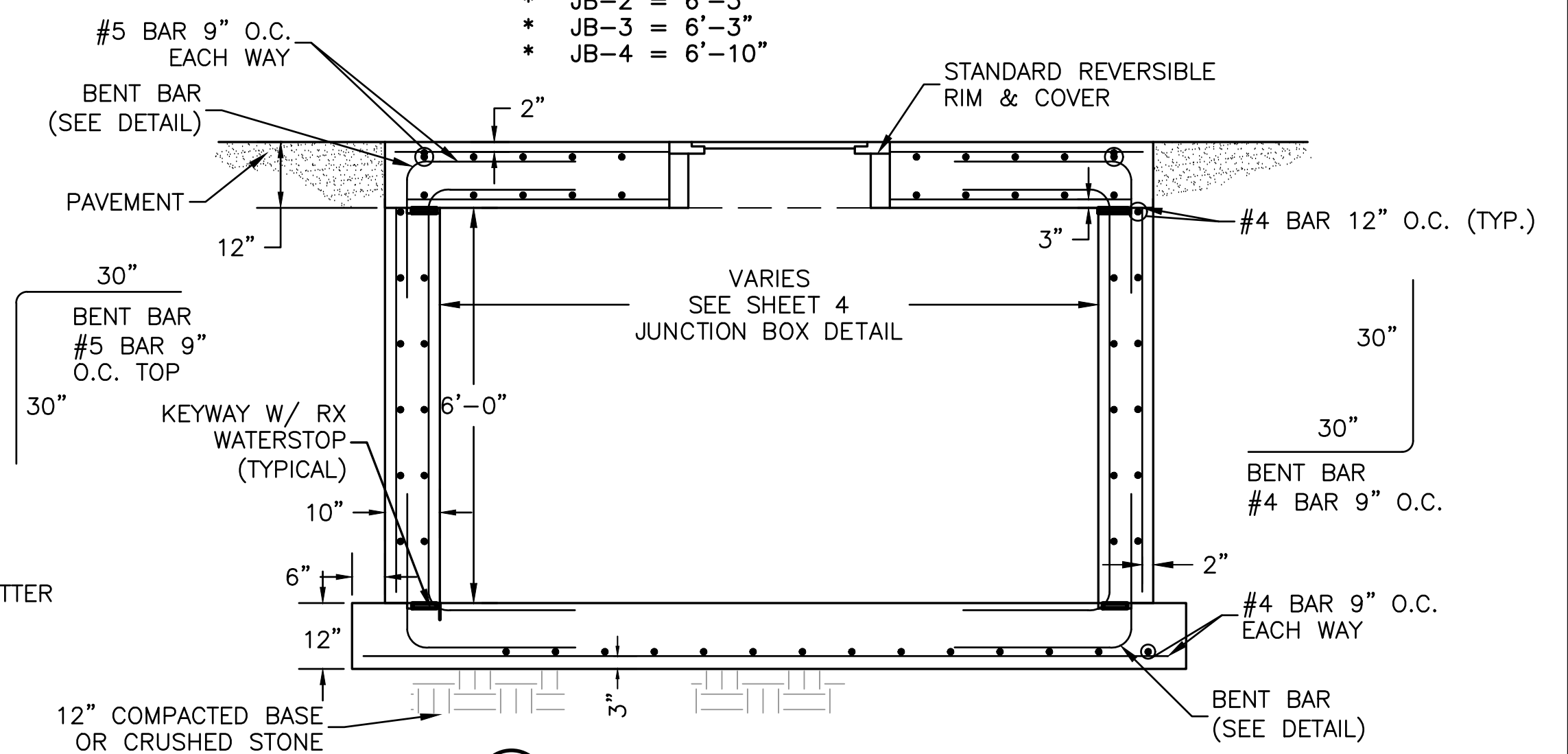
REMOVE ALL EXPOSED REINFORCING AND LOOSE MATERIAL FROM OPENING. BACKFILL ANY VOIDS BEHIND 60\"/>



6 POINT REPAIR DETAIL



7 JUNCTION BOX ELEVATION DETAIL
TYPICAL FOR JUNCTION BOX 2, 3, AND 4.
SEE SHEET 4 JB-02, JB-03, JB-04 PLAN DETAILS.
* JB-2 = 6'-3"
* JB-3 = 6'-3"
* JB-4 = 6'-10"



8 ON-GRADE JUNCTION BOX ELEVATION DETAIL
TYPICAL FOR JUNCTION BOX 1 ONLY
SEE SHEET 4 JB-01 PLAN DETAIL

- CAST IN PLACE CONCRETE NOTES:**
- ALL CONCRETE SHALL BE CLASS A, AS DESIGNATED IN SECTION 509 OF THE ODOT SPECIFICATIONS, LATEST EDITION.
 - ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.
 - CLEAR DISTANCES FROM CAST-IN-PLACE CONCRETE SURFACES TO REINFORCING SHALL 2" FOR WALLS, 1-1/2" FOR SUPPORTED SLABS, 3" FROM THE BOTTOM OF FOOTINGS AND 2" FROM THE TOP OF SLABS, UNLESS OTHERWISE NOTED.
 - REINFORCING STEEL SHALL MEET ASTM SPECIFICATION A615, GRADE 60.

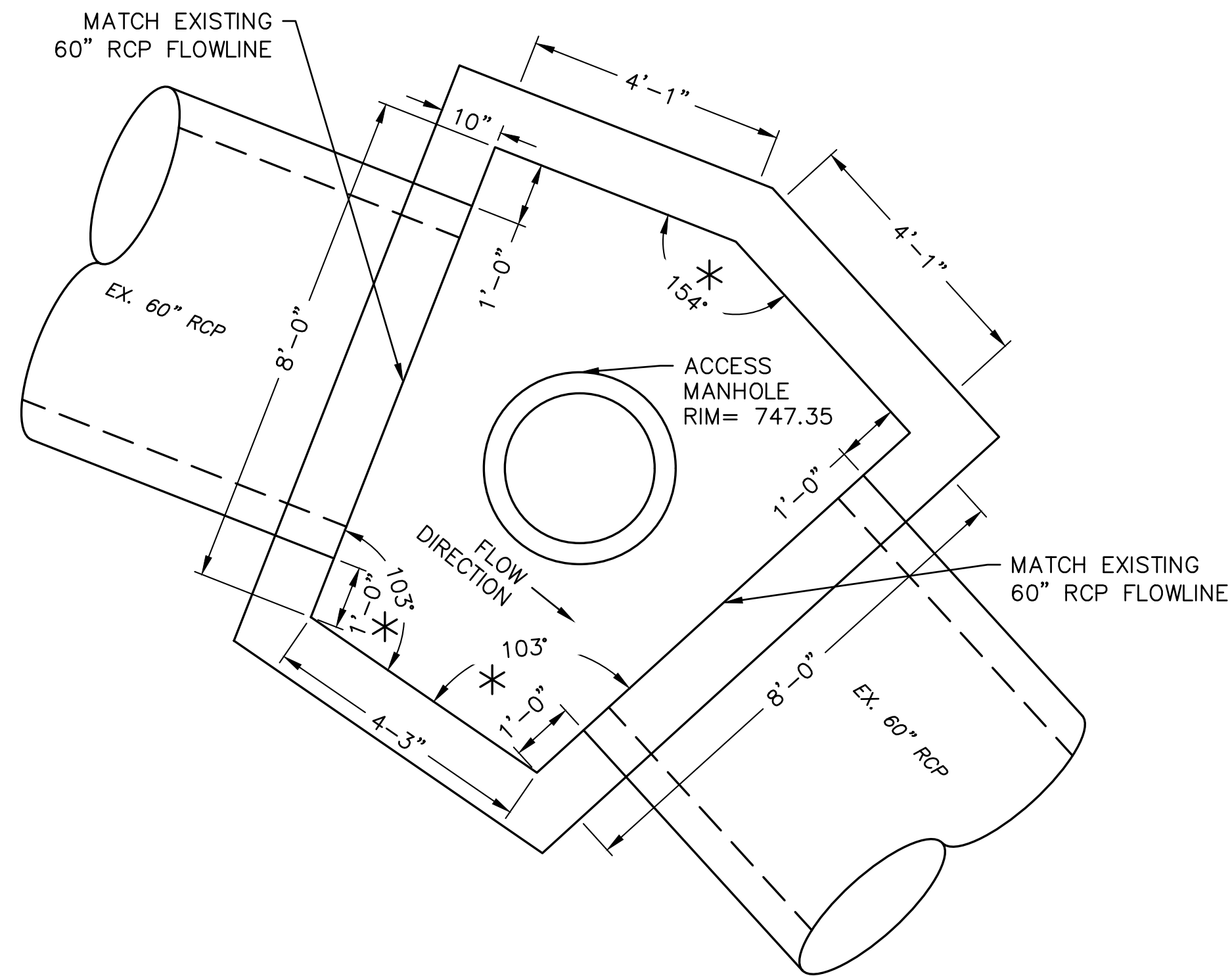
- ALL BARS SHALL LAP A MINIMUM OF 30 BAR DIAMETERS OR 12", WHICHEVER IS GREATER, UNLESS OTHERWISE NOTED BY THE ENGINEER.
- ALL EXPOSED CAST IN PLACE CONCRETE SURFACES SHALL HAVE ALL VOIDS FILLED, BURRS AND FINES REMOVED AND BE FINISHED.
- PROVIDE FOR 4" ROUNDING AT ALL EXIT OPENINGS.
- PROVIDE SMOOTH GROUT FILLETS THROUGH JUNCTION BOXES AND MANHOLES.



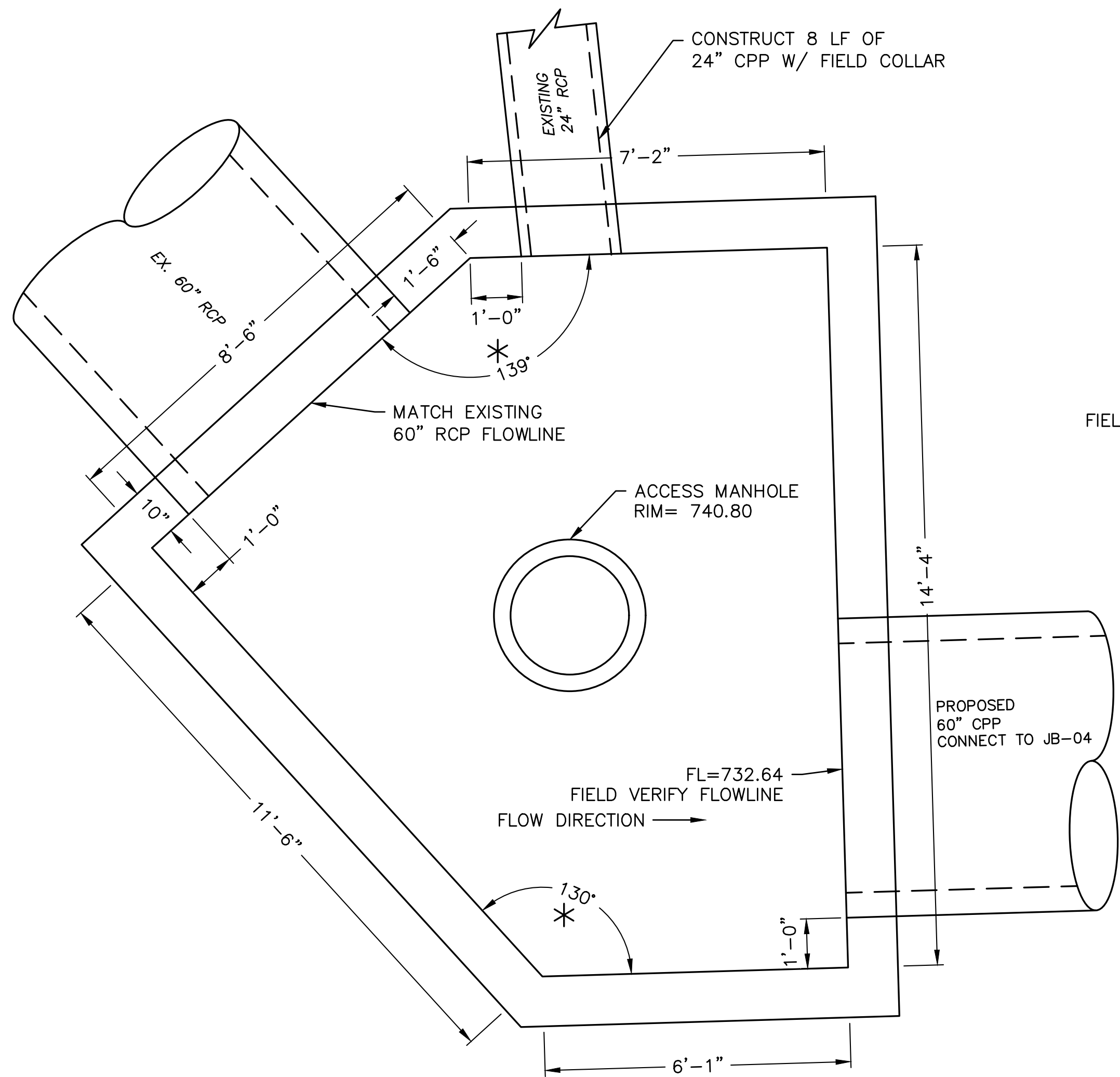
REVISION		BY	DATE

PLAN SCALE	DRAWN	KRP	01/2020	APPROVED:
N/A	DESIGNED	RJP	01/2020	
PROFILE SCALE	SURVEY	AB	02/2019	CITY ENGINEER
HORIZONTAL:	PROJ. MGR.			
N/A	LEAD ENGR.			DATE:
VERTICAL:	FIELD MGR.			
N/A	RECOMMENDED			SHEET 3 OF 17 SHEETS
FILE:	DESIGN MANAGER			
ATLAS PAGE NO. 560	DATE:			

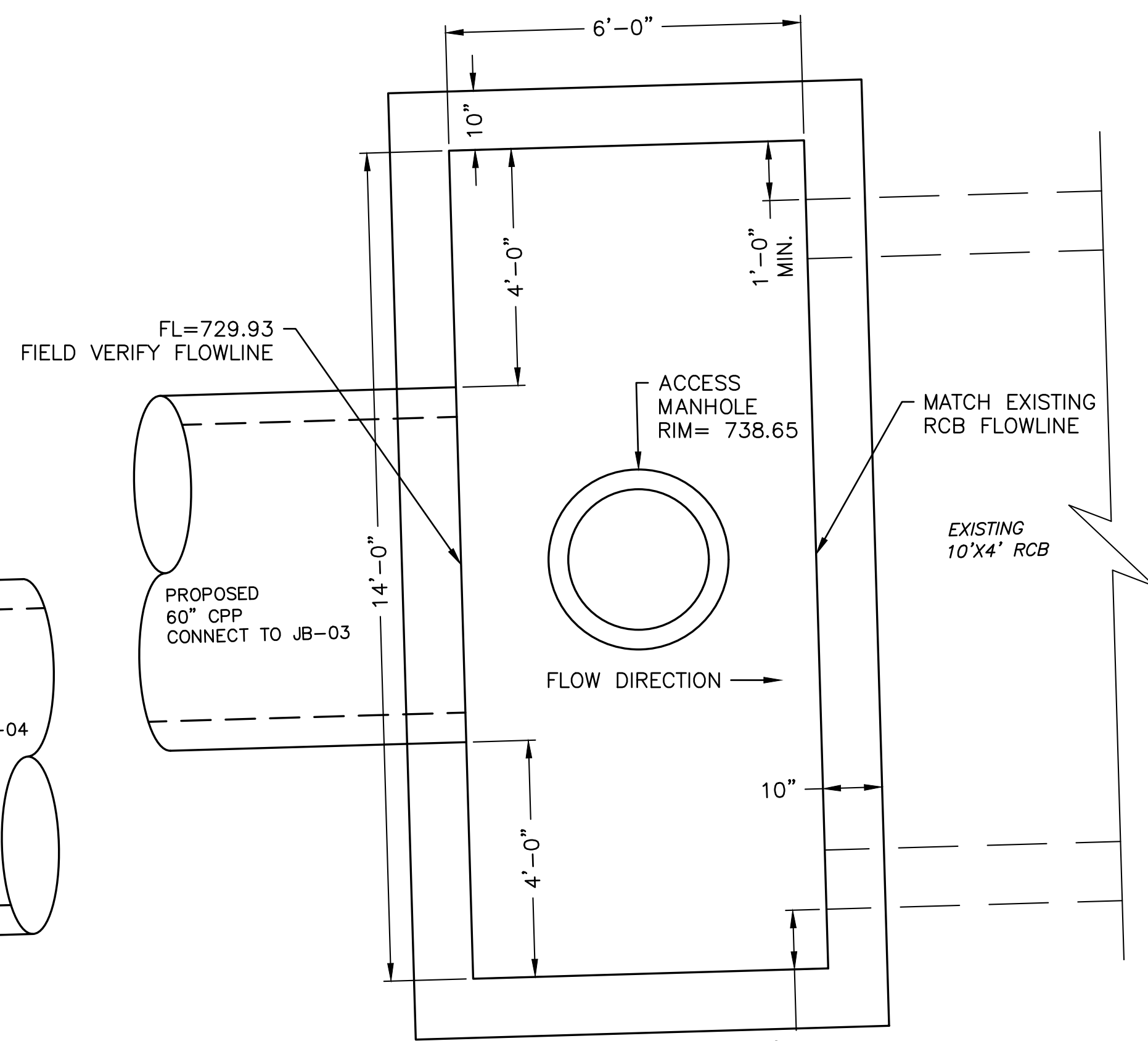
M:\City_of_Tulsa\171UL03_On_Cell_Stormwater_Services_2017\10_5_71st_Memorial\Design\Drawings\171UL03_105_71ST_MEMORIAL_DETAIL.S.dwg



2 JUNCTION BOX DETAIL (JB-02)
SCALE: NONE



3 JUNCTION BOX DETAIL (JB-03)
SCALE: NONE



4 JUNCTION BOX DETAIL (JB-04)
SCALE: NONE

JUNCTION BOX	CLASS A CONCRETE (CY)	REINFORCING STEEL (LB)
JB-02	12.16	1301.80
JB-03	24.61	2513.58
JB-04	18.42	1858.75

NOTE: COST OF MANHOLE FRAME AND LID SHALL BE INCLUDED IN THE COST OF CONCRETE AND STEEL. NO OTHER PAYMENT SHALL BE MADE.



