

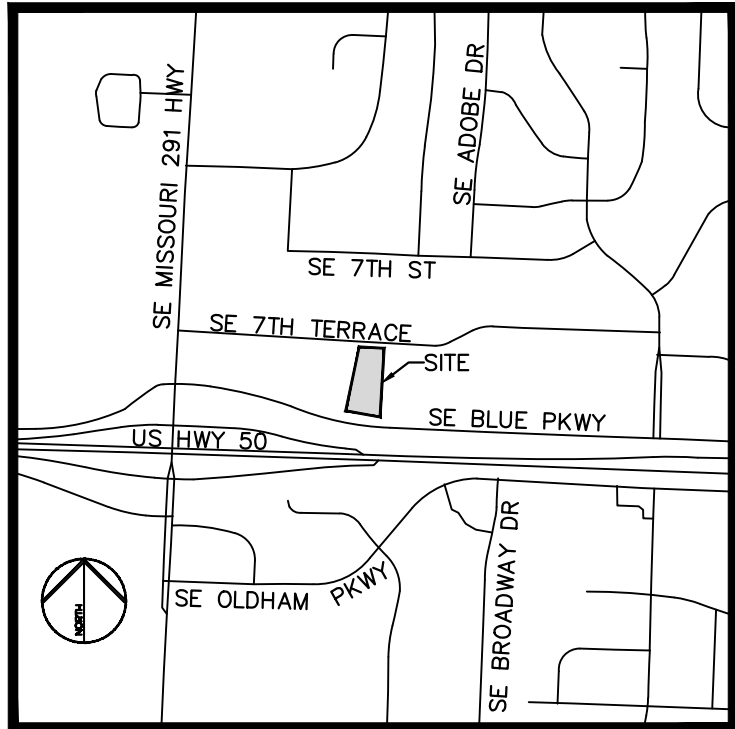
FINAL SITE DEVELOPMENT PLAN  
FOR  
CALIBER COLLISION  
710 SE BLUE PARKWAY  
LEE'S SUMMIT, MO 64063  
JACKSON COUNTY, MISSOURI

UTILITIES/GOVERNING AGENCIES CONTACTS:

<b>SANITARY SEWER</b> LEE'S SUMMIT WATER UTILITIES 1200 SE HAMBLEN ROAD LEE'S SUMMIT, MO 64063 PHONE: (816) 969-1900	<b>GAS</b> SPIRE 3025 SE CLOVER DR LEE'S SUMMIT, MO 64082 CONTACT: BOBBIE SAULSBERRY PHONE: (816) 969-2266 EMAIL: BOBBIE.SAULSBERRY@SPIREENERGY.COM	<b>TELEPHONE/ CABLE</b> AT&T 2121 E. 63RD STREET, CIOI KANSAS CITY, MO 64130 CONTACT: DARRIN SHEPARD PHONE (O): (816) 772-0336 PHONE (C): (816) 535-7658 EMAIL: DS616@ATT.COM
<b>WATER</b> LEE'S SUMMIT WATER UTILITIES 1200 SE HAMBLEN ROAD LEE'S SUMMIT, MO 64063 PHONE: (816) 969-1900	<b>ELECTRIC</b> EVERGY LEE'S SUMMIT SERVICE CENTER 1300 SE HAMBLEN ROAD LEE'S SUMMIT, MO 64081 CONTACT: DOUG DAVIN PHONE: (816) 347-4320 EMAIL: DOUG.DAVIN@EVERGY.COM	

ADDITIONAL GOVERNING AGENCIES CONTACTS:

<b>DEVELOPMENT SERVICES</b> CITY OF LEE'S SUMMIT - DEVELOPMENT SERVICES 220 SE GREEN STREET LEE'S SUMMIT, MO 64063 PHONE: (816) 969-1200	<b>FIRE PREVENTION</b> CITY OF LEE'S SUMMIT FIRE DEPARTMENT 207 SE DOUGLAS LEE'S SUMMIT, MO 64063 CONTACT: JIM EDEN PHONE: (816) 969-1933	<b>DEPARTMENT OF TRANSPORTATION</b> MoDOT - KANSAS CITY DISTRICT 600 NE COLBURN ROAD LEE'S SUMMIT, MO 64086 CONTACT: MELISSA BLACK PHONE: (816) 607-2153 EMAIL: MELISSA.BLACK@MODOT.MO.GOV
<b>STORMWATER MANAGEMENT</b> CITY OF LEE'S SUMMIT - PUBLIC WORKS 220 SE GREEN STREET LEE'S SUMMIT, MO 64063 PHONE: (816) 969-1800	<b>EROSION CONTROL &amp; WATER QUALITY</b> MODNR - KANSAS REGIONAL OFFICE 500 NE COLBURN ROAD LEE'S SUMMIT, MO 64086 CONTACT: KAREN ROUSE PHONE: (816) 251-0700 EMAIL: KAREN.ROUSE@DNR.MO.GOV	



SITE LOCATION MAP  
(NOT TO SCALE)

GENERAL NOTES

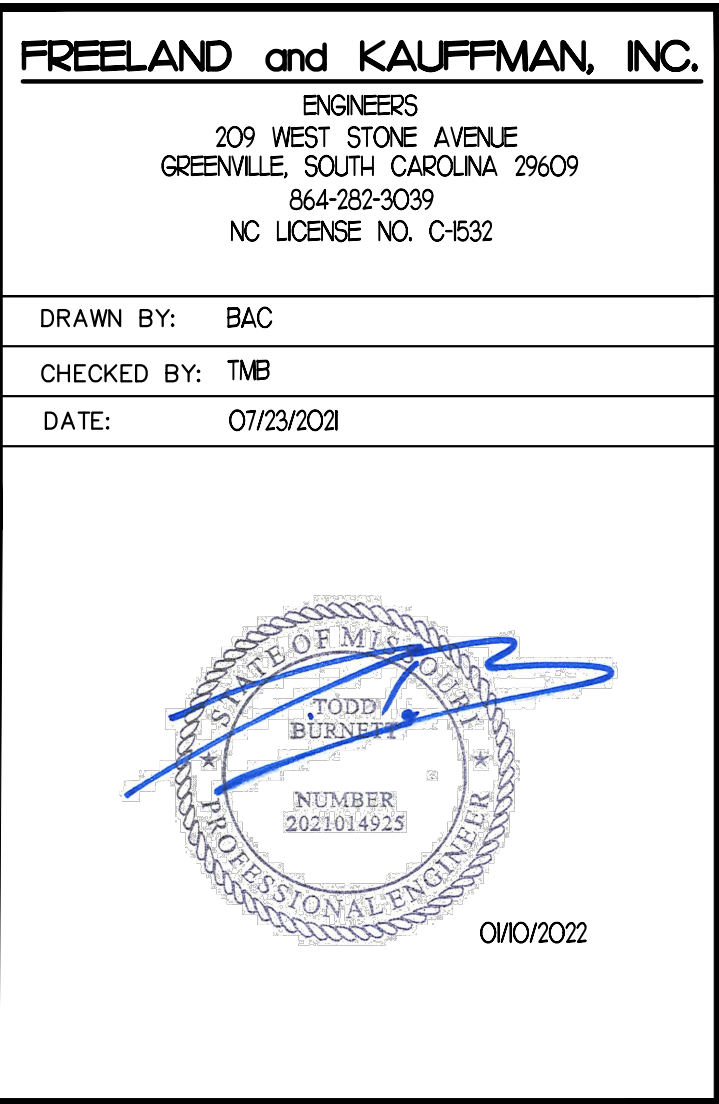
1. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS AND FIELD CONDITIONS WHEN POSSIBLE, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF ALL EXISTING UTILITIES BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS WELL IN ADVANCE OF TRENCHING. IF THE CLEARANCES ARE LESS THAN SPECIFIED ON THE PLANS OR 12", WHICHEVER IS LESS, CONTACT FREELAND & KAUFFMAN, INC. (864-233-5497) AND OWNER PRIOR TO PROCEEDING WITH CONSTRUCTION.
2. THE CONTRACTOR SHALL INCLUDE IN HIS CONTRACT PRICE THE REMOVAL AND DISPOSAL OF ANY EXCESS TOPSOIL HE/SHE DETERMINES IS NOT REQUIRED TO PERFORM THE FINAL GRADING AND LANDSCAPING OPERATION.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND IMPLEMENTATION OF ALL REQUIRED/NECESSARY SHEETING, SHORING, AND SPECIAL EXCAVATION MEASURES REQUIRED ON THE PROJECT TO MEET OSHA, FEDERAL, STATE AND LOCAL REGULATIONS PURSUANT TO THE INSTALLATION OF THE WORK INDICATED ON THE DRAWINGS. OWNER AND FREELAND & KAUFFMAN, INC. ACCEPT NO RESPONSIBILITY FOR THE DESIGN TO INSTALL SAID ITEMS.
4. CALL UTILITY LOCATOR SERVICE 72 HOURS IN ADVANCE OF DIGGING AT 811.
5. ALL CONSTRUCTION SHALL FOLLOW CITY OF LEE'S SUMMIT'S DESIGN AND CONSTRUCTION MANUAL.
6. ALL CURB/HANDICAP RAMP DESIGNS SHALL CONFORM TO ADA STANDARDS OR CITY OF LEE'S SUMMIT STANDARDS, WHICHEVER IS MORE RESTRICTIVE.
7. PRE-CAST DRAINAGE AND SANITARY SEWER STRUCTURES HAVE BEEN SPECIFIED ON THE PLANS. OWNER AND FREELAND & KAUFFMAN, INC., HOWEVER, ASSUME NO RESPONSIBILITY FOR THESE STRUCTURES AS FIELD CONDITIONS DURING CONSTRUCTION OFTEN DICTATE MINOR ELEVATION ADJUSTMENTS. THE CONTRACTOR ASSUMES ALL RESPONSIBILITY AND EXPENSE FOR MODIFYING THESE STRUCTURES TO ACCOMMODATE THESE FIELD ADJUSTMENTS.
8. THE CONTRACTOR IS RESPONSIBLE FOR PREPARING AND SUBMITTING TO FREELAND & KAUFFMAN, INC. AS-BUILT WATER AND SEWER INFORMATION, TO ENABLE FREELAND AND KAUFFMAN, INC. TO PREPARE THE REQUIRED AS-BUILT/RECORD DRAWINGS TO OBTAIN PERMITS TO PLACE UTILITIES INTO OPERATION. THE CONTRACTOR IS ALSO REQUIRED TO PROVIDE FREELAND AND KAUFFMAN COPIES OF THE WATER AND SEWER PRESSURE TESTS, WATER MAIN BACTERIOLOGICAL TESTS, BACKFLOW PREVENTION TESTS BY A CERTIFIED BACKFLOW PREVENTION SPECIALIST, ETC. CONTRACTOR SHALL NOTIFY FREELAND & KAUFFMAN, INC. AT LEAST 72 HOURS IN ADVANCE OF ALL UTILITY TESTING.
9. ALL WATER LINE AND SEWER LINE INSTALLATION SHALL CONFORM TO THE STANDARDS AND DETAILS OF THE CITY OF LEE'S SUMMIT'S DESIGN AND CONSTRUCTION MANUAL.
10. THE CONTRACTOR IS RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH THESE STANDARDS.
11. THE LAND DISTURBANCE PERMIT MUST BE KEPT ON THE WORK SITE AND SHOWN UPON REQUEST.
12. THE CONTRACTOR SHALL INCLUDE IN THE CONTRACT PRICE ALL MATERIAL AND LABOR ASSOCIATED WITH THE TESTING OF THE WATER AND SEWER LINES REQUIRED BY CITY OF LEE'S SUMMIT AND LEE'S SUMMIT WATER UTILITIES.
13. THE CONTRACTOR SHALL INCLUDE IN THE CONTRACT PRICE ANY DE-WATERING NECESSARY TO CONSTRUCT THE PROJECT AS SHOWN ON THE PLANS.
14. SEDIMENT CONTROL MEASURES MUST BE INSPECTED ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24-HOURS OF QUALIFYING STORM EVENTS, AND MAINTAINED AS NEEDED TO INSURE THAT THE INTENDED PURPOSES ARE ACCOMPLISHED.
15. ALL PRE-CAST DRAINAGE AND MANHOLE STRUCTURES MUST MEET CITY OF LEE'S SUMMIT AND MODOT SPECIFICATIONS.
16. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF A MISSOURI REGISTERED LAND SURVEYOR ON-SITE TO PROVIDE ALL CONSTRUCTION STAKE-OUT SERVICES. THE CONTRACTOR IS ALSO RESPONSIBLE FOR INSURING THE SURVEYOR IS IN POSSESSION OF THE LATEST REVISIONS OF ALL PLANS.
15. A CITY OF LEE'S SUMMIT AND MODOT ENCROACHMENT PERMITS ARE REQUIRED FOR ALL WORK WITHIN THE PUBLIC ROADWAY RIGHT-OF-WAY.
16. THE FINANCIAL RESPONSIBILITY (FRO) AND NPDES COVERAGE LETTER MUST BE KEPT ON THE JOB SITE AND SHOWN UPON REQUEST.
17. THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTION TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH AN INSPECTOR PRIOR TO ANY LAND DISTURBANCE WORK AT (816) 969-1200.

Sheet List Table

Sheet Number	Sheet Title
1	COVER SHEET
2	SURVEY
3	DEMOLITION PLAN
4	EROSION CONTROL PHASE 1
5	EROSION CONTROL PHASE 2
6	EROSION CONTROL DETAILS
7	EROSION CONTROL DETAILS
8	SITE PLAN
9	SITE DETAILS
10	SITE DETAILS
11	SITE DETAILS
12	SITE DETAILS
13	GRADING PLAN
14	INLET AREA MAP
15	STORM PROFILES
16	STORM DETAILS
17	STORM DETAILS
18	UGD DETAILS
19	UGD DETAILS
20	UTILITY PLAN
21	UTILITY DETAILS
22	UTILITY DETAILS
23	LANDSCAPE PLAN
24	LANDSCAPE DETAILS
25	SIGHT DISTANCE EXHIBIT
AS11	TRASH ENCLOSURE DETAIL
A2.01	BUILDING ELEVATIONS
S2.0	FOUNDATION DETAILS
SP1.0	PHOTOMETRIC PLAN
EL.00	LIGHTING PLAN
ES1.00	LIGHTING PLAN

REVISIONS

NO. DATE



ENGINEER-  
FREELAND and KAUFFMAN, INC.  
209 WEST STONE AVENUE  
GREENVILLE, SC 29609  
TELEPHONE (864) 233-5497  
FAX (864) 233-8915

DEVELOPER/OWNER-  
CROSS DEVELOPMENT  
CC LEE'S SUMMIT, LLC.  
4336 MARSH RIDGE RAOD  
CARROLLTON, TX 75010  
CONTACT: NICK FORE  
TELEPHONE (214) 614-8252

SHEET 1  
ISSUED FOR BID DECEMBER 20, 2021



SITE LOCATION MAP (NOT TO SCALE)

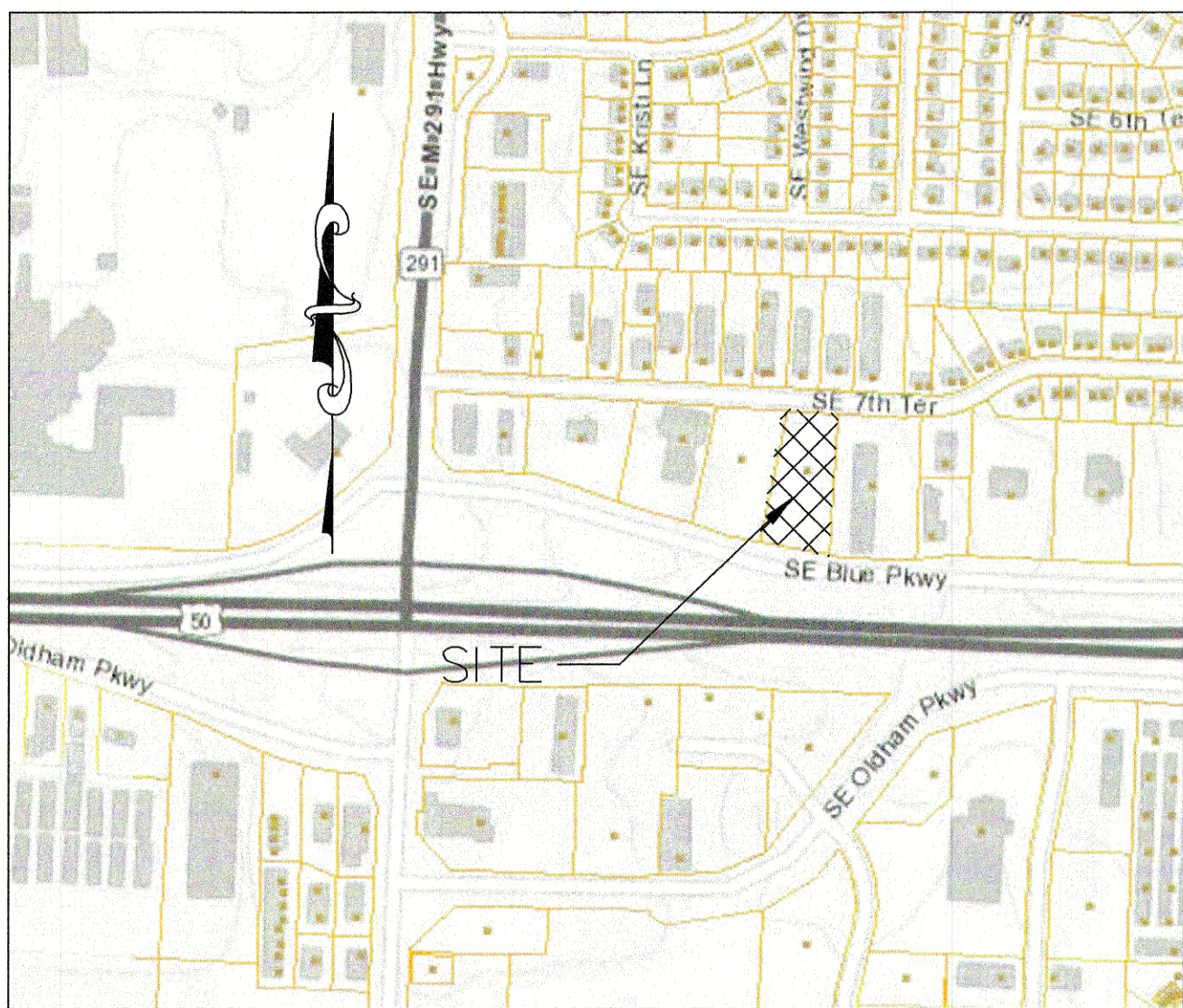


TABLE A ITEMS:

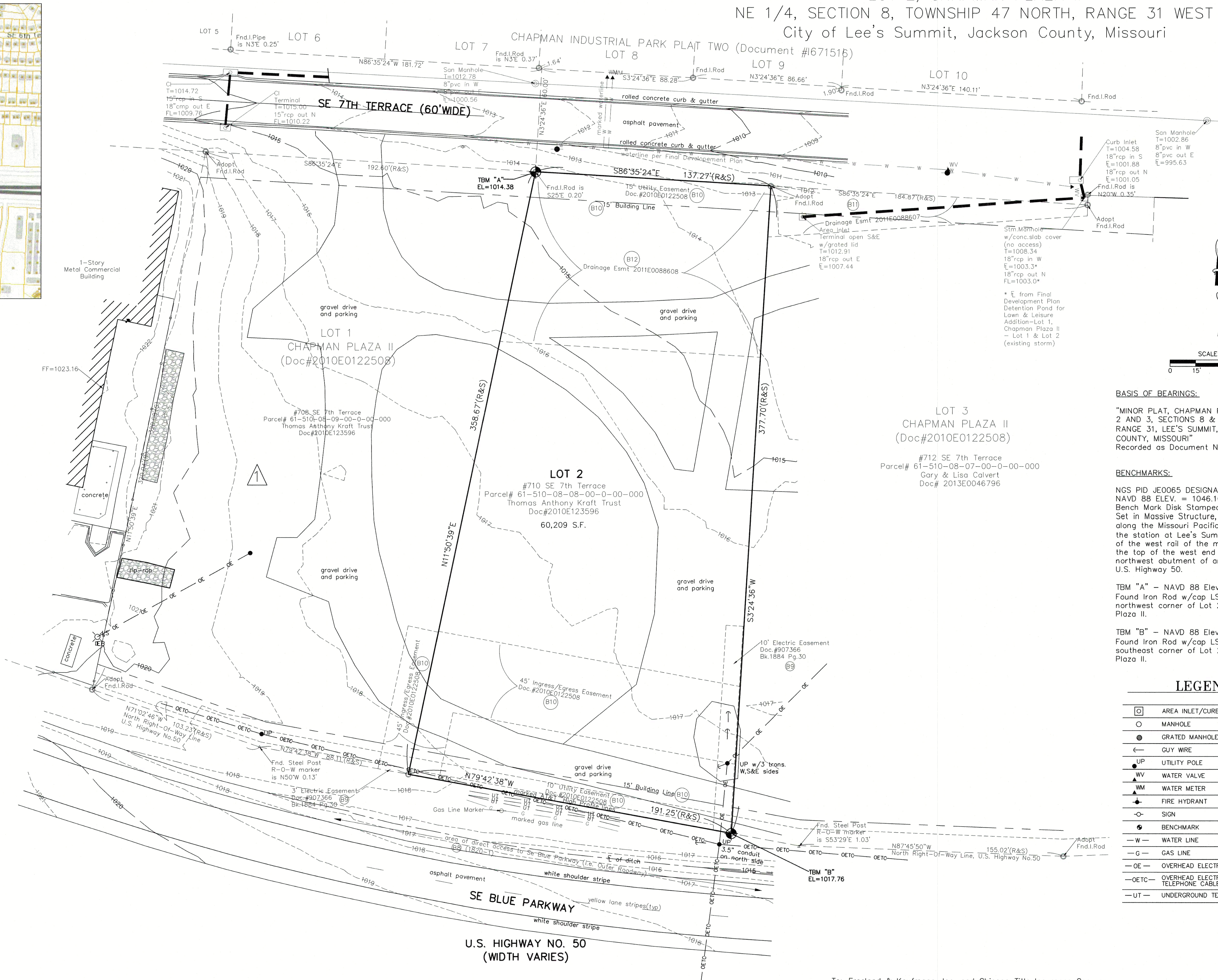
- Monuments set as shown
- Address - 710 SE 7th Terrace, Lee's Summit, MO 64063
- Flood Zone X - Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) 29183C0185G effective 1/20/2016 and 29189C0205G effective 1/20/2016
- There are 60,209 square feet in Lot 2
- Vertical datum is NAVD 88 (See Benchmark Note)
- No zoning letter provided
- No zoning letter provided
- There is no building on property
- Substantial features are shown
- There is no designated parking on property
- There were no division or party walls designated by the client.
- Utilities as shown
- The names of adjoining property owners are shown as of the date of the survey from the Assessor's records online.
- Site is approximately 0.2 miles east of SE Missouri 291 Highway along SE 7th Terrace.
- There is no new construction on or adjacent to site, however, there is a "Final Development Plan, Concept Development Plan, for Lawn & Leisure Addition - Lot 1 and Chapman Plaza II - Lot 1 & Lot 2", by Hamilton & Sterrett, Inc., Engineers, Land Surveyors & Planners, Signed & Sealed by Leslie R. Hamilton, MO E-22616, dated March 13, 2015. Plans depict proposed parking, building and detention.
- There was no evidence of changes in street right of way lines, and none made available to the surveyor by the controlling jurisdiction. There is no evidence of recent street or sidewalk construction or repairs observed during the process of conducting the field work.

Chicago Title Insurance Company Commitment No. 211007  
Dated April 19, 2021

Description:  
Lot 2, CHAPMAN PLAZA II, a subdivision in Lee's Summit, Jackson County, Missouri, according to the recorded plat thereof.

Chicago Title Insurance Company Commitment No. 211007  
Dated April 19, 2021  
Schedule B, Part II, Exceptions, Item #s

- Rights of way, and easement, together with abutter's rights of direct access to State of Missouri, Doc# 882977 in Bk 1820 pg 1 - property has direct access along the South line of Lot 2 to Se Blue Parkway, as shown, temporary easement mentioned for landscaping should be no longer in effect.
- Electric line easement to Missouri Public Service Company Doc# 907336 in Bk 1884 pg 30, as shown
- Boundaries, building lines, easements and dedications on Chapman Plaza II, Doc# 2010E122508, as shown
- Easement for storm drainage, Doc# 2011E0088607, as shown
- Easement for storm drainage, Doc# 2011E0088608, as shown



REVISION 6/23/2021  
Added topography through Lot 1 of CHAPMAN PLAZA II.

To: Freeland & Kaufmann, Inc. and Chicago Title Insurance Company

This is to certify that the map or plat and the survey on which it is based were made in accordance with the 2016 Minimum Standards Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 1, 2, 3, 4, 5, 6a, 6b, 7a, 8, 9, 10, 11a, 13, 14, 16 & 17 of Table A thereof.  
The fieldwork was completed on April 29, 2021

Date of Plot of Map: May 14, 2021

**PRELIMINARY**

MARK WILEY MO PLS 2437

BASIS OF BEARINGS:

"MINOR PLAT, CHAPMAN PLAZA II, LOTS 1, 2 AND 3, SECTIONS 8 & 9 TOWNSHIP 47, RANGE 31, LEE'S SUMMIT, JACKSON COUNTY, MISSOURI"  
Recorded as Document No.2010E0122508

BENCHMARKS:

NGS PID JE0065 DESIGNATION X 205  
NAVD 88 ELEV. = 1046.10  
Bench Mark Disk Stamped X 205 1946  
Set in Massive Structure, 0.6 miles south along the Missouri Pacific Railroad from the station at Lee's Summit, 19.1' west of the west rail of the main track, set in the top of the west end of the northwest abutment of an overpass over U.S. Highway 50.

TBM "A" - NAVD 88 Elev. = 1014.38  
Found Iron Rod w/cap LS 371 D at northwest corner of Lot 2, Chapman Plaza II.

TBM "B" - NAVD 88 Elev. = 1017.76  
Found Iron Rod w/cap LS 371 D at southeast corner of Lot 2, Chapman Plaza II.

LEGEND

	AREA INLET/CURB INLET
	MANHOLE
	GRATED MANHOLE
	GUY WIRE
	UTILITY POLE
	WATER VALVE
	WATER METER
	FIRE HYDRANT
	SIGN
	BENCHMARK
	WATER LINE
	GAS LINE
	OVERHEAD ELECTRIC
	OVERHEAD ELECTRIC TELEPHONE CABLE
	UNDERGROUND TELEPHONE

ALTA/NSPS SURVEY

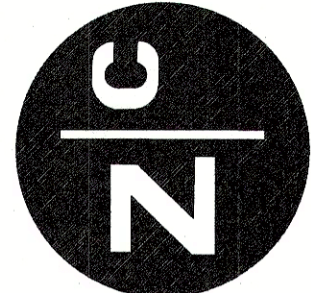
LOT 2, CHAPMAN PLAZA II

NE 1/4, SECTION 8, TOWNSHIP 47 NORTH,  
RANGE 31 WEST

City of Lee's Summit, Jackson County, Missouri

HEIDEMAN | ASSOCIATES, INC.

Consulting  
Civil  
Electrical  
Mechanical  
Engineers  
Land Surveying



240 LARKIN WILLIAMS INDUSTRIAL COURT  
LEE'S SUMMIT, MO 64063  
Phone: 636-492-3200  
Fax: 636-492-3202

Heideman + Associates, Inc. Professional Land Surveying Corporation Missouri State Certificate of Authority #000281

REVISIONS

DATE	DESCRIPTION
6/01/21	REV.

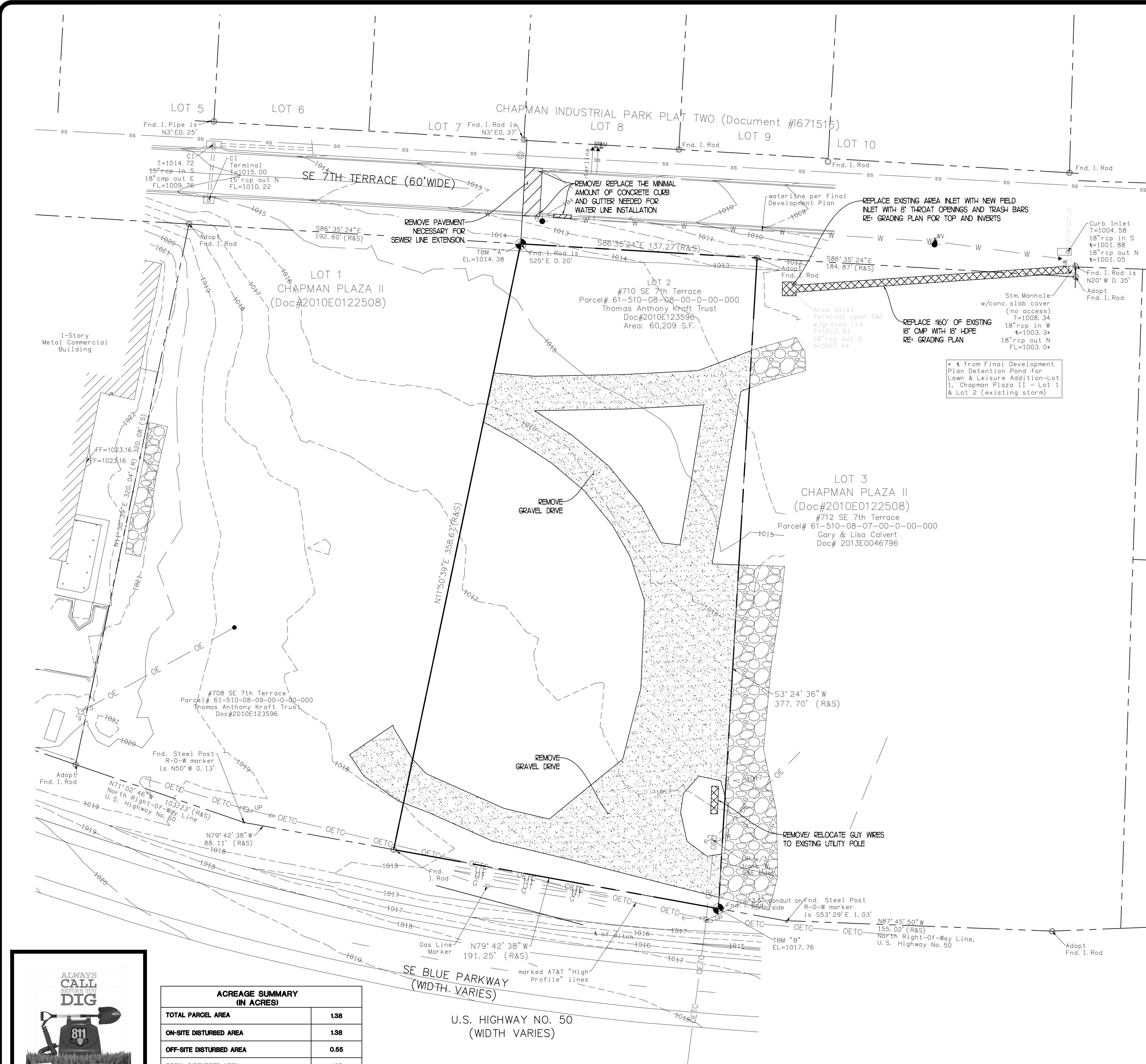
DATE 2021/05/04

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SHEET NO.

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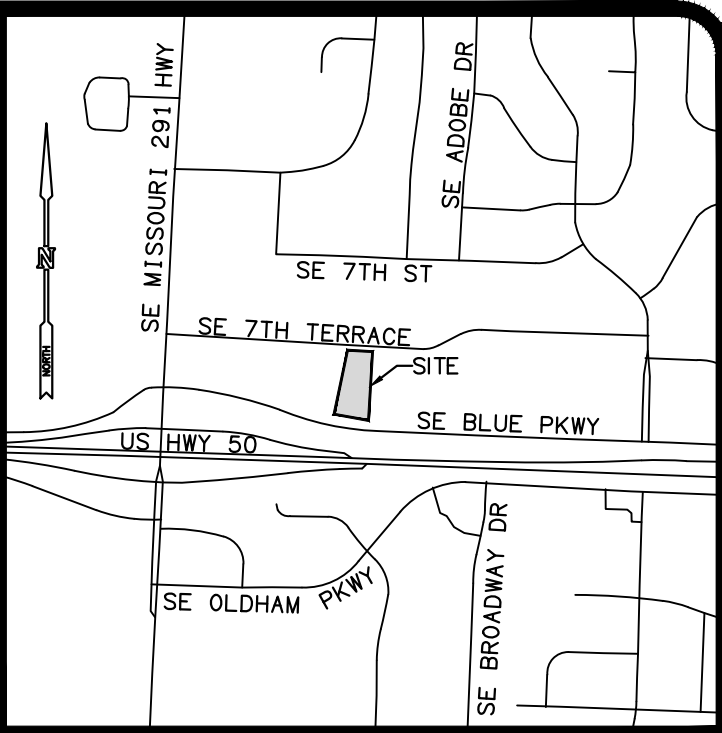
JOB NO.  
211029





**LEGEND**

SYMBOL	DESCRIPTION (TO BE REMOVED)
[Pattern]	GRAVEL DEMO
[Pattern]	ASPHALT/ CONCRETE DEMO
[Pattern]	UTILITY/STORM DEMO



LOCATION MAP  
NOT TO SCALE

**DEMOLITION PLAN NOTES:**

1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL LOCAL AND STATE PERMITS REQUIRED FOR DEMOLITION WORK.
2. THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE OWNER AND/OR ENGINEER FOR ANY AND ALL INJURIES AND/OR DAMAGES TO PERSONNEL, EQUIPMENT AND/OR EXISTING FACILITIES IN THE DEMOLITION AND CONSTRUCTION DESCRIBED IN THE PLANS AND SPECIFICATIONS.
3. EXISTING CONDITIONS AS DEPICTED ON THESE PLANS ARE GENERAL AND ILLUSTRATIVE IN NATURE AND DO NOT INCLUDE MECHANICAL, ELECTRICAL AND MISCELLANEOUS STRUCTURES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EXAMINE THE SITE AND BE FAMILIAR WITH EXISTING CONDITIONS PRIOR TO BIDDING ON THE DEMOLITION WORK FOR THIS PROJECT. IF CONDITIONS ENCOUNTERED DURING EXAMINATION ARE SIGNIFICANTLY DIFFERENT THAN THOSE SHOWN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
4. ALL EXISTING ABOVE AND BELOW GROUND STRUCTURES WITHIN THE LIMITS OF NEW CONSTRUCTION SHALL BE RAZED UNLESS NOTED OTHERWISE WITHIN THIS CONSTRUCTION SET, ARCHITECTURAL PLANS AND/OR PROJECT SPECIFICATIONS. THIS INCLUDES FOUNDATION SLABS, WALLS, AND FOOTINGS.
5. ALL DEMOLITION WASTE AND CONSTRUCTION DEBRIS SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF IN A STATE APPROVED WASTE SITE AND IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.
6. ALL UTILITY REMOVAL, RELOCATION, CUTTING, CAPPING AND/OR ABANDONMENT SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY.
7. THE BURNING OF CLEARED MATERIAL AND DEBRIS SHALL NOT BE ALLOWED UNLESS CONTRACTOR GETS WRITTEN AUTHORIZATION FROM THE AUTHORITIES.
8. UTILITY CONTACTS ARE LISTED ON THE COVER SHEET.
9. EROSION AND SEDIMENTATION CONTROL MEASURES AROUND AREAS OF DEMOLITION SHALL BE INSTALLED PRIOR TO INITIATION OF DEMOLITION ACTIVITIES. REFER TO SWPP PLAN FOR DETAILS.
10. ASBESTOS OR HAZARDOUS MATERIALS, IF FOUND ON SITE, SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIALS CONTRACTOR. CONTRACTOR SHALL NOTIFY OWNER IMMEDIATELY IF HAZARDOUS MATERIALS ARE ENCOUNTERED.
11. CONTRACTOR SHALL PROTECT ALL CORNER PINS, MONUMENTS, PROPERTY CORNERS, AND BENCHMARKS DURING DEMOLITION ACTIVITIES. IF DISTURBED, CONTRACTOR SHALL HAVE DISTURBED ITEMS RESET BY A LICENSED SURVEYOR AT NO ADDITIONAL COST TO THE OWNER.
12. CONTRACTOR SHALL ADHERE TO ALL LOCAL, STATE, FEDERAL AND OSHA REGULATIONS WHEN OPERATING DEMOLITION EQUIPMENT AROUND UTILITIES.
13. CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC CONTROL MEASURES IN ACCORDANCE WITH THE NCDOT STANDARDS, AND AS REQUIRED BY LOCAL AGENCIES WHEN WORKING IN AND/OR ALONG STREETS, ROADS, HIGHWAYS, ETC. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN APPROVAL AND COORDINATE WITH LOCAL AND/OR STATE AGENCIES REGARDING THE NEED, EXTENT, AND LIMITATIONS ASSOCIATED WITH INSTALLING AND MAINTAINING TRAFFIC CONTROL MEASURES.
14. CONTRACTOR SHALL PROTECT AT ALL TIMES ADJACENT STRUCTURES AND ITEMS FROM DAMAGE DUE TO DEMOLITION ACTIVITIES.
15. DEMOLITION CONTRACTOR SHALL COORDINATE EXISTING FACILITIES UTILITY DISCONNECTS WITH THE OWNER'S REPRESENTATIVE A MINIMUM 7 DAYS PRIOR TO ANTICIPATED DEMOLITION OF STRUCTURES.
16. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION.
17. CONTRACTOR SHALL REMOVE AIR CONDITION UNITS / FREON IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
18. ALL UTILITY OR SERVICE LINES THAT UNDERLIE THE PROPOSED STRUCTURES SHALL BE REMOVED. ALL STORM AND SANITARY SEWER LINES THAT LIE BENEATH A HIGHWAY LINE EXTENDING FROM THE BASE OF FOUNDATIONS FOR FREE STANDING FOUNDATIONS FOR LOAD BEARING WALLS SHOULD BE REMOVED OR PRESSURE-GROUTED IN-PLACE.

**NOTE:**

1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL LOCAL AND STATE PERMITS REQUIRED FOR DEMOLITION WORK.
2. DEMOLITION CONTRACTOR SHALL COORDINATE EXISTING FACILITIES UTILITIES DISCONNECTS WITH OWNER'S REPRESENTATIVE A MINIMUM 7 DAYS PRIOR TO ANTICIPATED DEMOLITION OF STRUCTURES.
3. CONTRACTOR SHALL REFERENCE THE GEOTECHNICAL REPORT PREPARED BY INTERTEK PSI DATED MAY 21, 2021 FOR INFORMATION ON THE REMOVAL OF EXISTING IN SITU MATERIALS AND HARDSCAPE.

**ALWAYS CALL BEFORE YOU DIG**

811

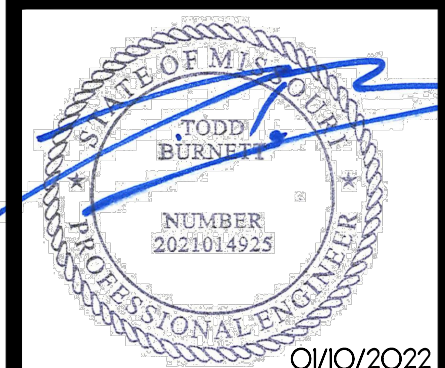
EVERY DIGGING JOB REQUIRES A CALL - EVEN SMALL PROJECTS LIKE PLANTING TREES OR SHRUBS. IF YOU HIT AN UNDERGROUND UTILITY LINE WHILE DIGGING, YOU CAN HARM YOURSELF OR THOSE AROUND YOU, DISRUPT SERVICE TO AN ENTIRE NEIGHBORHOOD AND POTENTIALLY BE RESPONSIBLE FOR FINES AND REPAIR COSTS.

SMART DIGGING MEANS CALLING 811 BEFORE EACH JOB. WHETHER YOU ARE A HOMEOWNER OR A PROFESSIONAL EXCAVATOR, ONE CALL TO 811 GETS YOUR UNDERGROUND UTILITY LINES MARKED FOR FREE.

ACREAGE SUMMARY (IN ACRES)	
TOTAL PARCEL AREA	1.38
ON-SITE DISTURBED AREA	1.38
OFF-SITE DISTURBED AREA	0.55
TOTAL DISTURBED AREA	1.93
IMPERVIOUS AREA PRE-CONSTRUCTION (ON-SITE ONLY & INCLUDES GRAVEL)	0.48
PERVIOUS AREA PRE-CONSTRUCTION (ON-SITE ONLY)	0.90
IMPERVIOUS AREA POST-CONSTRUCTION (ON-SITE ONLY)	0.90
PERVIOUS AREA POST-CONSTRUCTION (ON-SITE ONLY)	0.48
IMPERVIOUS AREA INCREASE (PRE VS POST) (ON-SITE ONLY)	0.42
IMPERVIOUS PERCENTAGE (AT POST-CONSTRUCTION STATUS)	65.2%

REVISIONS	BY

**FREELAND and KAUFFMAN, INC.**  
Engineers \* Landscape Architects  
209 West Stone Avenue  
Greenville, South Carolina 29609  
864-233-5497  
fax 864-233-8916



**CALIBER COLLISION**  
710 SE BLUE PARKWAY  
LEE'S SUMMIT, MO 64063  
CROSS DEVELOPMENT, CG LEE'S SUMMIT, LLC  
4388 MARSH RIDGE ROAD  
CARROLLTON, TX 75010  
TEL (214) 614-8252

DRAWN  
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DATE  
11/7/2021  
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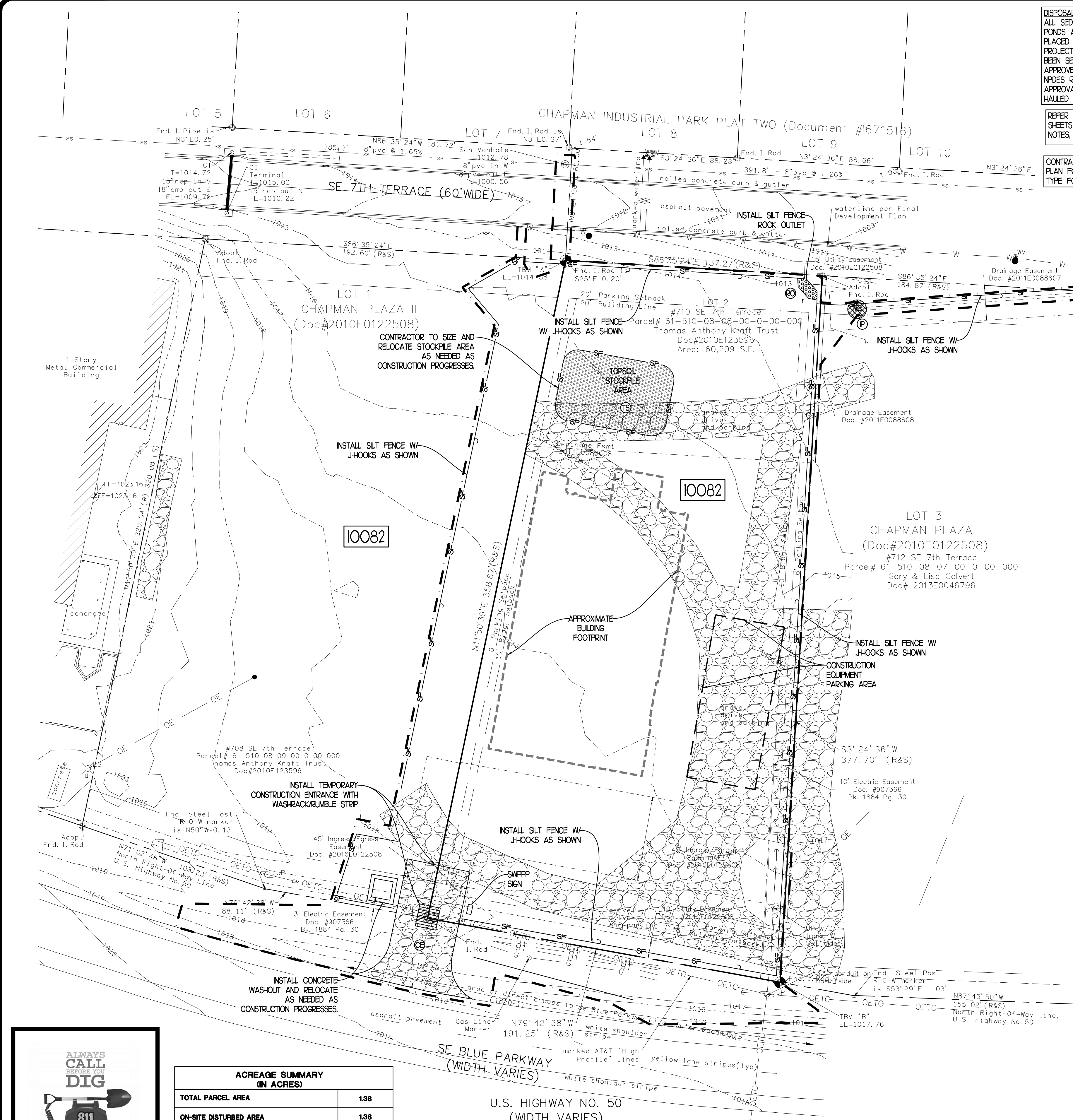
DRAWING

3

DEMOLITION PLAN







DISPOSAL OF SEDIMENT:  
ALL SEDIMENT REMOVED FROM SILT FENCE, INLET PROTECTION, SEDIMENT PONDS AND TRAPS, ETC. DURING THE COURSE OF CONSTRUCTION SHALL BE PLACED ON THE TOPSOIL STOCKPILE AND RESPAID AT THE END OF THE PROJECT. SEDIMENT REMOVED FROM THESE ITEMS AFTER THE SITE HAS BEEN SEEDDED SHALL BE HAULED OFF SITE AND DISPOSED OF AT AN APPROVED, LICENSED SPILL AREA THAT IS IN FULL COMPLIANCE WITH THE NPDES REGULATIONS. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY APPROVALS NECESSARY TO ALLOW FOR THE DISPOSAL OF THIS MATERIAL IF HAULED OFF-SITE.

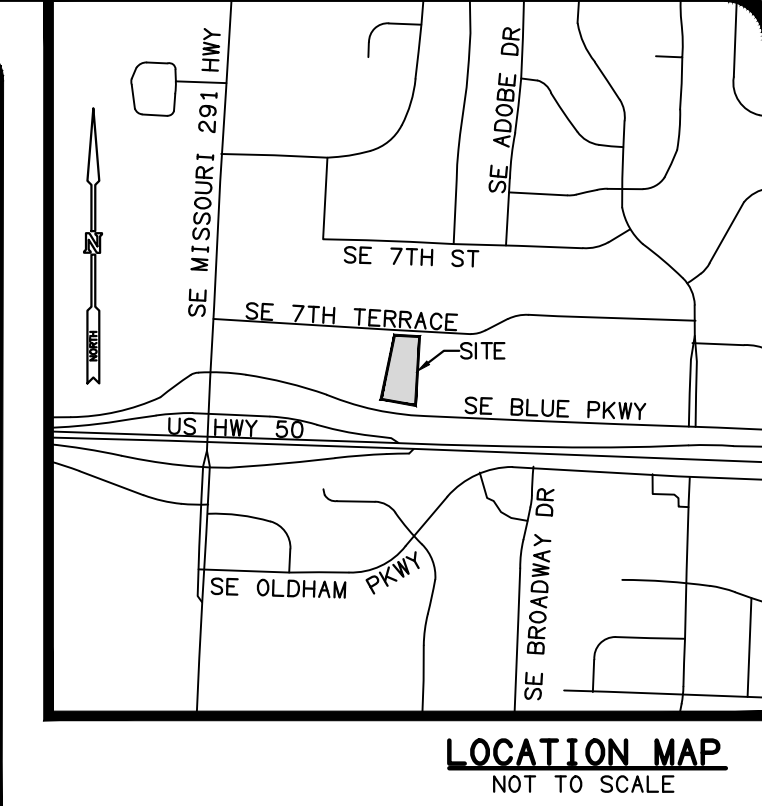
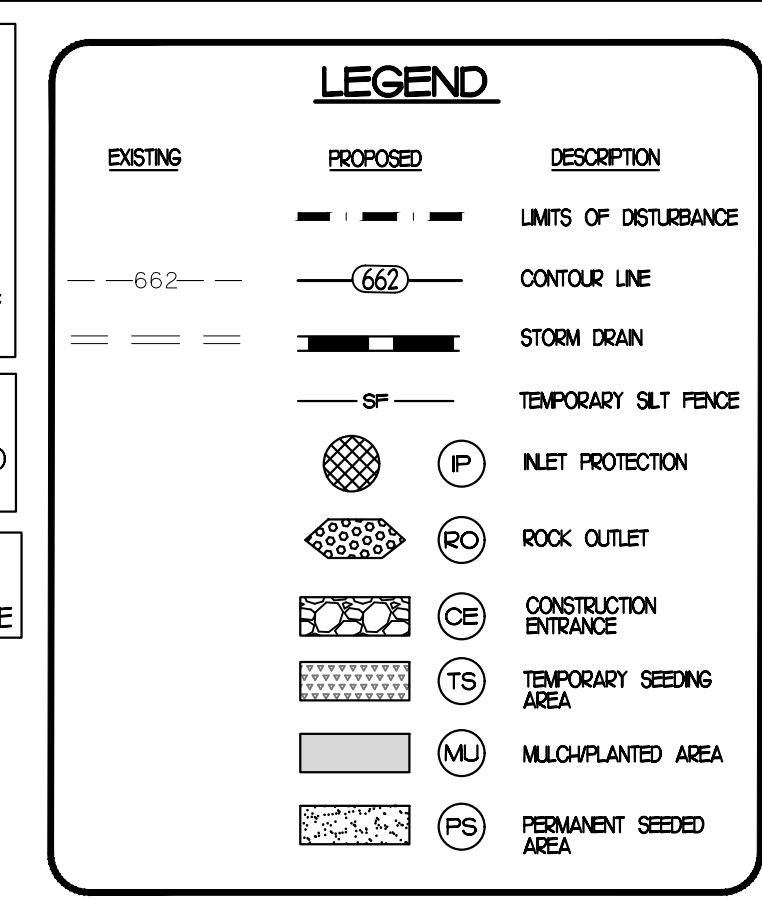
REFER TO THE EROSION CONTROL DETAIL SHEETS FOR ALL EROSION CONTROL NOTES, MAINTENANCE REQUIREMENTS, ETC.

CONTRACTOR TO REFERENCE LANDSCAPE PLAN FOR INFORMATION ON STABILIZATION TYPE FOR SEED, SOD, AND MULCH.

CONTRACTOR SHALL USE EXTREME CAUTION WHILE WORKING UNDERNEATH OVERHEAD POWER LINES. ANY DAMAGE TO THE EXISTING UTILITY POLES AND UTILITY LINES SHALL BE REPAIRED/REPLACED AT THE CONTRACTOR'S EXPENSE.

CONTRACTOR TO LOCATE POST-OFFICES, CONSTRUCTION TRAILER, ETC. ON SITE MAP TO BE MAINTAINED ON-SITE.

NO JURISDICTIONAL WETLANDS OR STREAMS LOCATED OR IMMEDIATELY ADJACENT TO SITE.



SWPPP CONTACT DURING CONSTRUCTION CROSS DEVELOPMENT ATTN:

DRAINAGE BASIN: MISSOURI RIVER WATERSHED

RECEIVING WATERS: EAST FORK LITTLE BLUE RIVER, TRIBUTARY OF THE BLUE RIVER - MISSOURI RIVER WATERSHED

SOILS ON SITE: K0082 - ARISBURG-URBAN LAND COMPLEX, 1 TO 5 PERCENT SLOPES (HYDROLOGIC SOIL GROUP C)

- ### EROSION CONTROL MAINTENANCE PLAN:
- ALL SLOPES 3:1 AND STEEPER SHALL RECEIVE A CURLEX BLANKET OR APPROVED EQUAL, IN ADDITION TO HYDROSEEDING. TEMPORARY BERMS MAY BE NEEDED DAILY UNTIL ALL SLOPES ARE BROUGHT TO GRADE.
  - EXCEPT AS NOTED BELOW, STABILIZATION SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN SEVEN DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS PERMANENTLY CEASED. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE SEVENTH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASES IS PRECLUDED BY SNOW COVER, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS CONDITIONS ALLOW. WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 21 DAYS FROM WHEN ACTIVITY CEASED, (E.G. THE TOTAL TIME PERIOD THAT CONSTRUCTION ACTIVITY IS TEMPORARILY HALTED IS LESS THAN 21 DAYS) THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE BY THE SEVENTH DAY AFTER CONSTRUCTION ACTIVITIES HAVE TEMPORARILY CEASED. AREAS WHERE THE SEED HAS FAILED TO GERMINATE ADEQUATELY (UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70%) WITHIN 30 DAYS AFTER SEEDING AND MULCHING MUST BE RE-SEEDING IMMEDIATELY, OR AS SOON AS WEATHER CONDITIONS ALLOW. PERMANENT STABILIZATION FOR ALL DISTURBED AREAS IS TO BE COMPLETE WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION. DIVERSIONS MUST BE STABILIZED PRIOR TO BECOMING FUNCTIONAL.
  - ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED EVERY SEVEN (7) DAYS OR AFTER EACH RAINFALL OCCURRENCE THAT EXCEEDS ONE-HALF (0.5) INCH. DAMAGED OR INEFFECTIVE DEVICES SHALL BE REPAIRED AND REPLACED AS NECESSARY.
  - PROVIDE SILT FENCE AND/OR OTHER EROSION CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED, AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION.
  - ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL EROSION CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFF-SITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
  - THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO THE PAVED ROADWAY FROM CONSTRUCTION AREAS. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS MAY BE REQUIRED.
  - TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT LOADED WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.
  - EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.
  - CONTRACTOR SHALL PROVIDE EROSION CONTROL BLANKETS ON ALL SLOPES STEEPER THAN 3:1. CONTRACTOR HAS THE OPTION TO UTILIZE SOD IN LIEU OF AN EROSION CONTROL BLANKET (TYPICAL).

- ### SEQUENCE OF CONSTRUCTION:
- PHASE I
- SUBMIT PLANS FOR REVIEW
  - OBTAIN GRADING PERMIT (MAY INCLUDE PRE-CONSTRUCTION CONFERENCE). CONTRACTOR SHALL OBTAIN ALL APPROPRIATE PERMITS REQUIRED FOR DEMOLITION AND LAND DISTURBANCE ACTIVITIES.
  - CONTRACTOR SHALL CONTACT CITY OF LEE'S SUMMIT DEVELOPMENT SERVICES TO SCHEDULE A RECONSTRUCTION MEETING AT 680 969-2000.
  - REMOVE THE MINIMAL AMOUNT OF PERIMETER SITE FEATURES IN ORDER TO INSTALL STABILIZATION CONSTRUCTION EXIT AND SILT FENCE. ENSURE DRAINAGE IS DIRECTED TOWARDS SILT FENCE.
  - INSTALL INLET PROTECTION AT THE EXISTING STORM STRUCTURE OFF THE NORTH EAST CORNER OF THE PROPERTY ON THE ADJACENT PROPERTY.
  - INSTALL SWPPP SIGN, TEMPORARY STOCKPILE AREA, AND DESIGNATE AN AREA FOR THE PARKING OF CONSTRUCTION VEHICLES.
  - BEGIN DEMOLITION OF THE SITE FEATURES PER THE DEMOLITION PLAN. DO NOT BEGIN DEMOLITION OF THE PAVEMENT AND CONCRETE CURB ALONG SE 7TH TERRACE UNTIL READY TO BEGIN WATER MAIN INSTALLATION CONNECTION.
  - INSTALL CONCRETE WASHOUT AT SITE ENTRANCE EXIT.
  - INSTALL TEMPORARY SEEDING AND MULCH STABILIZATION TO ALL AREAS WHERE WORK WILL BE CEASED FOR A PERIOD OF MORE THAN 7 DAYS.
- PHASE II
- CONTINUALLY INSPECT AND MAINTAIN ALL BMP'S. REPAIR AND REPLACE ANY BMP'S AS NEEDED.
  - BEGIN GENERAL GRADING OF SITE. APPLY PERMANENT SEEDING TO ALL AREAS AS SOON AS THEY ARE COMPLETE. DO NOT WAIT UNTIL JOB COMPLETION TO PERMANENTLY SEED DISTURBED AREAS. ADD EROSION CONTROL BLANKETS AS NEEDED FOR ALL AREAS WITH SLOPES THAT EXCEED 3:1.
  - INSTALL UNDERGROUND DETENTION SYSTEM PER CONTECH'S SPECIFICATIONS AND THE GRADING PLAN. INSTALL STORM SEWERS AND STRUCTURES. INLET PROTECTION SHALL BE ADDED AT EACH STRUCTURE IMMEDIATELY AFTER THEY HAVE BEEN CONSTRUCTED. CONNECT TO EXISTING STORM STRUCTURE AS SHOWN. REPAIRING/REPLACING ANY APPURTENANCES AS NEEDED.
  - INSTALL UNDERGROUND UTILITIES AND COORDINATE WITH EACH UTILITY PROVIDER. BRING ALL BUILDING'S UTILITIES TO THE PROPOSED PAD LOCATION AND CAP FOR FUTURE CONNECTION.
  - INSTALL WATER LINE EXTENSION TO EXISTING MAIN NORTH OF SE 7TH TERRACE. IMMEDIATELY REPAVE ASPHALT AND INSTALL CURB & GUTTER PER CITY OF LEE'S SUMMIT STANDARDS AND SPECS.
  - COMMENCE GRADING OF BUILDING PAD AND AREAS AROUND BUILDING PAD.
  - INSTALL CURB AND GUTTER AND FINE GRADE PARKING AREAS. STONE BASE SHALL BE INSTALLED IN ALL PAVED AREAS AS SOON AS PRACTICABLE. CONSTRUCTION EXIT SHALL BE REMOVED ONLY ONCE THE BUILDING PAD, PARKING LOT, AND DRIVEWAY HAVE BEEN STABILIZED WITH STONE BASE.
  - PAVE SITE AND INSTALL APPROPRIATE INLET PROTECTION DEVICES FOR PAVED AREAS AS WORK PROGRESSES.
  - COMPLETE BUILDING CONSTRUCTION. SIDEWALKS, PLANTINGS, ETC.
  - REMOVE TEMPORARY BMP'S AS SOON AS THEIR CONTRIBUTING DRAINAGE AREAS HAVE BEEN STABILIZED. SEED AND MULCH ANY DISTURBANCE FROM REMOVAL OF TEMPORARY BMP'S.
  - INSPECT / CLEAN / FLUSH UNDERGROUND DETENTION SYSTEM. CONTRACTOR SHALL CONTACT MANUFACTURER FOR FINAL INSPECTION AND CERTIFICATION.
  - CONTACT MOHR FOR FINAL INSPECTION AND OWNER FOR COORDINATION OF FILING THE NOTICE OF TERMINATION NOTI.

ACREAGE SUMMARY (IN ACRES)	
TOTAL PARCEL AREA	1.38
ON-SITE DISTURBED AREA	1.38
OFF-SITE DISTURBED AREA	0.55
TOTAL DISTURBED AREA	1.93
IMPERVIOUS AREA PRE-CONSTRUCTION (ON-SITE ONLY & INCLUDES GRAVEL)	0.48
PERVIOUS AREA PRE-CONSTRUCTION (ON-SITE ONLY)	0.90
IMPERVIOUS AREA POST-CONSTRUCTION (ON-SITE ONLY)	0.90
PERVIOUS AREA POST-CONSTRUCTION (ON-SITE ONLY)	0.48
IMPERVIOUS AREA INCREASE (PRE VS POST) (ON-SITE ONLY)	0.42
IMPERVIOUS PERCENTAGE (AT POST-CONSTRUCTION STATUS)	65.2%

**ALWAYS CALL 811 BEFORE YOU DIG**

811

EVERY DIGGING JOB REQUIRES A CALL - EVEN SMALL PROJECTS LIKE PLANTING TREES OR SHRUBS. IF YOU HIT AN UNDERGROUND UTILITY LINE WHILE DIGGING, YOU CAN HARM YOURSELF OR THOSE AROUND YOU, DISRUPT SERVICE TO AN ENTIRE NEIGHBORHOOD AND POTENTIALLY BE RESPONSIBLE FOR FINES AND REPAIR COSTS.

SMART DIGGING MEANS CALLING 811 BEFORE EACH JOB. WHETHER YOU ARE A HOMEOWNER OR A PROFESSIONAL EXCAVATOR, ONE CALL TO 811 GETS YOUR UNDERGROUND UTILITY LINES MARKED FOR FREE.

