SITE WORK CONSTRUCTION DOCUMENTS FOR COLLEGE OF OSTEOPATHIC MEDICINE AT THE CHEROKEE NATION

SUMMARY OF WORK 1. The Work to be performed consists of providing all labor, materials, equipment and services necessary for the complete construction and start up of the COLLEGE OF OSTEOPATHIC MEDICINE AT THE CHEROKEE NATION as shown on the Drawings and herein specified in accordance with the Contract Documents.

- 1. All costs for labor, materials, equipment, and services necessary for complete construction and start—up of the Work as shown on the Drawings and specified herein shall be included in the contract price unless otherwise indicated in the Contract Documents
- 2. Work shown on the Drawings or required by the Specifications but not specifically listed in the Summary of Quantities shall be considered incidental construction, and the cost of such work shall be included in the Unit Prices Bid. 3. CONTRACTOR shall make their own estimate of the labor, materials, equipment, and
- services necessary to complete the work and shall visit the site and fully acquaint himself of the existing conditions prior to commencing construction. CONTRACTOR shall notify ENGINEER of any errors in the ENGINEER's construction quantities; or any condition at the site that may affect the construction of the work as shown on the Drawings.

GENERAL REQUIREMENTS

CONTRACT COSTS

- 1. Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Cardinal Engineering, Inc., including electronic media editions, shall not be reused on extensions of the Project or any other project without written consent of OWNER and Cardinal Engineering, Inc. and specific written verification or adaptation by Cardinal Engineering, Inc.
- 2. Survey information shown on the drawings were provided by Lemke Land Surveying, 3226 Bart Conner Drive, Norman, OK, 73072 Phone (405) 366-8541, CA #2054.

APPLICABLE CODES AND SPECIFICATIONS

1. All references to codes, specifications, and standards referred to in the Specification and on the Drawings shall mean, and are intended to be, the latest edition, amendment, and/or revision of such reference standard in effect as of the date of these Contract Documents.

PROCEDURAL REQUIREMENTS

- 1. CONTRACTOR shall make the coordination of the operations of all trades, subcontractors, and material suppliers engaged upon or in connection with the Work. Every effort shall be made to assure a harmonious, cooperative attitude on the part of all concerned. CONTRACTOR shall guarantee to each of his foremen and subcontractors the proper dimensions they may require for the fitting of their work to adjoining work. All fitting and adjusting necessary to make all the parts of the work join together properly shall be made
- 2. Cooperation with utility and government officials and inspectors shall occur at all times. If any official or inspector deems special inspection is necessary, assistance and facilities that will expedite his inspection shall be provided.

TEMPORARY FACILITIES AND CONTROLS

- 1. Arrange for and provide temporary facilities and controls as specified herein and as required for the proper and expeditious prosecution of the work. Pay all costs, except as otherwise specified, until final acceptance of the work unless the OWNER makes arrangements for the use of completed portions of the work after substantial completion in accordance with the provisions of the General Conditions.
- 2. Make all temporary connections to utilities and services in locations acceptable to the OWNER, ENGINEER, and local authorities having jurisdiction thereof; furnish all necessary labor and materials, and make all installations in a manner subject to the acceptance of such authorities and the ENGINEER; maintain such connections; remove the temporary installation and connections when no longer required; restore the services and sources of supply to proper operating condition.
- 3. Pay all costs for temporary electrical power and temporary water.
- 4. Water necessary for construction purposes shall be provided. All temporary connections shall be made to existing mains. A temporary meter shall be provided. Arrangements and payment for the temporary water service, including cost of installation, maintenance thereof, and water used shall be made. At the completion of the construction work, all temporary water service equipment and piping shall be removed.
- 5. Chemical toilets for the use of all construction personnel shall be provided at a location within the limits of the Site. Chemical toilets shall be maintained in a sanitary condition.
- 6. From the commencement to the completion of the work, keep all parts of the site and the project free from accumulation of water, and supply, maintain, and operate all necessary pumping and bailing equipment.
- 7. Remove snow and ice as necessary for the protection and prosecution of the work, and protect the work against weather damage.

PRODUCT REQUIREMENTS

- 1. Materials, products, and equipment shall be properly containerized, packaged, boxed, and protected to prevent damage during transportation and handling. 2. Provide suitable temporary weather tight storage facilities as may be required for
- materials that will be damaged by storage in the open. Any off-site storage space used is the responsibility of the CONTRACTOR. Store and protect materials delivered at the site from damage. Do not use damaged material on the work. 3. Manufactured articles, materials, and equipment shall be applied, installed, connected,
- erected, used, cleaned, and conditioned as directed by the respective manufacturers, unless otherwise specified. 4. References to approved equal or similar terms mean that approval of the ENGINEER is
- required. 5. Whenever the Contract Documents require that a product be in accordance with Federal specification, ASTM designation, ANSI specification, AWWA specification, or other association standard, the CONTRACTOR shall present an affidavit from the manufacturer certifying that the product complies therewith. Where requested or specified, submit supporting test data to substantiate compliance.

