STERLING DOWNTOWN

CITY OF ALBUQUERQUE, IMPROVEMENTS FOR PAVING AND UTILITIES, ON 800 SILVER AVENUE SW BETWEEN 8TH STREET AND 9TH STREET.

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10	STRIPING AND SIGNAGE PLAN		(PWO #7194.8 DRB#1009605	
11	CURB RAMP DETAILS			
12	CURB RAMP DETAILS	Majewski Design Group, Inc, project is in substantial com accordance with the design Work Order Plans. The PWO was dated 7-3-17. The recording of the original design.		
13	GRADING PLAN (FOR REFERNO			
14	HPPP CONSTRUCTION NOTES		by Tony Harris NMPS # 1146 certify that I have personally May 21, 2018 and have dete that the actual site conditio true and correct to the best This certification is submitte	
15	HPPP CONSTRUCTION NOTES			

Certification-194.85, 9605)

ORD DRAWINGS

Matthew Garduno

ury Stamm Construction Inc.

Muhanned Adeeb

8/16/2019

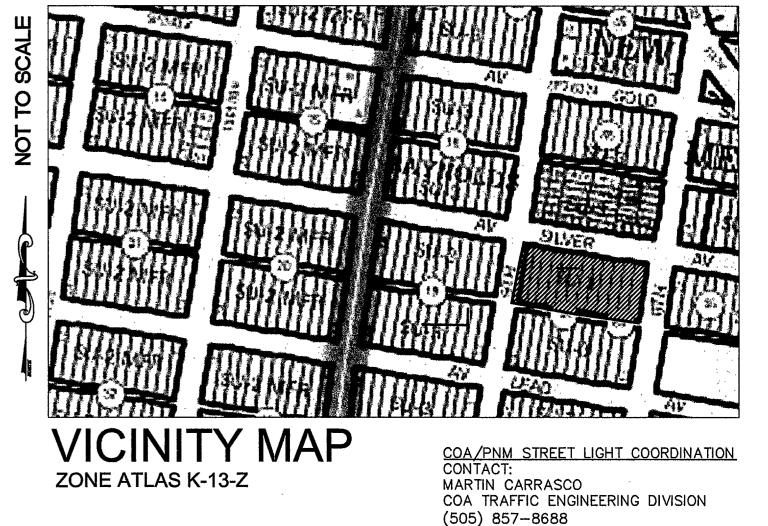
APE 14221, of the firm The Hartman + oup, Inc, hereby certify that the tial compliance with and in design intent of the Public The PWO project # is 7194.85 and The record information that has been ginal design documents was provided PS # 11463 on 5-21-18. I further ersonally visited the project site on ave determined by visual inspection conditions shown on this plan to be true and correct to the best of my knowledge and belief. This certification is submitted in support a request for acceptance and a release of water meters for the apartment building.

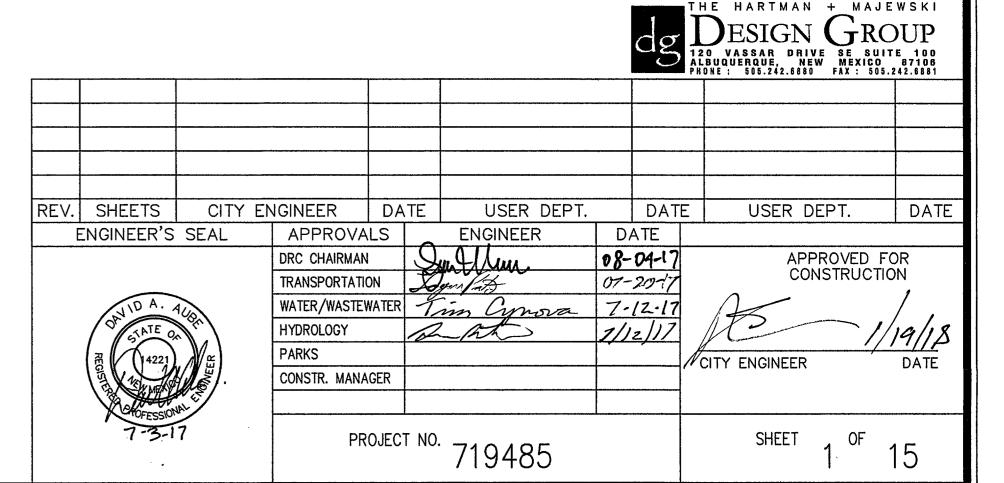
The record information presented hereon is not necessarily complete and intended only to verify substantial compliance of the utility aspects of this project. Those relying on the record documents are advised to obtain independent verification of its accuracy before using it for any other purpose.

GENERAL NOTES

- ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION THROUGH MOST RECENT UPDATE (#9) AND WILL BE REFERRED TO HEREIN AS "STANDARD SPECIFICATIONS".
- 2. ALL CONSTRUCTION WITHIN CITY RIGHT-OF-WAY OR EASEMENTS MUST BE DONE FROM APPROVED WORK ORDER DOCUMENTS FROM THE CITY.
- ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, ORDINANCES, RULES, AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
- 4. CONTRACTOR AGREES THAT HE SHALL ASSUME THE SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.
- 5. ALL EXCAVATION, TRENCHING, AND SHORING ACTIVITIES MUST BE ACCOMPLISHED IN ACCORDANCE WITH OSHA 29CFR 1926.650 SUBPART P.
- 6. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
- 7. CONTRACTOR SHALL SECURE A "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION (IF REQUIRED BY CITY OF ALBUQUERQUE PUBLIC WORKS).
- 8. PERMIT REQUESTS MAY BE DENIED OR DELAYED DUE TO CONFLICTS WITH OTHER PROJECTS IN THE AREA.
- CONTRACTOR SHALL NOTIFY THE ENGINEER NOT LESS THAN SEVEN (7) DAYS PRIOR TO STARTING WORK IN ORDER THAT THE CITY SURVEYOR MAY TAKE NECÉSSARY MEASURES TO INSURE THE PRESERVATION OF SURVEY MONUMENTS. CONTRACTOR SHALL NOT DISTURB PERMANENT SURVEY MONUMENTS WITHOUT THE CONSENT OF THE CITY SURVEYOR AND SHALL NOTIFY THE CITY SURVEYOR AND BEAR THE EXPENSE OF REPLACING ANY THAT MAY BE DISTURBED WITHOUT PERMISSION. ONLY THE CITY SURVEYOR SHALL REPLACE SURVEY MONUMENTS. WHEN A CHANGE IS MADE IN THE FINISHED ELEVATIONS OF THE PAVEMENT OF ANY ROADWAY IN WHICH A PERMANENT SURVEY MONUMENT IS LOCATED, CONTRACTOR SHALL, AT HIS OWN EXPENSE, ADJUST THE MONUMENT COVER TO THE NEW GRADE UNLESS OTHERWISE SPECIFIED. REFER TO STANDARD SPECIFICATIONS SECTION 4.4.
- 10. THE CONTRACTOR SHALL COORDINATE WITH THE WATER AUTHORITY SEVEN (7) DAYS IN ADVANCE OF PERFORMING WORK THAT WILL AFFECT THE PUBLIC WATER OR SANITARY SEWER INFRASTRUCTURE. WORK REQUIRING SHUTOFF OF FACILITIES DESIGNED AS MASTER PLAN FACILITIES MUST BE COORDINATED WITH THE WATER AUTHORITY FOURTEEN (14) DAYS IN ADVANCE OF PERFORMING SUCH WORK. ONLY WATER AUTHORITY CREWS ARE AUTHORIZED TO OPERATE PUBLIC VALVES. SHUTOFF REQUESTS MUST BE MADE ONLINE AT http://www.abcwua.org/Water_Shut_off_and_Turn_on_Procedures.aspx.
- 11. SEVEN (7) WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL SUBMIT TO CONSTRUCTION COORDINATION DIVISION A DETAILED CONSTRUCTION SCHEDULE. TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION, CONTRACTOR SHALL OBTAIN A BARRICADING PERMIT FROM THE CONSTRUCTION COORDINATION DIVISION. CONTRACTOR SHALL NOTIFY BARRICADE ENGINEER (924-3400) PRIOR TO OCCUPYING AN INTERSECTION. REFER TO SECTION 19 OF STANDARD SPECIFICATIONS.
- 12. CONTRACTOR SHALL DETERMINE IN ADVANCE OF HIS CONSTRUCTION IF OVERHEAD CONSTRUCTION OPERATIONS. IF ANY OBSTRUCTION TO CONSTRUCTION OPERATIONS IS EVIDENT, CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE APPROPRIATE UTILITY OWNER TO REMOVE OR SUPPORT THE UTILITY OBSTRUCTION. ANY COST ASSOCIATED WITH THIS EFFORT SHALL BE THE RESPONSIBILITY OF CONTRACTOR.
- 13. PNM WILL PROVIDE AT NO COST TO THE CITY OR THE CONTRACTOR THE REQUIRED PERSONNEL FOR INSPECTION OR OBSERVATION DEEMED NECESSARY BY PNM WHILE THE CONTRACTOR IS EXPOSING PNM'S CABLES. HOWEVER, THE CONTRACTOR SHALL BE CHARGED THE TOTAL COST ASSOCIATED WITH REPAIRS TO ANY DAMAGED CABLES OR FOR ANY COST ASSOCIATED WITH SUPPORTING OR RELOCATING THE POLES AND CABLES DURING CONSTRUCTION.
- 14. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM (260-1990) FOR LOCATION OF EXISTING UTILITIES.
- 15. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL PERTINENT EXISTING UTILITIES AND/OR OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- 16. EXISTING UTILITY LINE LOCATION ARE SHOWN IN AN APPROXIMATE MANNER ONLY AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. THE LOCATION OF ANY SUCH EXISTING LINES IS BASED UPON INFORMATION PROVIDED BY THE UTILITY COMPANY, THE OWNER, OR BY OTHERS, AND THE INFORMATION MAY BE INCOMPLETE OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES.
- 17. THE ENGINEER HAS UNDERTAKEN NO FIELD VERIFICATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UNDERGROUND UTILITY LINES, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY, AND PRESERVE ANY AND ALL EXISTING UTILITIES.
- 18. CONTRACTOR SHALL SUPPORT ALL EXISTING, UNDERGROUND UTILITY LINES WHICH, BECOME EXPOSED DURING CONSTRUCTION. PAYMENT FOR SUPPORTING WORK SHALL BE INCIDENTAL TO WATERLINE AND/OR SEWER LINE COSTS.
- 19. CONTRACTOR IS TO SUPPORT AND MAINTAIN THE INTEGRITY OF ALL UNDERGROUND TELEPHONE, ELECTRIC CABLES AND CABLE TELEVISION UTILITIES AT NO ADDITIONAL COST TO THE OWNER. CABLE IS TO BE SUPPORTED AT A MAXIMUM OF EVERY FIFTEEN (15) FEET. CONTRACTOR SHALL COORDINATE WITH AND MAKE NECESSARY PAYMENT (IF ANY) TO UTILITY OWNER FOR DE-ENERGIZATION OF CABLES OR SUPPORT OF CABLES BY THE UTILITY OWNER.
- 20. CONTRACTOR SHALL ASSIST THE ENGINEER/INSPECTOR IN THE RECORDING OF DATA ON ALL UTILITY LINES AND ACCESSORIES AS REQUIRED BY THE CITY OF ALBUQUERQUE FOR THE PREPARATION OF "AS CONSTRUCTED" DRAWINGS. CONTRACTOR SHALL NOT COVER UTILITY LINES AND ACCESSORIES UNTIL ALL DATA HAS BEEN RECORDED.
- 21. ALL UTILITIES AND UTILITY SERVICE LINES SHALL BE INSTALLED PRIOR TO PAVING.
- 22. ALL BACKFILL FOR TRENCHES SHALL BE COMPACTED TO A MINIMUM OF 95% MAXIMUM DENSITY PER ASTM D-1557 AND AS DIRECTED BY STANDARD SPECIFICATIONS SECTION 301.4 AND STANDARD DRAWING NUMBER 2465.
- 23. CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY OR PRIVATE ROADWAY EASEMENTS SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET OR INTO ANY PUBLIC DRAINAGE FACILITY.

- 24. REMOVALS SHALL BE DISPOSED OF OFF-SITE AND SHALL BE THE RESPONSIBILITY OF THE
- 25. CONTRACTOR SHALL DISPOSE OF ALL UNSUITABLE MATERIAL IN AN ENVIRONMENTALLY ACCEPTABLE MANNER AT A LOCATION ACCEPTABLE TO THE PROJECT MANAGER. THERE WILL BE NO DIRECT COMPENSATION FOR THIS WORK.
- 26. CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN A MANNER WHICH WILL MINIMIZE INTERFERENCE WITH LOCAL TRAFFIC.
- 27. ANY WORK AFFECTING AN ARTERIAL ROADWAY MAY REQUIRE TWENTY-FOUR (24) HOURS OF
- 28. ALL EXISTING SIGNS, MARKERS, DELINEATORS, ETC., WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED, STORED AND RE-SET BY THE CONTRACTOR.
- 29. WHEN ABUTTING EXISTING PAVEMENT TO NEW, SAW CUT EXISTING PAVEMENT TO A STRAIGHT EDGE AND AT A RIGHT ANGLE, OR AS APPROVED BY THE FIELD ENGINEER. REMOVAL OF BROKEN OR CRACKED PAVEMENT WILL ALSO BE REQUIRED.
- 30. REMOVAL OF EXISTING CURB AND GUTTER OR SIDEWALK SHALL BE TO THE NEAREST JOINT.
- 31. AT HIS OWN EXPENSE, CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ANY DAMAGE TO EXISTING PAVEMENT, PAVEMENT MARKINGS, CURB AND GUTTER, SIGNAGE, HANDICAP RAMPS. AND SIDEWALK DURING CONSTRUCTION APART FROM THOSE SECTIONS INDICATED FOR REMOVAL ON THE PLANS AND SHALL REPAIR OR REPLACE, PER STANDARD SPECIFICATIONS.
- 32. ALL STREET STRIPING, ALTERED OR DESTROYED, SHALL BE REPLACED WITH PLASTIC REFLECTORIZED PAVEMENT MARKINGS BY CONTRACTOR TO SAME LOCATION AS EXISTING, OR AS INDICATED BY THIS PLAN SET.
- 33. CONTRACTOR SHALL MAINTAIN A GRAFFITI-FREE WORK SITE. CONTRACTOR SHALL PROMPTLY REMOVE ANY AND ALL GRAFFITI FROM EQUIPMENT, WHETHER PERMANENT OR TEMPORARY.
- 34. ELECTRONIC MARKER SPHERES (EMS) WILL BE PLACED ACCORDING TO SECTION 170 OF THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION AS REVISED THROUGH UPDATE #9.
- 35. THE CONTRACTOR WILL BE RESPONSIBLE FOR DISPOSING OF ALL DEBRIS, INCLUDING, NOT LIMITED TO HAZARDOUS WASTE AT DISPOSAL SITES APPROVED BY GOVERNMENTAL AGENCIES REGULATING THE DISPOSAL OF SUCH MATERIALS.
- 36. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING ALL CONSTRUCTION SIGNING UNTIL PROJECT HAS BEEN ACCEPTED BY THE CITY AND ABCWUA.
- 37. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING THE EXISTING UTILITY LINES WITHIN THE CONSTRUCTION AREA. ANY DAMAGE TO EXISTING FACILITIES CAUSED BY CONSTRUCTION ACTIVITY SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR IMMEDIATELY AND WITHOUT DELAY AT THE CONTRACTOR'S EXPENSE AND APPROVED BY THE CONSTRUCTION OBSERVER.
- 38. MAINTAIN EXISTING ACCESS FOR ALL BUSINESSES AND PRIVATE PROPERTY DURING THE COURSE OF CONSTRUCTION, FOR BOTH VEHICLES AND PEDESTRIANS, INCLUDING ADA ACCESS.
- 39. CONTRACTOR TO TEST SUBGRADE R-VALUE PRIOR TO CONSTRUCTION. IN THE EVENT THE R-VALUE IS LESS THAN 50, REMOVE 2 FEET OF SUBGRADE MATERIAL AND IMPORT MATERIAL WITH R-VALUE GREATER THAN 50 OR CONTACT THE ENGINEER IMMEDIATELY SO THE PAVEMENT SECTION CAN BE MODIFIED.