REVISIONS	BY

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fax 864-233-8916

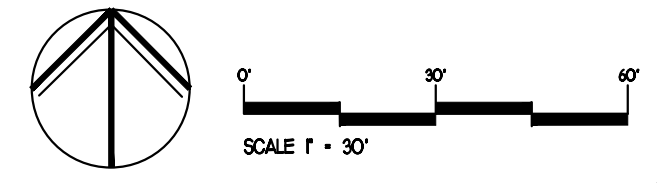


**CALIBER COLLISION**  
710 SE BLUE PARKWAY  
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CROSS DEVELOPMENT, CG LEE'S SUMMIT, LLC  
4388 MARSH RIDGE ROAD  
CARROLLTON, TX 75010  
TEL (214) 614-8252

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# EROSION CONTROL PHASE I

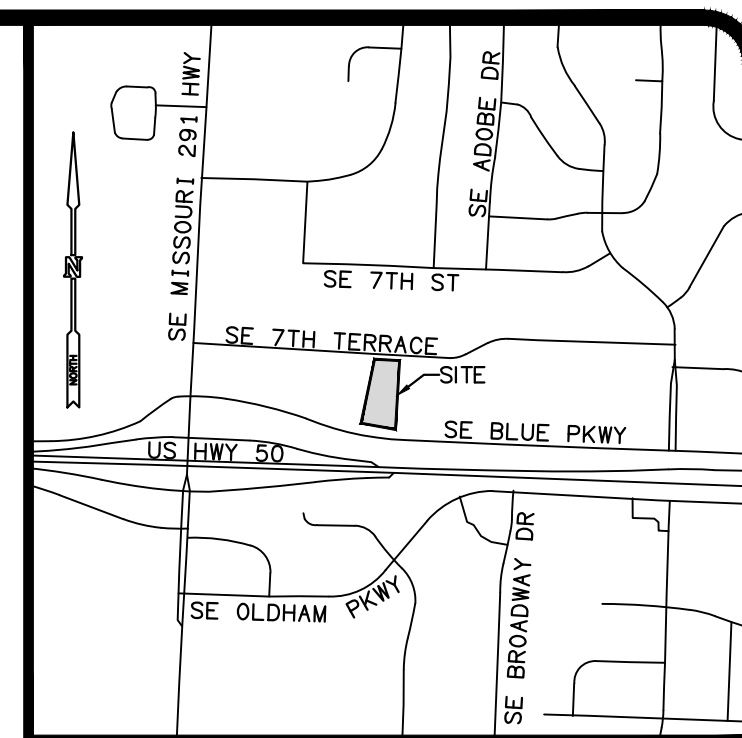






ACREAGE SUMMARY (IN ACRES)	
TOTAL PARCEL AREA	1.38
ON-SITE DISTURBED AREA	1.38
OFF-SITE DISTURBED AREA	0.55
TOTAL DISTURBED AREA	1.93
IMPERVIOUS AREA PRE-CONSTRUCTION (ON-SITE ONLY & INCLUDES DRIVE)	0.48
PERVIOUS AREA PRE-CONSTRUCTION (ON-SITE ONLY)	0.90
IMPERVIOUS AREA POST-CONSTRUCTION (ON-SITE ONLY)	0.90
PERVIOUS AREA POST-CONSTRUCTION (ON-SITE ONLY)	0.48
IMPERVIOUS AREA INCREASE (PRE VS POST) (ON-SITE ONLY)	0.42
IMPERVIOUS PERCENTAGE (AT POST-CONSTRUCTION STATUS)	65.2%

NO JURISDICTIONAL WETLANDS  
OR STREAMS LOCATED OR  
IMMEDIATELY ADJACENT TO SITE



SOILS ON SITE:

- 10082 - ARISEBURG-URBAN LAND COMPLEX, 1 TO 5 PERCENT SLOPES (HYDROLOGIC SOIL GROUP C)

1. ALL SLOPES 3:1 AND STEEPER SHALL RECEIVE A CURLEX BLANKET OR APPROVED EQUAL, IN ADDITION TO HYDROSEEDING. TEMPORARY BERMS MAY BE NEEDED DAILY UNTIL ALL SLOPES ARE BROUGHT TO GRADE.
2. EXCEPT AS NOTED BELOW, STABILIZATION SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN SEVEN DAYS AFTER THE CESSATION OF ACTIVITY. THAT PORTION OF THE SITE HAS BEEN PERMANENTLY CEASED, WHERE THE INITIATION OF STABILIZATION MEASURES BY THE SEVENTH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASES IS PRECLUDED BY SNOW COVER, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS CONDITIONS ALLOW, WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 21 DAYS FROM WHEN ACTIVITY CEASED, (E.G., THE TOTAL TIME PERIOD THAT CONSTRUCTION ACTIVITY IS TEMPORARILY HALTED IS LESS THAN 21 DAYS) THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE BY THE SEVENTH DAY AFTER CONSTRUCTION ACTIVITIES HAVE TEMPORARILY CEASED. AREAS WHERE THE SEED HAS FAILED TO GERMINATE ADEQUATELY (UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70%) WITHIN 30 DAYS AFTER SEEDING AND MULCHING MUST BE RE-SEEDING IMMEDIATELY, OR AS SOON AS WEATHER CONDITIONS ALLOW. PERMANENT STABILIZATION FOR ALL DISTURBED AREAS IS TO BE COMPLETE WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION. DIVERSIONS MUST BE STABILIZED PRIOR TO BECOMING FUNCTIONAL.
3. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED EVERY SEVEN (7) DAYS OR AFTER EACH RAINFALL OCCURRENCE THAT EXCEEDS ONE-HALF (0.5) INCH. DAMAGED OR INEFFECTIVE DEVICES SHALL BE REPAIRED AND REPLACED AS NECESSARY.
4. PROVIDE SILT FENCE AND/OR OTHER EROSION CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEARED, GRADED, AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION.
5. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL EROSION CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFF-SITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
6. THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO THE PAVED ROADWAY FROM CONSTRUCTION AREAS. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS MAY BE REQUIRED.
7. TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.
8. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.
9. CONTRACTOR SHALL PROVIDE EROSION CONTROL BLANKETS ON ALL SLOPES STEEPER THAN 3:1. CONTRACTOR HAS THE OPTION TO UTILIZE 500 IN. LENO OF AN EROSION CONTROL BLANKET (TYPICAL).

1. SUBMIT PLANS FOR REVIEW
2. OBTAIN GRADING PERMIT MAY INCLUDE PRE-CONSTRUCTION CONFERENCE, CONTRACTOR SHALL OBTAIN ALL APPROPRIATE PERMITS REQUIRED FOR DEMOLITION AND LAND DISTURBANCE ACTIVITIES
3. CONTRACTOR SHALL CONTACT CITY OF LEE'S SUMMIT DEVELOPMENT SERVICES TO SCHEDULE A PRE-CONSTRUCTION MEETING AT (866) 969-4200.
4. REMOVE THE MINIMAL AMOUNT OF PERMETER SITE FEATURES IN ORDER TO INSTALL STABILIZED CONSTRUCTION ERT AND SILT FENCE ENSURE DRAINAGE IS DIRECTED TOWARDS SILT FENCE.
5. INSTALL SILT PROTECTION AT THE EXISTING STORM STRUCTURE OF THE NORTH EAST CORNER OF THE PROPERTY ON THE ADJACENT PROPERTY.
6. INSTALL SWPPP SIGN TEMPORARY STOCKPILE AREA, AND DESIGNATE AN AREA FOR THE PARKING OF CONSTRUCTION VEHICLES.
7. BEGIN DEMOLITION OF THE SITE FEATURES PER THE DEMOLITION PLAN DO NOT BEGIN DEMOLITION OF THE PAVEMENT AND CONCRETE CURB ALONG SE 7TH TERRACE UNTIL READY TO BEGIN WATER MAIN INSTALLATION CONNECTION.
8. INSTALL CONCRETE WASHOUT AT SITE ENTRANCE/EXIT
9. INSTALL TEMPORARY SEEDING AND MULCH STABILIZATION TO ALL AREAS WHERE WORK WILL BE CEASED FOR A PERIOD OF MORE THAN 7 DAYS.

**PHASE II**

0. CONTINUALLY INSPECT AND MAINTAIN ALL BMP'S. REPAIR AND REPLACE ANY BMP'S AS NEEDED.
01. BEGIN GENERAL GRADING OF SITE APPLY PERMANENT SEEDING TO ALL AREAS AS SOON AS THE ARE CONCRETE DO NOT HAVE UNTIL 60% COMPLETION TO PERMANENTLY SEED DISTURBED AREAS ADD EROSION CONTROL BLANKETS AS NEEDED FOR ALL AREAS WITH SLOPES THAT EXCEED 3:1
1. INSTALL UNDERGROUND DETENTION SYSTEM PER CONTEC'S SPECIFICATIONS AND THE GRADING PLAN. INSTALL STORM SERVICES AND STRUCTURE AND PROTECTION SHALL BE ADDED AT THE STRUCTURE IMMEDIATELY AFTER THEY HAVE BEEN SHOWN, RELATING/REPLACING ANY APPURTENANCES AS NEEDED.
2. INSTALL UNDERGROUND UTILITIES AND COORDINATE WITH EACH UTILITY PROVIDER. BRING ALL BUILDING'S UTILITIES TO THE PROPOSED END LOCATION AND CAP FOR FUTURE CONNECTION.
3. NEST WATER LINE CONNECTION TO EXISTING MAIN NORTH OF SE 7TH TERRACE IMMEDIATELY REPAIR ASPHALT AND INSTALL CURB & GUTTER PER CITY OF LEE'S SUMMIT STANDARDS AND SPECS.
4. COMMENCE GRADING OF BUILDING PAD AND AREAS AROUND BUILDING PAD.
5. INSTALL CURB AND GUTTER AND FIVE GRADE PARKING AREAS. STONE BARS SHALL BE INSTALLED IN ALL PAVED AREAS AS SOON AS PRACTICABLE. CONSTRUCTION ERT SHALL BE REMOVED ONLY ONCE THE BUILDING PAD, PARKING LOT, AND DRIVEWAY HAVE BEEN STABILIZED WITH STONE BARS.
6. PAVE SITE AND INSTALL APPROPRIATE SILT PROTECTION DEVICES FOR PAVED AREAS AS WORK PROGRESSES.
7. COMPLETE BUILDING CONSTRUCTION, SIDEWALKS, PLANTINGS, ETC.
8. REMOVE TEMPORARY BMP'S AS SOON AS THEIR CONTRIBUTING DRAINAGE AREAS HAVE BEEN STABILIZED. SEED AND MULCH AND DISTURBED FROM REMOVAL OF TEMPORARY BMP'S.
9. INSPECT/ CLEAN FLUSH UNDERGROUND DETENTION SYSTEM. CONTRACTOR SHALL CONTACT MANUFACTURER FOR FINAL INSPECTION AND CERTIFICATION.
10. CONTACT MOORE FOR FINAL INSPECTION AND OWNER FOR COORDINATION OF FILING THE NOTICE OF TERMINATION (NOT).

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**FREELAND and KAUFFMAN, INC.**  

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*Engineers \* Landscape Architects*  
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Greenville, South Carolina 29609  
864-233-5497  
fax 864-233-8915



**CALIBER COLLISION**  
710 SE BLUE PARKWAY  
LEE'S SUMMIT, MO 64063

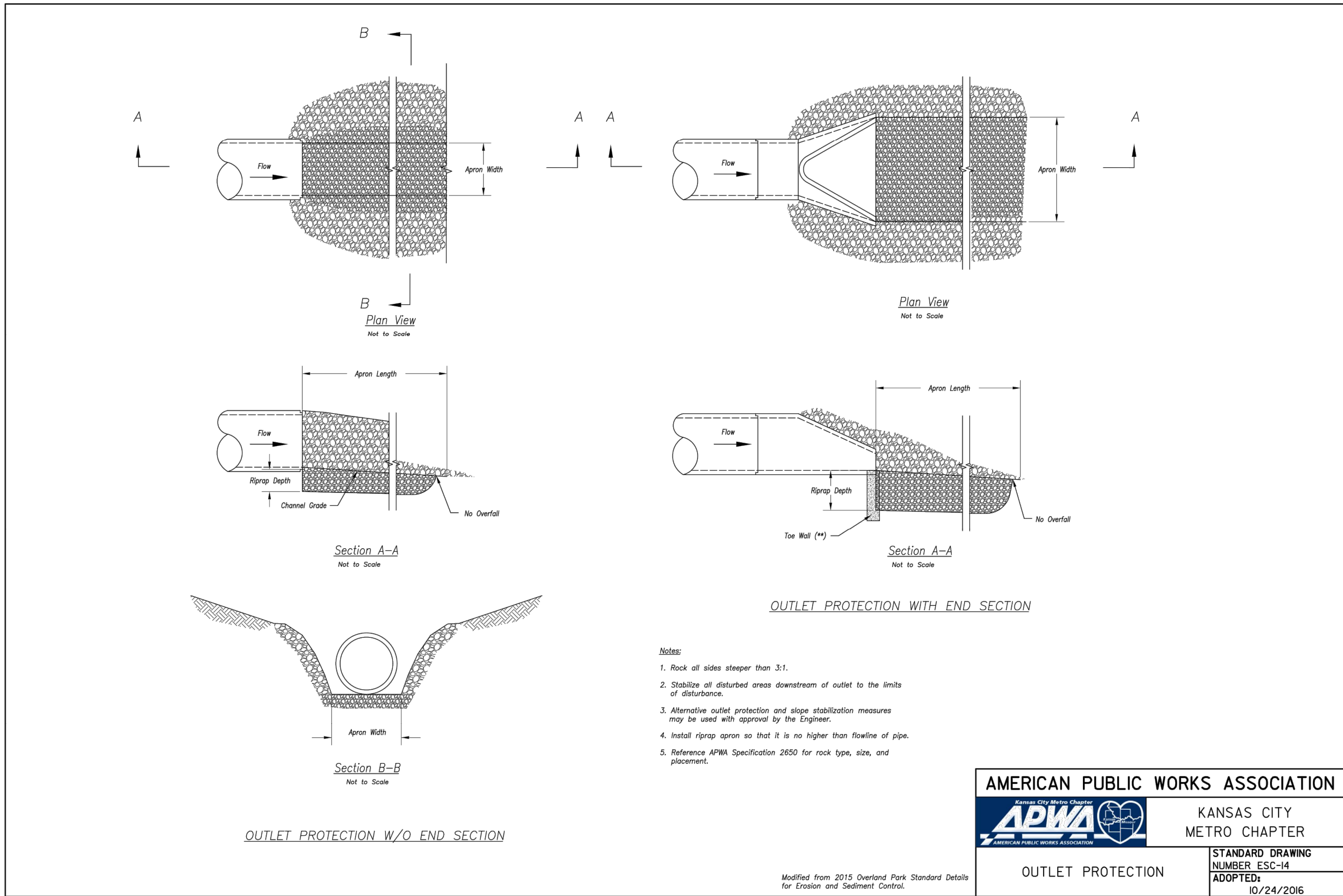
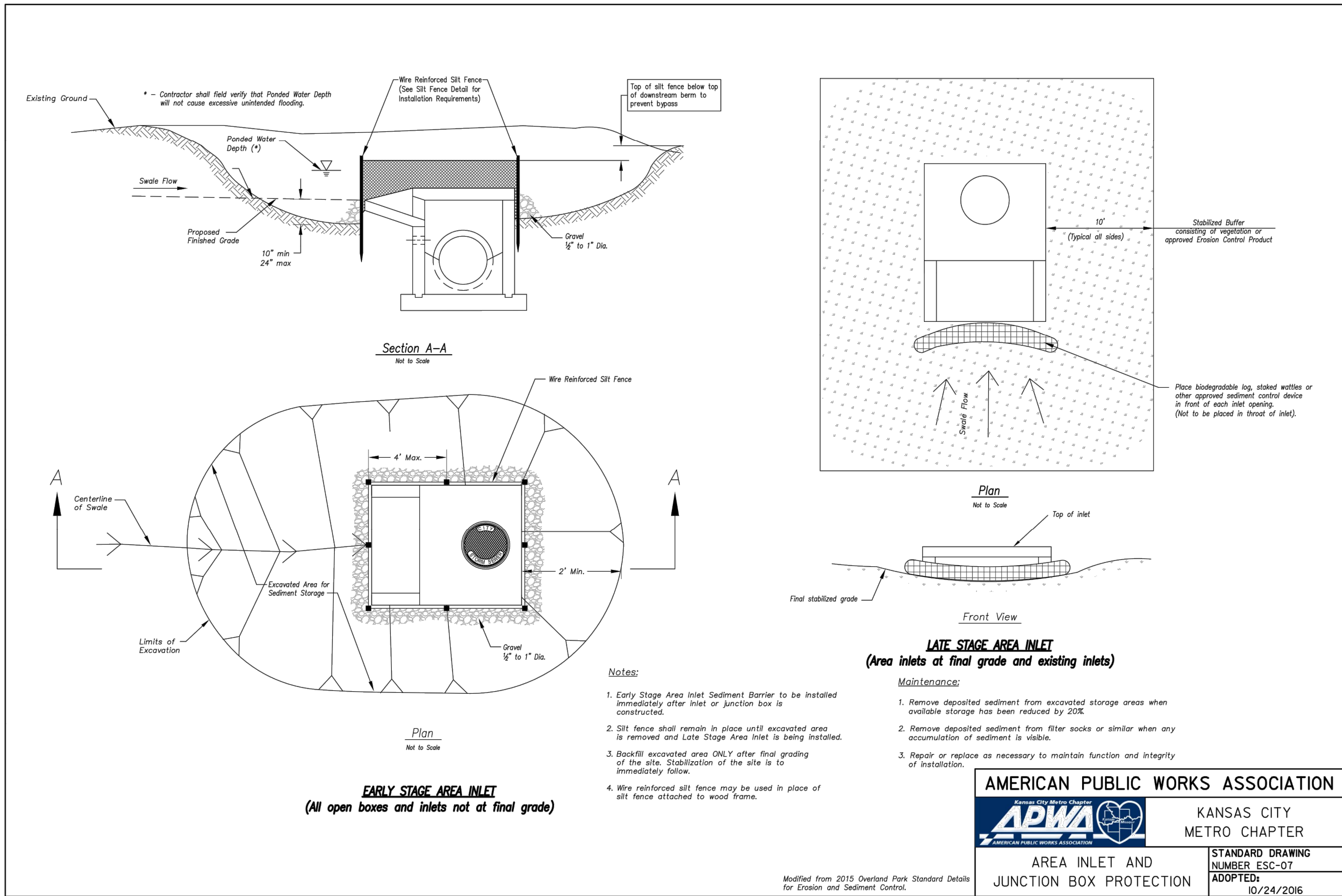
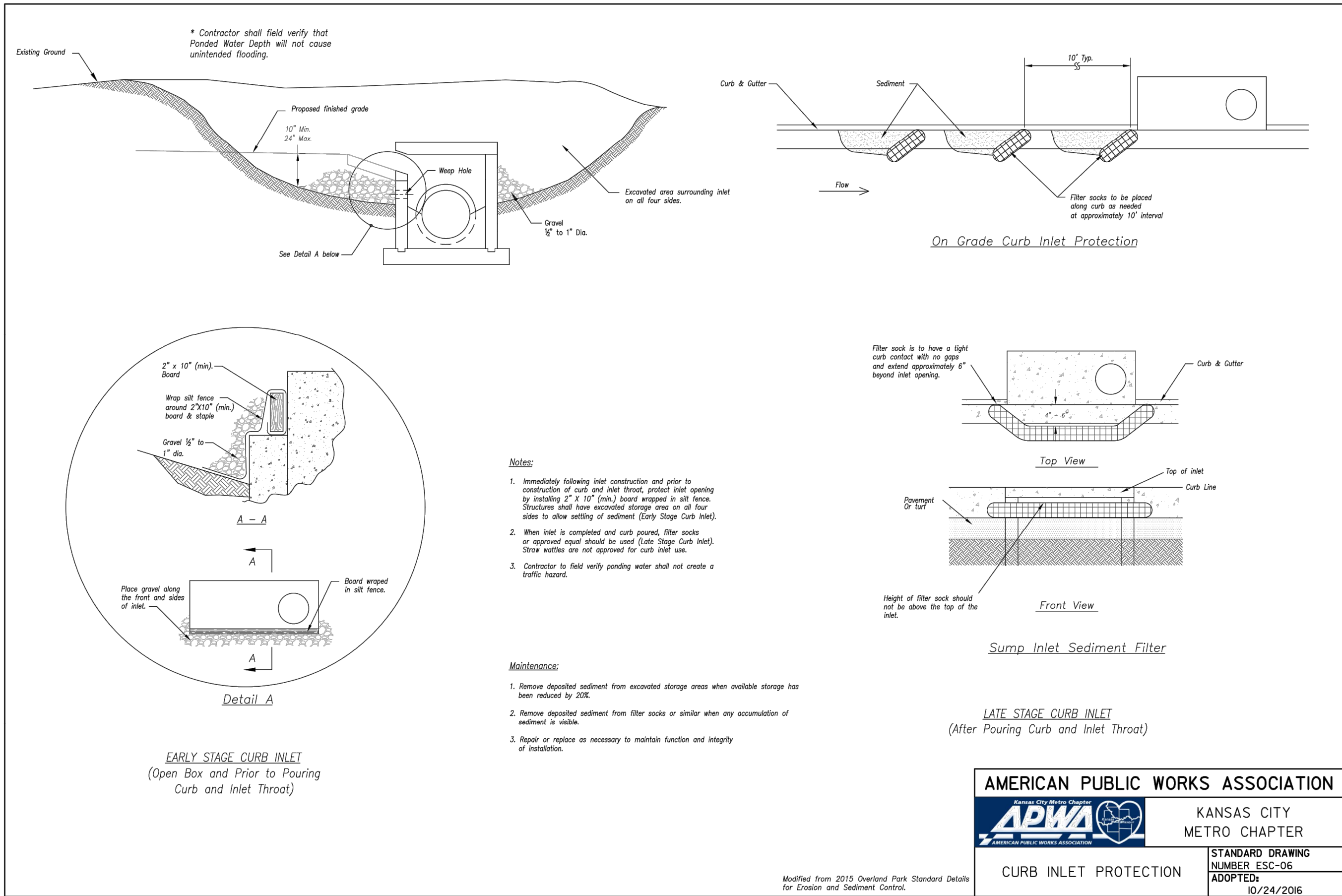
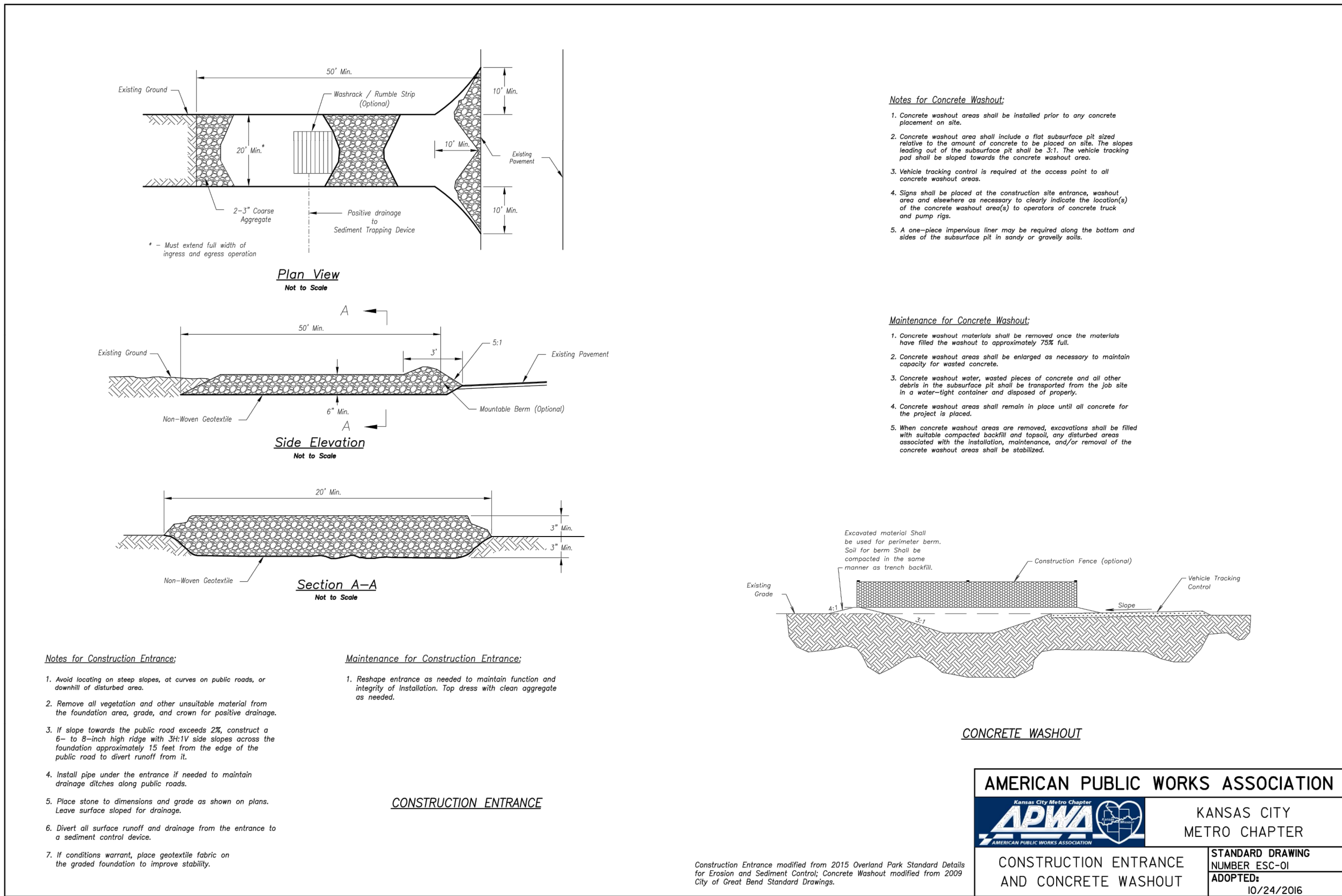
CROSS DEVELOPMENT, CC LEE'S SUMMIT, LLC  
4336 MARSH RIDGE ROAD  
CARROLLTON, TX 75010  
TEL (214) 644-9050

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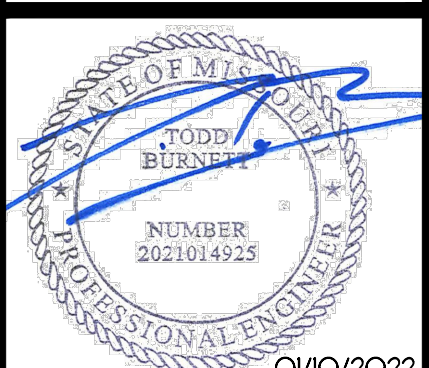
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REVISIONS	BY

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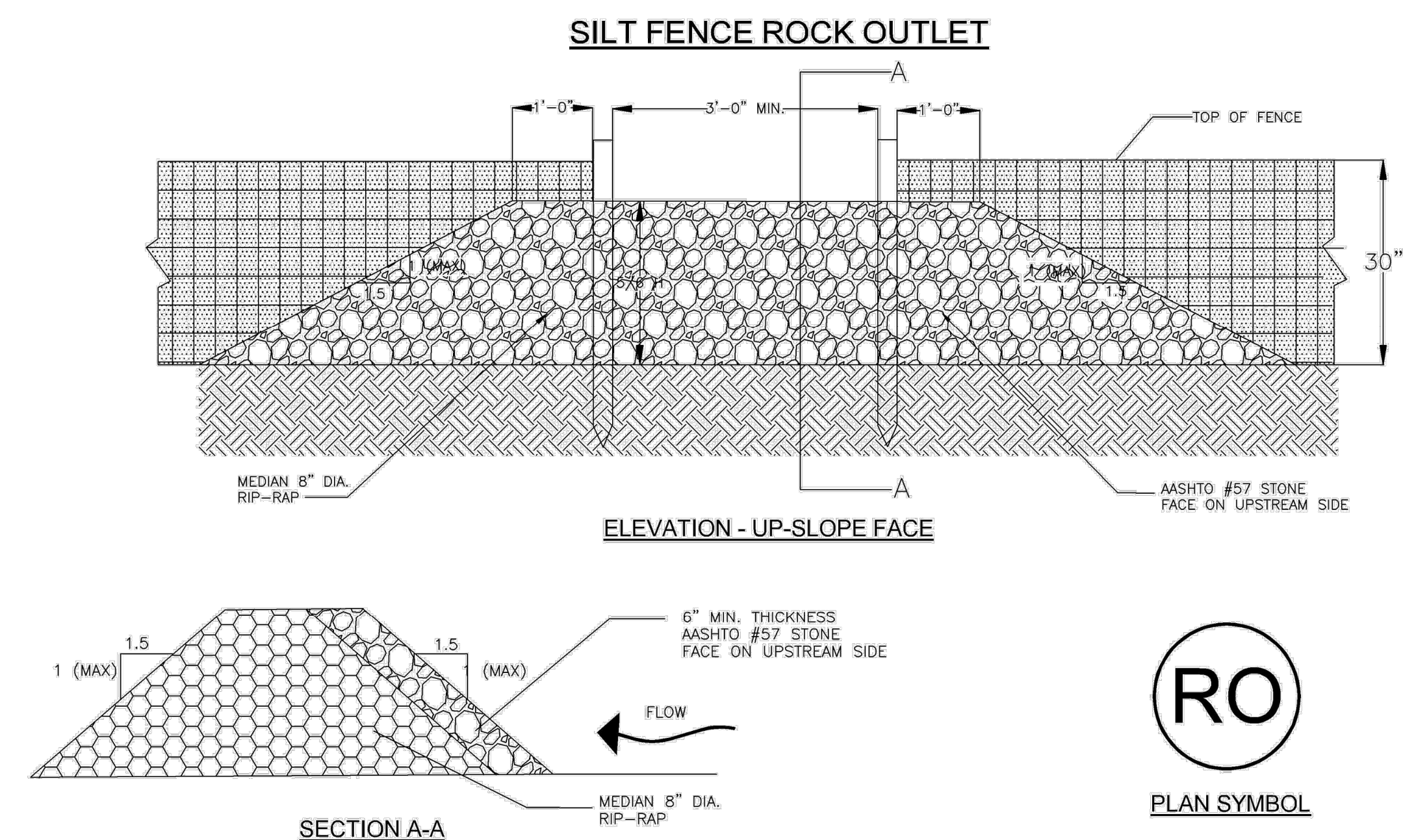
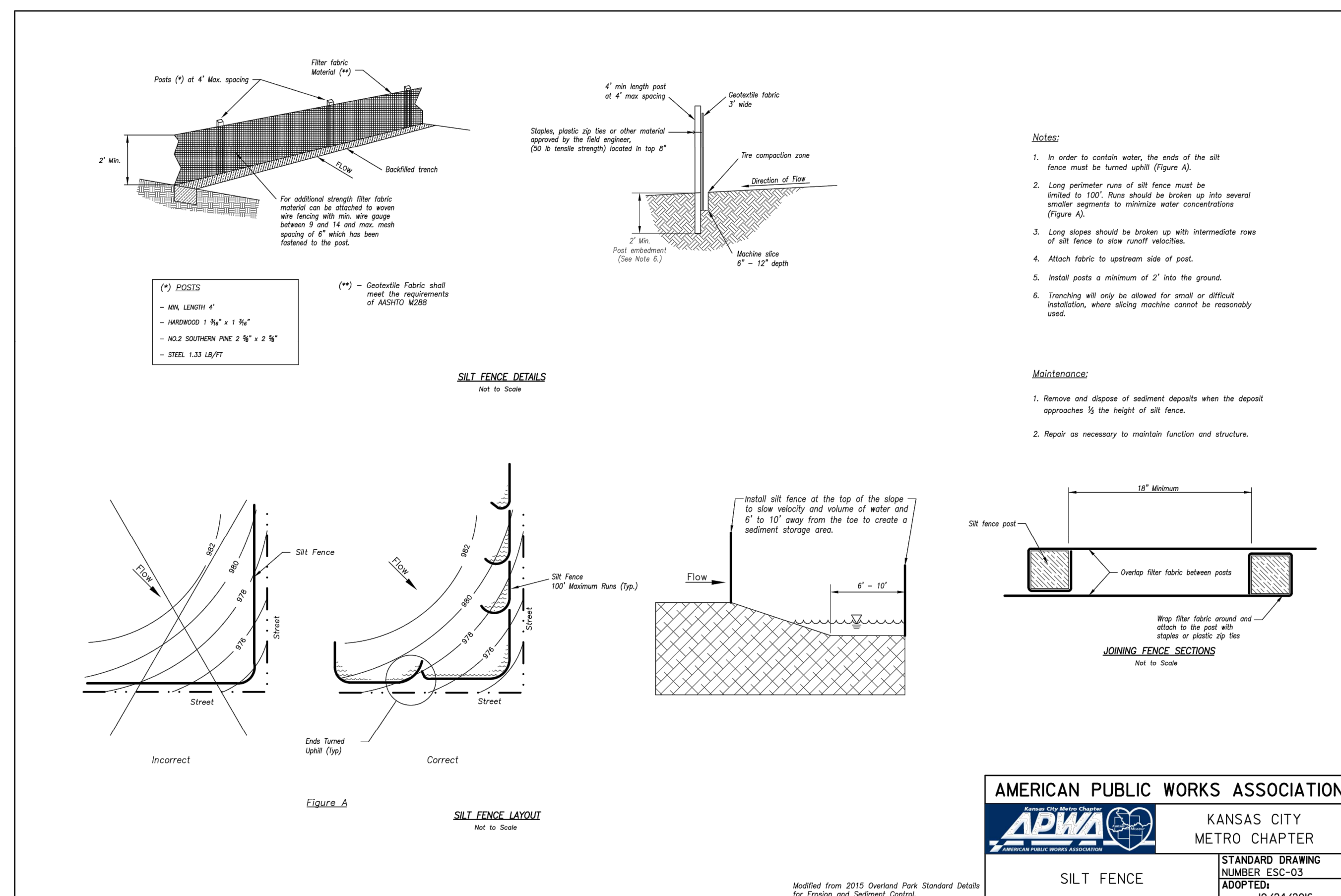


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CARROLLTON, TX 75010  
TEL (214) 614-8252

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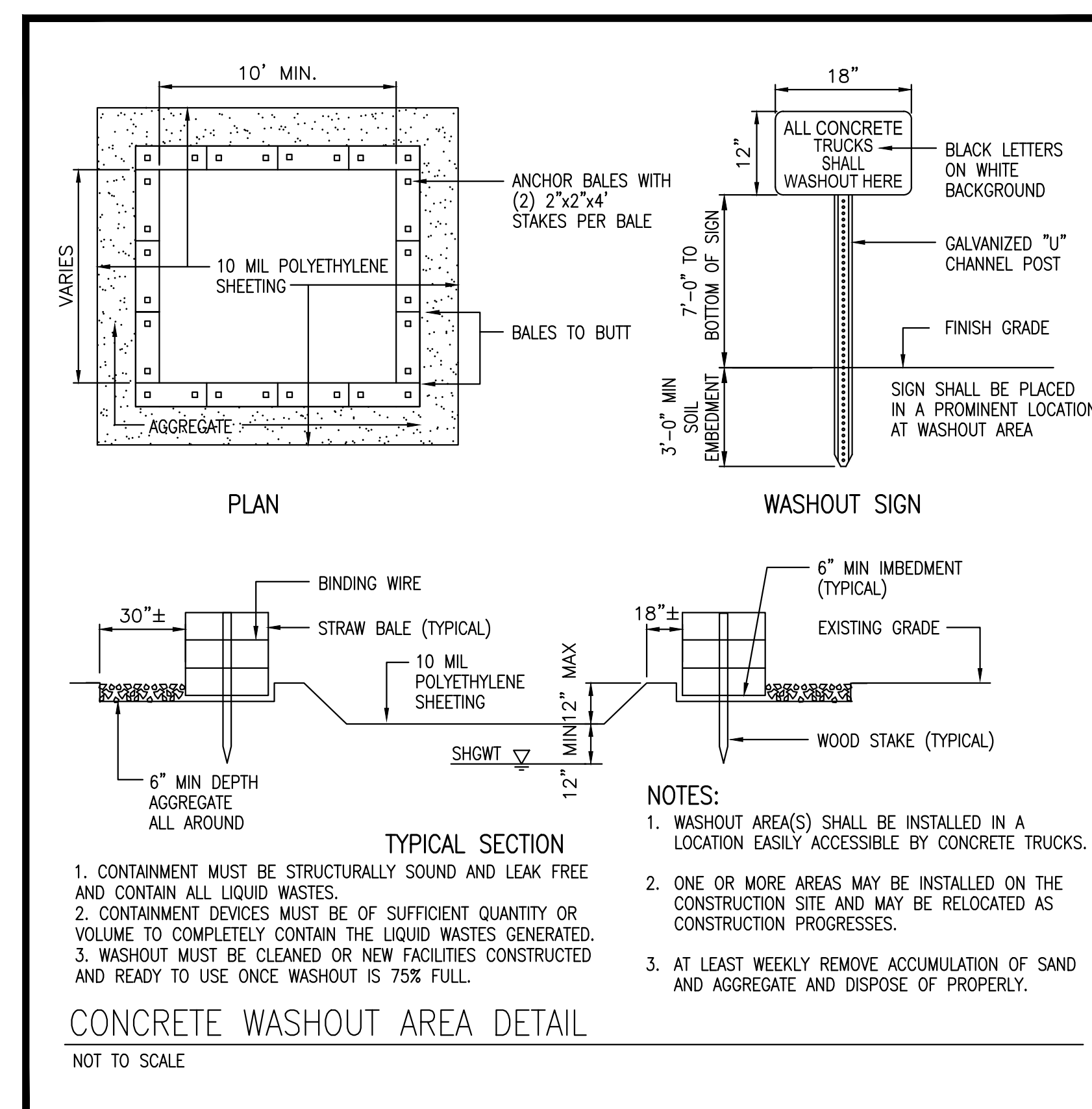
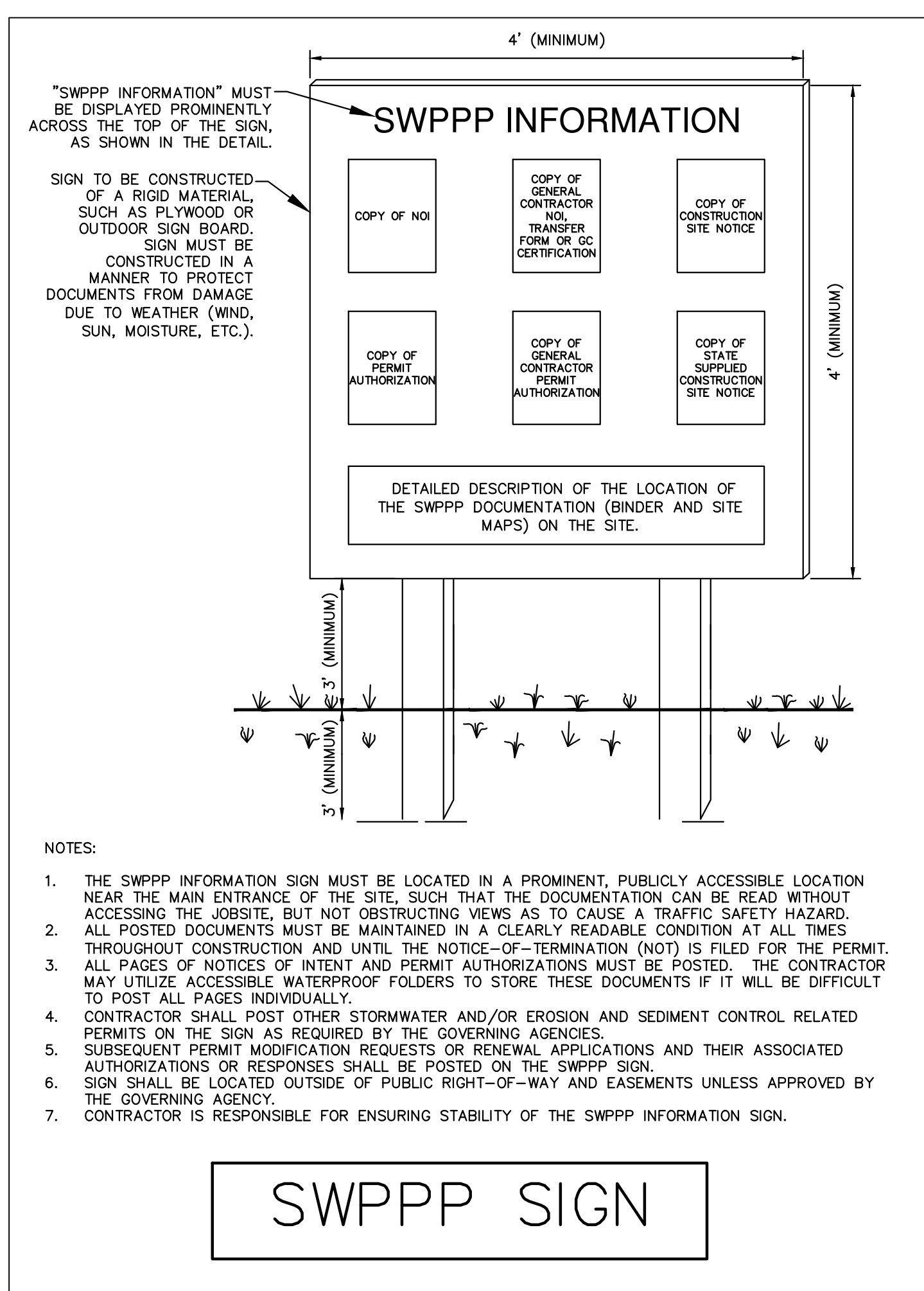
- NOTES:

1. WASHED STONE (#57) TO BE REMOVED AND REPLACED ONCE IT BECOMES CLOGGED WITH SEDIMENT.
2. SEDIMENT TO BE REMOVED WHEN ACCUMULATIONS REACH 1/3 HEIGHT OF SILT FENCE
3. THE KEY TO FUNCTIONAL ROCK OUTLETS IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.

SILT FENCE  
ROCK OPENING

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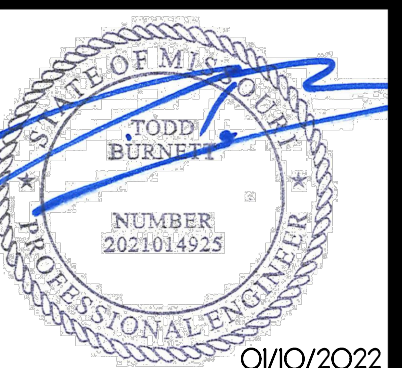
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**FREELAND and KAUFFMAN, INC.**

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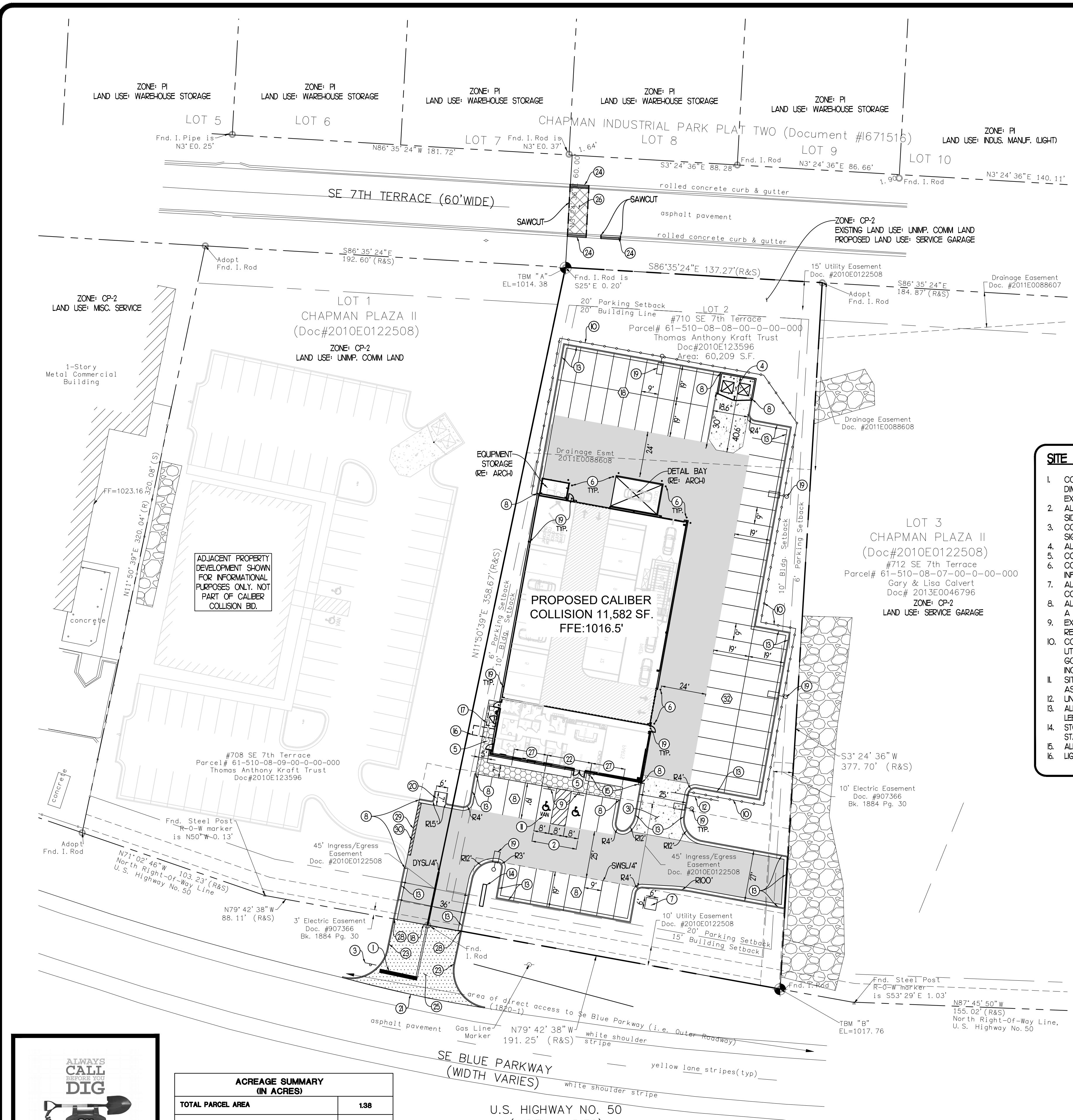
*Engineers \* Landscape Architects*  
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Greenville, South Carolina 29609  
864-233-5497  
fax 864-233-8915



**CALIBER COLLISION**  
710 SE BLUE PARKWAY  
LEE'S SUMMIT, MO 64063

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ACREAGE SUMMARY AND PARKING SUMMARY:	
<b>ACREAGE SUMMARY:</b>	
TOTAL PARCEL:	138 AC.
GROSS FLOOR AREA:	11,582 SF.
<b>INTERVIOUS COVER:</b> 0.90 AC. (65%)	
<b>PARKING SUMMARY:</b>	
MIN REQUIRED:	3 SPACES PER BAY (EACH BAY CAN COUNT)
12 BAYS X 3 =	36 SPACES REQUIRED
PROVIDED:	16+ CUSTOMER SPACES PROVIDED
50 STORAGE SPACES PROVIDED	
2+ ADA SPACES PROVIDED	
TOTAL:	66 SPACES TOTAL
<b>NOTES:</b>	
* GATES FOR STORAGE PARKING SPACES WILL REMAIN OPEN DURING BUSINESS HOURS TO ALLOW FOR OVERFLOW PARKING (SHOULD IT BE NEEDED).	
** TOTAL NUMBER OF ADA PARKING SPACES IS TO BE RESULT OF THE NUMBER OF CUSTOMER SPACES PROVIDED AND NOT TOTAL SPACES PROVIDED.	

PROPERTY DATA	
PN:	6190-08-08-00-0-00-000
ADDRESS:	710 SE 7TH TERRACE LEE'S SUMMIT, MO 64063
ZONING & SETBACK DATA	
ZONED: CP-2, PLANNED COMMUNITY COMMERCIAL	
<b>BUILDING SETBACKS:</b>	
FRONT/STREET: 15'	LANDSCAPE SETBACKS:
SIDE: 10'	PUBLIC STREET: 20'
REAR: 20'	SIDE STREET: 6'
<b>FLOOD INFORMATION</b>	
FLOOD ZONE "X" (AREA OF MINIMUM FLOOD HAZARD) PER FEMA MAP NO. 29050C0438G EFFECTIVE DATE: JANUARY 20, 2017	

PAINTING STRIPES LEGEND	
SWSL/4"	SINGLE WHITE SOLID LINE / 4" WIDE
DYSL/4"	DOUBLE YELLOW SOLID LINE / 4" WIDE

SYMBOL	DESCRIPTION
	HANDICAPPED SYMBOL
	NUMBER OF PARKING SPACES
	SITE SIGNAGE
	BOLLARD
	6' SCREEN FENCE
	CONCRETE PAVING/SIDEWALK
	HEAVY DUTY CONCRETE
	HEAVY DUTY ASPHALT*
	STANDARD DUTY ASPHALT*
	CITY SPEC'D CONCRETE**
	CITY SPEC'D ASPHALT**
	PAINTED STOP LINE
	SAWCUT LINE

DEPICTION OF THE DEVELOPMENT ON THE NEIGHBORING PROPERTY TO THE WEST IS SHOWN FOR PLANNING INFORMATION PURPOSES ONLY. THE LAYOUT AND LOCATIONS OF THE SITE FEATURES SHOWN ARE APPROXIMATE AND SHOULD NOT BE CONSIDERED DEFINITE. CONTRACTOR SHALL NOT INCLUDE THE NEIGHBORING DEVELOPMENT IN THE CALIBER COLLISION BID.

LAND USES OF THE ADJACENT PROPERTIES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY. THE LAND USES SHOWN WERE TAKEN FROM THE JACKSON COUNTY GIS.

CONTRACTOR SHALL USE EXTREME CAUTION WHILE WORKING UNDERNEATH OVERHEAD POWER LINES. ANY DAMAGE TO THE EXISTING UTILITY POLES AND UTILITY LINES SHALL BE REPAIRED/REPLACED AT THE CONTRACTOR'S EXPENSE.

ALL ISSUES PERTAINING TO LIFE SAFETY AND PROPERTY PROTECTION FROM THE HAZARDS OF FIRE, EXPLOSION OR DANGEROUS CONDITIONS IN NEW AND EXISTING BUILDINGS, STRUCTURES AND PREMISES, AND TO THE SAFETY TO EMERGENCY RESPONDERS DURING EMERGENCY OPERATIONS, SHALL BE IN ACCORDANCE WITH THE 2018 INTERNATIONAL FIRE CODE.

#### SITE NOTES:

- CONTRACTOR SHALL REFER TO THE CALIBER COLLISION ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS, AND FOR THE EXACT LOCATION OF UTILITY ENTRANCES, ROOF LEADERS, EXIT DOORS, EXIT STOOPS, ETC.
- ALL DIMENSIONS ARE TO BUILDING FACE, FACE OF CURB, CENTERLINE OF PARKING, OR EDGE OF SIDEWALK UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS FOR THE INSTALLATION OF TRAFFIC SIGNAGE AND PAVEMENT MARKINGS AS SHOWN ON THE CONSTRUCTION PLANS.
- ALL STRIPING SHALL BE WHITE, 4" WIDE, UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL COORDINATE FINAL LOCATION OF THE MONUMENT SIGN WITH CALIBER COLLISION. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION.
- ALL WORK AND MATERIALS SHALL COMPLY WITH THE CITY OF LEE'S SUMMIT REGULATIONS AND CODES AND OSHA STANDARDS.
- ALL DISTURBED AREAS ARE TO RECEIVE FOUR INCHES OF TOPSOIL, SEED, MULCH AND WATER UNTIL A HEALTHY STAND OF GRASS IS ESTABLISHED, UNLESS NOTED OTHERWISE.
- EXISTING SITE IMPROVEMENTS WITHIN CONSTRUCTION LIMITS ARE TO BE ABANDONED, REMOVED OR RELOCATED AS NECESSARY. ALL COST SHALL BE INCLUDED IN BASE BID.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS, INCLUDING BUT NOT LIMITED TO, ALL UTILITIES, STORM DRAINAGE, SIGNS, ETC. AS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH GOVERNING AUTHORITIES SPECIFICATIONS AND SHALL BE APPROVED BY SUCH. ALL COST SHALL BE INCLUDED IN BASE BID.
- SITE BOUNDARY, TOPOGRAPHY, UTILITY AND ROAD INFORMATION TAKEN FROM A SURVEY BY HEIDEMAN ASSOCIATES, INC.
- UNLESS NOTED OTHERWISE, PAVEMENT SHALL BE STANDARD DUTY ASPHALT.
- ALL HANDICAP SPACES ARE TO RECEIVE A HANDICAP SIGN. ALL HANDICAPPED STALLS SHALL BE PER CITY OF LEE'S SUMMIT STANDARDS. SPACES MARKED "VAN" SHALL RECEIVE A "VAN ACCESSIBLE" SIGN.
- STOP SIGNS SHALL MEET THE CRITERIA OF THE STATE OF MISSOURI DEPT. OF TRANSPORTATION AND MUTCD STANDARDS.
- ALL PARKING SPACES ARE TO BE 9.0' WIDE AND 90' TYPICAL UNLESS NOTED OTHERWISE.
- LIGHT POLES ARE SHOWN FOR REFERENCE ONLY. RE: PHOTOMETRIC PLAN.

#### KEYNOTES:

- 24" WHITE THERMOPLASTIC PAINT STOP BAR (SEE DETAILS)
- ACCESSIBLE PARKING (SEE DETAIL)
- STOP SIGN (SEE DETAIL)
- DUMPSTER ENCLOSURE W/ GATES (RE: ARCH)
- NEW SIDEWALK (SEE DETAIL AND PLAN FOR WIDTH)
- 6" DIAMETER BOLLARD (SEE DETAIL)
- CONCRETE TRANSFORMER PAD (SEE DETAIL)
- TERMINATE CURB AND GUTTER
- HANDICAP PARKING SIGN IN 6" BOLLARD (SEE DETAIL)
- 6" VINYL PRIVACY FENCE (SEE DETAIL)
- ACCESSIBLE SPACE WITH SIGN "VAN" INDICATES VAN ACCESSIBLE, SIGN MOUNTED IN BOLLARD, SEE DETAIL
- 26" SLIDING GATE (RE:ARCH FOR GATE DETAIL)
- SITE SIGNAGE NOT PART OF THE SITE PLAN APPROVAL PERMITTED BY OTHERS UNDER SEPARATE APPLICATION
- KNOX BOX (RE: ARCH)
- 16' X 6' GAS CLEAR SPACE AREA
- 160' X 54' ELECTRICAL CLEAR SPACE AREA
- TRANSITION FROM ON-SITE ASPHALT TO CITY OF LEE'S SUMMIT STANDARD CONCRETE FOR COMMERCIAL DRIVEWAYS, ENSURE SMOOTH TRANSITION.
- SITE LIGHTING (RE: PHOTOMETRIC PLANS)
- CONCRETE FLUME (SEE DETAIL)
- TRANSITION FROM CITY OF LEE'S SUMMIT CONCRETE TO CITY OF LEE'S SUMMIT ASPHALT PAVEMENT, ENSURE SMOOTH TRANSITION.
- SIDEWALK FLUSH WITH ASPHALT
- "TYPE C-1" CONCRETE STRAIGHT CURB PER CITY OF LEE'S SUMMIT STANDARDS AND SPECIFICATIONS, SEE CITY DETAIL
- "TYPE C-2" CONCRETE ROLL BACK CURB & GUTTER PER CITY OF LEE'S SUMMIT STANDARDS AND SPECIFICATIONS, SEE CITY DETAIL
- COMMERCIAL DRIVEWAY PER CITY OF LEE'S SUMMIT STANDARDS AND SPECIFICATIONS, SEE DETAIL
- ASPHALT PAVING FOR ROADWAY TRENCH REPAIR PER CITY OF LEE'S SUMMIT STANDARDS AND SPECIFICATIONS, SEE DETAIL
- SIDEWALK TAPER, TAPER INTEGRAL SIDEWALK FROM A HEIGHT OF 0' TO 6' OVER 18 FEET
- TRANSITION FROM CURB/ CURB & GUTTER TYPES, SEE SITE PLAN FOR ADDITIONAL INFORMATION
- EDGE OF ASPHALT TO ADJACENT PROPERTY
- TEMPORARY ASPHALT CURBING, SEE DETAIL
- HEAVY DUTY CONCRETE PER CITY OF LEE'S SUMMIT STANDARDS AND SPECIFICATIONS, SEE DETAIL

CITY OF LEE'S SUMMIT LAND USE SCHEDULE:	
TOTAL FLOOR AREA:	11,582 SF
LAND AREA:	138 ACRES
REQUIRED PARKING SPACES:	36
PROVIDED PARKING SPACES:	66
INTERVIOUS COVERAGE:	0.90 ACRES
FLOOR AREA RATIO (FAR):	0.09
LAND USES TO BE PERMITTED:	1

THERE ARE NO OIL OR GAS WELLS LOCATED ON THIS PROPERTY PER THE MISSOURI DNR WELL DATABASE MAPS.

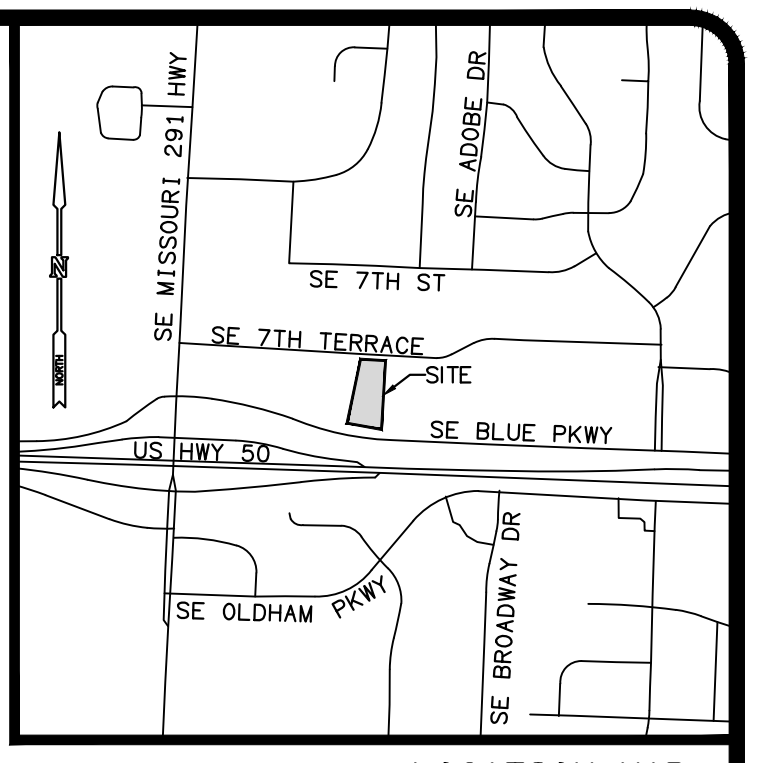
ACREAGE SUMMARY (IN ACRES)	
TOTAL PARCEL AREA	138
ON-SITE DISTURBED AREA	138
OFF-SITE DISTURBED AREA	0.55
TOTAL DISTURBED AREA	138.55
INTERVIOUS AREA PRE-CONSTRUCTION (ON-SITE ONLY & INCLUDES GRAVEL)	0.48
PERVIOUS AREA PRE-CONSTRUCTION (ON-SITE ONLY)	0.90
INTERVIOUS AREA POST-CONSTRUCTION (ON-SITE ONLY)	0.90
PERVIOUS AREA POST-CONSTRUCTION (ON-SITE ONLY)	0.48
INTERVIOUS AREA INCREASE (PRE VS POST) (ON-SITE ONLY)	0.42
INTERVIOUS PERCENTAGE (AT POST-CONSTRUCTION STATUS)	65.2%

**ALWAYS CALL 811 BEFORE YOU DIG**

811

EVERY DIGGING JOB REQUIRES A CALL - EVEN SMALL PROJECTS LIKE PLANTING TREES OR SHEDS. IF YOU HIT AN UNDERGROUND UTILITY LINE WHILE DIGGING, YOU CAN HARM YOURSELF OR THOSE AROUND YOU, DISRUPT SERVICE TO AN ENTIRE NEIGHBORHOOD AND POTENTIALLY BE RESPONSIBLE FOR FINES AND REPAIR COSTS.

SMART DIGGING MEANS CALLING 811 BEFORE EACH JOB. WHETHER YOU ARE A HOMEOWNER OR A PROFESSIONAL EXCAVATOR, ONE CALL TO 811 GETS YOUR UNDERGROUND UTILITY LINES MARKED FOR FREE.



