



Illinois Department of Transportation

Office of Intermodal Project Implementation / Division of Aeronautics
1 Langhorne Bond Drive / Springfield, Illinois 62707-8415

April 5, 2024

SUBJECT: Veterans Airport of Southern Illinois
Marion, Illinois
Williamson County
Illinois Project Number: MWA-4901
AIP Project Number: 3-17-0065-TBD
Contract No. WI061
Item No. 03A, April 26, 2024 Letting
Addendum A

NOTICE TO PROSPECTIVE BIDDERS

Attached is an addendum to the plans or proposal. This addendum involves revised and/or added material.

Reason for Addendum:
Additional Drainage Construction

To All Plan Holders:
Replace Sheet 3, Sheet 9, and Sheet 11 with revised Sheet 3, Sheet 9, and Sheet 11 revision date 3/26/2024.

Plan Changes:

- Additional Pay items, Sheet 3
- Remove manhole, Sheet 9
- Inlet Type A and Inlet Type B plan sheet, Sheet 11
- 15" RCP, Class IV plan sheet, Sheet 11

Special Provisions Changes:

- Updated Table of Contents
- Additional pay items added to D-701
- Addition of section D-751 and inlet pay items

Schedule of Prices Changes:
Updated pay items and quantities in Bid Additive #1

Prime contractors must utilize the enclosed material when preparing their bid and must include any changes to the Schedule of Prices in their bid.

Questions on this addendum may be directed to Matt Wiggins or Braden White of Horner & Shifrin, Inc. at 618-993-6411 blwhite@hornershifrin.com.

LETTING CONTRACT NUMBER
WI059

SUMMARY OF QUANTITIES					
TAXIWAY A & B - BASE BID					
	PAY ITEM NO.	DESCRIPTION	QTY.	UNIT	AS BUILT QTY.
1	AW150512	ENGINEER'S FIELD OFFICE	5	CAL MO	
2	AW150520	MOBILIZATION	1	LSUM	
3	AW150530	TRAFFIC MAINTENANCE	1	LSUM	
4	AW209510	CRUSHED AGGREGATE BASE COURSE	32	TON	
5	AW401610	BITUMINOUS SURFACE COURSE	6800	TON	
6	AW401650	BITUMINOUS PAVEMENT MILLING	12910	SQ YD	
7	AW401655	BUTT JOINT CONSTRUCTION	1580	SQ YD	
8	AW401660	SAW & SEAL BIT. JOINTS	19401	FOOT	
9	AW401900	REMOVE BITUMINOUS PAVEMENT	11	SQ YD	
10	AW501509	PCC PAVEMENT, 9"	161	SQ YD	
11	AW501515	PCC PAVEMENT, 15'	1900	SQ YD	
12	AW501909	9" PCC PAVEMENT REMOVAL	161	SQ YD	
13	AW501915	15" PCC PAVEMENT REMOVAL	1900	SQ YD	
14	AW605540	CLEAN AND SEAL JOINTS	16593	FOOT	
15	AW605541	CLEAN AND SEAL CRACKS	1400	FOOT	
16	AW620520	PAVEMENT MARKING-WATERBORNE	13310	SQ FT	
17	AW620525	PAVEMENT MARKING-BLACK BORDER	9812	SQ FT	
18	AW620590	TEMPORARY MARKING	13310	SQ FT	
19	AW620900	PAVEMENT MARKING REMOVAL	5110	SQ FT	
20	AW701330	30" RCP, CLASS II	40	FOOT	
21	AW701840	CONCRETE CRADLE/COLLAR	2	CU YD	
22	AW701900	REMOVE PIPE	40	FOOT	
23	AW751903	REMOVE MANHOLE	2	EACH	
24	AW751943	ADJUST MANHOLE	1	EACH	
25	AW901510	SEEDING	1.85	ACRE	
26	AW905530	TOPSOIL	8403	SQ YD	
27	AW908514	LIGHT-DUTY HYDRAULIC MULCH	1.85	ACRE	

TAXIWAY A & B - ADDITIVE BID #2					
	PAY ITEM NO.	DESCRIPTION	QTY.	UNIT	AS BUILT QTY.
1	AY108158	1/C #8 5KV UG CABLE IN UD	300	FOOT	
2	AY125962	RELOCATE BASE MOUNTED LIGHT	12	EACH	
3	AY125964	RELOCATE TAXI GUIDANCE SIGN	4	EACH	
4	AY150530	TRAFFIC MAINTENANCE	1	LSUM	
5	AY152442	OFFSITE BORROW EXCAVATION	715	CU YD	
6	AY401900	REMOVE BITUMINOUS PAVEMENT	1300	SQ YD	
7	AY620900	PAVEMENT MARKING REMOVAL	600	SQ FT	
8	AY801371	REMOVE EDGE LIGHT BASE	12	EACH	
9	AY901510	SEEDING	0.3	ACRE	
10	AY908514	LIGHT-DUTY HYDRAULIC MULCH	0.3	ACRE	

TAXIWAY A & B - ADDITIVE BID #1					
	PAY ITEM NO.	DESCRIPTION	QTY.	UNIT	AS BUILT QTY.
1	AX108158	1/C #8 5KV UG CABLE IN UD	1100	FOOT	
2	AX125932	REPLACE SIGN PANEL	6	EACH	
3	AX125962	RELOCATE BASE MOUNTED LIGHT	15	EACH	
4	AX125964	RELOCATE TAXI GUIDANCE SIGN	2	EACH	
5	AX150530	TRAFFIC MAINTENANCE	1	LSUM	
6	AX152410	UNCLASSIFIED EXCAVATION	325	CU YD	
7	AX152442	OFFSITE BORROW EXCAVATION	600	CU YD	
8	AX209510	CRUSHED AGGREGATE BASE COURSE	290	TON	
9	AX401610	BITUMINOUS SURFACE COURSE	150	TON	
10	AX401655	BUTT JOINT CONSTRUCTION	135	SQ YD	
11	AX401660	SAW & SEAL BIT. JOINTS	650	FOOT	
12	AX401900	REMOVE BITUMINOUS PAVEMENT	1225	SQ YD	
13	AX501515	PCC PAVEMENT, 15"	400	SQ YD	
14	AX501900	REMOVE PCC PAVEMENT	1010	SQ YD	
15	AX620520	PAVEMENT MARKING-WATERBORNE	675	SQ FT	
16	AX620525	PAVEMENT MARKING-BLACK BORDER	745	SQ FT	
17	AX701515	15" RCP, CLASS IV	120	FOOT	
18	AX701840	CONCRETE CRADLE/COLLAR	4	CU YD	
19	AX751411	INLET - TYPE A	1	EACH	
20	AX751412	INLET - TYPE B	1	EACH	
21	AX751903	REMOVE MANHOLE	1	EACH	
22	AX801371	REMOVE EDGE LIGHT BASE	15	EACH	
23	AX901510	SEEDING	0.5	ACRE	
24	AX908514	LIGHT-DUTY HYDRAULIC MULCH	0.5	ACRE	