* NOTE:
FIELD VERIFY EXISTING STORM SEWER LOCATION.
ANGLES AND DIMENSIONS OF JUNCTION BOX DETAILS
MAY VARY TO ACCOMMODATE EXISTING CONDITIONS.

JUNCTION BOX DETAILS

PROJECT #173120-2

71ST & MEMORIAL STORM SEWER IMPROVEMENTS

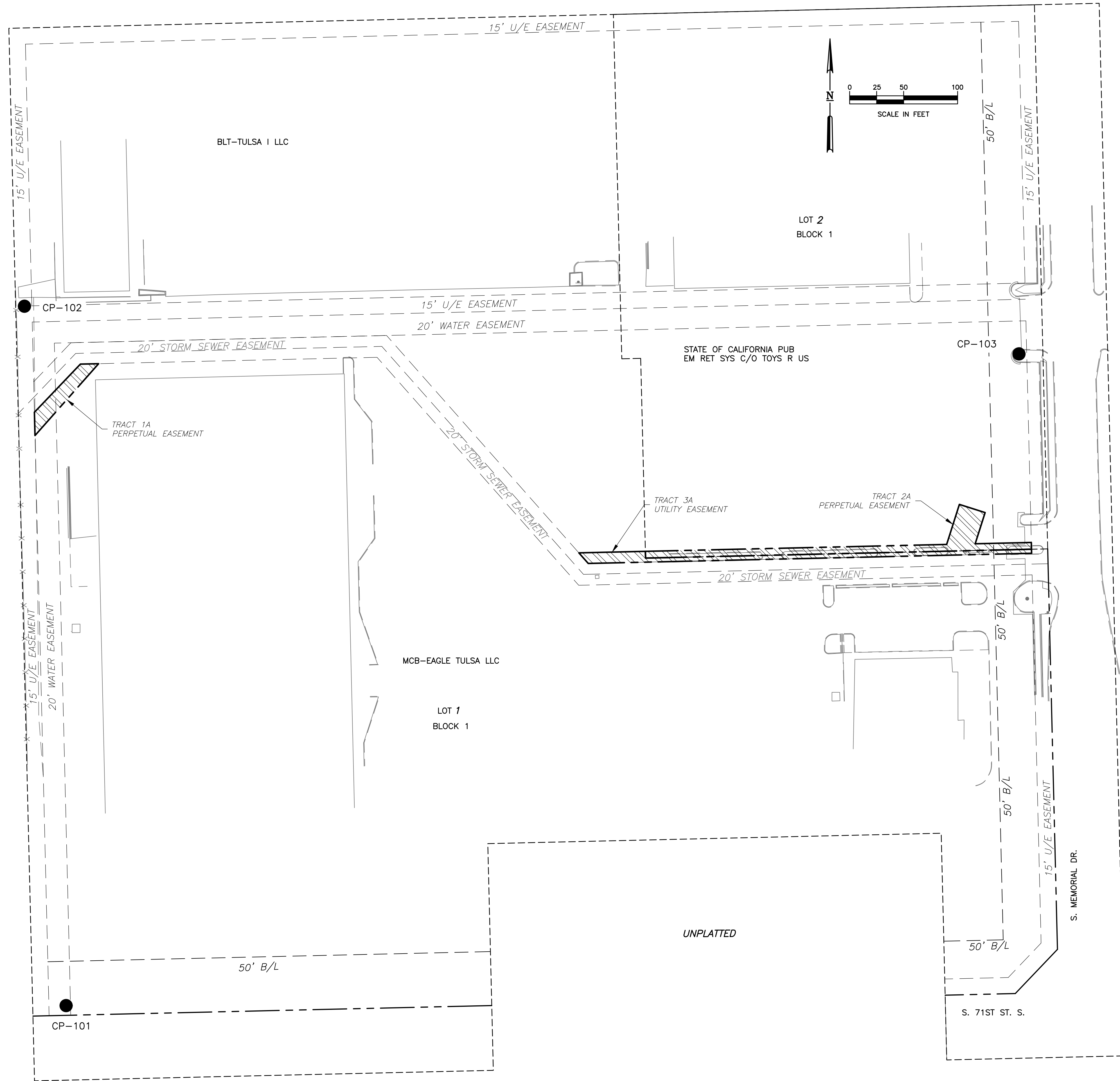
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, L.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

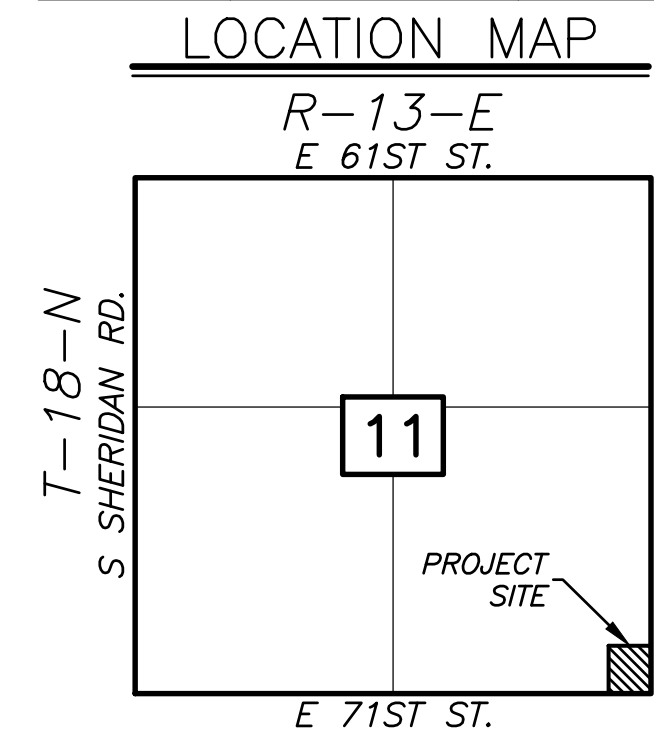
REVISION	BY	DATE	PLAN SCALE	DRAWN	KRP	01/2020	APPROVED:
REMOVED JB-01	RJP	12/20	N/A	DESIGNED	RJP	01/2020	
			N/A	SURVEY	AB	02/2019	
			PROFILE SCALE	PROJ. MGR.			
			HORIZONTAL:	LEAD ENGR.			
			VERTICAL:	FIELD MGR.			
			N/A	RECOMMENDED			
			FILE:	DESIGN MANAGER			CITY ENGINEER
			ATLAS PAGE NO. 560	DATE:			DATE:

M:\City_of_Tulsa\17TUL03_On_Cell_Stormwater_Services_2017\TO_5_71st_Memorial\Design\Drawings\17TUL03_TO5_71ST_MEMORIAL_SURVEY_DATA.dwg

CLARK PLAZA THIRD



CONTROL POINT TABLE				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP-101	393020.9771	2592189.0029	754.74	1/2" REBAR SET W/ CAP MESHEK CAP
CP-102	393668.6196	2592150.4306	749.68	1/2" REBAR SET W/ CAP MESHEK CAP
CP-103	393624.4501	2593071.4352	739.26	1/2" REBAR SET W/ CAP MESHEK CAP



LEGEND

— — — — —	SECTION LINE
— — — — —	RIGHT-OF-WAY
- - - - -	LOT LINE
- - - - -	EXISTING BUILDING LINE
- - - - -	EXISTING EASEMENT LINE
● CP-##	CONTROL POINT
▨	PROPOSED PERMANENT UTILITY EASEMENT

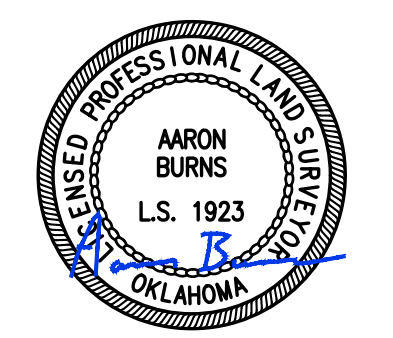
SURVEYOR'S CERTIFICATE

I, AARON BURNS, OF MESHEK & ASSOCIATES, LLC, A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF OKLAHOMA, DO HEREBY CERTIFY THAT THIS HORIZONTAL/VERTICAL CONTROL AND BOUNDARY SURVEY WAS COMPLETED UNDER MY DIRECT AND RESPONSIBLE CHARGE FROM AN ACTUAL GROUND SURVEY MADE UNDER MY SUPERVISION AND MEETS THE OKLAHOMA MINIMUM STANDARDS FOR THE PRACTICE OF LAND SURVEYING AS ADOPTED BY THE OKLAHOMA STATE BOARD OF LICENSURE FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS."

I FURTHER CERTIFY, THE TOPOGRAPHICAL INFORMATION HEREON REPRESENTS A SURVEY PERFORMED UNDER MY DIRECT SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF OUR KNOWLEDGE.

EXECUTED THIS 5TH DAY OF FEBRUARY 2019

AARON BURNS
REGISTERED PROFESSIONAL LAND SURVEYOR
OKLAHOMA L.S. 1923

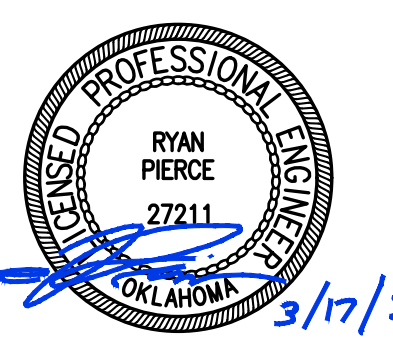


CERTIFICATE OF AUTHORIZATION NO. 1487
EXPIRES JUNE 30, 2021

NOTES

1. ABSTRACT OF TITLE OR ATTORNEY'S TITLE OPINION NOT AVAILABLE TO SURVEYOR AT DATE OF SURVEY.
2. THIS FIRM WAS NOT CONTRACTED TO RESEARCH EASEMENTS OR ENCUMBRANCES OF RECORD. NO ATTEMPT TO RESEARCH THE COUNTY RECORDS OR OTHER RECORD OFFICES WAS PERFORMED BY THIS FIRM, THEREFORE EASEMENTS MAY AFFECT THE SUBJECT TRACT THAT ARE NOT REFLECTED BY THIS PLAT.
3. ALL UNDERGROUND UTILITIES MAY NOT BE SHOWN. (CALL "OKIE" BEFORE DIGGING!!)
4. THE HORIZONTAL AND VERTICAL DATUMS FOR THIS SURVEY ARE BASED ON THE OKLAHOMA STATE PLANE COORDINATE SYSTEM OK NORTH 3501 (NAD83-1993) AND NAVD 88. THE SURVEYING METHODS USED ARE AVERAGED RTK GPS OBSERVATIONS ON FROM THE SOURCE BENCHMARK OF # ADS 190 AS BEING:

NORTHING= 392569.216
EASTING= 2593180.490
ELEVATION= 744.323
DESCRIPTION= P.K. NAIL AND SHINER



[Signature] 3/17/2020

DATUM INFORMATION

DATE:
12-03-2018
HORIZONTAL DATUM:
NAD 1983 (1993 HARN)
VERTICAL DATUM:
NAVD 1988 (GEOID 12B)

SURVEY DATA / RIGHT-OF-WAY

PROJECT #173120-2
71ST & MEMORIAL STORM SEWER IMPROVEMENTS

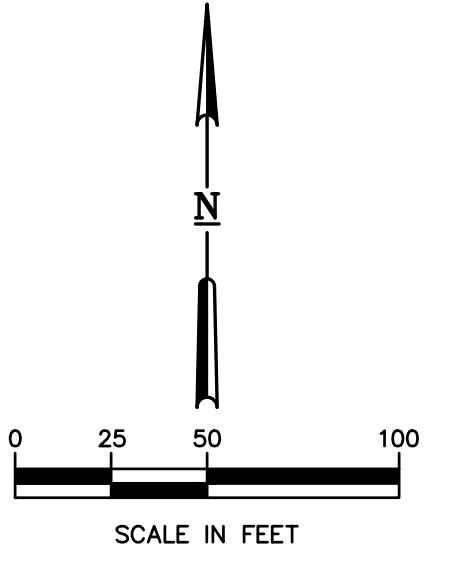
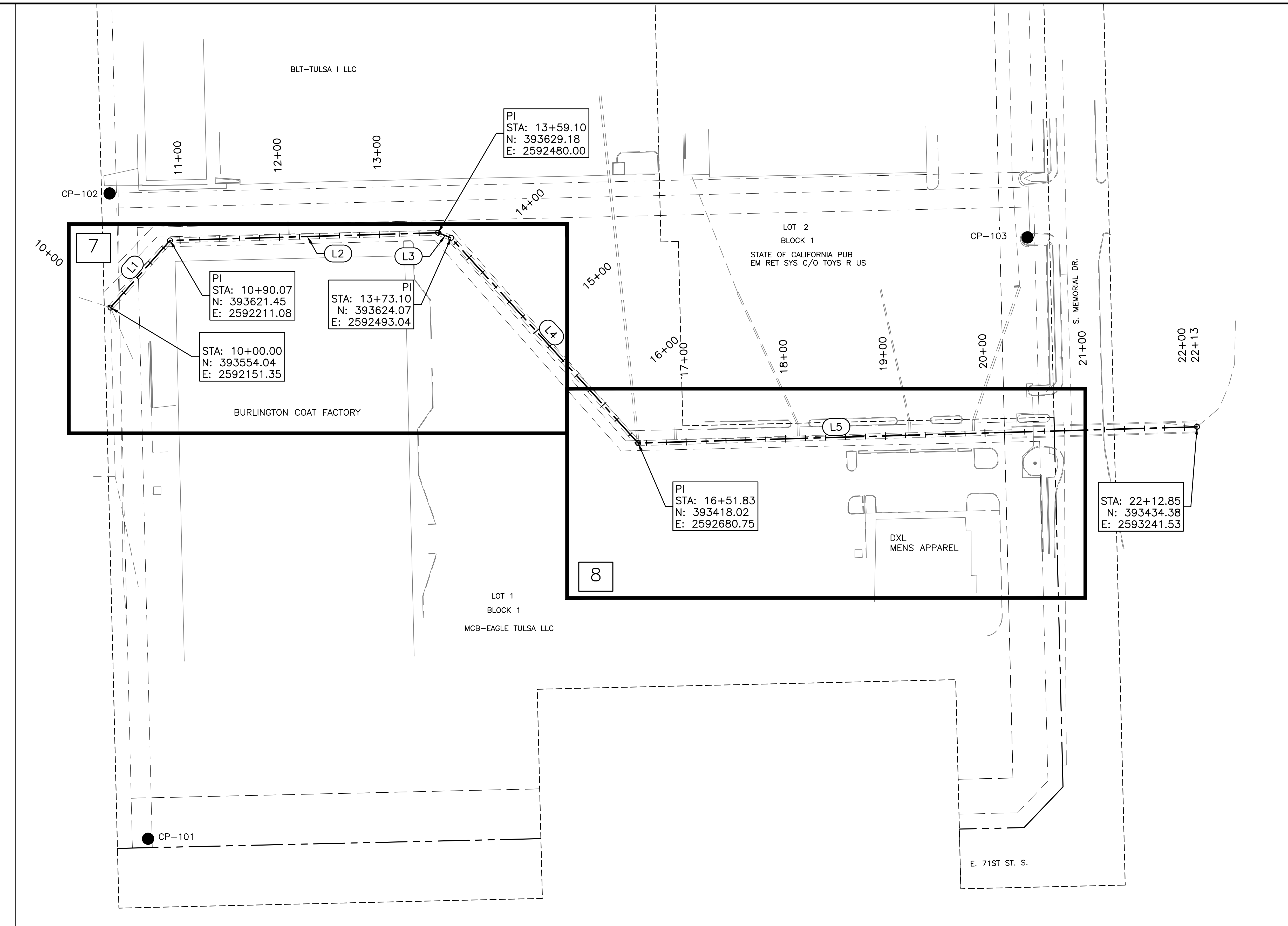
CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, L.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

REVISION	BY	DATE	PLAN SCALE	DRAWN	BCM	01/2019	APPROVED:
			1" = 50'	DESIGNED	RJP	01/2020	
				SURVEY	AB	02/2019	
			PROFILE SCALE	PROJ. MGR.			
			HORIZONTAL:	LEAD ENGR.			
			N/A	FIELD MGR.			
			VERTICAL:	RECOMMENDED			
			N/A	DESIGN MANAGER			
			FILE:	DRAWING:			CITY ENGINEER
			ATLAS PAGE NO. 560				DATE:
							SHEET 5 OF 17 SHEETS



M:\City of Tulsa\17TU.03_05_Coll_Stormwater_Services_2017\TO_5_71st_Memorial_Design\Drawings\17TU.03_TO5_71ST_MEMORIAL_GEOMETRIC_DATA.dwg



LEGEND

- C.R.L.
- RIGHT-OF-WAY
- LINE NUMBER
- CP-# CONTROL POINT
- PLAN & PROFILE SHEET NUMBER

<p>CONTROL POINT 103</p> <p>1/2" REBAR SET W/CAP N=393624.4501 E=2593071.4352 EL=739.26</p>	<p>CONTROL POINT 101</p> <p>1/2" REBAR SET W/CAP N=393020.9771 E=2592189.0029 EL=754.74</p>
---	---