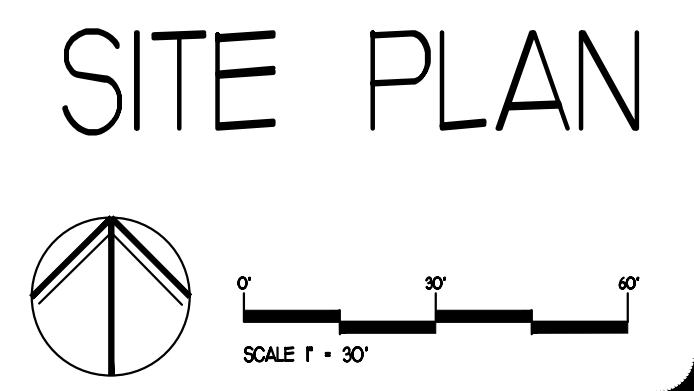
REVISIONS	BY

**FREELAND and KAUFFMAN, INC.**  
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Greenville, South Carolina 29609  
864-233-5497  
fax 864-233-8916

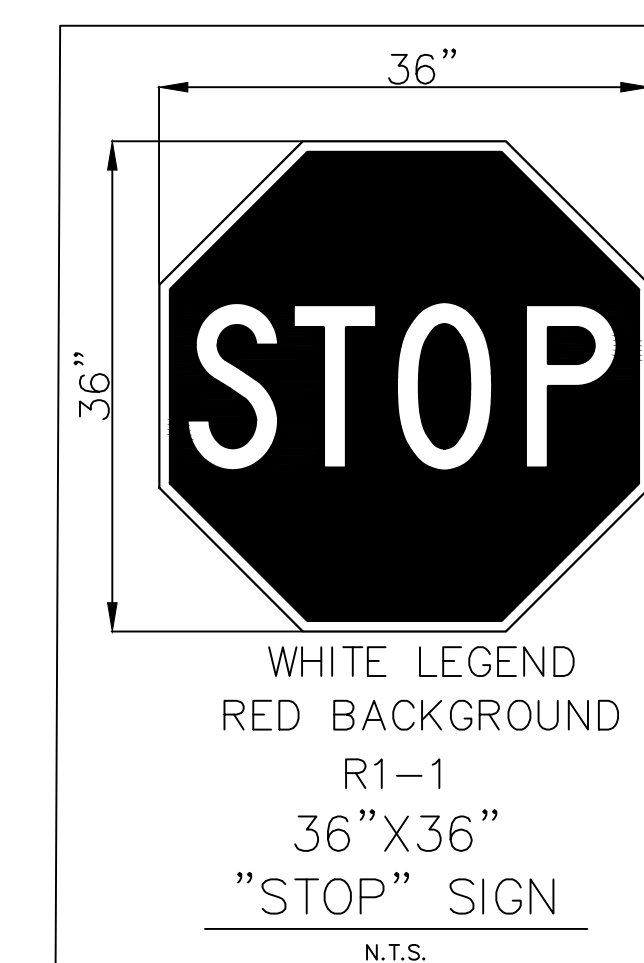
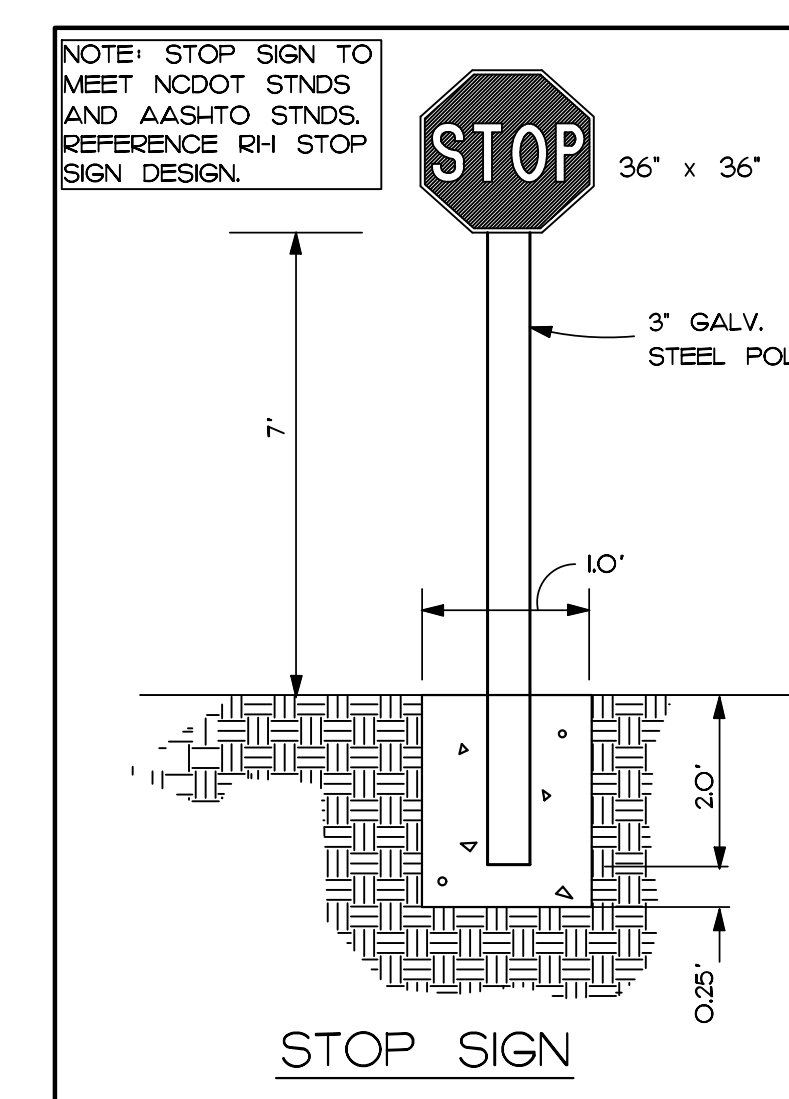
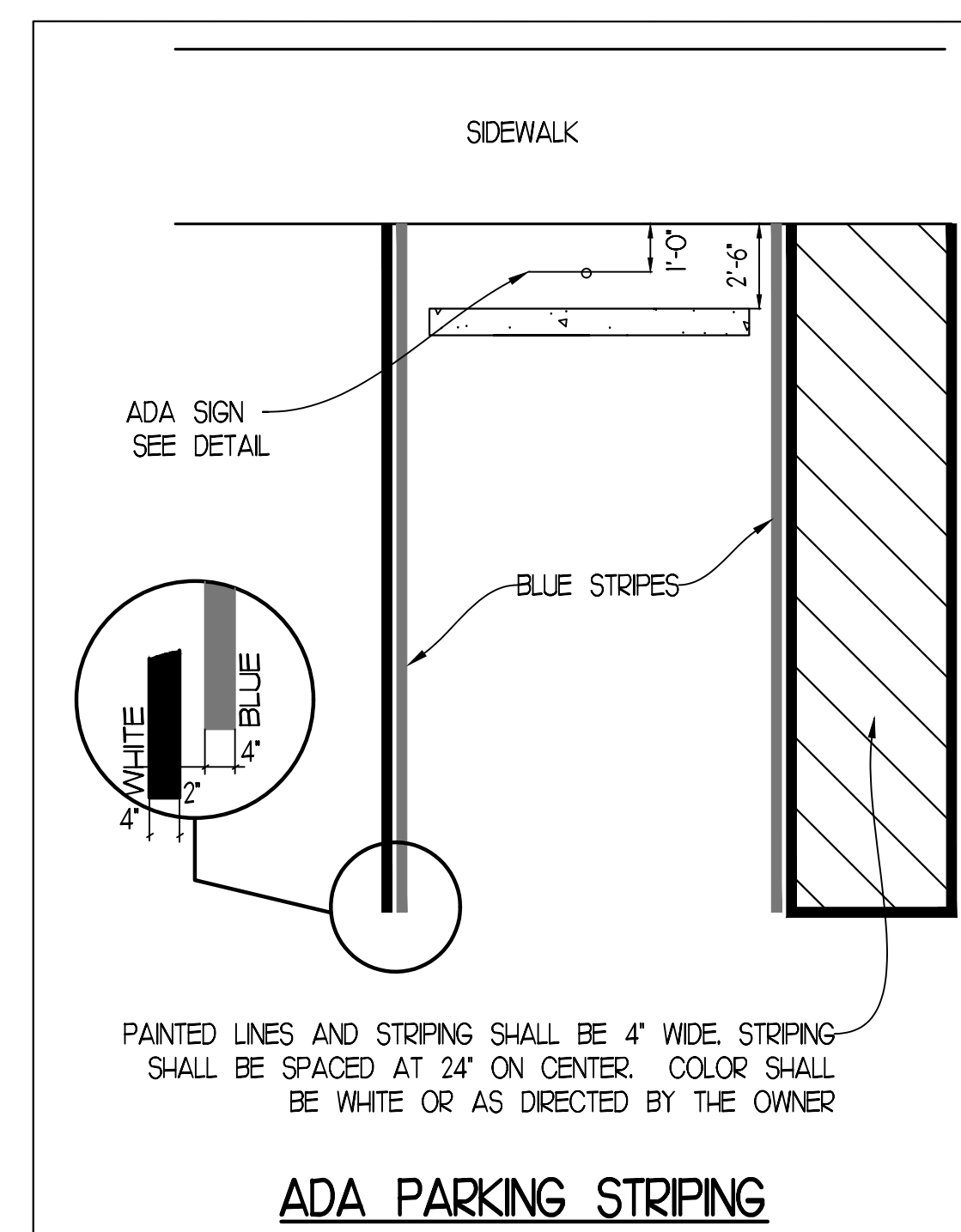
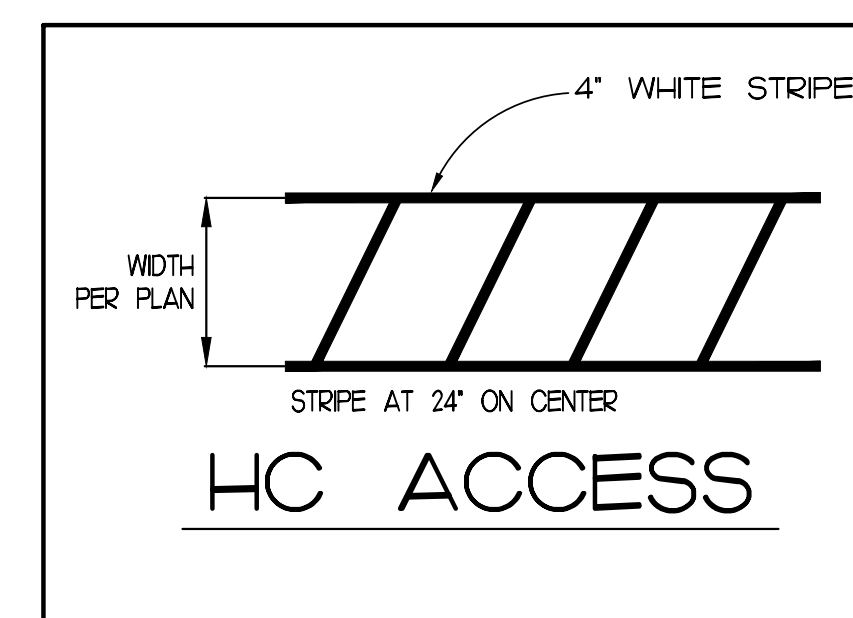
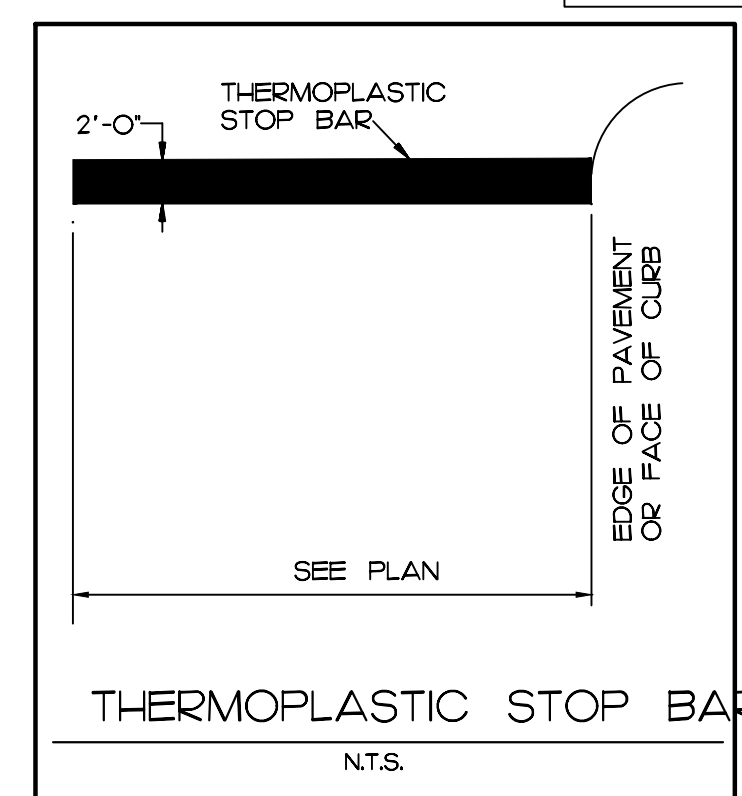
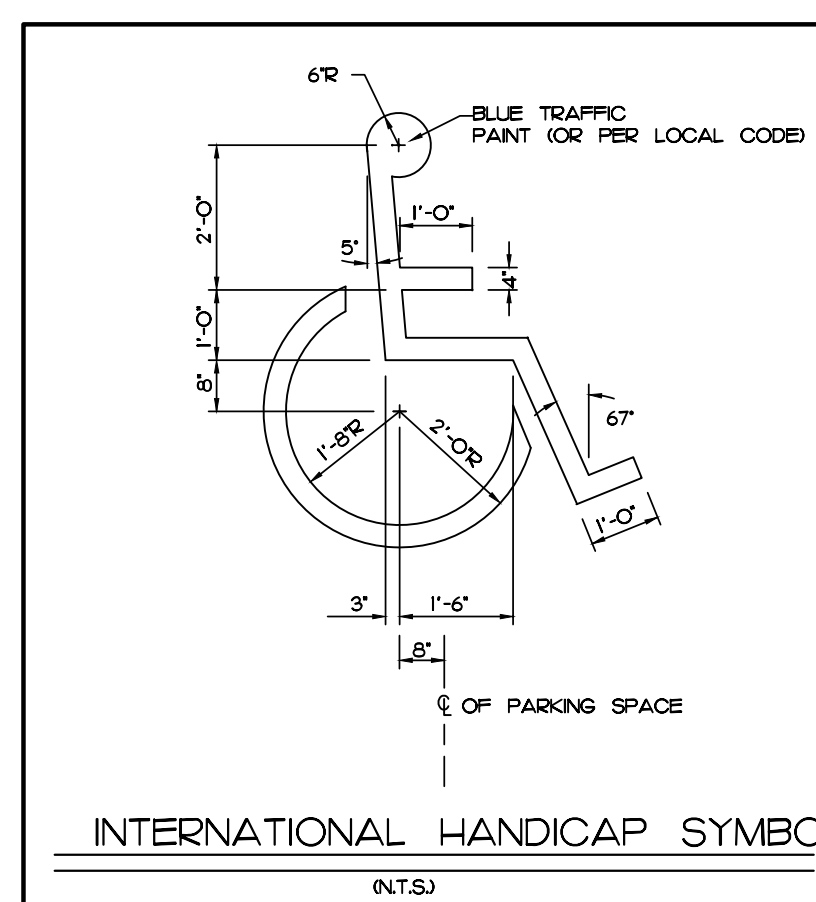
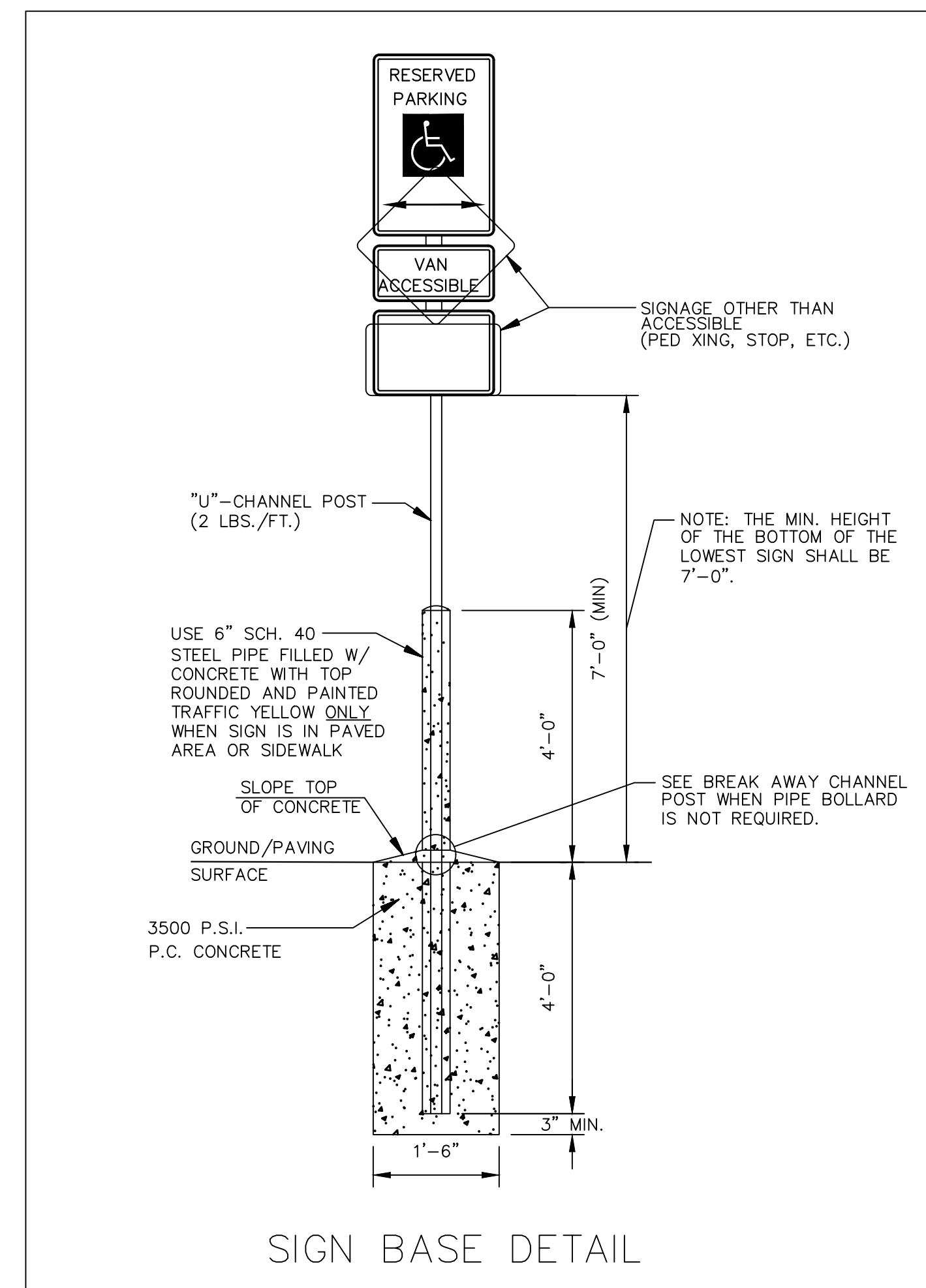
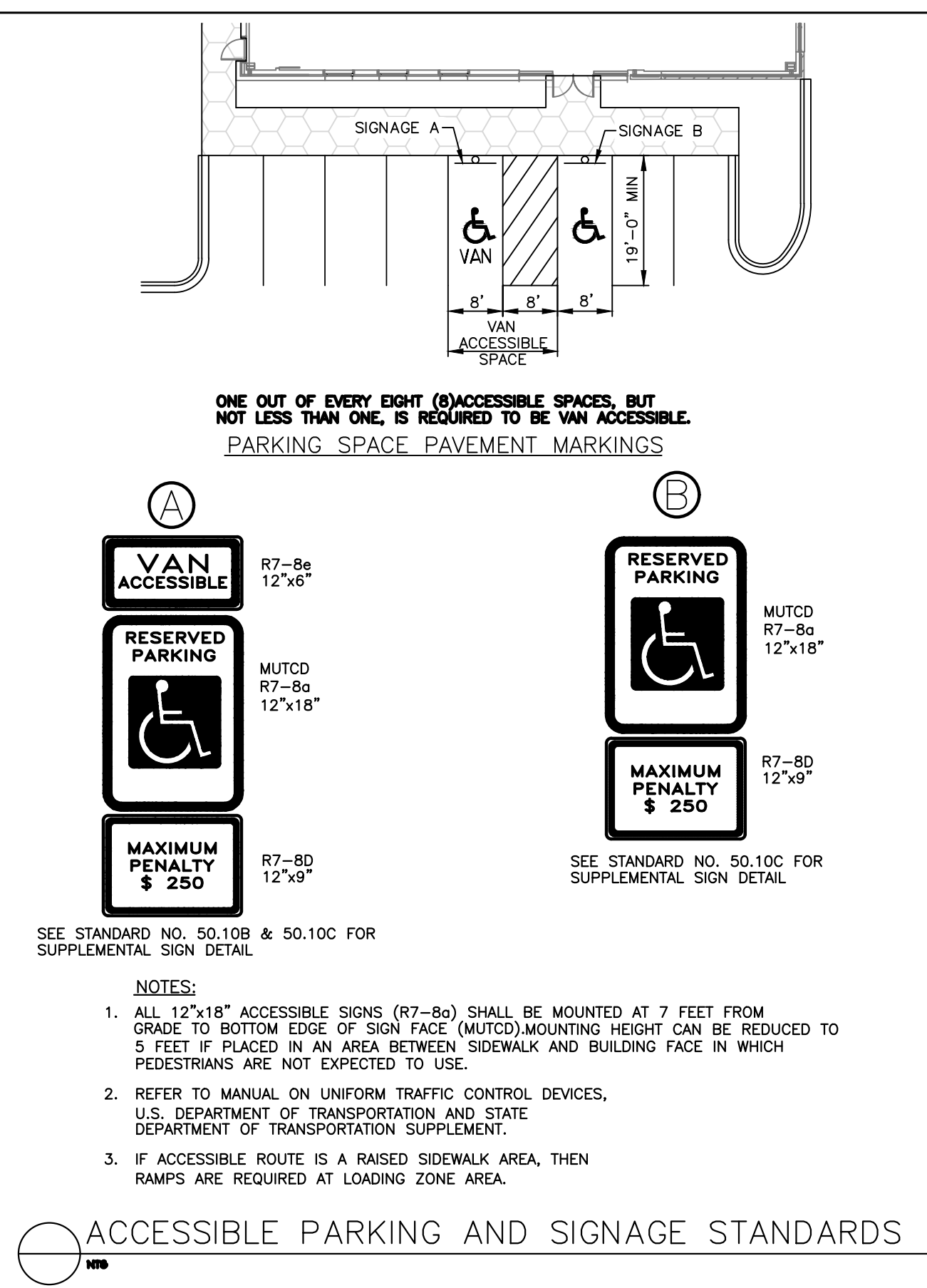
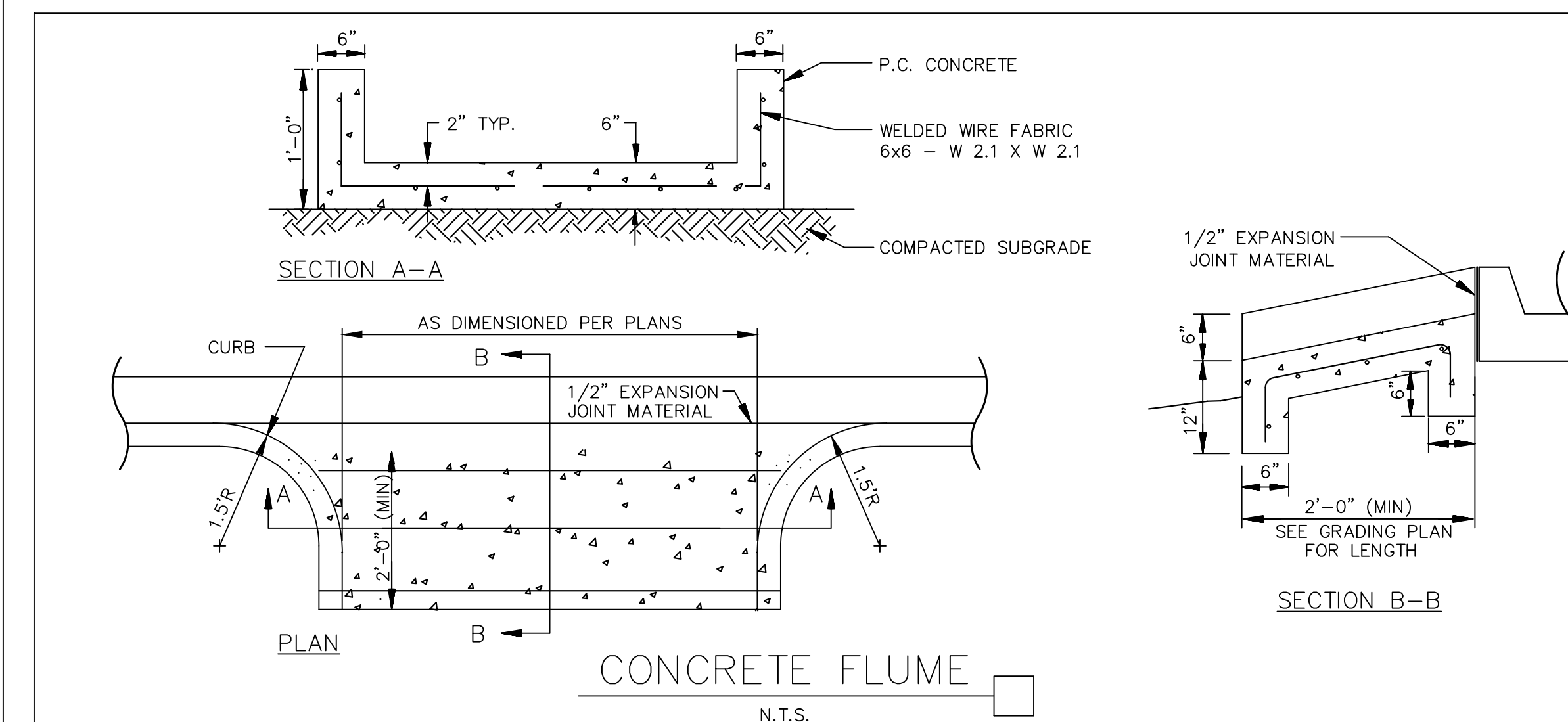
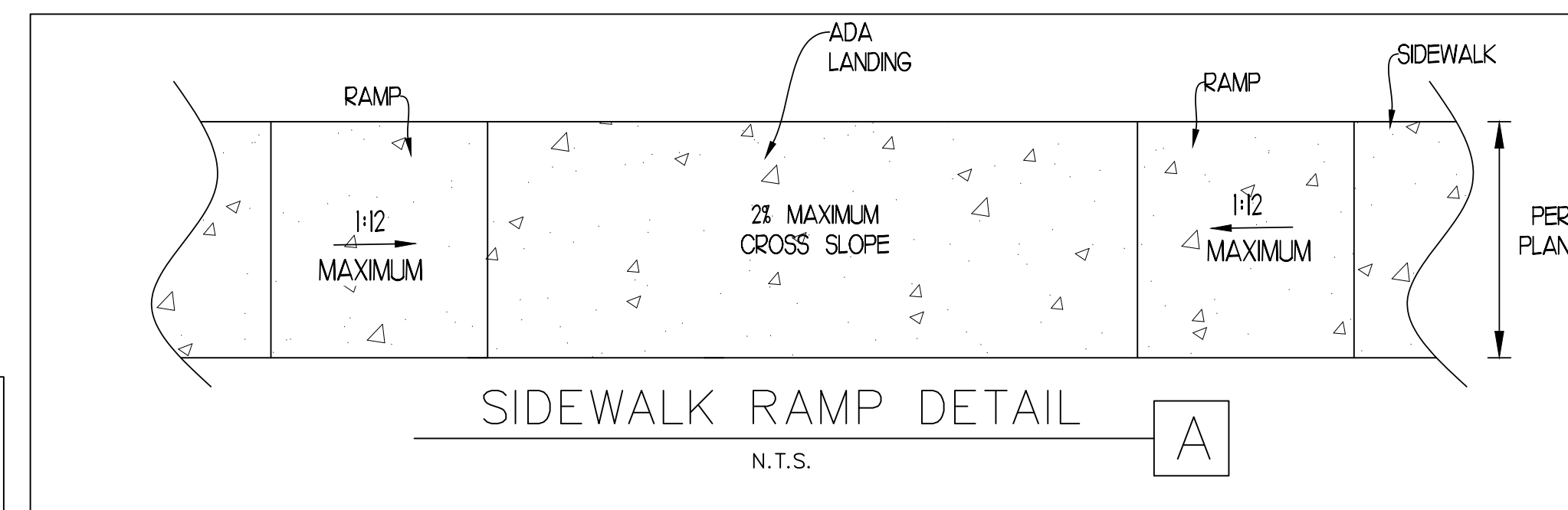
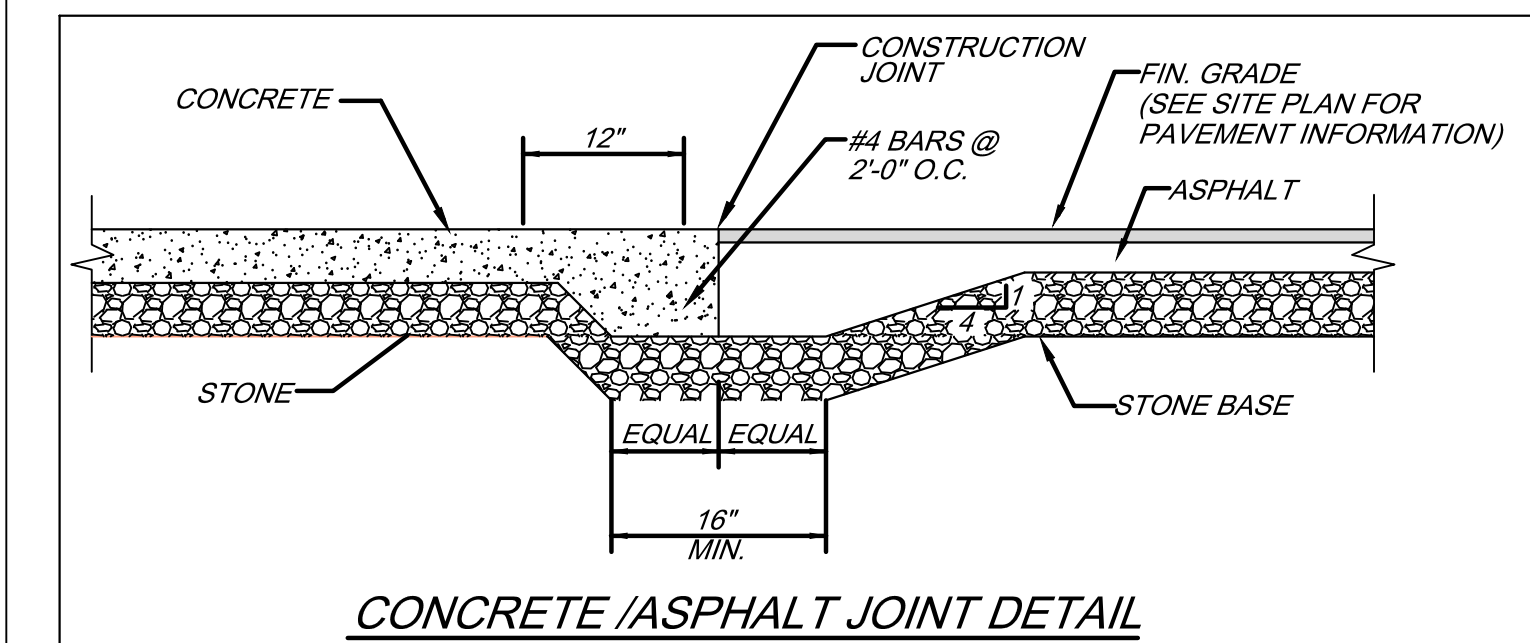
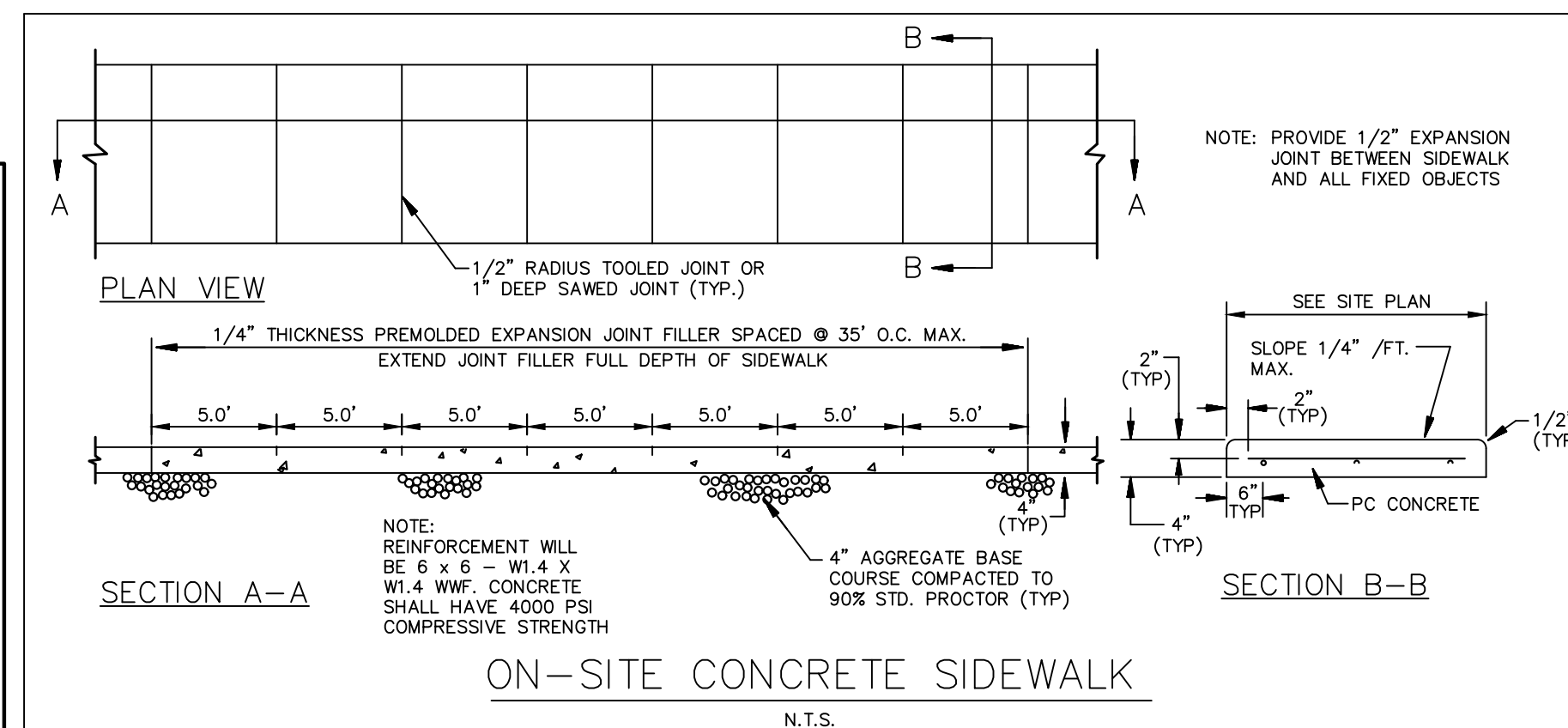
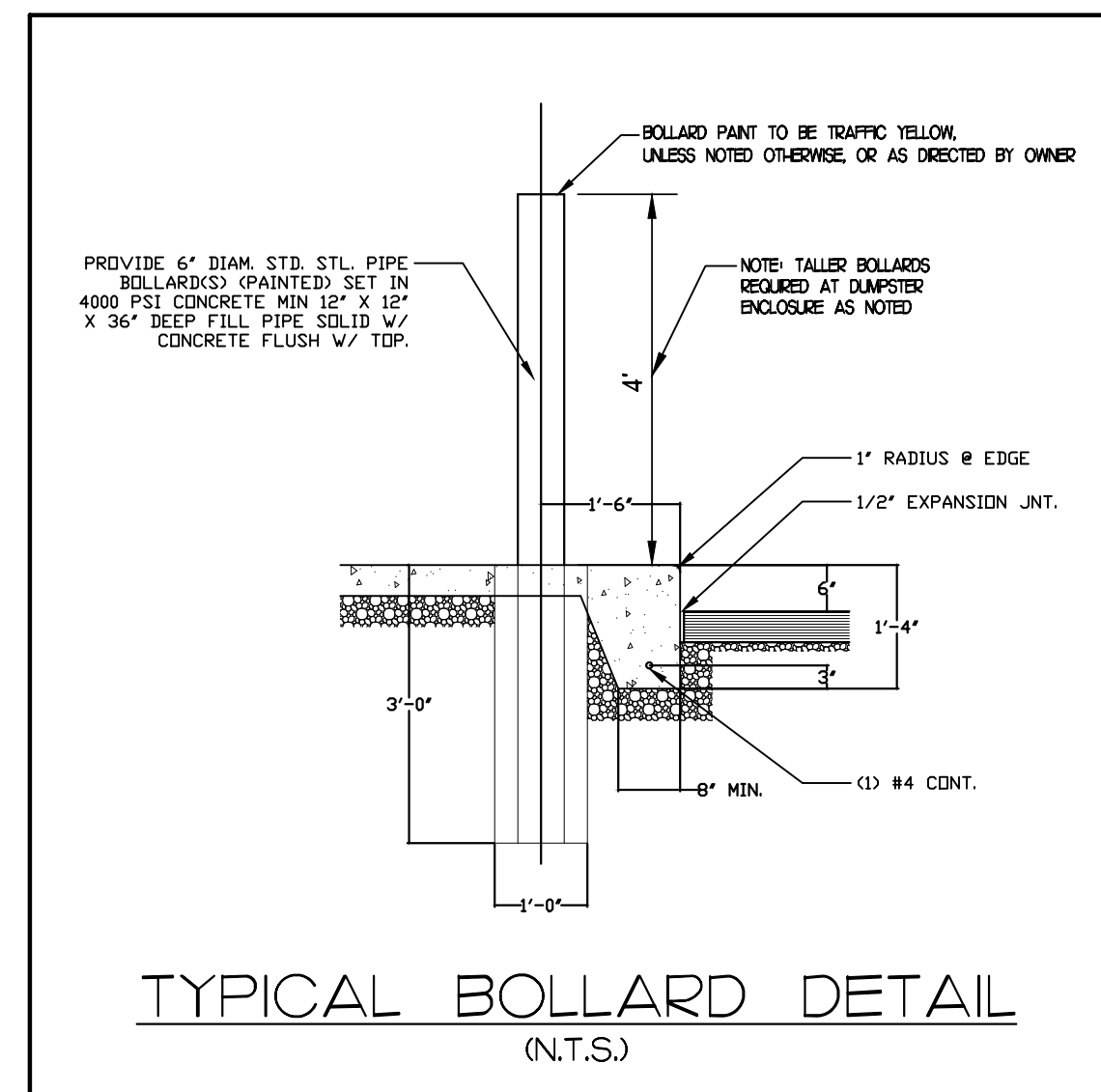


**CALIBER COLLISION**  
710 SE BLUE PARKWAY  
LEE'S SUMMIT, MO 64063  
CROSS DEVELOPMENT, CG LEE'S SUMMIT, LLC  
4388 MARSH RIDGE ROAD  
CARROLLTON, TX 75010  
TEL (214) 614-8252

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*Engineers \* Landscape Architects*  
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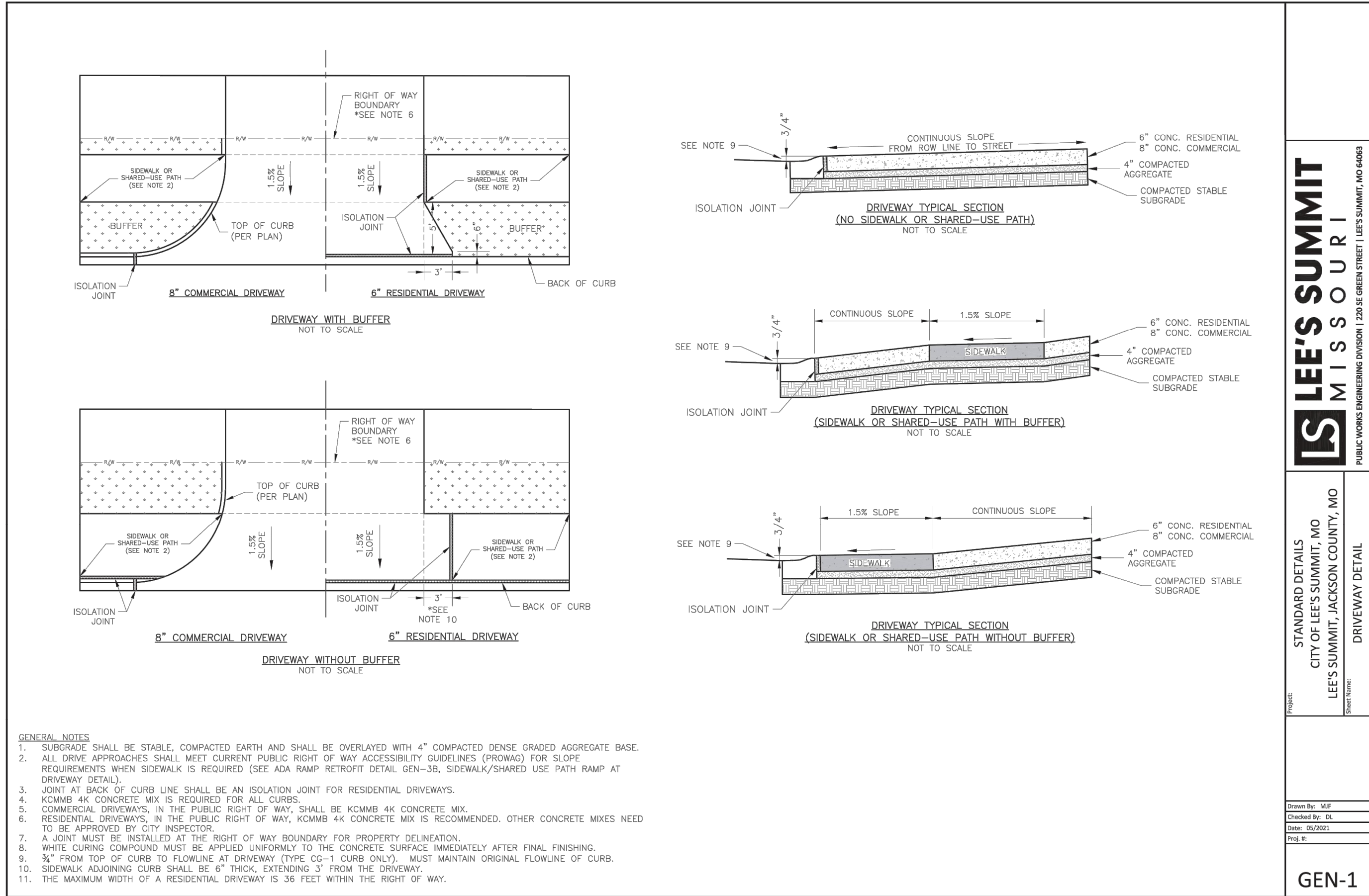
**CALIBER COLLISION**  
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LEE'S SUMMIT, MO 64063

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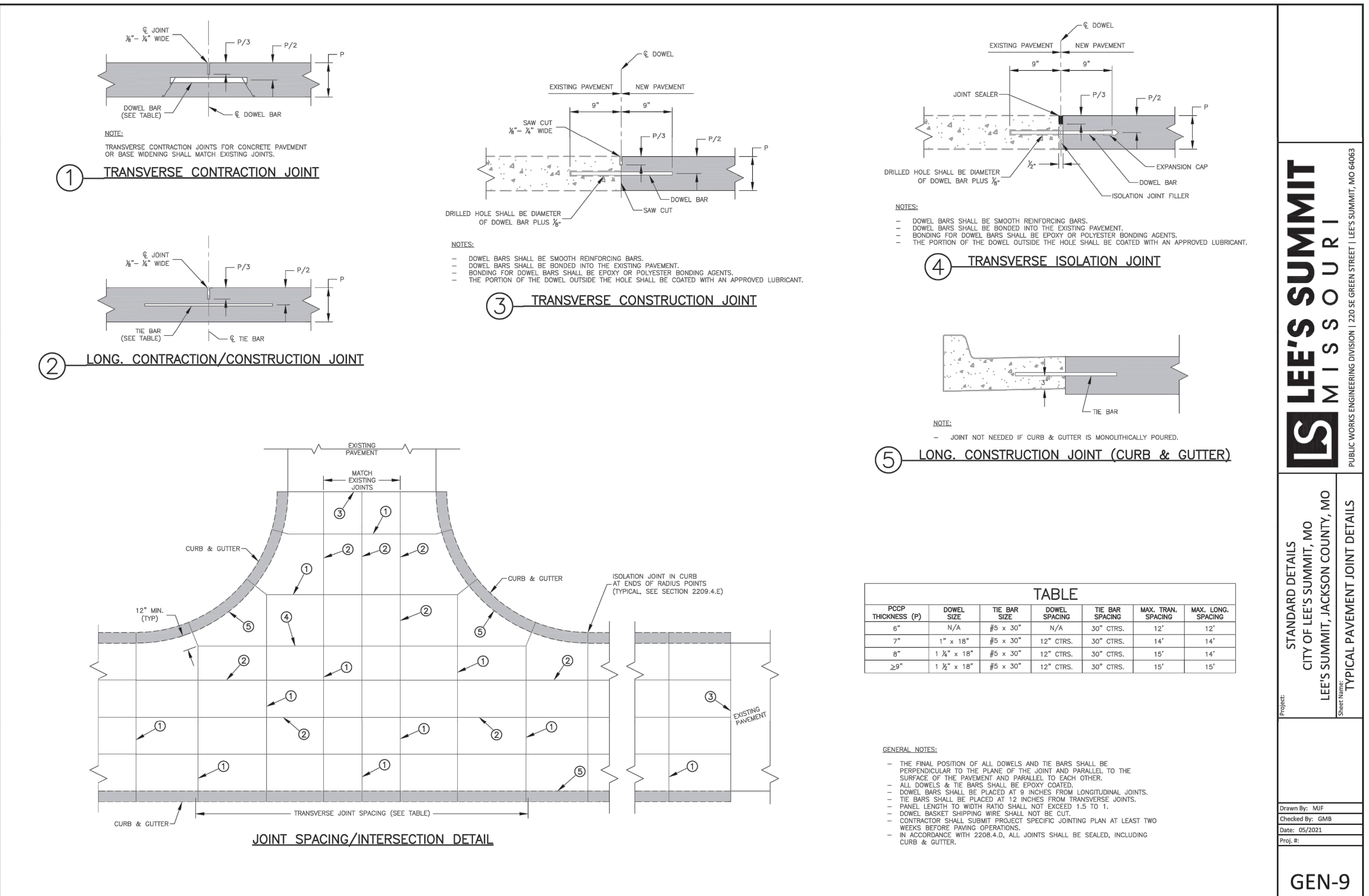




LEE'S SUMMIT  
MISSOURI

STANDARD DETAILS  
CITY OF LEE'S SUMMIT, MO  
LEE'S SUMMIT, JACKSON COUNTY, MO

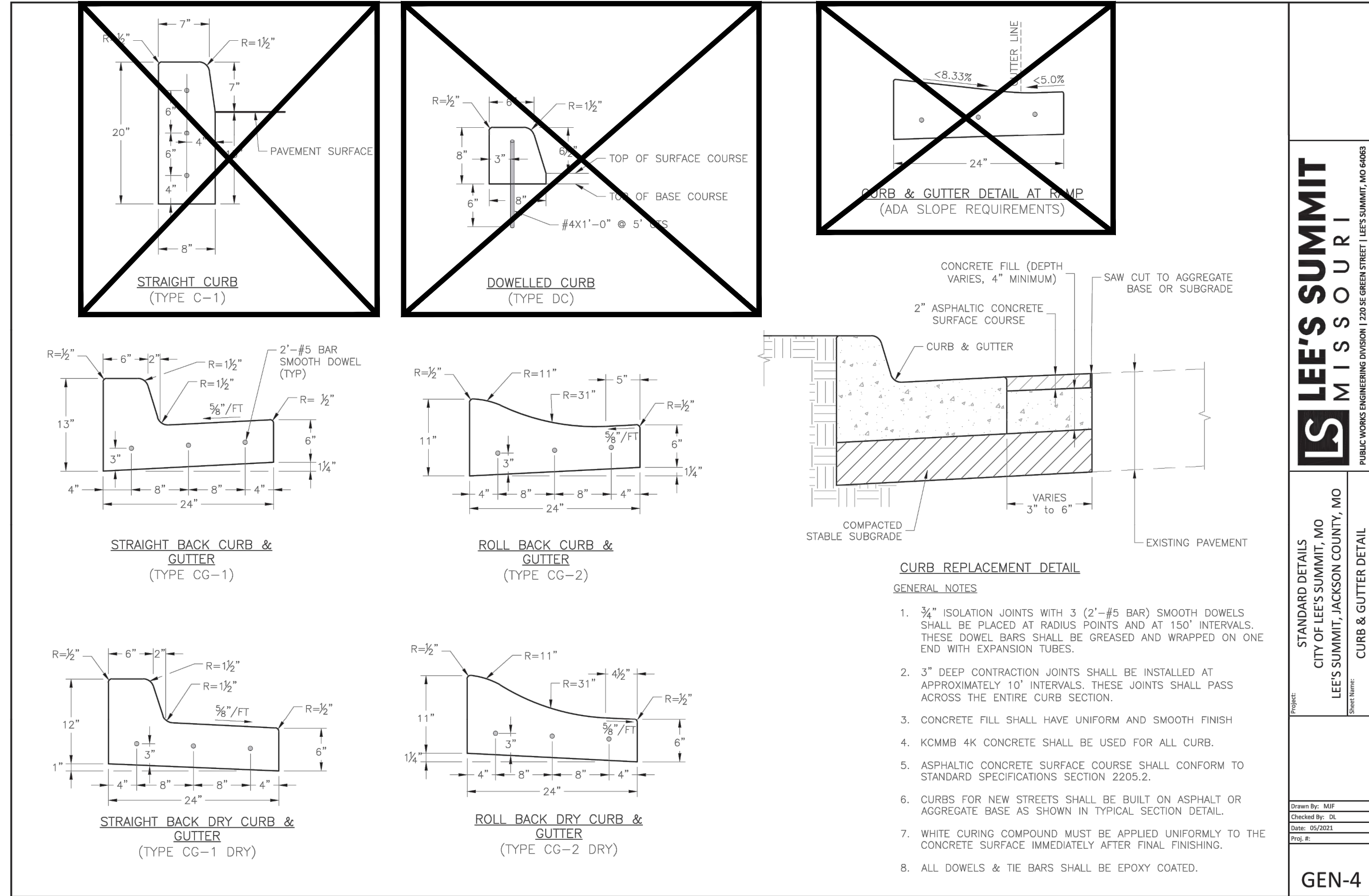
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LEE'S SUMMIT  
MISSOURI

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LEE'S SUMMIT, JACKSON COUNTY, MO

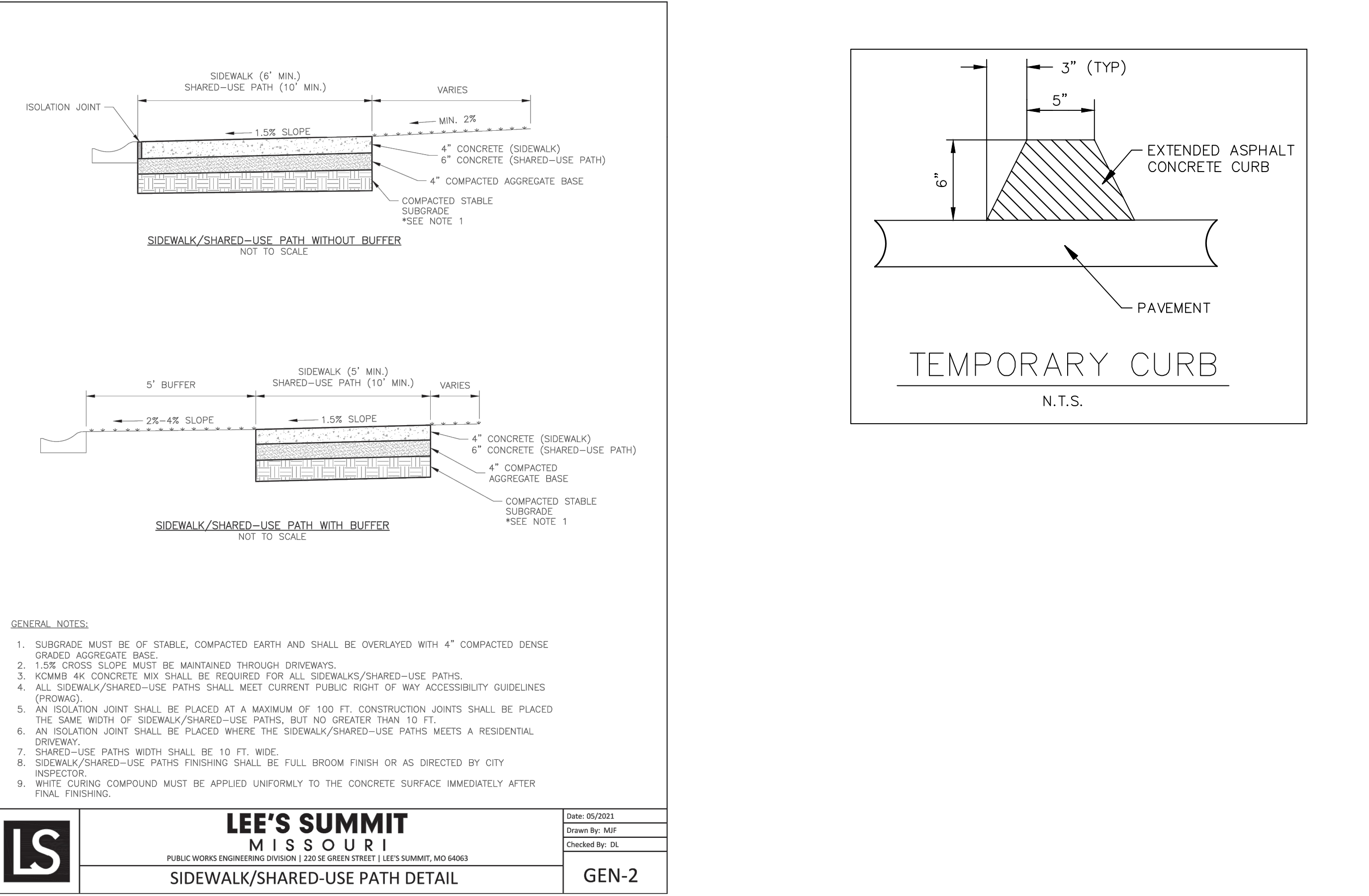
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LEE'S SUMMIT  
MISSOURI

STANDARD DETAILS  
CITY OF LEE'S SUMMIT, MO  
LEE'S SUMMIT, JACKSON COUNTY, MO

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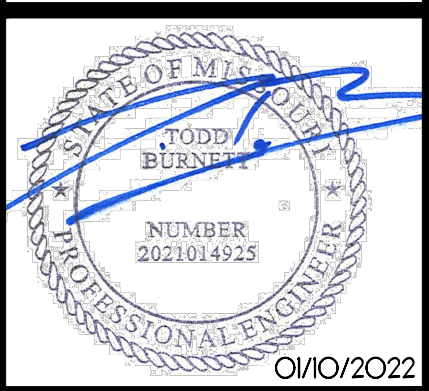