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REVISIONS	
DATE	NO.
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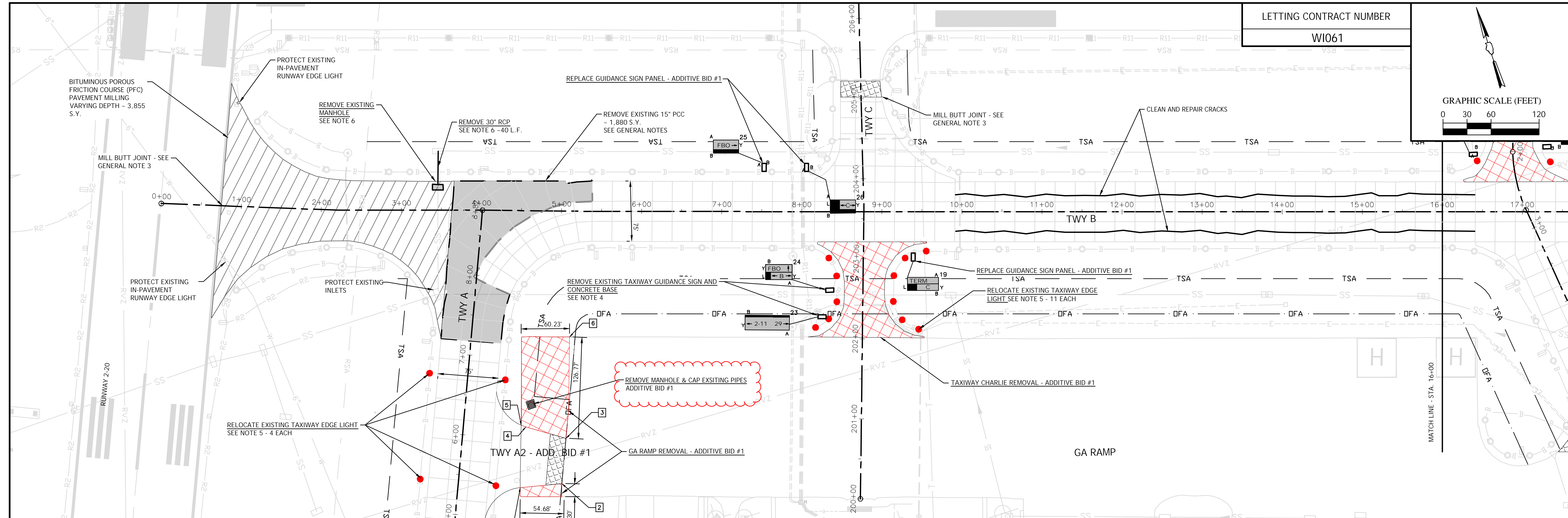
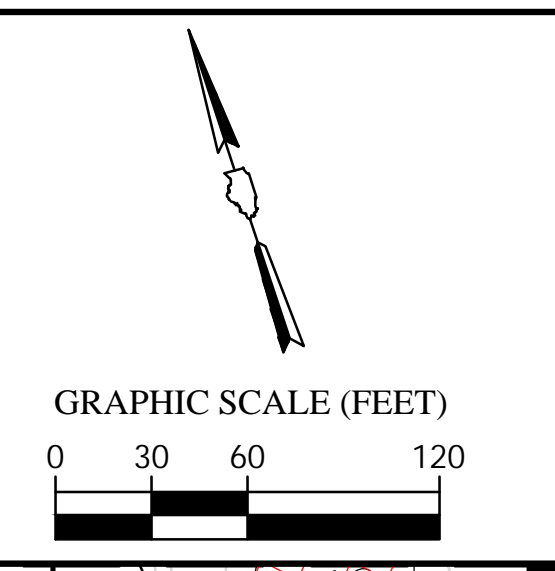
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SUMMARY OF QUANTITIES
TAXIWAY ALPHA & BRAVO REHABILITATION
VETERANS AIRPORT OF SOUTHERN ILLINOIS

Date 3/1/2024 DR. By BLW CK'D By MKW
Scale N.T.S. Job No. 19204CZ Sheet No. 3 of 30

P:\p\p\19204 Taxiway A, B, C Recount Drawings - Plans\Recount A - 500.dwg 4-04-24 08:17:14 AM bwhite

LETTING CONTRACT NUMBER
W1061



SIGN SCHEDULE				
SIGN NO.	SIDE	R/Y/L/W	LEGEND	REMARKS
19	A	Y		
	B	L/Y		
23	A	Y		
	B	Y		
24	A	L/Y		
	B	Y		
25	B	Y		
26	A	L/Y		

SCHEDULE NOTES

- ALL SIGNS ARE STYLE 2, SIZE 1 UNLESS NOTED OTHERWISE IN REMARKS COLUMN.
- ALL ARROW DEGREES ARE MEASURED FROM VERTICAL.
- SIGN SCHEDULE LEGEND:
R = WHITE LTR./RED BACKGROUND - HOLDING SIGN
Y = BLACK LTR./YELLOW BACKGROUND - DIRECTION OR DESTINATION SIGN.
L = YELLOW LTR./BLACK BACKGROUND - TAXIWAY LOCATION SIGN
W = WHITE LTR./BLACK BACKGROUND - RUNWAY DISTANCE REMAINING SIGN
A = SIGN FACE A
B = SIGN FACE B - IF NOT SHOWN, THIS FACE SHALL REMAIN BLANK
- SIGNS SCHEDULED AS STYLE 3 SHALL BE TRANSFERRED FROM THE TAXIWAY CIRCUIT TO THE RUNWAY 2-20 HIGH INTENSITY CIRCUIT.

GENERAL NOTES

- EXISTING 15" PCC SITS ON A 9" BITUMINOUS BASE TO REMAIN.
- CONCRETE REMOVAL LIMITS SHALL BE LAID OUT BY THE ENGINEER.
- BUTT JOINT SHALL BE CONSTRUCTED PER DETAIL ON TYPICAL SECTIONS. FIELD LOCATION OF JOINT SHALL BE DETERMINED BY THE ENGINEER.
- EXISTING TAXIWAY GUIDANCE SIGN SHALL BE STORED ONSITE FOR USE ON TAXIWAY A2.
- EXISTING TAXIWAY EDGE LIGHTS AND CONCRETE BASE CANS SHALL BE REMOVED AND STORED ONSITE FOR RELOCATION OR PROVIDED TO AIRPORT FOR STORAGE.
- EXISTING MANHOLE AND EXISTING 30" RCP TO BE REMOVED. SEE REPLACEMENT DETAILS ON SLAB REPLACEMENT PLAN.