<p>CONTROL POINT 102</p> <p>1/2" REBAR SET W/CAP N=393668.6196 E=2592150.4306 EL=749.68</p>

C.R.L. LINE DATA		
Line #	Length	Bearing
L1	90.07	N41° 32' 35.32"E
L2	269.03	N88° 21' 16.68"E
L3	14.00	S68° 35' 28.97"E
L4	278.73	S42° 20' 04.47"E
L5	561.02	N88° 19' 46.25"E



STORM SEWER KEY PLAN / GEOMETRIC DATA

PROJECT #173120-2

71ST & MEMORIAL STORM SEWER IMPROVEMENTS

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

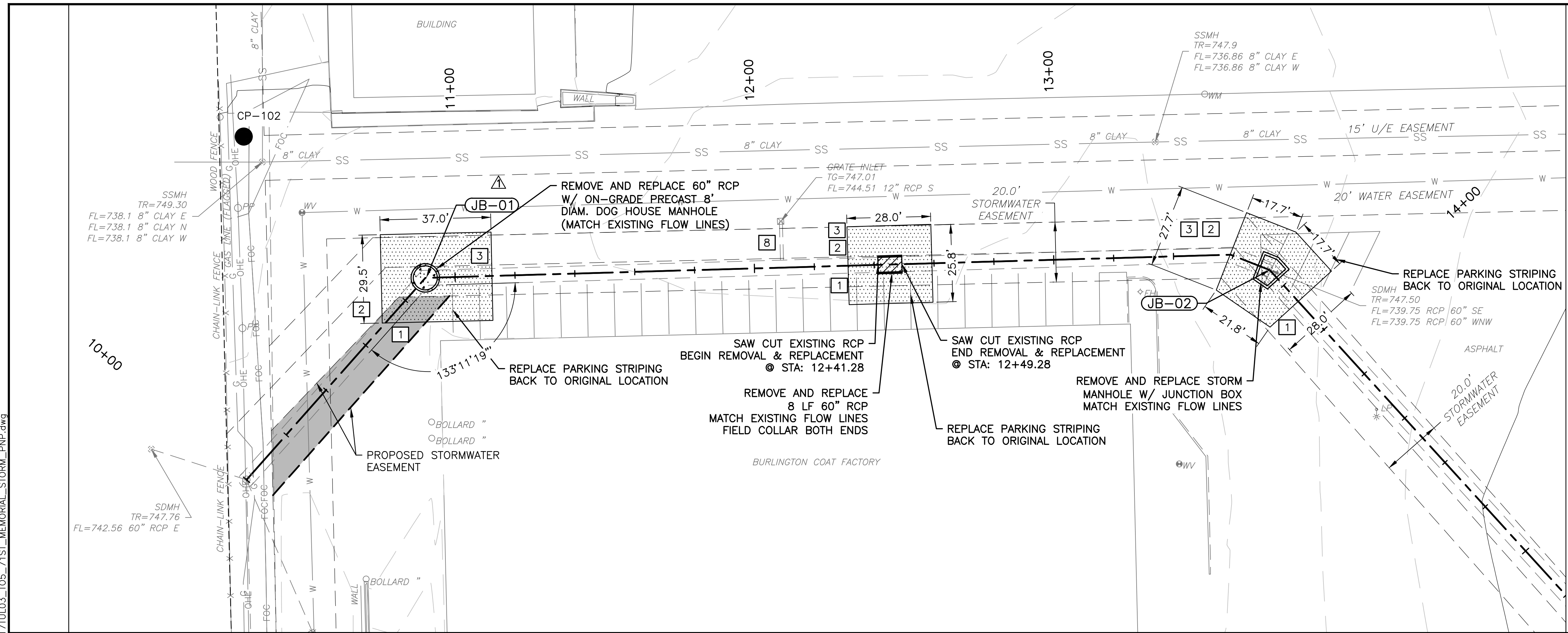
PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, L.L.C.
 1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

NOTE:
 LOCATIONS OF EXISTING AND PROPOSED DRAINAGE STRUCTURES ARE TO BE FIELD VERIFIED AND ADJUSTED AS NEEDED WITH THE APPROVAL OF THE ENGINEER.



REVISION	BY	DATE	PLAN SCALE	DRAWN	KRP	01/2020	APPROVED:
			1" = 50'	DESIGNED	RJP	01/2020	
				SURVEY	AB	02/2019	
			PROFILE SCALE	PROJ. MGR.			
			HORIZONTAL:	LEAD ENGR.			
			VERTICAL:	FIELD MGR.			
				RECOMMENDED			CITY ENGINEER
				DESIGN MANAGER			
			FILE:	DRAWING:			DATE:
			ATLAS PAGE NO. 560				SHEET 6 OF 17 SHEETS

M:\City_of_Tulsa\17TU03_On_Cell_Stormwater_Services_2017\TO_5_71st_Memorial\Design\Drawings\17TU03_TO5_71ST_MEMORIAL_STORM_PNP.dwg



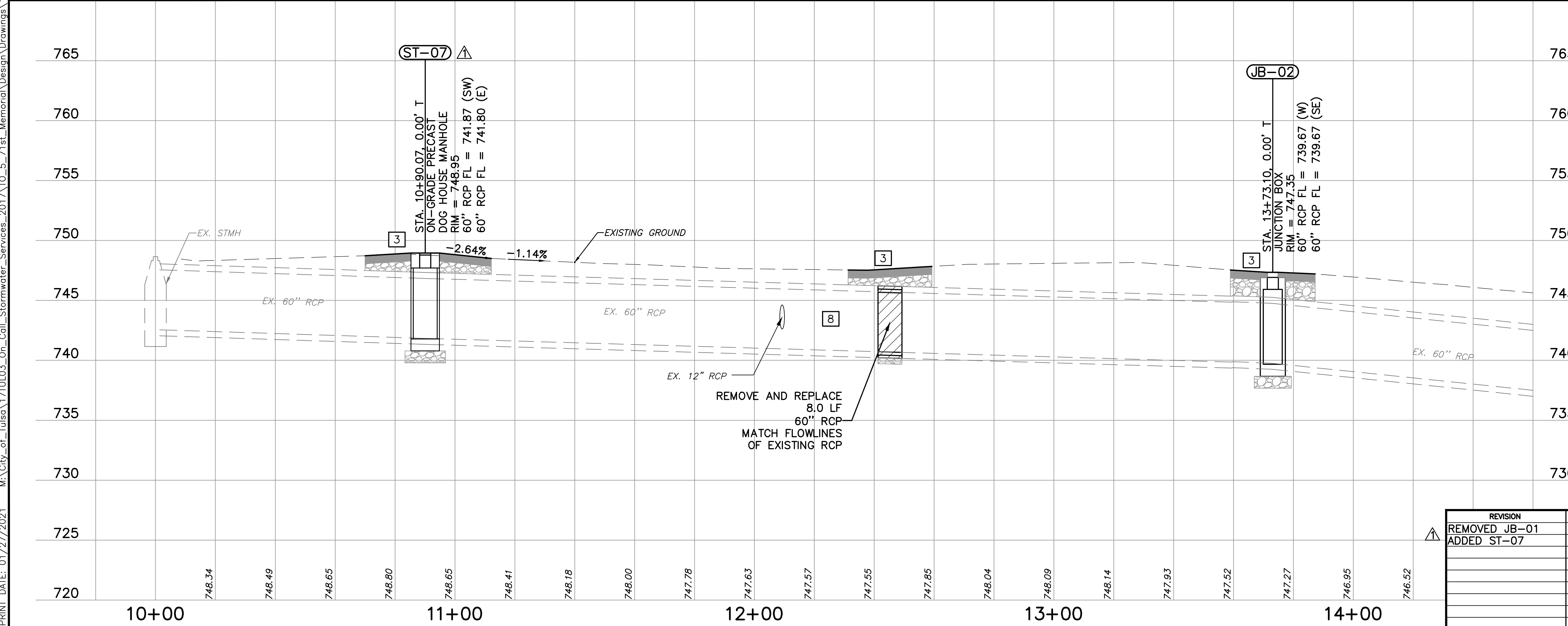
0 10 20 40
SCALE IN FEET

CONSTRUCTION NOTES:

- ASPHALT REPLACEMENT
- REMOVE EXISTING DRAINAGE STRUCTURES/ STORM PIPES
- FIELD VERIFY LOCATION AND ELEVATION
- CONNECT EXISTING STORM PIPE TO PROPOSED STORM SEWER
- PROTECT LIGHT POLE
- PROTECT SIGN
- REMOVE AND REPLACE CURB AND GUTTER
- POINT REPAIR - SEE SHEET 3 DETAIL 6

CONTROL POINT
 102
 1/2" REBAR SET W/CAP
 N=393668.6196
 E=2592150.4306
 EL=749.68

CAUTION
 FIBER OPTIC CABLE
 NATURAL GAS
 OVERHEAD ELECTRIC
 SANITARY SEWER
 UNDERGROUND ELECTRIC
 WATERLINE



NOTE:
 ALL STATIONS, OFFSETS AND ELEVATIONS OF EXISTING STORM SEWERS ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED BY THE CONTRACTOR.

PROFESSIONAL ENGINEER
 RYAN PIERCE
 27211
 OKLAHOMA
 3/17/2020

OKIE811
 Know what's below. Call before you dig.

STORM SEWER PLAN AND PROFILE

PROJECT #173120-2
71ST & MEMORIAL STORM SEWER IMPROVEMENTS
 CITY OF TULSA, OKLAHOMA
 ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, L.L.C.
 1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

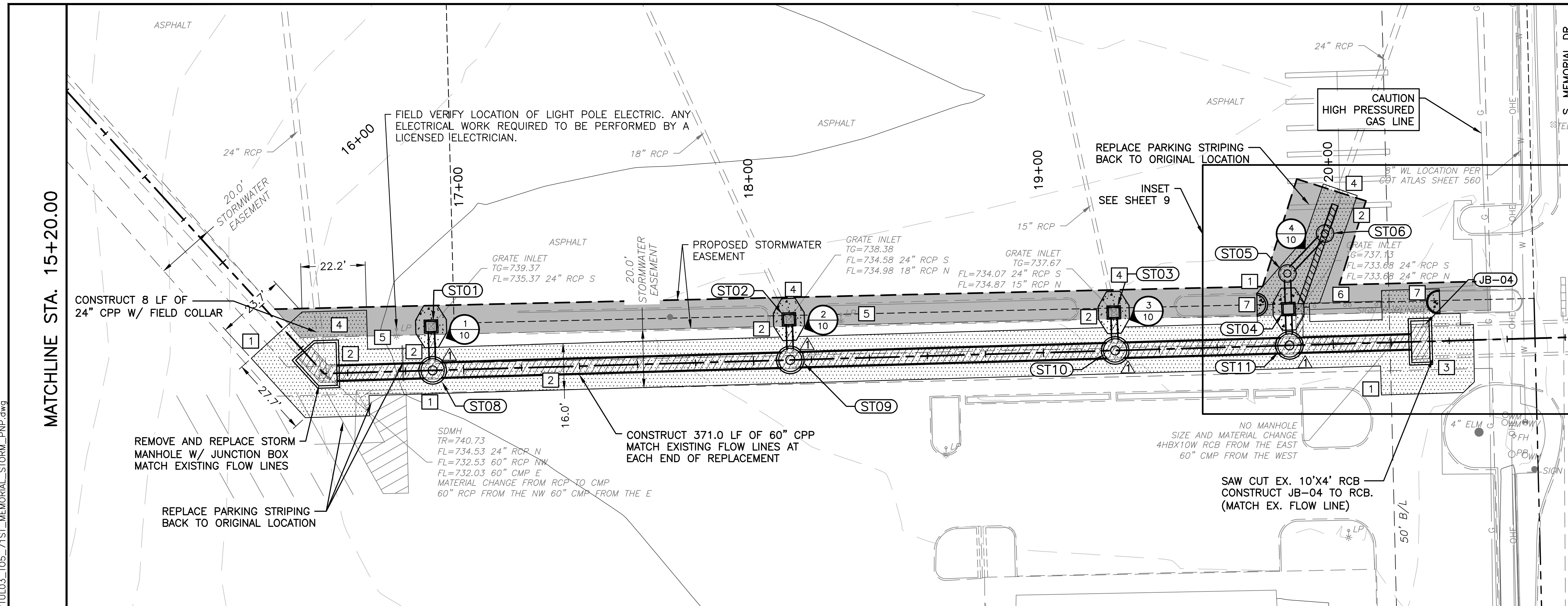
REVISION	BY	DATE
REMOVED JB-01	RJP	11/20
ADDED ST-07		

PLAN SCALE	DRAWN	KRP	01/2020	APPROVED:
1" = 20'	DESIGNED	RJP	01/2020	
	SURVEY	AB	02/2019	

PROFILE SCALE	PROJ. MGR.	DATE:
HORIZONTAL: 1" = 20'	LEAD ENGR.	
VERTICAL: 1" = 5'	FIELD MGR.	
	RECOMMENDED	
	DESIGN MANAGER	

ATLAS PAGE NO. 560 SHEET 7 OF 17 SHEETS

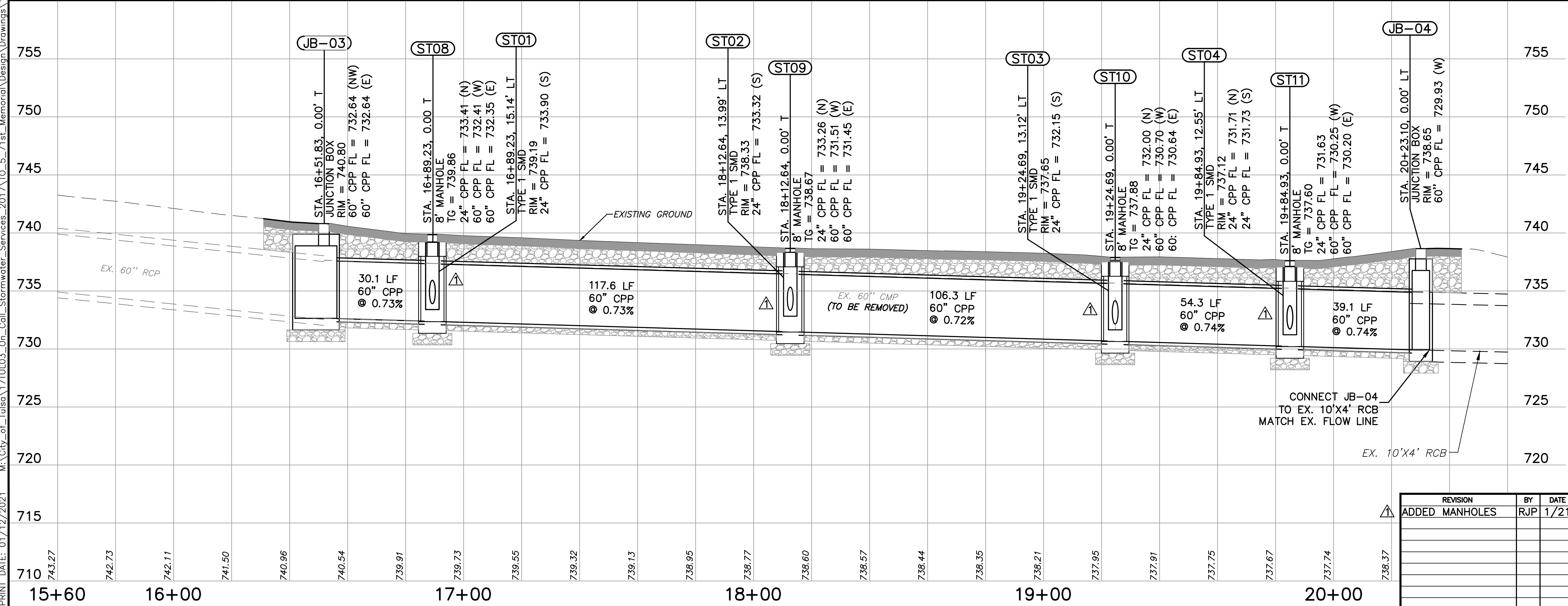
M:\City_of_Tulsa\171UL03_On_Cell_Stormwater_Services_2017\TO_5_71st_Memorial\Design\Drawings\171UL03_TO5_71ST_MEMORIAL_STORM_PNP.dwg



CONSTRUCTION NOTES:

- 1 ASPHALT REPLACEMENT
- 2 REMOVE EXISTING DRAINAGE STRUCTURES/ STORM PIPES
- 3 FIELD VERIFY LOCATION AND ELEVATION
- 4 CONNECT EXISTING STORM PIPE TO PROPOSED STORM SEWER
- 5 PROTECT LIGHT POLE
- 6 PROTECT SIGN
- 7 REMOVE AND REPLACE CURB AND GUTTER
- 8 POINT REPAIR - SEE SHEET 3 DETAIL 6

CAUTION
OVERHEAD ELECTRIC WATERLINE
GASLINE
UNDERGROUND ELECTRIC



NOTE:
ALL STATIONS, OFFSETS AND ELEVATIONS OF EXISTING STORM SEWERS ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED BY THE CONTRACTOR.

PROFESSIONAL ENGINEER
RYAN PIERCE
27211
OKLAHOMA
3/17/2020

OKIE811
Know what's below. Call before you dig.