= TELEPHONE TA = TOP OF ASPHALT PAVEMENT EX SAS MANHOLE TAC = TOP OF ASPHALT CURB PROP SAS MANHOLE = TOP OF CONCRETE SLAB (PAVEMENT) PROP WATER METER = TOP OF CONCRETE CURB = TOP OF SIDEWALK (S 83'39'25" W) RECORD BEARING AND DISTANCES TW = TOP OF WALLTYP = TYPICAL— — — SS — — EX SANITARY SEWER LINE

LEGEND

= UNDERGROUND ELECTRIC = UNDERGROUND TELEPHONE

WM = WATER METER

WV = WATER VALVE

ABBREVIATIONS

= AIR LINE

BLDG = BUILDING

BM = BENCHMARK

CO = CLEANOUT

CONC = CONCRETE

CL = CENTERLINE

DIP = DUCTILE IRON PIPE

EG = EXISTING GRADE

FF = FINISHED FLOOR ELEVATION

= FINISHED GRADE

= FIRE HYDRAN1

= FLOW LINE

= GAS METER

INV = INVERT ELEVATION

GV = GATE VALVE

HI PT = HIGH POINT

LF = LINEAL FEET

LP = LIGHT POLE

L/S = LANDSCAPING

= MANHOLE

PP = POWER POLE

R/W = RIGHT-OF-WAY

SAS = SANITARY SEWER

= STORM DRAIN

STA = STATION

STD = STANDARD

SW = SIDEWALK

PROP = PROPOSED

= MEDIUM PRESSURE GAS PIPE

= OVERHEAD ELECTRIC LINE

= ELECTRICAL PULL BOX

PVC = POLYVINYL CHLORIDE PIPE

RCP = REINFORCED CONCRETE PIPE

PCC = PORTLAND CEMENT CONCRETE

= OVERHEAD TELEPHONE LINE

= NATURAL GROUND

DIA = DIAMETER

DTL = DETAIL

DWG = DRAWING

ELEC. = ELECTRIC

ELEV = ELEVATION

EX = EXISTING

DWS = WATER

CIP = CAST IRON PIPE

= AREA DRAIN