POINT #	NORTHING	EASTING	STATION
1	394891.5886	786929.1777	5+40.40
2	394880.4156	786980.5624	5+50.32
3	394932.6589	787002.9152	6+07.15
4	394961.9119	786959.5265	6+16.99
5	394965.6040	786954.7632	6+18.51
6	395051.7880	787046.2693	7+33.39

LEGEND	
ASPHALT MILLING	
CONCRETE REMOVAL	
GA RAMP REMOVAL - ADD. BID # 1 & #2	
EDGE LIGHT REMOVAL	
TAXIWAY EDGE LIGHT	
TAXIWAY EDGE LIGHT ELECTRICAL	
GUIDANCE SIGN	
GUIDANCE SIGN REMOVAL	

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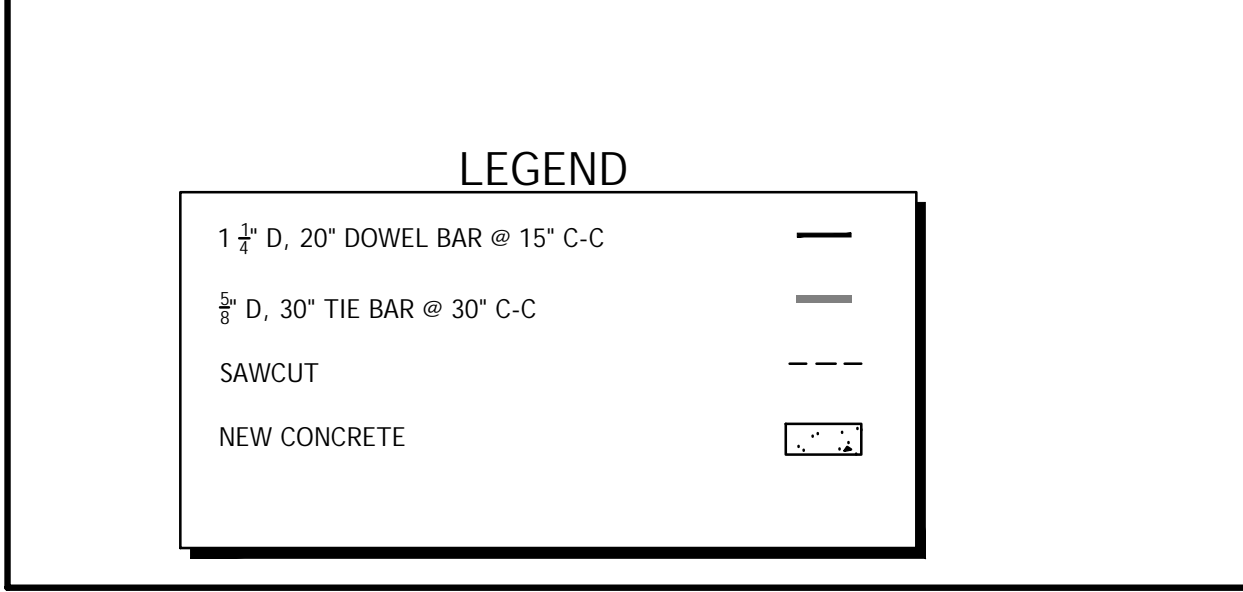
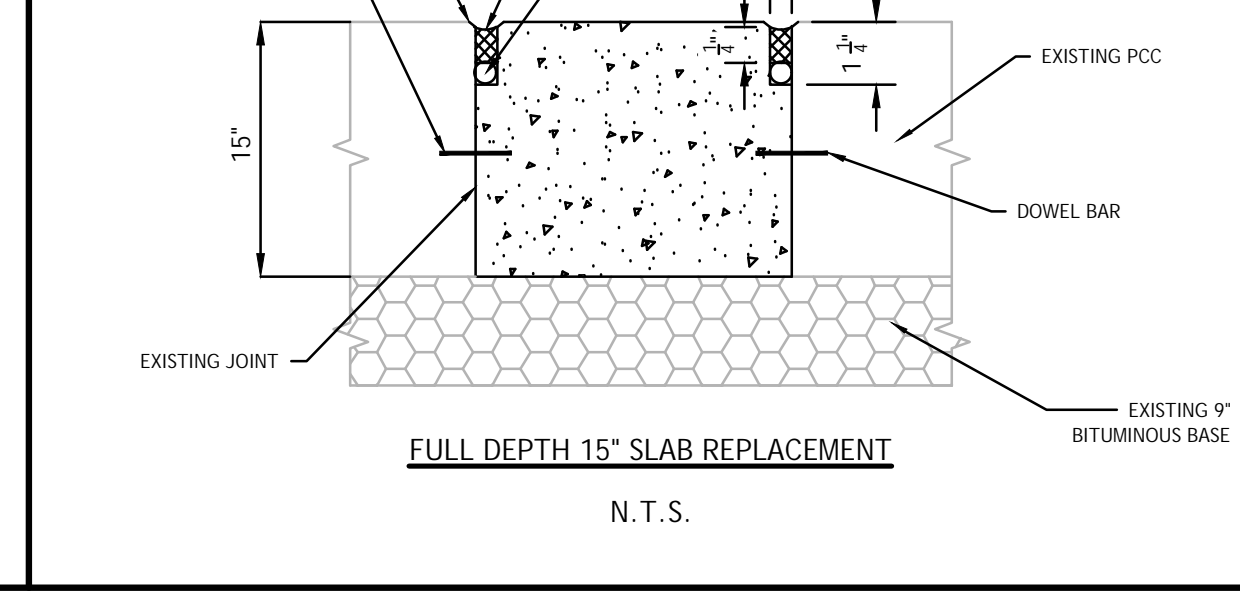
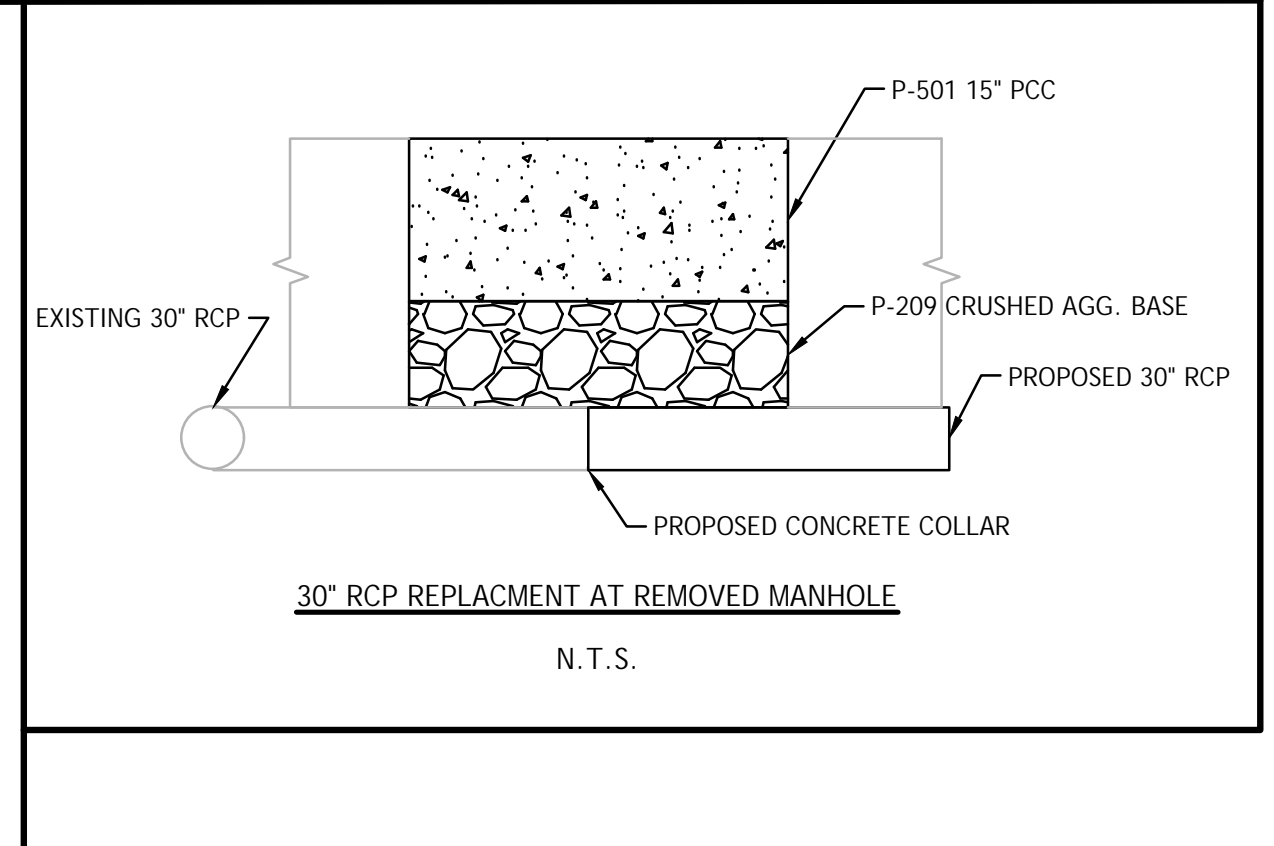