STORM SEWER PLAN AND PROFILE

PROJECT #173120-2
71ST & MEMORIAL STORM SEWER IMPROVEMENTS

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, L.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

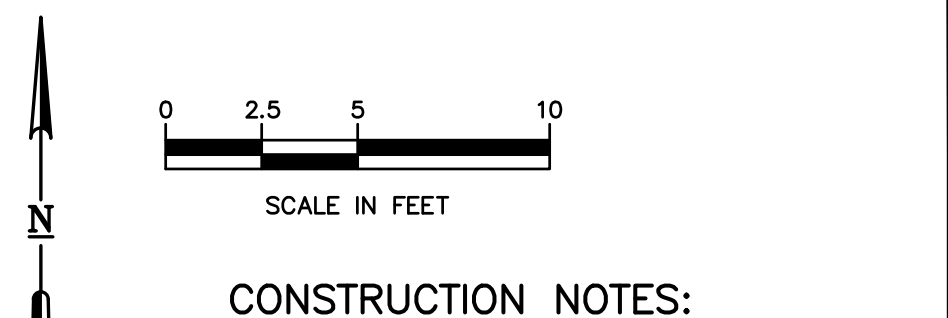
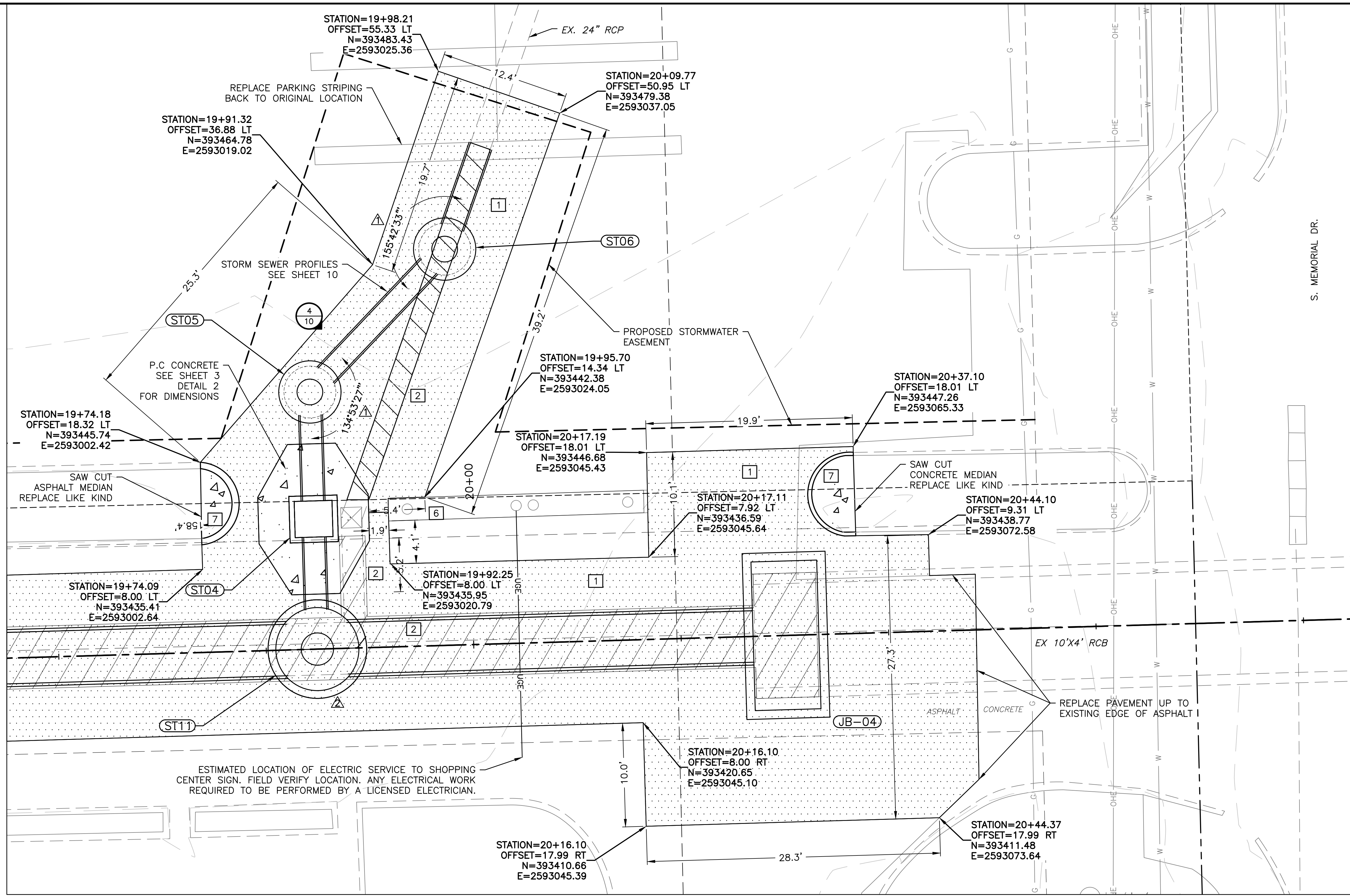
REVISION	BY	DATE
ADDED MANHOLES	RJP	1/21

PLAN SCALE	DRAWN	KRP	01/2020	APPROVED:
1" = 20'	DESIGNED	RJP	01/2020	
	SURVEY	AB	02/2019	

PROFILE SCALE	PROJ. MGR.	RECOMMENDED
1" = 20'	LEAD ENGR.	
	FIELD MGR.	
	DESIGN MANAGER	

FILE: _____ DATE: _____
ATLAS PAGE NO. 560 SHEET 8 OF 17 SHEETS

M:\City_of_Tulsa\17TUL03_On_Cell_Stormwater_Services_2017\10_5_71st_Memorial\Design\Drawings\17TUL03_T05_71ST_MEMORIAL_STORM_PNP.dwg
 PRINT DATE: 01/27/2021



- CONSTRUCTION NOTES:**
- 1 ASPHALT REPLACEMENT
 - 2 REMOVE EXISTING DRAINAGE STRUCTURES/ STORM PIPES
 - 3 FIELD VERIFY LOCATION AND ELEVATION
 - 4 CONNECT EXISTING STORM PIPE TO PROPOSED STORM SEWER
 - 5 PROTECT LIGHT POLE
 - 6 PROTECT SIGN
 - 7 REMOVE AND REPLACE CURB AND GUTTER
 - 8 POINT REPAIR - SEE SHEET 3 DETAIL 6

CAUTION
 GASLINE
 OVERHEAD ELECTRIC
 UNDERGROUND ELECTRIC
 WATERLINE

NOTE:
 ALL STATIONS, OFFSETS AND ELEVATIONS OF
 EXISTING STORM SEWERS ARE APPROXIMATE AND
 SHOULD BE FIELD VERIFIED BY THE CONTRACTOR.

CONTROL POINT
 103
 1/2" REBAR SET W/CAP
 N=393624.4501
 E=2593071.4352
 EL=739.26

CONTROL POINT
 102
 1/2" REBAR SET W/CAP
 N=393668.6196
 E=2592150.4306
 EL=749.68



PATCHING INSET
 PROJECT #173120-2

**71ST & MEMORIAL STORM SEWER
 IMPROVEMENTS**

**CITY OF TULSA, OKLAHOMA
 ENGINEERING SERVICES DEPARTMENT**

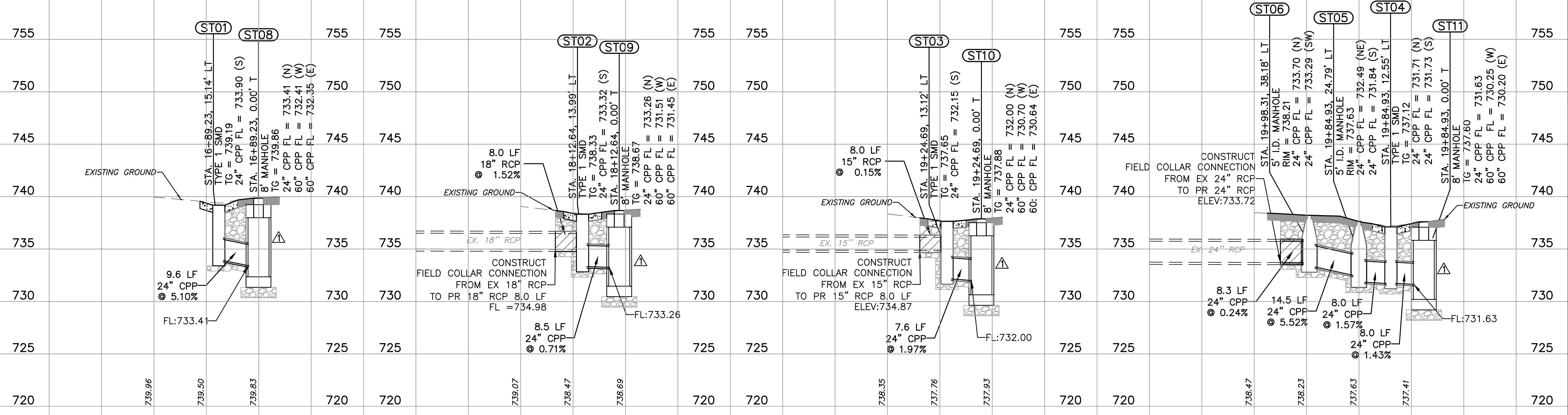
PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, L.L.C.
 1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620



REVISION	BY	DATE	PLAN SCALE	DRAWN	KRP	01/2020	APPROVED:
ADDED ANGLE DIM.	RJP	12/20	1" = 5'	DESIGNED	RJP	01/2020	
ADDED MANHOLE	RJP	1/21		SURVEY	AB	02/2019	
				PROFILE SCALE	PROJ. MGR.		
				HORIZONTAL:	LEAD ENGR.		
				VERTICAL:	FIELD MGR.		
					RECOMMENDED		
				FILE:	DESIGN MANAGER		CITY ENGINEER
				ATLAS PAGE NO. 560	DATE:		DATE:

M:\City_of_Tulsa\17TUL03_On_Cell_Stormwater_Services_2017\TO_5_71st_Memorial\Design\Drawings\17TUL03_TO5_71st_Memorial_STORM_SEWER_PROFILES.dwg

PRINT DATE: 01/27/2021



① STORM SEWER PROFILE

② STORM SEWER PROFILE

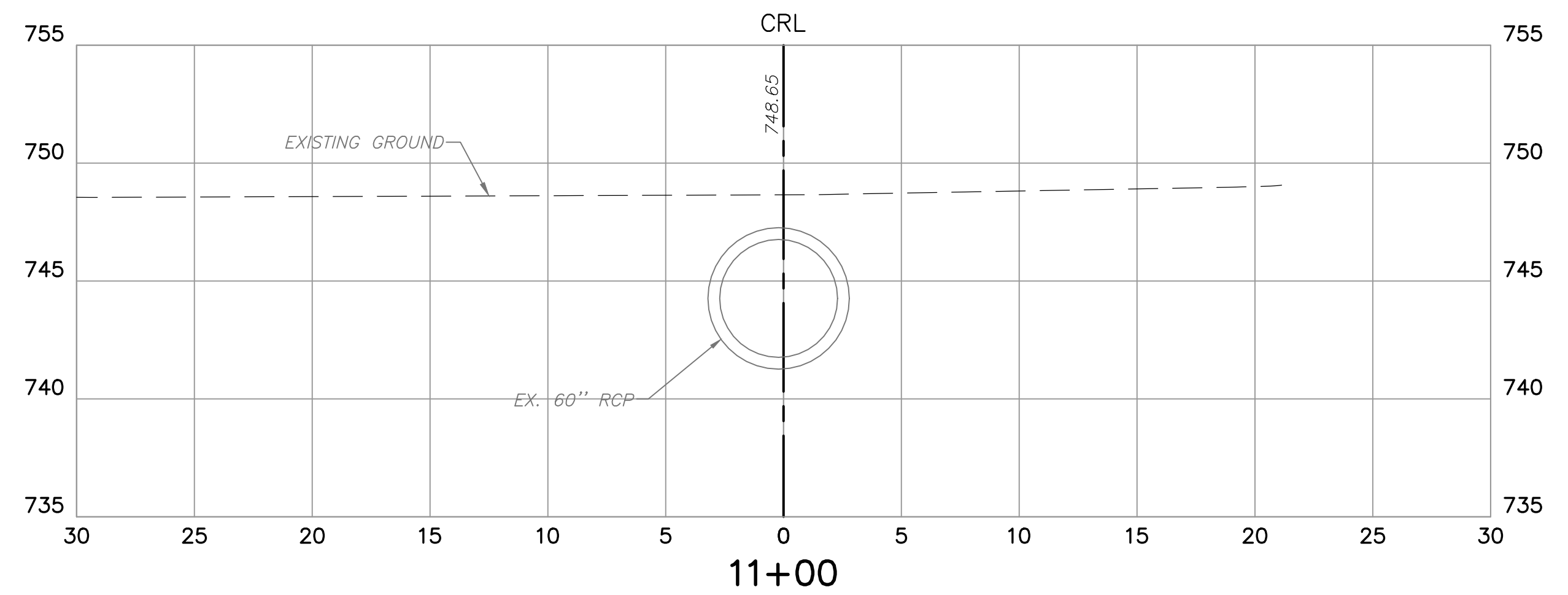
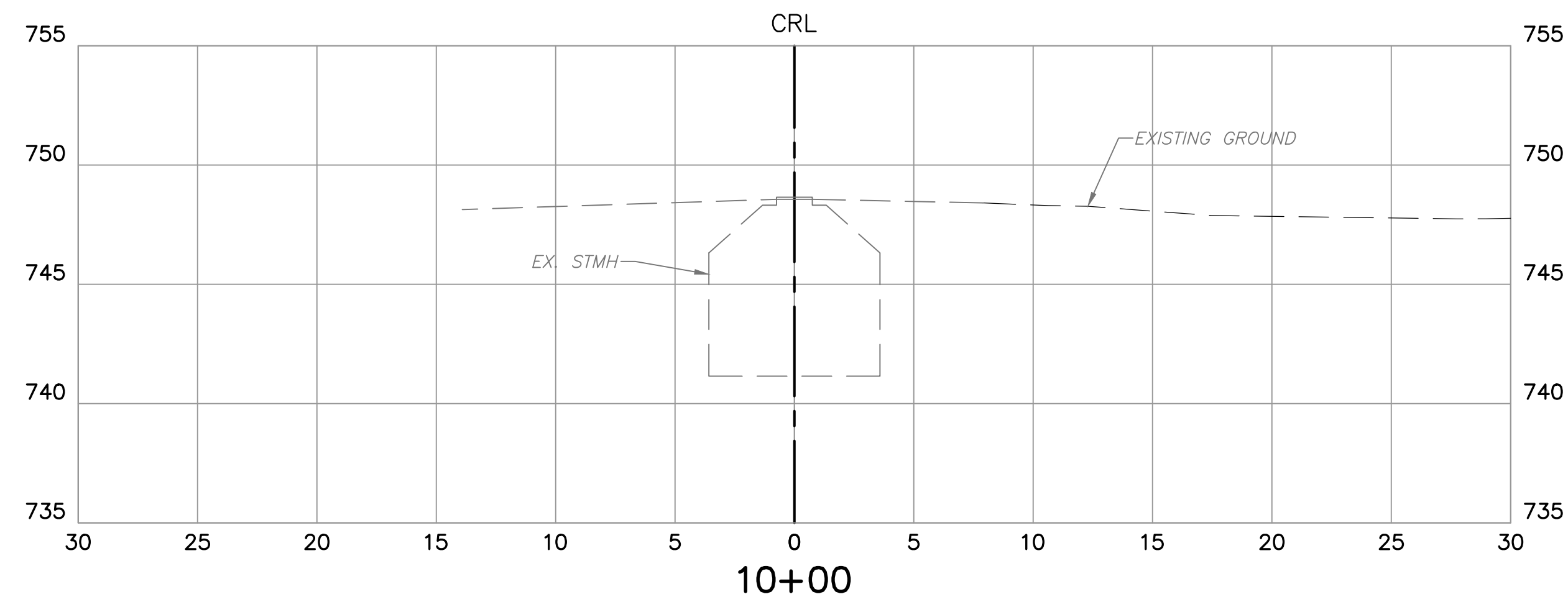
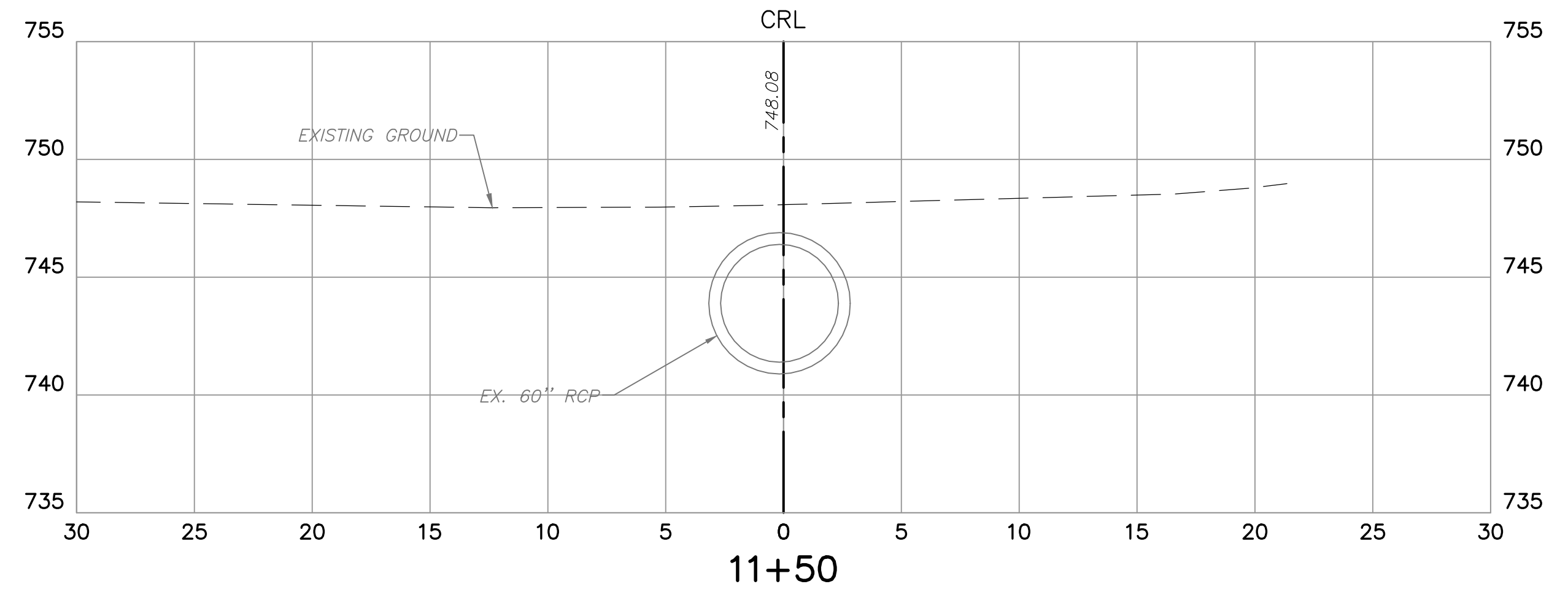
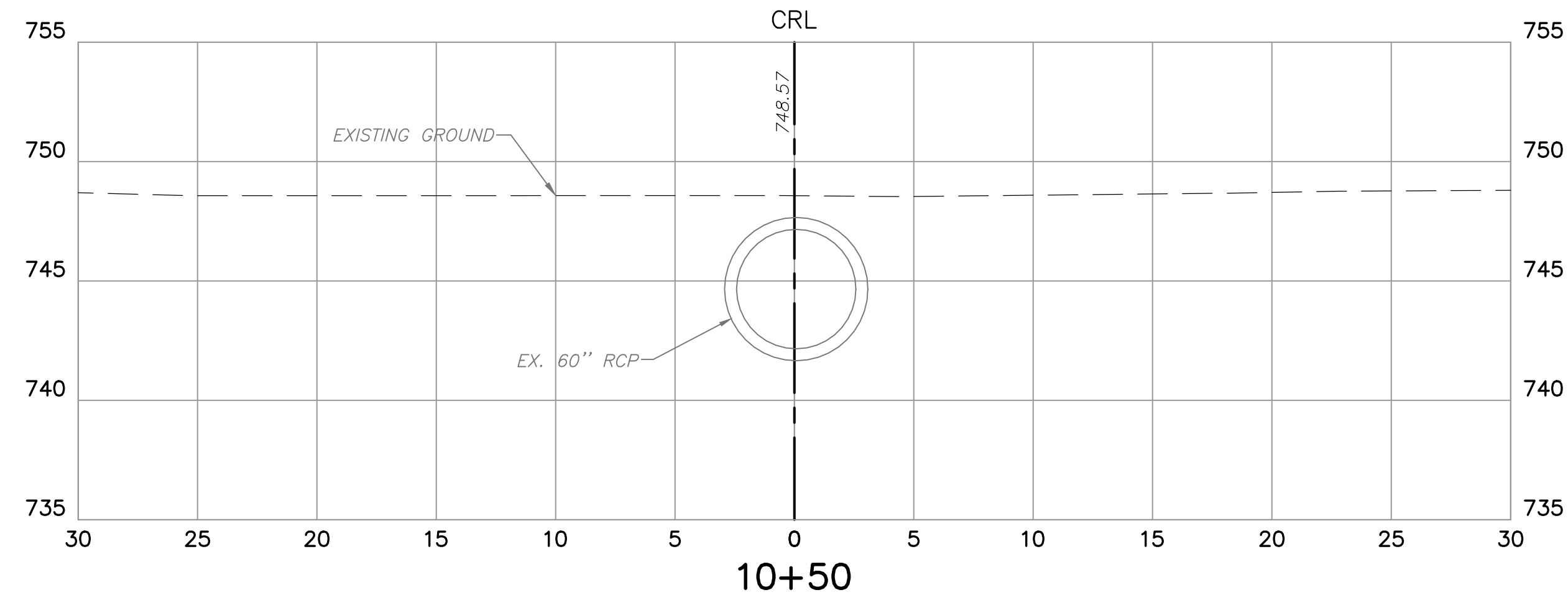
③ STORM SEWER PROFILE