= ABANDONED IN PLACE

CATV = CABLE TELEVISION LINE

CMP = CORRUGATED METAL PIPE

COA = CITY OF ALBUQUERQUE

CMPA = CORRUGATED METAL PIPE ARCH

NEW CURB AND GUTTER & SIDEWALK EX CURB AND GUTTER & SIDEWALK PROP FIRE HYDRANT

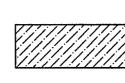
PROP WATER VALVE

N 00°07'27" W MEASURED BEARING AND DISTANCES

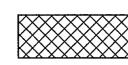
— — — PROPOSED WATER LINE

— — — DWS— — — EX WATER LINE

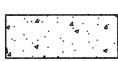
ASPHALT UTILITY PATCH PER 2465



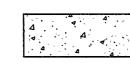
SAWCUT, REMOVAL OF ASPHALT



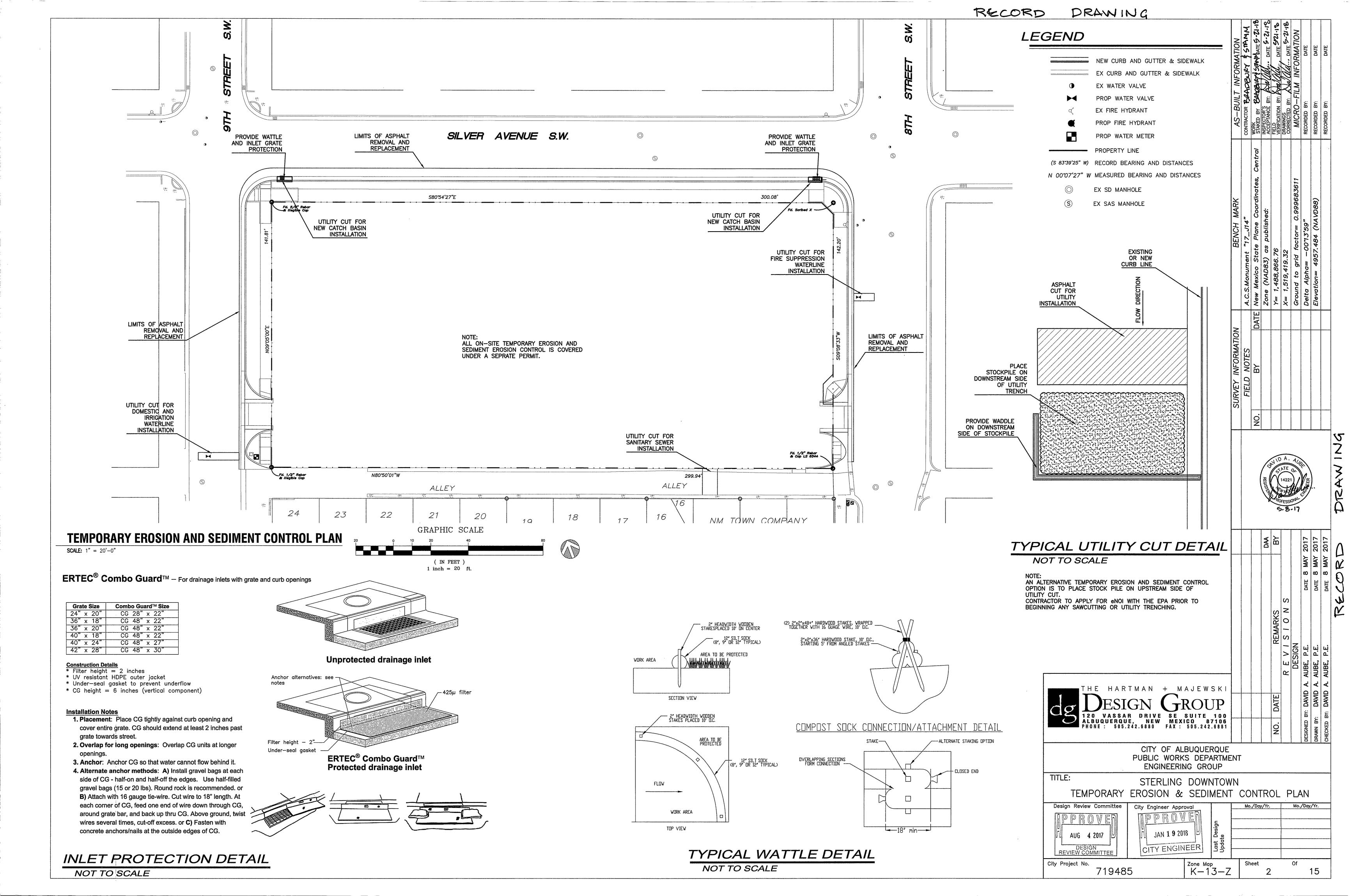
CURB AND GUTTER REMOVAL

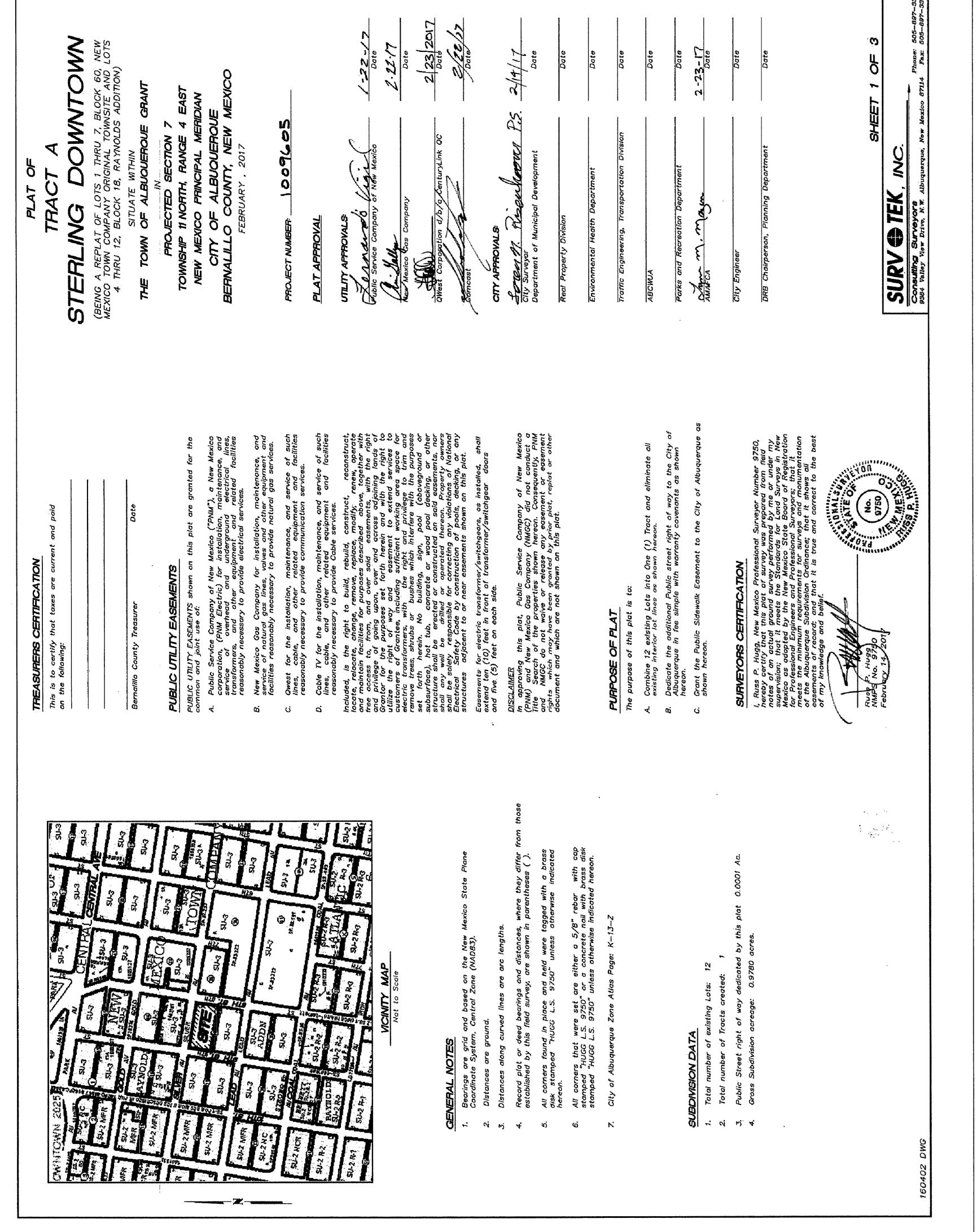


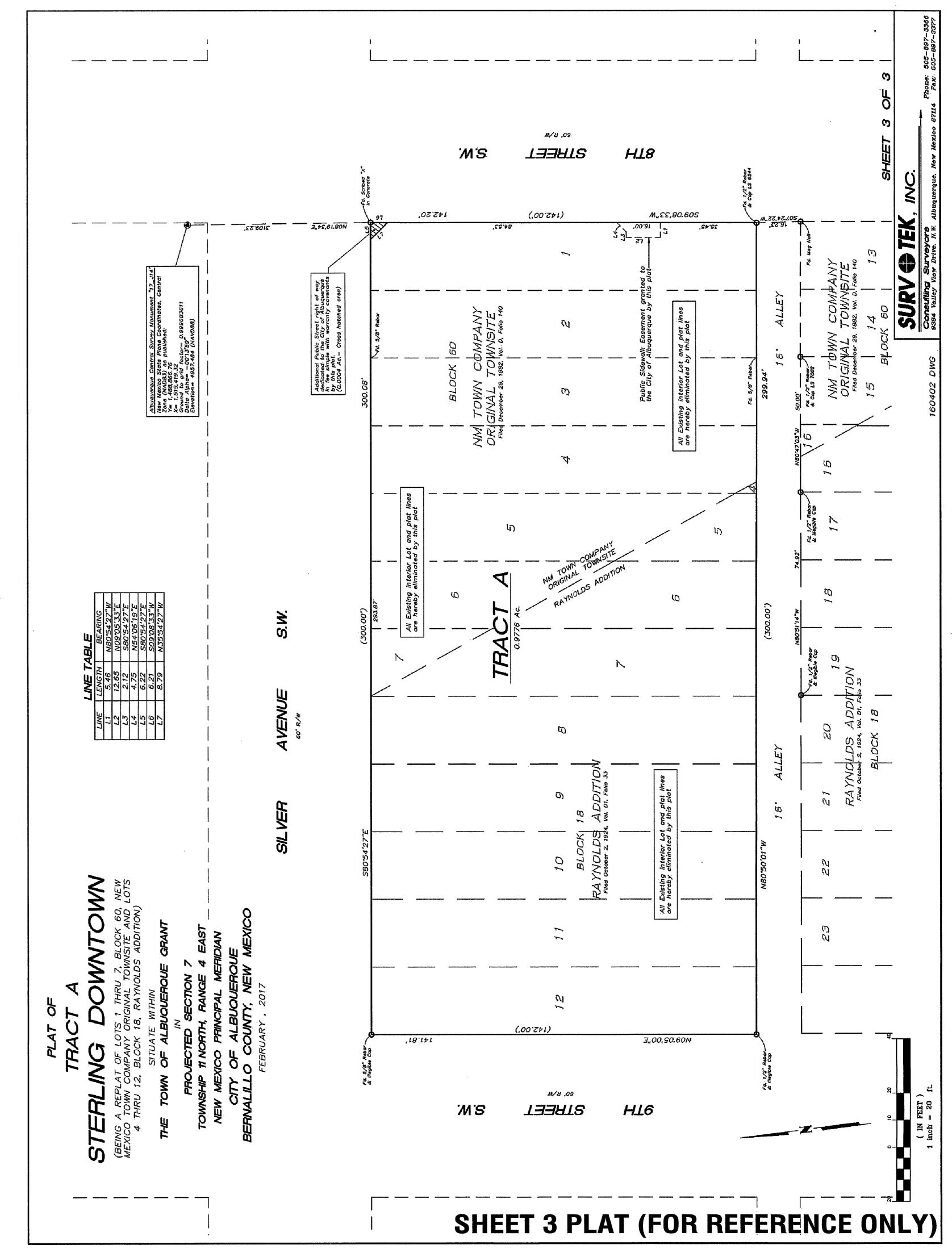
CONCRETE SIDEWALK REMOVAL

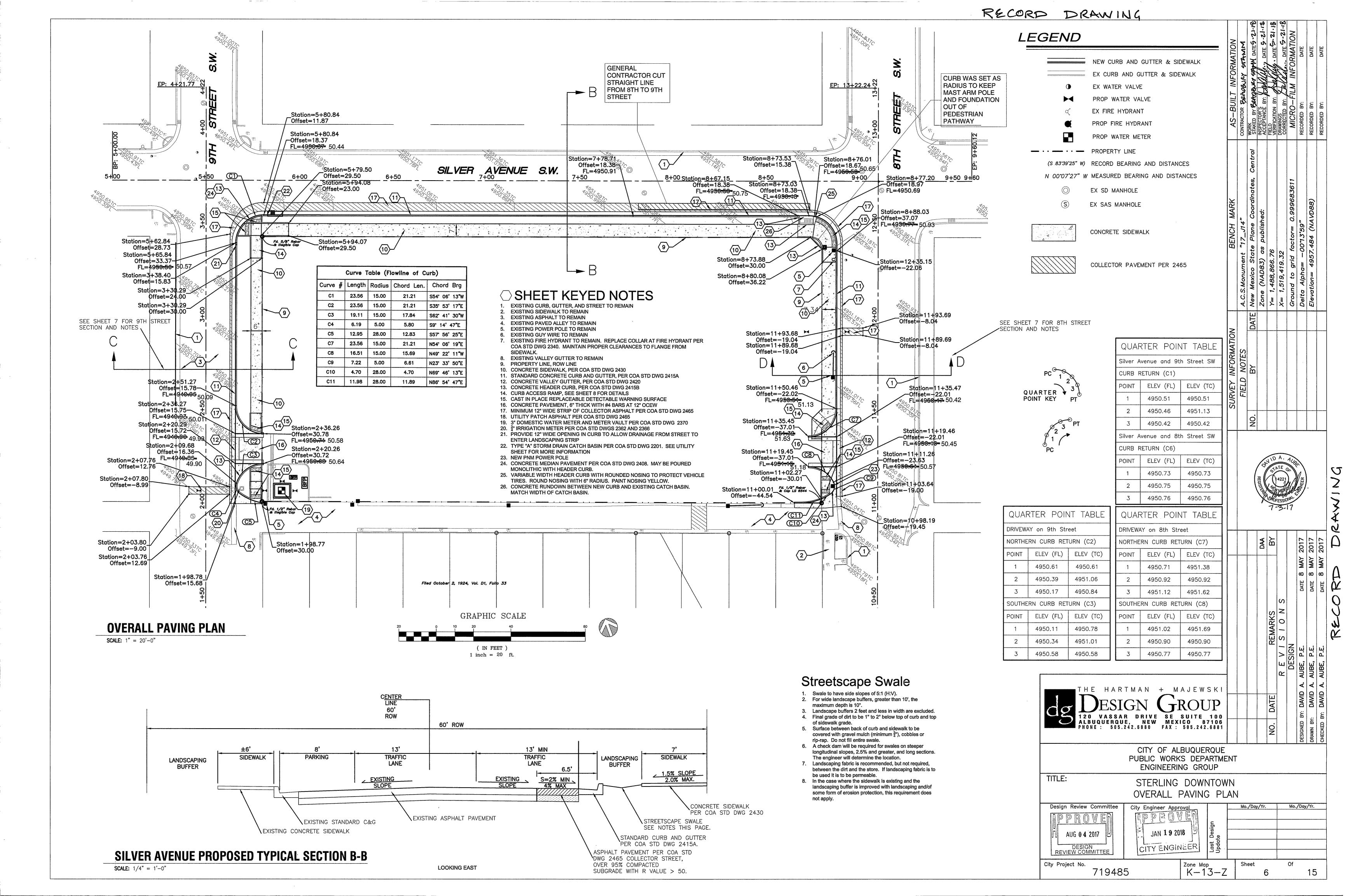


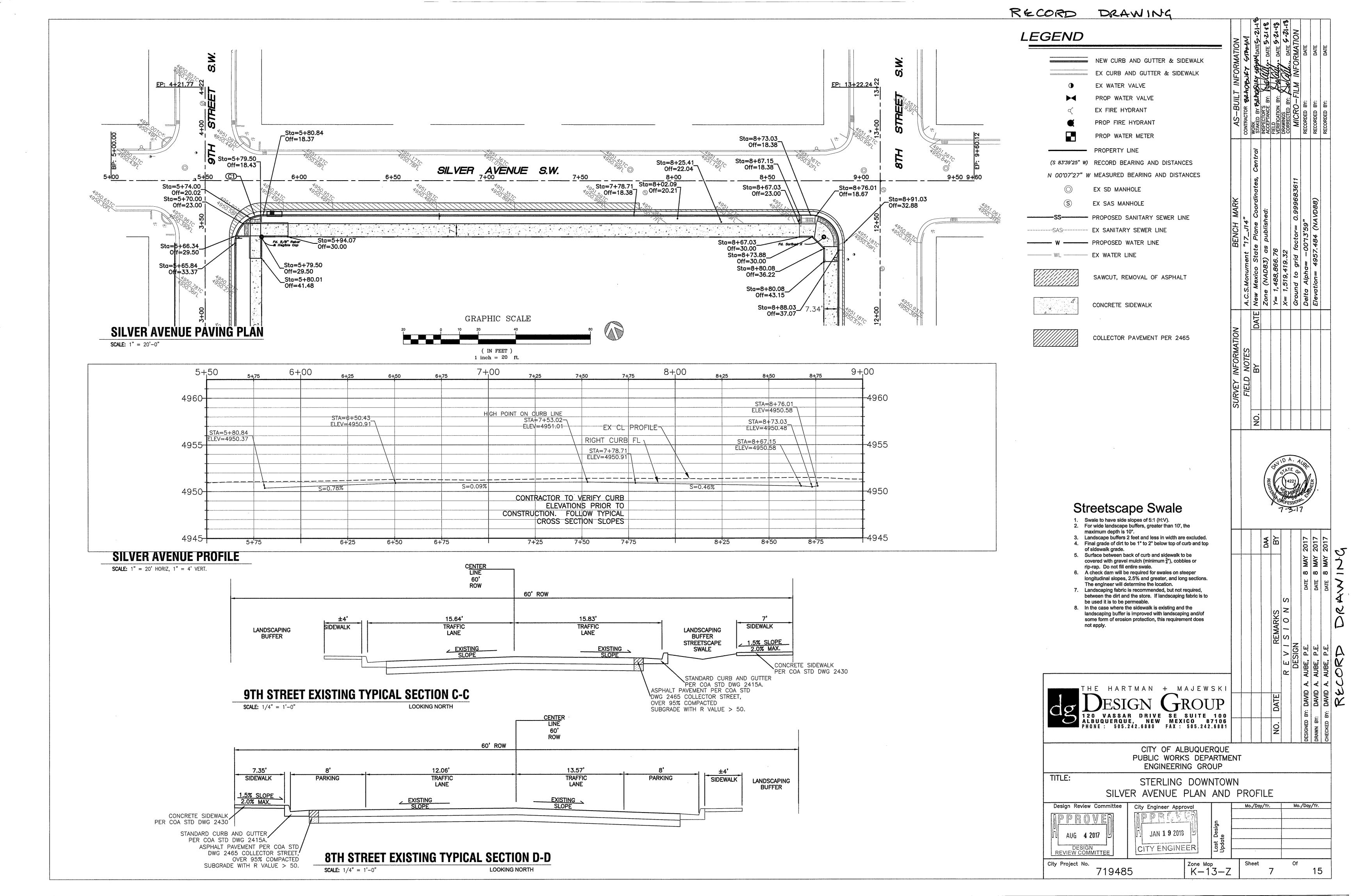
SAWCUT, REMOVAL OF ASPHALT

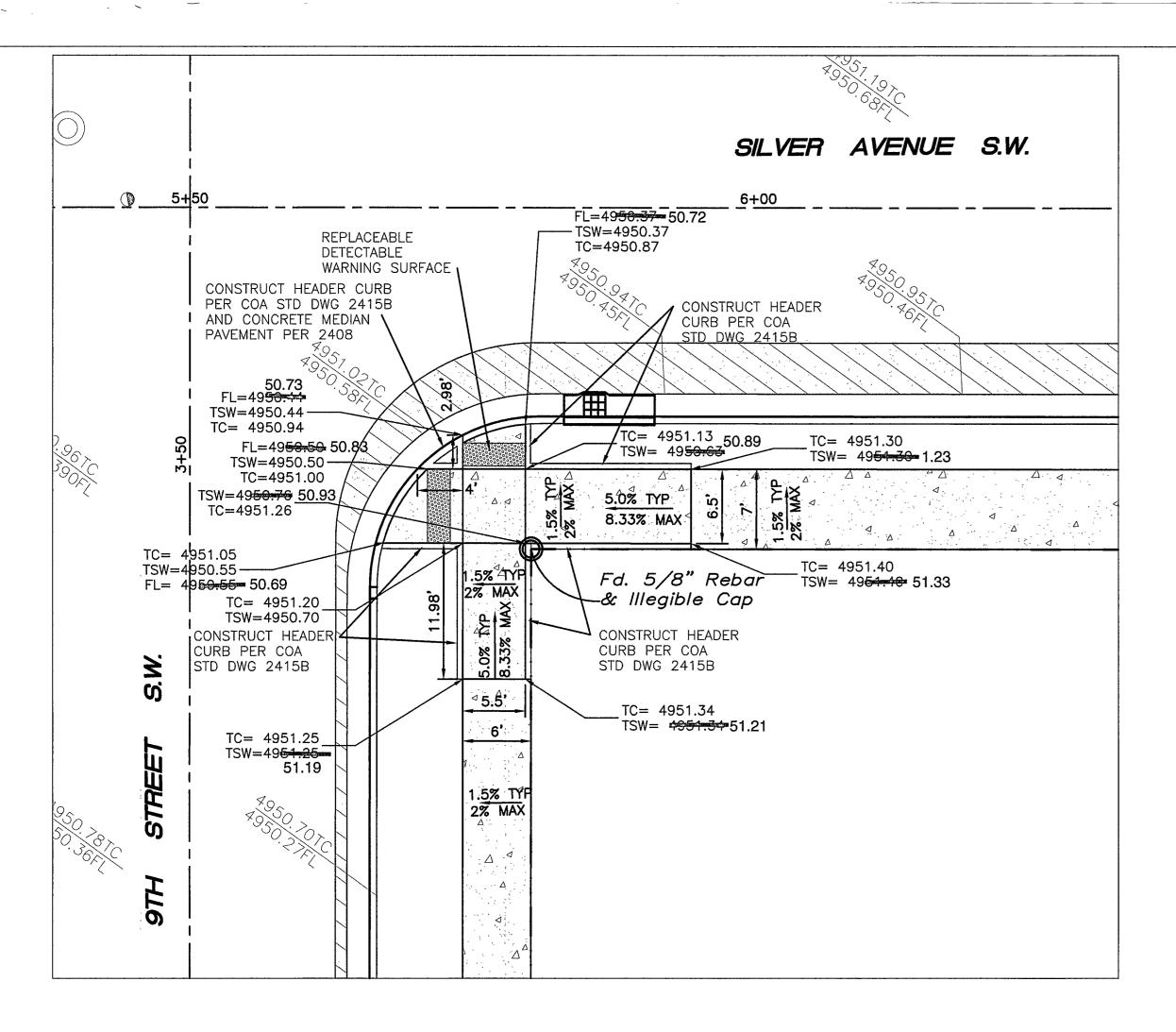


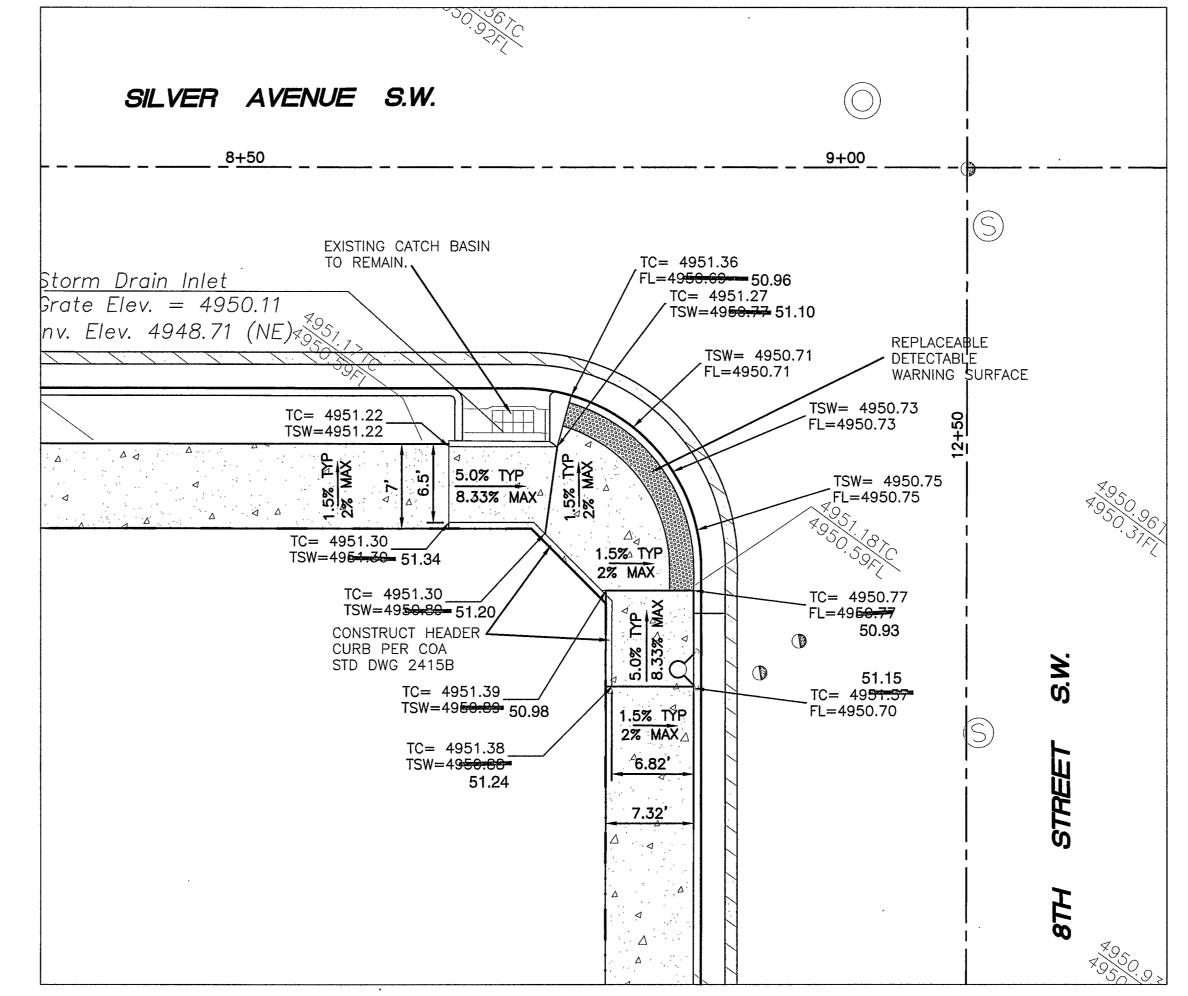


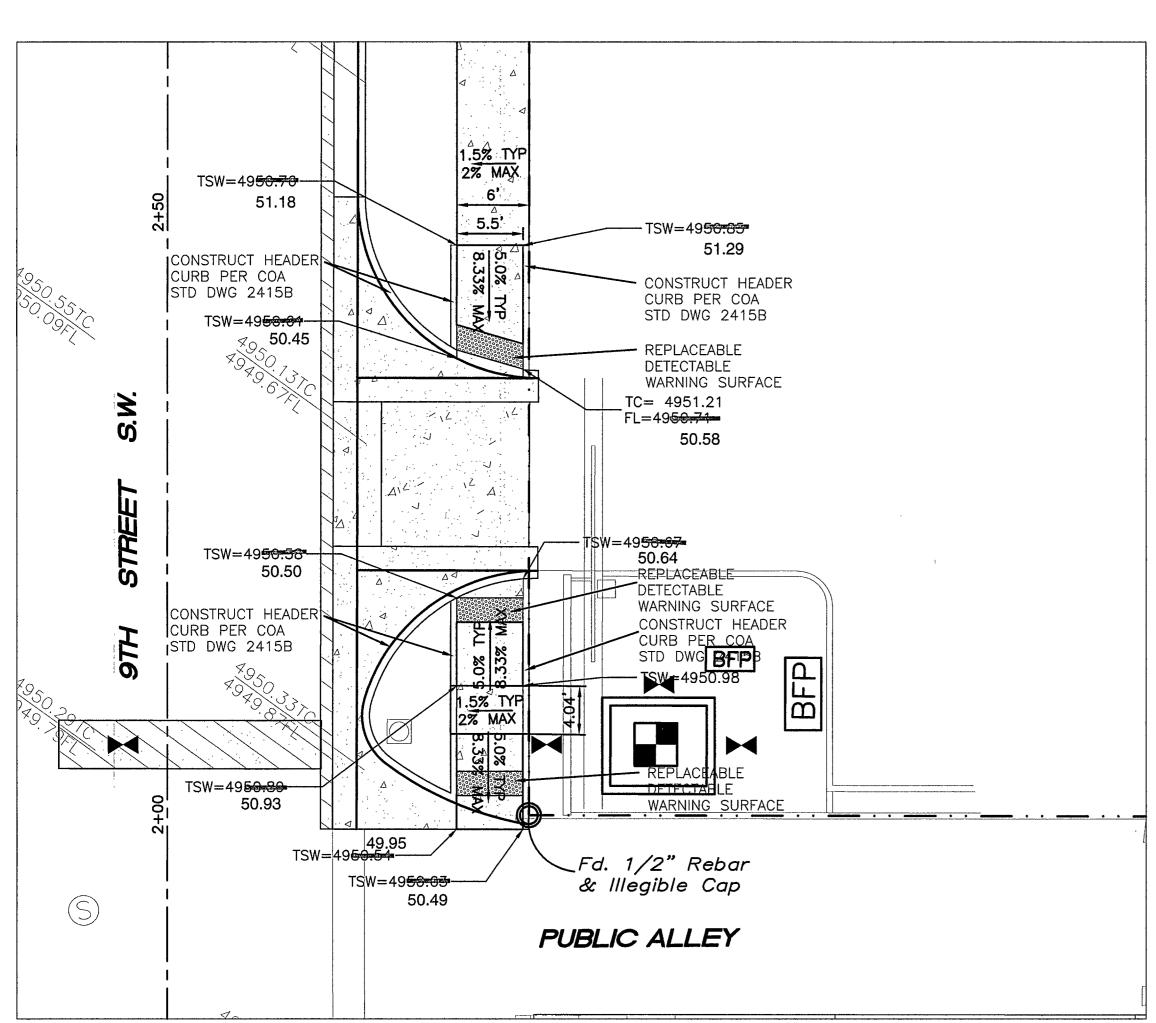


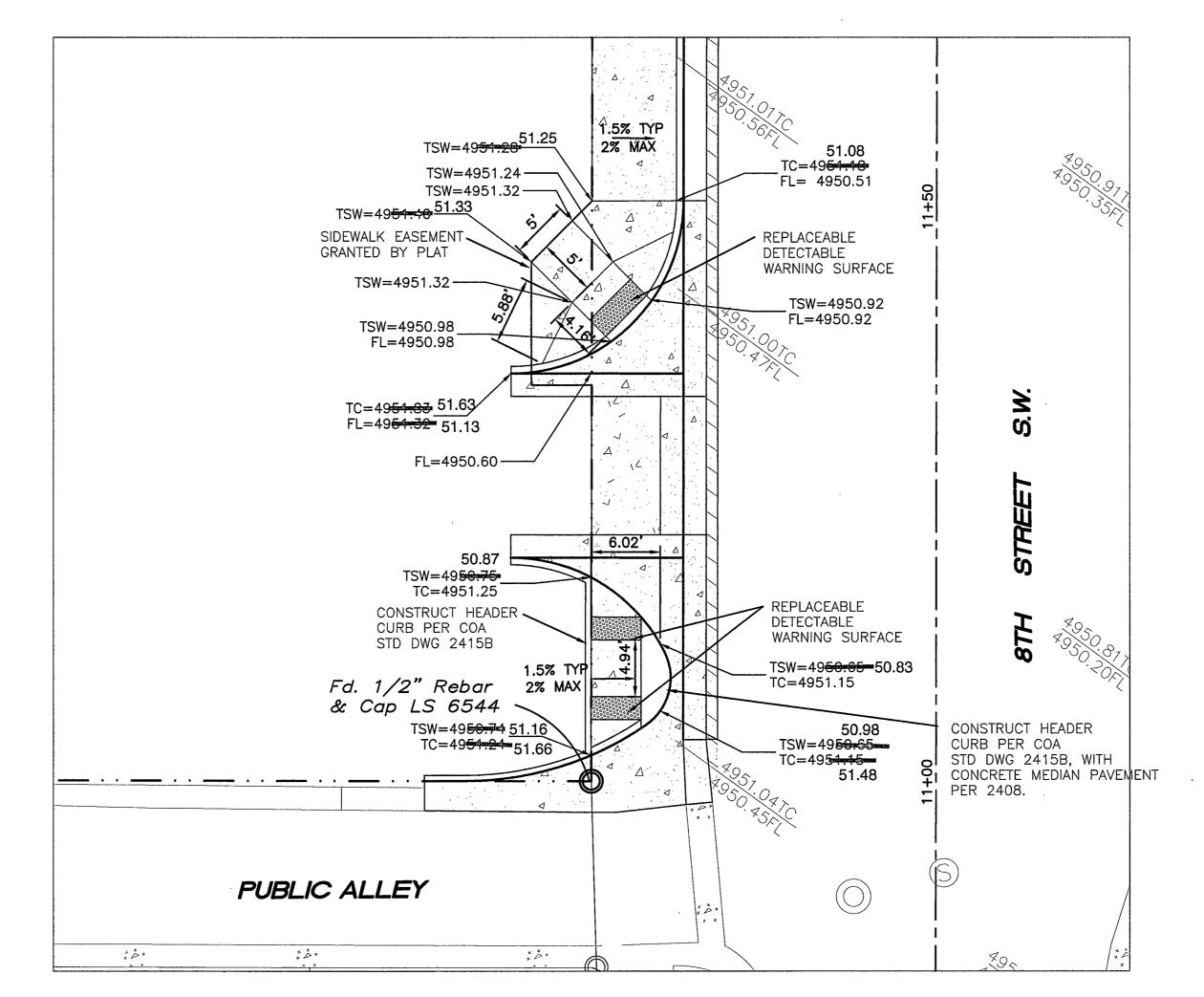














NEW CURB AND GUTTER & SIDEWALK

EX CURB AND GUTTER & SIDEWALK

EX WATER VALVE

PROP WATER VALVE

EX FIRE HYDRANT

PROP FIRE HYDRANT

PROP WATER METER

PROPERTY LINE

(\$ 83'39'25" W) RECORD BEARING AND DISTANCES