LEE'S SUMMIT  
MISSOURI

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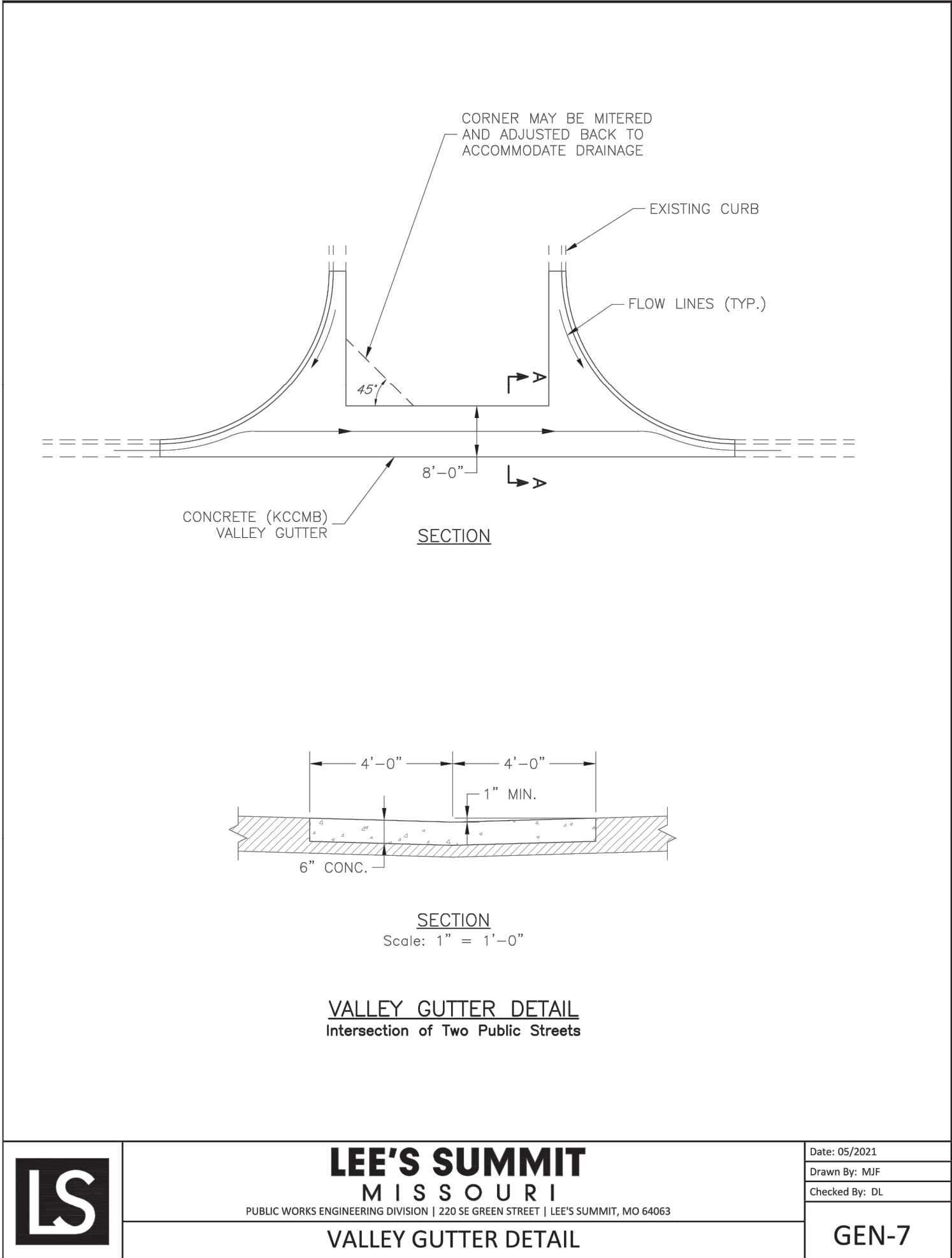
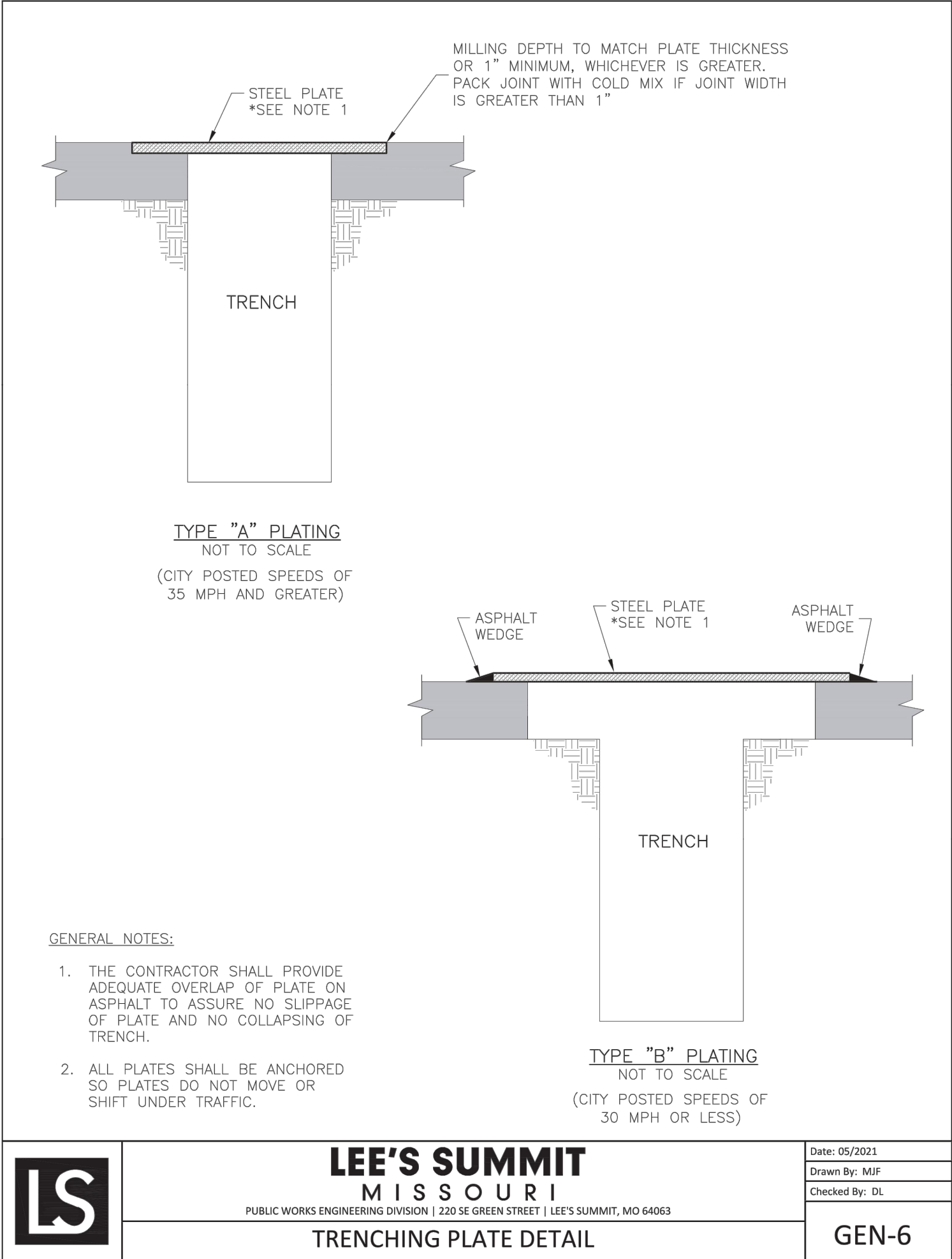
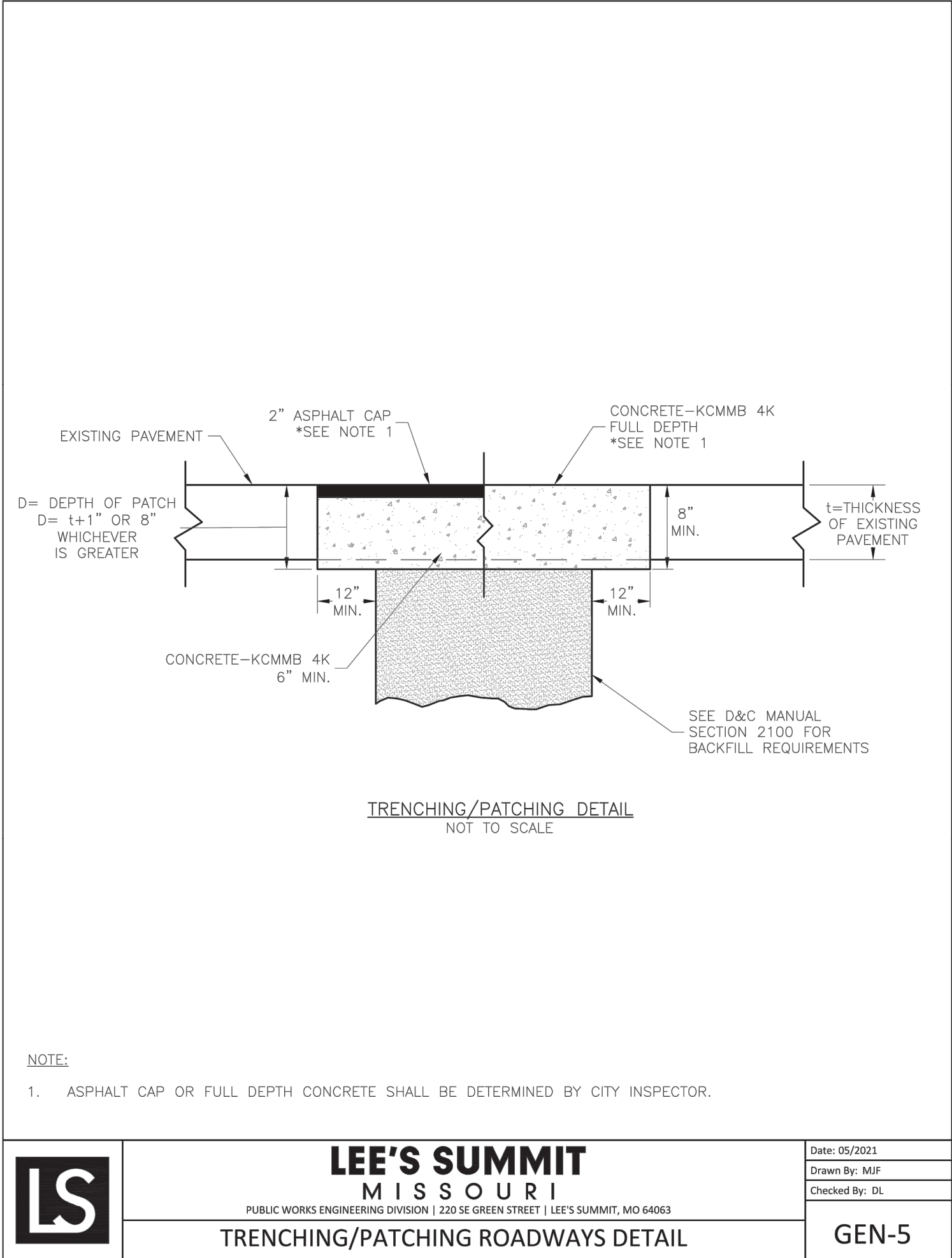
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SITE DETAILS

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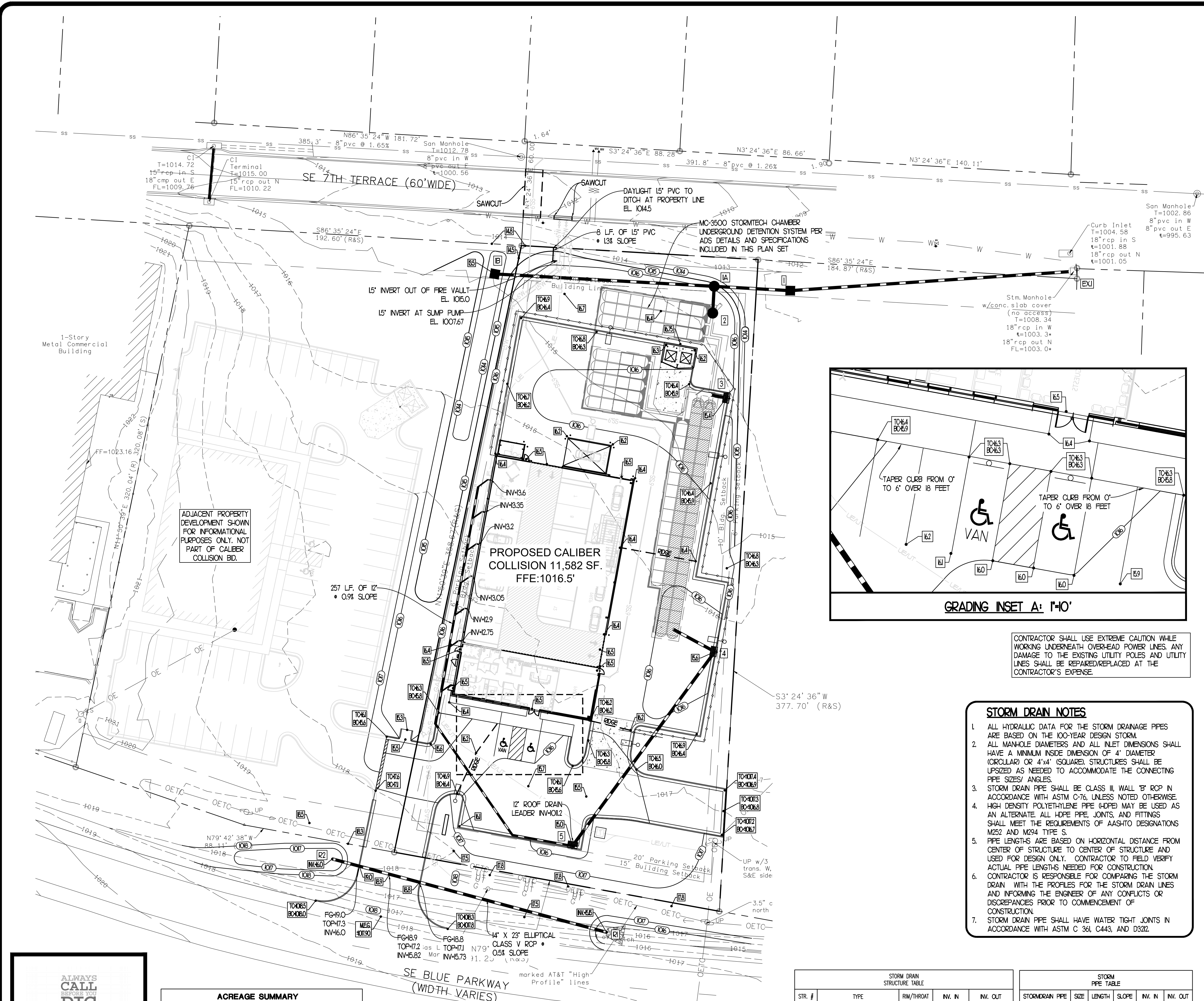
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01/10/2022

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**LEGEND**

- PROPOSED CONTOURS
- EXISTING CONTOURS
- PHASE 2 CONTOURS (NOT PART OF CALIBER BID)
- SPOT ELEVATION
- MATCH EXISTING GRADE
- PROPOSED STORM DRAIN
- PROPOSED STORM CATCH BASIN
- PROPOSED STORM MANHOLE
- PROPOSED AREA INLET
- PROPOSED HEADWALL
- DRAINAGE FLOW ARROW
- EROSION CONTROL BLANKET

**LOCATION MAP**  
NOT TO SCALE

**DRAINAGE BASIN:**  
MISSOURI RIVER WATERSHED

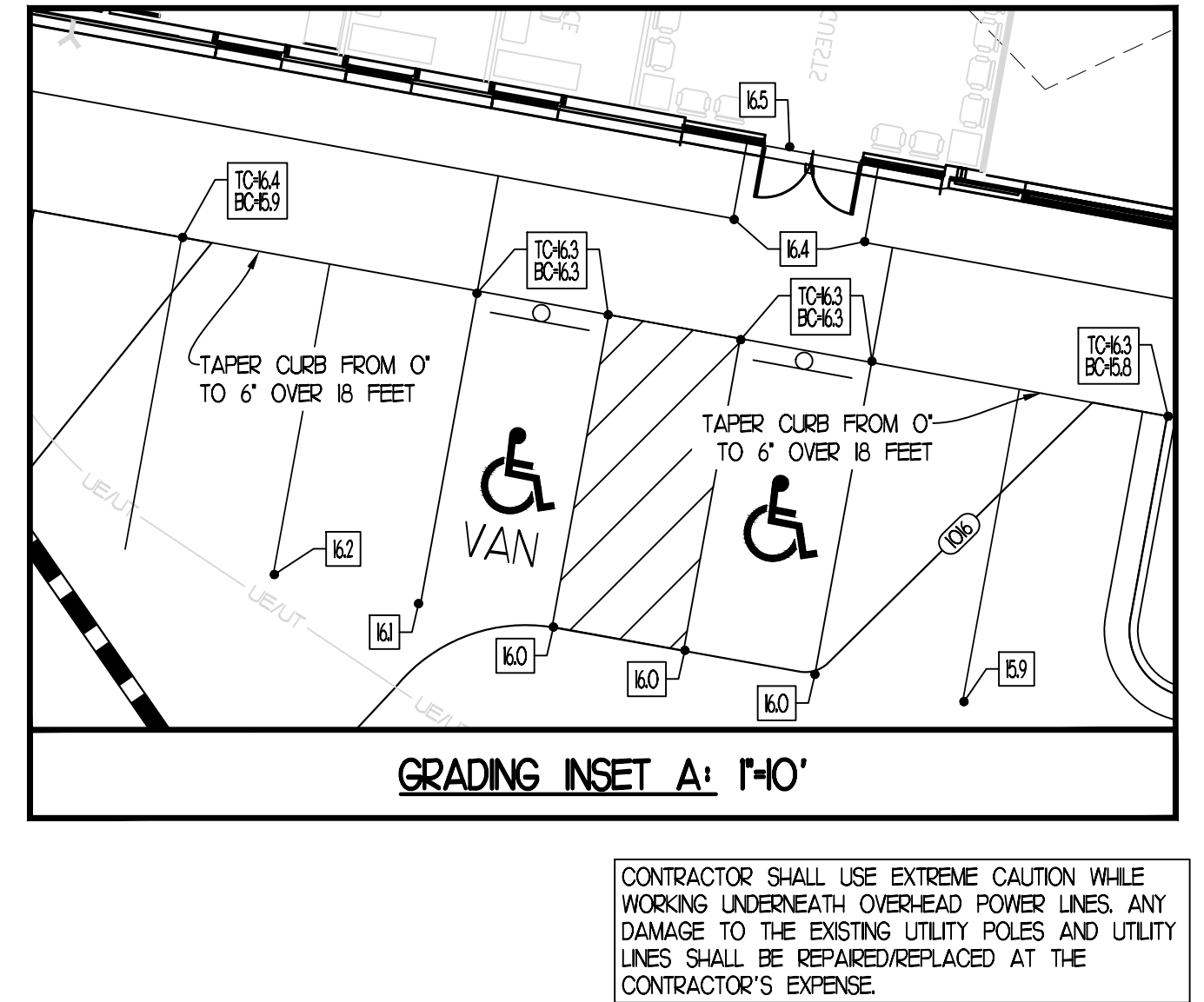
**RECEIVING WATERS:**  
EAST FORK LITTLE BLUE RIVER,  
TRIBUTARY OF THE BLUE RIVER -  
MISSOURI RIVER WATERSHED

**GRADING & DRAINAGE NOTES**

- ALL SITE WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE PLANS PREPARED BY FREELAND & KAUFFMAN, INC. THE CURRENT REQUIREMENTS OF THE CITY OF LEE'S SUMMIT, JACKSON COUNTY, APPLICABLE SECTIONS OF THE MODOT STANDARD SPECIFICATIONS, AND ALL OTHER PERTINENT FEDERAL AND STATE LAWS.
- ALL EXISTING STRUCTURES, FENCING, TREES, ETC. WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE, UNLESS OTHERWISE NOTED TO REMAIN. BURNING ON-SITE SHALL NOT BE ALLOWED.
- ALL DRAINAGE STRUCTURES SHALL BE PRE-CAST AND SHALL MEET MODOT MINIMUM REQUIREMENTS.
- ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL MEET HEAVY DUTY TRAFFIC (H20) LOADING AND BE INSTALLED ACCORDINGLY.
- BEFORE EXCAVATION, ALL UNDERGROUND UTILITIES SHALL BE LOCATED IN THE FIELD BY THE PROPER AUTHORITIES. THE CONTRACTOR SHALL NOTIFY "CALL BEFORE YOU DIG" AT THE LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES ARE APPROXIMATE AND MAY NOT ALL BE SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND THE EXACT LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES.
- SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED. THE CONTRACTOR SHALL COMPLY AT ALL TIMES WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, PROVISIONS, AND POLICES GOVERNING SAFETY AND HEALTH, INCLUDING THE FEDERAL CONSTRUCTION SAFETY ACT (PUBLIC LAW 91-54), FEDERAL REGISTER, CHAPTER XVII, PART 1926 OF TITLE 29 REGULATIONS, OCCUPATIONAL SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION, AND SUBSEQUENT PUBLICATIONS UPDATING THESE REGULATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING THE AREAS AND CONDITIONS UNDER WHICH THE PROJECT IS TO BE CONSTRUCTED PRIOR TO THE SUBMISSION OF A BID. SUBMISSION OF A BID SHALL BE CONSTRUED TO MEAN THE CONTRACTOR HAS REVIEWED THE SITE AND IS FAMILIAR WITH CONDITIONS AND CONSTRAINTS OF THE SITE.
- ALL SLOPES SHALL BE 3:1 (HORIZONTAL:VERTICAL) UNLESS NOTED OTHERWISE. NO SLOPES SHALL EXCEED 2:1 IN ANY CASE.
- AN AS-BUILT DRAWING OF STORM DRAIN LINES AND THE UNDERGROUND DETENTION SYSTEM MUST BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE OWNER AND THE CITY OF LEE'S SUMMIT UPON COMPLETION OF THE PROJECT.
- ALL DISTURBED AREAS WHICH ARE NOT PAVED SHALL BE TOPSOILED, SEEDED AND MULCHED OR LANDSCAPED UNLESS OTHERWISE NOTED IN THE CONSTRUCTION DRAWINGS, SITE SPECIFICATIONS, OR INSTRUCTED BY THE OWNER.
- CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT, PREPARED BY OTHERS, PRIOR TO INITIATION OF ANY EARTHWORK ACTIVITY.
- IF ANY EXISTING STRUCTURES OR SITE FEATURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
- ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATER-TIGHT. STORM PIPE MATERIALS SHALL MEET ALL CITY OF LEE'S SUMMIT, JACKSON COUNTY, AND MODOT REQUIREMENTS.
- THE CONTRACTOR SHALL ADHERE TO ALL TERMS & CONDITIONS AS OUTLINED IN THE NPDES GENERAL PERMIT FOR STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
- CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
- CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
- TOPOGRAPHIC INFORMATION TAKEN FROM A TOPOGRAPHIC SURVEY BY HEIDMAN ASSOCIATES, INC. IF CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, HE SHALL HAVE MADE, AT HIS EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR AND SUBMIT IT TO THE OWNER FOR REVIEW.
- ALL STORM STRUCTURES SHALL HAVE A SMOOTH UNIFORM POURED MORTAR INVERT FROM INVERT IN TO INVERT OUT.
- EXISTING STORM DRAIN PIPES IMMEDIATELY ADJACENT TO THE SITE SHALL BE INSPECTED AND CLEANED TO REMOVE ALL SILT AND DEBRIS.
- CONTRACTOR TO PROVIDE SHOP DRAWINGS ON ALL STORM SEWER INLETS AND MANHOLES FOR REVIEW PRIOR TO ORDERING.
- ROOF LEADERS SHALL DISCHARGE TO SPLASH BLOCKS UNLESS SPECIFICALLY NOTED OTHERWISE. RE-ARCH FOR EXACT NUMBER AND LOCATION.
- ALL SIDEWALKS TO HAVE 2.00% MAXIMUM CROSS SLOPE AND 5.00% MAXIMUM LONGITUDINAL SLOPE. SLOPES 3:1 AND STEEPER SHALL BE INSTALLED WITH AN EROSION CONTROL BLANKET (TOURLEX® OR APPROVED EQUAL).
- INSURE THAT ALL SIDEWALK CURBS LESS THAN 6" HEIGHT OR LESS ARE PAINTED YELLOW PRIOR TO CERTIFICATE OF OCCUPANCY, SURVEYOR SEALED AS-BUILT DRAWINGS OF ALL WATER QUALITY BMP'S AND DETENTION SYSTEMS MUST BE PROVIDED.
- CONTRACTOR SHALL PROVIDE EROSION CONTROL BLANKETS ON ALL SLOPES STEEPER THAN 3:1. CONTRACTOR HAS THE OPTION TO UTILIZE SOD IN LIEU OF AN EROSION CONTROL BLANKET (TYPICAL).
- ALL CONSTRUCTED SLOPES GREATER THAN 2:1 SHALL BE DESIGNED BY A MISSOURI REGISTERED PROFESSIONAL ENGINEER. ADDITIONALLY, FOR CONSTRUCTED SLOPES GREATER THAN FIVE FEET IN HEIGHT, AN INSPECTION AND A STABILITY CERTIFICATE ARE REQUIRED BY A MISSOURI REGISTERED PROFESSIONAL ENGINEER WITH GEOTECHNICAL EXPERTISE SUFFICIENT TO PERFORM THE INSPECTION AND STABILITY ANALYSIS. FOR ALL CONSTRUCTED SLOPES WITHIN PROPOSED OR EXISTING PUBLIC RIGHTS-OF-WAY, PERIODIC INSPECTIONS AND COMPACTED REPORTS ARE REQUIRED BY A MISSOURI REGISTERED PROFESSIONAL ENGINEER WITH GEOTECHNICAL EXPERTISE.

**WATER TIGHT STORM PIPES:**  
CONTRACTOR TO ENSURE THAT ALL STORM PIPES ARE WATER TIGHT AND TESTED PER ASTM C902-02.

CONTRACTOR TO ENSURE ALL STORM DRAIN PIPE SHALL HAVE WATER TIGHT JOINTS IN ACCORDANCE WITH ASTM C 361, C443 AND D322.



**STORM DRAIN NOTES**

- ALL HYDRAULIC DATA FOR THE STORM DRAINAGE PIPES ARE BASED ON THE 100-YEAR DESIGN STORM.
- ALL MANHOLE DIAMETERS AND ALL INLET DIMENSIONS SHALL HAVE A MINIMUM INSIDE DIMENSION OF 4' DIAMETER (FOR ROLL-UP OR 4'x4' SQUARE) STRUCTURES SHALL BE UP-SIZED AS NEEDED TO ACCOMMODATE THE CONNECTING PIPE SIZES/ ANGLES.
- STORM DRAIN PIPE SHALL BE CLASS II, WALL 18" RCP IN ACCORDANCE WITH ASTM C-76, UNLESS NOTED OTHERWISE.
- HIGH DENSITY POLYETHYLENE PIPE (HDPE) MAY BE USED AS AN ALTERNATE. ALL HDPE PIPE, JOINTS, AND FITTINGS SHALL MEET THE REQUIREMENTS OF AASHTO DESIGNATIONS M252 AND M294 TYPE S.
- PIPE LENGTHS ARE BASED ON HORIZONTAL DISTANCE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE AND USED FOR DESIGN ONLY. CONTRACTOR TO FIELD VERIFY ACTUAL PIPE LENGTHS NEEDED FOR CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR COMPARING THE STORM DRAIN WITH THE PROFILES FOR THE STORM DRAIN LINES AND INFORMING THE ENGINEER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- STORM DRAIN PIPE SHALL HAVE WATER TIGHT JOINTS IN ACCORDANCE WITH ASTM C 361, C443, AND D322.

STORM DRAIN STRUCTURE TABLE				
STR. #	TYPE	RIM/THROAT	INV. IN	INV. OUT
1	FIELD INLET	106.00	1005.25 (A)	1004.95 (BX)
1A	MANHOLE	106.00	1005.90 (B) 1008.30 (C)	1005.70 (D)
2	FIELD INLET	106.50		1007.20 (A)
3	OUTLET CONTROL STRUCTURE	106.20		1008.50 (A)
4	COMBINATION INLET	106.40	1007.90 (B) 1007.90 (C) 1009.50 (D)	
5	COMBINATION INLET	106.60	1009.70 (C) 1009.70 (D)	1009.20 (A)
EX1	EXISTING MANHOLE	1008.34	1003.30 (A)	
R1	OPEN END PIPE	107.36	106.5 (B)	
R2	OPEN END PIPE	108.2		106.00 (B)
UG1	TO UG2	106.60	1007.80 (C)	
UG2	TO UG3	106.90	1009.20 (A)	

STORM PIPE TABLE					
STORM DRAIN PIPE	SIZE	LENGTH	SLOPE	INV. IN	INV. OUT
1 - EX1	18"	64'	1.00%	1004.95'	1003.30'
1A - 1	18"	44'	1.02%	1005.70'	1005.25'
2 - 1A	18"	127'	1.02%	1007.20'	1005.90'
3 - UG1	18"	10'	1.05%	1007.90'	1007.80'
4 - UG2	18"	27'	1.01%	1009.50'	1009.20'
5 - 4	18"	89'	0.93%	1010.00'	1009.70'
R2 - R1	14" ELIP.	64'	0.52%	106.00'	106.5'

ACREAGE SUMMARY (IN ACRES)	
TOTAL PARCEL AREA	1.38
ON-SITE DISTURBED AREA	1.38
OFF-SITE DISTURBED AREA	0.55
TOTAL DISTURBED AREA	1.93
IMPERVIOUS AREA PRE-CONSTRUCTION (ON-SITE ONLY & INCLUDES GRAVEL)	0.48
PERVIOUS AREA PRE-CONSTRUCTION (ON-SITE ONLY)	0.90
IMPERVIOUS AREA POST-CONSTRUCTION (ON-SITE ONLY)	0.90
PERVIOUS AREA POST-CONSTRUCTION (ON-SITE ONLY)	0.48
IMPERVIOUS AREA INCREASE (PRE VS POST) (ON-SITE ONLY)	0.42
IMPERVIOUS PERCENTAGE (AT POST-CONSTRUCTION STATUS)	65.2%

**ALWAYS CALL BEFORE YOU DIG**

811

EVERY DIGGING JOB REQUIRES A CALL - EVEN SMALL PROJECTS LIKE PLANTING TREES OR SHRUBS. IF YOU HIT AN UNDERGROUND UTILITY LINE WHILE DIGGING, YOU CAN HARM YOURSELF OR THOSE AROUND YOU, DISRUPT SERVICE TO AN ENTIRE NEIGHBORHOOD AND POTENTIALLY BE RESPONSIBLE FOR FINES AND REPAIR COSTS.

SMART DIGGING MEANS CALLING 811 BEFORE EACH JOB. WHETHER YOU ARE A HOMEOWNER OR A PROFESSIONAL EXCAVATOR, ONE CALL TO 811 GETS YOUR UNDERGROUND UTILITY LINES MARKED FOR FREE.

REVISIONS	BY

**FREELAND and KAUFFMAN, INC.**  
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CROSS DEVELOPMENT, CC LEE'S SUMMIT, LLC  
4388 MARSH RIDGE ROAD  
CARROLLTON, TX 75010  
TEL (214) 614-8252

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TMB  
DATE  
11/7/2021  
SCALE

DRAWING

13



## STORM DRAIN NOTES

- ALL HYDRAULIC DATA FOR THE STORM DRAINAGE PIPES ARE BASED ON THE 100-YEAR DESIGN STORM.
- ALL MANHOLE DIAMETERS AND ALL INLET DIMENSIONS SHALL HAVE A MINIMUM INSIDE DIMENSION OF 4" DIAMETER (CIRCULAR) OR 4"x4" (SQUARE). STRUCTURES SHALL BE UPSIZED AS NEEDED TO ACCOMMODATE THE CONNECTING PIPE SIZES/ ANGLES.
- STORM DRAIN PIPE SHALL BE CLASS III, WALL "B" RCP IN ACCORDANCE WITH ASTM C-76, UNLESS NOTED OTHERWISE. HIGH DENSITY POLYETHYLENE PIPE (HDPE) MAY BE USED AS AN ALTERNATE. ALL JOINTS, JOINTS, AND FITTINGS SHALL MEET THE REQUIREMENTS OF AASHTO DESIGNATIONS M252 AND M294 TYPE S.
- PIPE LENGTHS ARE BASED ON HORIZONTAL DISTANCE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE AND USED FOR DESIGN ONLY. CONTRACTOR TO FIELD VERIFY ACTUAL PIPE LENGTHS NEEDED FOR CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR COMPARING THE STORM DRAIN WITH THE PROFILES FOR THE STORM DRAIN LINES AND INFORMING THE ENGINEER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- STORM DRAIN PIPE SHALL HAVE WATER TIGHT JOINTS IN ACCORDANCE WITH ASTM C 361, C443, AND D322.

## INLET DRAINAGE AREAS

TYPE	INLET	AREA (AC.)	TC (MIN.)	IMPERVIOUS COVERAGE (ACRE)	IMPERVIOUS RUNOFF COEFFICIENT	PERVIOUS COVERAGE (ACRE)	PERVIOUS RUNOFF COEFFICIENT	WEIGHTED RUNOFF COEFFICIENT	T"50	T"100	Q50 (CFS)	Q100 (CFS)	PONDING DEPTH @ INLET PER 100-YR STORM (FT)
PROPOSED	1B *	1.70	5	0.04	0.90	1.66	0.35	0.36	11.30	12.60	6.97	7.77	0.30
	3	0.26	5	0.26	0.90	0.00	0.35	0.90	11.30	12.60	2.64	2.95	0.26
	4	0.15	5	0.15	0.90	0.00	0.35	0.90	11.30	12.60	1.53	1.70	0.20
	5	0.62	5	0.47	0.90	0.15	0.35	0.77	11.30	12.60	5.37	5.99	0.39
	R-2	0.94	5	0.29	0.90	0.65	0.35	0.52	11.30	12.60	5.52	6.16	** NOT CALCULATED
EXISTING	EX-1	0.08	5	0.02	0.90	0.06	0.35	0.49	11.30	12.60	0.44	0.49	** NOT CALCULATED
	EX-2	0.47	5	0.08	0.90	0.39	0.35	0.44	11.30	12.60	2.36	2.63	** NOT CALCULATED
	1	0.30	5	0.05	0.90	0.25	0.35	0.44	11.30	12.60	1.50	1.67	** NOT CALCULATED

RUNOFF COEFFICIENTS USED TO CALCULATE THE WEIGHTED RUNOFF COEFFICIENT ARE LISTED BELOW

- LAWNS/GRASS: 0.35
- ROOFS/PAVEMENT: 0.90

RAINFALL DATA FROM NOAA ATLAS 14, VOLUME 8, VERSION 2, LEE'S SUMMIT, MISSOURI

- THE AREA SHOWN FOR INLET 1B ASSUMES THAT THE ADJACENT PROPERTY WILL BE DEVELOPED AND CONNECT ITS STORM SEWER SYSTEM TO STRUCTURE 1B. PER THE CITY OF LEE'S SUMMIT CODE, THE MAXIMUM ALLOWED DISCHARGE FROM THE DEVELOPED SITE IS 3 CFS PER DEVELOPED ACRE. ASSUMING 1.70 ACRES OF DEVELOPED AREA, THE MAXIMUM DISCHARGE ALLOWED FROM THE ADJACENT SITE WOULD BE 5.1 CFS WHICH IS LESS THAN THE EXISTING SITES UNDEVELOPED CONDITION (WHICH RESULTS IN THE VALUE(S) SHOWN IN THE TABLE ABOVE). TO BE CONSERVATIVE, THE RELEASES FOR INLET 1B ABOVE ARE USED TO ADEQUATELY SIZE THE STORM SEWER PIPES PROPOSED BY THE CALIBER COLLISION DEVELOPMENT.
- THE PONDING DEPTHS FOR THESE INLETS WERE NOT CALCULATED AS THEY ARE A RESULT OF THE EXISTING CONDITIONS OF THE SURROUNDING PROPERTIES AND ADDITIONAL SURVEY INFORMATION WILL BE REQUIRED TO ACCURATELY CALCULATE. ADDITIONALLY, THESE "INLETS" ARE OPEN-ENDED PIPES AND NOT "STORM STRUCTURES". THEIR PONDING DEPTHS ARE NEGLECTED AS THEY CONTAIN CONDITIONS WHERE PONDING IS NOT AN ISSUE (I.E. CONTAINED WITHIN DITCHES)

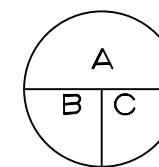
## RAINFALL DISTRIBUTION FOR LEE'S SUMMIT, MISSOURI

STORM EVENT	2-YR	10-YR	25-YR	50-YR	100-YR
RAINFALL (INCHES/HR)	5.81	8.35	9.98	11.30	12.60

- THE RAINFALL FOR RAINFALL DISTRIBUTION DATA TAKEN FROM NOAA ATLAS 14, VOLUME 8, VERSION 2 FOR LEE'S SUMMIT, MISSOURI
- STORM DISTRIBUTION TYPE II
- 24-HOUR STORM DISTRIBUTION

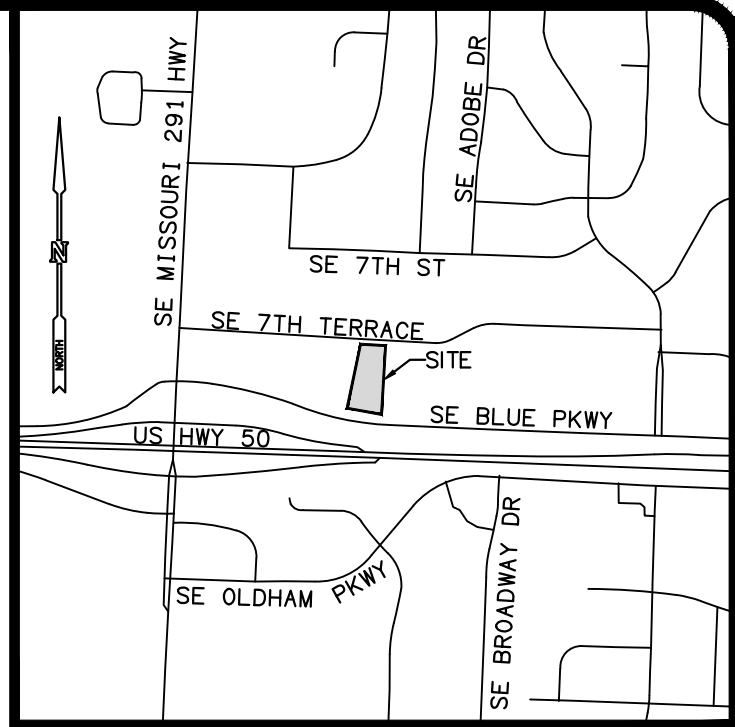
## LEGEND

## DESCRIPTION



- A = BASIN DESIGNATION
- B = AREA IN ACRES
- C = RUNOFF COEFFICIENT

--- DRAINAGE BASIN BOUNDARY

LOCATION MAP  
NOT TO SCALE

## WATER TIGHT STORM PIPES:

CONTRACTOR TO ENSURE THAT ALL STORM PIPES ARE WATER TIGHT AND TESTED PER ASTM C902-02

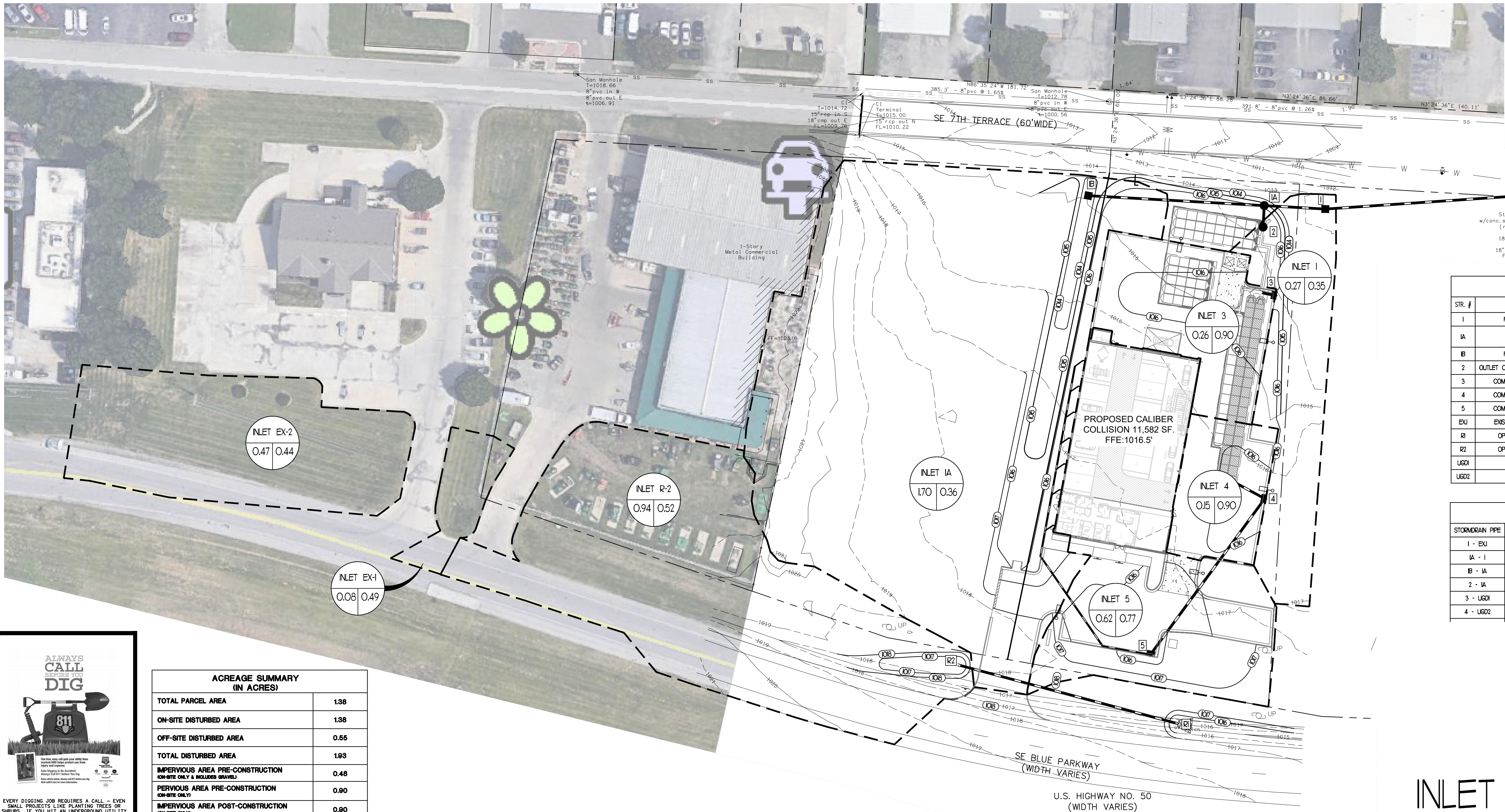
CONTRACTOR TO ENSURE ALL STORM DRAIN PIPE SHALL HAVE WATER TIGHT JOINTS IN ACCORDANCE WITH ASTM C 361, C443 AND D322.

## DRAINAGE BASIN:

MISSOURI RIVER WATERSHED

## RECEIVING WATERS:

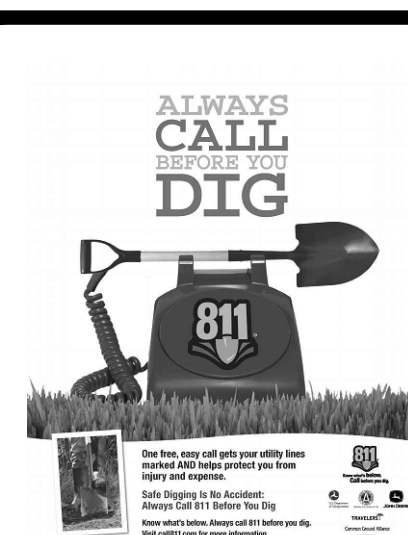
EAST FORK LITTLE BLUE RIVER, TRIBUTARY OF THE BLUE RIVER - MISSOURI RIVER WATERSHED



STORM DRAIN STRUCTURE TABLE				
STR. #	TYPE	RW/THROT	INV. IN	INV. OUT
1	FIELD INLET	102.00	1005.25 (A)	1004.95 (EX)
1A	MANHOLE	106.00	1005.90 (B)	1005.70 (C)
2	FIELD INLET	103.50		1007.20 (A)
3	OUTLET CONTROL STRUCTURE	106.20		1006.50 (A)
4	COMBINATION INLET	106.40		1007.90 (UG)
5	COMBINATION INLET	106.60	1009.70 (C)	1009.50 (UG)
EX	EXISTING MANHOLE	1008.34	1003.30 (I)	
R	OPEN END PIPE	107.36	106.5 (R2)	
R2	OPEN END PIPE	108.3		106.00 (B)
UG1	TO UG	106.60	1007.80 (C)	
UG2	TO UG	106.90	1009.20 (A)	

STORM PIPE TABLE					
STORM/RAIN PIPE	SIZE	LENGTH	SLOPE	INV. IN	INV. OUT
1 - EX	18"	164'	1.00%	1004.95'	1003.30'
1A - I	18"	44'	1.02%	1005.70'	1005.25'
B - 1A	18"	127'	1.02%	1007.20'	1005.90'
2 - 1A	18"	16'	1.29%	1008.50'	1006.30'
3 - UG01	18"	10'	1.05%	1007.90'	1007.80'
4 - UG02	18"	27'	1.01%	1009.50'	1009.20'

ACREAGE SUMMARY (IN ACRES)	
TOTAL PARCEL AREA	1.38
ON-SITE DISTURBED AREA	1.38
OFF-SITE DISTURBED AREA	0.55
TOTAL DISTURBED AREA	1.93
IMPERVIOUS AREA PRE-CONSTRUCTION (ON-SITE ONLY & INCLUDES GRAVEL)	0.48
PERVIOUS AREA PRE-CONSTRUCTION (ON-SITE ONLY)	0.90
IMPERVIOUS AREA POST-CONSTRUCTION (ON-SITE ONLY)	0.90
PERVIOUS AREA POST-CONSTRUCTION (ON-SITE ONLY)	0.48
IMPERVIOUS AREA INCREASE (PRE VS POST) (ON-SITE ONLY)	0.42
IMPERVIOUS PERCENTAGE (AT POST-CONSTRUCTION STATUS)	65.2%



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DATE  
11/17/2021  
SCALE

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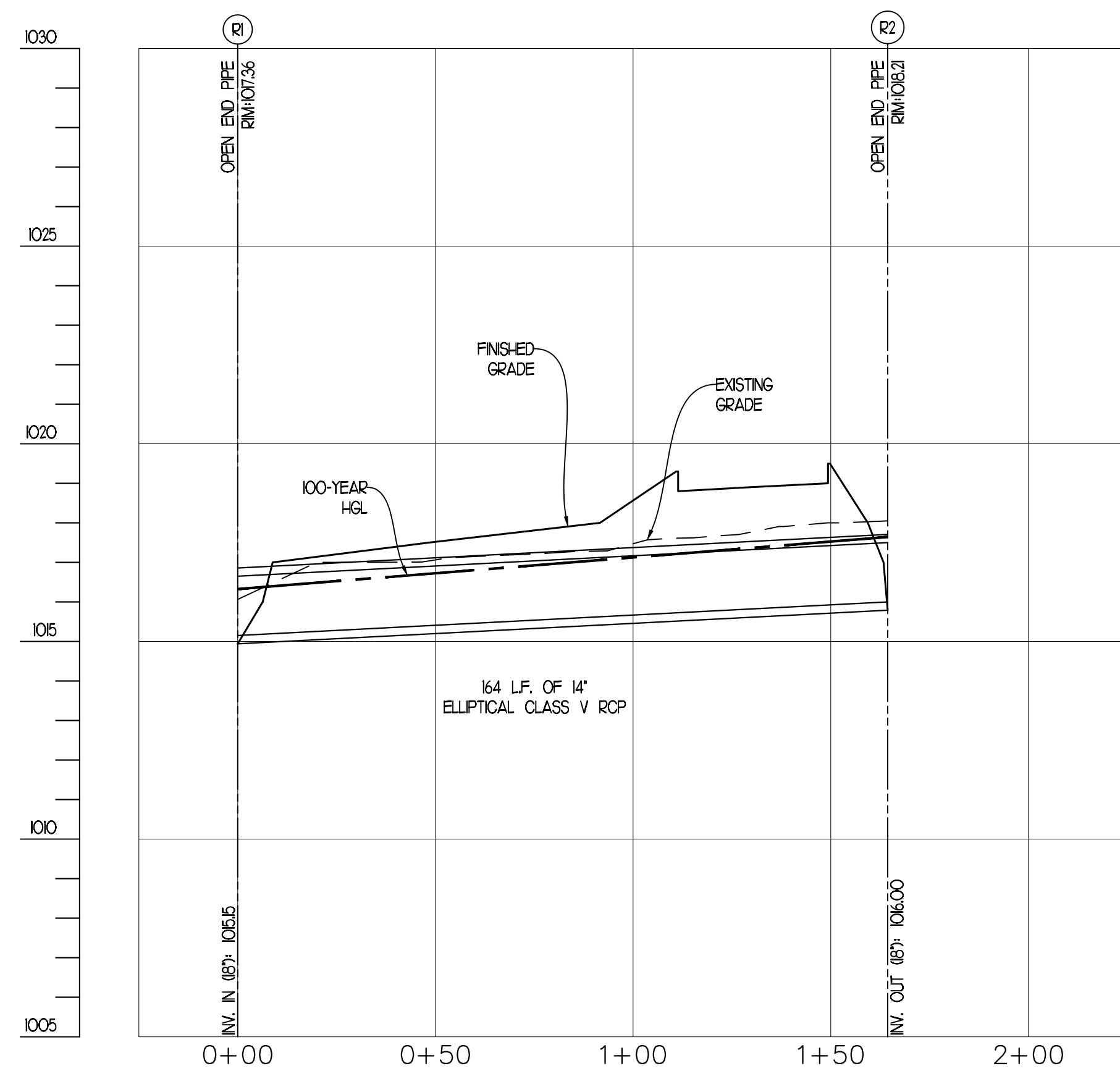
14

## INLET AREA MAP

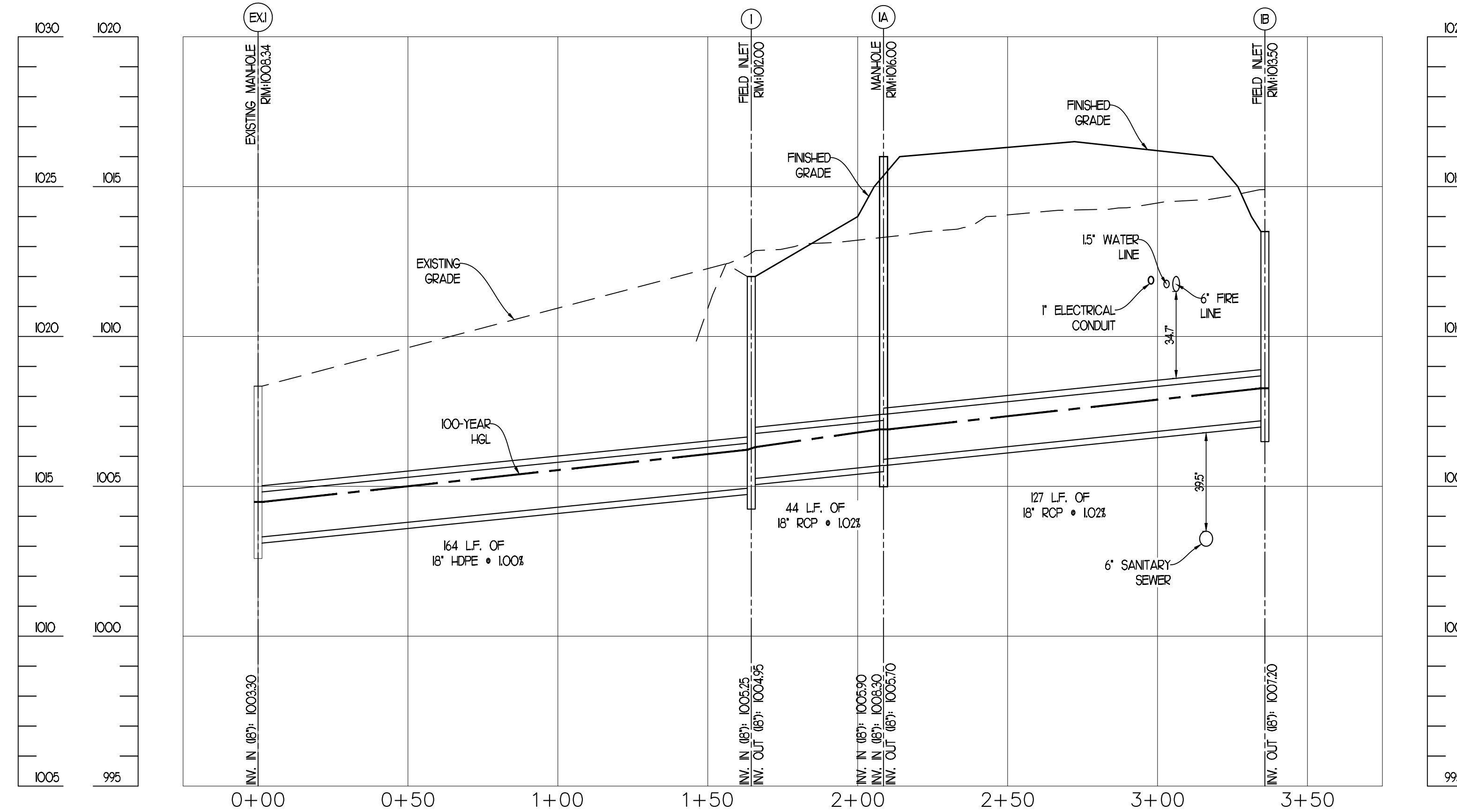


SCALE 1" = 30'

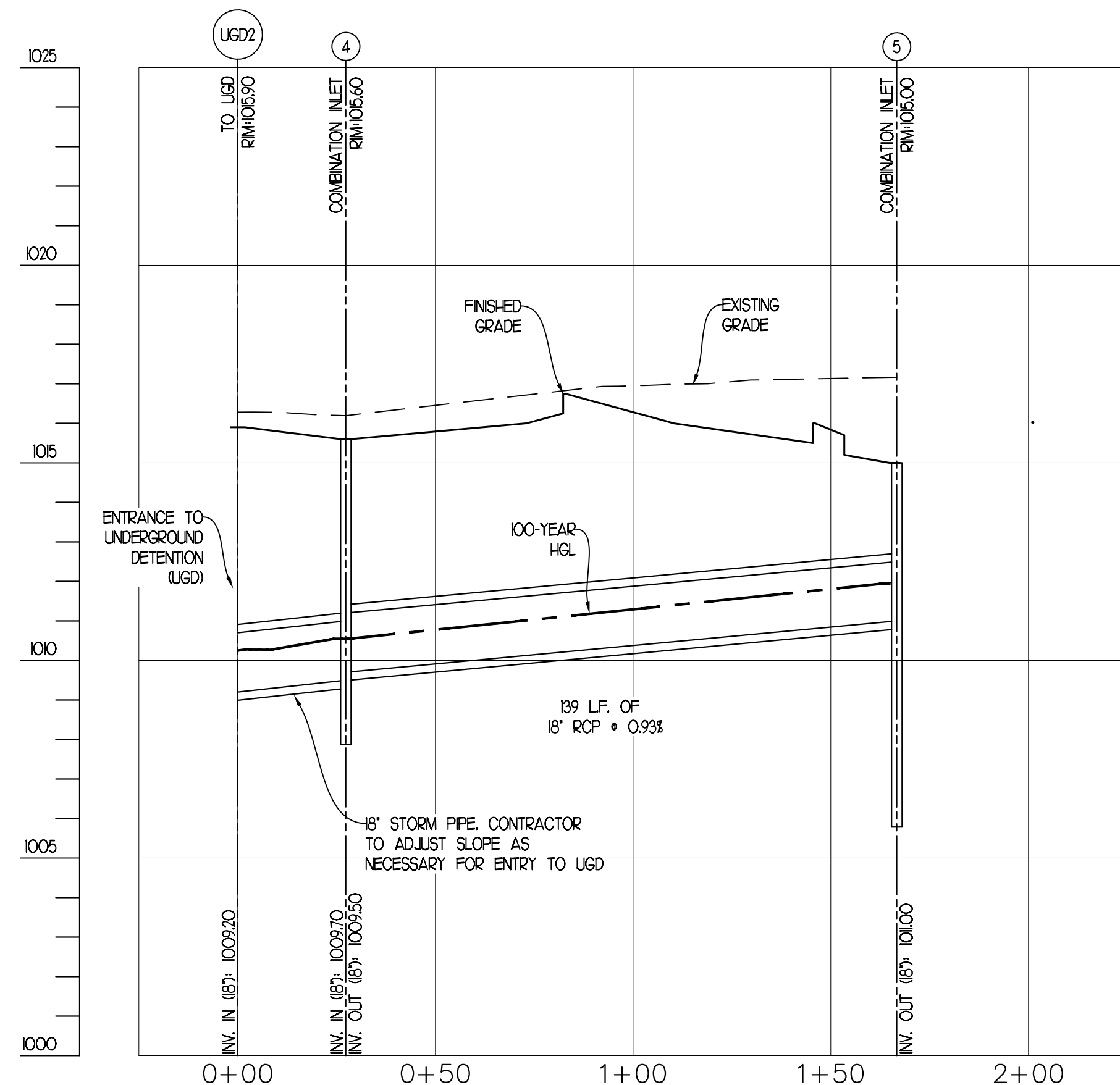




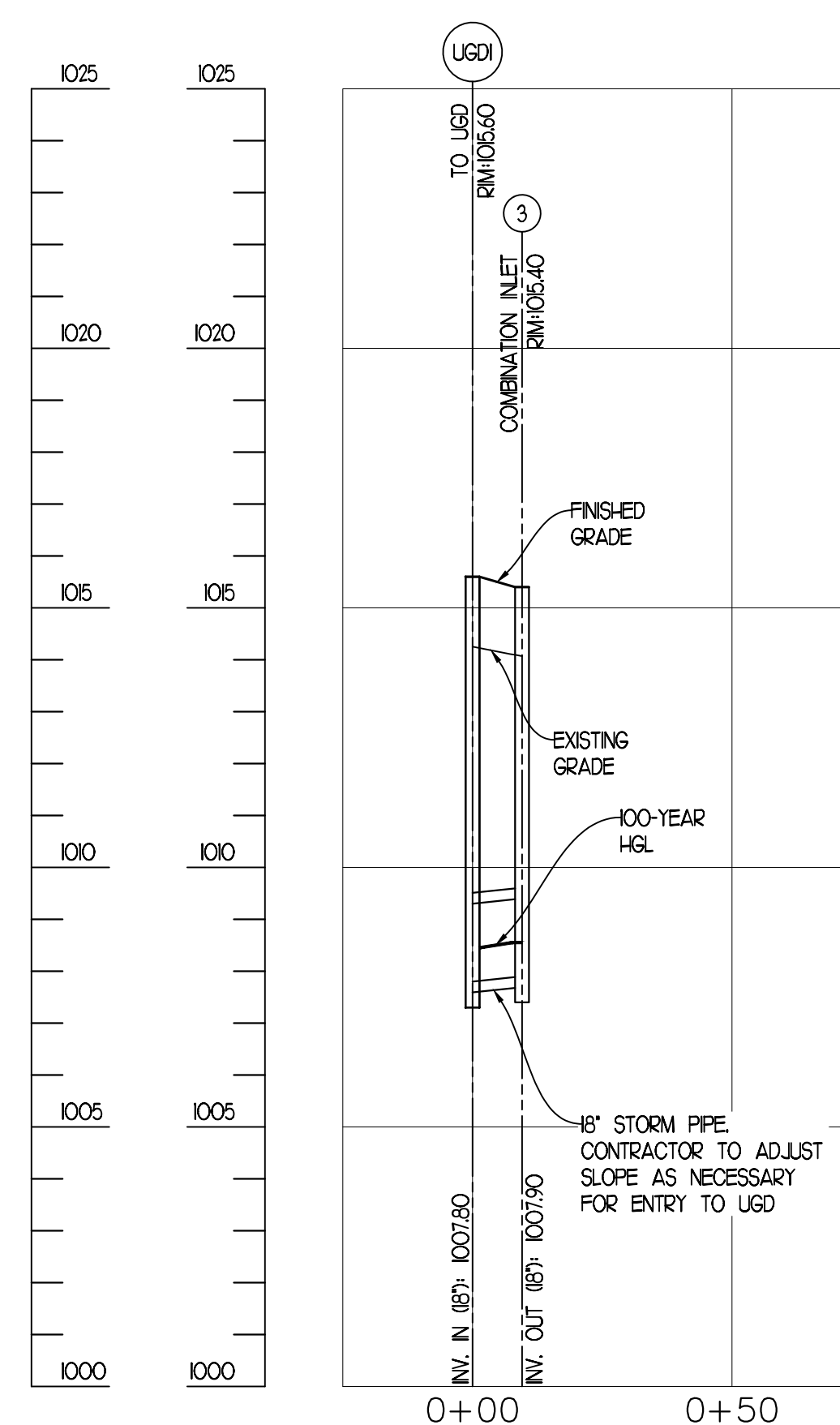
STORM DRAIN PROFILE R1 TO R2



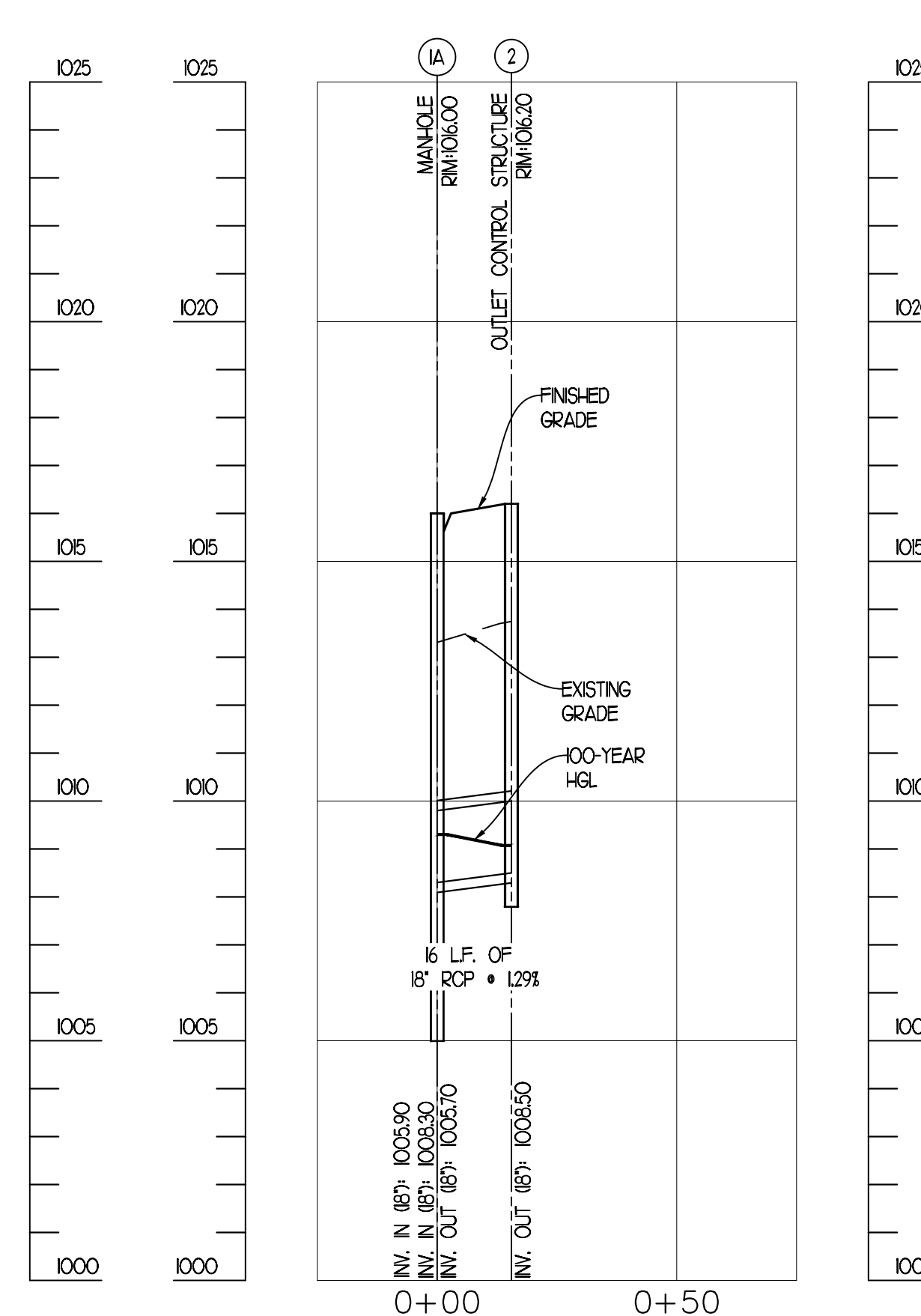
STORM DRAIN PROFILE I TO IB



STORM DRAIN PROFILE UGD TO 5



STORM PROFILE UGD TO 3



STORM DRAIN PROFILE IA TO 2

STORM DRAIN NOTES

1. ALL HYDRAULIC DATA FOR THE STORM DRAINAGE PIPES ARE BASED ON THE 100-YEAR DESIGN STORM.
2. ALL INLET DIMENSIONS SHALL HAVE A MINIMUM INSIDE DIMENSION OF 4" DIAMETER (CROLLAR) OR 4"x4" (SQUARE). STRUCTURES SHALL BE UPSIZED AS NEEDED TO ACCOMMODATE THE CONNECTING PIPE SIZES/ ANGLES.
3. STORM DRAIN PIPE SHALL BE CLASS III, WALL "B" RCP IN ACCORDANCE WITH ASTM C-76, UNLESS NOTED OTHERWISE.
4. HIGH DENSITY POLYETHYLENE PIPE (HDPE) MAY BE USED AS AN ALTERNATE. ALL HDPE PIPE, JOINTS, AND FITTINGS SHALL MEET THE REQUIREMENTS OF AASHTO DESIGNATIONS M252 AND M294 TYPE S.
5. PIPE LENGTHS ARE BASED ON HORIZONTAL DISTANCE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE AND USED FOR DESIGN ONLY. CONTRACTOR TO FIELD VERIFY ACTUAL PIPE LENGTHS NEEDED FOR CONSTRUCTION.
6. CONTRACTOR IS RESPONSIBLE FOR COMPARING THE STORM DRAIN WITH THE PROFILES FOR THE STORM DRAIN LINES AND INFORMING THE ENGINEER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
7. STORM DRAIN PIPE SHALL HAVE WATER TIGHT JOINTS IN ACCORDANCE WITH ASTM C 361, C443, AND D322.