④ STORM SEWER PROFILE

3/17/2020

STORM SEWER PROFILES			
PROJECT #173120-2			
71ST & MEMORIAL STORM SEWER IMPROVEMENTS			
CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY: Meshek & Associates, L.L.C. 1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620			
	REVISION	BY	DATE
▲	ADDED MANHOLES	RJP	1/21
PLAN SCALE		DRAWN	KRP 01/2020
		DESIGNED	RJP 01/2020
		SURVEY	AB 02/2019
PROFILE SCALE		PROJ. MGR.	
HORIZONTAL:		LEAD ENGR.	
1" = 20'		FIELD MGR.	
VERTICAL:		RECOMMENDED	
1" = 5'		DESIGN MANAGER	
FILE:		DRAWING:	
ATLAS PAGE NO. 560			
APPROVED:			CITY ENGINEER
			DATE:
			SHEET 10 OF 17 SHEETS

M:\City_of_Tulsa\17TUL03_On_Cell_Stormwater_Services_2017\TO_5_71st_Memorial\Design\Drawings\17TUL03_TO5_71ST_MEMORIAL_CROSS_SECTIONS.dwg



CROSS SECTIONS

PROJECT #173120-2

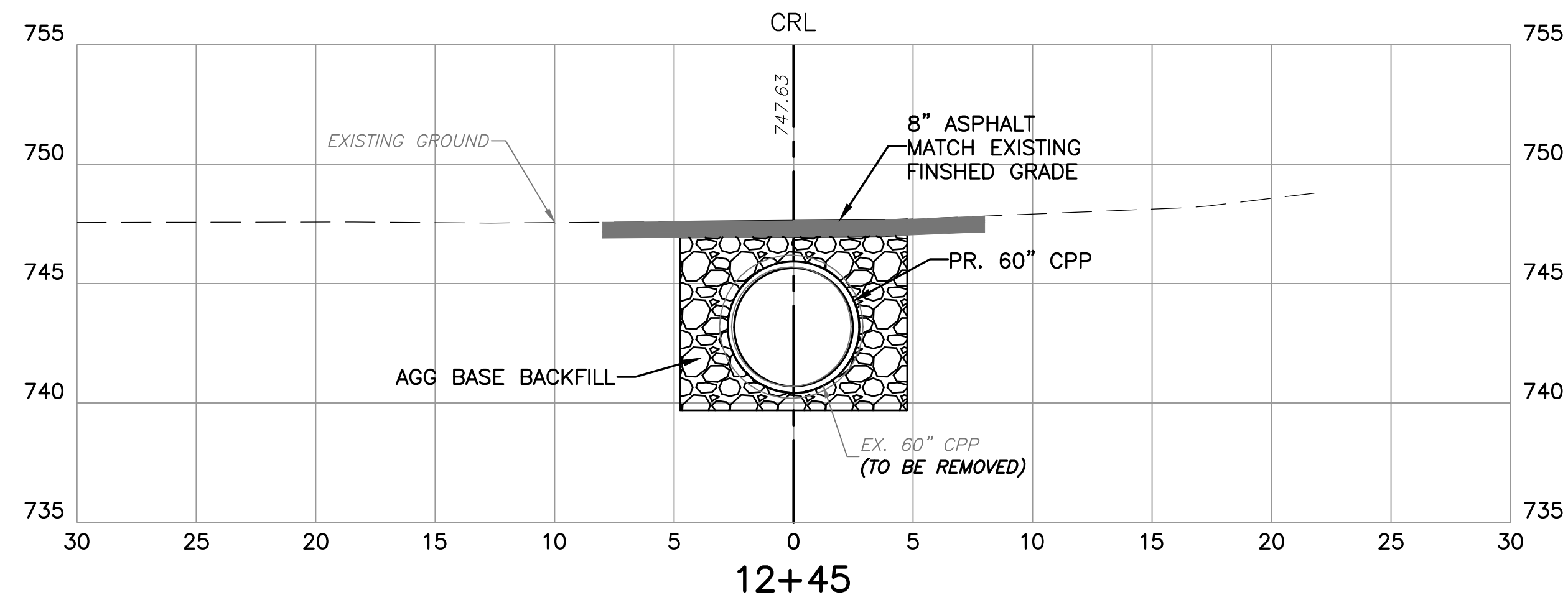
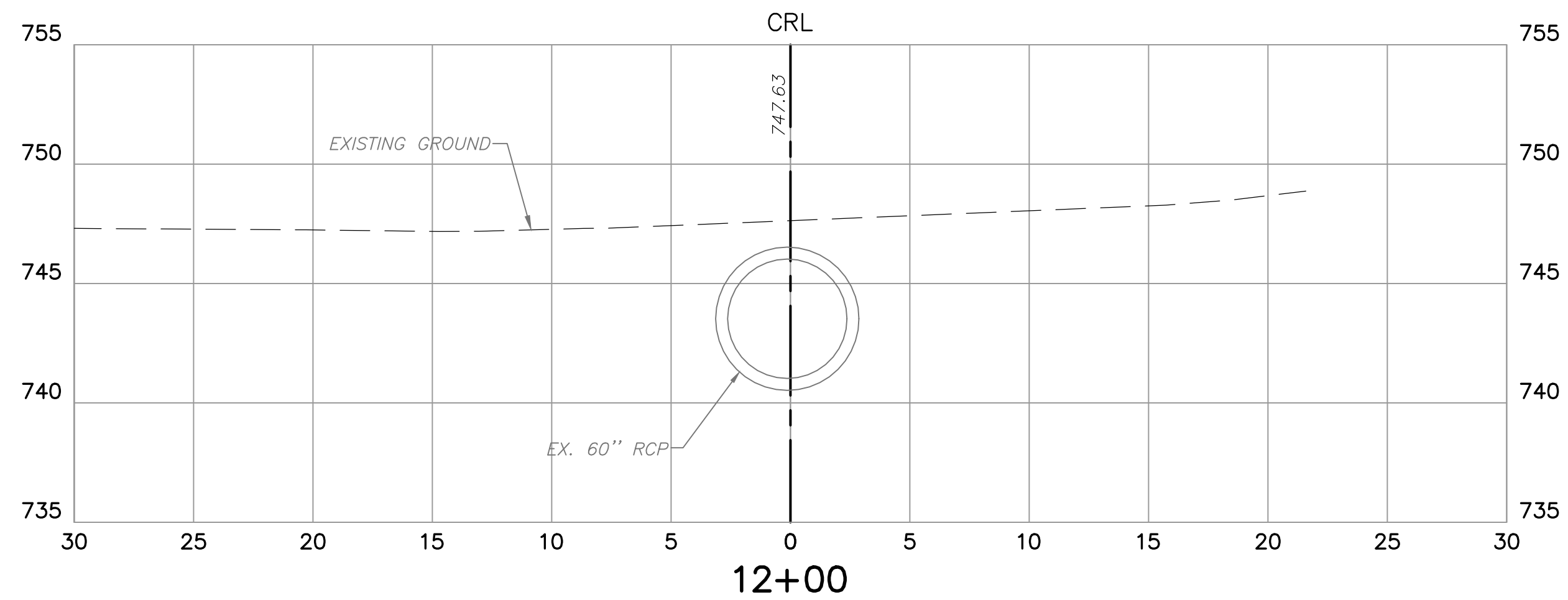
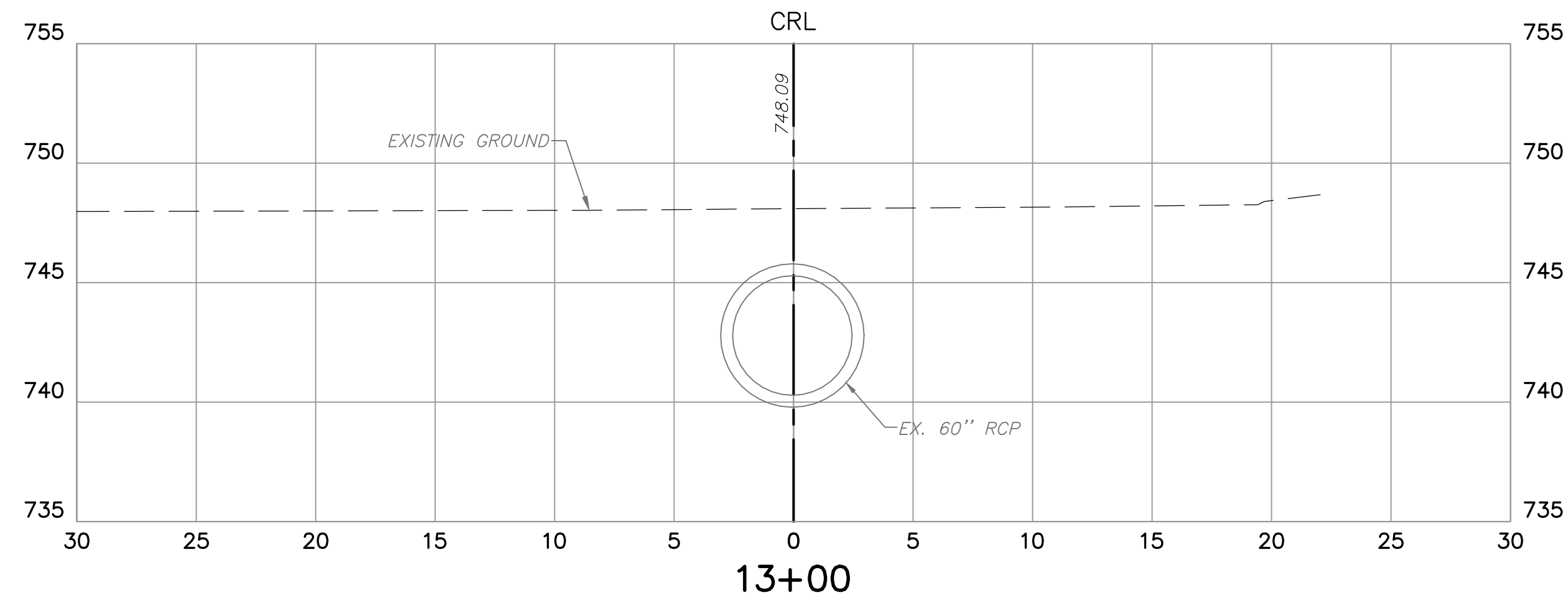
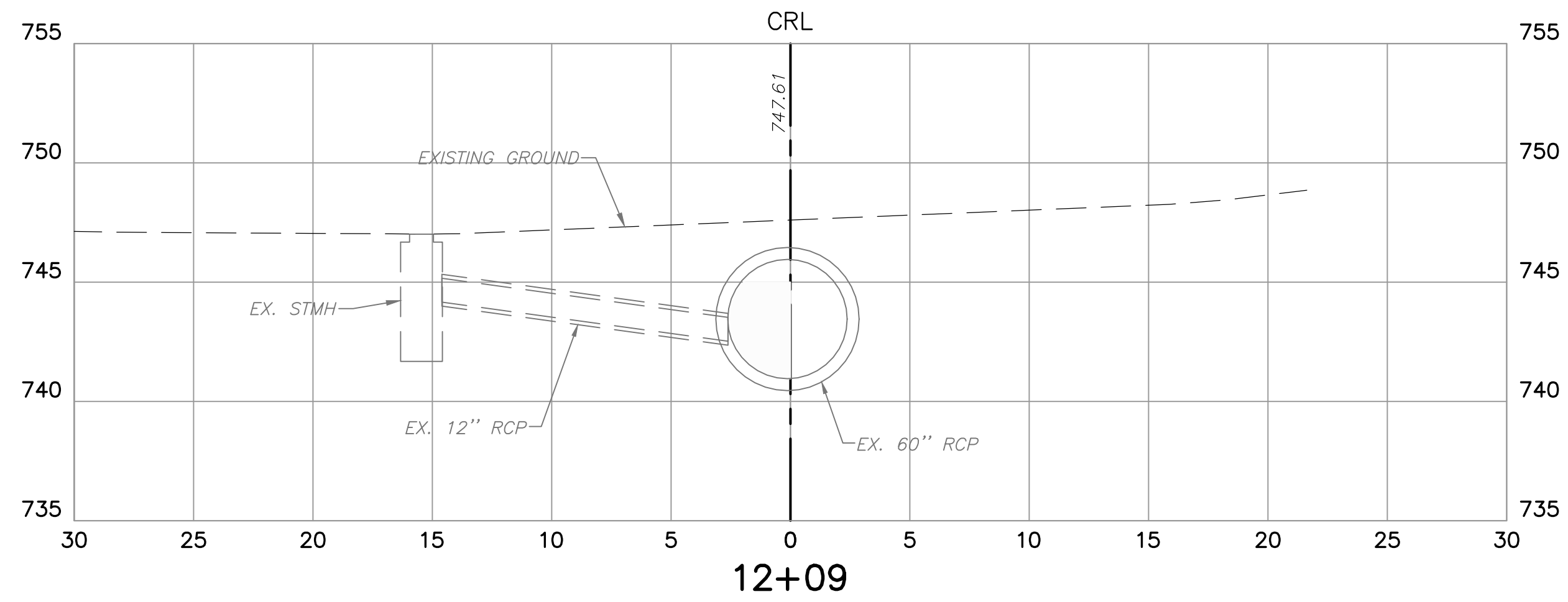
71ST & MEMORIAL STORM SEWER IMPROVEMENTS

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, L.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