N 00'07'27" W MEASURED BEARING AND DISTANCES

EX SD MANHOLE

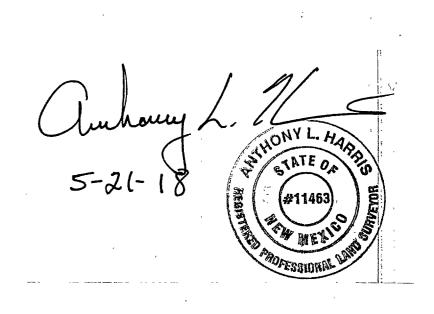
S EX SAS MANHOLE

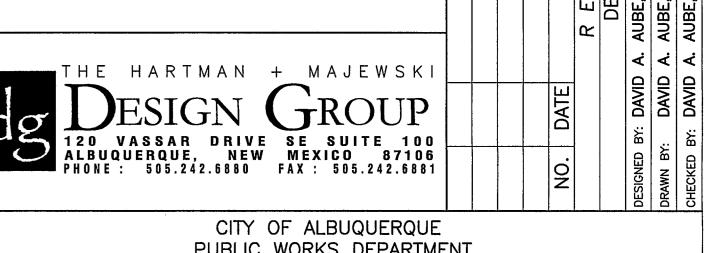
CONCRETE SIDEWALK

DETECTABLE WARNING SURFACE

GENERAL NOTES:

- ALL CURB ACCESS RAMPS TO BE CONSTRUCTED PER COA STD DWGS 2440 OR 2441.
- 2. HEADER CURB AT BACK SIDE OF EACH CURB ACCESS RAMP TO BE CONSTRUCTED PER COA STD DWG
- 3. ASPHALT SIDEWALKS TO BE CONSTRUCTED PER COA, STD DWG 2415B TEMPORARY OR BICYCLE PATH SECTION
- 4. ALL SIDEWALK OBSTRUCTIONS TO TRAVEL PATH TO COMPLY WITH COA STD DWG 2431.
- 5. ALL DETECTABLE WARNING SURFACES TO BE CAST IN PLACE REPLACEABLE TYPE.
- 6. SEGMENTED DETECTABLE WARNING SURFACE TO BE 6" MAX FROM BACK OF CURB. MAKE AS FEW CUTS AS POSSIBLE TO COVER FULL WIDTH OF OPENING.
- 7. SEE NMDOT STANDARD DRAWINGS 608.001-1 TO 608-001-5 AND 608-001-7 TO 608-001-8 FOR CURB RAMPS. SIDEWALKS AND DETECTABLE WARNING SURFACE DETAILS SHEETS 11 AND 12.





CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING GROUP

STERLING DOWNTOWN

ADA RAMP DETAILS

ADA RAMP DETAILS

Design Review Committee

City Engineer Approval

AUG 0 4 2017

JAN 1 9 2018

CITY ENGINEER

Zone Map

T19485

ADA RAMP DETAILS

Mo./Day/Yr.

Mo./Day/Yr.

Mo./Day/Yr.

Mo./Day/Yr.

Mo./Day/Yr.

Mo./Day/Yr.

Mo./Day/Yr.