STORM DRAIN STRUCTURE TABLE				
STR. #	TYPE	RM/THROT	INV. IN	INV. OUT
1	FIELD INLET	106.00	1005.25 (A)	1004.95 (EX)
1A	MANHOLE	106.00	1005.90 (B) 1006.30 (C)	1005.70 (D)
B	FIELD INLET	106.50		1007.20 (A)
2	OUTLET CONTROL STRUCTURE	106.20		1006.50 (A)
3	COMBINATION INLET	106.40		1007.90 (UGD)
4	COMBINATION INLET	106.60	1009.70 (E) 1009.50 (UGD)	
5	COMBINATION INLET	106.00		1010.00 (A)
EX1	EXISTING MANHOLE	1008.34	1003.30 (D)	
R1	OPEN END PIPE	107.36	1006.5 (R2)	
R2	OPEN END PIPE	108.2		1006.00 (R)
UGD1	TO UGD	106.60	1007.80 (E)	
UGD2	TO UGD	106.90	1009.20 (A)	

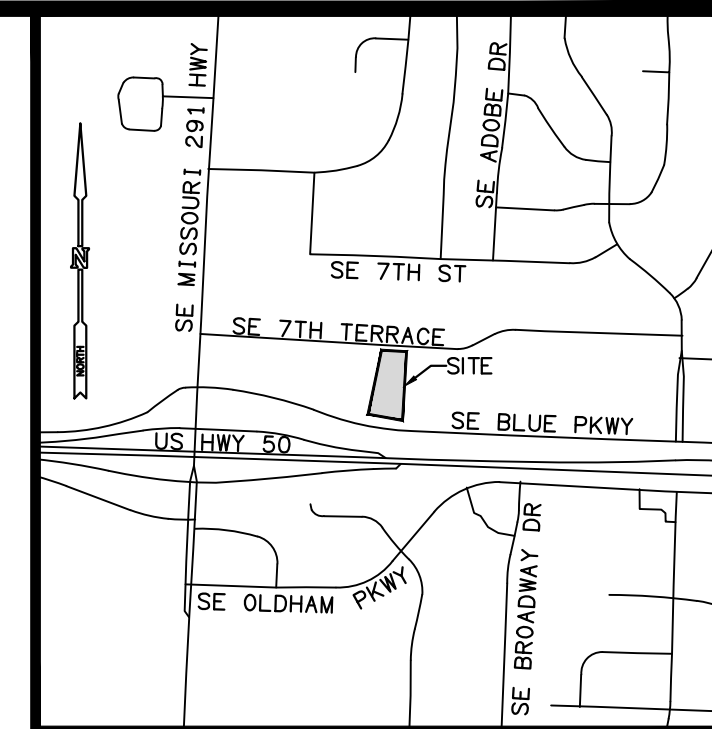
STORM PIPE TABLE					
STORM DRAIN PIPE	SIZE	LENGTH	SLOPE	INV. IN	INV. OUT
1 - EX1	18"	164'	1.00%	1004.95'	1003.30'
1A - 1	18"	44'	1.02%	1005.70'	1005.25'
B - 1A	18"	127'	1.02%	1007.20'	1005.90'
2 - 1A	18"	16'	1.29%	1006.50'	1006.30'
3 - UGD1	18"	10'	1.05%	1007.90'	1007.80'
4 - UGD2	18"	27'	1.01%	1009.50'	1009.20'
5 - 4	18"	139'	0.93%	1010.00'	1009.70'
R2 - R1	14" BLUP	164'	0.52%	1006.00'	1005.6'

DRAINAGE BASIN:  
MISSOURI RIVER WATERSHED

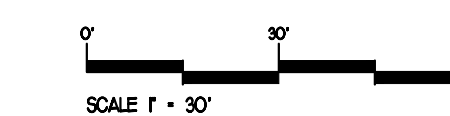
RECEIVING WATERS:  
EAST FORK LITTLE BLUE RIVER,  
TRIBUTARY OF THE BLUE RIVER -  
MISSOURI RIVER WATERSHED

**WATER TIGHT STORM PIPES:**  
CONTRACTOR TO ENSURE THAT ALL STORM PIPES ARE WATER TIGHT AND TESTED PER ASTM C902-02

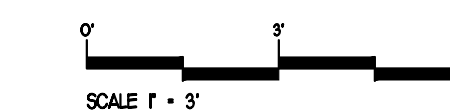
CONTRACTOR TO ENSURE ALL STORM DRAIN PIPE SHALL HAVE WATER TIGHT JOINTS IN ACCORDANCE WITH ASTM C 361, C443 AND D322.



HORIZONTAL SCALE:

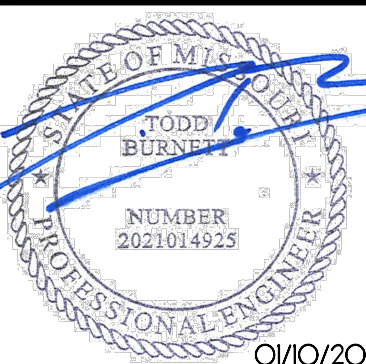


VERTICAL SCALE:



REVISIONS	BY

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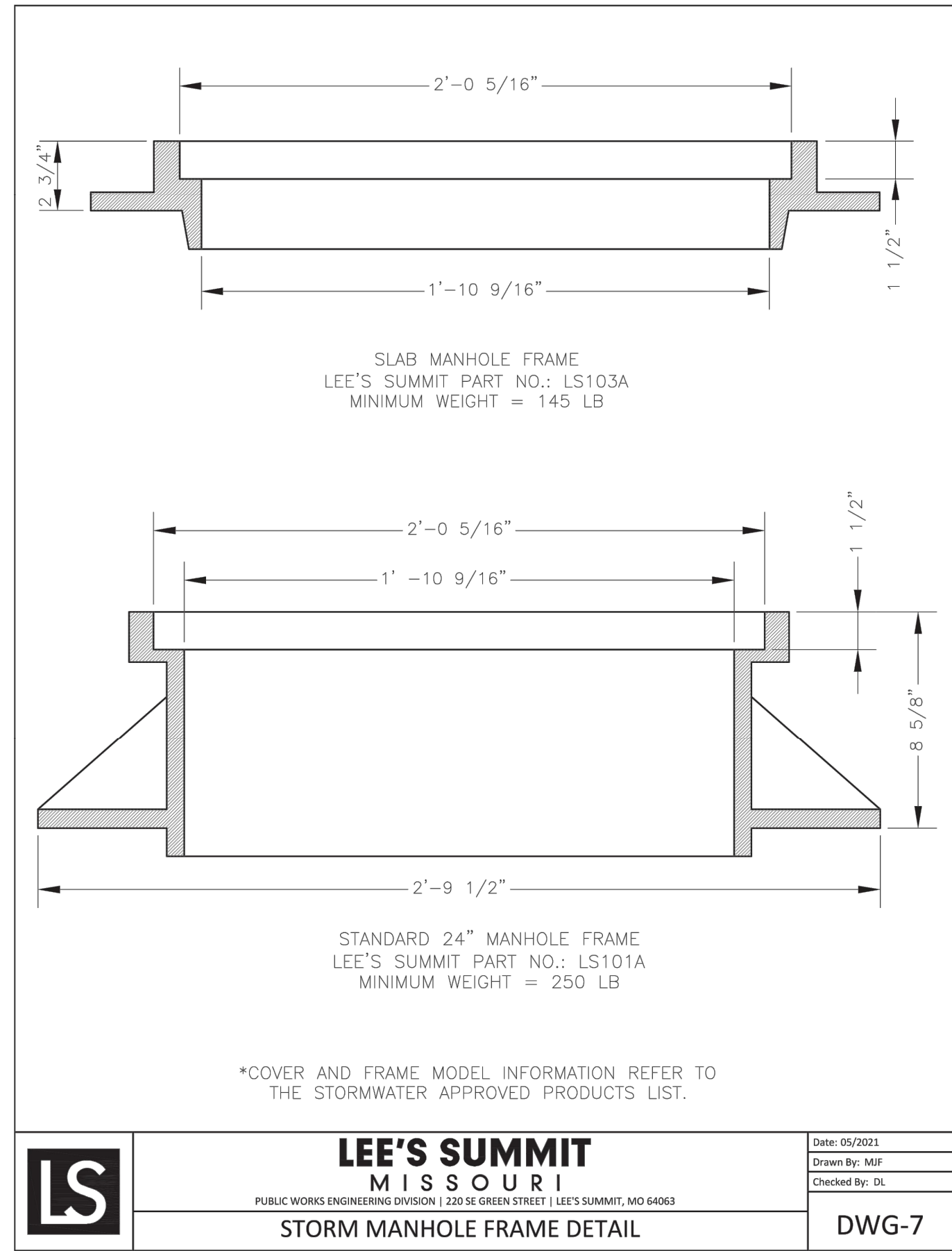
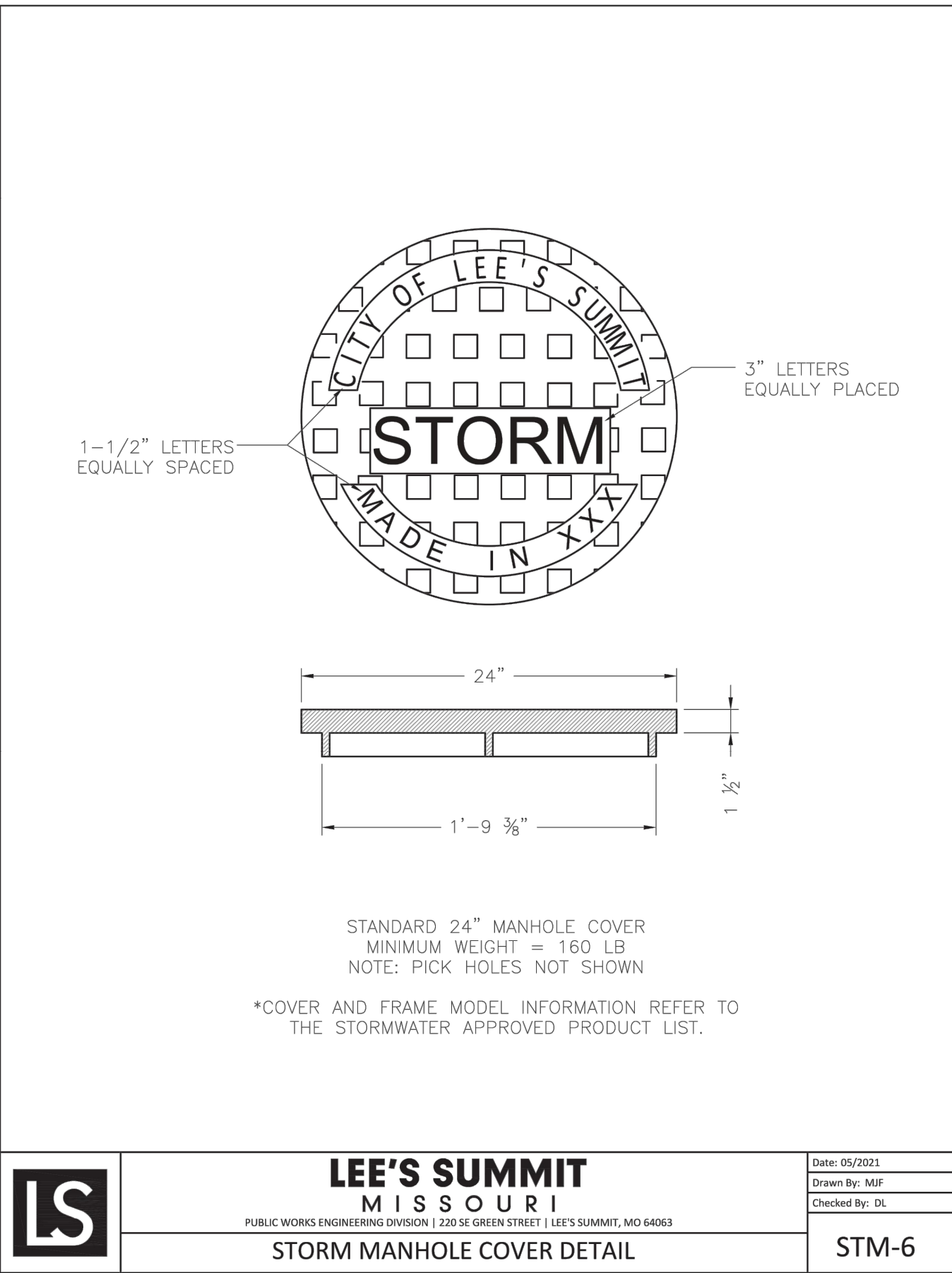
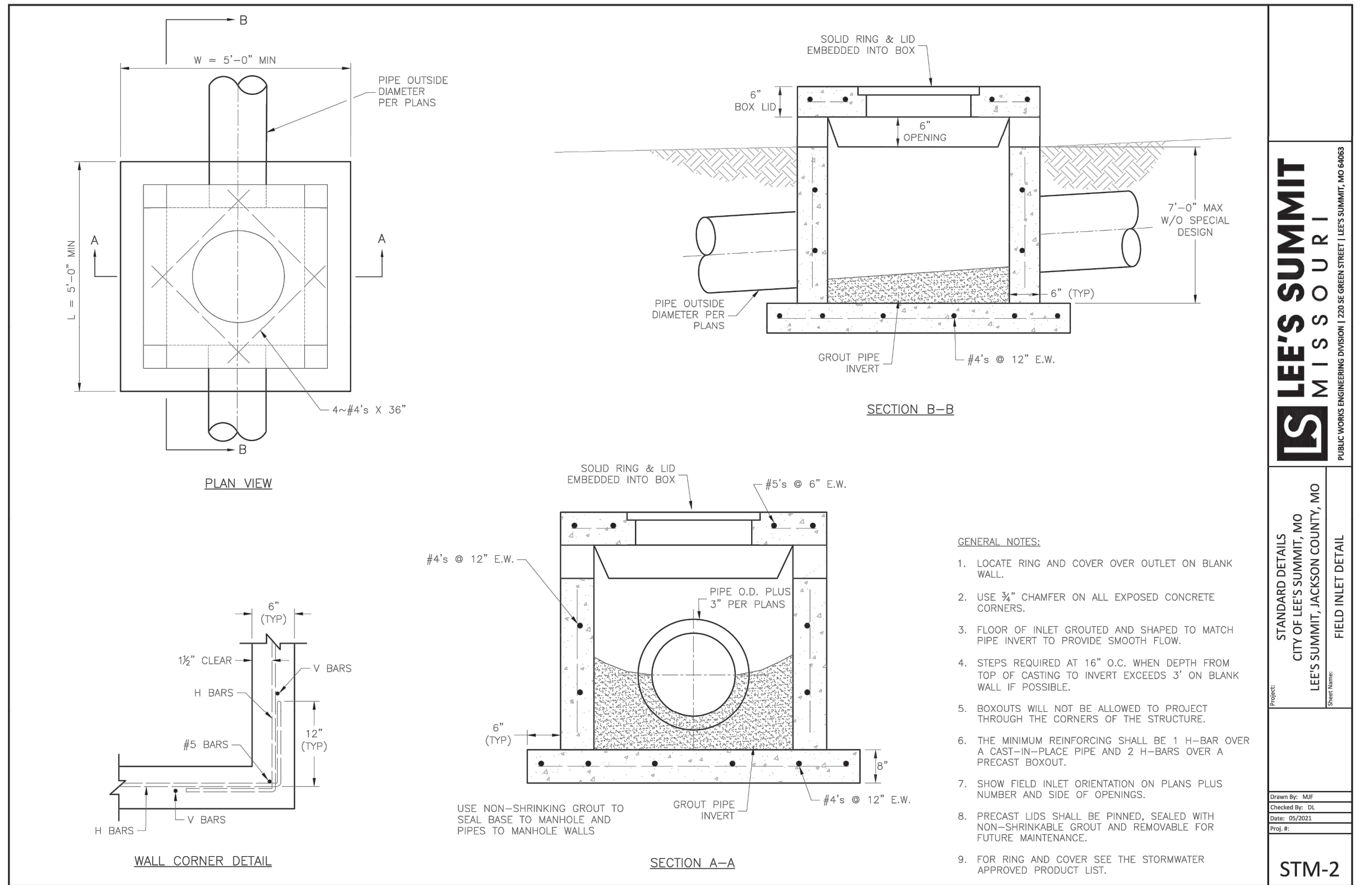
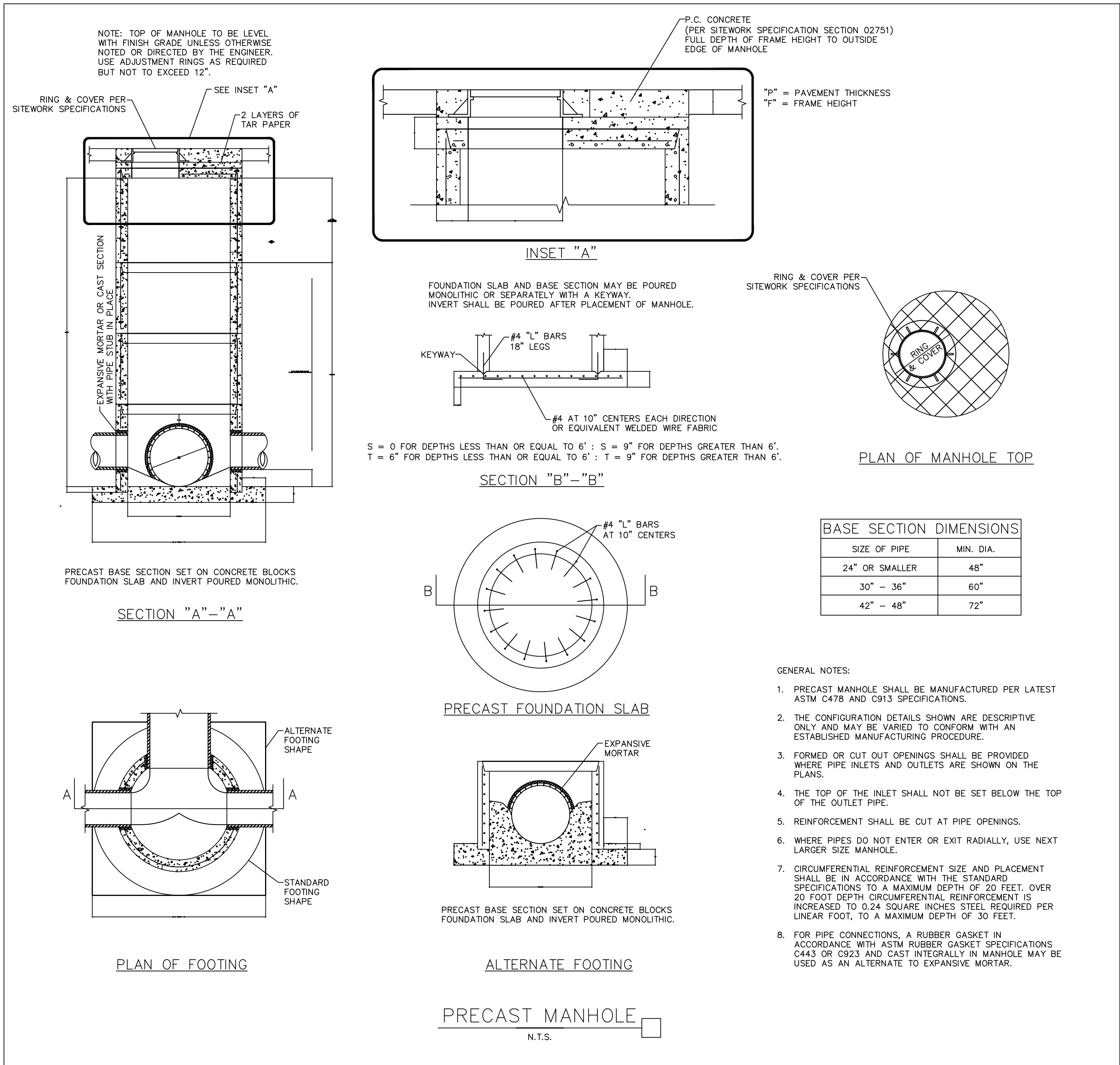
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11/7/2021  
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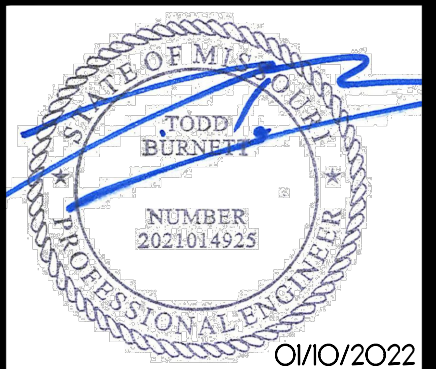
## STORM PROFILES





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SCALE

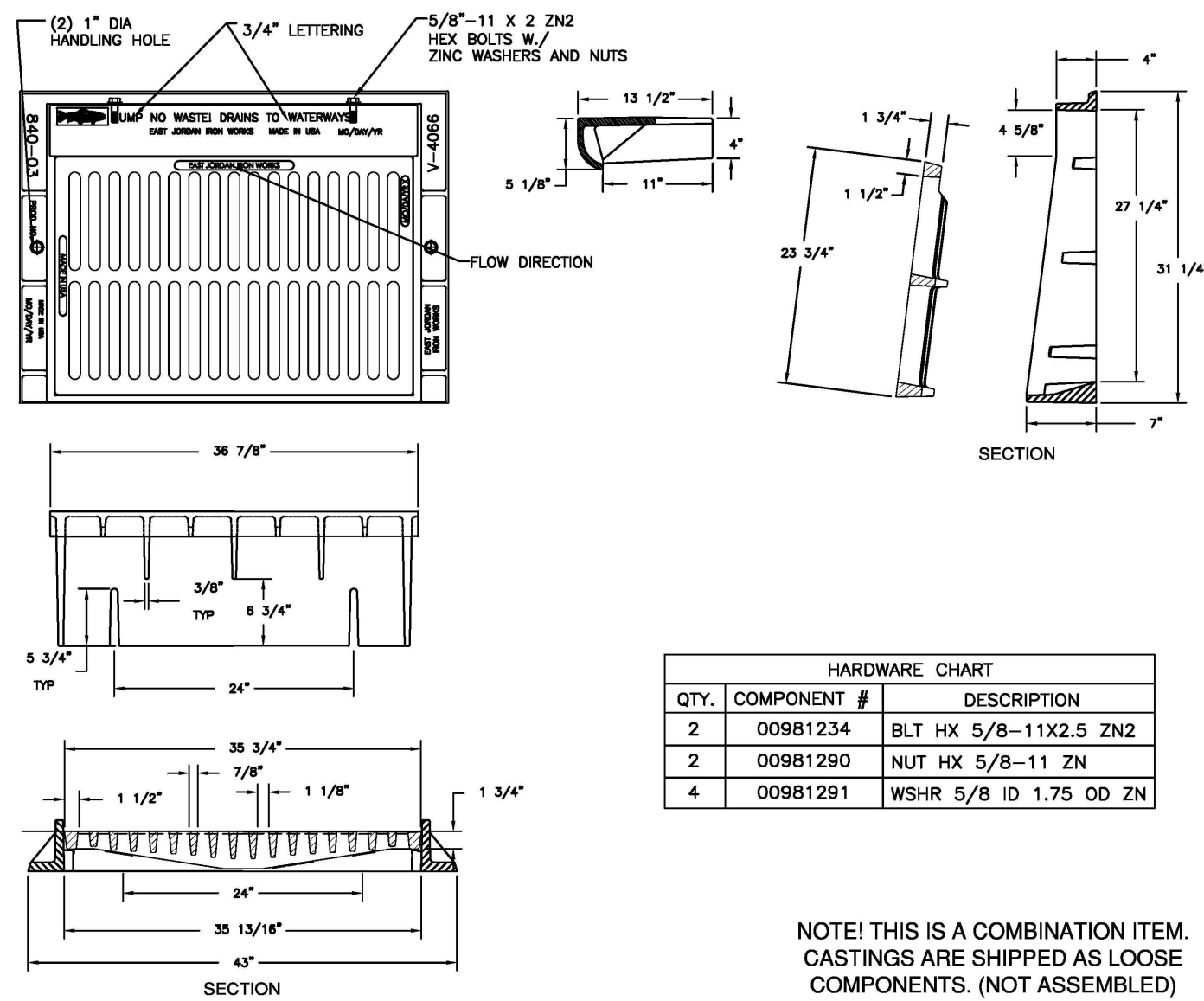
DRAWING

16

STORM DETAILS



## V4066-9 ASSEMBLY



QTY.	COMPONENT #	DESCRIPTION
2	00981234	BLT. HX 5/8-11X2.5 ZN2
2	00981290	NUT HX 5/8-11 ZN
4	00981291	WSHR 5/8 ID 1.75 OD ZN

NOTE! THIS IS A COMBINATION ITEM.  
CASTINGS ARE SHIPPED AS LOOSE  
COMPONENTS. (NOT ASSEMBLED)

PRODUCT NUMBER  
**44066930C31**

### DESIGN FEATURES

**MATERIALS**  
GRATE-GRAY IRON  
ASTM A48 CL358  
FRAME-GRAY IRON  
ASTM A48 CL358  
BACK-GRAY IRON  
ASTM A48 CL358

**DESIGN LOAD**  
HEAVY DUTY

**COATING**  
UNDIPPED

**OPEN AREA**  
366 SQ. IN.

✓ DESIGNATES MACHINED  
SURFACE

### REFERENCE INFORMATION

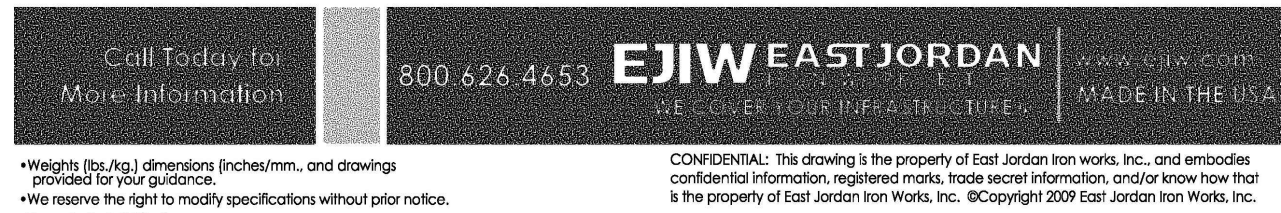
44066010  
44066930  
44066063

### DRAWING DETAILS

ORIGINAL DRAWING: DEF 04/26/08

REVISED BY: JJD 04/03/10

Corporate  
Headquarters  
301 Spring Street  
PO Box 439  
East Jordan, MI  
49727-0439  
800.874.4100



**EJIW EAST JORDAN**  
800-626-4653  
www.ejiw.com  
MADE IN USA

PRODUCT NUMBER  
**44066930**

CATALOG NUMBER  
**V-4066-9**

**GRATE**

LOAD RATING  
**HEAVY DUTY**

COATING  
**UNDIPPED**

ESTIMATED WEIGHT  
**GRATE: 230 LBS**

**MATERIAL SPECIFICATION**

**GRATE - GRAY IRON  
ASTM A48 CL358**

OPEN AREA  
**366 SQ. IN.**

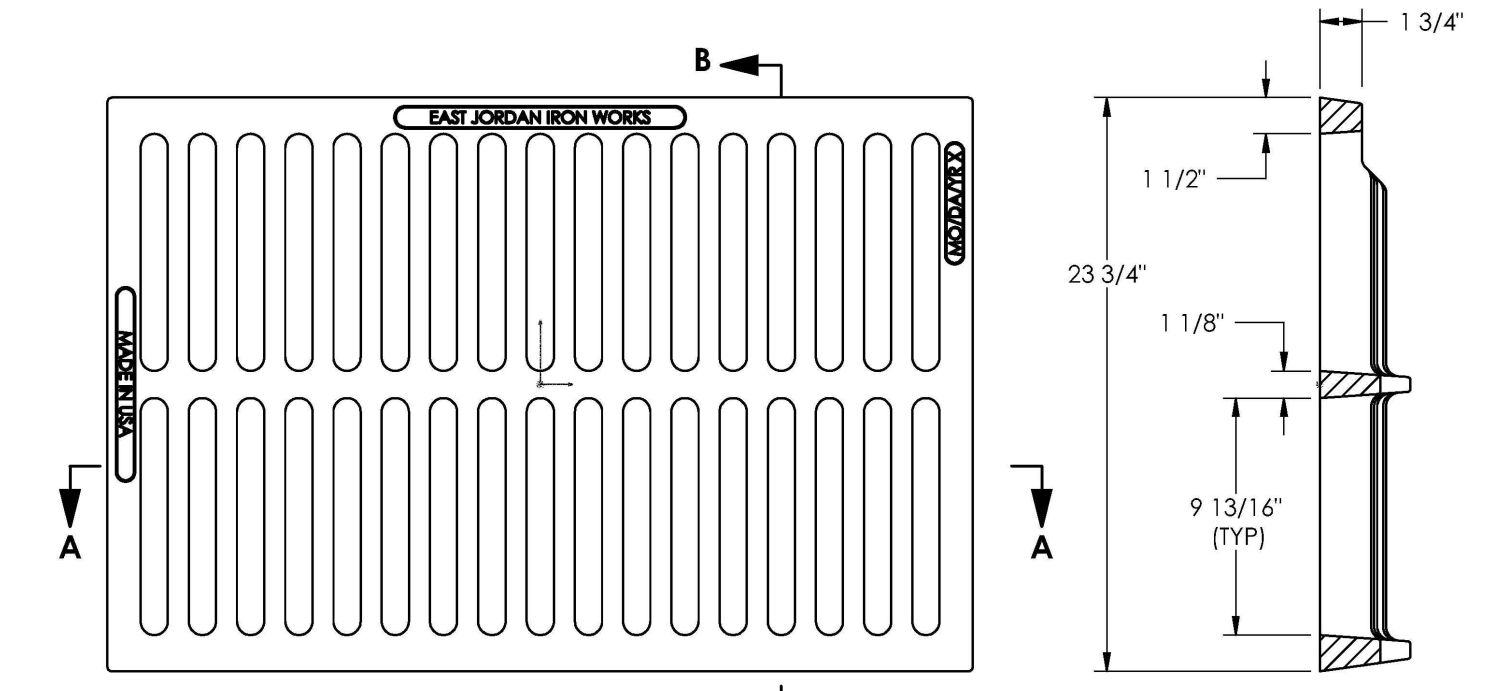
✓ DESIGNATES  
MACHINED SURFACE

DRAWN  
SBB

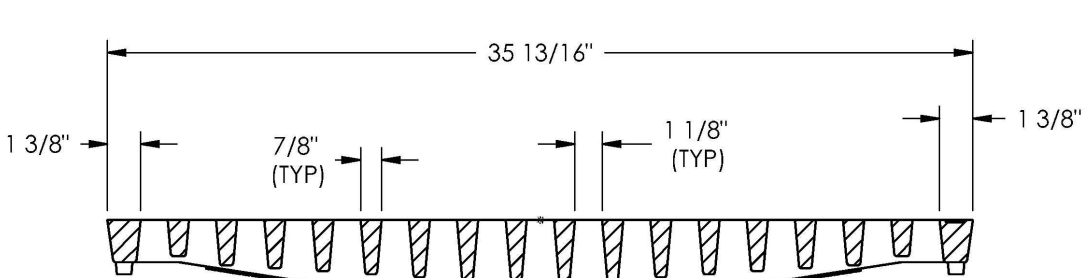
DATE  
11/12/07

LAST REVISED  
DATE

REFERENCE INFORMATION  
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SECTION B-B

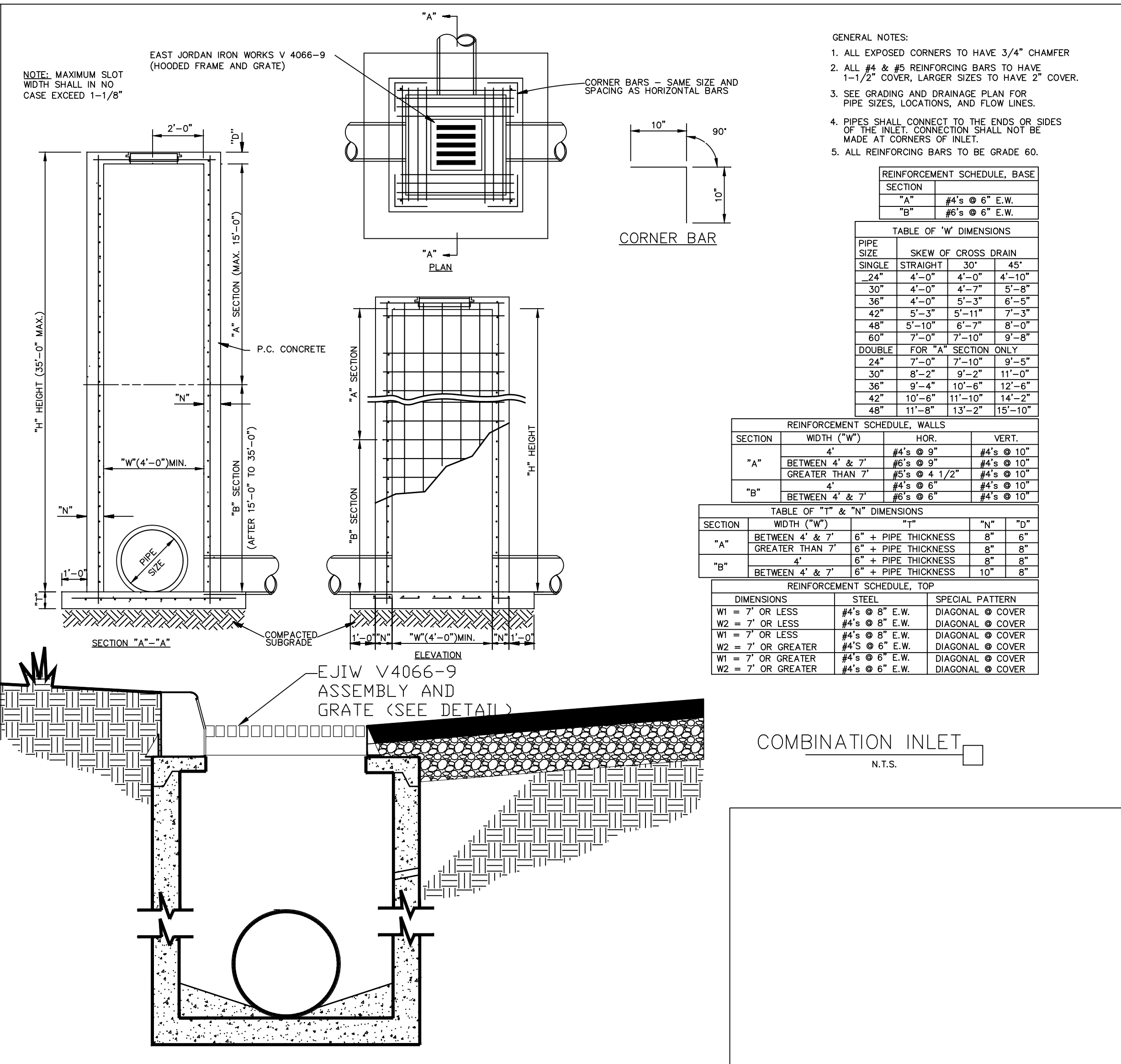


SECTION A-A

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CATCH BASIN  
FRAME AND GRATE

N.T.S.



- GENERAL NOTES:
1. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER
  2. ALL #4 & #5 REINFORCING BARS TO HAVE 1-1/2" COVER, LARGER SIZES TO HAVE 2" COVER.
  3. SEE GRADING AND DRAINAGE PLAN FOR PIPE SIZES, LOCATIONS, AND FLOW LINES.
  4. PIPES SHALL CONNECT TO THE ENDS OR SIDES OF THE INLET. CONNECTION SHALL NOT BE MADE AT CORNERS OF INLET.
  5. ALL REINFORCING BARS TO BE GRADE 60.

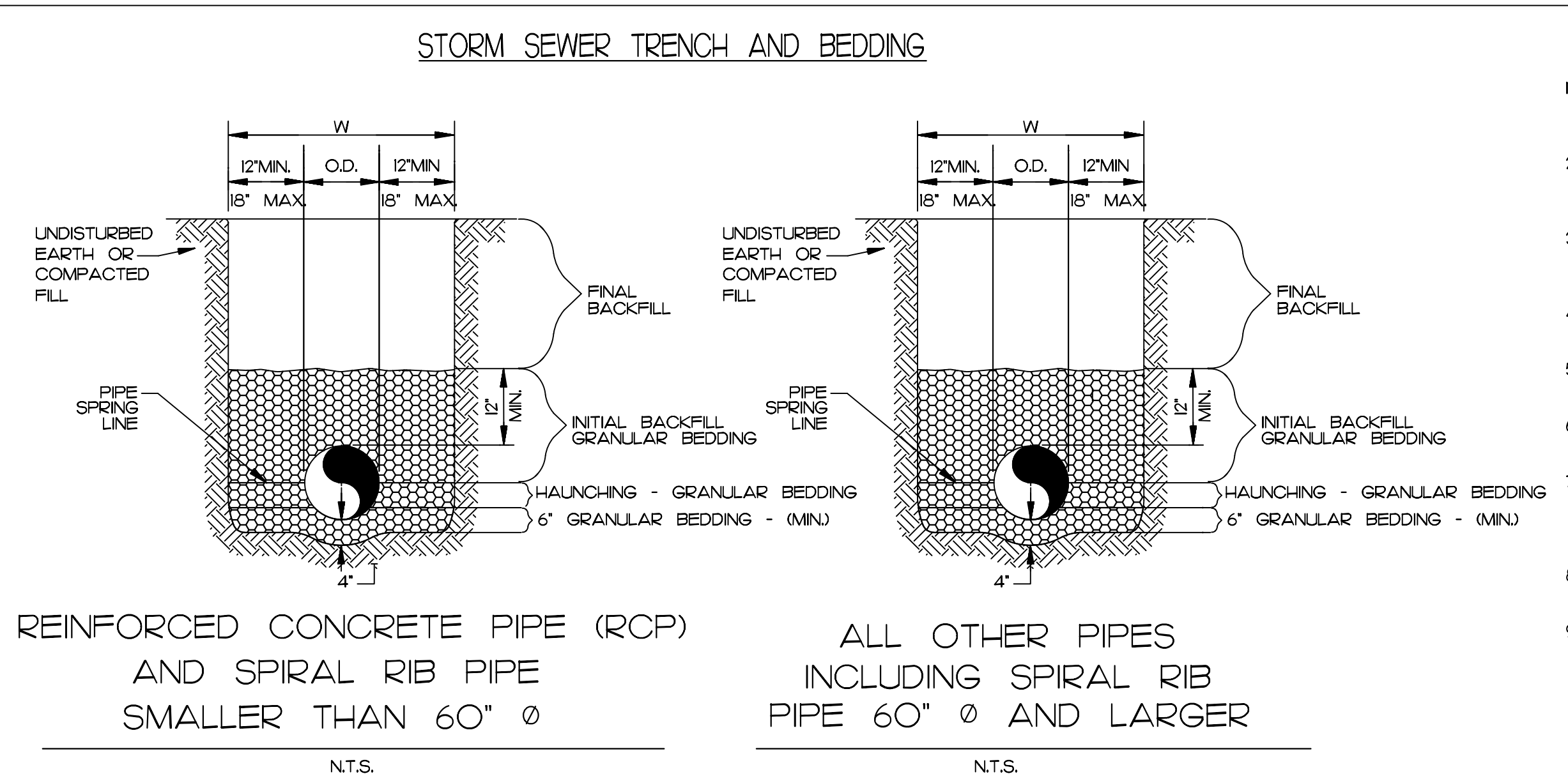
SECTION	#4's @ 6" E.W.	#6's @ 6" E.W.
"A"	#4's @ 6" E.W.	#6's @ 6" E.W.
"B"	#4's @ 6" E.W.	#6's @ 6" E.W.

PIPE SIZE	SKW OF CROSS DRAIN	30"	45"
24"	4'-0"	4'-0"	4'-10"
30"	4'-0"	4'-7"	5'-8"
36"	4'-0"	5'-3"	6'-5"
42"	5'-3"	5'-11"	7'-3"
48"	5'-10"	6'-7"	8'-0"
60"	7'-0"	7'-10"	9'-8"

SECTION	WIDTH ("W")	HOR.	VERT.
"A"	4'	#4's @ 3"	#4's @ 10"
"B"	BETWEEN 4' & 7'	#4's @ 3"	#4's @ 10"
"C"	GREATER THAN 7'	#4's @ 4 1/2"	#4's @ 10"
"D"	BETWEEN 4' & 7'	#4's @ 6"	#4's @ 10"

SECTION	WIDTH ("W")	"T"	"N"	"D"
"A"	BETWEEN 4' & 7'	6" + PIPE THICKNESS	8"	6"
"B"	GREATER THAN 7'	6" + PIPE THICKNESS	8"	8"
"C"	4'	6" + PIPE THICKNESS	8"	8"
"D"	BETWEEN 4' & 7'	6" + PIPE THICKNESS	10"	8"

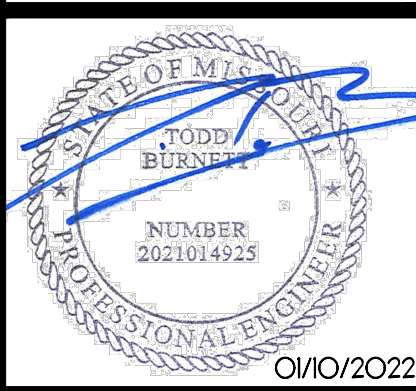
DIMENSIONS	STEEL	SPECIAL PATTERN
W1 = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL @ COVER
W2 = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL @ COVER
W1 = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL @ COVER
W2 = 7' OR GREATER	#4's @ 6" E.W.	DIAGONAL @ COVER
W1 = 7' OR GREATER	#4's @ 6" E.W.	DIAGONAL @ COVER
W2 = 7' OR GREATER	#4's @ 6" E.W.	DIAGONAL @ COVER



- GENERAL NOTES
1. BEDDING SHALL BE CLASS I-A WORKED BY HAND, IF GROUNDWATER IS ANTICIPATED, THEN BEDDING SHALL BE CLASS I-B COMPACTED TO 85% STANDARD PROCTOR.
  2. HAUNCHING SHALL BE CLASS I-A WORKED BY HAND, IF GROUNDWATER IS ANTICIPATED, THEN BEDDING SHALL BE CLASS I-B COMPACTED TO 85% STANDARD PROCTOR.
  3. INITIAL BACKFILL SHALL BE CLASS I-A, IF GROUNDWATER IS ANTICIPATED, THEN BEDDING SHALL BE CLASS I-B COMPACTED TO 85% STANDARD PROCTOR.
  4. FINAL BACKFILL SHALL BE CLASS I, II, OR III COMPACTED AS NOTED IN NOTES 3 AND 4.
  5. FINAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS IV-A COMPACTED TO 95% STANDARD PROCTOR.
  6. ALL MATERIALS ARE CLASSIFIED IN ACCORDANCE WITH ASTM D 2924-LATEST EDITION.
  7. ALL MATERIALS SHALL BE INSTALLED IN MAXIMUM 8" LOOSE LIFTS IN ACCORDANCE WITH ASTM D 698, CLASS III AND IV-A MATERIALS SHALL BE COMPACTED NEAR OPTIMUM MOISTURE CONTENT.
  8. FILL SALVAGED FROM EXCAVATION SHALL BE FREE OF DEBRIS, ORGANICS AND ROCKS LARGER THAN 3".
  9. ALL TRENCH EXCAVATIONS SHALL BE SLOPED, SHORED, SHEETED, BRACED, OR OTHERWISE SUPPORTED IN COMPLIANCE WITH OSHA REGULATIONS AND LOCAL ORDINANCES. (SEE SPECIFICATIONS).

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17

STORM DETAILS





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Advanced Drainage Systems, Inc.

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INSTRUCTIONS,  
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INSTALLATION APP



## MC-3500 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTIECH MC-3500.
  2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
  3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-10a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45X675 DESIGNATION SS.
  4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE FOLLOWING FACTORS ARE MET FOR THE LIFT BRIDGE DESIGN SPECIFICATIONS. SECTION 12.12: ARE MET FOR 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". THE ALLOWABLE LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
    - a. TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
    - b. TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 1".
    - c. TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, AT THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 12.2 OF ASTM F2418-10A, THE TEST DERIVED CRITICAL MOMENT SHALL BE GREATER THAN 450 LBS-IN. TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 75° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
  8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS. THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT:
    - a. THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
    - b. THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE CHAMBER SPECIFICATIONS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE LIFT BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
    - c. THE TEST DERIVED CRITICAL MOMENT AS SPECIFIED IN SECTION 12.2 OF ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
  9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

## IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500 CHAMBER SYSTEM

1. STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS.
  - STORMTECH RECOMMENDS BACKFILL METHODS
  - STONESHOOTER LOCATED OFF THE CHAMBER BED
  - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE
  - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELLED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM- 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
9. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
10. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
11. ADS RECOMMENDS THE USE OF "FLXSTORM CATCH TR1" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

## NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
2. THE USE OF EQUIPMENT OVER MC-3500 CHAMBERS IS LIMITED:
  - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
  - NO RUBBER TIRE LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
  - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT

## PROPOSED LAYOUT

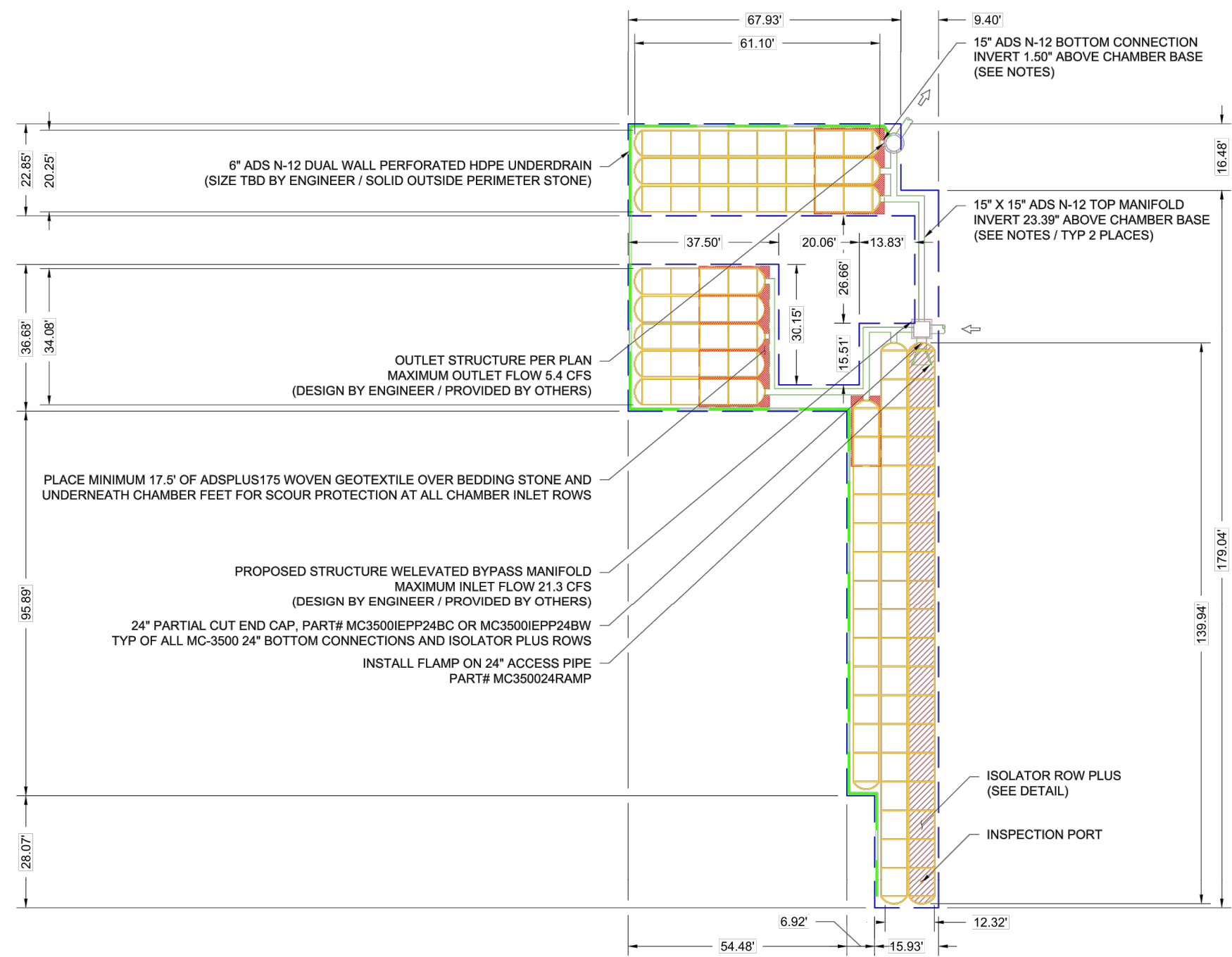
99	STORMTECH MC-3500 CHAMBERS
22	STORMTECH MC-3500 END CAPS
12	STONE ABOVE (in)
9	STONE BELOW (in)
30	% STONE VOID
18,021	<b>INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)</b>
6351	SYSTEM AREA (ft <sup>2</sup> )
749	SYSTEM PERIMETER (ft)

## PROPOSED ELEVATIONS

1021.00	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
1015.00	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
1014.50	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
1014.50	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
1014.50	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
1014.00	TOP OF STONE
1013.00	TOP OF MC-3500 CHAMBER
1011.37	15" TOP MANHOLE INVERT
1009.42	24" ISOLATOR ROW PLUS CONNECTION INVERT
1009.38	15" BOTTOM CONNECTION INVERT
1009.25	BOTTOM OF MC-3500 CHAMBER
1008.50	UNDERDRAIN INVERT
1008.50	BOTTOM OF STONE

## NOTES

- MANHOLE SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANHOLE SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANHOLE COMPONENTS IN THE FIELD. THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.

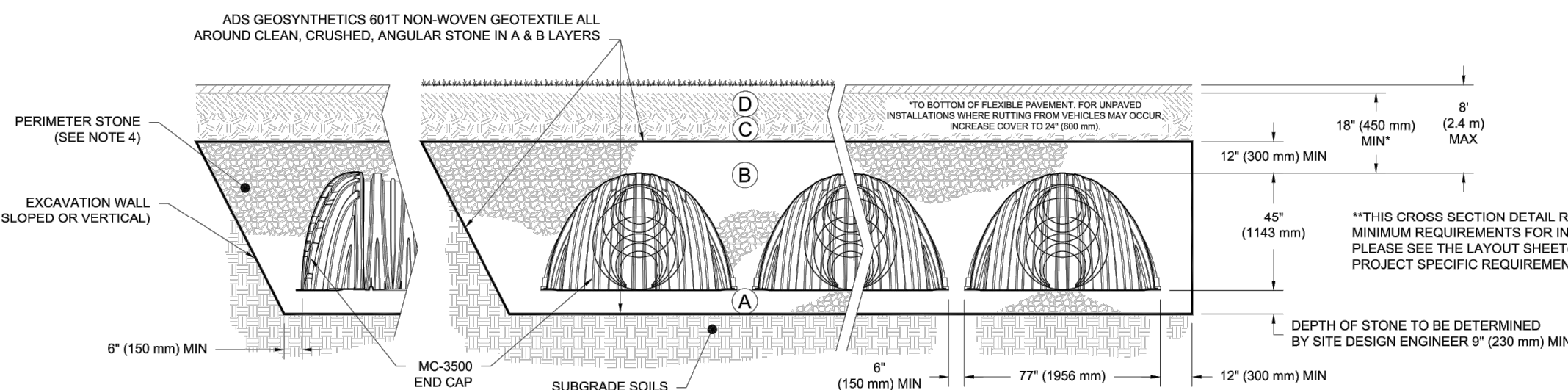
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### ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	ASHSTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	<b>FINAL FILL:</b> FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEYR'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	<b>INITIAL FILL:</b> FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	ASHSTO M145 <sup>1</sup> A-1, A-2.4, A-3  OR  ASHSTO M43 <sup>2</sup>  3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL. OVER THE CHAMBERS IS REACHED, COMPACT ADDITIONAL LAYERS. 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL, AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	<b>EMBEDMENT STONE:</b> FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	ASHSTO M43 <sup>2</sup> 3, 4	NO COMPACTION REQUIRED.
A	<b>FOUNDATION STONE:</b> FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	ASHSTO M43 <sup>2</sup> 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. <sup>2,3</sup>

PLEASE NOTE:

1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE". ALL COMPACTATION REQUIREMENTS ARE MET FOR ALL LISTED MATERIALS WHEN PLACED AND COMPACTED IN 4" (100-mm) LIFTS USING TWO LIFT COMPACTORS WITH A VIBRATORY COMPACTOR.
2. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD CONDITIONS, CONTACT STORMTECH FOR FURTHER INFORMATION.
3. ONCE LAYER 2/3 IS PLACED, ANY SOLI/MATERIAL CAN BE PLACED IN LAYER 2/3 UP TO THE FINISHED GRADE. MOST PAVEMENT SUBGRADE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 2/3 OR 1/2 AT THE SITE DESIGN ENGINEER'S DISCRETION.



**NOTES:**

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2116-16, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45678 DESIGNATION SS.
2. ALL SS/SC/SCS CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM 7277 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATIONS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
  - TO MAINTAIN THE WALL OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STAKING LUGS.
  - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESSER THAN 3".
  - TO MINIMIZE THE RISK OF CHAMBERS BEING DAMAGED DURING TRANSPORT, THE WEIGHT OF EACH CHAMBER SHALL BE GREATER THAN OR EQUAL TO 500 LBS (225 KG).
  - TO AVOID CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 72° F / 22° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORED POLYPROPYLENE.

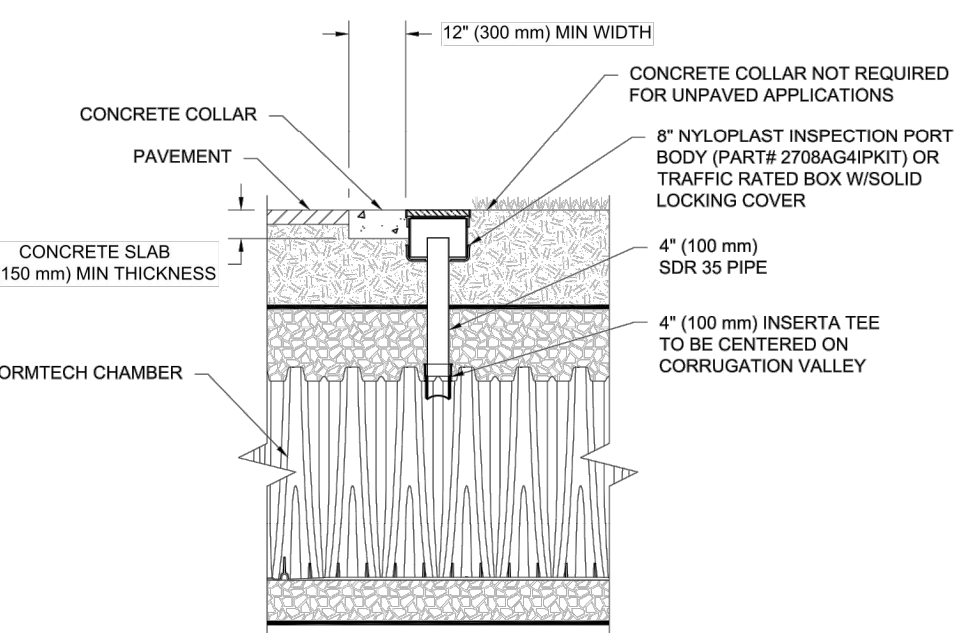
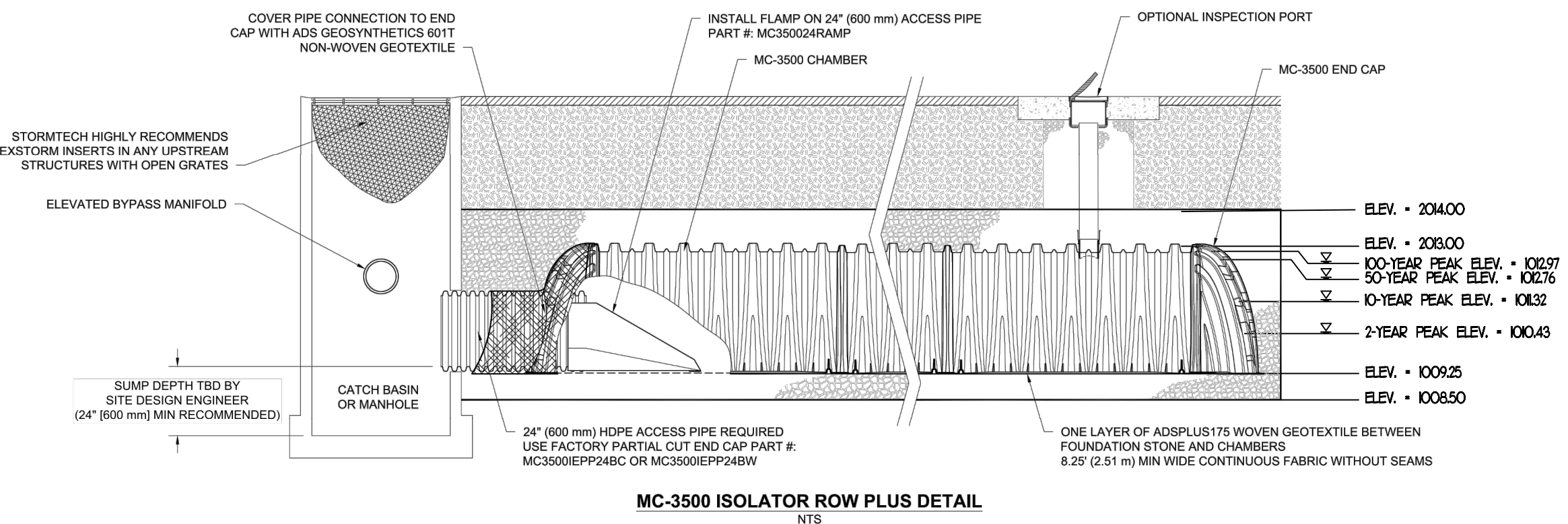
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## INSPECTION & MAINTENANCE

- STEP 1 INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
    - A.1. REMOVE/OPEN LID ON UPSTREAM NINE DRAIN
  - B. REMOVE AND CLEAN FLEXFORM RIG IF INSTALLED
  - C. USING A FLASHLIGHT AND STADIUM ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MONITORING SHEET
  - D. LOWER A CAMERA ON A LINE TO VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
    - i) IF SEDIMENT IS AT, OR ABOVE, 9" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
  - E. ISOLATOR ROW PLUS ROWS
    - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
    - B.2. USING A FLASHLIGHT, INSPECT UNDER THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
      - i) MIRRORS OR POLES OR LONG TUBES MAY BE USED TO AVOID A CONFINED SPACE ENTRY
      - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
    - B.3. IF SEDIMENT IS AT, OR ABOVE, 9" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2 CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. FIXED CULVERT CLEANING: IF CLEANING AREA IS LESS THAN 45' (1.1 m) OR MORE IS PREFERRED
  - B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFILL WATER IS CLEAN
  - C. VACUUM SURTUFF SYSTEM AS REQUIRED
- STEP 3 REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4 INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMWATER SYSTEM.

## NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



**4" PVC INSPECTION PORT DETAIL**  
**(MC SERIES CHAMBER)**  
NTS

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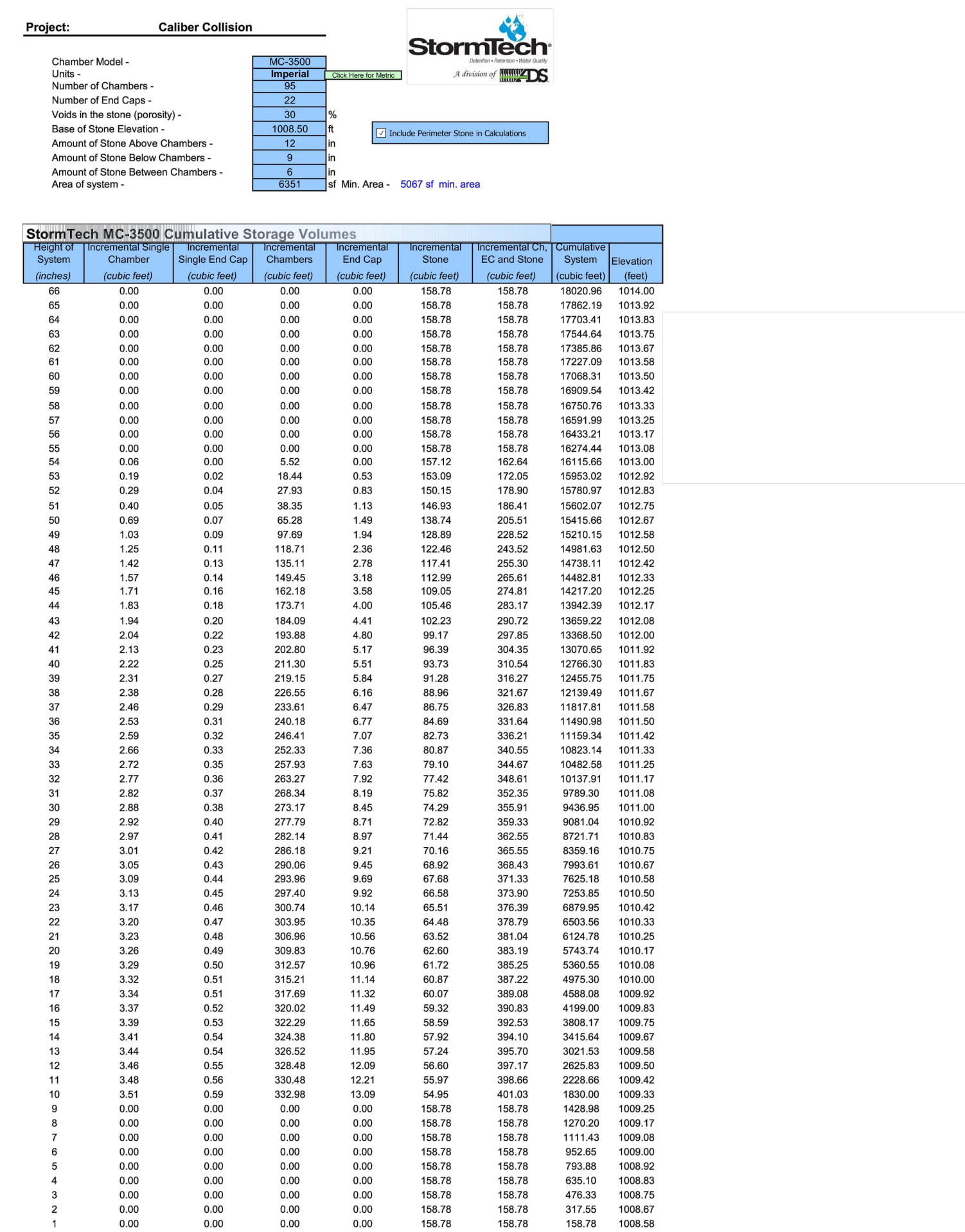
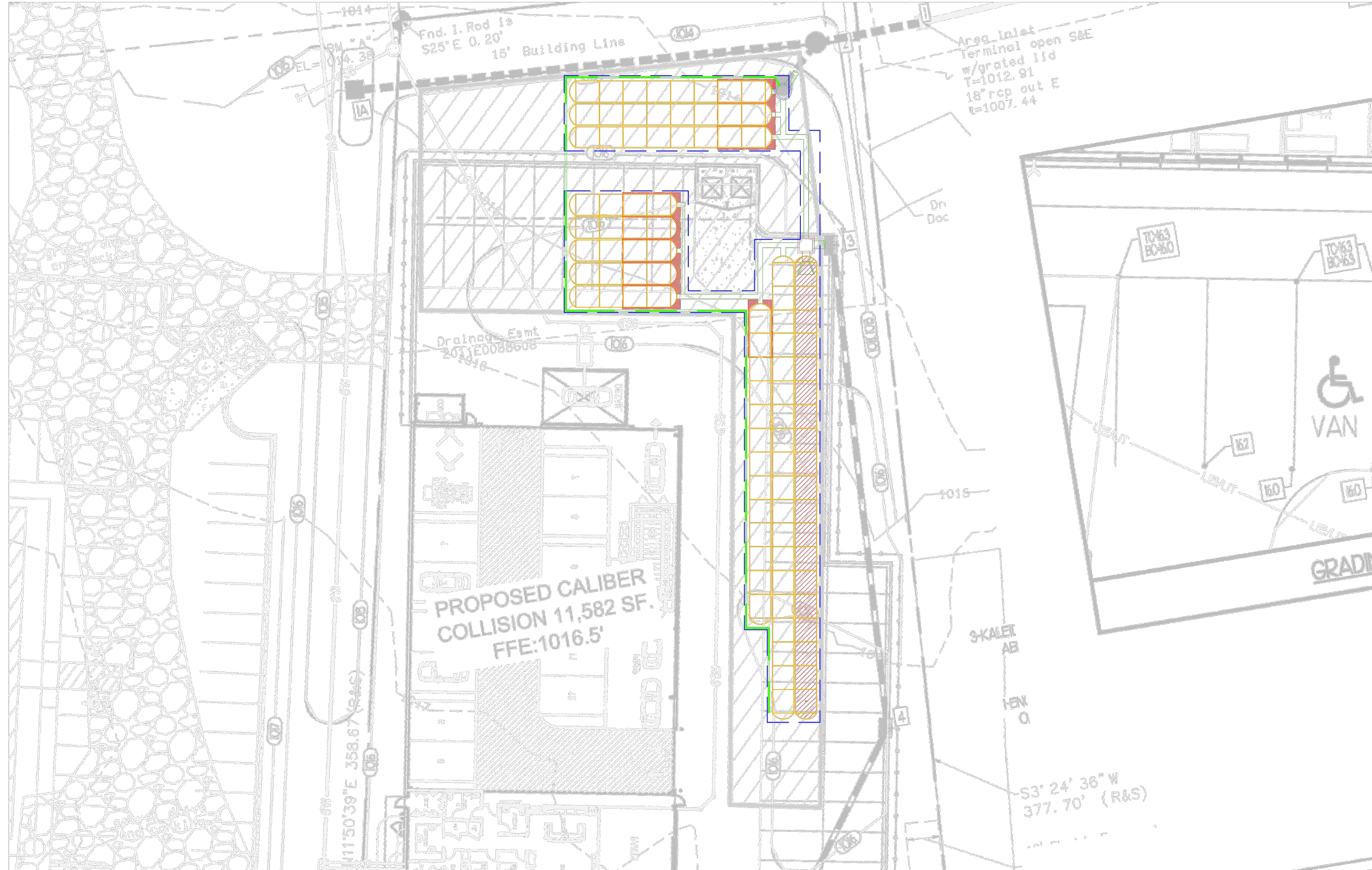
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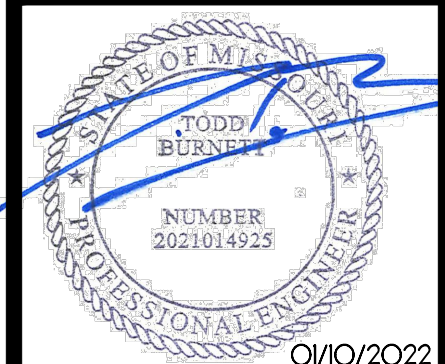




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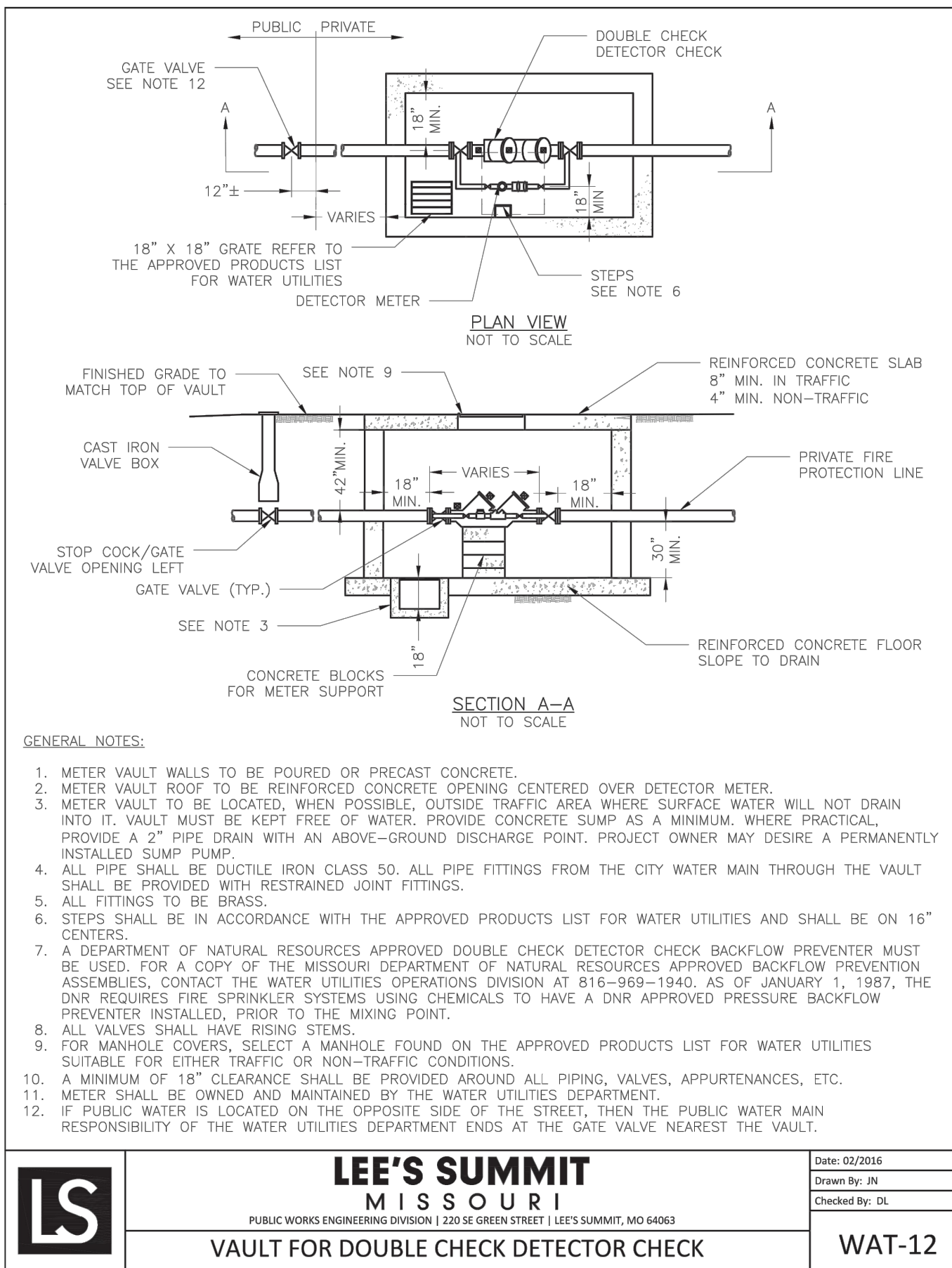
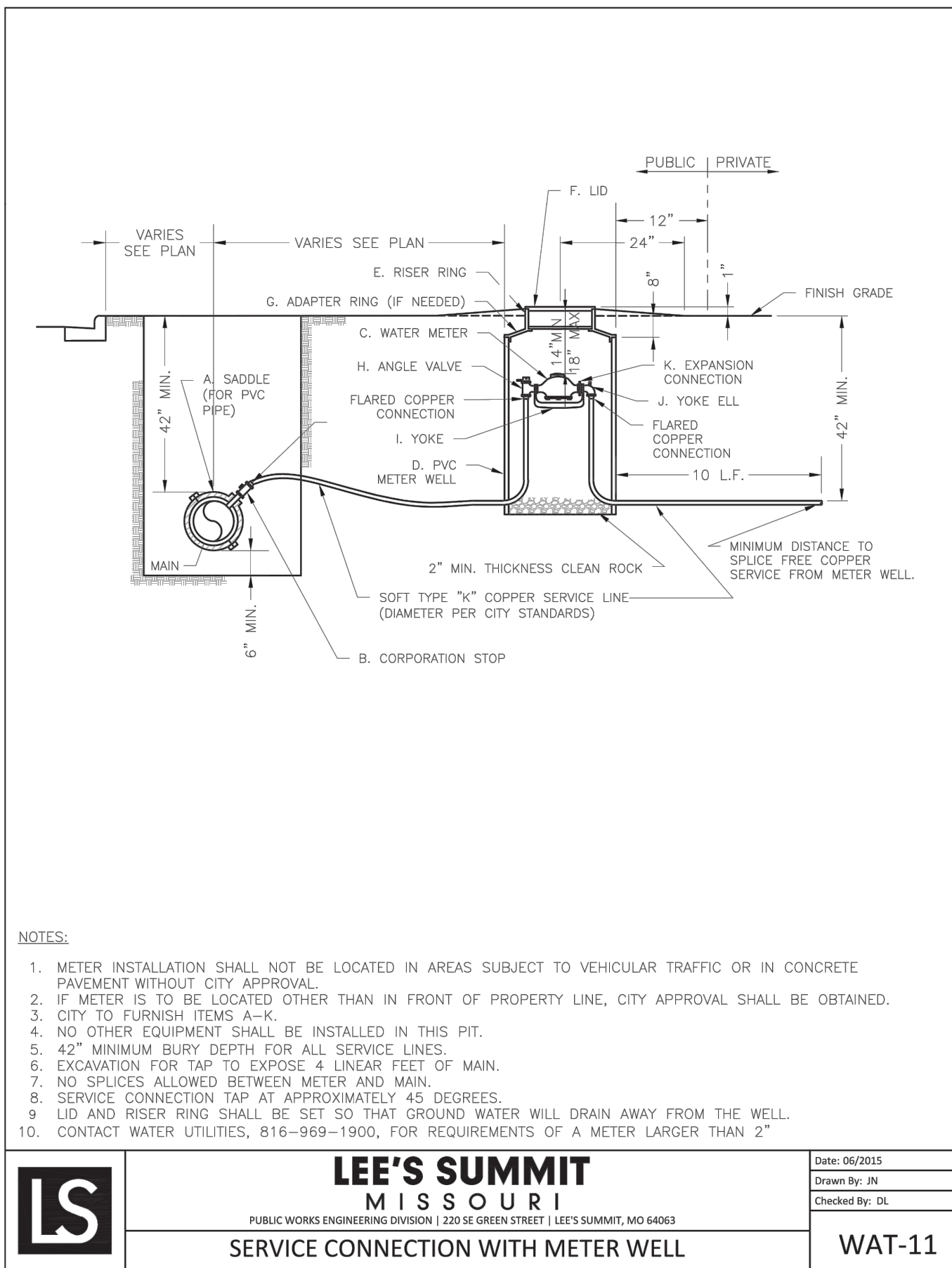
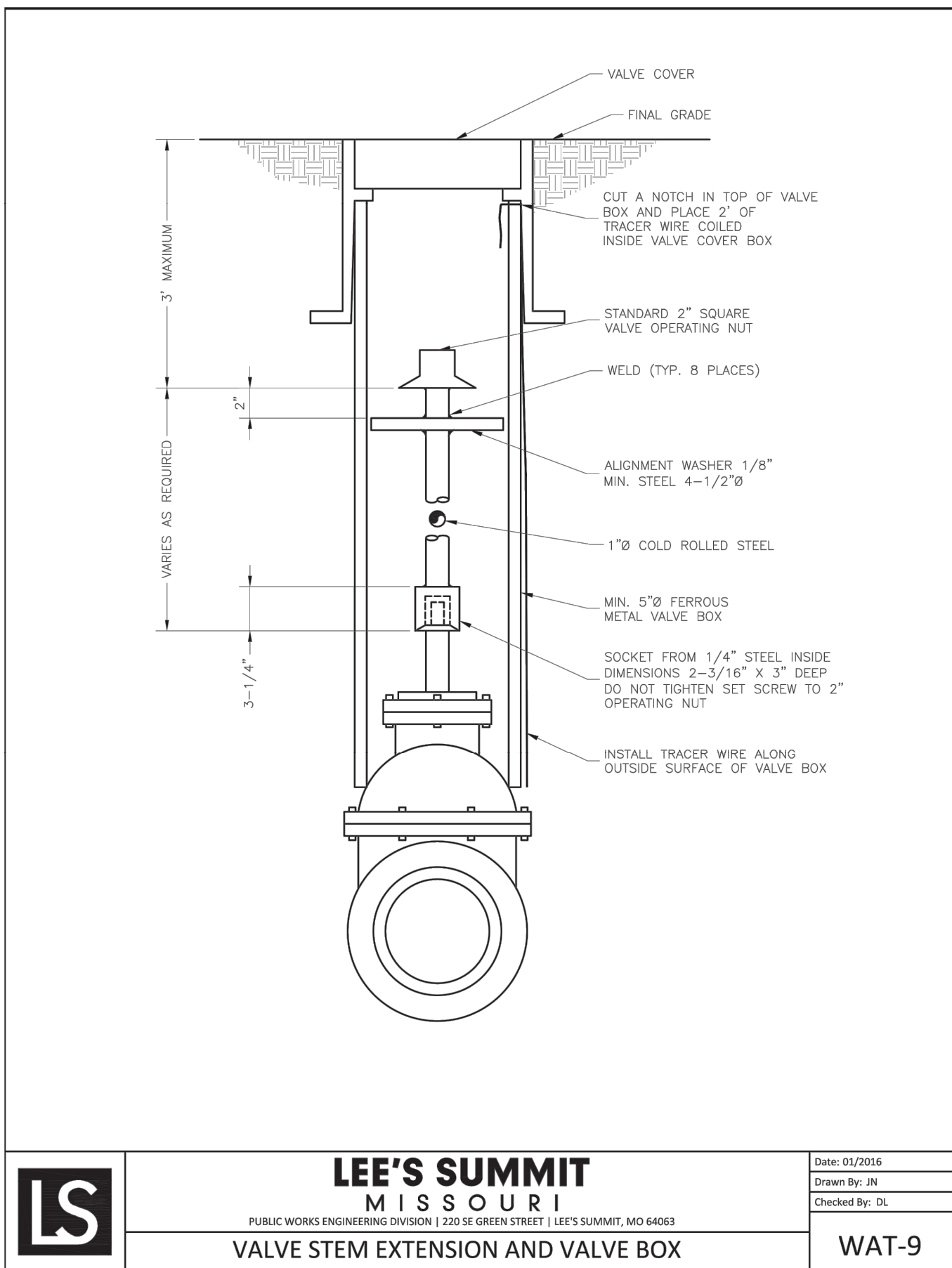
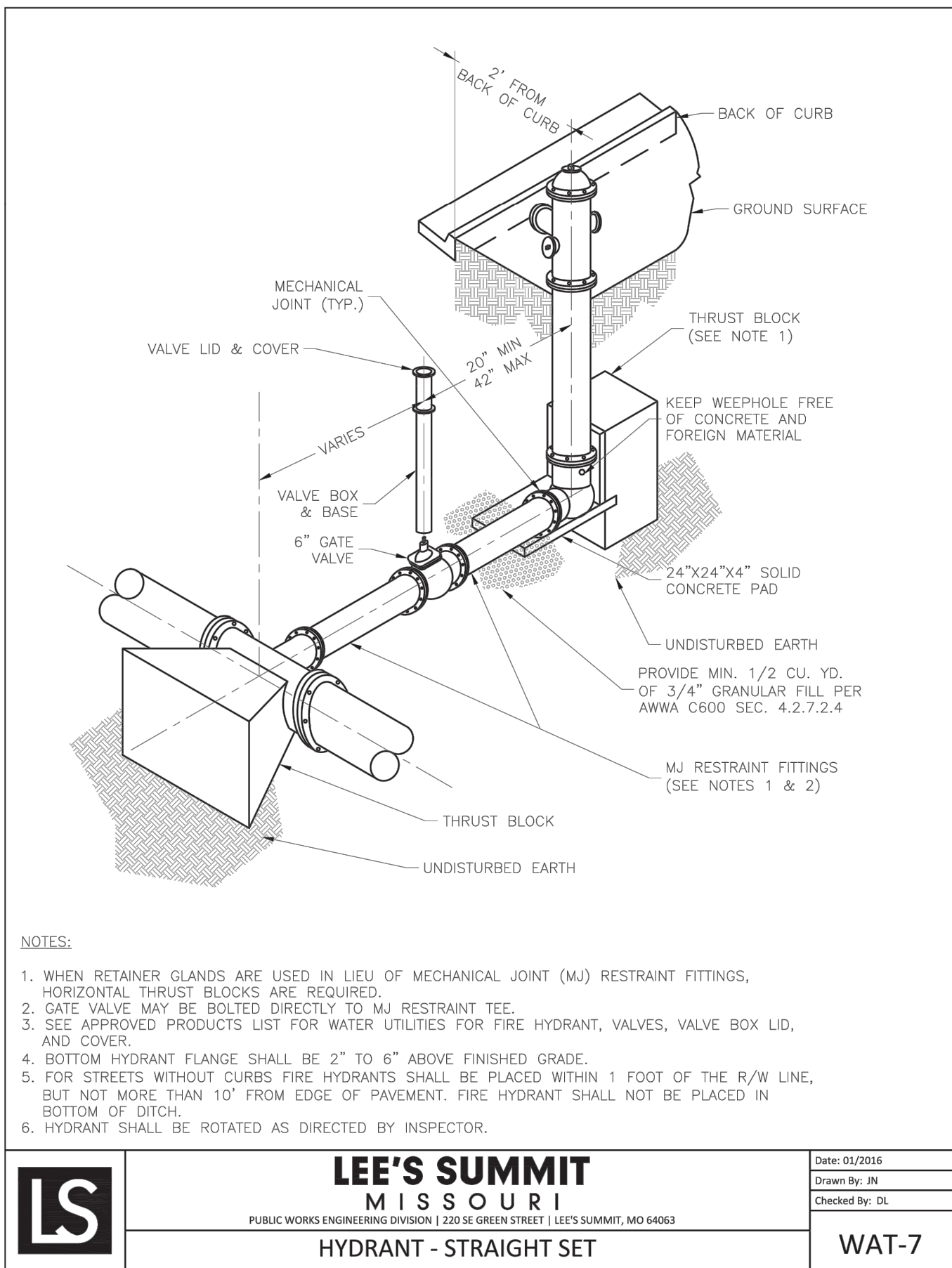
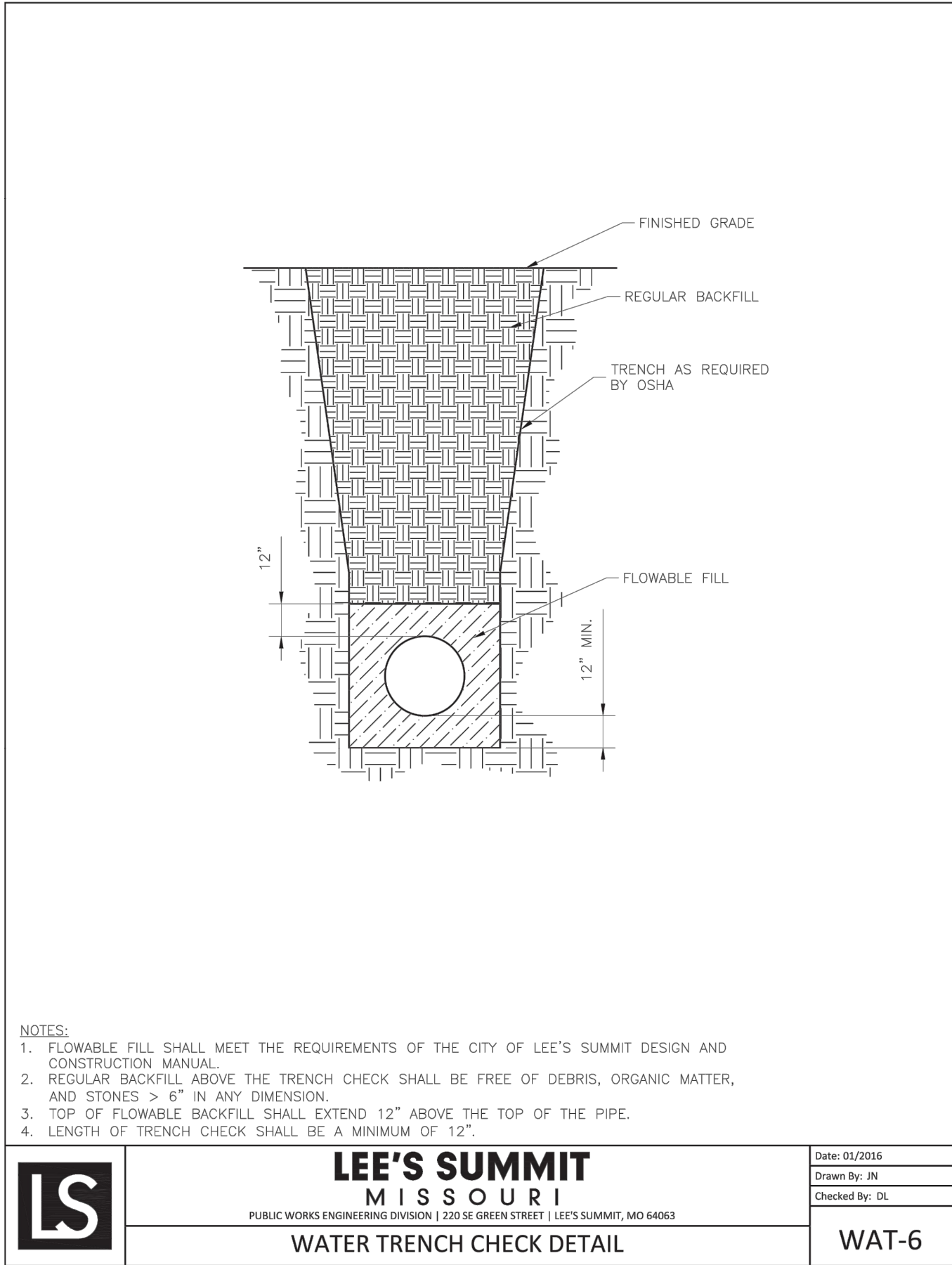
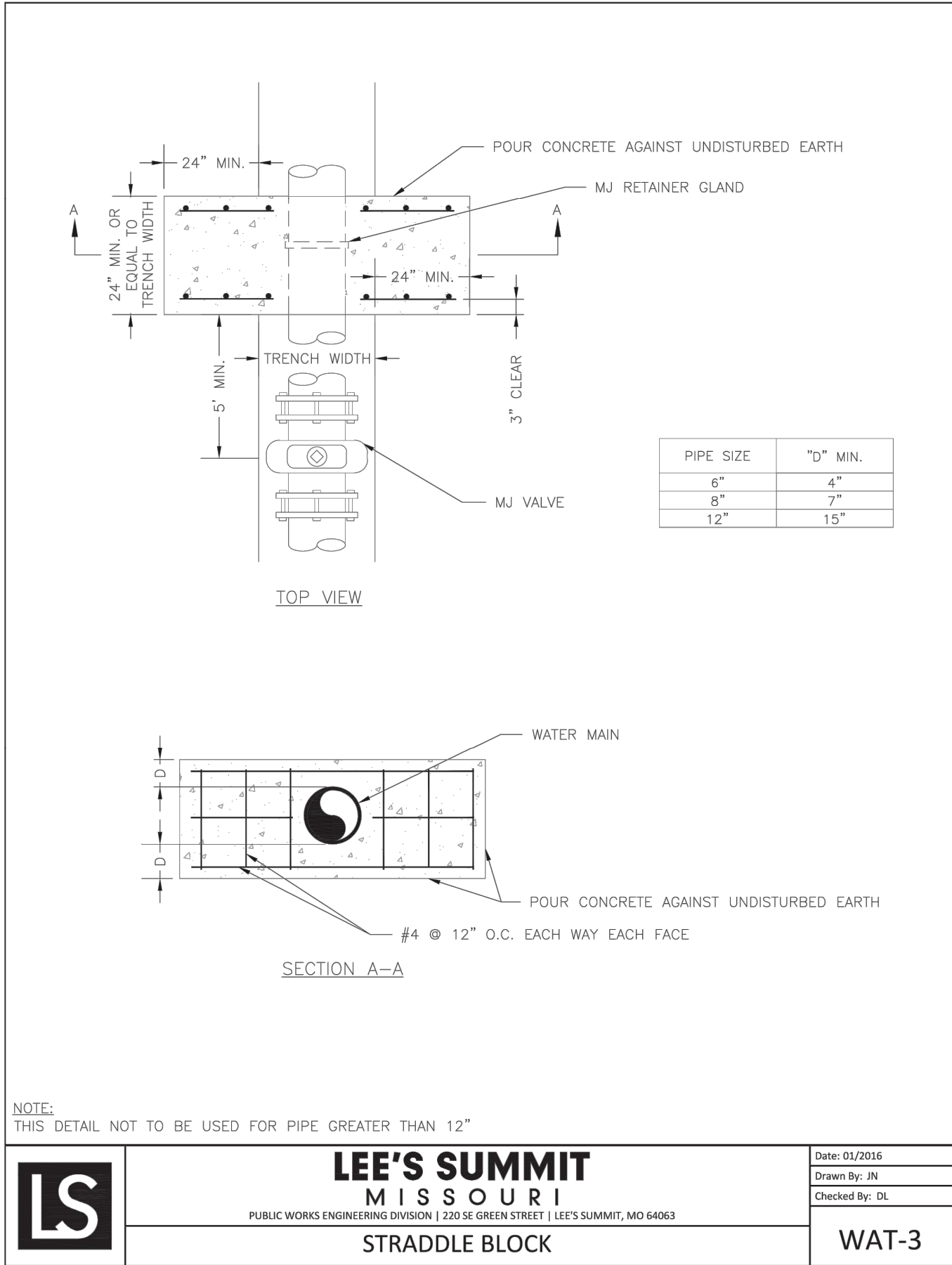
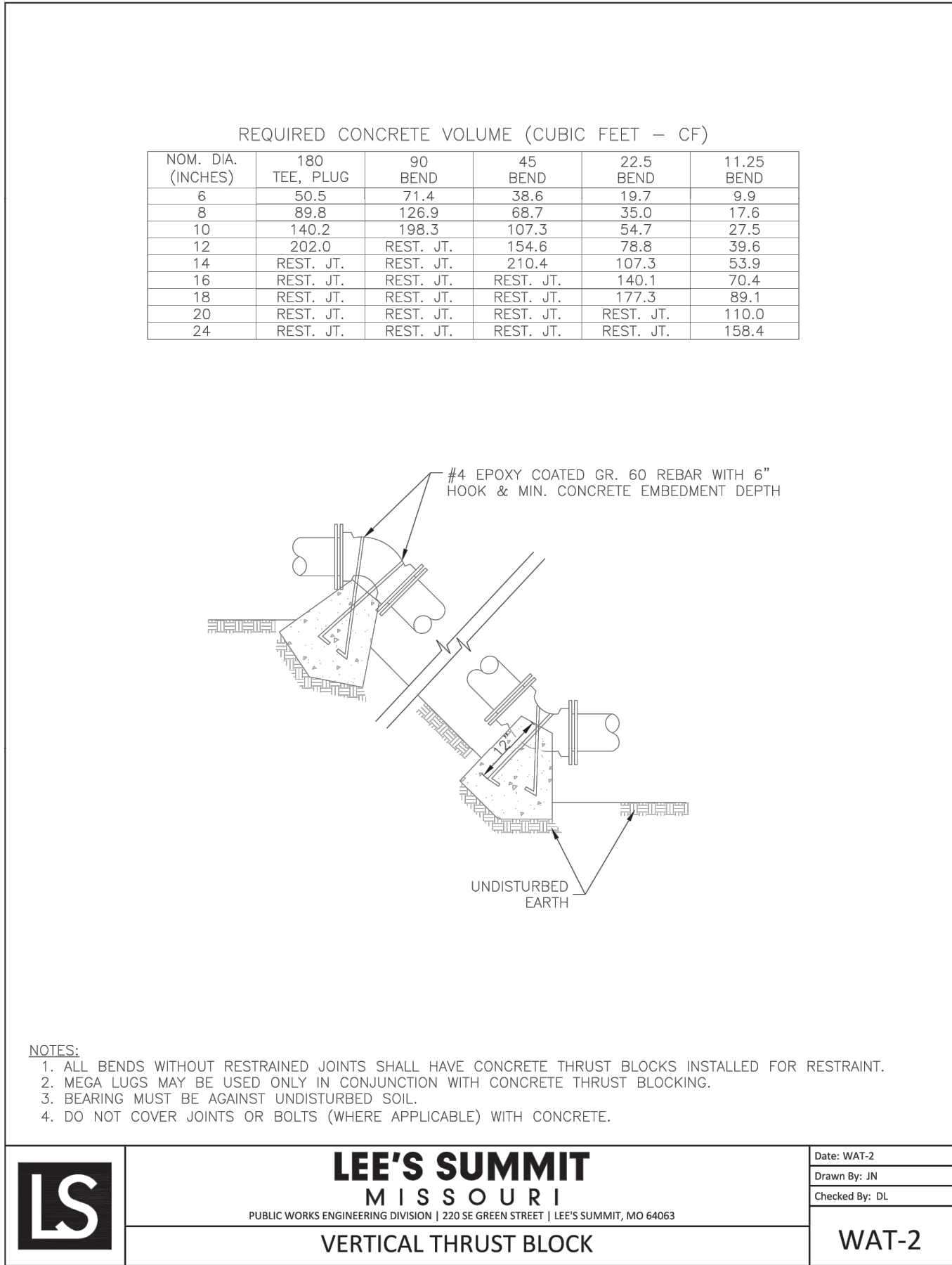
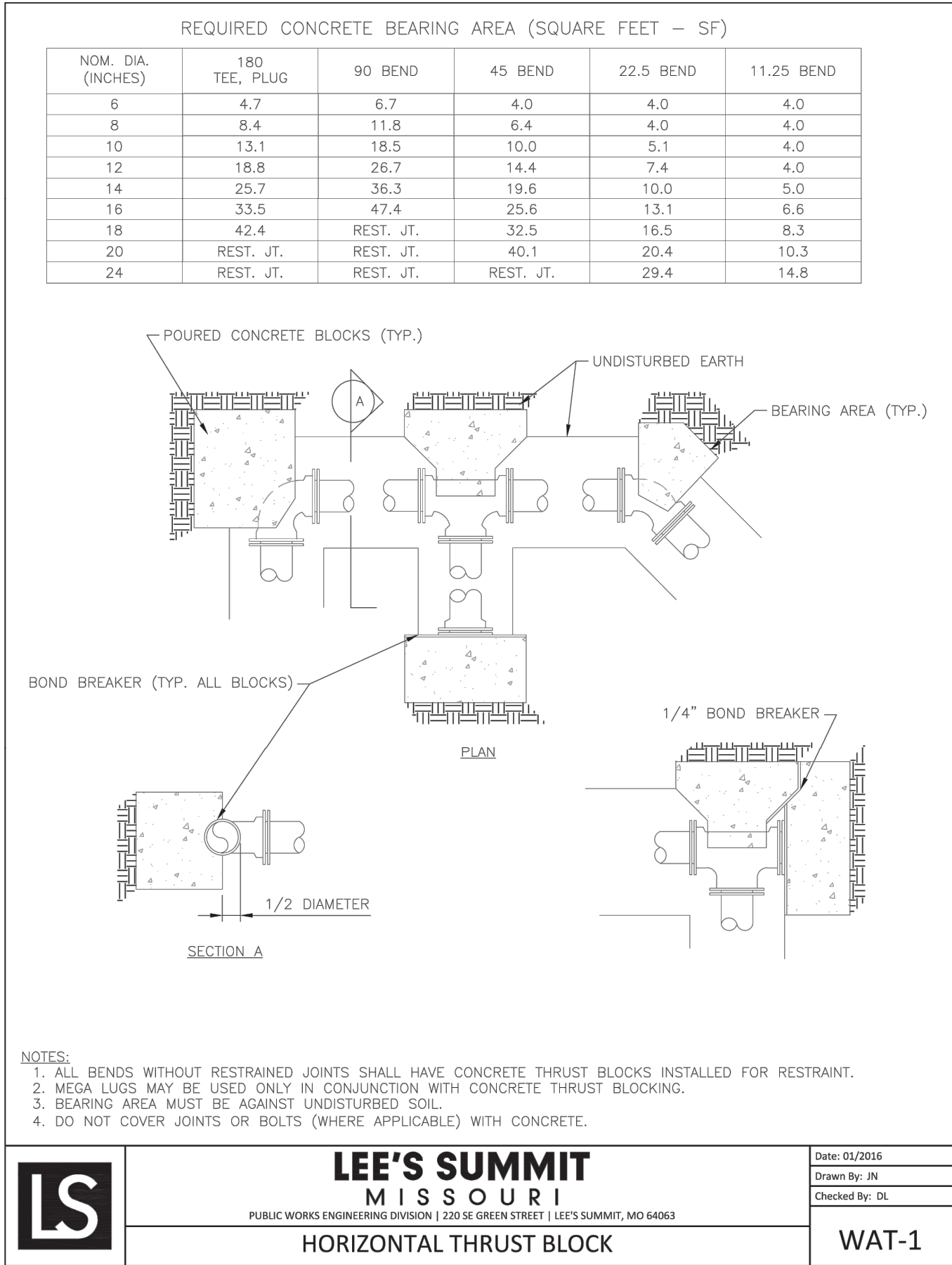
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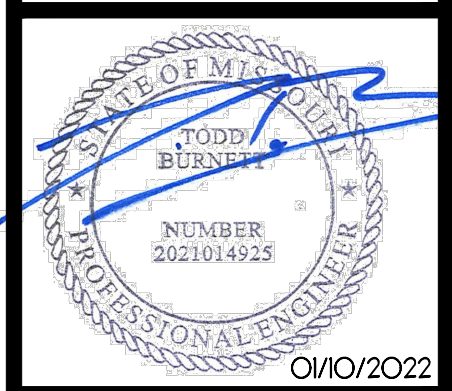






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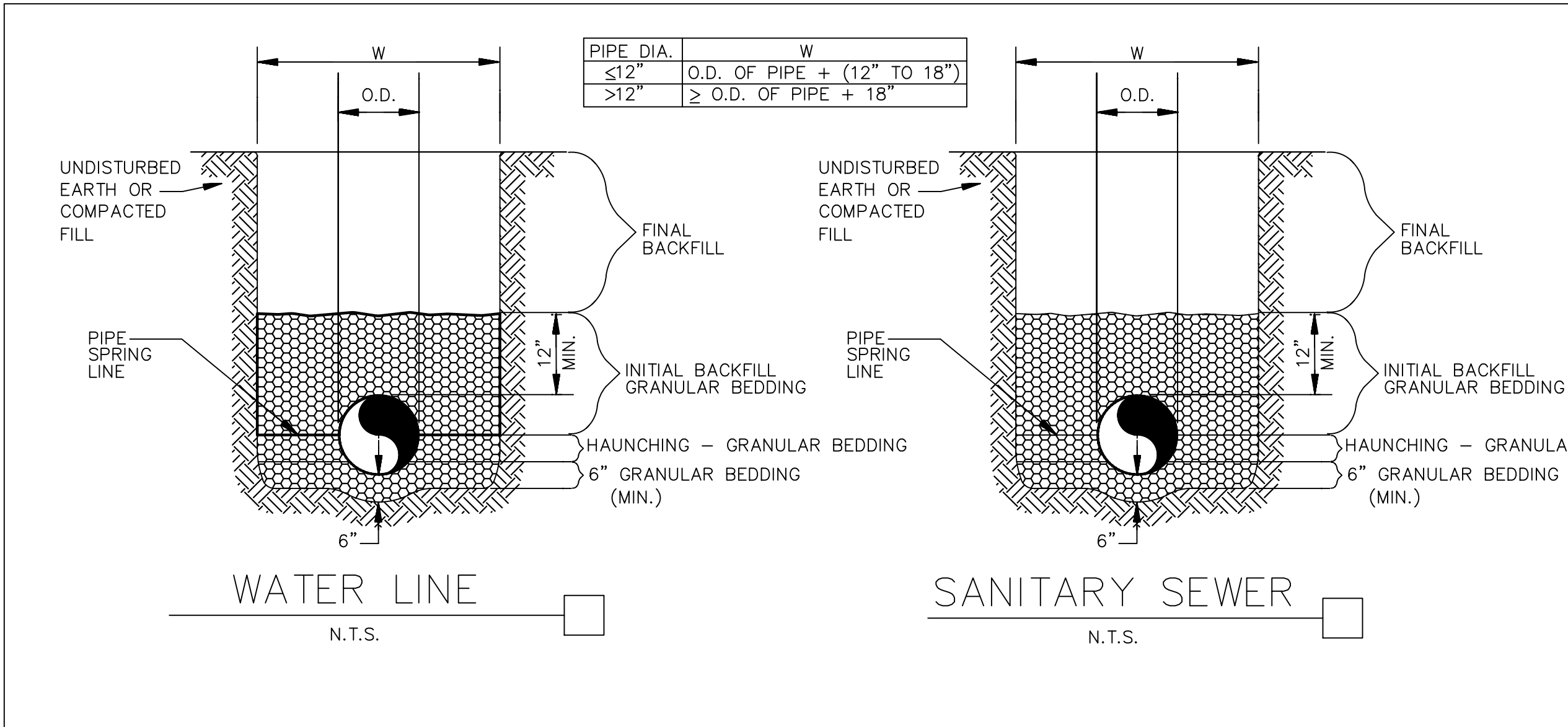
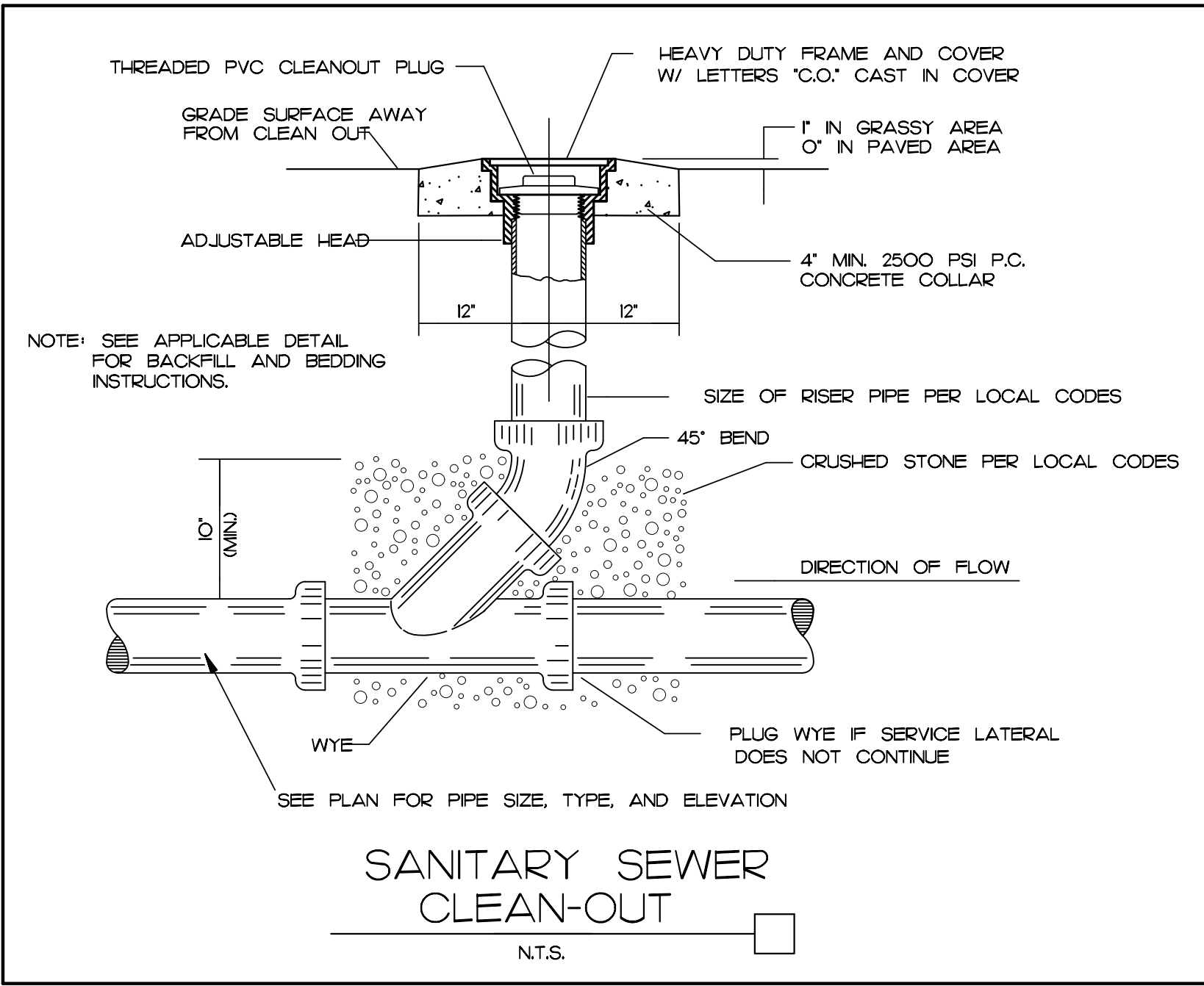
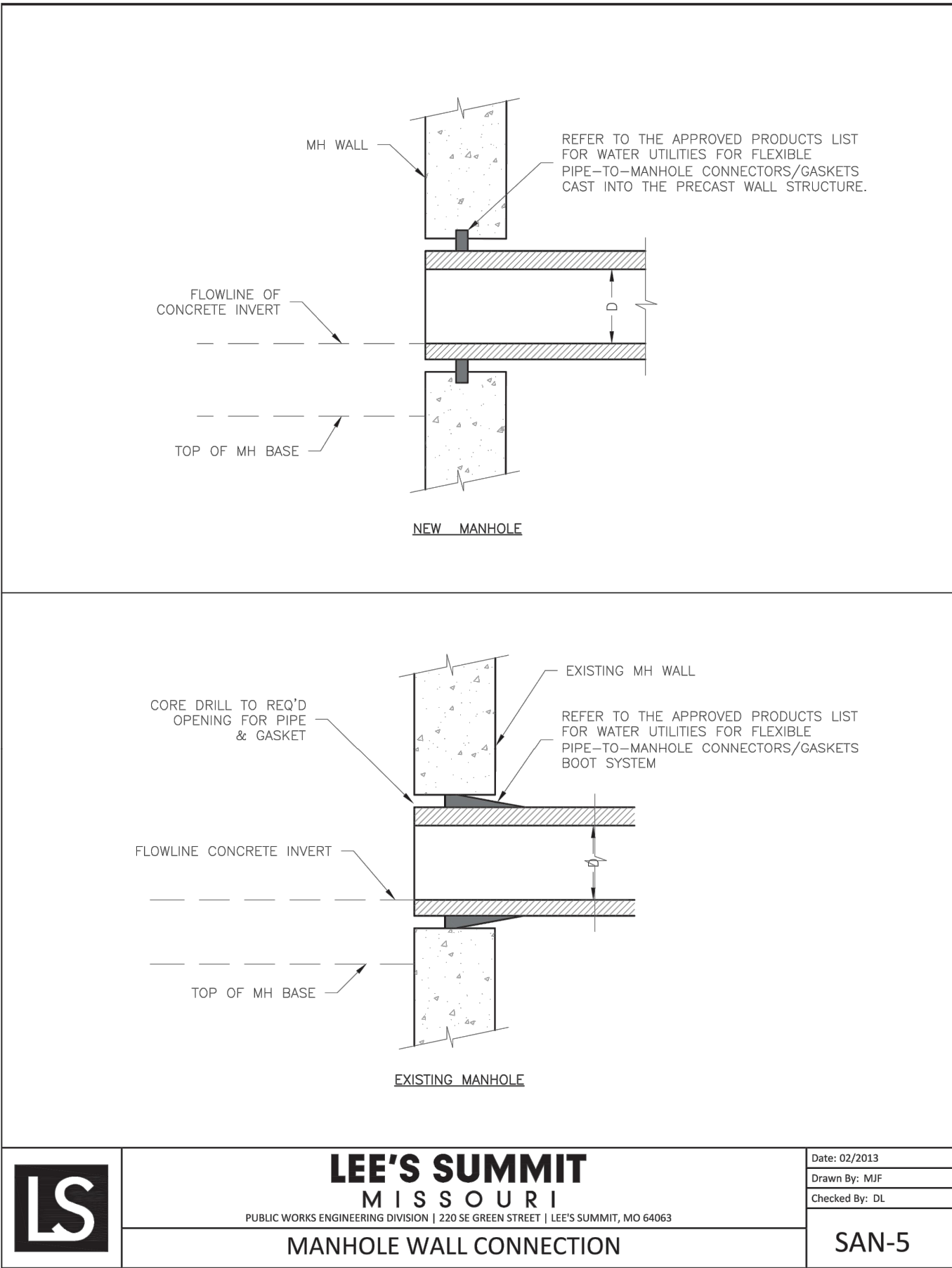
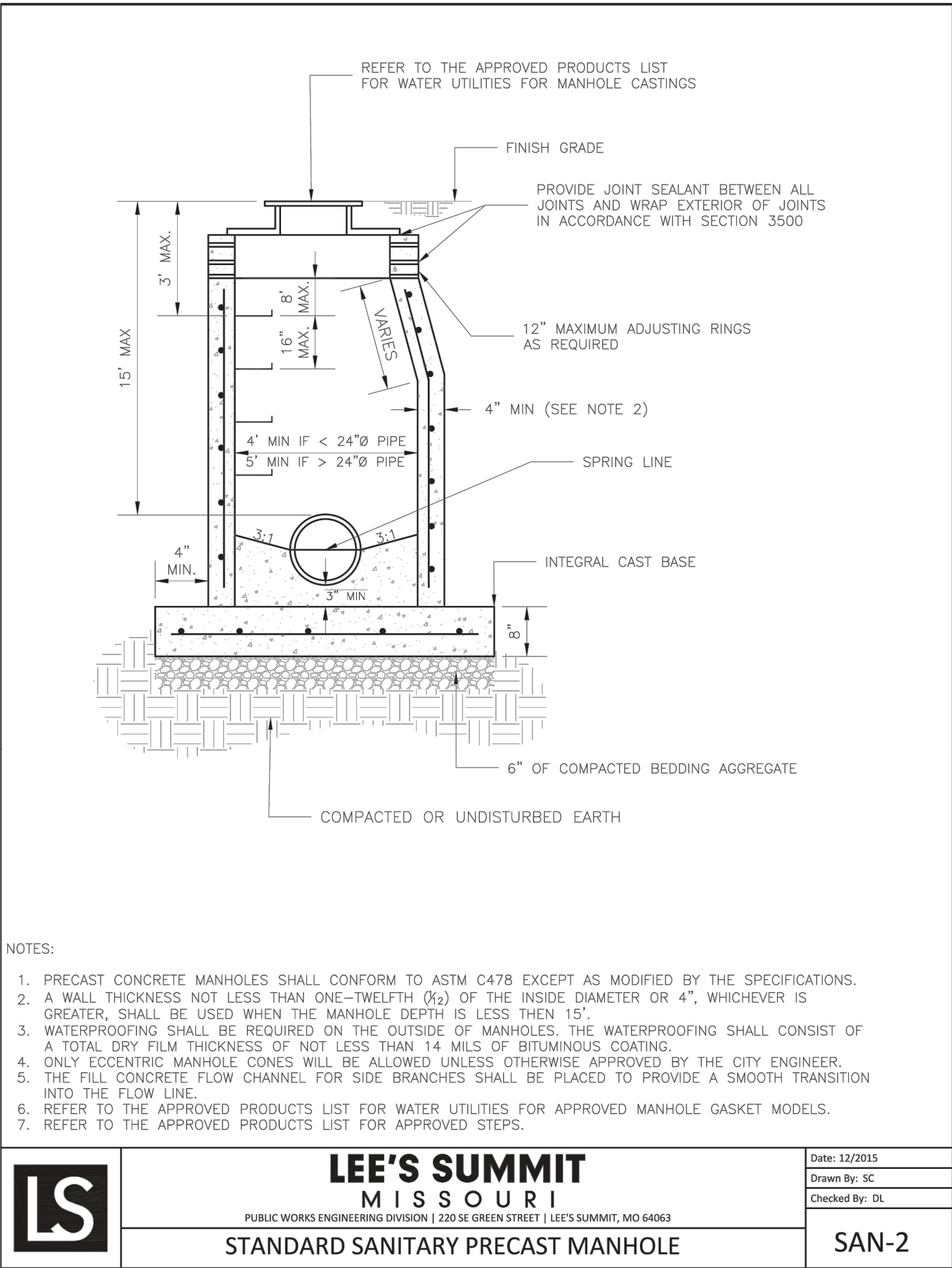
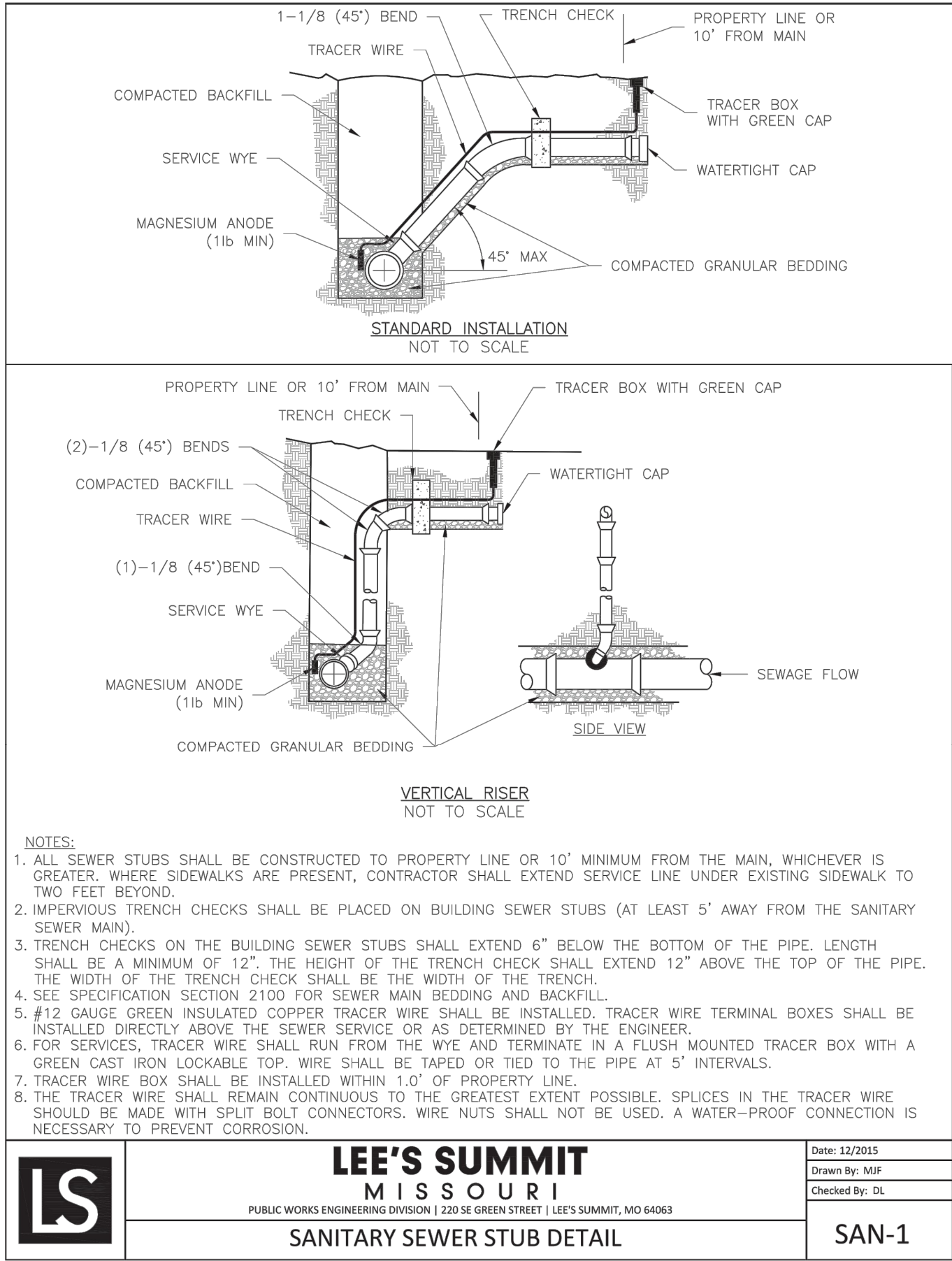
**CALIBER COLLISION**  
710 SE BLUE PARKWAY  
LEE'S SUMMIT, MO 64063  
CROSS DEVELOPMENT, CG LEE'S SUMMIT, LLC  
4338 MARSH RIDGE ROAD  
CARROLLTON, TX 75010  
TEL (214) 614-8252

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**GENERAL NOTES**

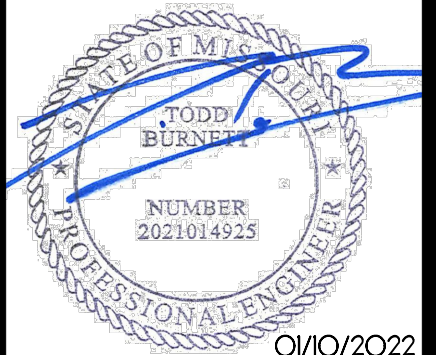
1. BEDDING SHALL BE CLASS I-A WORKED BY HAND. IF GROUNDWATER IS ANTICIPATED, THEN BEDDING SHALL BE CLASS I-B COMPACTED TO 85% STANDARD PROCTOR.
2. HAUNCHING SHALL BE CLASS I-A WORKED BY HAND. IF GROUNDWATER IS ANTICIPATED, THEN BEDDING SHALL BE CLASS I-B COMPACTED TO 85% STANDARD PROCTOR.
3. INITIAL BACKFILL SHALL BE CLASS I-A WORKED BY HAND. IF GROUNDWATER IS ANTICIPATED, THEN BEDDING SHALL BE CLASS I-B COMPACTED TO 85% STANDARD PROCTOR.
4. FINAL BACKFILL SHALL BE PER PROJECT SPECIFICATIONS AND PER THE PROJECT'S GEOTECHNICAL REPORT OF RECORD.
5. ALL MATERIALS ARE CLASSIFIED IN ACCORDANCE WITH ASTM D 2321-89.
6. ALL MATERIALS SHALL BE INSTALLED IN MAXIMUM 8" LOOSE LIFTS IN ACCORDANCE WITH ASTM D 698. CLASS III AND IV-A MATERIALS SHALL BE COMPACTED NEAR OPTIMUM MOISTURE CONTENT.
7. FILL SALVAGED FROM EXCAVATION SHALL BE FREE OF DEBRIS, ORGANICS AND ROCKS LARGER THAN 3".
8. ALL TRENCH EXCAVATIONS SHALL BE SLOPED, SHORED, SHEETED, BRACED, OR OTHERWISE SUPPORTED IN COMPLIANCE WITH OSHA REGULATIONS AND LOCAL ORDINANCES. (SEE SPECIFICATIONS)

**UTILITY TRENCH AND BEDDING**

N.T.S.