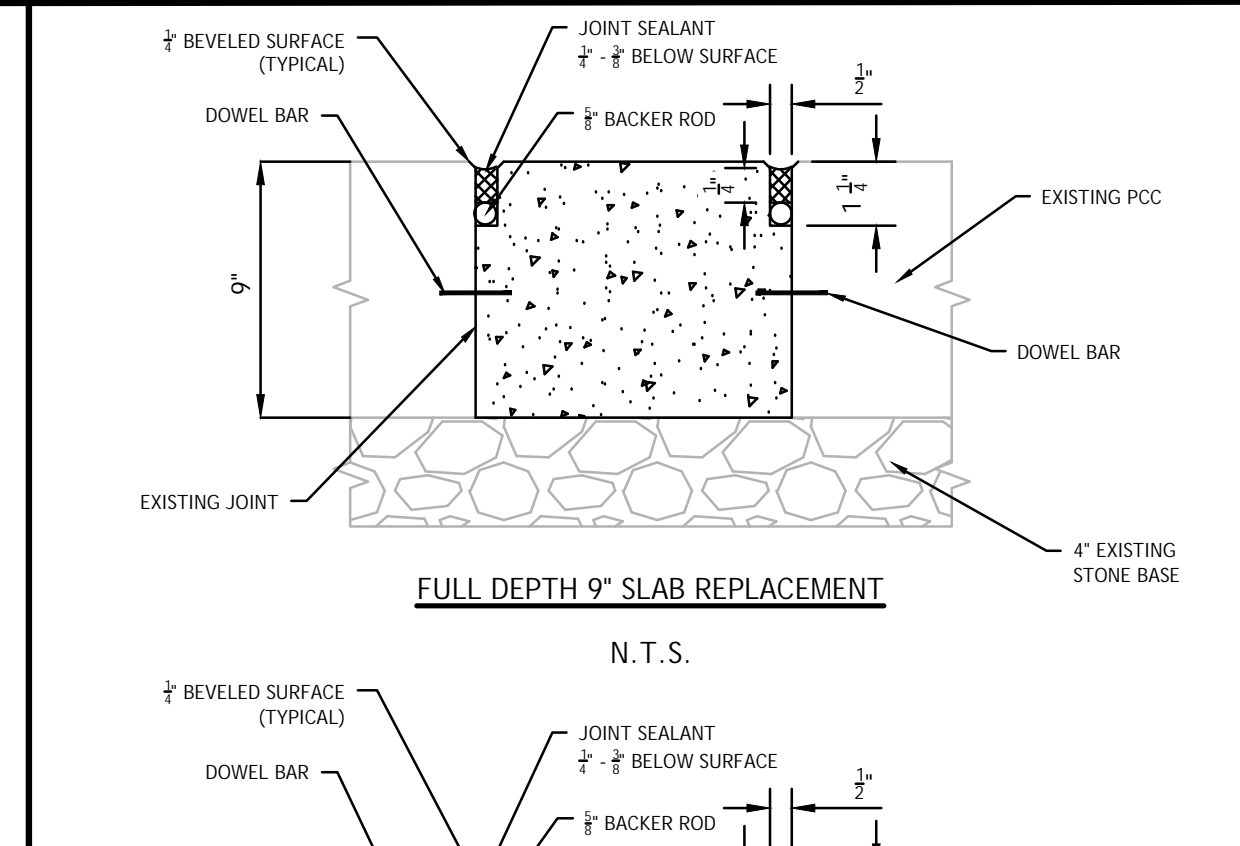
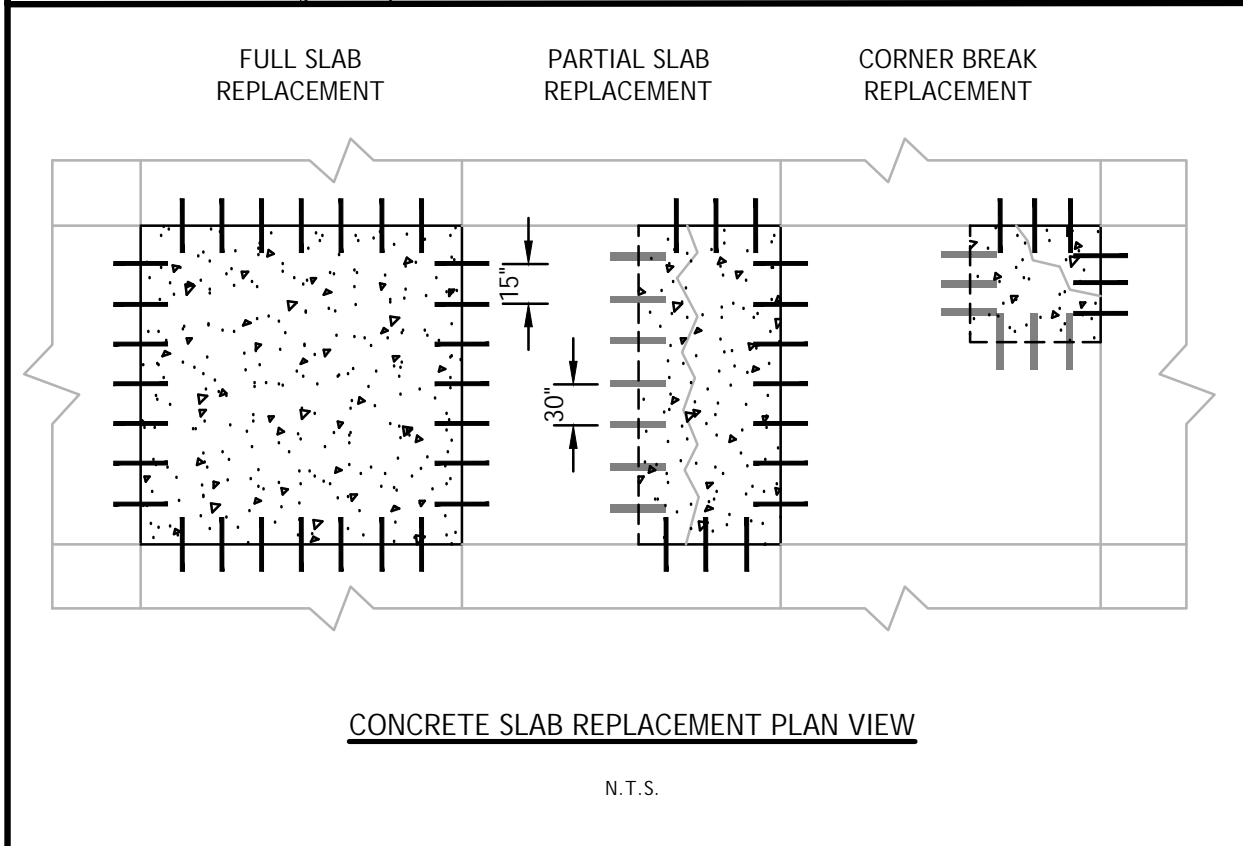
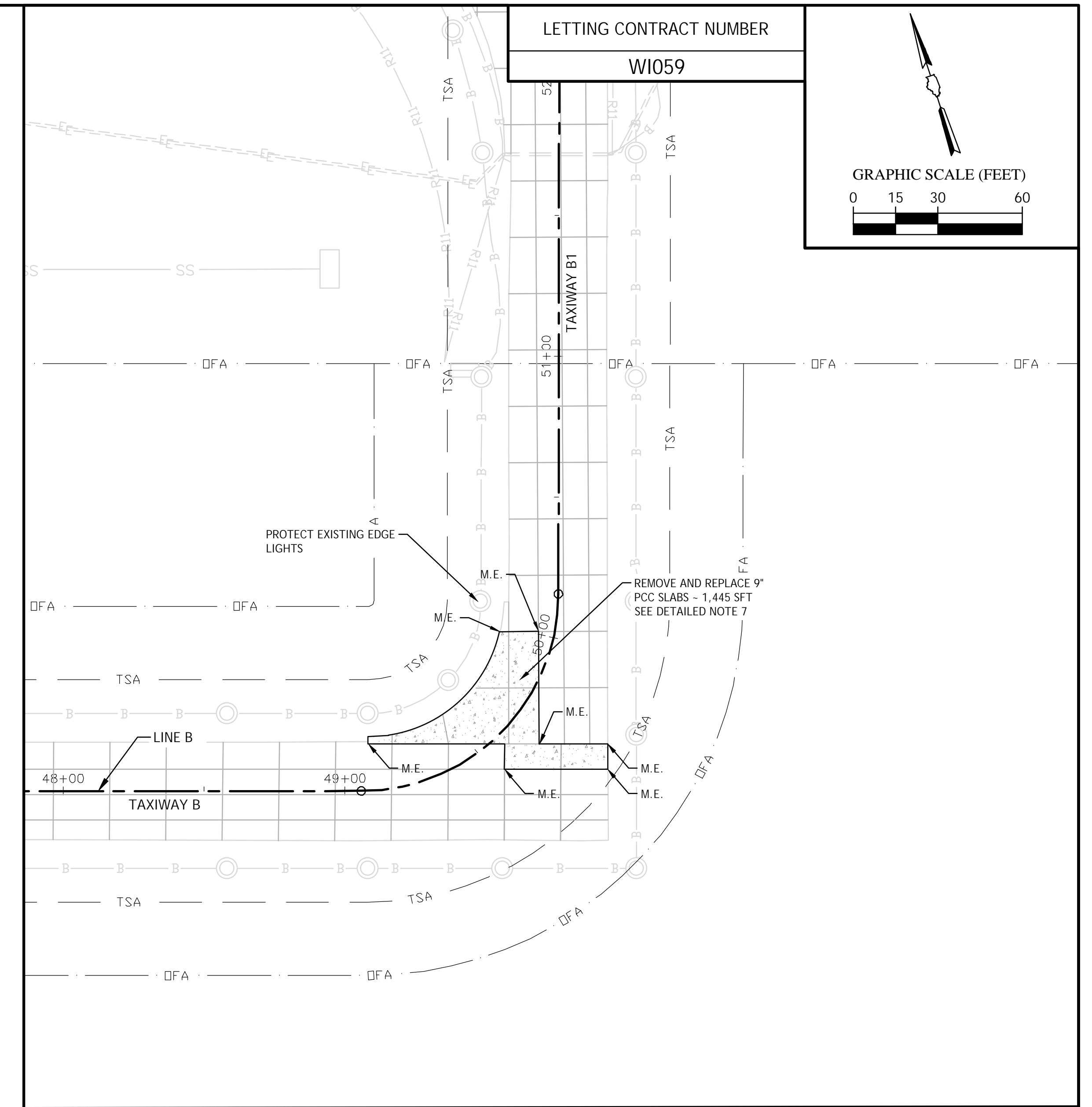
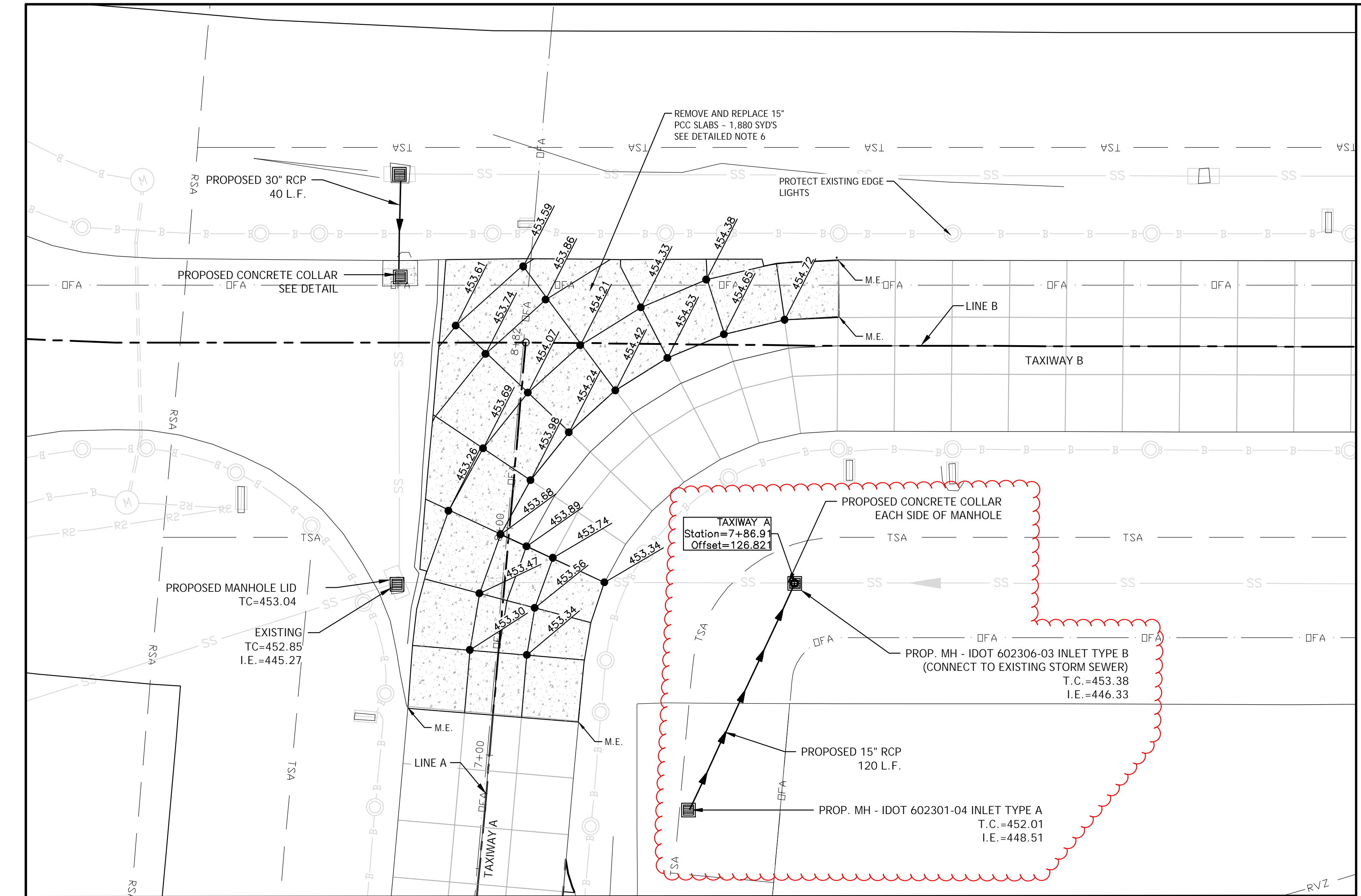
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**DEMOLITION PLAN
TAXIWAY ALPHA & BRAVO REHABILITATION
VETERANS AIRPORT OF SOUTHERN ILLINOIS**