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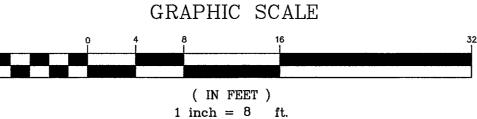
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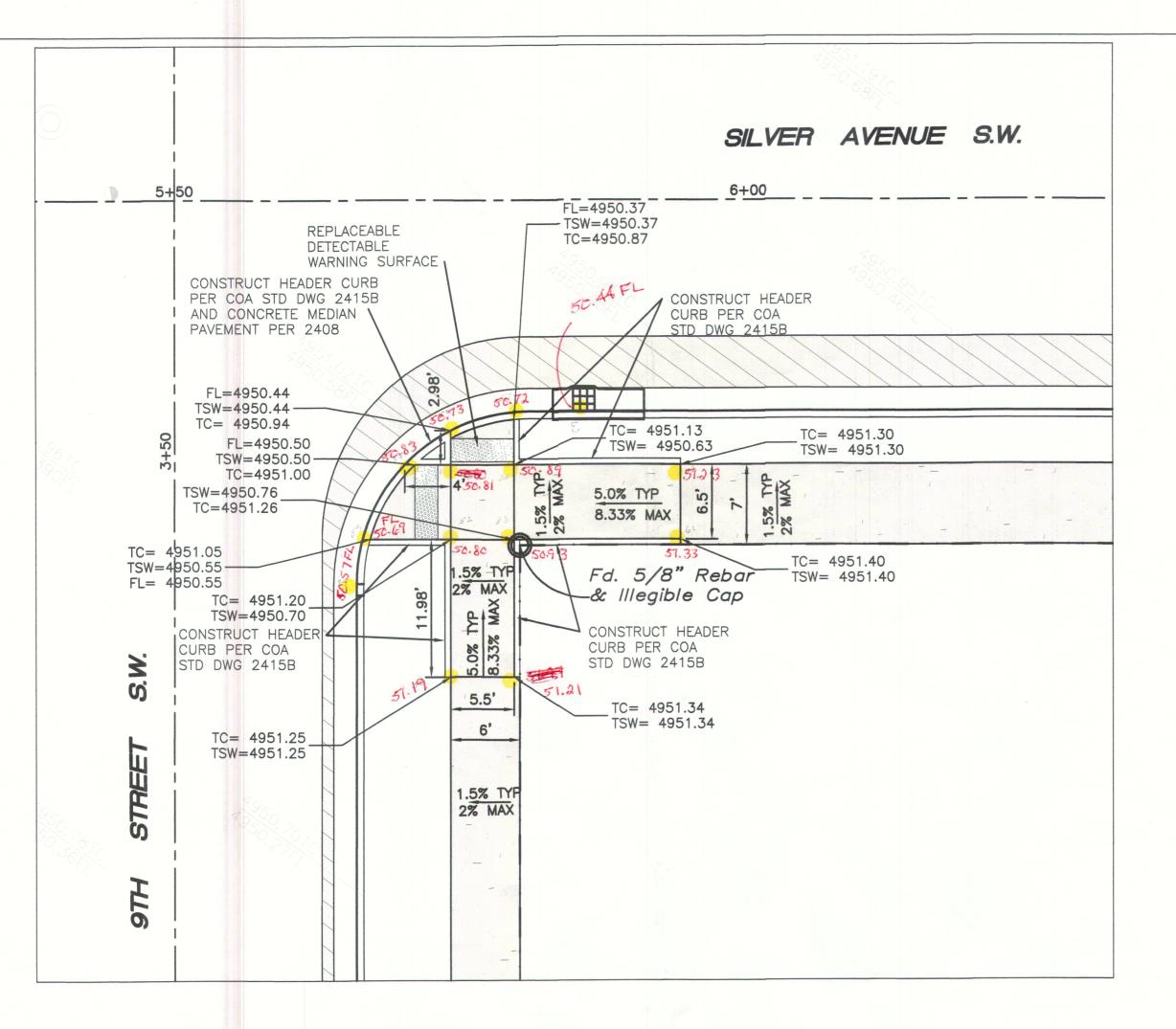
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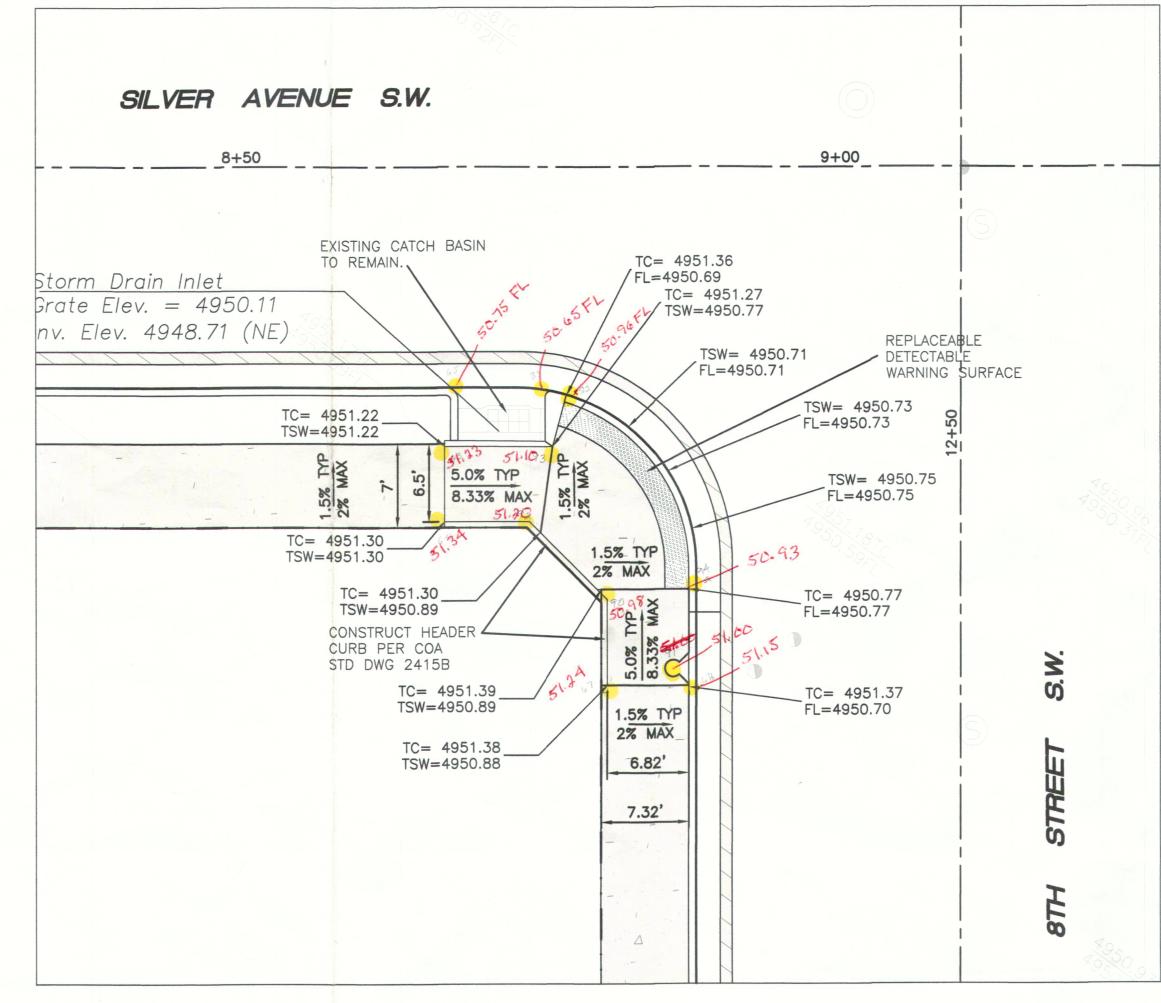
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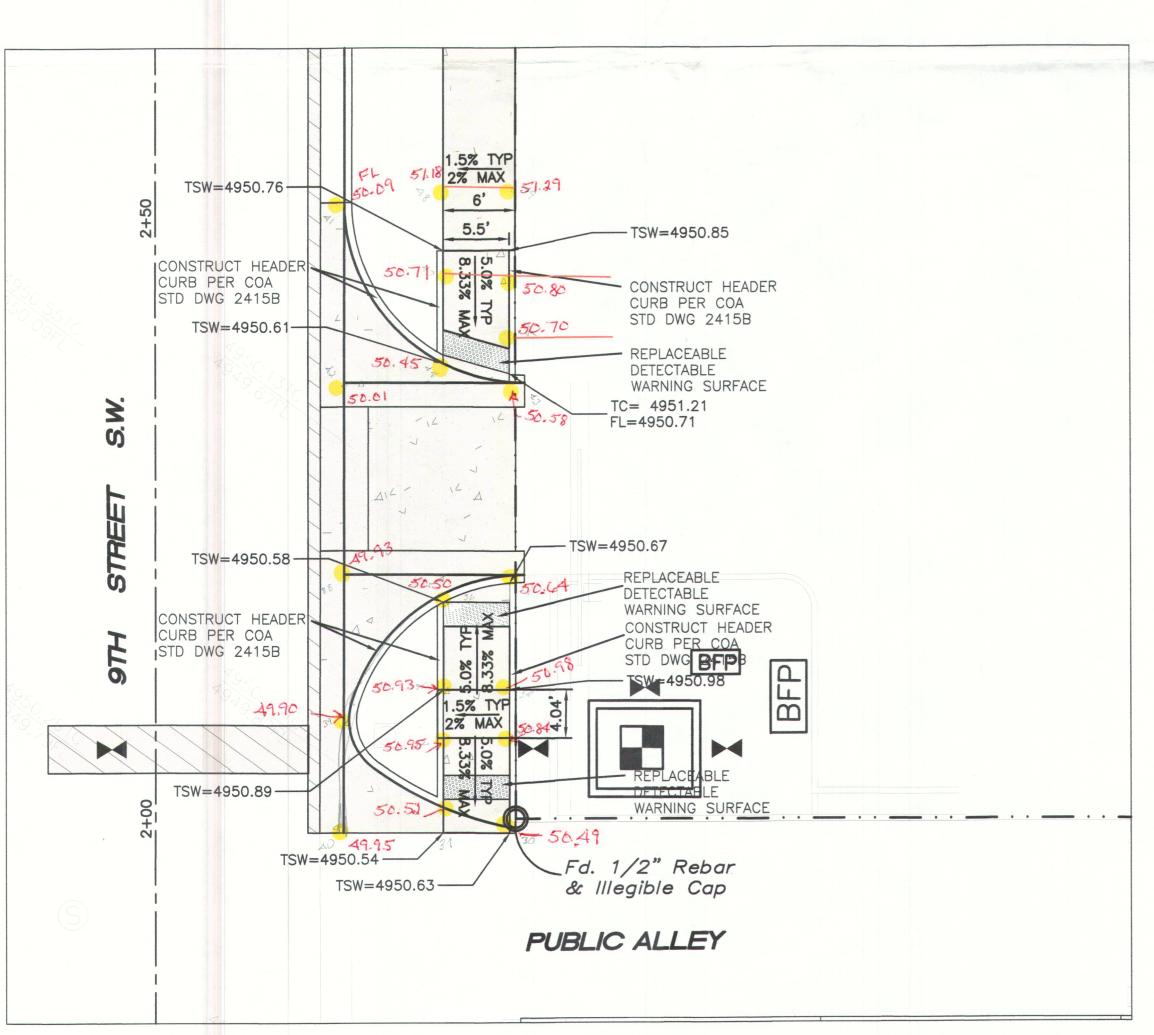
ENLARGED ADA RAMP PLANS

SCALE: 1" = 8'-0"









ENLARGED ADA RAMP PLANS

SCALE: 1" = 8' - 0"

GRAPHIC SCALE (IN FEET) 1 inch = 8 ft.

2% MAX TSW=4951.28----TC=4951.18 TSW=4951.24-FL= 4950.51 TSW=4951.32-TSW=4951.40 ---SIDEWALK EASEMENT REPLACEABLE GRANTED BY PLAT DETECTABLE WARNING SURFACE TSW=4951.32 -TSW=4950.92 FL=4950.92 TSW=4950.98 FL=4950.98 TC=4951.83 FL=4951.32 FL=4950.60-6.02 TSW=4950.75 TC=4951.25 REPLACEABLE CONSTRUCT HEADER DETECTABLE CURB PER COA STD DWG 2415B WARNING SURFACE TSW=4950.65 TC=4951.15 Fd. 1/2" Rebar 2% MAX & Cap LS 6544 CONSTRUCT HEADER TSW=4950.74 TSW=4950.65 CURB PER COA TC=4951.24 STD DWG 2415B, WITH CONCRETE MEDIAN PAVEMENT TC=4951.15 PER 2408. PUBLIC ALLEY

.5% TYP

LEGEND

NEW CURB AND GUTTER & SIDEWALK

EX CURB AND GUTTER & SIDEWALK

EX WATER VALVE

PROP WATER VALVE

EX FIRE HYDRANT

PROP FIRE HYDRANT PROP WATER METER

- · · - PROPERTY LINE

(S 83'39'25" W) RECORD BEARING AND DISTANCES

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CONCRETE SIDEWALK

EX SD MANHOLE

EX SAS MANHOLE



DETECTABLE WARNING SURFACE

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- 4. ALL SIDEWALK OBSTRUCTIONS TO TRAVEL PATH TO COMPLY WITH COA STD DWG 2431.
- 5. ALL DETECTABLE WARNING SURFACES TO BE CAST IN PLACE REPLACEABLE TYPE.
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- 7. SEE NMDOT STANDARD DRAWINGS 608.001-1 TO 608-001-5 AND 608-001-7 TO 608-001-8 FOR CURB RAMPS. SIDEWALKS AND DETECTABLE WARNING SURFACE DETAILS SHEETS 11 AND 12.



MARK

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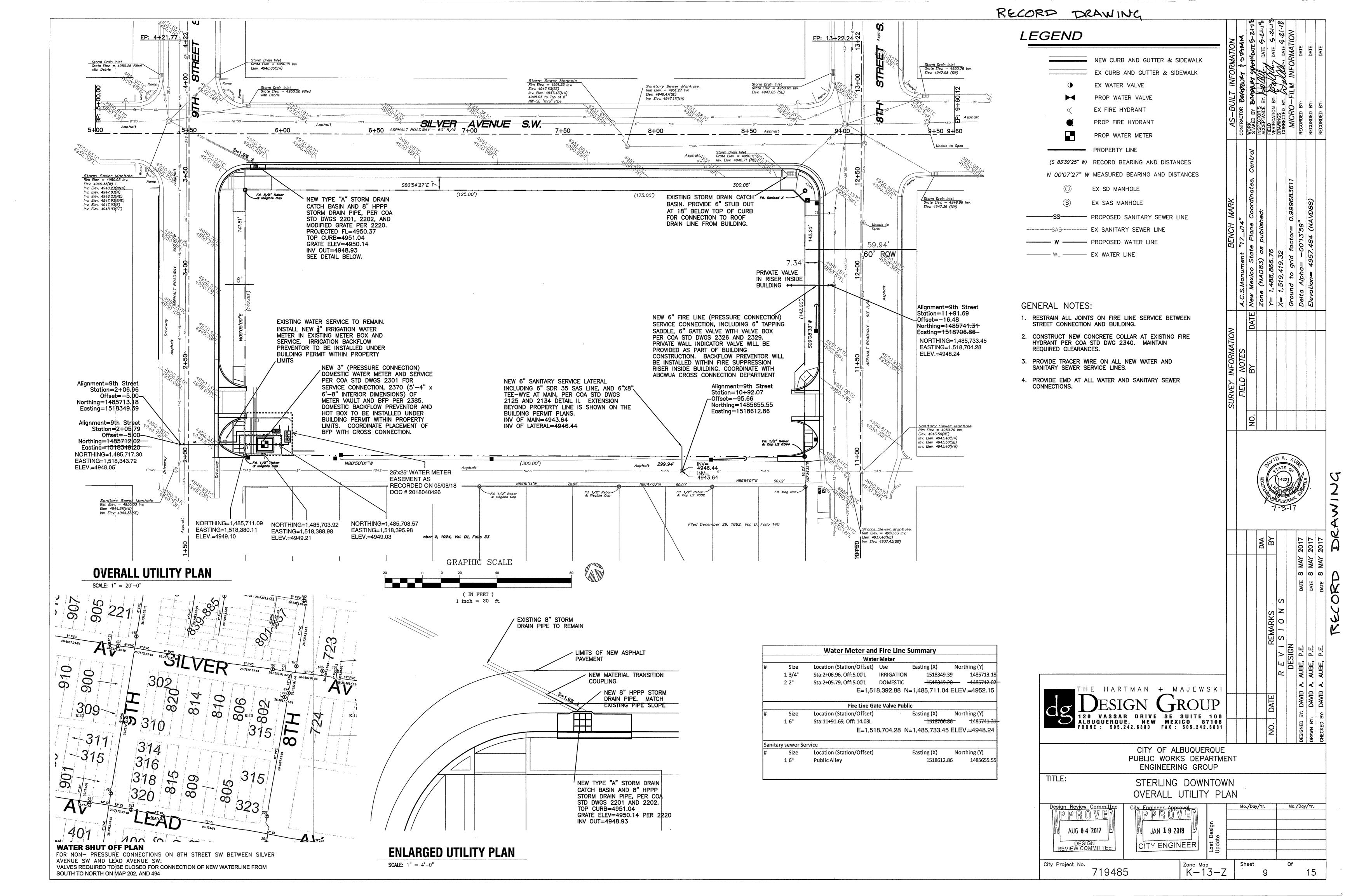
HARTMAN + MAJEWSK 120 VASSAR DRIVE SE SUITE 100 ALBUQUERQUE, NEW MEXICO 87106 PHONE: 505.242.6880 FAX: 505.242.6881

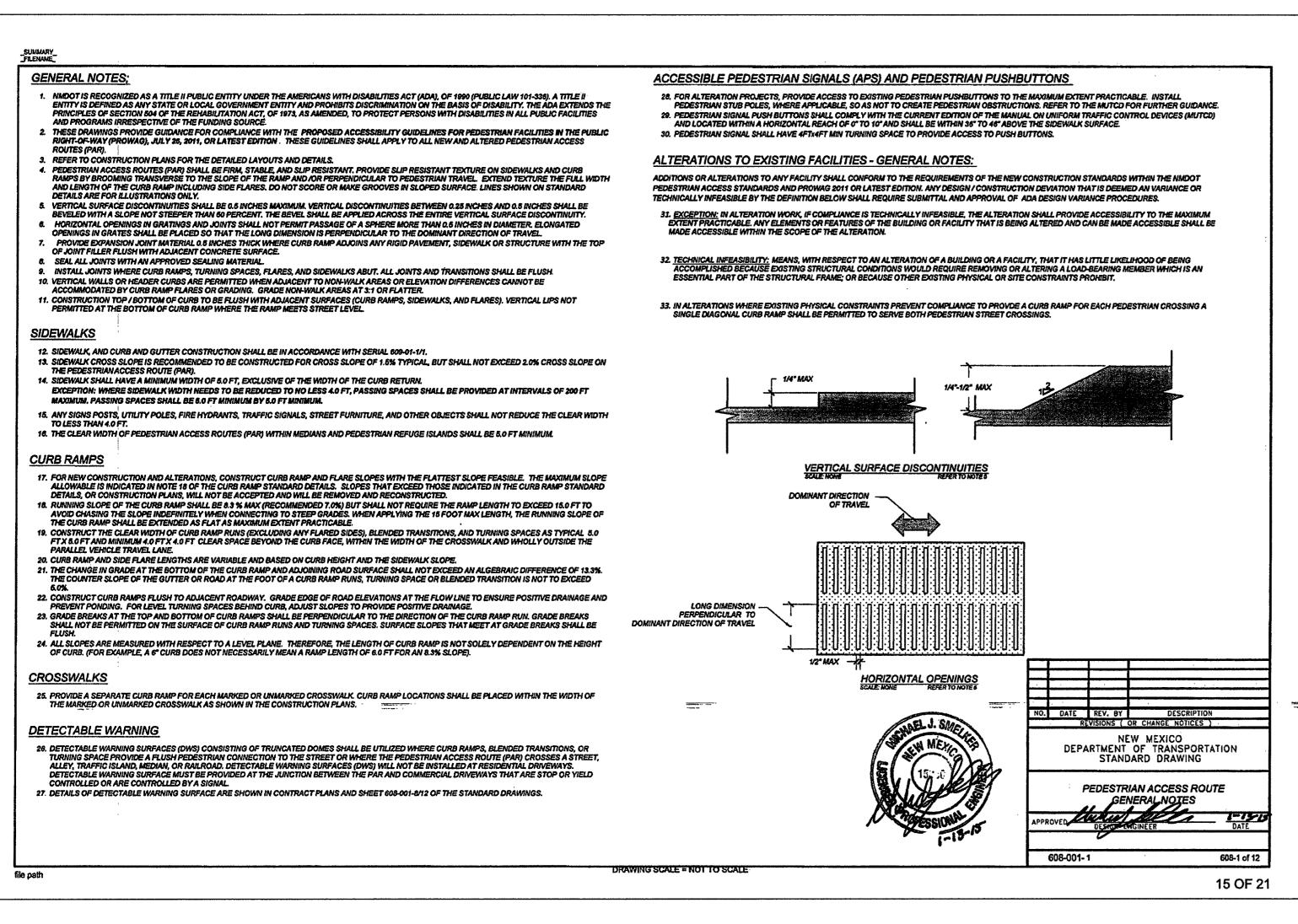
CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING GROUP