REVISIONS	BY

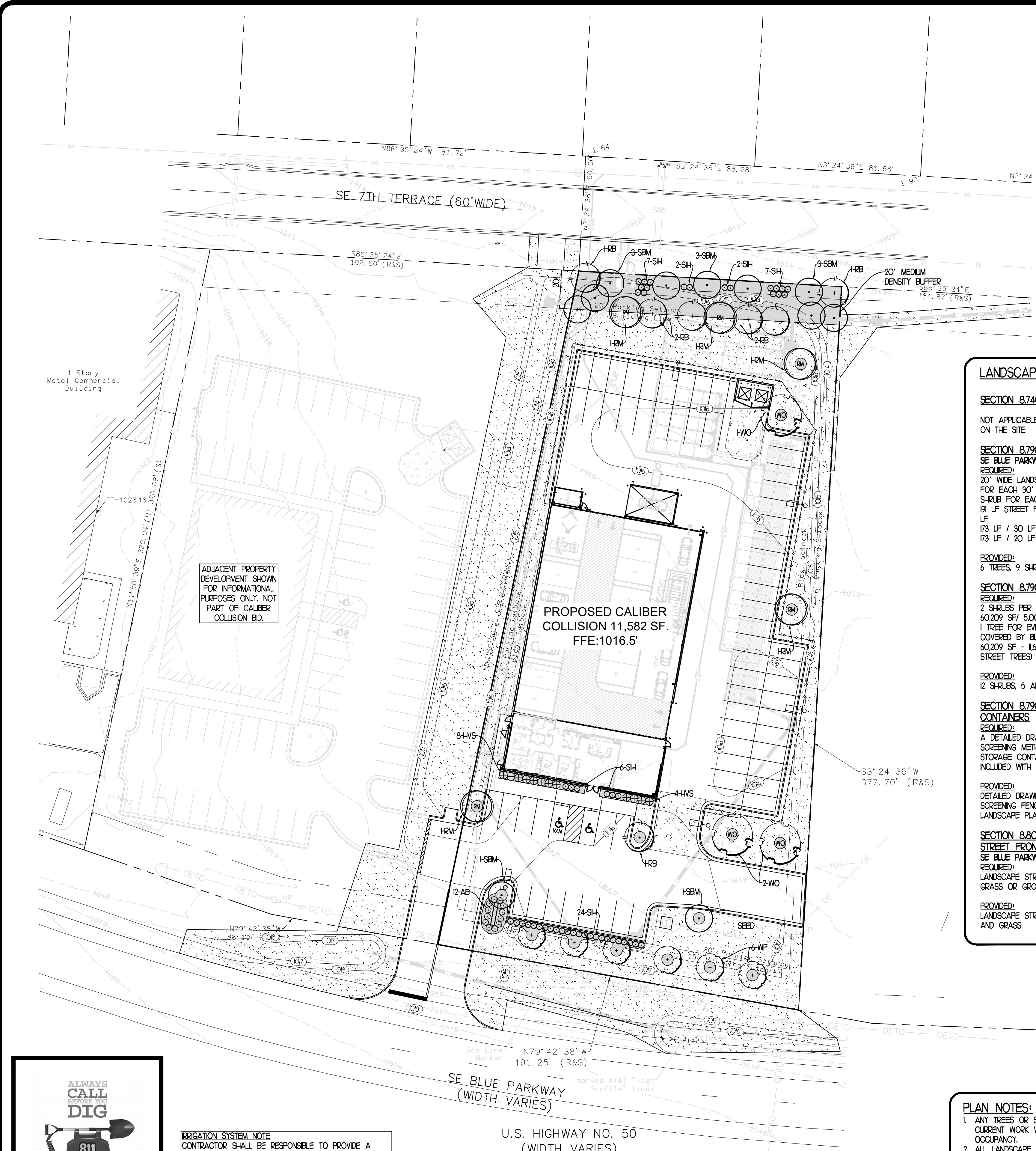
**FREELAND and KAUFFMAN, INC.**  
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209 West Stone Avenue  
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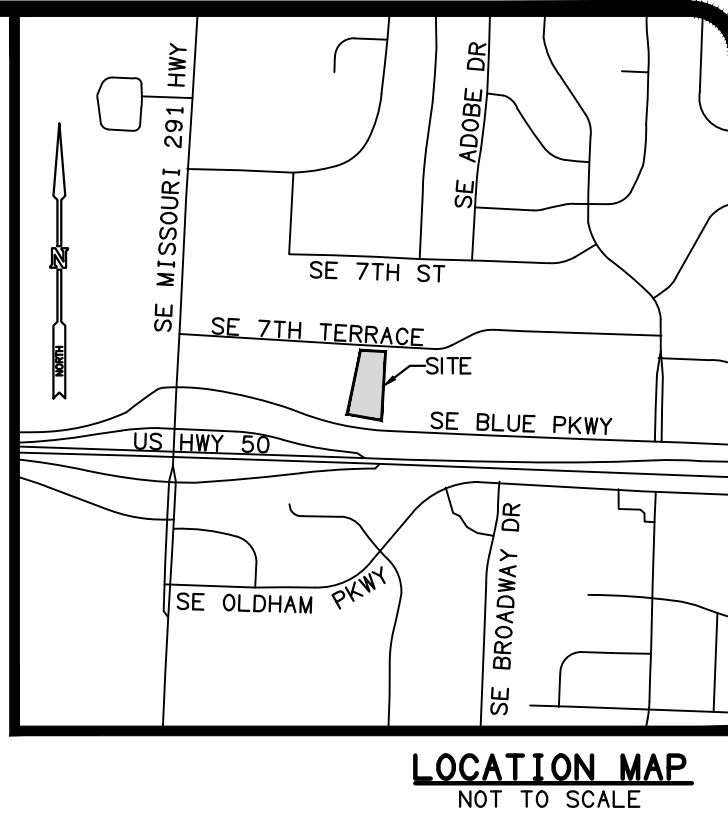
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PLANT LIST							
	QUANTITY	SYMBOL	LABELED	SCIENTIFIC NAME	COMMON NAME	SIZE REQUIREMENTS	SPACING
TREES	3	WO	WO	QUERCUS P-ELLOS	WILLOW OAK	3" MIN. CALIPER, 14" MIN. HT, BEB	AS SHOWN
	5	RM	RM	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	3" MIN. CALIPER, 14" MIN. HT, BEB	AS SHOWN
	7	RB	RB	CERCIS CANADENSIS	EASTERN REDBUD	3" MIN. CALIPER, 12" MIN. HT, BEB	AS SHOWN
	11	SBM	SBM	MAGNOLIA VIRGINICUS	SWEETBAY MAGNOLIA	3" MIN. CALIPER, 12" MIN. HT, BEB	AS SHOWN
	6	WF	WF	CHIONANTHUS VIRGINICUS	WHITE FRINGE TREE	3" MIN. CALIPER, 12" MIN. HT, BEB	AS SHOWN
SHRUBS	12	HVS	HVS	ITEA VIRGINICA 'HENRY'S GARNET'	HENRY'S GARNET VIRGINIA SWEETSPIRE	18"-24" BEB, OR 2-GAL. CONT.	4' O.C.
	48	SH	SH	ILEX GLABRA 'SHAMROCK'	SHAMROCK DWARF INK-BERRY HOLLY	24"-30" BEB, OR 5-GAL. CONT.	AS SHOWN
	12	AB	AB	CALICARPA AMERICANA	AMERICAN BEAUTYBERRY	18"-24" BEB, OR 2-GAL. CONT.	3'-4' O.C.



LANDSCAPE CALCULATIONS

SECTION 8.740 TREE CONSERVATION

NOT APPLICABLE. THERE ARE NO EXISTING TREES ON THE SITE

SECTION 8.790A STREET FRONTAGE SE BLUE PARKWAY

REQUIRED:  
20' WIDE LANDSCAPE STRIP PLANTED WITH 1 TREE FOR EACH 30' OF STREET FRONTAGE AND 1 SHRUB FOR EACH 20' OF STREET FRONTAGE.  
19 LF STREET FRONTAGE MINUS 18" DRIVEWAY = 173 LF  
173 LF / 30 LF = 6 TREES  
173 LF / 20 LF = 9 SHRUBS

PROVIDED:  
6 TREES, 9 SHRUBS

SECTION 8.790B OPEN YARD AREA

REQUIRED:  
2 SHRUBS PER 5,000 SF OF TOTAL LOT AREA  
60,209 SF / 5,000 SF = 12 SHRUBS  
1 TREE FOR EVERY 5,000 SF OF LOT AREA NOT COVERED BY BUILDINGS/ STRUCTURES  
60,209 SF - 16,000 SF = 44,209 SF  
44,209 SF / 5,000 SF = 9 TREES (IN ADDITION TO STREET TREES)

PROVIDED:  
12 SHRUBS, 5 ADDITIONAL TREES

SECTION 8.790C TRASH STORAGE CONTAINERS

REQUIRED:  
A DETAILED DRAWING OF ENCLOSURE AND SCREENING METHODS TO BE USED FOR TRASH STORAGE CONTAINERS ON THE PROPERTY SHALL BE INCLUDED WITH THE LANDSCAPE PLAN

PROVIDED:  
DETAILED DRAWING OF TRASH ENCLOSURE AND SCREENING FENCE ENCLOSURE SHOWN ON LANDSCAPE PLAN

SECTION 8.800 LANDSCAPE STRIPS ALONG STREET FRONTAGES SE BLUE PARKWAY

REQUIRED:  
LANDSCAPE STRIP PLANTED WITH TREES, SHRUBS, GRASS OR GROUND COVER.

PROVIDED:  
LANDSCAPE STRIP PLANTED WITH TREES, SHRUBS, AND GRASS

SECTION 8.810 PARKING LOT LANDSCAPING - TREES

REQUIRED:  
LANDSCAPE ISLANDS/ OTHER PLANTING AREAS LOCATED WITHIN PARKING LOT SHALL CONSTITUTE 5% OF ENTIRE AREA DEVOTED TO PARKING SPACES. AISLES & DRIVES ISLANDS SHALL BE LOCATED AT END OF EVERY PARKING BAY AND PLANTED WITH SHADE TREES.  
9,985 X 0.05 = 500 SF PARKING LOT ISLANDS

PROVIDED:  
ISLANDS LOCATED AT END OF EVERY PARKING BAY PLANTED WITH TREES.  
1,007 SF INTERIOR PARKING LOT LANDSCAPED AREA PROVIDED

SECTION 8.820 SCREENING - PARKING LOT

REQUIRED:  
EVERGREEN SCREENING (25' TALL) PROVIDED ALONG EDGE OF PARKING LOT PARALLEL TO THE STREET - PLANTED WITH 12 SHRUBS PER 40 LF. SHRUBS SHALL BE AT LEAST 18" AT TIME OF PLANTING.

PROVIDED:  
EVERGREEN SHRUBS (CONTINUOUS ROW)

SECTION 8.890 BUFFER/ SCREEN REQUIREMENTS SE 7TH TERRACE

REQUIRED:  
20' WIDE SCREEN 18" (MEDIUM DENSITY BUFFER (CPZ ZONING ADJACENT TO P1 ZONING))  
1 SHADE TREE PER 1,000 SF  
1 ORNAMENTAL TREE PER 500 SF  
1 EVERGREEN TREE PER 300 SF  
1 SHRUB PER 200 SF  
15 LF X 20 LF = 2700 SF  
2700 SF / 1000 = 3 SHADE TREES  
2700 SF / 500 = 6 ORNAMENTAL TREES  
2700 SF / 300 = 9 EVERGREEN TREES  
2700 SF / 200 = 14 SHRUBS

PROVIDED:  
3 SHADE TREES  
6 ORNAMENTAL TREES  
9 EVERGREEN TREES  
14 EVERGREEN SHRUBS

WEED BARRIER NOTE  
PLACE BLACK COMMERCIAL GRADE WEED BARRIER FILTER FABRIC IN ALL LANDSCAPE TREE, SHRUB, AND GROUND COVER PLANTING AREAS. ANCHOR FABRIC WITH COMMERCIAL GRADE LANDSCAPE FABRIC ANCHOR PINS.

PLAN NOTES:

- ANY TREES OR SHRUBS THAT ARE DEAD, DYING OR MISSING OUTSIDE THE SCOPE OF THE CURRENT WORK WILL NEED TO BE REPLACED PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY.
- ALL LANDSCAPE BEDS TO HAVE NEATLY TRENCHED BED EDGE AND HAVE 4" MINIMUM DEPTH OF HARDWOOD PINE BARK MULCH.
- ALL TREES AND SHRUBS SHALL BE COORDINATED WITH LIGHTING PLAN PRIOR TO INSTALLATION.
- ALL NEW PLANT MATERIAL AND SOD AREAS SHALL BE IRRIGATED.
- ALL SHRUBS TO BE 3" BACK OF CURB.
- ALL AREAS OF DISTURBANCE OUTSIDE OF LANDSCAPE BEDS SHALL BE REPAIRED WITH REBEL III PESQUE SEED OR SOD.
- ANY UTILITY STRUCTURE, LIGHT POLES, SIGN OR OTHER FEATURE MAY NOT BE ADDED TO ANY REQUIRED LANDSCAPE ISLAND IN SUCH A MANNER THAT WOULD DISPLACE THE REQUIRED ELEMENT(S) (TREES, SHRUBS, ETC.)
- PROPERTY OWNER IS RESPONSIBLE FOR MAINTAINING ALL LANDSCAPING MATERIALS, INCLUDING TURF, AND IRRIGATION MATERIALS BOTH ON SITE, AND INSIDE THE ROW.

ALWAYS CALL BEFORE YOU DIG

811

EVERY DIGGING JOB REQUIRES A CALL - EVEN SMALL PROJECTS LIKE PLANTING TREES OR SHRUBS. IF YOU HIT AN UNDERGROUND UTILITY LINE WHILE DIGGING, YOU CAN HARM YOURSELF OR THOSE AROUND YOU, DISRUPT SERVICE TO AN ENTIRE NEIGHBORHOOD AND POTENTIALLY BE RESPONSIBLE FOR FINES AND REPAIR COSTS.

SMART DIGGING MEANS CALLING 811 BEFORE EACH JOB. WHETHER YOU ARE A HOMEOWNER OR A PROFESSIONAL EXCAVATOR, ONE CALL TO 811 GETS YOUR UNDERGROUND UTILITY LINES MARKED FOR FREE.

IRRIGATION SYSTEM NOTE  
CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE A 'DESIGNBUILT' IRRIGATION SYSTEM FOR THIS PROJECT. THE SYSTEM SHALL BE AUTOMATICALLY CONTROLLED AND SHALL PROVIDE ADEQUATE COVERAGE FOR ALL GRASS AND OTHER PLANTINGS. CONTROLLER SHALL BE LOCATED INSIDE THE BUILDING AT A LOCATION APPROVED BY THE OWNER. REFER TO THE UTILITY PLAN FOR THE IRRIGATION SOURCE/METER LOCATION.

GROUND COVER LEGEND

GRASS SEED

ROCK MULCH

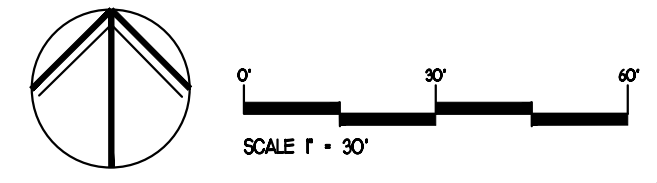
PERMANENT SEEDING

SEEDING RATE:  
PESQUE GRASS (HULLED) (ALONE) - 8-12 LBS. PER ACRE

LANDSCAPE NOTES

- ALL PLANT MATERIAL SHALL BE NURSERY GROWN AND SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS AS SET FORTH BY THE AMERICAN ASSOCIATION OF NURSERMEN INC.
- ALL PLANTS MUST BE HEALTHY, WELL BRANCHED, STRAIGHT TRUNKED, FULL HEADED, FREE OF DISEASE AND INSECT INFESTATION, AND MEET ALL SPECIFIED REQUIREMENTS.
- ALL PLANTS MUST BE CONTAINER GROWN OR BALLED AND BURLAPPED AS INDICATED IN THE PLANT LIST.
- ALL PLANTS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE DURING, AND AFTER INSTALLATION.
- ALL TREES MUST BE GUDED AND STAKED AS SHOWN IN THE DETAILS.
- ALL PLANTING AREAS MUST BE COMPLETELY MULCHED AS SPECIFIED.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC. WHICH OCCURS AS A RESULT OF THE LANDSCAPE CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THESE PLANS BEFORE PRONG THE WORK.
- THE CONTRACTOR IS RESPONSIBLE FOR FULLY MAINTAINING (INCLUDING BUT NOT LIMITED TO: WATERING, SPRAYING, MULCHING, FERTILIZING, ETC.) ALL PLANTING AND LAWN AREAS UNTIL THE WORK IS ACCEPTED IN TOTAL BY THE OWNER.
- THE CONTRACTOR SHALL COMPLETELY GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE (1) YEAR BEGINNING ON THE DATE OF TOTAL ACCEPTANCE. THE CONTRACTOR SHALL PROMPTLY MAKE ALL REPLACEMENTS BEFORE OR AT THE END OF THE GUARANTEE PERIOD.
- ANY PLANT MATERIAL WHICH DIES, TURNS BROWN, OR DEFOOLIATES (PRIOR TO TOTAL ACCEPTANCE OF THE WORK) SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY, AND SIZE AND MEETING ALL PLANT LIST SPECIFICATIONS.
- ALL PLANT BEDS, TREES, SHRUB MASSES, ETC. SHALL RECEIVE 3" OF SHREDED HARDWOOD BARK MULCH. THIS INCLUDES A 4 FOOT DIAMETER MULCH RING AROUND ALL PROPOSED TREES.
- LOCATIONS OF EXISTING BURIED UTILITY LINES SHOWN ON THE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AND ARE TO BE CONSIDERED APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION OF UTILITY LINES IN AND ADJACENT TO THE WORK AREA. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITY LINES DURING THE CONSTRUCTION PERIOD.
- SAFE, CLEARLY MARKED PEDESTRIAN AND VEHICULAR ACCESS TO ALL ADJACENT PROPERTIES MUST BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROCESS.
- THE CONTRACTOR SHALL PERFORM A SOIL TEST ON THE EXISTING AND PROPOSED TOP SOIL AND APPLY LIME AND FERTILIZER AS RECOMMENDED.
- ALL DISTURBED AREAS NOT TO RECEIVE PLANTINGS SHALL BE TOP SOILED, LIMED, AND FERTILIZED ACCORDING TO THE SOIL TEST REPORT. THESE GRASS AREAS SHALL BE SEEDDED WITH TALL TURF TYPE PESQUE SEED AS SHOWN ON THE PLAN. THE CONTRACTOR SHALL WATER AND MAINTAIN ALL GRASS AREAS UNTIL A HEALTHY STAND IS ESTABLISHED.
- ALL PLANTING AREAS, INCLUDING PARKING LOT ISLANDS, SHALL CONTAIN SOILS SUITABLE FOR PLANTING. SOILS SHALL BE CLEAN AND FREE OF ALL CONSTRUCTION MATERIALS. THE TOP TWO FEET OF SOIL SHALL BE LOOSE. IF PREVIOUSLY COMPACTED, IT SHALL BE LOOSENEED BY TILLING OR OTHER MEASURE TO A DEPTH OF TWO FEET. THE TOP SIX INCHES OF SOIL SHALL BE CLEAN TOPSOIL, OR OTHER CLEAN SOILS AMENDED WITH ORGANIC MATERIAL. THIS REQUIREMENT SHALL BE MET PRIOR TO THE INSTALLATION OF LANDSCAPING.
- THE CONTRACTOR SHALL SPOIL ANY EXCESS TOPSOIL LOCATED ON THE SITE THAT IS NOT REQUIRED TO PERFORM THE LANDSCAPE OPERATION. ALSO, IF INSUFFICIENT TOPSOIL IS PRESENT ON THE SITE THE CONTRACTOR IS REQUIRED TO HAVE TOPSOIL BROUGHT INTO THE SITE FOR THE LANDSCAPE OPERATION.
- THE CONTRACTOR SHALL INCLUDE IN HIS BID PACKAGE REMOVAL AND EXCAVATION OF ROCK AS REQUIRED DURING TREE PLANTING TO INSURE SURVIVAL OF THE TREES AND TO PROVIDE A PLANTING PIT AS DIMENSIONED ON THE PLANTING DETAILS.
- ALL LANDSCAPING FOR THE PROJECT SHALL BE COMPLETED PRIOR TO THE ISSUANCE OF CERTIFICATE OF OCCUPANCY. CONTRACT THE CITY OF LEE'S SUMMIT AT 86-969-2200 FOR THE SITE INSPECTION UPON COMPLETION OF LANDSCAPE INSTALLATION.

LANDSCAPE PLAN



REVISIONS	BY

FREELAND and KAUFFMAN, INC.

Engineers \* Landscape Architects

209 West Stone Avenue  
Greenville, South Carolina 29609

864-233-5497  
fax 864-233-8916



CALIBER COLLISION

710 SE BLUE PARKWAY

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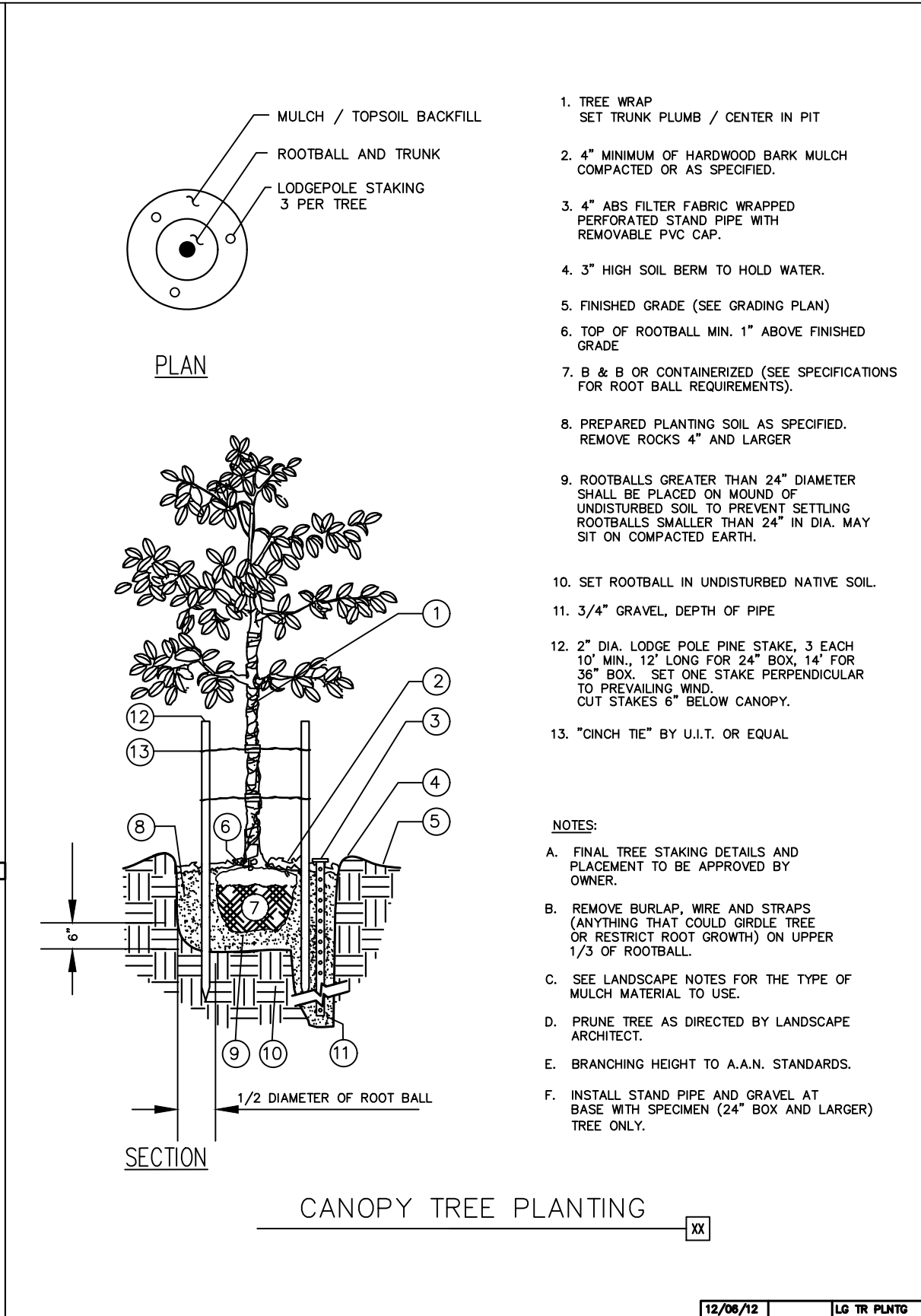
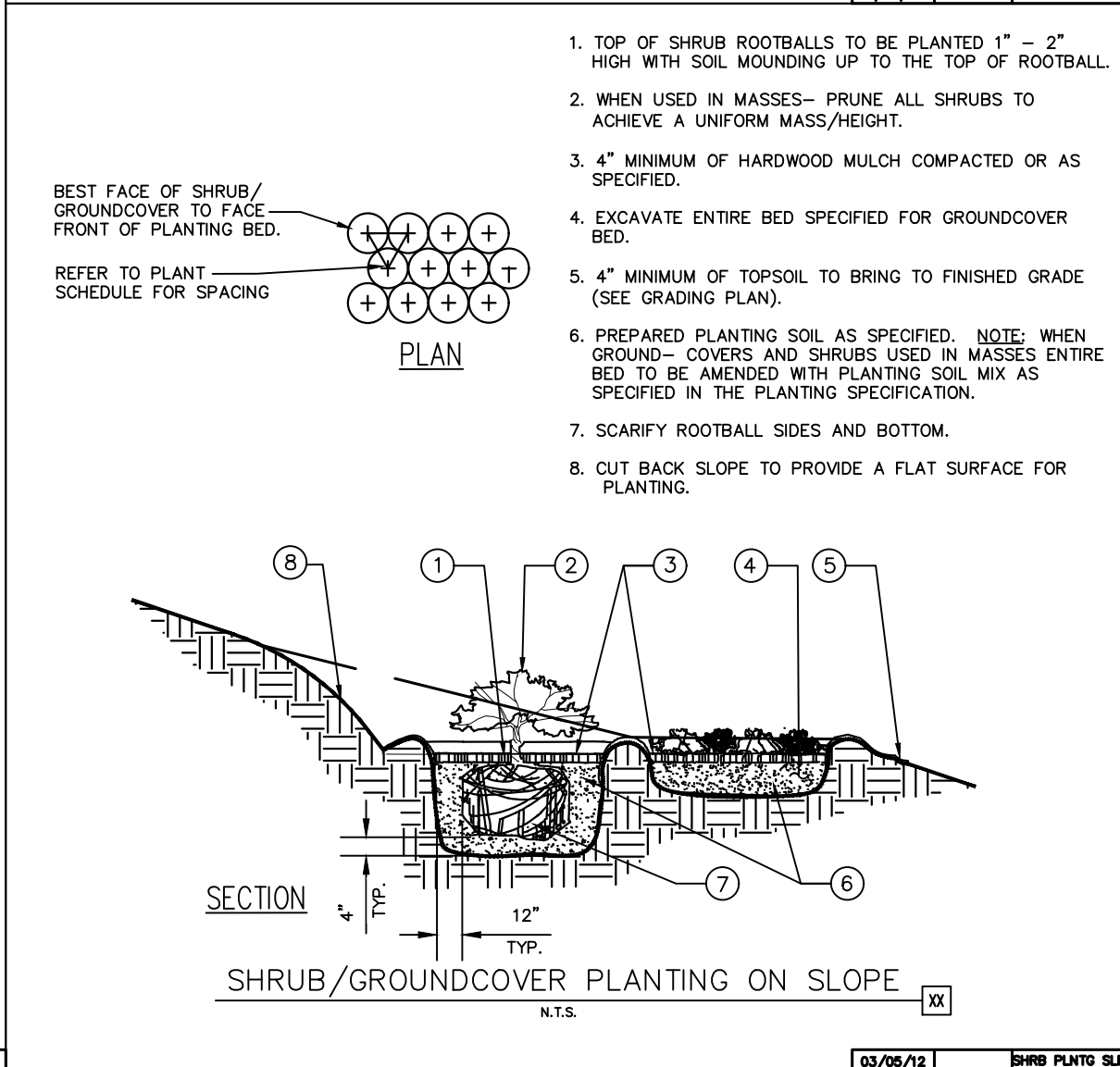
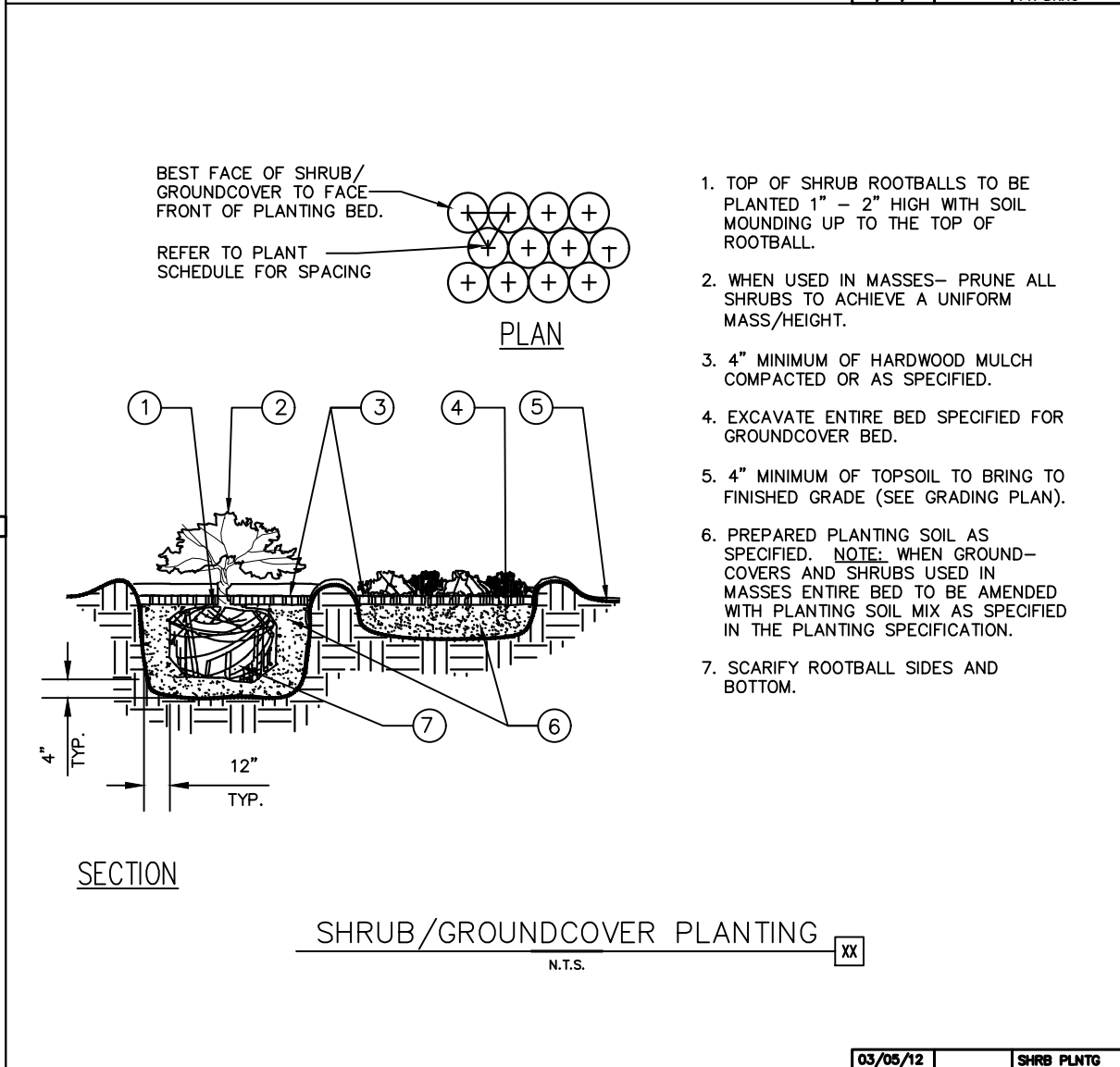
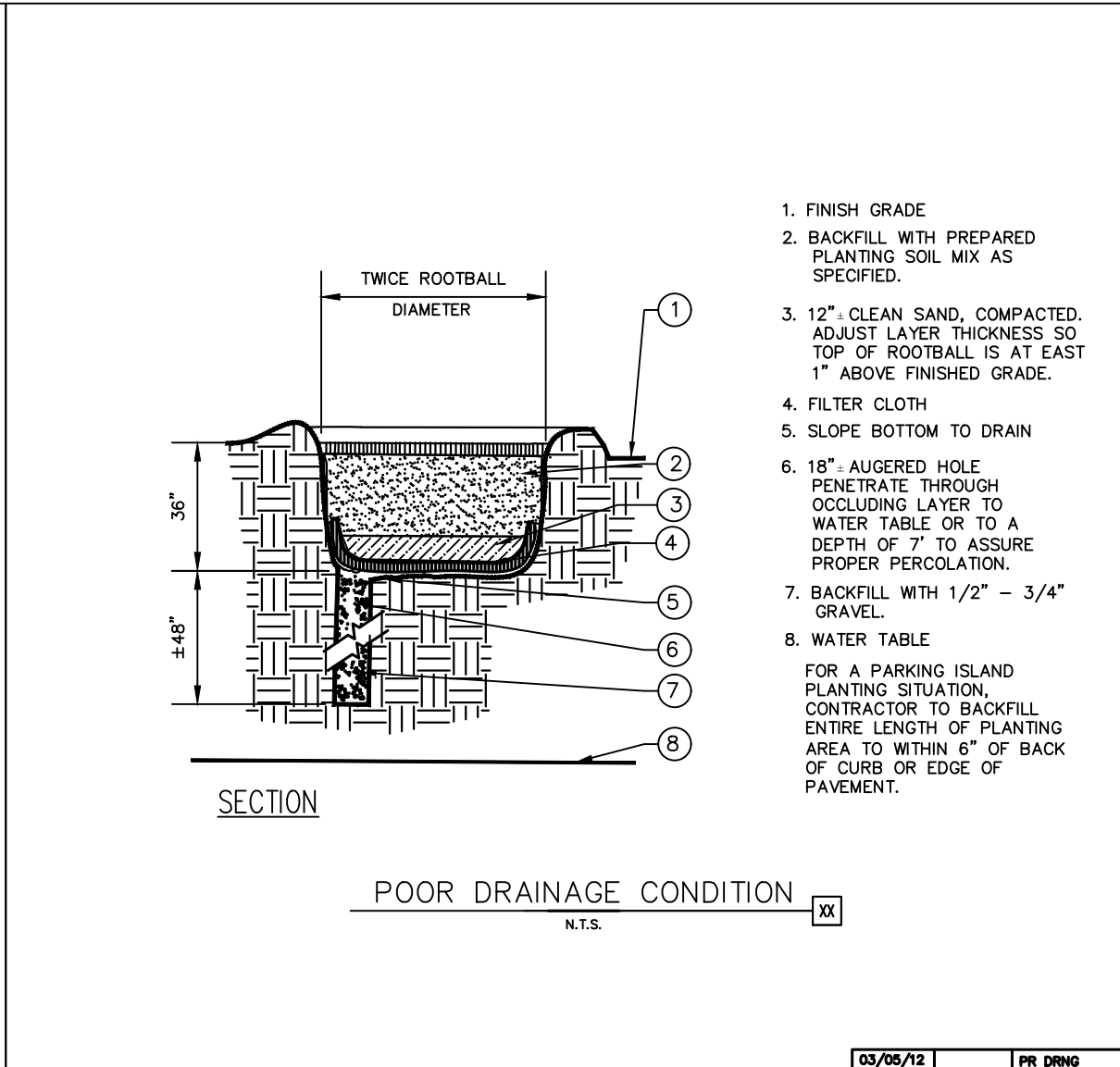
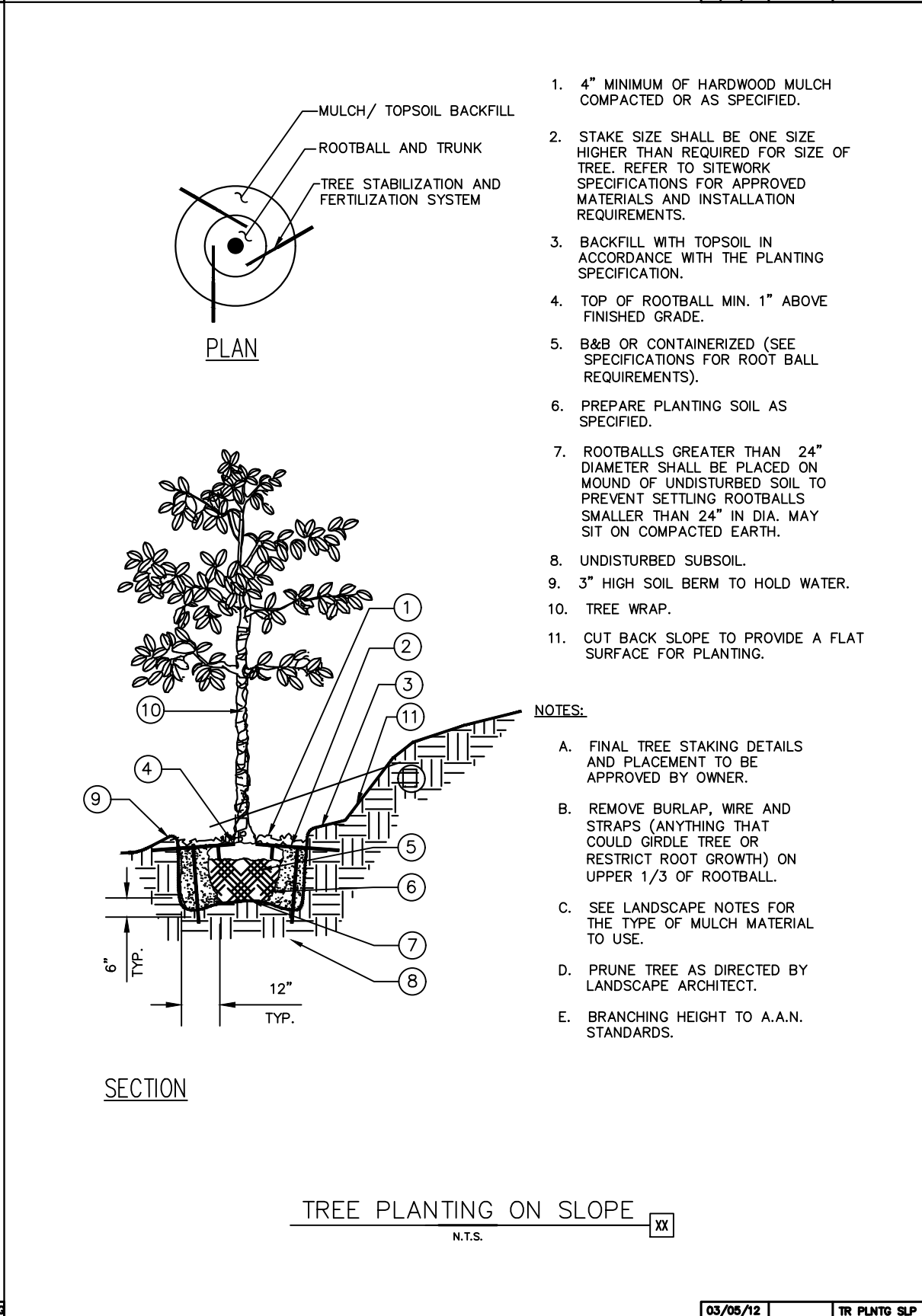
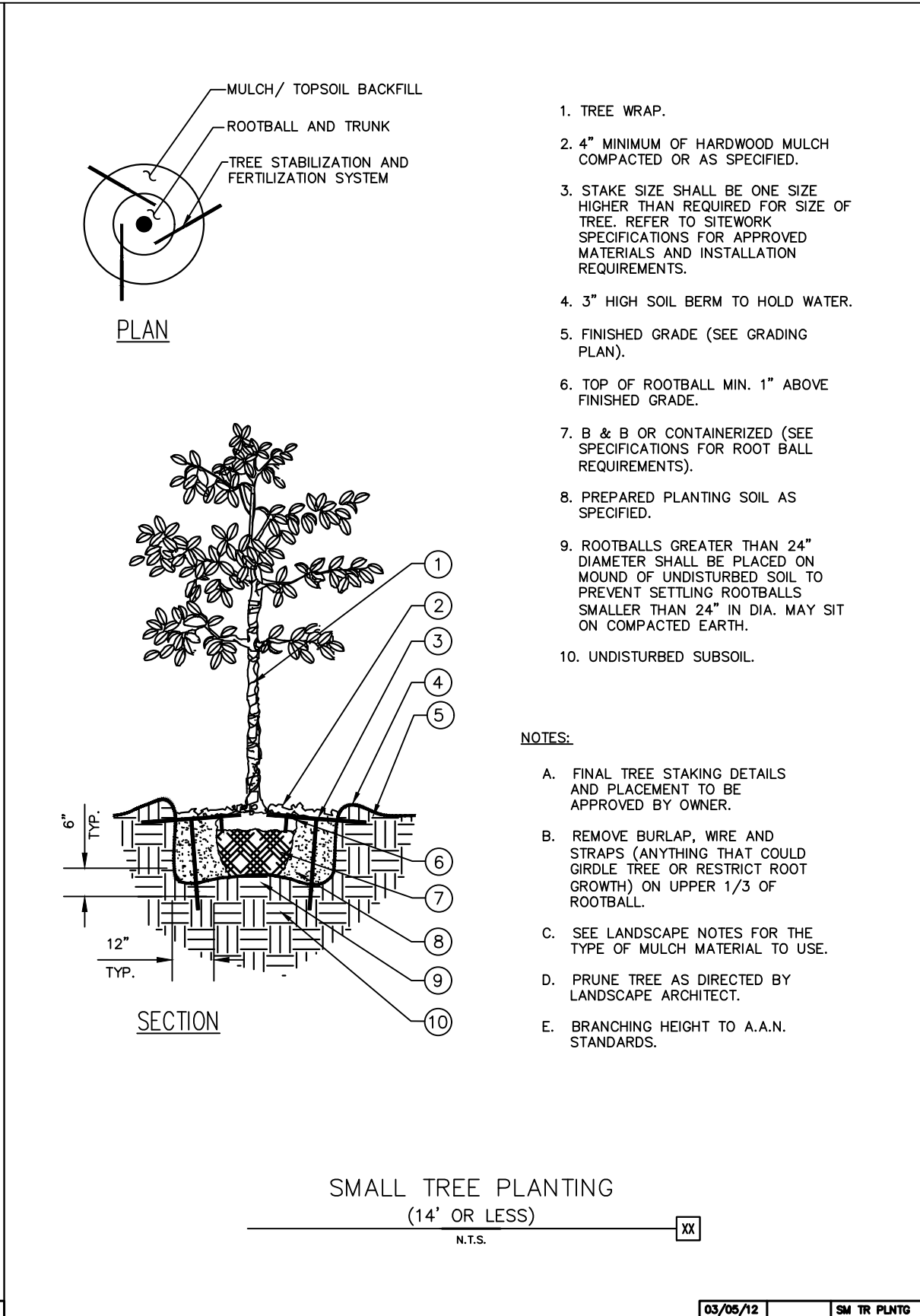
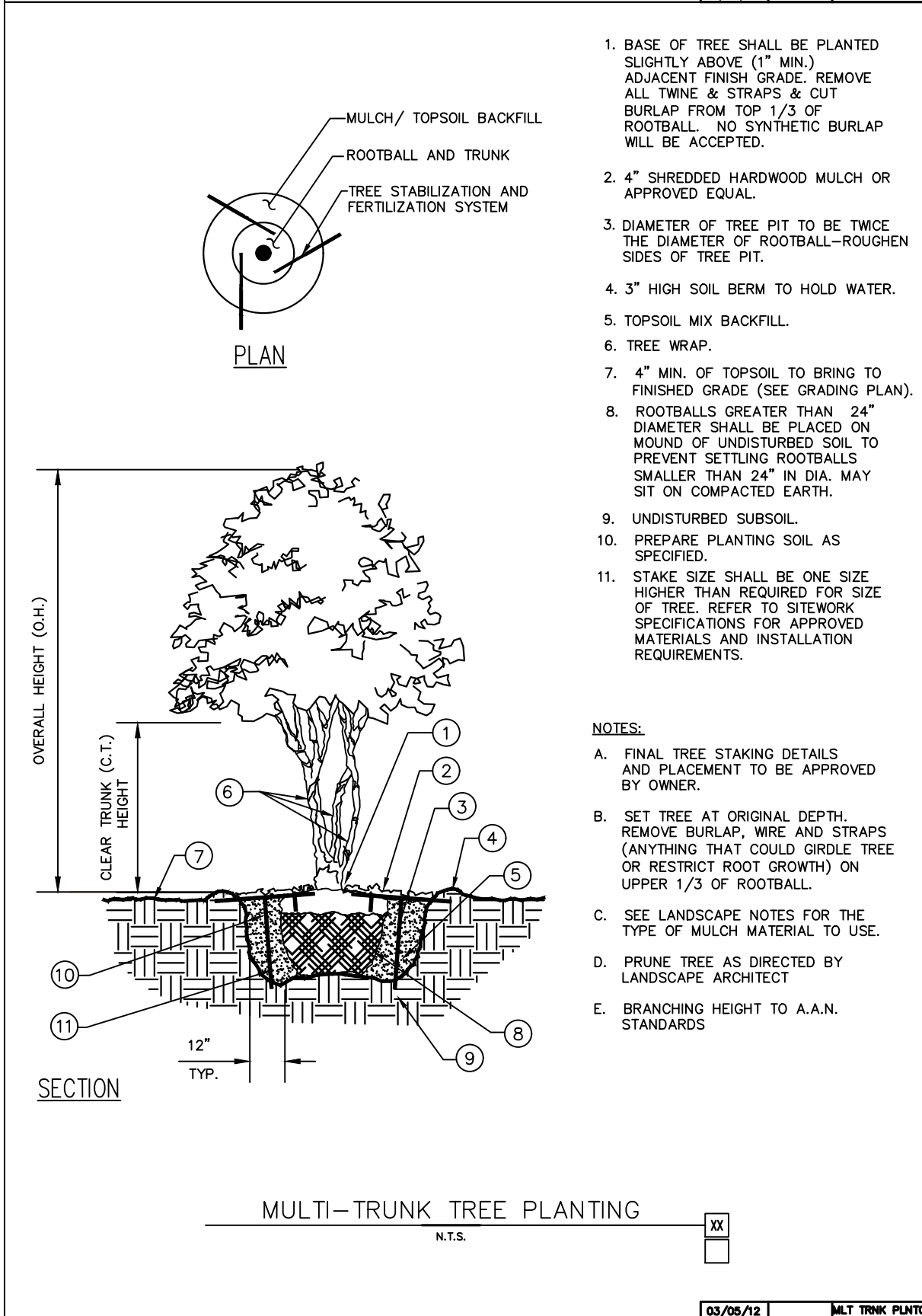
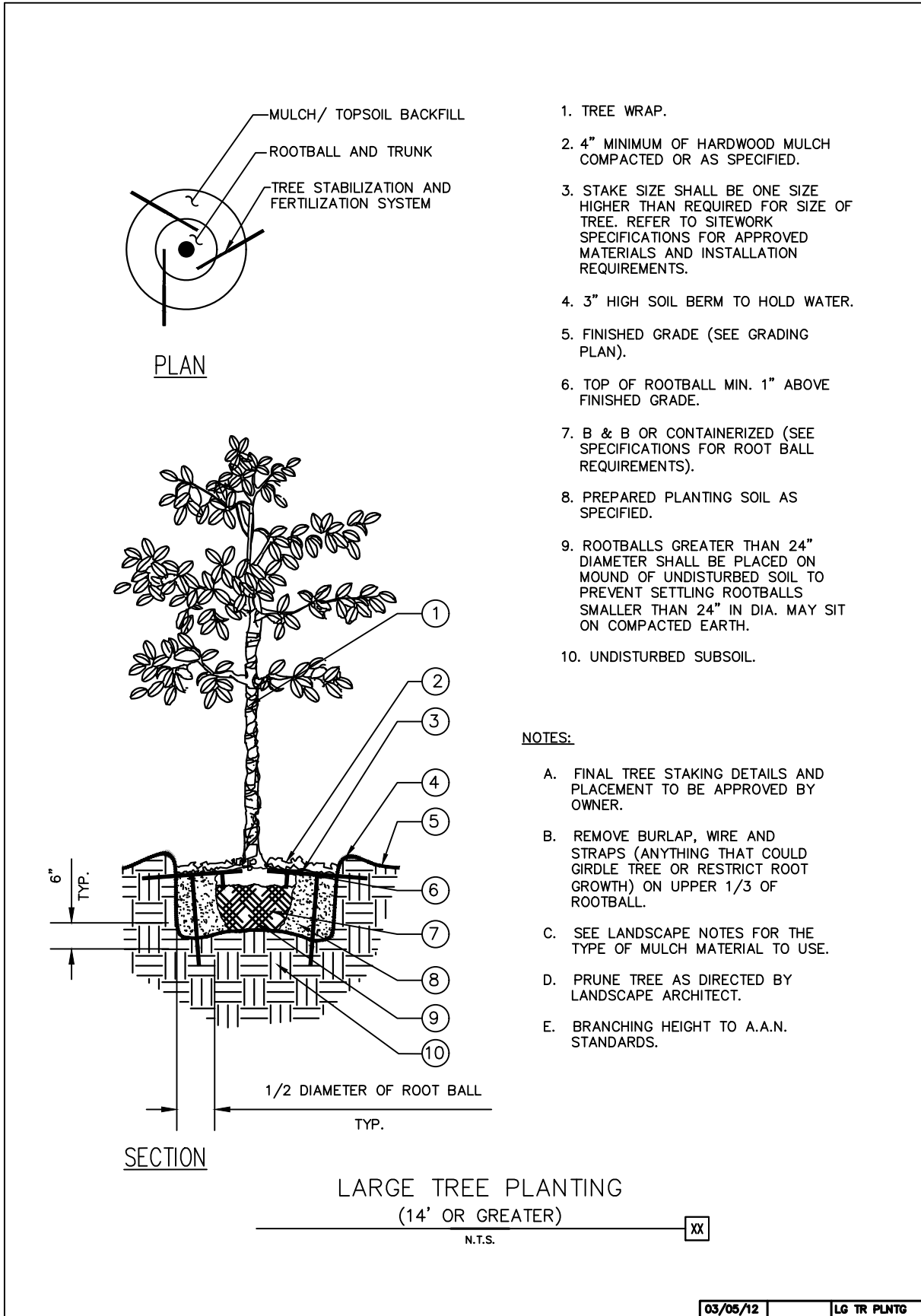
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**LANDSCAPE ARCHITECT INSPECTION REQUIREMENTS & NOTES:**

- ALL PLANT MATERIAL MUST BE INSPECTED AND ACCEPTED BY THE LANDSCAPE ARCHITECT FOR THIS PROJECT (FREELAND AND KAUFFMAN, INC.) IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. THIS INCLUDES THE FOLLOWING PROCEDURE:
- THE GENERAL CONTRACTOR SHALL ARRANGE AN INSPECTION OF ALL TREES AT THE APPROPRIATE NURSERY (IES) WHICH WILL SUPPLY THEM. ALL TREES FOR USE ON THIS PROJECT SHALL BE IDENTIFIED AND FLAGGED AT THE NURSERY. THE LANDSCAPE CONTRACTOR SHALL BE PRESENT.
  - AT THE SOLE DISCRETION OF THE LANDSCAPE ARCHITECT, PHOTOS OF SELECT TREES MAY BE ACCEPTED IN PLACE OF A PHYSICAL INSPECTION. IF PHOTOS ARE ACCEPTED, A SEPARATE PHOTO OF EACH PROPOSED TREE MUST BE PROVIDED.
  - THE LANDSCAPE ARCHITECT SHALL BE CONTACTED TO INSPECT THE PLACEMENT OF TOPSOIL WITHIN ALL PARKING LOT ISLANDS AND PLANTING AREAS, PRIOR TO PLANTING OF ANY LANDSCAPE MATERIAL.
  - THE LANDSCAPE ARCHITECT SHALL INSPECT PLANT MATERIAL UPON DELIVERY TO THE SITE, AND PRIOR TO PLANTING, FOR ACCEPTANCE. CONTRACTOR SHALL PROVIDE A SPECIFIC DELIVERY DATE OF ALL MATERIAL, AND SHALL MAKE EFFORTS TO INSURE THAT MATERIAL FROM SEPARATE NURSERIES IS DELIVERED AT THE SAME TIME.
  - THE LANDSCAPE ARCHITECT SHALL PERFORM A SUBSTANTIAL COMPLETION INSPECTIONS. CONTRACTOR SHALL PROVIDE A SCHEDULE OF PLANT INSTALLATION.
  - THE LANDSCAPE ARCHITECT SHALL PERFORM A FINAL LANDSCAPE INSPECTION WITHIN 30 DAYS OF THE CONTRACTOR'S SUBSTANTIAL COMPLETION DATE. CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT OF THE SUBSTANTIAL COMPLETION DATE.
  - ALL REQUIRED LANDSCAPING SHALL MEET THE MINIMUM PLANTING STANDARDS AND BE MAINTAINED IN ACCORDANCE WITH SECTION 7-II-3 (F) OF THE CITY OF ASHEVILLE'S UNIFIED DEVELOPMENT ORDINANCES. A DIVERSE PLANT LIST SHALL BE PROVIDED (AS PER THIS PLAN) SO THAT NO ONE SPECIES IS OVER PLANTED AND TO ELIMINATE WIDESPREAD DISEASE BETWEEN THE LIKE SPECIES.

REVISIONS	BY

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*Engineers \* Landscape Architects*  
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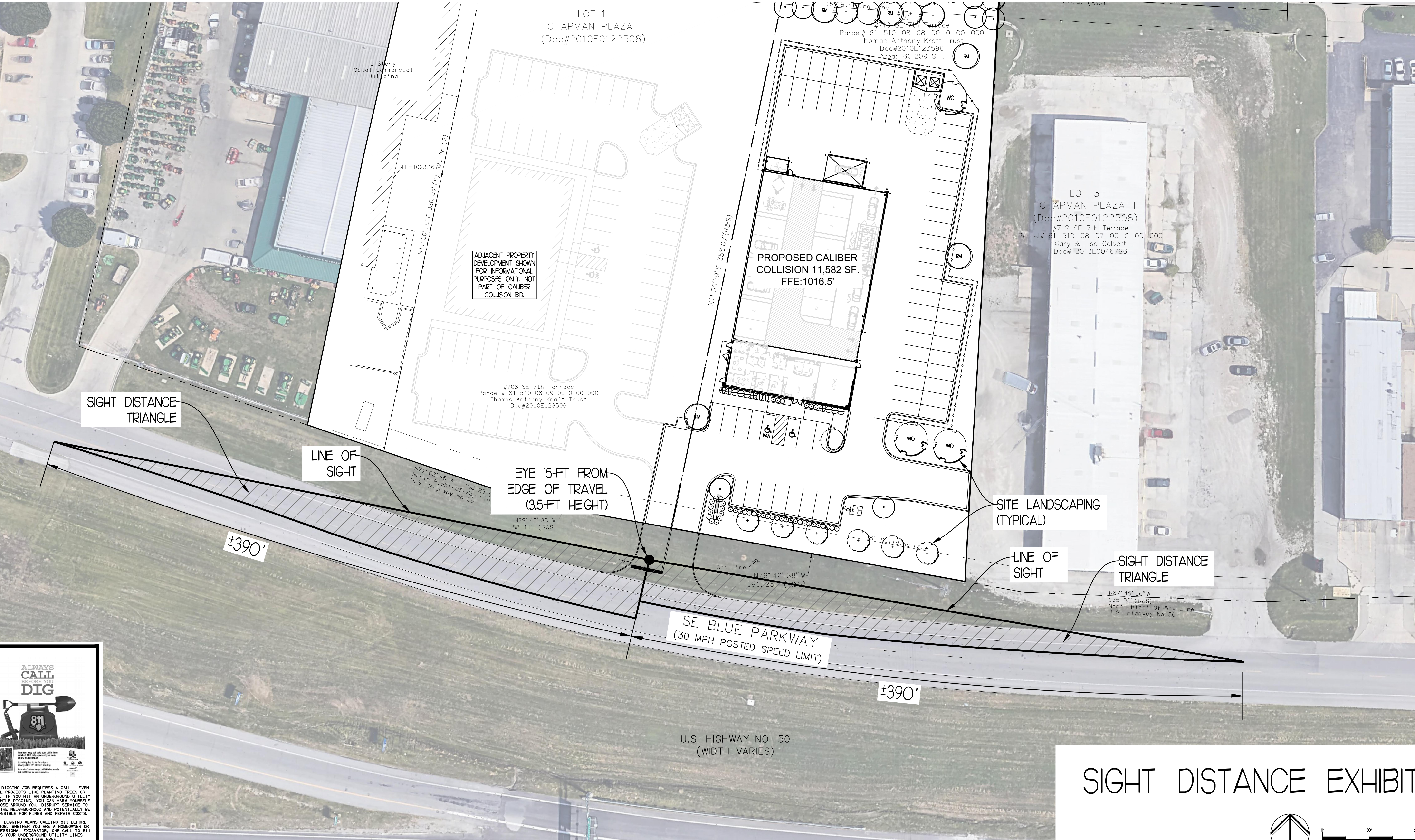


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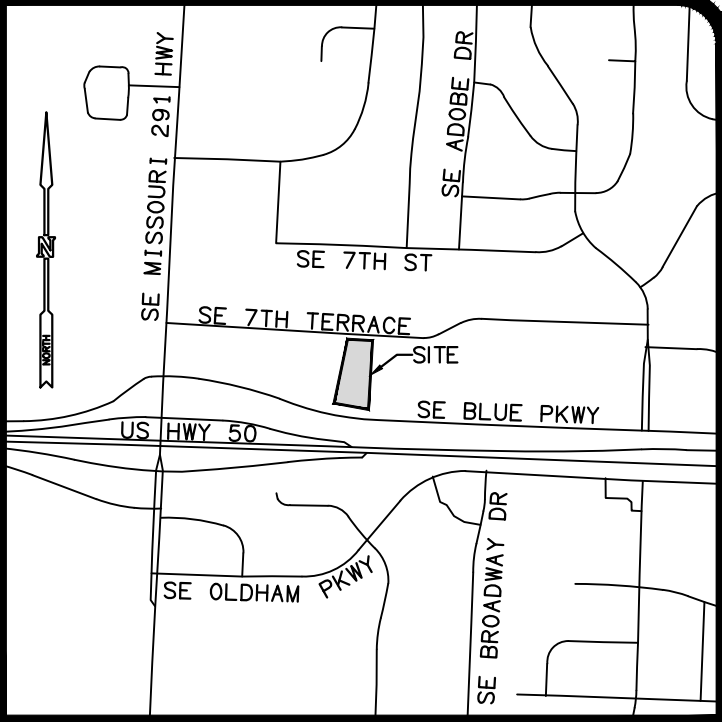




**NOTES:**  
POSTED SPEED LIMIT OF SE BLUE PARKWAY AT DEVELOPMENT IS 35-MPH.

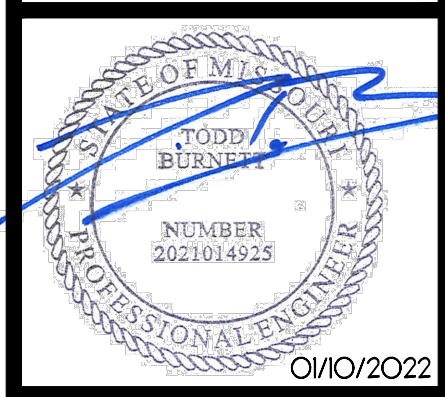
**LEGEND**

SYMBOL	DESCRIPTION
	PROPOSED SIGHT DISTANCE TRIANGLE
	PROPOSED TREES



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**ALWAYS CALL BEFORE YOU DIG**  
811

THE 811 SERVICE IS A FREE SERVICE PROVIDED BY THE STATE OF MISSOURI. IT IS THE RESPONSIBILITY OF THE CALLER TO PROVIDE ACCURATE LOCATION INFORMATION TO THE 811 SERVICE. THE 811 SERVICE WILL NOT BE RESPONSIBLE FOR DAMAGES TO PROPERTY OR PERSONS IF THE CALLER DOES NOT PROVIDE ACCURATE LOCATION INFORMATION.

EVERY DIGGING JOB REQUIRES A CALL - EVEN SMALL PROJECTS LIKE PLANTING TREES OR SINKS. IF YOU HIT AN UNDERGROUND UTILITY LINE WHILE DIGGING, YOU CAN HARM YOURSELF OR THOSE AROUND YOU. DISRUPT SERVICE TO AN ENTIRE NEIGHBORHOOD AND POTENTIALLY BE RESPONSIBLE FOR FINES AND REPAIR COSTS.