REVISION	BY	DATE	PLAN SCALE	DRAWN	KRP	01/2020	APPROVED:
			N/A	DESIGNED	RJP	01/2020	
				SURVEY	AB	02/2019	
			PROFILE SCALE	PROJ. MGR.			CITY ENGINEER
			HORIZONTAL:	LEAD ENGR.			
			1" = 5'	FIELD MGR.			
			VERTICAL:	RECOMMENDED			DATE:
			1" = 5'	DESIGN MANAGER			
			FILE:	DRAWING:			SHEET 11 OF 17 SHEETS
			ATLAS PAGE NO. 560				

M:\City_of_Tulsa\17TUL03_On_Cell_Stormwater_Services_2017\TO_5_71st_Memorial\Design\Drawings\17TUL03_TO5_71ST_MEMORIAL_CROSS_SECTIONS.dwg



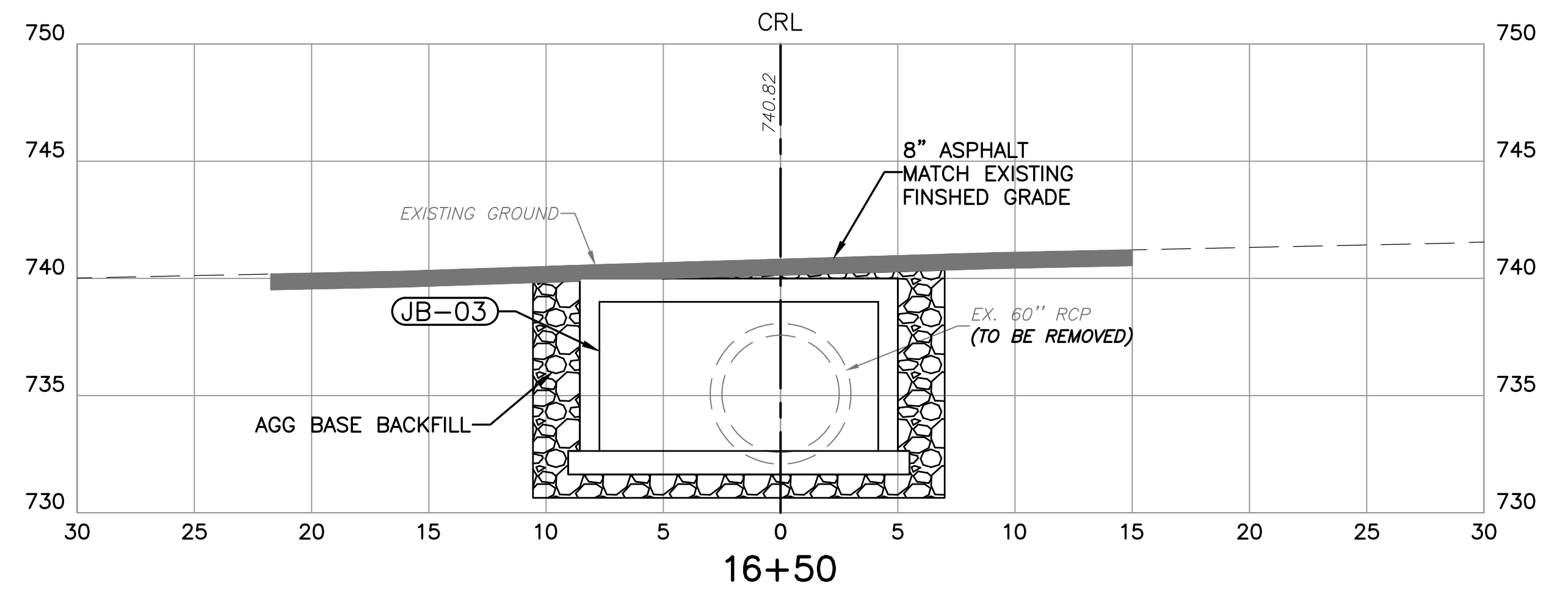
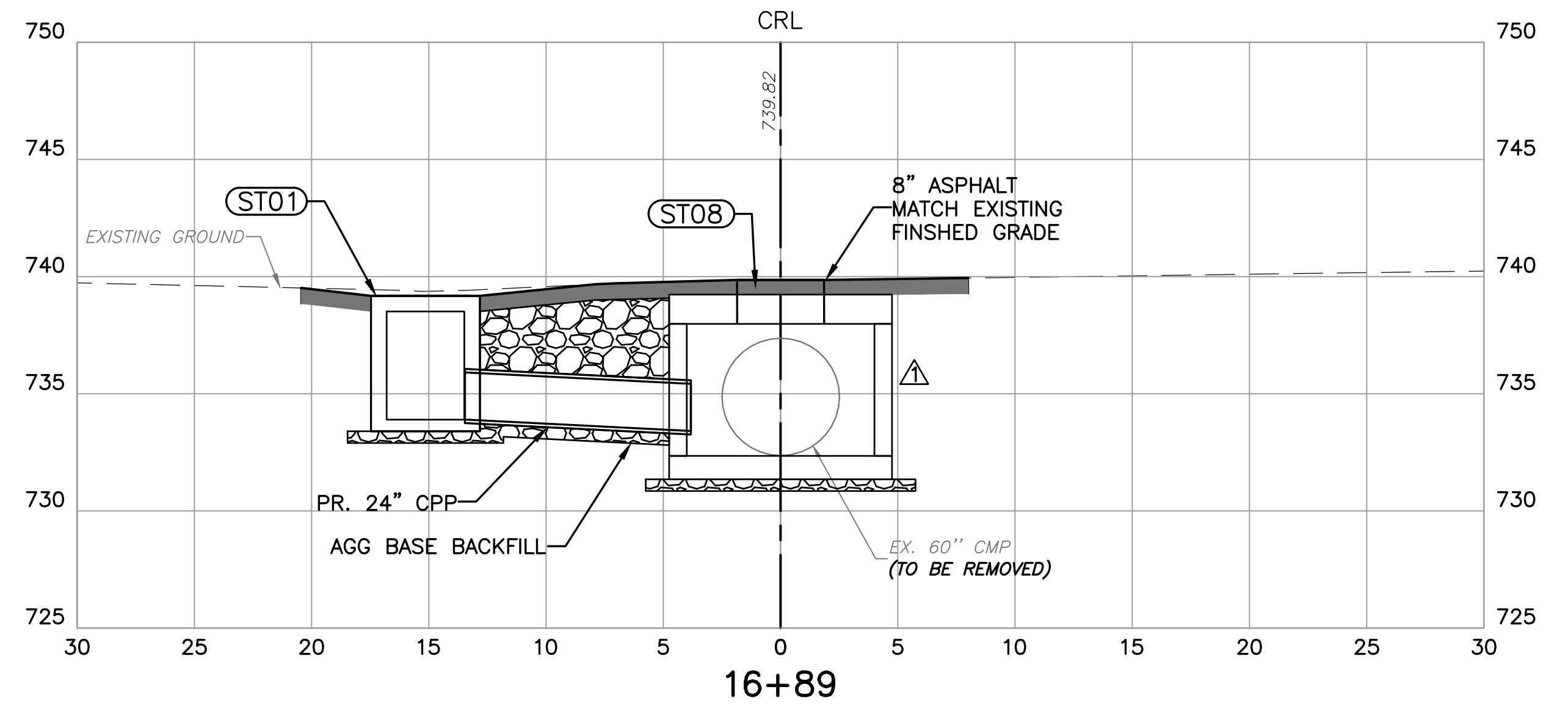
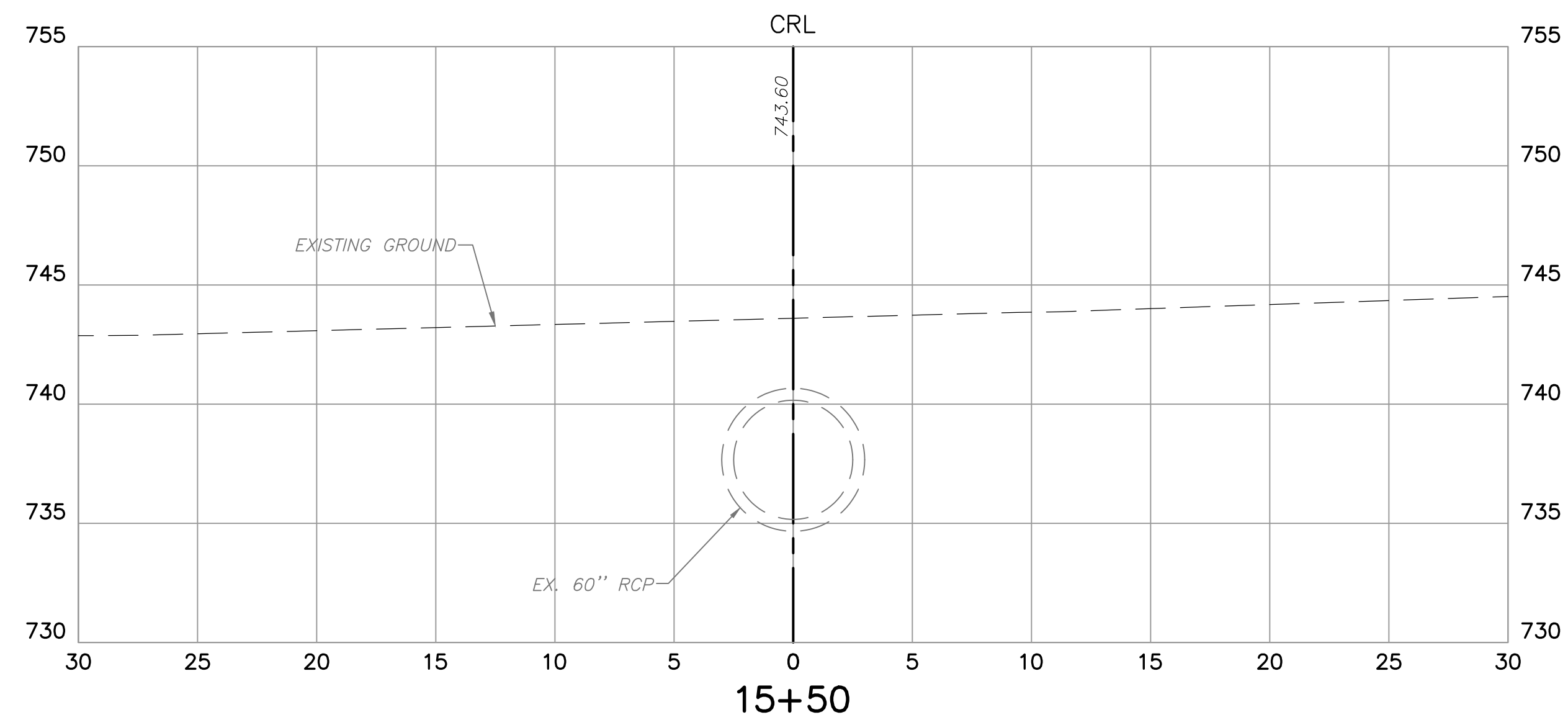
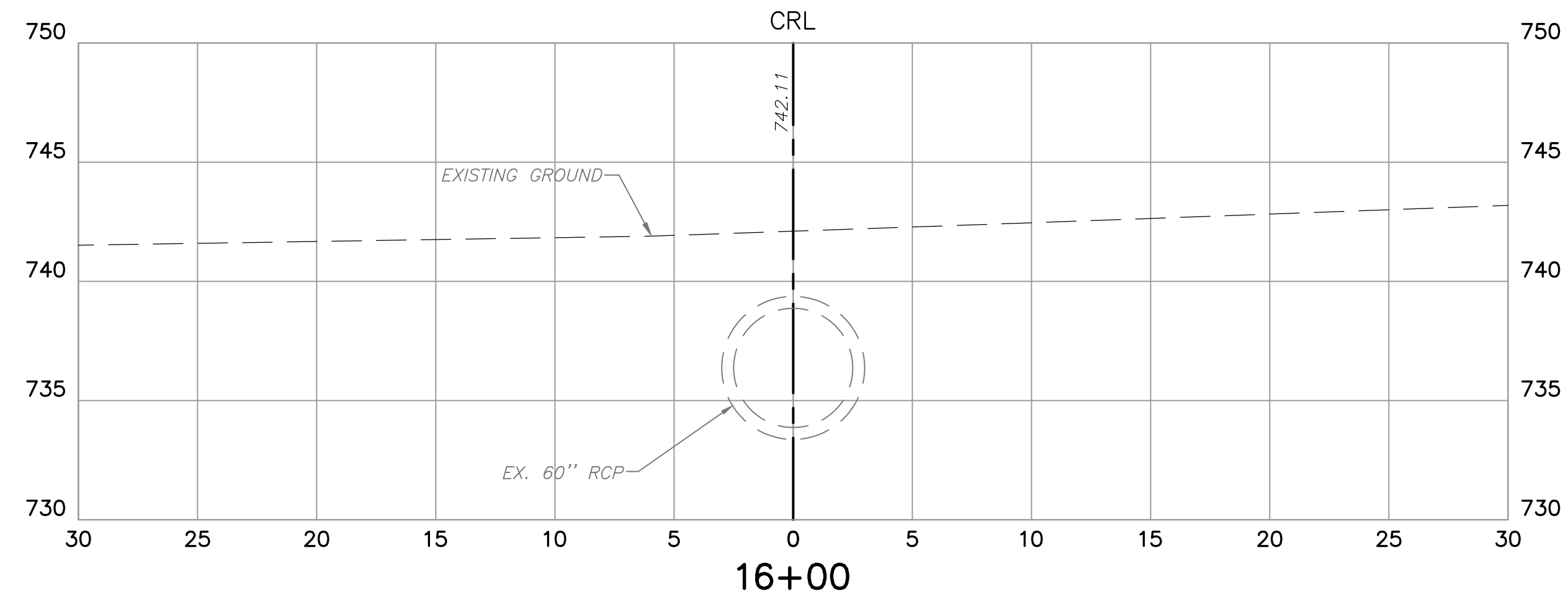

 3/17/2020

CROSS SECTIONS			
PROJECT #173120-2			
71ST & MEMORIAL STORM SEWER IMPROVEMENTS			
CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY: Meshek & Associates, L.L.C. 1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620			
			APPROVED: _____ CITY ENGINEER
			DATE: _____
ATLAS PAGE NO. 560			

REVISION	BY	DATE

PLAN SCALE	DRAWN	KRP	01/2020	APPROVED: _____
N/A	DESIGNED	RJP	01/2020	
PROFILE SCALE	PROJ. MGR.	AB	02/2019	CITY ENGINEER
HORIZONTAL: 1" = 5'	LEAD ENGR.			
VERTICAL: 1" = 5'	FIELD MGR.			DATE: _____
	RECOMMENDED			
FILE:	DESIGN MANAGER			SHEET 12 OF 17 SHEETS

M:\City_of_Tulsa\17TUL03_On_Cell_Stormwater_Services_2017\TO_5_71st_Memorial\Design\Drawings\17TUL03_TO5_71ST_MEMORIAL_CROSS_SECTIONS.dwg