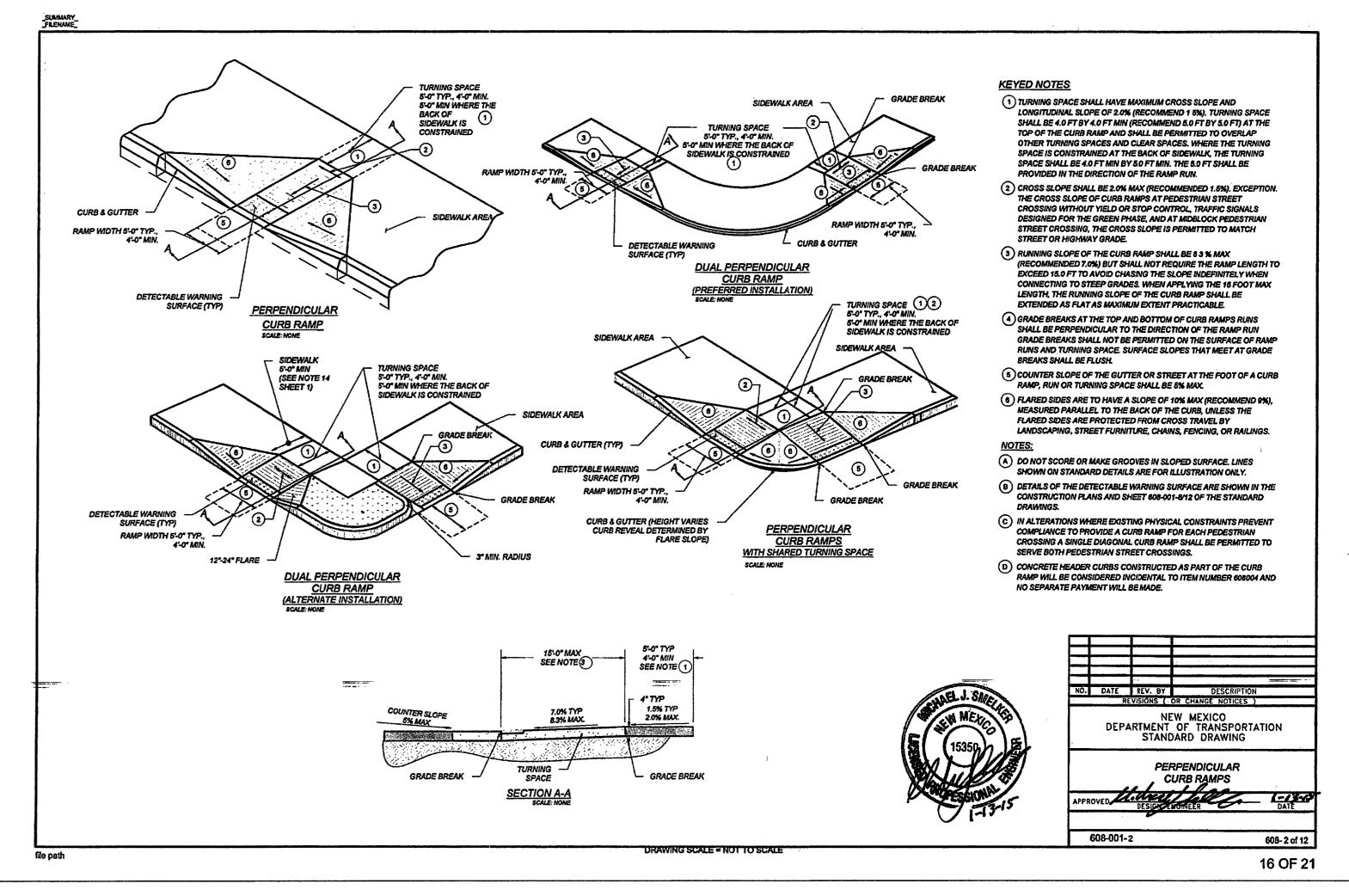
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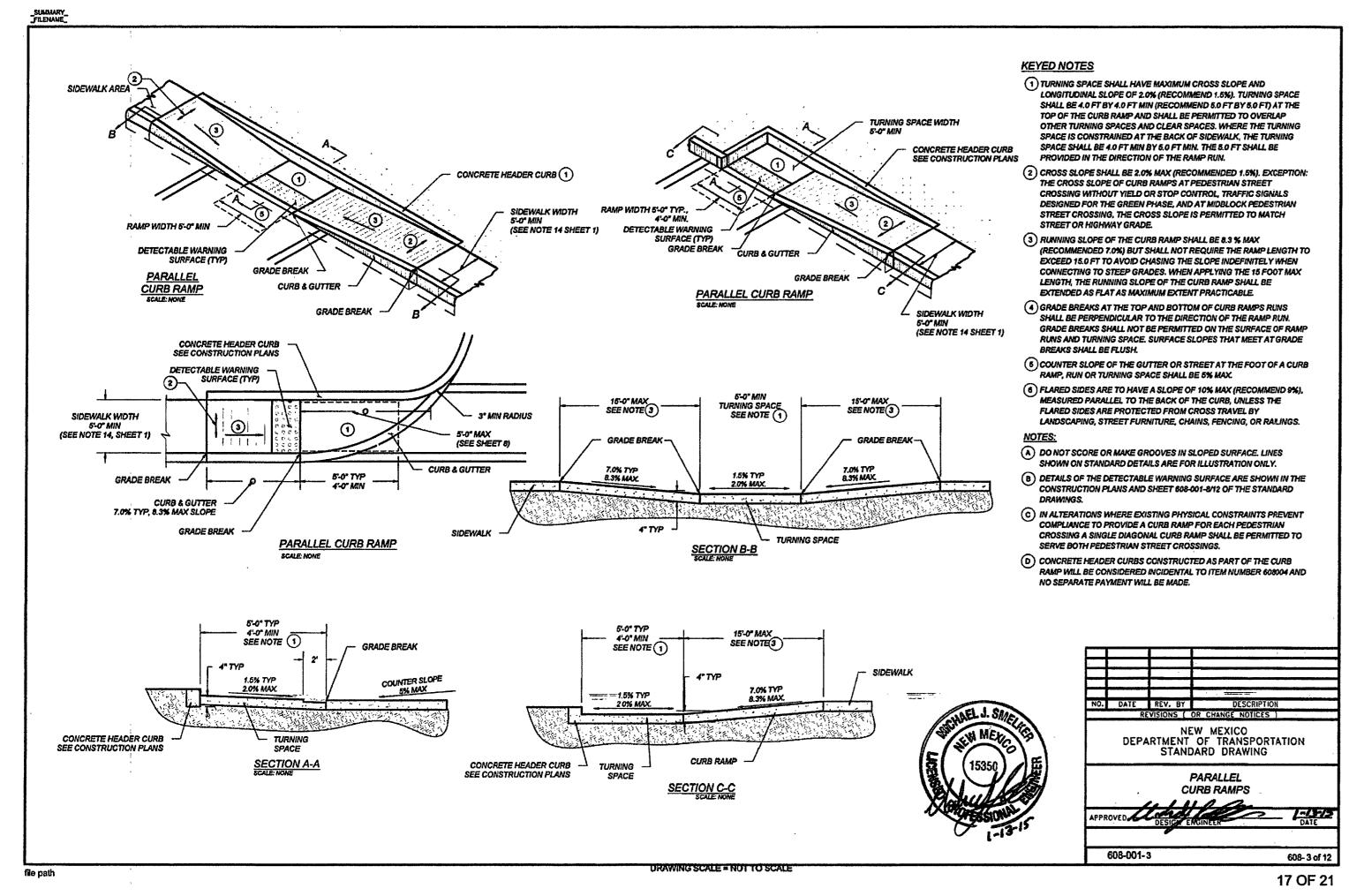
STERLING DOWNTOWN

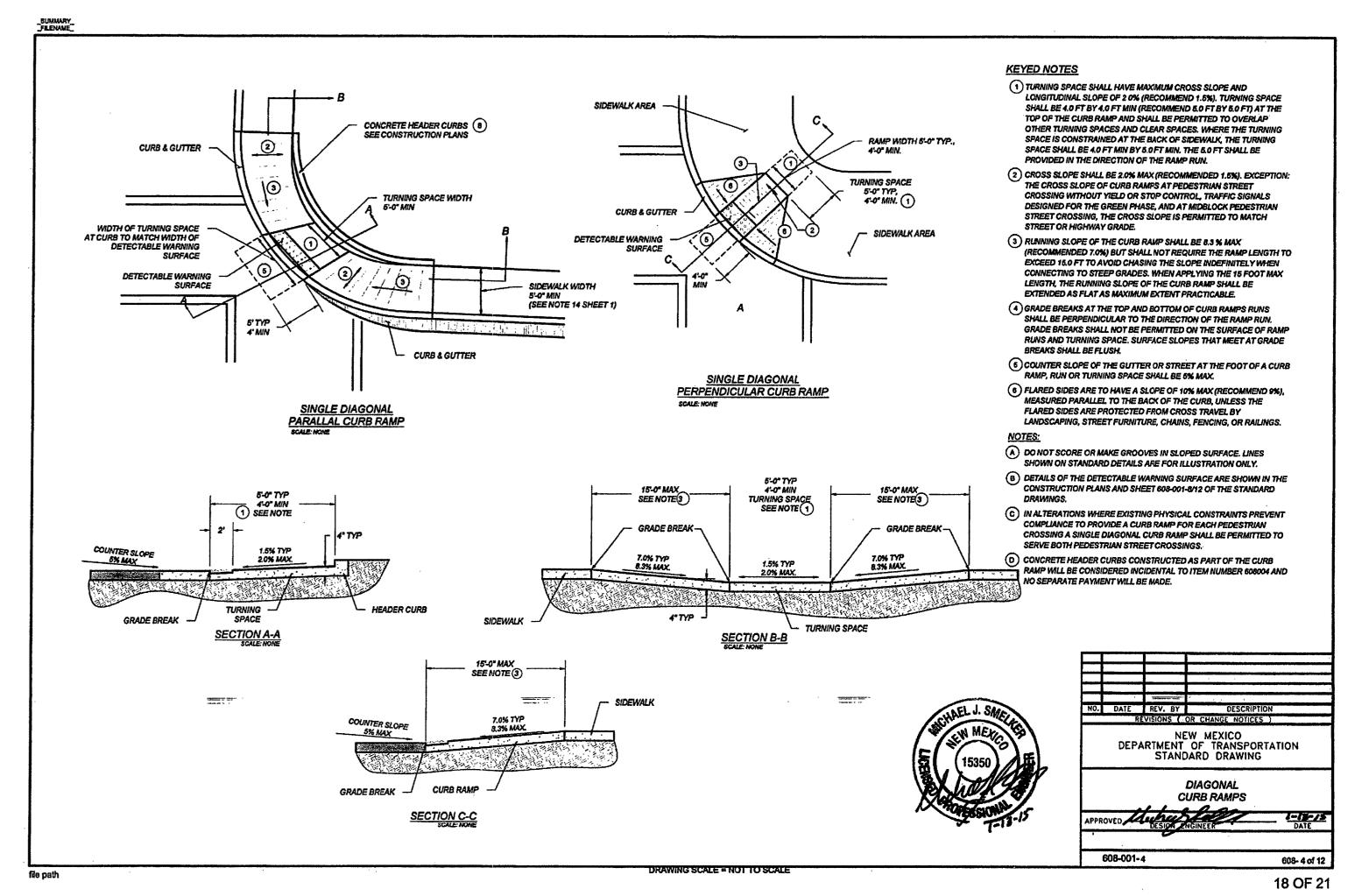
ADA RAMP DETAILS Mo./Day/Yr. Mo./Day/Yr. Design Review Committee City Engineer Approval City Project No. Zone Map 719485 K - 13 - Z