Date: 3/1/2024 DR. By: BLW CK'D By: MKW
Scale: 1" = 60' Job No.: 19204CZ Sheet No.: 9 of 30

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DETAILED NOTES

- SEE SAFETY AND PHASING PLANS FOR PHASE LIMITATIONS.
- TAXIWAY PAVEMENT ARE DESIGNED FOR AIRCRAFT OVER 60,000 POUNDS. ALL MATERIALS AND TESTING SHALL CONFORM TO THESE REQUIREMENTS.
- THE ENGINEER SHALL LAYOUT ALL PAVEMENT REMOVAL LIMITS.
- CONCRETE EDGES AND JOINTS SHALL MATCH THE SURROUNDING SLABS.
- FULL DEPTH SAW CUT REQUIRED AT PAVEMENT REMOVAL LIMITS. ALL SAW CUTTING COST SHALL BE CONSIDERED INCIDENTAL TO THE PAVEMENT REMOVAL.
- THE CONTRACTOR SHALL TAKE EXTRA CARE TO NOT DAMAGE HMA BASE UNDER 15" PCC.
- THE CONTRACTOR SHALL COMPACT STONE SUBBASE PRIOR TO INSTALLATION OF NEW 9" PCC.
- PAVEMENT SURFACES SHALL BE KEPT CLEAN AND FREE OF DEBRIS AT ALL TIMES.
- ALL SPOIL MATERIAL RESULTING FROM CLEANING AND PAVEMENT REMOVAL SHALL BE PROPERLY DISPOSED OF OFF AIRPORT PROPERTY.
- INITIAL SAW CUT FOR CONTRACTION JOINTS BETWEEN TWO NEW SLABS SHALL BE THICKNESS/4.
- INLET TYPE A WILL REQUIRE NEENAH R-3492, R-3480-A, OR APPROVED EQUAL
- INLET TYPE B WILL REQUIRE NEENAH R-3492, R-3480-A, OR APPROVED EQUAL

LEGEND

PROPOSED PCC	
TAXIWAY EDGE LIGHT	
TAXIWAY EDGE LIGHT ELECTRICAL	
GUIDANCE SIGN	

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SLAB REPLACEMENT PLAN
TAXIWAY ALPHA & BRAVO REHABILITATION
VETERANS AIRPORT OF SOUTHERN ILLINOIS

Date 3/1/2024 DR. By BLW CK'D By MKW

Scale 1" = 30' Job No. 19204CZ Sheet No. 11 of 30

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DATE	NO.
3/26/2024	1

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BASIS OF PAYMENT

701-5.0 These prices shall fully compensate the Contractor for furnishing all materials and for all preparation, excavation, and installation of these materials; and for all labor, equipment, tools, and incidentals necessary to complete the item.

701-5.1 Payment will be made at the contract unit price per linear foot (meter) for Class II 30" RCP.

701-5.2 Not used.

701-5.3 Payment will be made at the contract unit price per cubic yard of concrete for pipe collar

701-5.4 Not used.

Payment will be made under:

Item AW701330	30" RCP, Class II – per linear foot
Item AW701840	Concrete Cradle/Collar – per cubic yard
Item AX701515	15" RCP, CLASS IV – per linear foot
Item AX701840	Concrete Cradle/Collar – per cubic yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M167	Standard Specification for Corrugated Steel Structural Plate, Zinc-Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches
AASHTO M190	Standard Specification for Bituminous-Coated Corrugated Metal Culvert Pipe and Pipe Arches
AASHTO M196	Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains
AASHTO M219	Standard Specification for Corrugated Aluminum Alloy Structural Plate for Field-Bolted Pipe, Pipe-Arches, and Arches
AASHTO M243	Standard Specification for Field Applied Coating of Corrugated Metal Structural Plate for Pipe, Pipe-Arches, and Arches
AASHTO M252	Standard Specification for Corrugated Polyethylene Drainage Pipe
AASHTO M294	Standard Specification for Corrugated Polyethylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter
AASHTO M304	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Wall Drain Pipe and Fittings Based on Controlled Inside Diameter
AASHTO MP20	Standard Specification for Steel Reinforced Polyethylene (PE) Ribbed Pipe, 300- to 900-mm (12- to 36-in.) Diameter

Item D-751 Manholes, Catch Basins, Inlets and Inspection Holes

DESCRIPTION

751-1.1 This item shall consist of construction of manholes, catch basins, inlets, and inspection holes, in accordance with these specifications, at the specified locations and conforming to the lines, grades, and dimensions shown on the plans or required by the RPR.