EXECUTION REQUIREMENTS

- 1. CONTRACTOR shall be responsible for properly laying out the work, and for lines and measurements for the work executed under the Contract Documents. Verify the figures shown on the Drawings before ordering any materials and laying out the work, and report errors or inaccuracies in writing to the ENGINEER before commencing work. The ENGINEER or his representative will in no case assume the responsibility for laying out the work.
- 2. OWNER has or will perform a survey of the site, stake the property limits, and provide a reference benchmark elevation. CONTRACTOR shall be responsible for any additional offset staking or layout survey required to locate improvements and control grade of improvements. Be responsible for the proper location and level of the work and for the maintenance of reference lines and benchmarks. Any re-staking requested by the CONTRACTOR shall be done at his expense.
- 3. Existing survey points other than those specifically mentioned herein shall not be considered as acceptable control points unless approved by the ENGINEER. If approval is secured. CONTRACTOR remains responsible for maintaining them and for their accuracy. Be responsible for preserving all existing iron or metal, and all concrete survey points or monuments for the construction period.

STORM WATER POLLUTION PREVENTION PLAN

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- 1. Construction activities that result in land disturbance of equal to or greater than one (1) acre, or less than one (1) acre, if they are part of a larger common plan of development or sale that totals at least one (1) acre must also obtain a permit for Storm Water Discharges from Construction Activities. This means that land disturbing of one (1) acre or more must permit with EPA.
- 2. A copy of the erosion control site plan must be on site at all times and made available to the inspector upon request.
- 3. The contractor shall be responsible for the repair or replacement of all erosion control devices damaged due to construction.
- 4. A Storm water Pollution Prevention Plan (SWPPP) has been prepared for the WORK and a Notice of Intent (NOI) has been submitted by OWNER. CONTRACTOR shall implement the SWPPP, and construct, inspect, and maintain the erosion controls to prevent runoff of silt and sediment from the site. A copy of the SWPPP shall be kept at the site at all times and be made available to inspectors upon request. Inspections reports shall be maintained in the SWPPP and the SWPPP shall be updated when necessary.
- 5. The erosion control plan, Notice of Intent (NOI), and the Storm Water Pollution Prevention Plan (SWPPP), as well as any other applicable state or municipal permits shall be kept on site by the construction superintendent at all times. Said items shall be made available to state and municipal authorities upon request.
- 6. Inspect disturbed areas of the construction site that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, structural control measures, and locations where vehicles enter or exit the site, at least once every fourteen (14) calendar days and within 24 hours of the end of a storm event of 0.25 inches or greater.
- 7. All erosion and sediment control measures and other protective measures identified in this SWPPP must be maintained in effective operating condition. If site inspections identify erosion controls that are not operating effectively, maintenance shall be performed before the next anticipated storm event, or as necessary to maintain the continued effectiveness of storm water controls. If maintenance prior to the next anticipated storm event is impracticable, maintenance must be scheduled and accomplished as soon as practicable.

- hazard to users of public streets).
- design capacity has been reduced by 50%.
- outfalls, picked up daily). EXISTING UTILITIES AND STRUCTURES
- existing utilities.
- utilities by probing, excavating, hydro-vac, or by any other means.
- construction activities with the utility companies to ensure compliance with the project schedule.
- PROTECTION AND MAINTENANCE 1. Perform all special construction operations and take all precautions necessary to
- employees, and the public in general.
- Drawinas
- to the OWNER.

- driveways or entrances.
- proper vegetation is reestablished.

- satisfaction of OWNER.
- condition.
- construction, unless directed otherwise by the OWNER.
- EXCAVATION AND TRENCH SAFETY SYSTEMS

TRAFFIC CONTROL

- existing traffic control devices.
- the public.
- CONTRACTOR shall establish all detour routes while streets are closed during

8. If sediment escapes the construction site, off-site accumulations of sediment shall be removed at a frequency sufficient to minimize offsite impacts (e.g., fugitive sediment in street could be washed into storm sewers by the next rain and/or pose a safety 9. Sediment shall be removed from sediment traps or sedimentation ponds when the

10.Litter, construction debris, and construction chemicals exposed to storm water shall be

prevented from becoming a pollutant source for storm water discharges (e.g., screening