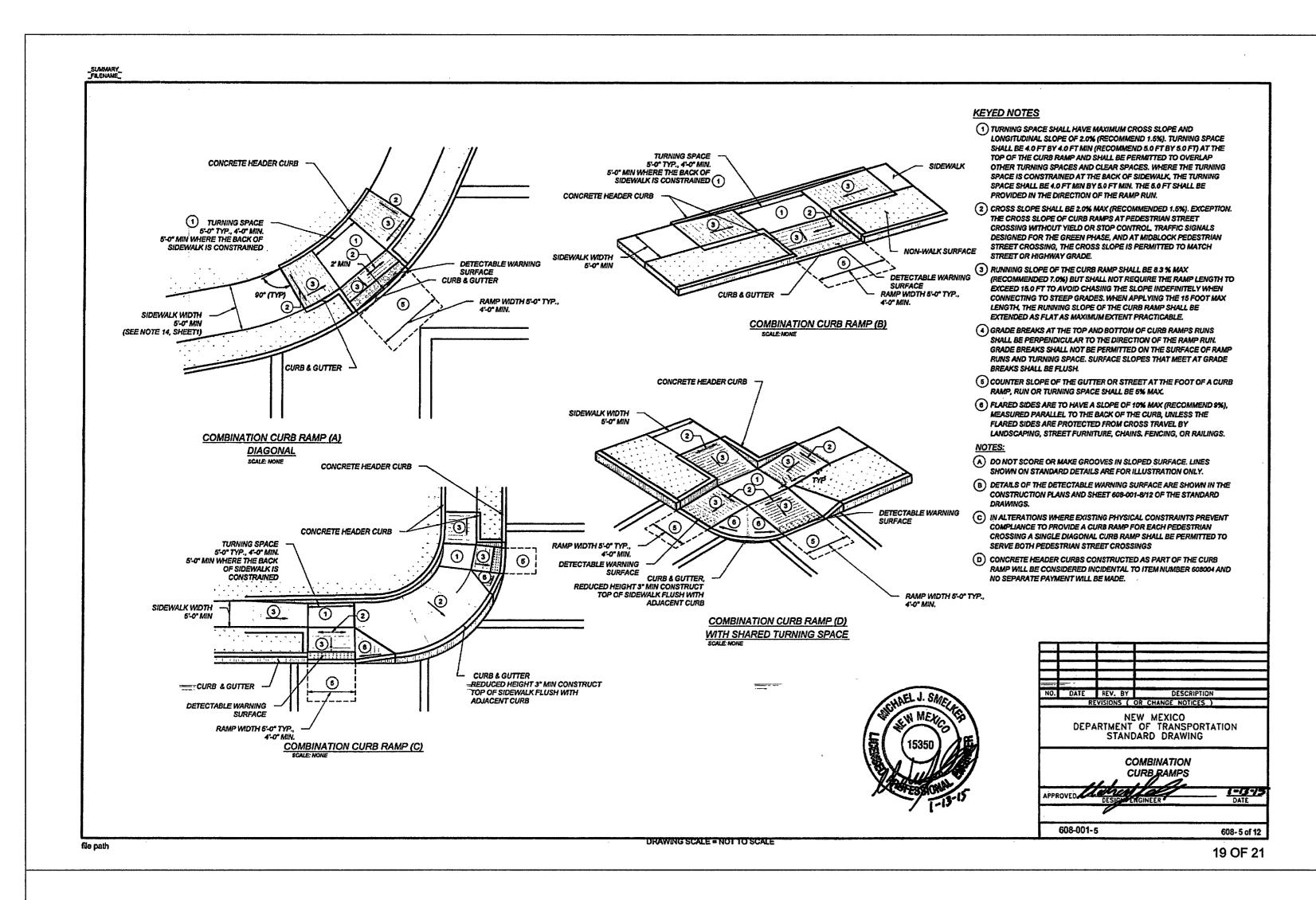


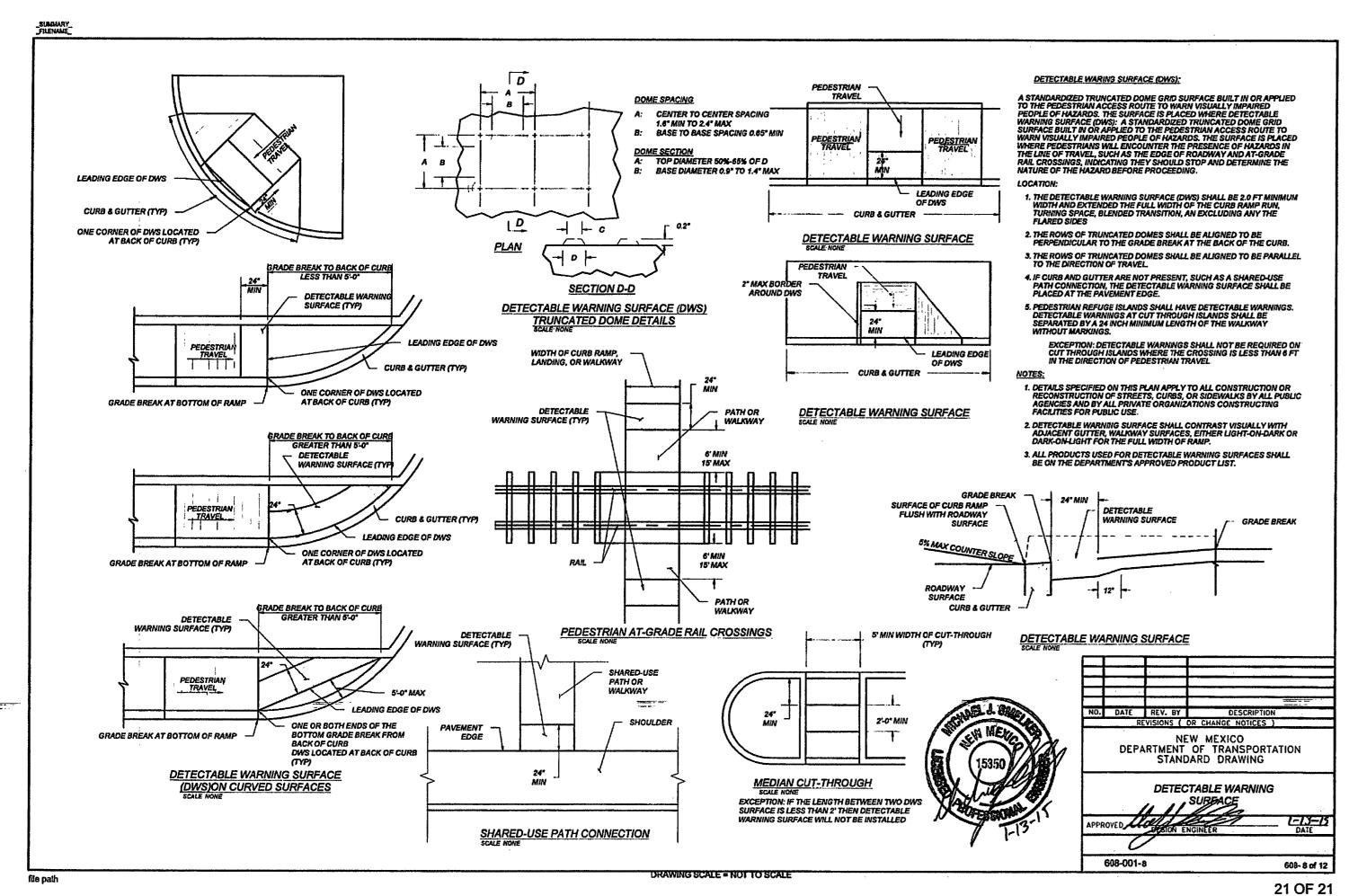


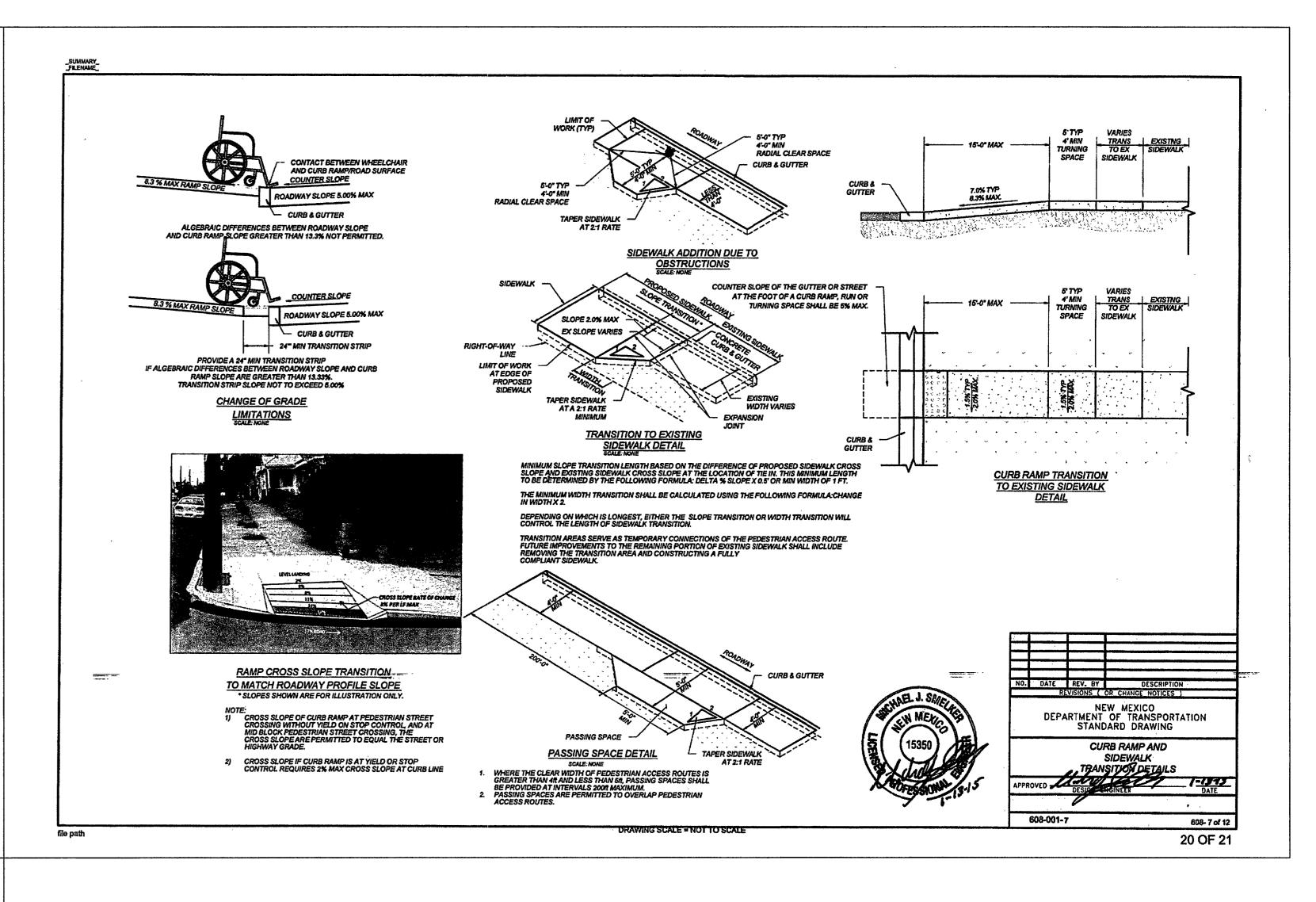


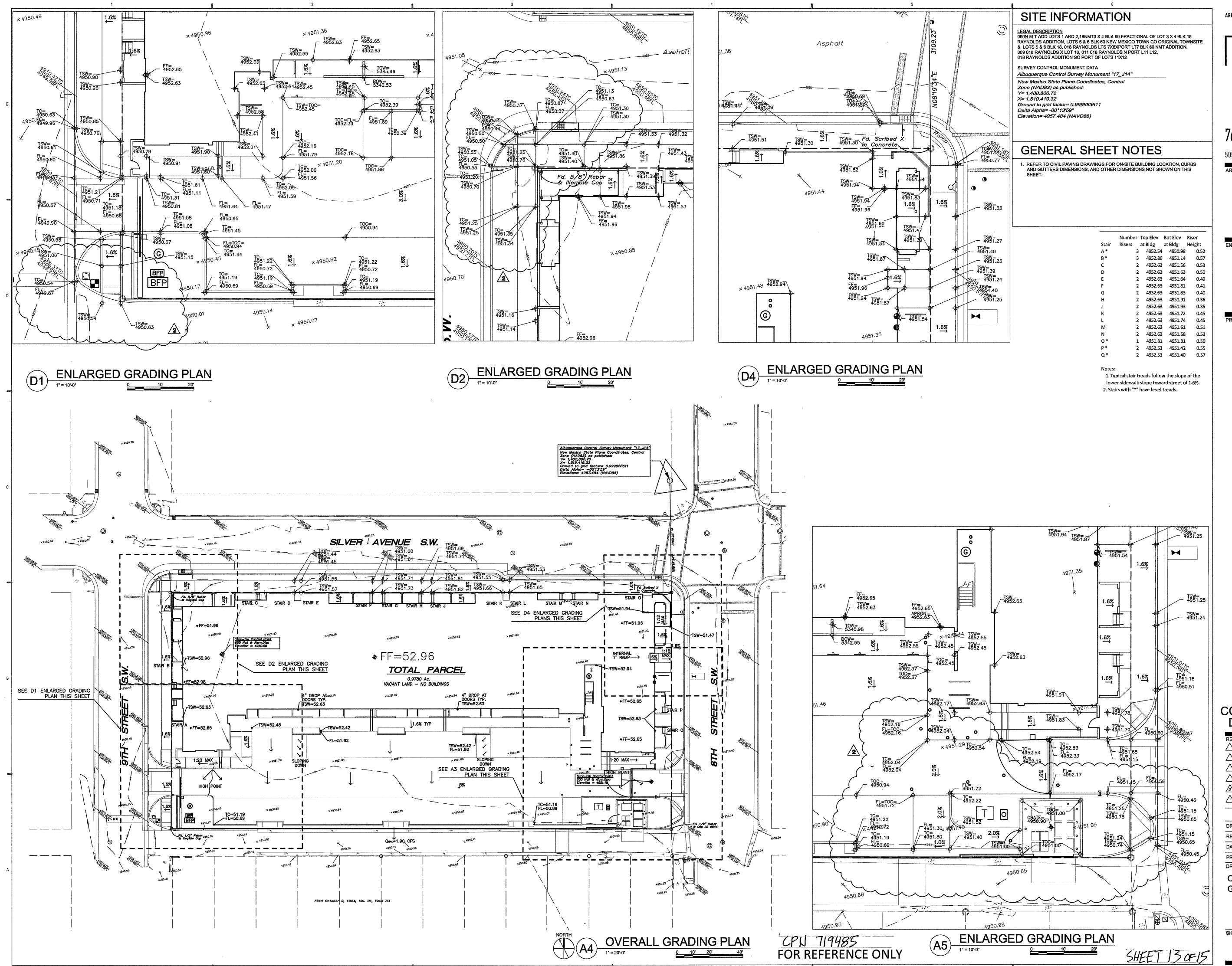












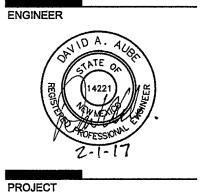
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REVISIONS

Addendum #2 2-1-17
Addendum #1 12-12-16

DRAWN BY

DAA

DRAWN BY DAA
REVIEWED BY DAA
DATE November 18, 2016
PROJECT NO. 16-0078
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OVERALL GRADING PLAN

C201

STORM DRAINAGE POLYPROPYLENE PIPE TECHNICAL SPECIFICATIONS

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PART 3 — EXECUTION

3.1 Earthwork

A. Excavation, trenching, and backfilling shall be as specified in Section titled "Excavation and Fill."

3.2 Identification

A. For all stormwater and subsurface drainage piping, install warning tape directly over pipe and at outside edges of underground structures.

 Detectable warning tape shall be installed over nonferrous piping and over edges of underground structures.

3.3 Piping Inspection

3.3.1 General

Piping, fittings, and drainage structures shall be inspected prior to installation and any defective or damaged product shall be replaced.

3.3.2 Corrugated Polypropylene Pipe and Fittings

A. Any pipe, fittings, or drainage structures with cuts, punctures, or other damage on the interior or exterior shall be rejected and replaced.

B. Any pipe, fittings or drainage structures with damaged ends or joints, which would prevent proper sealing of the joints, shall be rejected and replaced.

3.4 Piping, Fitting, and Drainage Structure Installation

3.4.1 General

A. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground storm and drainage piping system. Location and arrangement of piping layout take design considerations into account. Install piping system as indicated herein and as directed by the product manufacturer, to extent practical. Where specific installation procedure is not indicated, follow product manufacturer's written instructions.

B. All products shall be inspected for defects and cracks before being lowered into the trench, piece by piece. Any defective, damaged or unsound pipe, fitting or drainage structure or any product that has had its grade disturbed after laying, shall be taken up and replaced. Open ends shall be protected with a pipe plug to prevent earth or other material from entering the pipe during construction. The interior of the pipe shall be free from dirt, excess water and other foreign materials as the pipe laying progresses and left clean at the completion of the installation.

C. Install piping system beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions. Follow product manufacturer's instructions for the use of lubricants, cements, and other special installation requirements.

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PART 1 – GENERAL

1.1 Related Requirements

A. Section - Submittals: Shop Drawings, Product Data, and Samples

B. Section - Earth Moving: Excavation and Fill

1.2 Summary

A. This section includes gravity-flow storm drainage outside the building, with the following components:

a. Drainage piping, fittings, and accessories

1.3 Reference Standards

A. American Society for Testing and Materials (ASTM)

a. ASTM D2321 – Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications

 ASTM D3212 – Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals

c. ASTM F477 - Elastomeric Seals (Gaskets) for Joining Plastic Pipe

d. ASTM F2736 – 6 to 30 in. (152 to 762 mm) Polypropylene (PP)
 Corrugated Single Wall pipe And Double Wall Pipe

e. ASTM F2764 – 30 to 60 in. [300 to 1500 mm] Polypropylene (PP) Triple Wall Pipe and Fittings for Non-Pressure Storm Sewer Applications

f. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³))

1.4 Definitions

A. PP - Polypropylene Pipe

B. Piping System: All products associated with the drainage system including but not limited to pipe, fittings, drainage structures, geotextile, best management practice products and storage systems.

1.5 Performance Requirements

All pipe supplied shall meet the minimum joint performance requirements as defined herein and as further defined in the joint performance requirements of this specification.