MATERIALS

751-2.1 Brick. The brick shall conform to the requirements of ASTM C32, Grade MS.

751-2.2 Mortar. Mortar shall consist of one part Portland cement and two parts sand. The cement shall conform to the requirements of ASTM C150, Type I. The sand shall conform to the requirements of ASTM C144.

751-2.3 Concrete. Plain and reinforced concrete used in structures, connections of pipes with structures, and the support of structures or frames shall conform to the requirements of Item P-610.

751-2.4 Precast concrete pipe manhole rings. Precast concrete pipe manhole rings shall conform to the requirements of ASTM C478. Unless otherwise specified, the risers and offset cone sections shall have an inside diameter of not less than 36 inches (90 cm) nor more than 48 inches (120 cm). There shall be a gasket between individual sections and sections cemented together with mortar on the inside of the manhole. Gaskets shall conform to the requirements of ASTM C443.

751-2.5 Corrugated metal. Corrugated metal shall conform to the requirements of American Association of State Highway and Transportation Officials (AASHTO) M36.

751-2.6 Frames, covers, and grates. The castings shall conform to one of the following requirements:

- a. ASTM A48, Class 35B: Gray iron castings
- b. ASTM A47: Malleable iron castings
- c. ASTM A27: Steel castings
- d. ASTM A283, Grade D: Structural steel for grates and frames
- e. ASTM A536, Grade 65-45-12: Ductile iron castings
- f. ASTM A897: Austempered ductile iron castings

All castings or structural steel units shall conform to the dimensions shown on the plans and shall be designed to support the loadings, aircraft gear configuration and/or direct loading, specified.

Each frame and cover or grate unit shall be provided with fastening members to prevent it from being dislodged by traffic but which will allow easy removal for access to the structure.

All castings shall be thoroughly cleaned. After fabrication, structural steel units shall be galvanized to meet the requirements of ASTM A123.

751-2.7 Steps. The steps or ladder bars shall be gray or malleable cast iron or galvanized steel. The steps shall be the size, length, and shape shown on the plans and those steps that are not galvanized shall be given a coat of asphalt paint, when directed.

751-2.8 Precast inlet structures. Manufactured in accordance with and conforming to ASTM C913.

CONSTRUCTION METHODS

751-3.1 Unclassified excavation.

a. The Contractor shall excavate for structures and footings to the lines and grades or elevations, shown on the plans, or as staked by the RPR. The excavation shall be of sufficient size to permit the placing of the full width and length of the structure or structure footings shown. The elevations of the bottoms of footings, as shown on the plans, shall be considered as approximately only; and the RPR may direct, in writing, changes in dimensions or elevations of footings necessary for a satisfactory foundation.

b. Boulders, logs, or any other objectionable material encountered in excavation shall be removed. All rock or other hard foundation material shall be cleaned of all loose material and cut to a firm surface either level, stepped, or serrated, as directed by the RPR. All seams or crevices shall be cleaned out and grouted. All loose and disintegrated rock and thin strata shall be removed. Where concrete will rest on a surface other than rock, the bottom of the excavation shall not be disturbed and excavation to final grade shall not be made until immediately before the concrete or reinforcing is placed.

c. The Contractor shall do all bracing, sheathing, or shoring necessary to implement and protect the excavation and the structure as required for safety or conformance to governing laws. The cost of bracing, sheathing, or shoring shall be included in the unit price bid for the structure.

d. All bracing, sheathing, or shoring involved in the construction of this item shall be removed by the Contractor after the completion of the structure. Removal shall not disturb or damage finished masonry. The cost of removal shall be included in the unit price bid for the structure.

e. After excavation is completed for each structure, the Contractor shall notify the RPR. No concrete or reinforcing steel shall be placed until the RPR has approved the depth of the excavation and the character of the foundation material.

751-3.2 Brick structures.

a. Foundations. A prepared foundation shall be placed for all brick structures after the foundation excavation is completed and accepted. Unless otherwise specified, the base shall consist of reinforced concrete mixed, prepared, and placed in accordance with the requirements of Item P-610.

b. Laying brick. All brick shall be clean and thoroughly wet before laying so that they will not absorb any appreciable amount of additional water at the time they are laid. All brick shall be laid in freshly made mortar. Mortar not used within 45 minutes after water has been added shall be discarded. Retempering of mortar shall not be permitted. An ample layer of mortar shall be spread on the beds and a shallow furrow shall be made in it that can be readily closed by the laying of the brick. All bed and head joints shall be filled solid with mortar. End joints of stretchers and side or cross joints of headers shall be fully buttered with mortar and a shoved joint made to squeeze out mortar at the top of the joint. Any bricks that may be loosened after the mortar has taken its set, shall be removed, cleaned, and re-laid with fresh mortar. No broken or chipped brick shall be used in the face, and no spalls or bats shall be used except where necessary to shape around irregular openings or edges; in which case, full bricks shall be placed at ends or corners where possible, and the bats shall be used in the interior of the course. In making closures, no piece of brick shorter than the width of a whole brick shall be used; and wherever practicable, whole brick shall be used and laid as headers.

c. Joints. All joints shall be filled with mortar at every course. Exterior faces shall be laid up in advance of backing. Exterior faces shall be plastered or parged with a coat of mortar not less than 3/8 inch (9 mm) thick before the backing is laid up. Prior to parging, all joints on the back of face courses shall be

cut flush. Unless otherwise noted, joints shall be not less than 1/4 inch (6 mm) nor more than 1/2 inch (12 mm) wide and the selected joint width shall be maintained uniform throughout the work.

d. Pointing. Face joints shall be neatly struck, using the weather-struck joint. All joints shall be finished properly as the laying of the brick progresses. When nails or line pins are used, the holes shall be immediately plugged with mortar and pointed when the nail or pin is removed.

e. Cleaning. Upon completion of the work all exterior surfaces shall be thoroughly cleaned by scrubbing and washing with water. If necessary to produce satisfactory results, cleaning shall be done with a 5% solution of muriatic acid which shall then be rinsed off with liberal quantities of water.

f. Curing and cold weather protection. The brick masonry shall be protected and kept moist for at least 48 hours after laying the brick. Brick masonry work or pointing shall not be done when there is frost on the brick or when the air temperature is below 50°F (10°C) unless the Contractor has, on the project ready to use, suitable covering and artificial heating devices necessary to keep the atmosphere surrounding the masonry at a temperature of not less than 60°F (16°C) for the duration of the curing period.