CROSS SECTIONS

PROJECT #173120-2

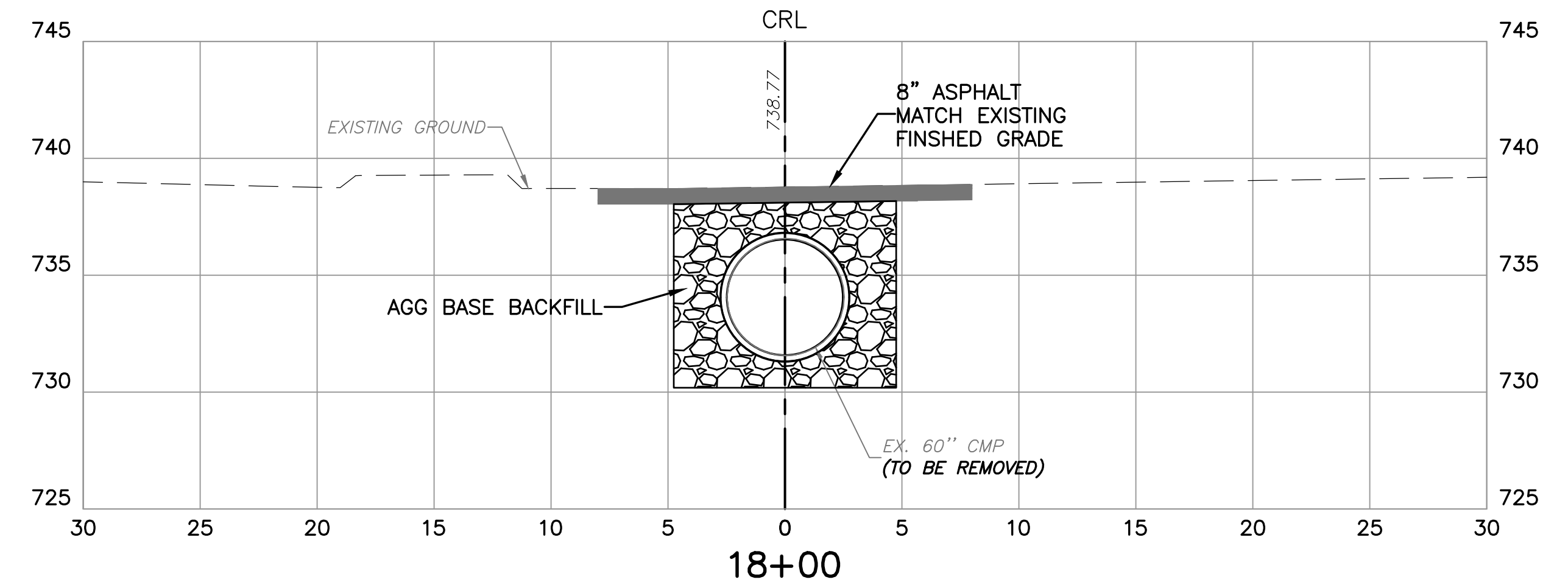
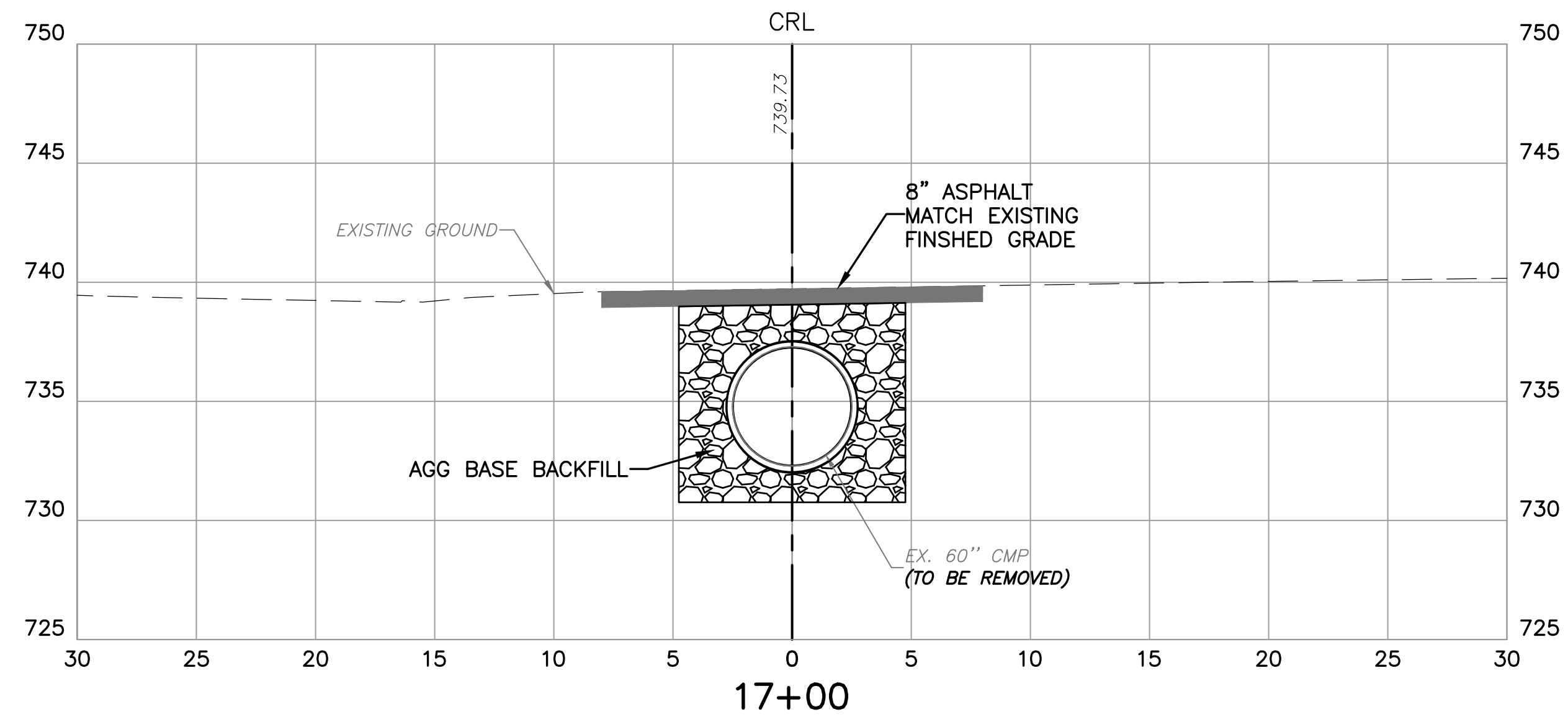
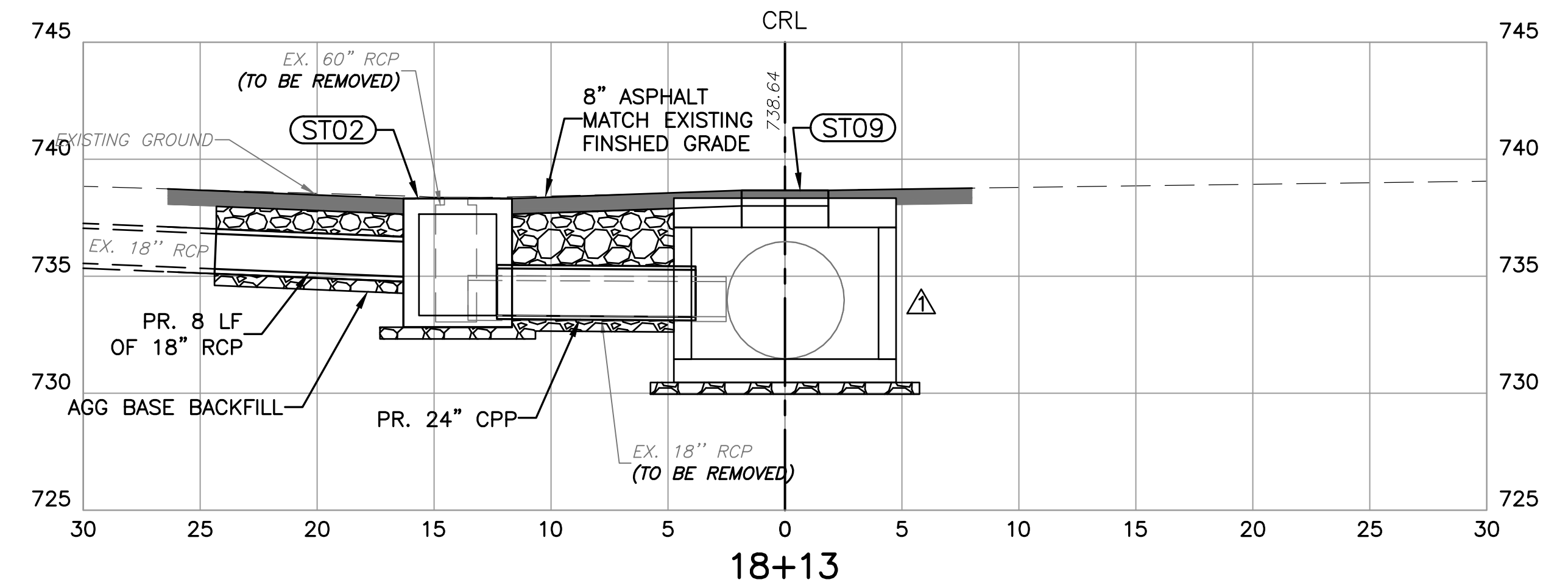
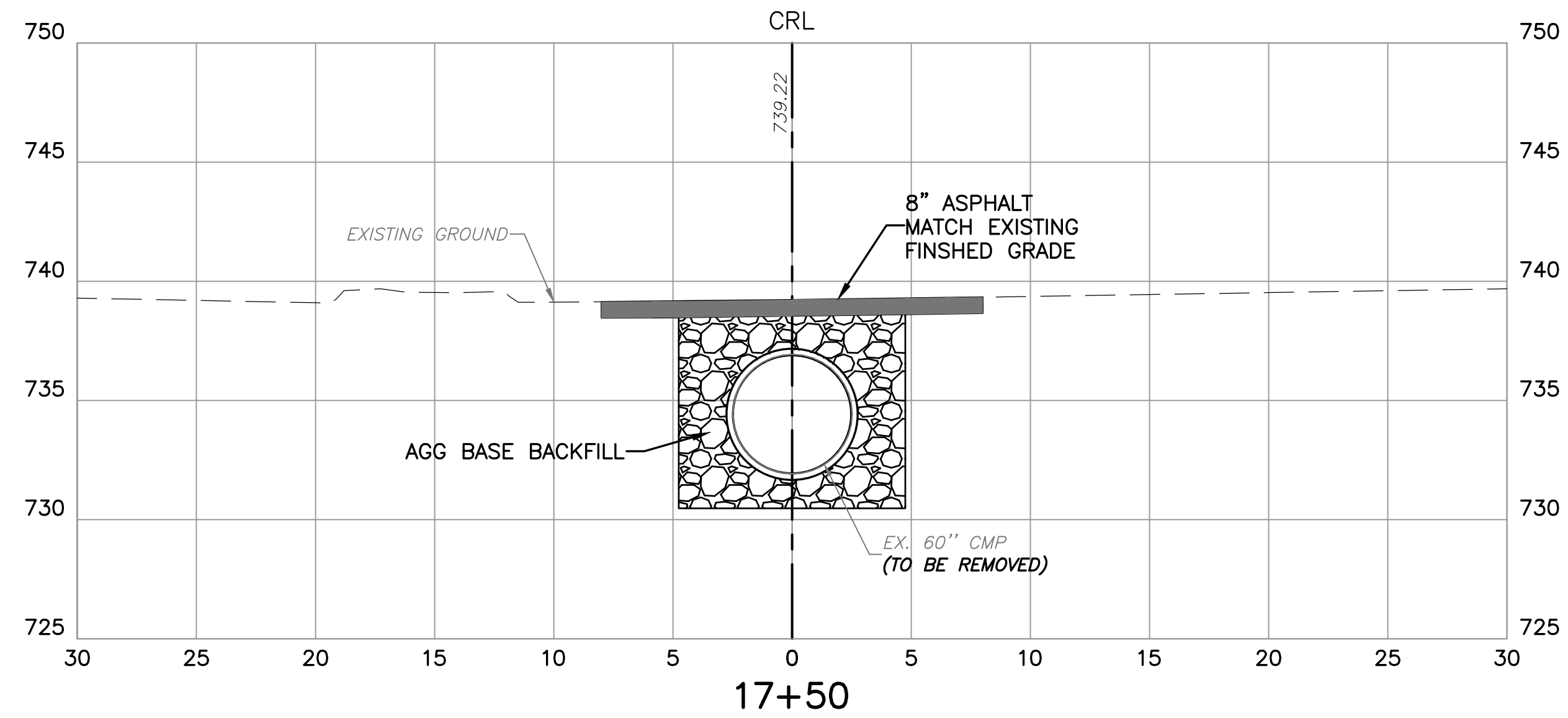
71ST & MEMORIAL STORM SEWER IMPROVEMENTS

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, L.L.C.
1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

REVISION	BY	DATE	PLAN SCALE	DRAWN	KRP	01/2020	APPROVED:
ADDED MANHOLE	RJP	1/21	N/A	DESIGNED	RJP	01/2020	
				SURVEY	AB	02/2019	
			PROFILE SCALE	PROJ. MGR.			CITY ENGINEER
			HORIZONTAL:	LEAD ENGR.			
			VERTICAL:	FIELD MGR.			
			1" = 5'	RECOMMENDED			DATE:
			1" = 5'	DESIGN MANAGER			
			FILE:	DRAWING:			SHEET 14 OF 17 SHEETS
			ATLAS PAGE NO. 560				

M:\City_of_Tulsa\17TUL03_On_Cell_Stormwater_Services_2017\TO_5_71st_Memorial\Design\Drawings\17TUL03_TO5_71ST_MEMORIAL_CROSS_SECTIONS.dwg



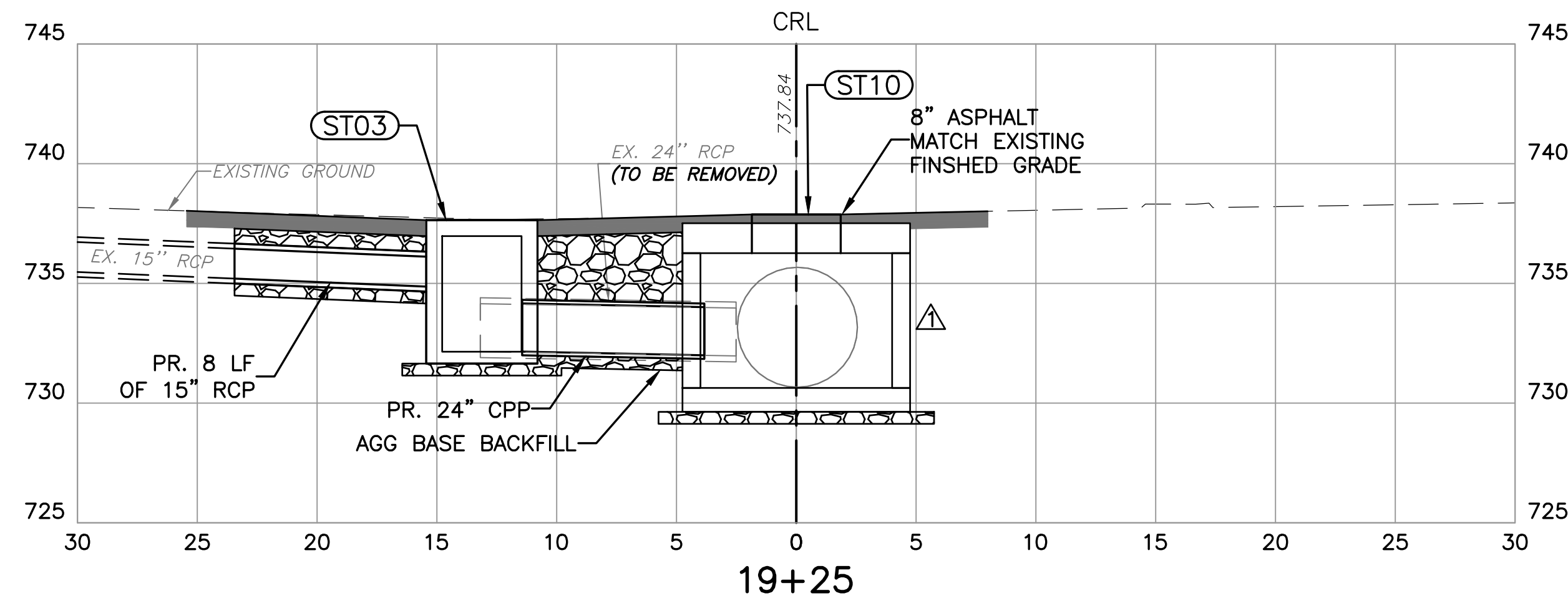
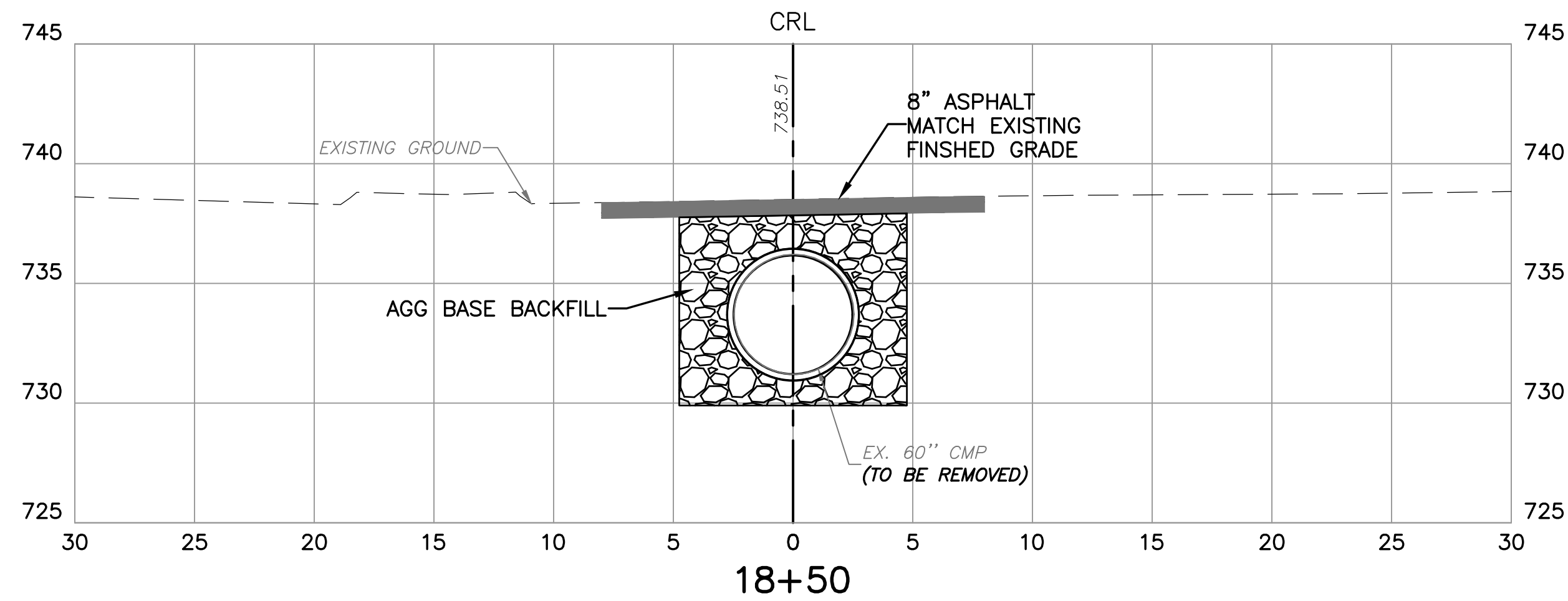
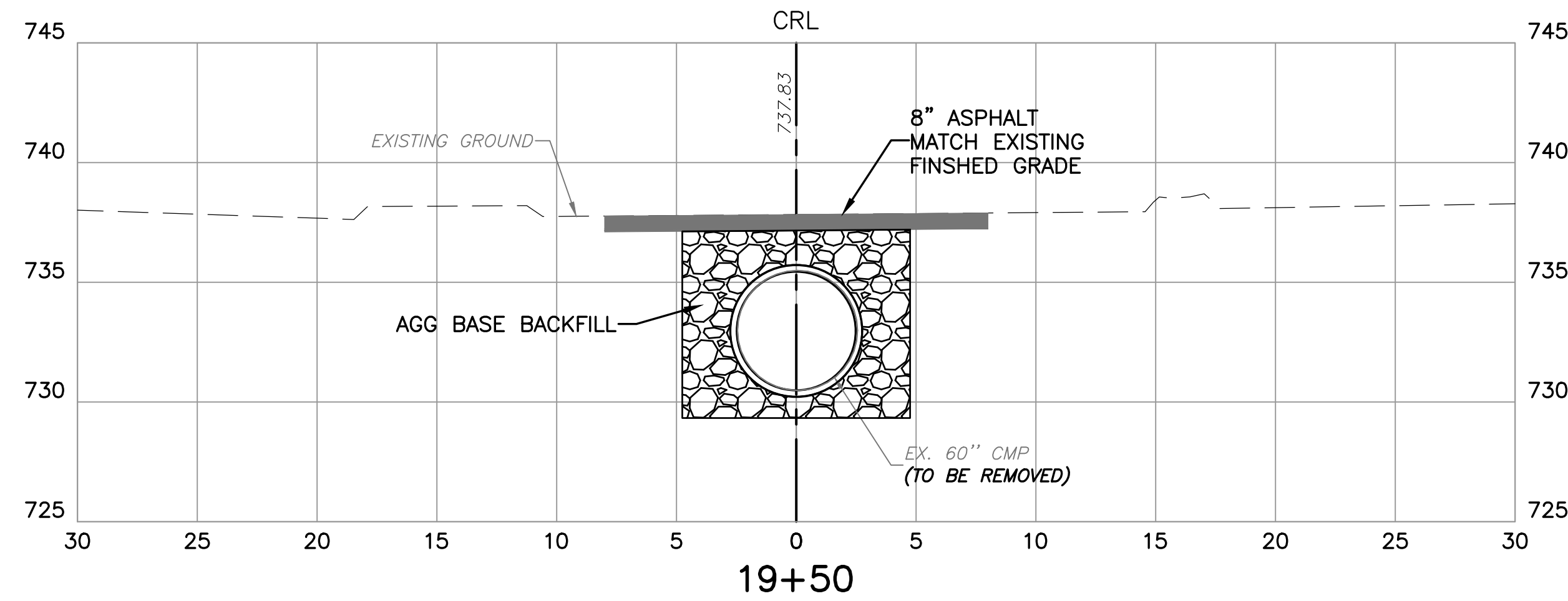
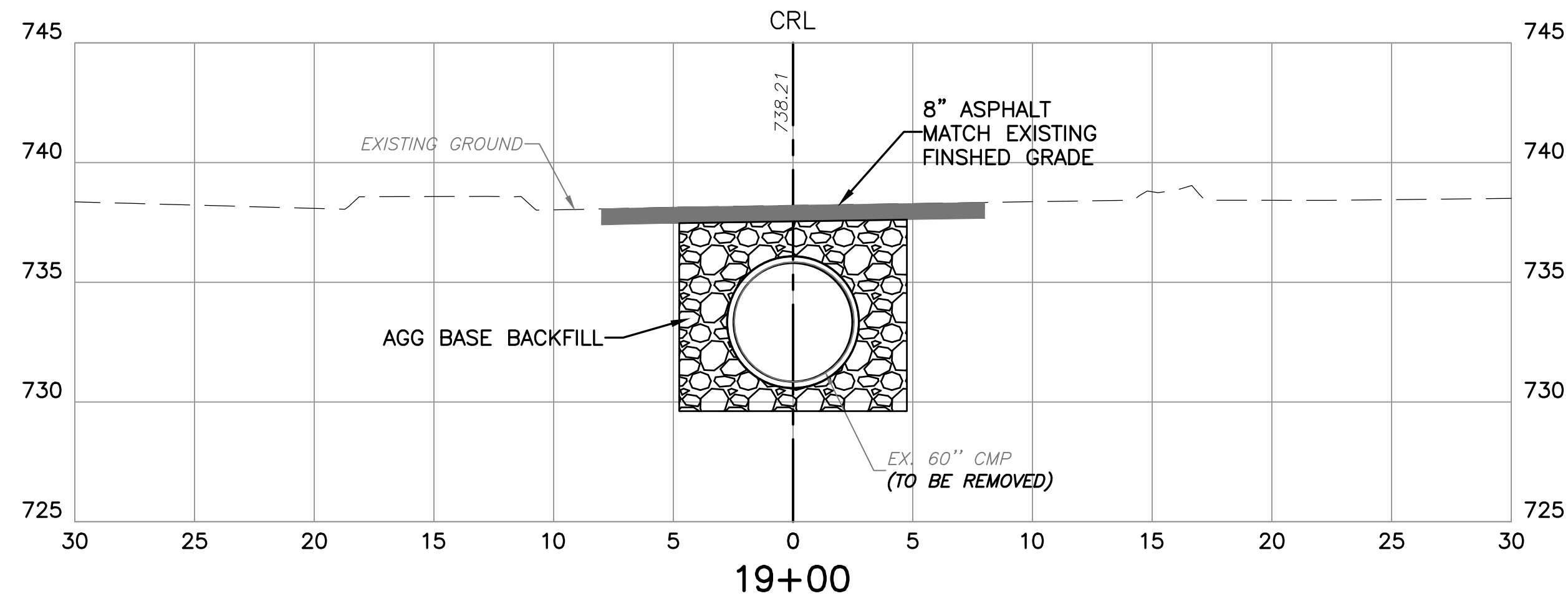