A. Watertight Gravity-Flow, Non-Pressure, Drainage-Piping shall pass a 10.8 psi (104kPa), laboratory pressure test for 10 minutes with no visible leaks at the

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D. Use Manholes or Catch Basins for changes in direction, unless fittings are indicated. Use fittings for branch connections, unless direct tap into existing

E. Use proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.

3.4.2 Trench Excavation

3.4.2.1 Excavation

A. Excavate trenches to ensure that sides will be stable under all working conditions. Slope trench walls or provide supports in conformance with all local and national standards for safety. Open only as much trench as can be safely maintained by available equipment. Backfill all trenches as soon as practicable.

B. Where trench walls are stable or supported, provide a width sufficient, but no greater than necessary, to ensure working room to properly and safely place and compact haunching and other embedment materials. The space between the pipe and trench wall must be wider than the compaction equipment used in the pipe zone. Minimum width shall be not less than the greater of either the pipe outside diameter plus 16 in. or the pipe outside diameter times 1.25, plus 12 in. In addition to safety considerations, trench width in unsupported, unstable soils will depend on the size and stiffness of the pipe, stiffness of the embedment and insitu soil, and depth of cover.

C. When supports such as trench sheeting, trench jacks, trench shields or boxes are used, ensure that support of the pipe and its embedment is maintained throughout installation. Ensure that sheeting is sufficiently tight to prevent washing out of the trench wall from behind the sheeting. Provide tight support of trench walls below viaducts, existing utilities, or other obstructions that restrict driving of sheeting.

3.4.2.2 Dewatering

A. Do not lay or embed pipe fittings or drainage structures in standing or running water. At all times prevent runoff and surface water from entering the trench.

B. When water is present in the work area, dewater to maintain stability of in-situ and imported materials. Maintain water level below pipe bedding and foundation to provide a stable trench bottom. Use, as appropriate, sump pumps, well points, deep wells, geofabrics, perforated underdrains, or stone blankets of sufficient thickness to remove and control water in the trench. When excavating while depressing ground water, ensure the ground water is below the bottom of cut at all times to prevent washout from behind sheeting or sloughing of exposed trench walls. Maintain control of water in the trench before, during, and after pipe system installation and until embedment is installed and sufficient backfill has been placed to prevent flotation of the pipe, fitting, or drainage structures. To preclude loss of soil support, employ dewatering methods

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joint or pipe wall. Piping shall pass same tests as above but with an axial joint misalignment of not less than 1 degree.

1.6 Submittals

The following shall be submitted by contractor in accordance with this technical specification.

Submittal Procedures:

A. Product Data for the following:

a. Pipe and Fittings

1. Product specifications

2. Installation procedures

B. Products submitted as approved equal must be submitted at least 2 weeks prior to project bid opening and must be approved by project engineer. Submittal for approved equal product must contain a signed letter from an executive officer of the manufacturer stating product is equivalent to all applicable requirements of this specification and shall include all items listed in section 1.6 of this

1.7 Delivery, Storage, and Handling

specification.

A. All pipe and fittings shall be delivered to the site and unloaded with handling that conforms to the manufacturer's instructions for reasonable care. Pipe shall not be rolled or dragged over gravel or rock during handling. The Contractor shall take necessary precautions to ensure the method used in lifting or placing the pipe does not induce undue stress fatigue in the pipe.

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that minimize removal of fines and the creation of voids in in-situ

3.4.2.3 Removal of Rock

A. Rock in either ledge or boulder formation shall be replaced with suitable materials to provide a compacted earth cushion having a thickness between exposed rock and the pipe of at least 12 inches (0.3m). Where Bell-and-Spigot pipe is used, the cushion shall be maintained under the bell as well as under the straight portion of the pipe.

3.4.2.4 Removal of Unstable Material

A. Where wet or otherwise unstable soil incapable of properly supporting the pipe system, as determined by the Engineer, is encountered in the bottom of a trench, such material shall be removed to at least 24 inches below bottom of pipe and replaced to the proper grade with select granular material, compacted as directed by the engineer. When removal of unstable material is due to the fault or neglect of the Contractor while performing shoring and sheeting, water removal, or other specified requirements, such removal and replacement shall be performed at no additional cost to the Owner.

3.4.3 Bedding

A. A stable and uniform bedding shall be provided for the pipe and any protruding features of its joint and/or fittings. The middle of the bedding, equal to one-third of the pipe outside diameter, shall be loosely placed while the remainder shall be compacted to a minimum of 90% of maximum density per ASTM D1557, or as shown in the plans. Pipe bedding shall be a minimum of 4" – 6" in thickness. The bedding surface for the pipe shall provide a firm foundation of uniform density throughout the entire length of the pipe.

3.4.4 Placing Pipe

A. Each pipe shall be thoroughly examined before being laid; defective or damaged pipe shall not be used. Pipelines shall be laid to the grades and alignment indicated. Proper facilities shall be provided for lowering sections of pipe into trenches. Pipe shall not be laid in water, and the pipe shall not be laid when trench conditions or weather are unsuitable for such work. Diversion of drainage or dewatering of trenches shall be provided as directed by the engineer; see dewatering section.

3.4.5 Jointing

A. Joints shall be constructed as described herein and in accordance with manufacturer's installation instructions.

B. All Bell-and-Spigot pipe joints shall be thoroughly cleaned. Joint lubricant, supplied by the manufacturer, shall be liberally applied to entire interior of bell and gasket on spigot prior to assembly.

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PART 2 -- PRODUCTS

2.1 Corrugated Polypropylene (PP) Pipe

2.1.1 General

A. Twelve- through 30-inch (300 through 750 mm) pipe shall be polypropylene or pre-approved equal. Pipe supplied shall be smooth interior and annular exterior corrugated polypropylene (PP) pipe meeting the requirements of ASTM F2736 for respective diameters. The pipe supplied shall be watertight as defined in the joint performance requirements of this specification.

Thirty- through 60-inch (750 through 1500 mm) pipe shall be polypropylene or pre-approved equal. Pipe supplied shall be with annular inner corrugations and smooth interior and exterior surfaces, corrugated polypropylene (PP) pipe meeting the requirements of ASTM F2764 for respective diameters. The pipe supplied shall be watertight as defined in the joint performance requirements of this specification.

B. Virgin material for 12- through 60-inch pipe and fitting production shall be an impact modified copolymer meeting the material requirements of ASTM F2736 and ASTM F2764 for respective pipe diameters.

2.1.2 Joint Performance and Pipe Stiffness

Watertight joints shall be bell-and-spigot meeting the watertight requirements of ASTM F2736 and ASTM F2764. Gaskets shall be made of polyisoprene meeting the requirements of ASTM F477. Gaskets shall be installed by the pipe manufacturer and covered with a removable wrap to ensure the gasket is free from debris. A joint lubricant supplied by the manufacturer shall be used on the gasket and bell during assembly.

Pipe stiffness - Minimum pipe stiffness at 5% deflection shall meet the requirements per ASTM F2736 and ASTM F2764.

2.1.3 Fittings

A. Fittings shall conform to ASTM F2736 or ASTM F2764. Joint shall meet watertight joint performance requirements of ASTM D3212. Bell & spigot connections shall utilize a spun-on, welded or integral bell and spigot with gaskets meeting ASTM F477. Inserta tee type fittings shall be allowed upon approval by the Engineer.

B. Repair couplers may be utilized to connect field-cut pipe.

2.1.4 Installation

Pipe installation shall be in accordance with Section 3 of this specification and the product manufacturer's published installation guides.

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3.4.6.5.2 Minimum Density

Backfill over and around the pipe and backfill around and adjacent to drainage structures shall be compacted at the approved moisture content to the following applicable minimum density, which will be determined as specified below.

a. Under airfield and heliport pavements, paved roads, streets, parking areas, and similar-use pavements including adjacent shoulder areas, the density shall be not less than 90 percent of maximum density as determined by ASTM D 1557, up to the elevation where requirements for pavement subgrade materials and compaction shall control.

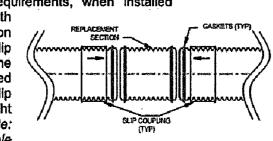
3.4.6.6 Determination of Density

Testing shall be performed by an approved commercial testing laboratory or by the Contractor subject to approval by the Engineer. Tests shall be performed in sufficient number to ensure that specified density is being obtained. Laboratory tests for moisture-density relations shall be made in accordance with ASTM D1557 except that mechanical tampers shall be used provided the results are correlated with those obtained with the specified hand tamper. Field density tests shall be determined in accordance with ASTM D2167 or ASTM D2922. Test results shall be furnished to the Engineer.

3.5 Repair Methods

3.5.1 External Methods

Slip Couplings 12- through 30-inch (300 - 750 mm), provides a watertight repair that will meet most pressure testing requirements, when installed correctly. The slip coupling uses PVC bells with gaskets. The gaskets are placed in the valleys on either side of the section to be repaired and slip couplings are then slid over the gaskets. Due to the exterior gasket, the slip coupling can only be used on pipe with a corrugated exterior. PVC slip couplings are most commonly used with watertight smooth interior thermoplastic pipe products. Note: This repair method cannot be used with the triple wall, smooth exterior profile pipe.



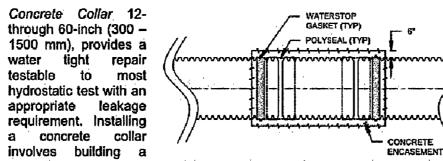
Large Diameter Repair Coupler 12- through 60-inch (300 - 1500 mm) are ideal for repairs and alterations of large diameter sewer pipe. Repair couplers similar to those provided by Mission Rubber Company

The couplers are used by removing the damaged section of pipe, replacing it with a new section and then sliding the coupler back around the

LLC, Fernco® or equal may be used on HP pipe.

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joint, similar to the slip coupling above. The couplers stainless steel bands are then tightened to the manufactures recommendations. These rubber couplings are capable of meeting watertight field test requirements when installed per the manufacturer's recommendations.



involves building a form around the area to be repaired and encasing it in concrete. A Mar Mac Polyseal Pipe Coupler is wrapped around the repair area or joint prior to pouring the collar to keep the concrete from seeping into the pipe. WaterStop gaskets are installed outside of the Polyseal coupler towards the outside edge of the concrete collar. Typically, approximately 6" (0.15m) is excavated beneath the pipe to allow for proper application of the Polyseal coupler and concrete encasement. If the pipe itself is damaged, the damaged area shall be removed and a replacement pipe section spliced in prior to pouring the collar. This repair option may be employed for either dual wall or triple wall sanitary

3.5.2 Internal Methods

Internal mechanical repair products generally consist of a flexible cylindrical gasket sleeve, which is expanded to conform to the inner wall of the pipe. The feasibility of this repair method depends on the size of the damaged section or joint and available access into the pipe. Internal mechanical seals slightly restrict the inside diameter of the pipe. This should be considered when assessing the risk of debris obstruction.

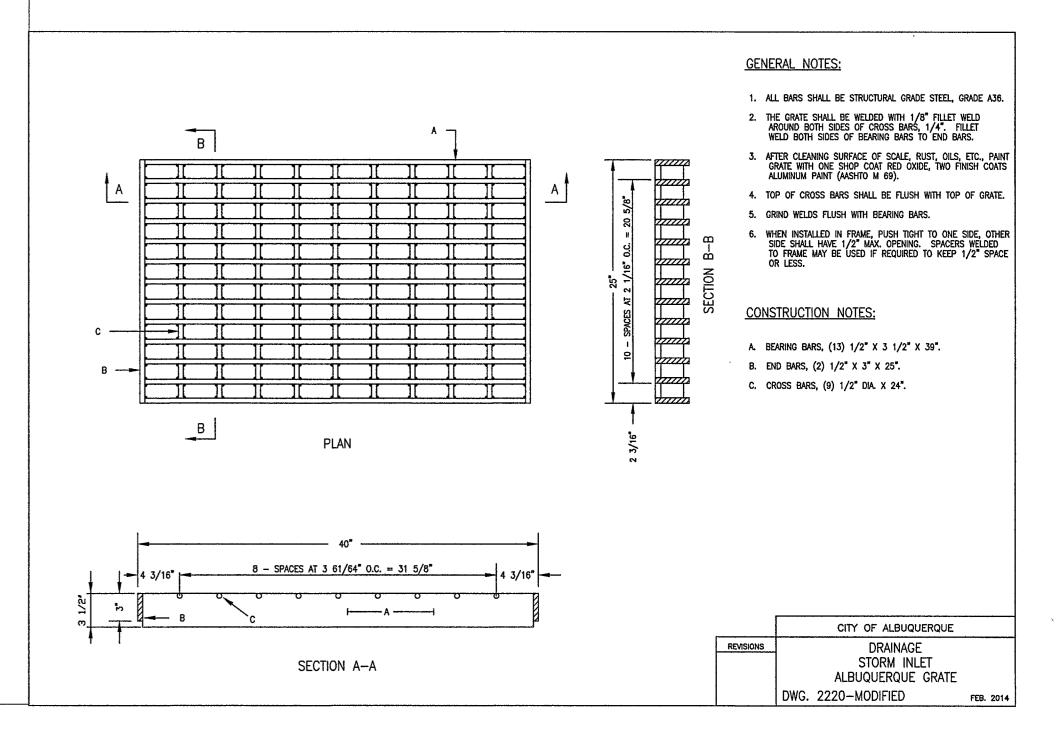
NPC Internal Joint Seal, 18- through 60-inch (450 - 1500 mm), consists of an EPDM rubber seal and stainless steel bands. The rubber seal is inserted into the pipe and positioned over the joint. A torque wrench is used to expand the bands against the inner wall of the pipe. The Internal Joint Seal is designed to seal joints - not repair damaged pipe sections. The damaged area of the pipe must be removed and a replacement section spliced in if necessary in order to use the Internal Joint Seal. This system may provide a watertight joint when installed as recommended. The manufacture should be contacted to verify the product meets the specific application requirements including test requirements, if specified. If pressure tests are required, NPC should be contacted to ensure that the product is suitable for the specific test criteria.

Welding, 36- through 60-inch (900 - 1500 mm), is another method of internal joint repair where personnel use hand-held welding guns to make the needed repair. Extrusion welding techniques are most commonly utilized; however other welding methods may be used depending on the condition of the damage. Clean and dry working conditions and skilled operators are critical to a successful repair. Contact ADS to discuss the type of damage and to assess if a welded repair will be suitable.

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Link Pipe Grouting SleeveTM, 12- through 60-inch (100 - 1500 mm), is a stainless steel grouting sleeve that is installed with an inflatable plug. The sleeve may be used to seal a joint or repair short sections of damaged pipe. The manufacture should be contacted to verify the product meets the specific application requirements including test requirements, if specified.

Internal chemical sealing is another method of internal joint repair using chemically activated gel or grout to minimize joint leakage. The grout is typically applied with specialized remote-controlled equipment. Test/seal packer is used to remotely seal a joint. The grouting chemicals are forced through the joint out into the surrounding soil where they get with the soil. The gelled mass forms a waterproof collar around the pipe. The result is significantly reduced leakage. There are several types of chemical grouts available and the manufacturer should be contacted to review the specific situation and any joint tightness or pressure test criteria. Companies such as Avanti International, Strata Tech Inc., and Carylon Corporation manufacture and/or install chemical grout. Stephen's Technologies New Life Coatings and NewLife Liner Systems as well as Avast Hydro-Lining International, are examples of companies that offer cured in place epoxy lining systems that have been effectively used with HDPE pipe. Most pipe diameters can be chemically grouted provided the grouting contractor has the appropriate equipment.



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