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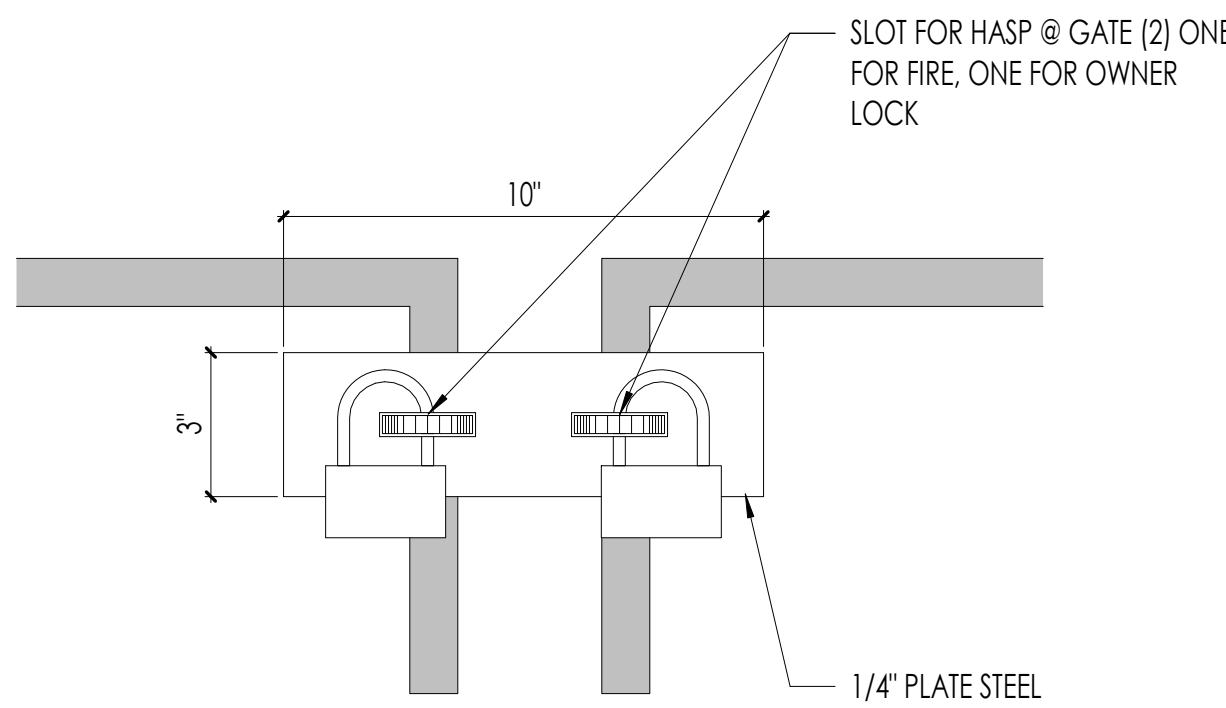
OXFORD  
ARCHITECTURE

2934 Sidco Drive  
Suite 120  
Nashville, TN 37204

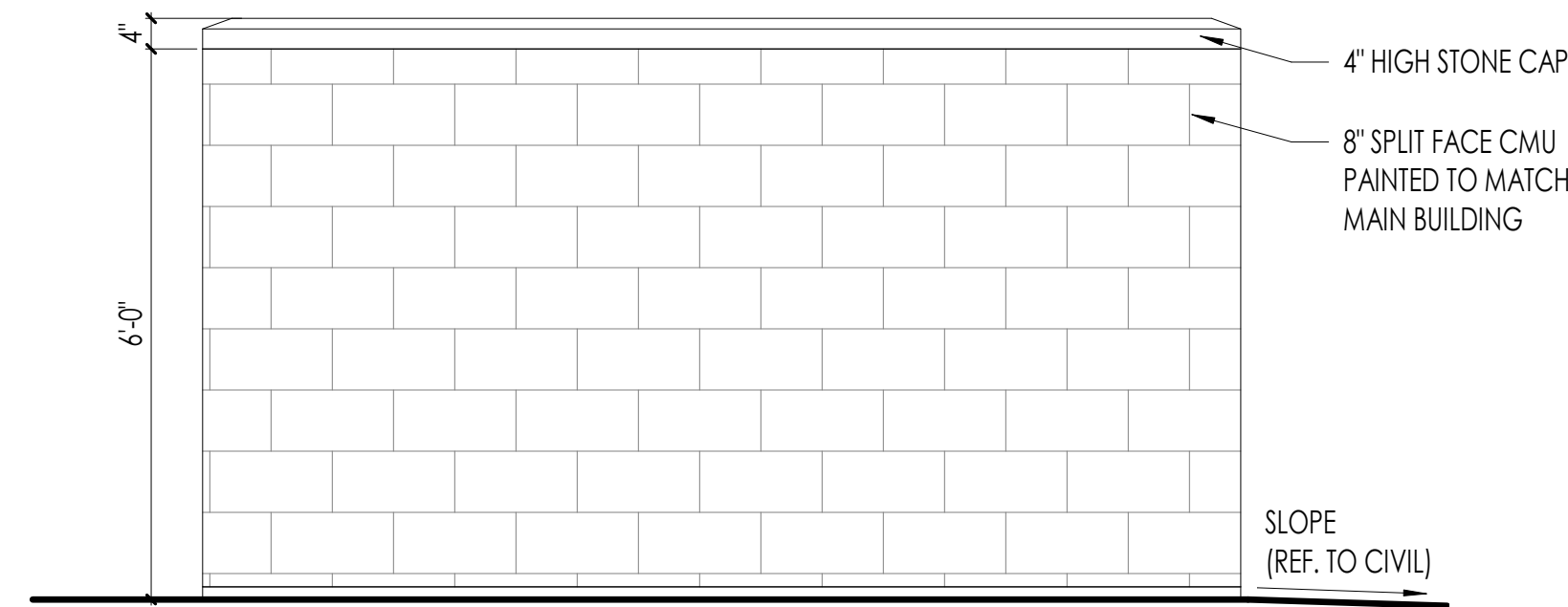
Architecture  
Planning  
Interior Architecture

CALIBER  
COLLISION

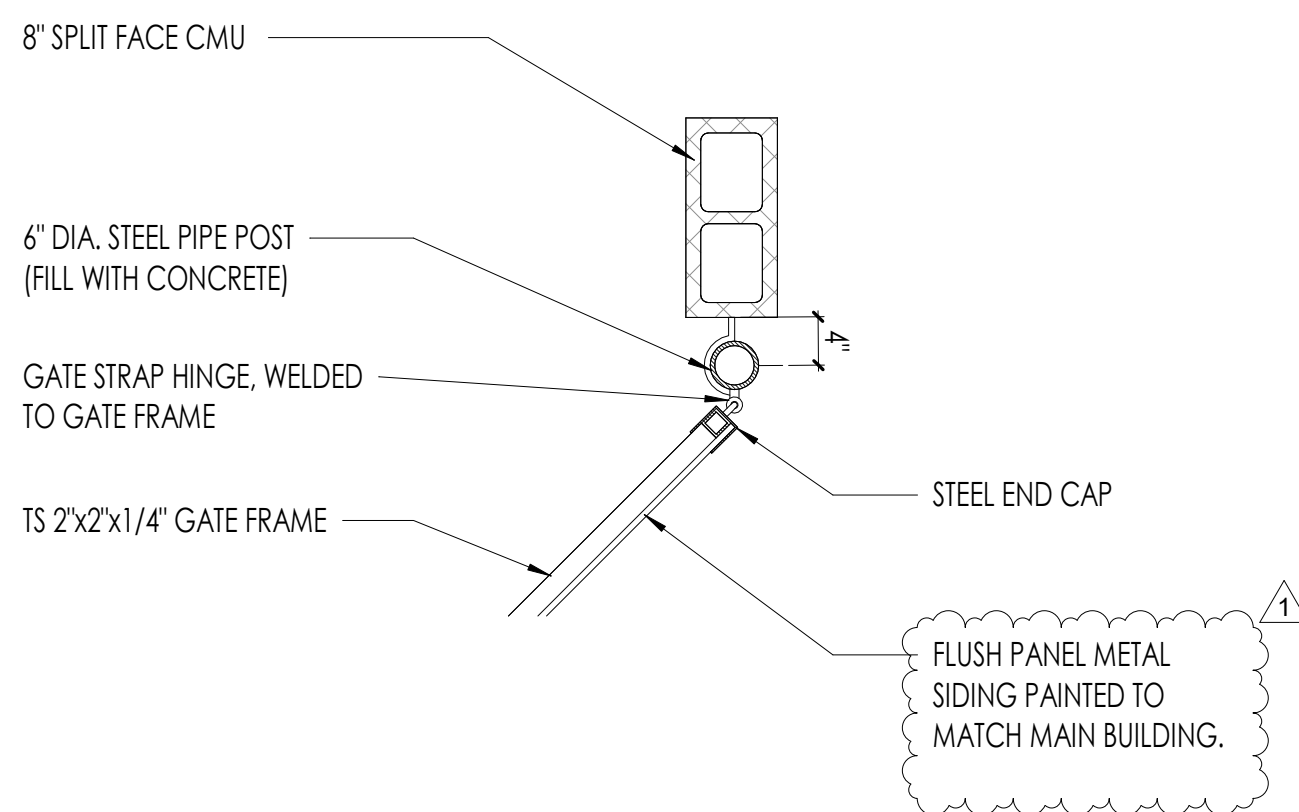
LEE'S SUMMIT,  
MISSOURI



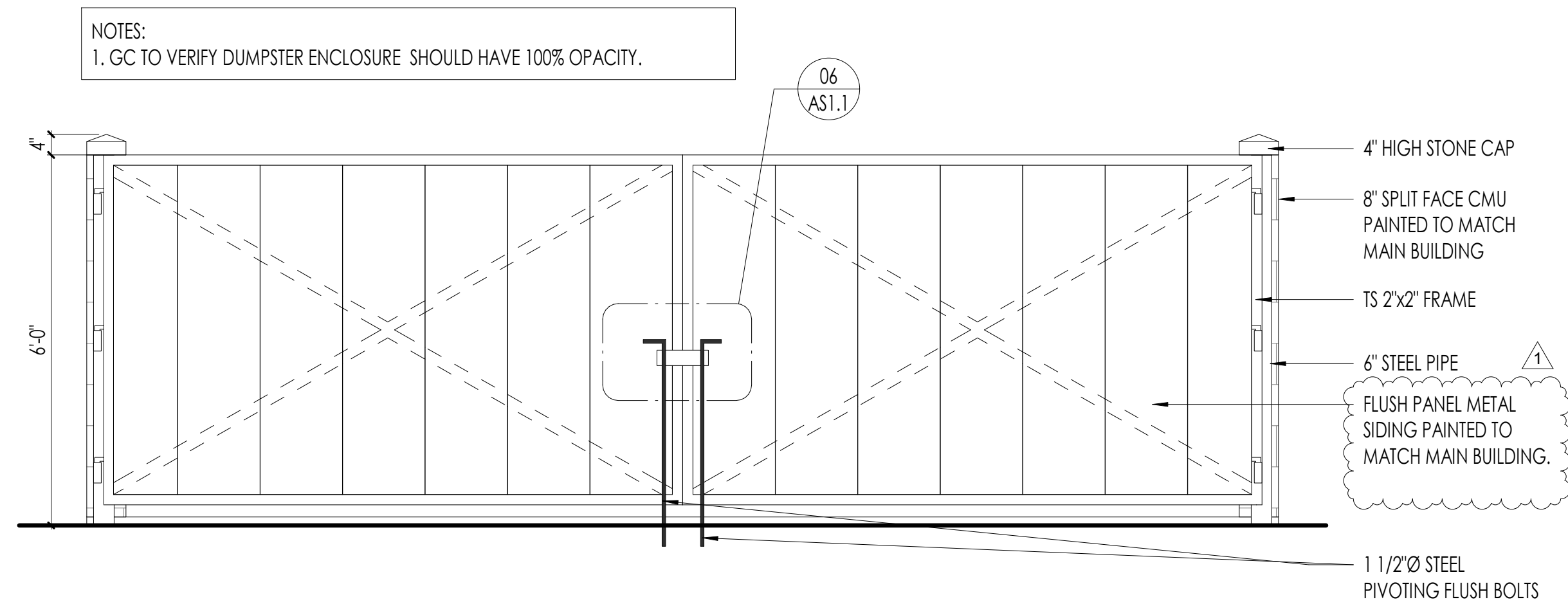
06 GATE CLASP  
SCALE: 3" = 1'-0"



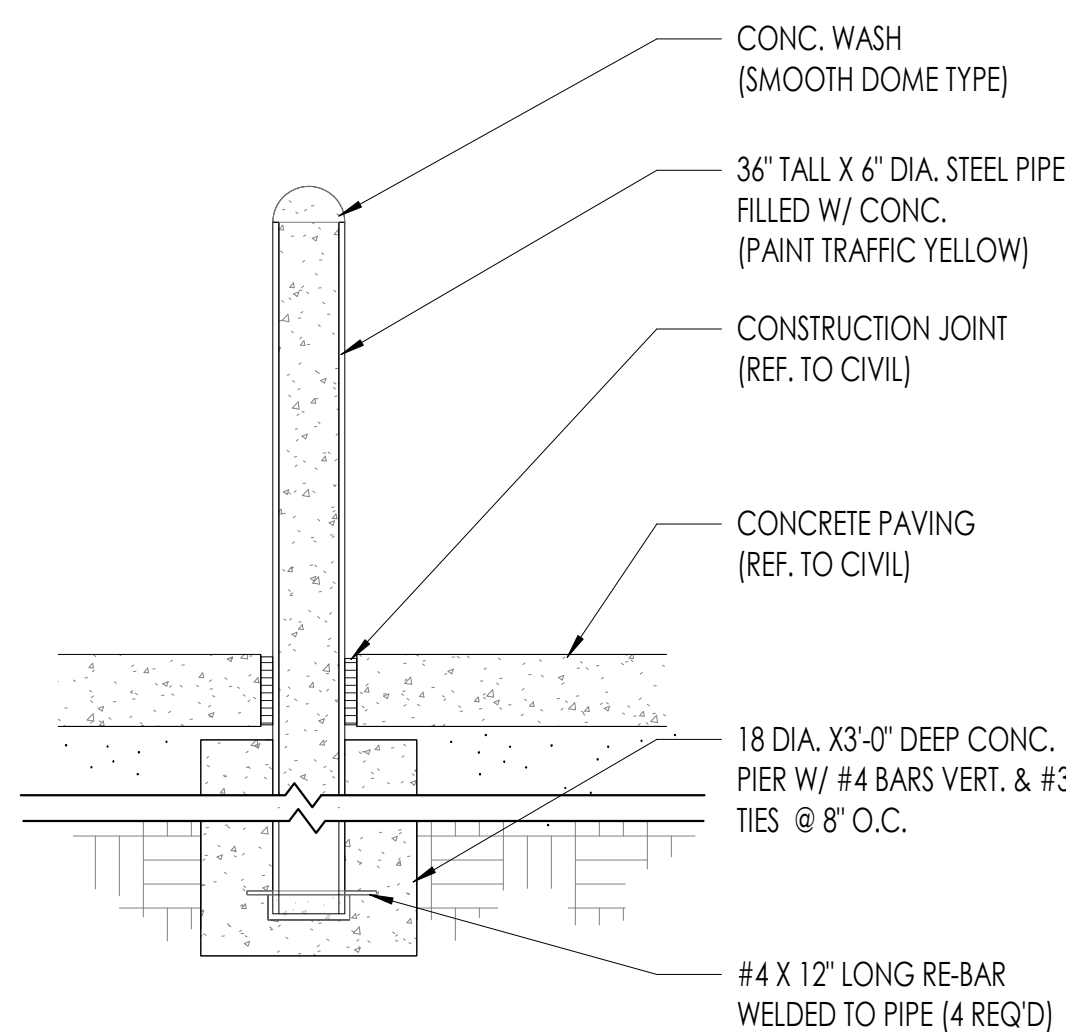
03 DUMPSTER ENCLOSURE SIDE ELEVATION  
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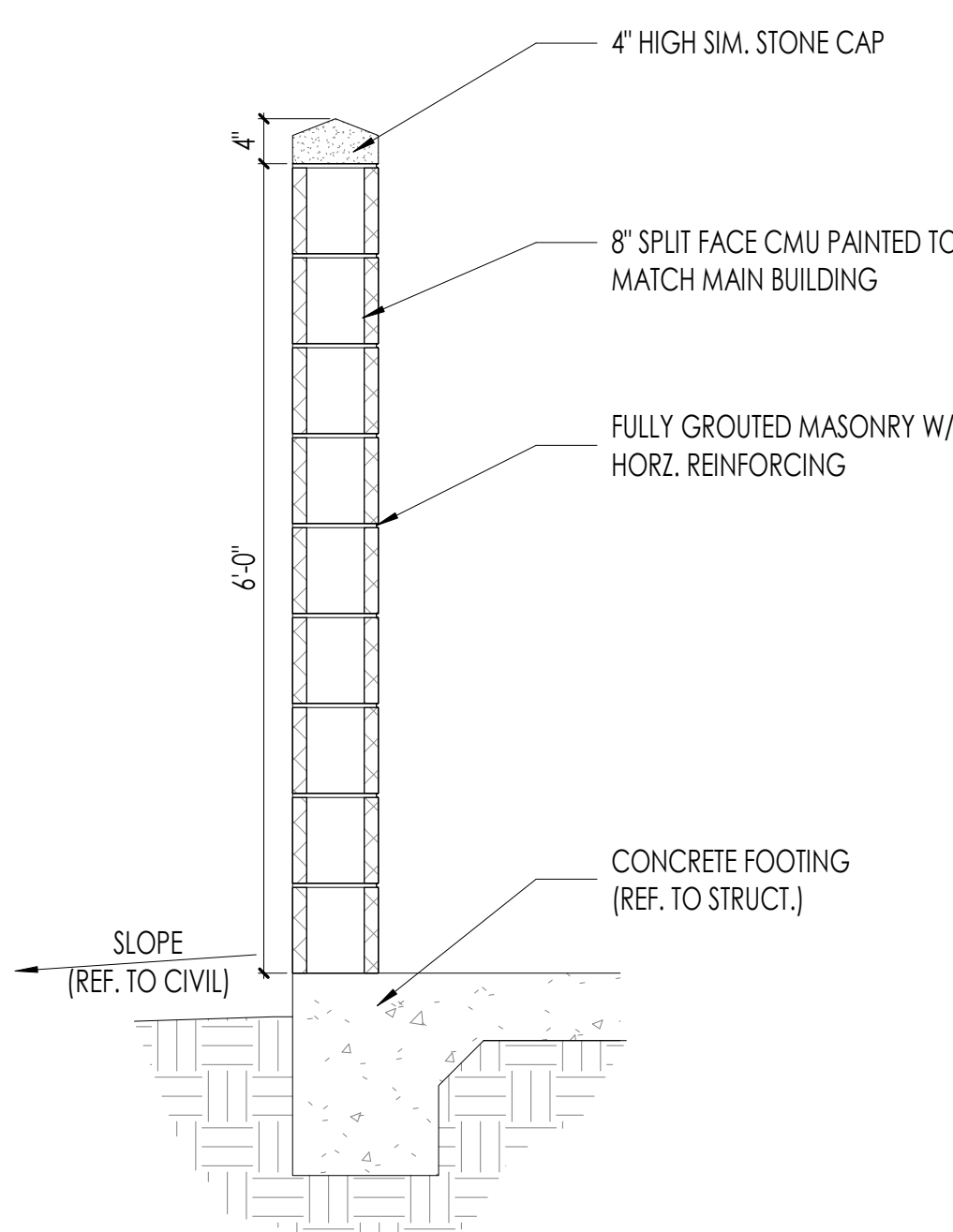
05 GATE DETAILS  
SCALE: 3/4" = 1'-0"



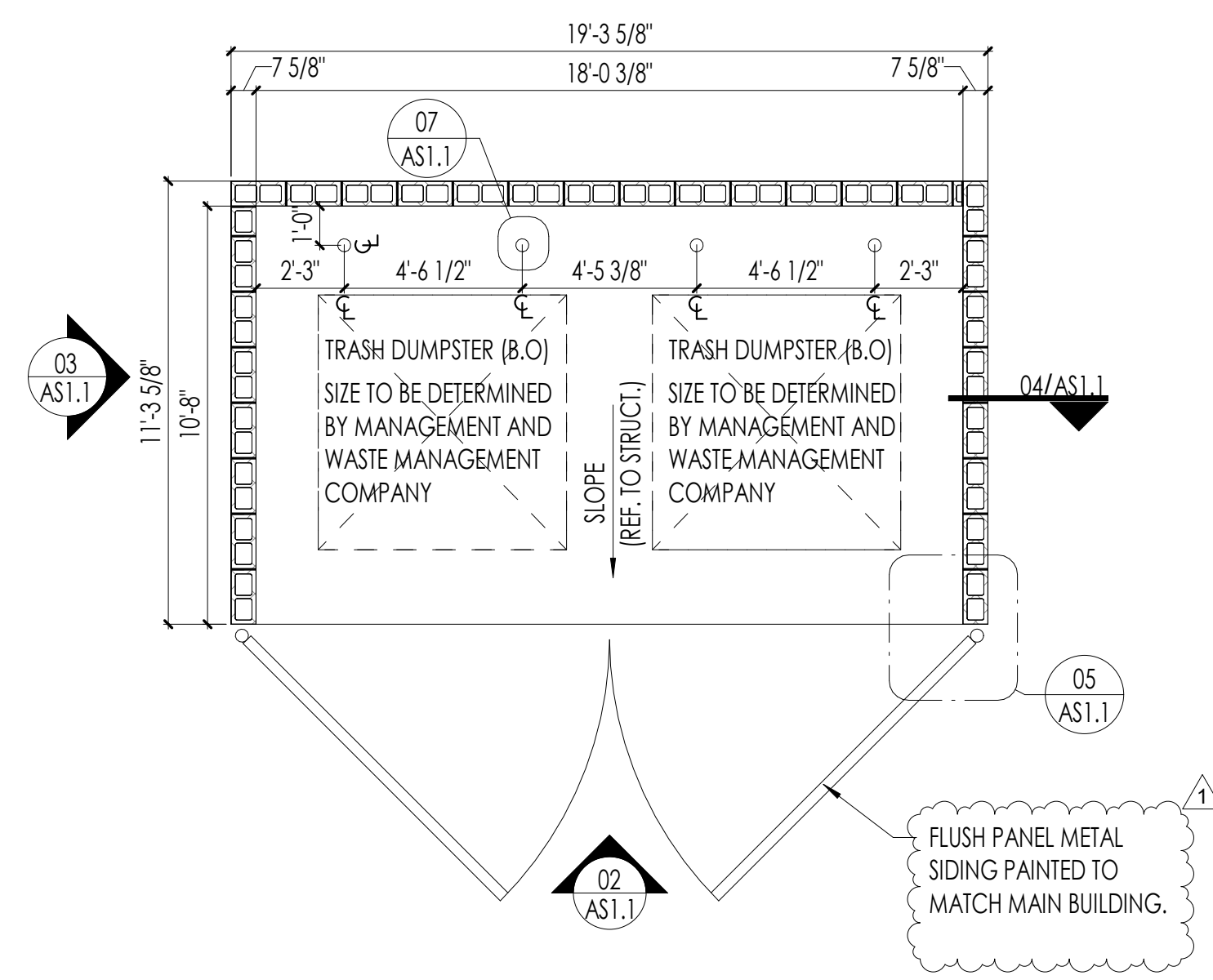
02 DUMPSTER ENCLOSURE FRONT ELEVATION  
SCALE: 1/2" = 1'-0"



07 BOLLARD DETAIL  
SCALE: 3/4" = 1'-0"



04 WALL SECTION  
SCALE: 3/4" = 1'-0"



01 DUMPSTER ENCLOSURE PLAN  
SCALE: 1/4" = 1'-0"

All measurements and items portrayed on this sheet are deemed to be accurate by architect, however all bidding General Contractors should field verify the actual conditions. Any changes to the scope of work, and thus potential change orders, should be identified and communicated in your price submittal to Cross Development / Caliber Collision.

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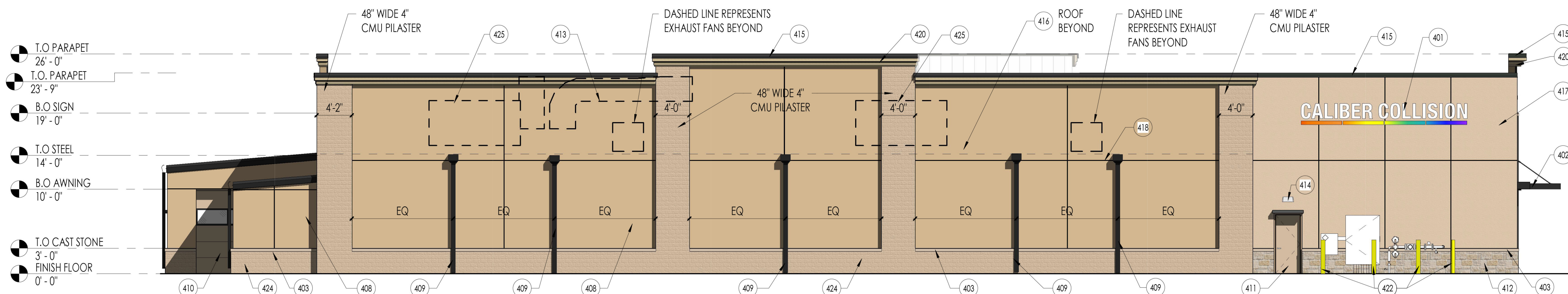
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Issue Date: 12.10.2021  
Revisions: 01.07.2022  
Revisions:  
Revisions:  
Revisions:  
Revisions:  
Revisions:  
Revisions:  
Site and Trash Enclosure Details

Sheet Number: AS1.1

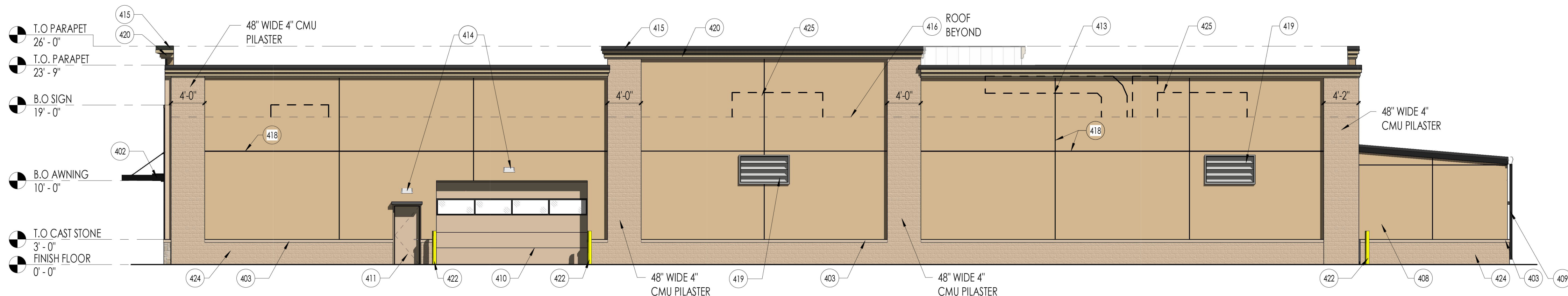




01 NORTH ELEVATION  
SCALE: 1/8" = 1'-0"



02 EAST ELEVATION  
SCALE: 1/8" = 1'-0"



03 WEST ELEVATION  
SCALE: 1/8" = 1'-0"



04 SOUTH ELEVATION  
SCALE: 1/8" = 1'-0"

FACADE DIRECTION	EAST DIRECTION	WEST DIRECTION	NORTH DIRECTION	SOUTH DIRECTION
METAL (PANEL, COPING, FRAMES, AND DOORS) SQ. FT.	36.39	248.69	93.27	497.7
PERCENTAGE (%)	2.80%	7.22%	4.64%	18.00%
STONE SQ. FT.	74.12	2.31	482.7	0
PERCENTAGE (%)	2.15%	0.07%	24.00%	0%
CAST STONE SQ. FT.	50.6	44.14	37.28	32.55
PERCENTAGE (%)	1.47%	1.28%	1.85%	1.18%
EIFS SQ. FT.	109.19	139.54	172.35	80.5
PERCENTAGE (%)	3.17%	4.03%	8.57%	2.91%
GLAZING SQ. FT.	0	28.61	177	65.82
PERCENTAGE (%)	0%	0.83%	8.80%	2.38%
3 STEP STUCCO SQ. FT.	618.92	13.05	1048.3	0
PERCENTAGE (%)	17.98%	0.38%	52.13%	0%
EIFS (OVER R-PANEL) SQ. FT.	1874.16	2298.15	0	1811.91
PERCENTAGE (%)	54.46%	66.43%	0%	65.54%
CMU SQ. FT.	618.22	642.13	0	276.21
PERCENTAGE (%)	17.96%	18.56%	0%	9.99%
LOUVERS SQ. FT.	0	42	0	0
PERCENTAGE (%)	0%	1.21%	0%	0%
TOTAL SQ. FT.	3441.61	3459.62	2010.9	2764.6
TOTAL PERCENTAGE	100%	100%	100%	100%

#### KEYNOTES:

- 401 SIGNAGE (BY OTHERS)-PROVIDE 3/4" PLYWD. BACKING (SEPARATE PERMIT).
- 402 PREMANUFACTURED MTL. AWNING W/ TIE RODS BY G.C. (CP-1)
- 403 SYNTHETIC STONE SILL/WATER TABLE. REFER TO SPECS.(CS-1)
- 404 PARAPET BACK PANEL (SOLAR WHITE COLOR).
- 405 MTL. GUTTER-PROVIDED BY MTL. BUILDING PROVIDER AND INSTALLED BY GC. (MTL-2)
- 406 STOREFRONT / GLAZING (AL-2).
- 407 ROOFLINE BEYOND.
- 408 1-1/2" EIFS OVER 1-1/2" METAL R-PANEL (EF-5).
- 409 PRE-FINISHED 6"x4" D (SQUARE) METAL DOWNSPOUT (BURNISHED SLATE)-PROVIDED BY MTL. BUILDING SUPPLIER AND INSTALLED BY GC.
- 410 FACTORY FINISHED SECTIONAL OH DOOR (PT-3).
- 411 HOLLOW MTL. DOOR (PT-3) AND FRAME (SADDLE TAN). PROVIDE DRIP CAP OVER DOORS WITH NO OVERHEAD COVER.
- 412 SYNTHETIC STONE VENEER (M-1).
- 413 EXHAUST AND AIR INTAKE. REF. PAINT BOOTH SHEETS.
- 414 WALL MOUNTED LIGHT FIXTURE. REF. MEP.
- 415 PRE-FINISHED MTL. COPING (MTL-2) - PROVIDED BY MTL. BUILDING SUPPLIER AND INSTALLED BY GC.
- 416 METAL BUILDING STANDING SEAM ROOFING (MTL-1).
- 417 3 STEP STUCCO INTEGRATED COLOR (PT-3).
- 418 CONTROL JOINT
- 419 WALL LOUVER. (CLEAR ANODIZED FINISH) REF. MEP
- 420 EIFS CORNICE. (PT-9).
- 421 EIFS ACCENT BANDING-PAINT TO MATCH SW6258 TRICORN BLACK (EF-4).
- 422 BOLLARDS.
- 423 PRE-FINISHED METAL BUILDING "R" PANEL ROOFING. (MTL-1)
- 424 SPLIT FACE C.M.U. - COLOR TO MATCH (PT-7) LIGHT STONE.
- 425 DASH LINE REPRESENTS ROOF TOP UNIT BEYOND.

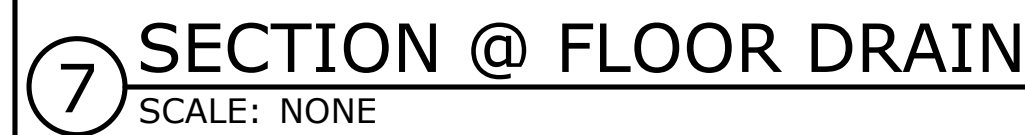
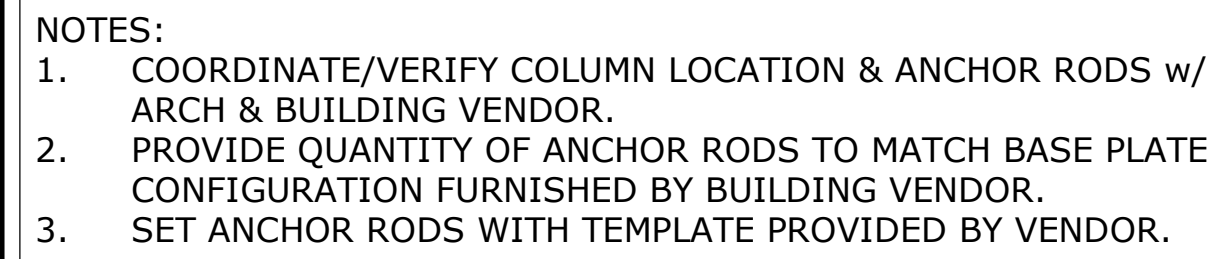
#### EXTERIOR FINISH LEGEND

FINISH KEY	DESCRIPTION	LOCATION	MANUFACTURER	PRODUCT COLOR	IDENTIFICATION/ FINISH/ STYLE	CONTACT
AL-2	STOREFRONT SYSTEM	OFFICE EXTERIOR	KAWNEER OR APPROVED EQUAL	DARK ANODIZED BRONZE	2" X 4-1/2" ALUMINUM FRAME	N/A
CS-1	CAST STONE (REF. ELEV)	OFFICE EXTERIOR	CORONADO STONE/ EL DORADO STONE	CORONADO- OFF WHITE EL DORADO-BUCKSKIN	REFER TO SPECS-047300	N/A-SAMPLE TO BE PROVIDED BY GC
CP-1	CUSTOM CANOPY	LOBBY ENTRANCE	ARCHITECTURAL FABRICATORS	DARK BRONZE	HELIOS 399 X 446	ARCH. FABRICATORS 1-800-962-8027
EF-4	EXTERIOR BANDING	-	SHERWIN WILLIAMS	TRICORN BLACK	-	BRETT C. HUCKLEBURY 214-728-6696
EF-5	E.I.F.S	SHOP EXTERIOR	-	COLOR TO MATCH SADDLE TAN	1-1/2" E.I.F.S OVER 1-1/2" R-PANEL	-
GR-2	EXTERIOR MASONRY MORTAR	-	SGS SOLOMON COLORS INC.	10X BUFF	TYPE S MORTAR	BART SNOWDEN 214-794-9159
M-1	EXTERIOR MASONRY	-	GC TO PROVIDE LOCAL ALTERNATE OR APPROVAL	CORONADO- TEXAS CREAM EL DORADO-AUSTIN CREAM	CORONADO STONE/ EL DORADO STONE REFER TO SPECS-047300	N/A
PT-3	EXTERIOR DOOR PAINT	-	SHERWIN WILLIAMS	NOMADIC DESERT	SW 6107	BRETT C. HUCKLEBURY 214-728-6696
PT-7	EXTERIOR FINISH	-	SHERWIN WILLIAMS	NOMADIC DESERT	SW 6107	BRETT C. HUCKLEBURY 214-728-6696
PT-9	EXTERIOR CORNICE	-	DRYVIT	BAVARIAN WOOD #448	SAND PEBBLE	N/A
MTL-1	MTL. ROOFING	SHOP ROOF	METL-SPAN	SOLAR WHITE	PREM. WEATHER XL E0.85 SRI:76	METL-SPAN 877-585-9969
MTL-2	RAKE, GUTTER, TRIM	EXTERIOR	METL-SPAN	BURNISHED SLATE	PREM. WEATHER XL E0.86 SRI:25	METL-SPAN 877-585-9969

#### GENERAL NOTE

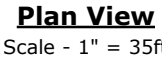
- DOWNSPOUTS ARE INDICATED FOR SIZE, QUANTITY, AND APPROXIMATE LOCATION ONLY.
- HOLLOW METAL STEEL DOORS, FRAMES, EXPOSED METAL FLASHING AND EXPOSED MISCELLANEOUS STEEL SHALL MATCH ADJACENT BUILDING COLOR UNLESS NOTED OTHERWISE. IF THERE ARE TWO ADJACENT COLORS AT THE DOOR LOCATIONS CONTRACTOR TO USE THE BASE OF THE BOTTOM FINISH FOR THE ENTIRE DOOR.
- SIGNAGE SHALL BE PERMITTED SEPARATELY.
- REFER TO THIS SHEET FOR FINISHES AND MATERIALS.
- PAINT EXPOSED STEEL BEAMS IN STORAGE AREA.
- THE LIGHT SOURCE FOR EXTERIOR FIXTURES SHALL NOT PROJECT BELOW THE OPAQUE HOUSING SELECTED. NO FIXTURE SHALL DIRECTLY PROJECT LIGHT HORIZONTALLY.







Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
SITE	+	1.1 fc	5.7 fc	0.0 fc	N/A	N/A
100' BEYOND PROP LINE	+	0.0 fc	0.8 fc	0.0 fc	N/A	N/A



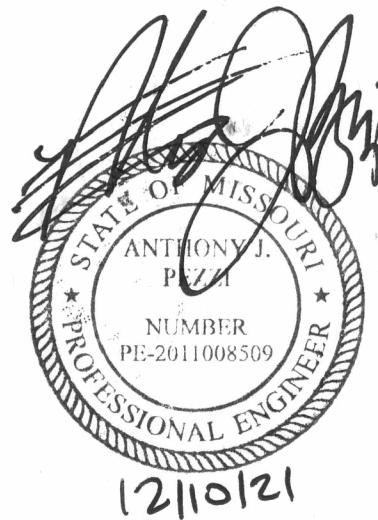




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ARCHITECTURE

2934 Siskin Drive  
Suite 120  
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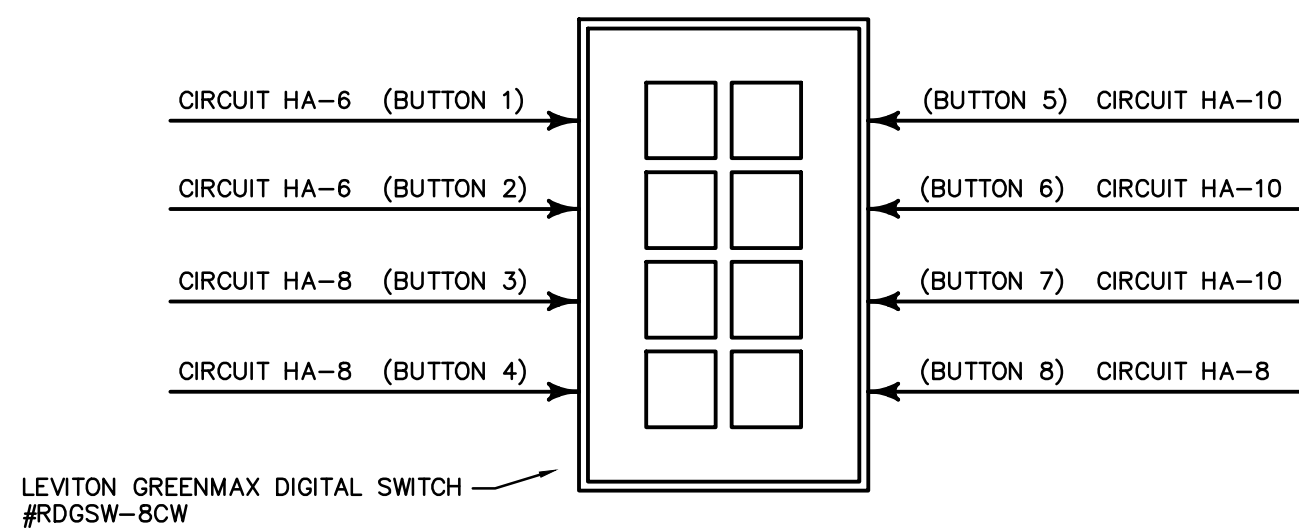
Architecture  
Planning  
Interior Architecture



**CALIBER  
COLLISION**

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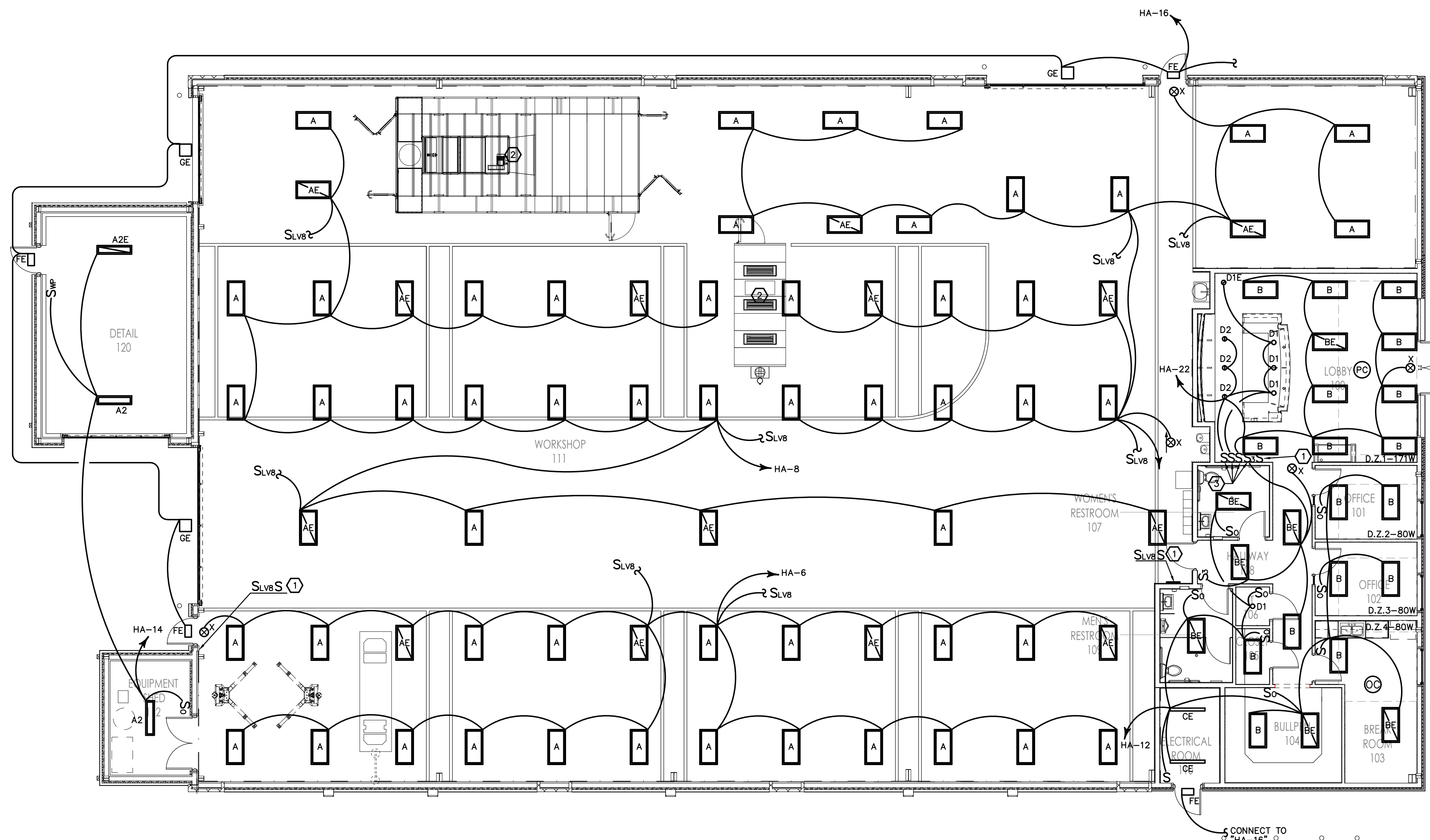
CONTRACTOR SHALL RUN ALL OVERHEAD ELECTRICAL CONDUITS ABOVE MAIN FRAMES PARALLEL WITH ROOF PURLINS PRIOR TO ROOF INSULATION. MAINTAIN A MINIMUM 1-1/2" SEPARATION FROM THE LOWEST SURFACE OF THE ROOF DECKING TO THE TOP OF THE RACEWAY, BOX, ETC. IN ACCORDANCE WITH NEC 300.4(E). SEE ARCHITECTURAL PLANS FOR RECOMMENDED CONDUIT RUN LOCATION.



### 8 BUTTON DIGITAL SWITCH DETAIL (SLV8)

NO SCALE

NOTE: SWITCH SHALL CONTROL CIRCUITS SHOWN VIA LIGHTING CONTROL PANEL BY LEVITON



### LIGHTING PLAN

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

### GENERAL LIGHTING NOTES

- ALL CIRCUITS ARE FED FROM PANEL "H1" U.N.O. ROUTE ALL CIRCUITS THROUGH RELAY-BASED LIGHTING CONTROL PANEL FOR PHOTOCELL/TIME OF DAY CONTROL. PROVIDE LIGHTING CONTROL PANEL OVERRIDE SWITCHES PER PLAN.
- PRIOR TO ROUGH-IN, VERIFY MOUNTING HEIGHTS AND ELECTRICAL REQUIREMENTS WITH OWNER AND ARCHITECTURAL DETAILS. HEIGHT OF ALL SWITCHES, PULLS, AND CONTROLS SHALL BE ACCESSIBLE PER A.D.A., MAXIMUM 48" AFF TO TOP OF OPERATION.
- FINISH COLOR ON ALL OUTLET AND SWITCH FACEPLATES SHALL BE WHITE. VERIFY AND COORDINATE FINAL COLOR WITH OWNER.
- CIRCUIT ALL EXIT SIGNS "X" TO LOCAL LIGHTING CIRCUIT. CIRCUIT ALL EXIT SIGNS, EMERGENCY FIXTURES, AND UNSWITCHED NIGHT LIGHTS AHEAD OF ALL SWITCHES AND TIME CLOCK.
- REFER TO ARCHITECTURAL DRAWINGS FOR ALL LIGHTING DIMENSIONS PERTAINING TO LOCATIONS, HEIGHT, MOUNTING HEIGHTS, ETC. CONTRACTOR SHALL VERIFY LIGHTING IN THE SHOP BAY AREA TO BE MOUNTED AT 12'.
- ALL ELECTRICAL DEVICES TO BE A MINIMUM OF 36" AWAY FROM PAINT BOOTH DOORS. CONTRACTOR TO REFER TO "PAINT BOOTH SPECIFICATIONS" FOR EXACT LOCATIONS OF AREA THAT SHALL REMAIN FREE OF ANY SPARKING DEVICES. ANY ELECTRICAL DEVICES OR APPURTENANCES LOCATED WITHIN 36" OF BOOTH SHALL MEET NEC INSTALLATION REQUIREMENTS FOR CLASS 1, DIVISION 2 HAZARDOUS LOCATIONS.
- CONTRACTOR TO INSTALL OCCUPANCY / VACANCY SENSOR SWITCH ( ) AS SHOWN. PROVIDE ACUTY #WSX-PDT-SA OR EQUIVALENT. COORDINATE FINISH WITH OWNER.
- CONTRACTOR TO INSTALL OCCUPANCY / VACANCY SENSOR ( ) AS SHOWN. PROVIDE ACUTY #CM-PDT SERIES OR EQUIVALENT. COORDINATE FINISH WITH OWNER. PLACE OF SENSORS. PROVIDE LOW-VOLTAGE SWITCH FOR MANUAL-ON OPERATION. ACUTY #SPDM-SA OR EQUIVALENT. BOTH ANALOG AND DIGITAL SYSTEMS ARE ACCEPTABLE. ANALOG SERIES: ACUTY SENSOR SWITCH. DIGITAL SERIES: ACUTY NIGHT OR EQUIVALENT.
- CONTRACTOR TO INSTALL CEILING MOUNTED DAYLIGHT SENSOR ( ) AS SHOWN. INSTALL ACUTY #CM-ADC-VLP SERIES. COORDINATE FINISH WITH ARCHITECT. LOCATIONS SHOWN ARE APPROXIMATE. REFERENCE INSTALLATION MANUAL FOR OPTIMUM PLACEMENT OF SENSORS. ALL LIGHTS INDICATED IN THE DAY-LIGHT ZONE TO BE 0-10V DIMMABLE AND CONTROLLED BY PHOTOCELL IN ZONE. BOTH ANALOG AND DIGITAL SYSTEMS ARE ACCEPTABLE. ANALOG SERIES: ACUTY SENSOR SWITCH. DIGITAL SERIES: ACUTY NIGHT OR EQUIVALENT.
- AT ALL LOCATIONS WHERE CEILING OCCUPANCY / VACANCY SENSORS ARE SHOWN TO BE USED IN CONJUNCTION WITH DIMMING, CONTRACTOR TO PROVIDE DIMMING POWER-PACKS AS REQUIRED WITH DIMMING ZONE OR PRESET STATIONS. MULTI-BUTTONS MAY BE USED AS INDICATED ON PLAN. BOTH ANALOG AND DIGITAL SYSTEMS ARE ACCEPTABLE. ANALOG SERIES: ACUTY SENSOR SWITCH. DIGITAL SERIES: ACUTY NIGHT OR EQUIVALENT.
- D.Z.(#) = DAYLIGHT ZONE (#). ALL DAYLIGHT ZONES ARE EXEMPT DUE TO BEING LESS THAN 150 WATTS IN EACH EXCEPT FOR DAYLIGHT ZONE #1. PROVIDE DAYLIGHT HARVESTING PER IECC.
- LOWER CASE LETTER "X" BY CIRCUIT DESIGNATION INDICATES CORRESPONDING LIGHT SWITCH.
- ELECTRICAL CONTRACTOR TO REFERENCE ARCH PLANS FOR LIGHTING DIMENSION CONTROL PLAN FOR LIGHT LOCATIONS.
- THE WIRING OF THE HVAC, FIRE ALARM, SECURITY, AND EMERGENCY COMMUNICATIONS AND SIGNALING SYSTEMS ARE REQUIRED THAT ALL CABLES USED FOR EMERGENCY COMMUNICATIONS HAVE A 2-HOUR FIRE-RESISTIVE RATING AND BE RATED FOR USE IN RISERS.
- NO CONDUITS ROUTED THROUGH SHOP FLOOR UNLESS SPECIFICALLY NOTED OTHERWISE.
- NO EXPOSED MC CABLE ALLOWED EXCEPT FOR APPROXIMATELY 6" MAXIMUM AT LIGHT FIXTURE CONNECTIONS. THERE SHALL BE NO LONG RUNS OF MC CABLE.
- ALL CONDUITS SHALL BE INSTALLED AS TIGHT TO DECK AS POSSIBLE. MAINTAIN 1-1/2" SEPARATION FROM THE LOWEST SURFACE OF THE ROOF DECKING TO THE TOP OF THE RACEWAY, BOX, ETC. IN ACCORDANCE WITH NEC 300.4(E).
- NOTHING IN THE SHOP AREAS SHALL BE MOUNTED BELOW 12'-0" AFF, UNLESS SPECIFICALLY NOTED AS SUCH. ALL PIPES, CONDUITS AND LINES SHALL BE RUN NEAT AND AS HIGH AND TIGHT TO STRUCTURE AS POSSIBLE. ROUTE CONDUIT WITHIN GIRTS WHEREVER POSSIBLE.
- DO NOT DAISY CHAIN LIGHTING IN SHOP.

### KEY LIGHTING NOTES

- 2-HOUR MAXIMUM OVERRIDE SWITCH FOR LIGHTING CONTROL PANEL. CONFIRM LOCATION WITH OWNER PRIOR TO ROUGH-IN. SWITCH SHALL BE LEVITON GREENMAX #RDGSW-2CW.
- LIGHTING UNITS IN PAINT BOOTH WILL BE PROVIDED BY MANUFACTURER.
- SWITCH SHALL BE A 4-BUTTON DIGITAL SWITCH: LEVITON GREENMAX #RDGSW-4CW.

### LIGHTING CONTROL NOTES

- BUILDING SHALL HAVE A LIGHTING CONTROL SYSTEM CAPABLE OF TURNING OFF ALL BUILDING LIGHTS AUTOMATICALLY AFTERSHOURS.
- AFTERSHOURS LIGHTING SYSTEM SHALL INITIATE AUTOMATIC SHUTDOWN EVERY THREE HOURS.
- SPACES WITH INDIVIDUAL OCCUPANCY SENSORS AND AUTOMATIC SHUTOFF WILL NOT BE CONTROLLED BY LIGHTING CONTROL PANEL.
- SPACES WITH OCCUPANCY SENSORS AND LOCAL LIGHTING CONTROL WILL BE WIRED WITH OCCUPANCY SENSOR AHEAD OF LOCAL LIGHTING CONTROL. PROVIDE ADDITIONAL RELAYS FOR SEPERATE CIRCUITS AND/OR DIFFERENT VOLTAGES.
- LIGHTING CONTROL SYSTEM SHALL ALSO CONTROL EXTERIOR LIGHTING AND SIGN CIRCUITS.
- PROVIDE COMMISSIONING AND FUNCTIONAL TESTING IN ACCORDANCE WITH THE 2018 INTERNATIONAL ENERGY CONSERVATION CODE. COMMISSIONING AND TESTING TO BE PERFORMED BY MANUFACTURER REPRESENTATIVE. PROVIDE WRITTEN CERTIFICATION TO OWNER UPON COMPLETION OF COMMISSIONING. DURING TESTING THE FOLLOWING PROCEDURES SHALL BE PERFORMED.
  - CONFIRM THAT THE PLACEMENT, SENSITIVITY AND TIME-OUT ADJUSTMENTS FOR OCCUPANCY SENSORS YIELD ACCEPTABLE PERFORMANCE.
  - CONFIRM THAT THE PROGRAMMABLE SCHEDULE CONTROLS ARE PROGRAMMED TO TURN THE LIGHTS OFF.
  - CONFIRM THAT THE PLACEMENT AND SENSITIVITY ADJUSTMENTS FOR PHOTOSENSOR CONTROLS REDUCE ELECTRIC LIGHT BASED ON THE AMOUNT OF USABLE DAYLIGHT IN THE SPACE AS SPECIFIED ABOVE.



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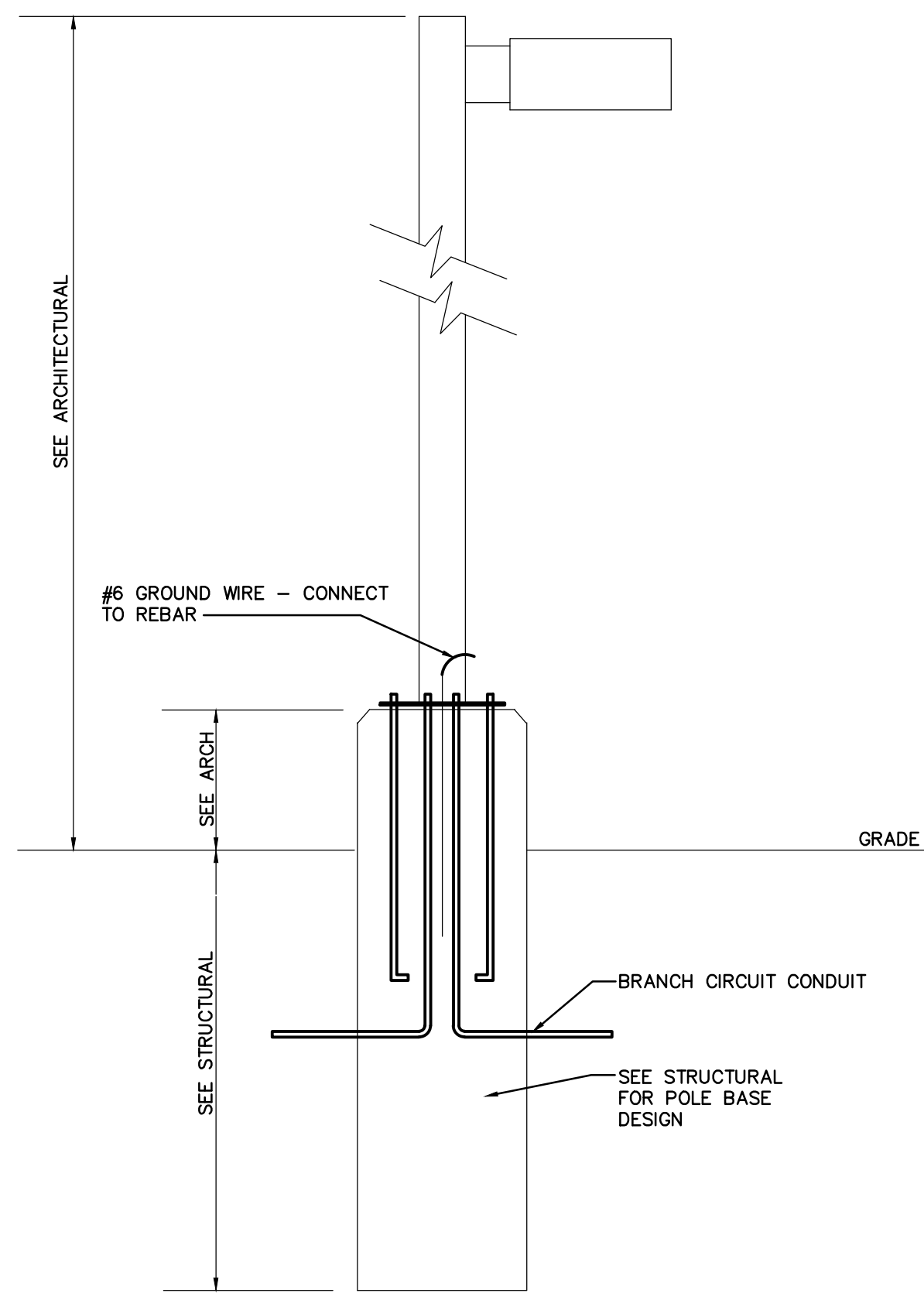
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Issue Date: 12.10.2021  
Revisions:  
Revisions:  
Revisions:  
Revisions:  
Revisions:

LIGHTING PLAN

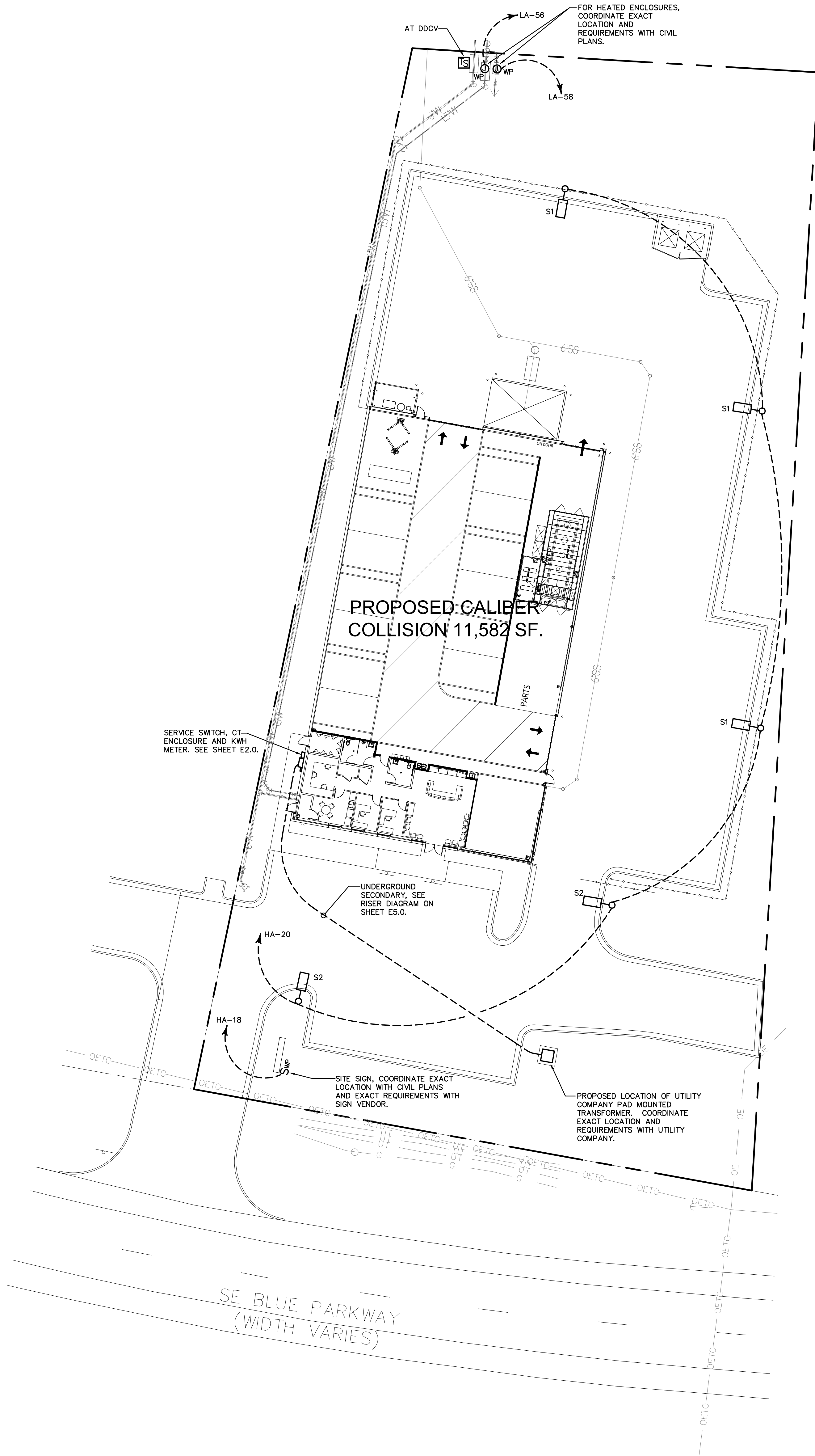
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E1.00





POLE BASE/PARKING LOT LIGHT FIXTURE DETAIL  
NO SCALE



SITE ELECTRICAL PLAN  
SCALE: 1" = 20'-0"

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ELECTRICAL  
COA NUMBER: F01125744  
4751 TROUSDALE DRIVE, SUITE 202  
NASHVILLE, TN 37220  
615-386-9396  
ANTHONY PEZZI, ELECTRICAL ENGINEER  
LICENSE NUMBER: PE-2011008509



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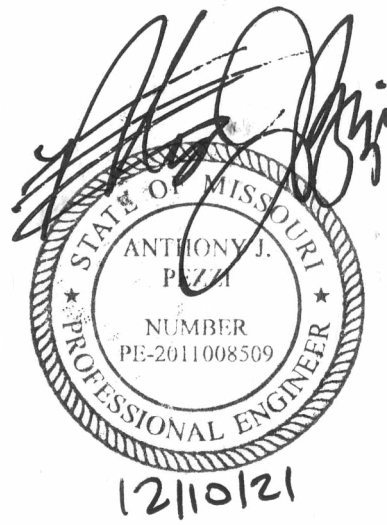
SITE ELECTRICAL PLAN  
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