751-3.3 Concrete structures. Concrete structures which are to be cast-in-place within the project boundaries shall be built on prepared foundations, conforming to the dimensions and shape indicated on the plans. The construction shall conform to the requirements specified in Item P-610. Any reinforcement required shall be placed as indicated on the plans and shall be approved by the RPR before the concrete is placed.

All invert channels shall be constructed and shaped accurately to be smooth, uniform, and cause minimum resistance to flowing water. The interior bottom shall be sloped to the outlet.

751-3.4 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another RPR approved third party certification program.

Precast concrete structures shall conform to ASTM C478. Precast concrete structures shall be constructed on prepared or previously placed slab foundations conforming to the dimensions and locations shown on the plans. All precast concrete sections necessary to build a completed structure shall be furnished. The different sections shall fit together readily. Joints between precast concrete risers and tops shall be full-bedded in cement mortar and shall: (1) be smoothed to a uniform surface on both interior and exterior of the structure or (2) utilize a rubber gasket per ASTM C443. The top of the upper precast concrete section shall be suitably formed and dimensioned to receive the metal frame and cover or grate, or other cap, as required. Provision shall be made for any connections for lateral pipe, including drops and leads that may be installed in the structure. The flow lines shall be smooth, uniform, and cause minimum resistance to flow. The metal or metal encapsulated steps that are embedded or built into the side walls shall be aligned and placed in accordance to ASTM C478. When a metal ladder replaces the steps, it shall be securely fastened into position.

751-3.5 Corrugated metal structures. Corrugated metal structures shall be prefabricated. All standard or special fittings shall be furnished to provide pipe connections or branches with the correct dimensions and of sufficient length to accommodate connecting bands. The fittings shall be welded in place to the metal structures. The top of the metal structure shall be designed so that either a concrete slab or metal collar may be attached to allow the fastening of a standard metal frame and grate or cover. Steps or ladders shall be furnished as shown on the plans. Corrugated metal structures shall be constructed on prepared foundations, conforming to the dimensions and locations as shown on the plans. When indicated, the structures shall be placed on a reinforced concrete base.

751-3.6 Inlet and outlet pipes. Inlet and outlet pipes shall extend through the walls of the structures a sufficient distance beyond the outside surface to allow for connections. They shall be cut off flush with

the wall on the inside surface of the structure, unless otherwise directed. For concrete or brick structures, mortar shall be placed around these pipes to form a tight, neat connection.

751-3.7 Placement and treatment of castings, frames, and fittings. All castings, frames, and fittings shall be placed in the positions indicated on the plans or as directed by the RPR, and shall be set true to line and elevation. If frames or fittings are to be set in concrete or cement mortar, all anchors or bolts shall be in place before the concrete or mortar is placed. The unit shall not be disturbed until the mortar or concrete has set.

When frames or fittings are placed on previously constructed masonry, the bearing surface of the masonry shall be brought true to line and grade and shall present an even bearing surface so the entire face or back of the unit will come in contact with the masonry. The unit shall be set in mortar beds and anchored to the masonry as indicated on the plans or as directed by the RPR. All units shall set firm and secure.

After the frames or fittings have been set in final position, the concrete or mortar shall be allowed to harden for seven (7) days before the grates or covers are placed and fastened down.

751-3.8 Installation of steps. The steps shall be installed as indicated on the plans or as directed by the RPR. When the steps are to be set in concrete, they shall be placed and secured in position before the concrete is placed. When the steps are installed in brick masonry, they shall be placed as the masonry is being built. The steps shall not be disturbed or used until the concrete or mortar has hardened for at least seven (7) days. After seven (7) days, the steps shall be cleaned and painted, unless they have been galvanized.

When steps are required with precast concrete structures they shall meet the requirements of ASTM C478. The steps shall be cast into the side of the sections at the time the sections are manufactured or set in place after the structure is erected by drilling holes in the concrete and cementing the steps in place.

When steps are required with corrugated metal structures, they shall be welded into aligned position at a vertical spacing of 12 inches (300 mm).

Instead of steps, prefabricated ladders may be installed. For brick or concrete structures, the ladder shall be held in place by grouting the supports in drilled holes. For metal structures, the ladder shall be secured by welding the top support to the structure and grouting the bottom support into drilled holes in the foundation or as directed by the RPR.

751-3.9 Backfilling.

a. After a structure has been completed, the area around it shall be backfilled with approved material, in horizontal layers not to exceed 8 inches (200 mm) in loose depth, and compacted to the density required in Item P-152. Each layer shall be deposited evenly around the structure to approximately the same elevation. The top of the fill shall meet the elevation shown on the plans or as directed by the RPR.

b. Backfill shall not be placed against any structure until approved by the RPR. For concrete structures, approval shall not be given until the concrete has been in place seven (7) days, or until tests establish that the concrete has attained sufficient strength to withstand any pressure created by the backfill and placing methods.

c. Backfill shall not be measured for direct payment. Performance of this work shall be considered an obligation of the Contractor covered under the contract unit price for the structure involved.

751-3.10 Cleaning and restoration of site. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt, and rubbish from the site. Surplus dirt may be deposited in embankments, shoulders, or as approved by the RPR. The Contractor shall restore all disturbed areas to their original condition. The Contractor shall remove all tools and equipment, leaving the entire site free, clear, and in good condition.

METHOD OF MEASUREMENT

751-4.1 Manholes, catch basins, inlets, and inspection holes shall be measured by the unit.

BASIS OF PAYMENT

751-5.1 The accepted quantities of manholes, catch basins, inlets, and inspection holes will be paid for at the contract unit price per each in place when completed. This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling and placing of the materials; furnishing and installation of such specials and connections to pipes and other structures as may be required to complete the item as shown on the plans; and for all labor equipment, tools and incidentals necessary to complete the structure.

Payment will be made under:

Item AX751411	INLET – TYPE A – per each
Item AX751412	INLET – TYPE B – per each
Item AX751903	REMOVE MANHOLE – per each

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A27	Standard Specification for Steel Castings, Carbon, for General Application
ASTM A47	Standard Specification for Ferritic Malleable Iron Castings
ASTM A48	Standard Specification for Gray Iron Castings
ASTM A123	Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A283	Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates
ASTM A536	Standard Specification for Ductile Iron Castings
ASTM A897	Standard Specification for Austempered Ductile Iron Castings
ASTM C32	Standard Specification for Sewer and Manhole Brick (Made from Clay or Shale)
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C443	Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.
ASTM C478	Standard Specification for Precast Reinforced Concrete Manhole Sections
ASTM C913	Standard Specification for Precast Concrete Water and Wastewater Structures.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M36 Standard Specification for Corrugated Steel Pipe, Metallic-Coated, for
Sewers and Drains

END OF ITEM D-751