 3/17/2020

CROSS SECTIONS			
PROJECT #173120-2			
71ST & MEMORIAL STORM SEWER IMPROVEMENTS			
CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY: Meshek & Associates, L.L.C. 1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620			
			APPROVED: _____ CITY ENGINEER
			DATE: _____
ATLAS PAGE NO. 560 SHEET 15 OF 17 SHEETS			

REVISION	BY	DATE
▲ ADDED MANHOLE	RJP	1/21

PLAN SCALE	DRAWN	KRP	01/2020
N/A	DESIGNED	RJP	01/2020
PROFILE SCALE	SURVEY	AB	02/2019
HORIZONTAL:	PROJ. MGR.		
1" = 5'	LEAD ENGR.		
	FIELD MGR.		
	RECOMMENDED		
	DESIGN MANAGER		
	FILE:		
	DRAWING:		

M:\City_of_Tulsa\17TUL03_On_Cell_Stormwater_Services_2017\TO_5_71st_Memorial\Design\Drawings\17TUL03_TO5_71ST_MEMORIAL_CROSS_SECTIONS.dwg
 PRINT DATE: 01/27/2021



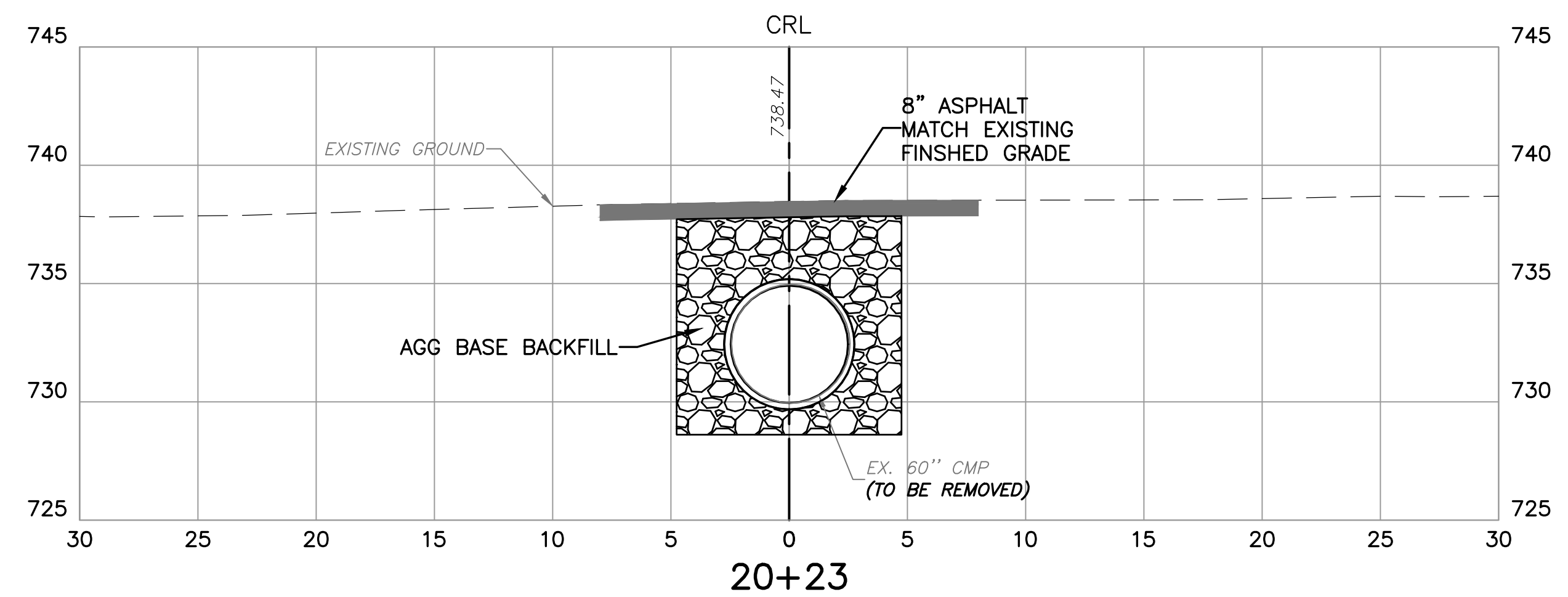
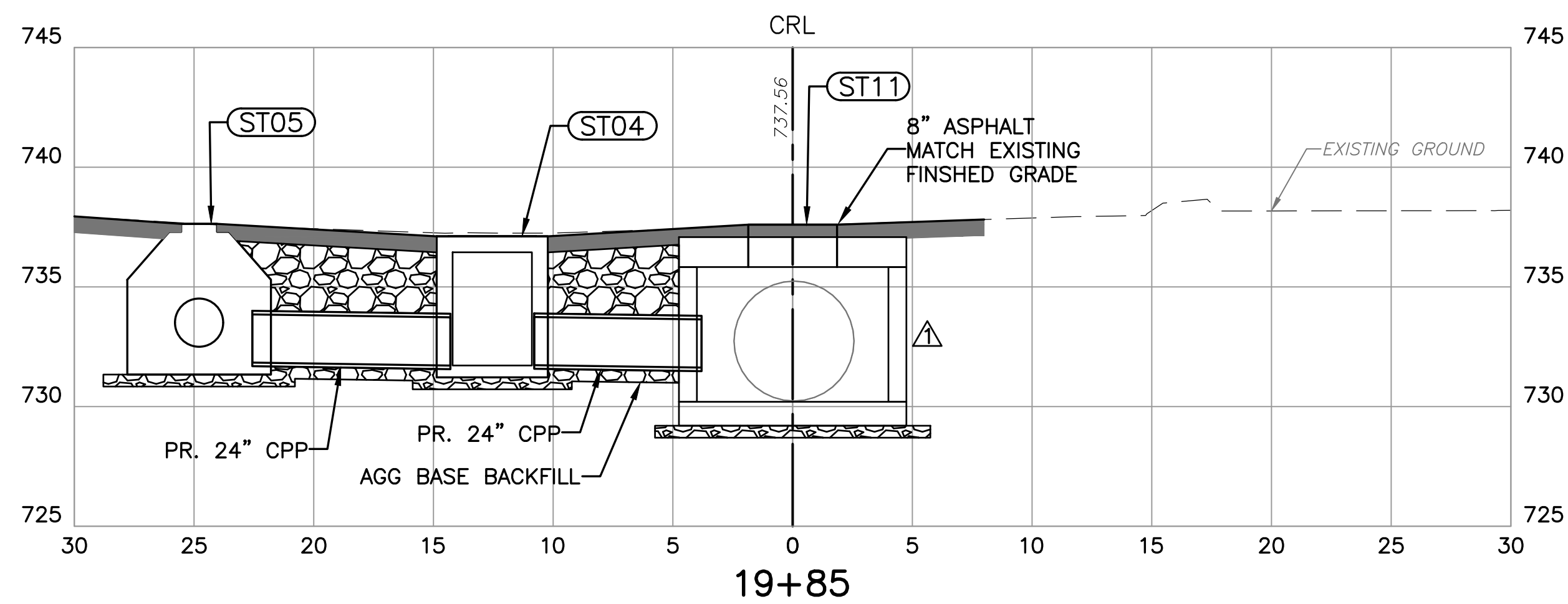
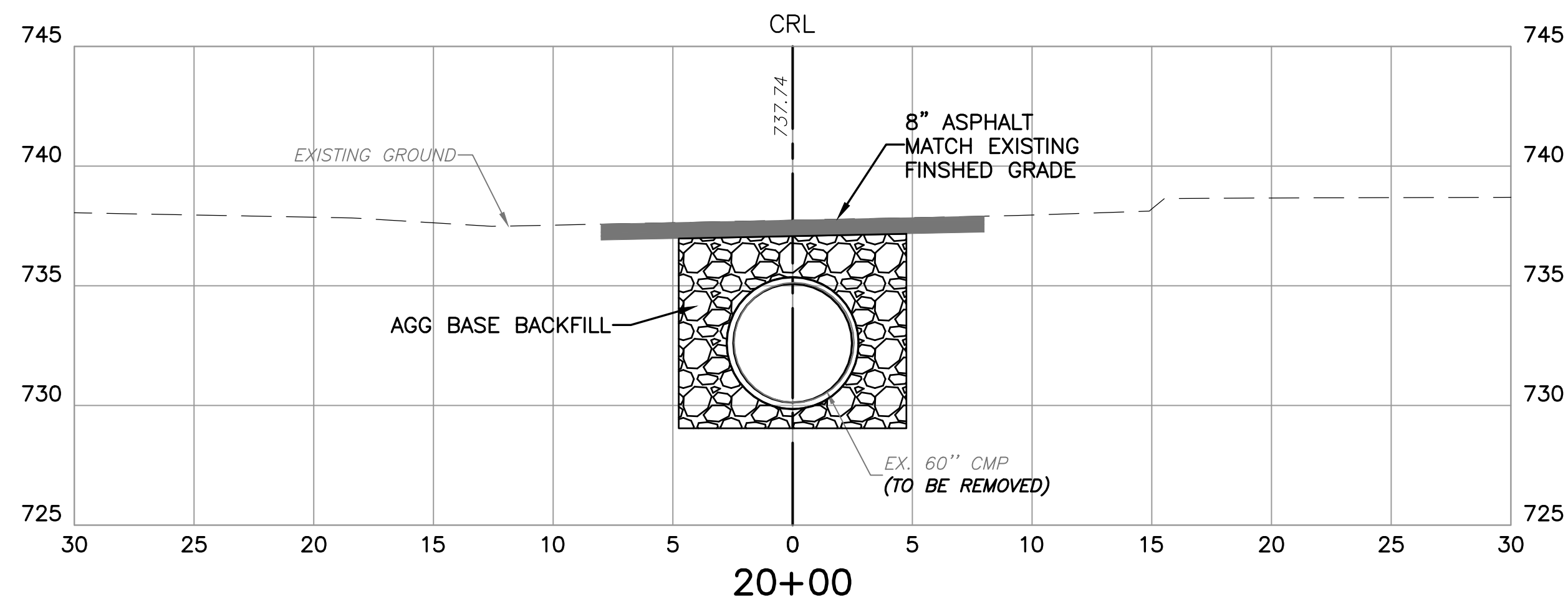
[Signature]
 3/17/2020



CROSS SECTIONS
PROJECT #173120-2
71ST & MEMORIAL STORM SEWER IMPROVEMENTS
 CITY OF TULSA, OKLAHOMA
 ENGINEERING SERVICES DEPARTMENT
 PLANS AND ESTIMATES PREPARED BY:
Meshek & Associates, L.L.C.
 1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620

REVISION	BY	DATE	PLAN SCALE	DRAWN	KRP	01/2020	APPROVED:
ADDED MANHOLE	RJP	1/21	N/A	DESIGNED	RJP	01/2020	
				SURVEY	AB	02/2019	
			PROFILE SCALE	PROJ. MGR.			CITY ENGINEER
			HORIZONTAL:	LEAD ENGR.			
			VERTICAL:	FIELD MGR.			
			FILE:	RECOMMENDED			DATE:
			DRAWING:	DESIGN MANAGER			
			ATLAS PAGE NO. 560				SHEET 16 OF 17 SHEETS

M:\City_of_Tulsa\17TUL03_On_Cell_Stormwater_Services_2017\TO_5_71st_Memorial\Design\Drawings\17TUL03_TO5_71ST_MEMORIAL_CROSS_SECTIONS.dwg



[Signature]
 3/17/2020



CROSS SECTIONS			
PROJECT #173120-2			
71ST & MEMORIAL STORM SEWER IMPROVEMENTS			
CITY OF TULSA, OKLAHOMA ENGINEERING SERVICES DEPARTMENT			
PLANS AND ESTIMATES PREPARED BY: Meshek & Associates, L.L.C. 1437 S. Boulder Avenue, Suite 1550 Tulsa, OK 74119 (918)392-5620			
REVISION	BY	DATE	APPROVED:
△ ADDED MANHOLE	RJP	1/21	
PLAN SCALE	DRAWN	KRP 01/2020	
	DESIGNED	RJP 01/2020	
	SURVEY	AB 02/2019	
PROFILE SCALE	PROJ. MGR.		
HORIZONTAL:	LEAD ENGR.		
1" = 5'	FIELD MGR.		
VERTICAL:	RECOMMENDED		
1" = 5'	DESIGN MANAGER		
FILE:	DRAWING:		CITY ENGINEER
			DATE:
ATLAS PAGE NO. 560			SHEET 17 OF 17 SHEETS

PRINT DATE: 01/27/2021