1. CONTRACTOR shall contact OKIE (1-800-522-6543) prior to construction for locating

2. The underground utilities shown have been located from field survey surface information and existing drawings. ENGINEER and Surveyor make no guarantee that the underground utilities shown comprise all such utilities in the area, either in service or abandoned. The underground utilities are located as accurately as possible from information available: however, ENGINEER and Surveyor further do not augrantee that the underground utilities shown are in the exact location indicated either vertically or horizontally. ENGINEER and Surveyor have not physically located the underground

Prior to construction, CONTRACTOR shall notify all utility companies and governmental agencies who may have utility lines on or about the premises or who may be affected by the construction. Notice shall be given no less than twenty-four hours prior to any work that may interfere with a utility. CONTRACTOR shall also coordinate the

4. All existing structures, improvement and utilities designated to remain shall be adequately protected from damage that might otherwise occur due to construction operations. Where construction comes in close proximity to existing structures, utilities or appurtenances. or if it becomes necessary to move services, poles, guy wires, pipe lines or other obstructions, CONTRACTOR shall notify and cooperate with the owner of the utility, structure, or appurtenance. The utility lines and other existing structures shown on the plans are for information only and are not guaranteed to be complete or accurate as to location and/or depth. CONTRACTOR shall be liable for damage to any utilities resulting from the CONTRACTOR's operations. During construction, all fire hydrants, valve boxes, fire or police call boxes and other existing utility controls shall be left intact, unobstructed and accessible unless noted on the plan.

5. Any existing valve boxes, meters, fire hydrants, manholes, and other public utilities shall be rebuilt to finished grades according to specifications. All valves, manhole lids, and sewer clean-outs located in paved areas, shall be rated for H-20 traffic loading. Coordinate the work with the appropriate utility department.

adequately protect the materials and work performed, the property and landscape of OWNER and others, existing buildings and improvements, existing utilities, workers and

2. Where trees, plants, shrubbery, and other vegetation are adjacent to the line of the work and are designated not to be destroyed or removed and replaced. CONTRACTOR shall protect these items by substantial wooden boxes and guards and shall not permit machinery or employees to scrape, tear the limbs from or damage, or attach guy cables to them. Hand excavation may be required if machinery could damage tree plants, shrubbery, and other vegetation designated to be left undisturbed. CONTRACTOR shall be responsible for all damages to such trees, plants, shrubbery, and other vegetation unless specific provisions are made for their removal or abandonment on the

3. Existing fences that require cutting for gates or other reasons shall be adequately braced to prevent slacking of the fence before it is cut. Livestock may be present ir all fenced areas; therefore, points of entrance shall be kept closed at all times and the CONTRACTOR shall be responsible for the containment of livestock, their safety, and the safety of the public. All fencing shall be done in a workmanlike manner with standard construction practices as per the standard details provided. Gates installed shall be chained and locked closed. Locks shall be keyed alike. Provide a set of keys

4. The sides of all excavations shall be sufficiently sheeted and shored to prevent slides, cave-ins, settlement or movement of the banks and to maintain the excavation clear of all obstructions that will, in any way, hinder or delay the progress of the work. All sheeting, shoring and bracing shall have sufficient strength and rigidity to withstand the pressure exerted and maintain the sides of the excavation properly in place and protect all persons, including workmen, and all property from injury or damage. The removal of sheeting, shoring and bracing shall be done in such manner as to not endanger new or existing structures, public or private property, and to avoid cave—ins or slides of the banks. Sheeting, shoring, or bracing shall not be left in place.

5. Shore up and protect any building or other structure which may be endangered during the work and restore all buildings, culverts, fences, walls, or other properties disturbed during the work to a condition equal to that existing before operation. CONTRACTOR shall be responsible for any injuries to persons and for damages to existing buildings or other structures affected by the work, and OWNER shall not be liable therefore.

Immediately remove all surface or seepage water from sewers, drains, ditches, and other sources that may accumulate water during the excavation and construction work by pumping, bailing, or draining. CONTRACTOR shall have available at all times sufficient equipment in proper working order for doing the work herein required. All water removed from excavations shall be disposed of in an approved manner, so as to not create unsanitary conditions, nor to cause injury to persons or property or damage to the work in progress, nor to interfere unduly with the use of streets, private

When existing storm sewers, drains, or ditches are blocked, cut, opened, or removed in the course of the work, CONTRACTOR shall provide and maintain temporary outlets and connections until permanent facilities have been restored. Provide and maintain any pumps, diversions, piping, containers, and other facilities required for this purpose. 8. During construction and until such time as vegetation is reestablished, keep exposed dirt areas within the limits of construction and in stockpiles areas damp to prevent blowing. CONTRACTOR shall be responsible for providing and maintaining adequate erosion protection during construction and following construction until such time as

9. The premises and the job site shall be maintained in a reasonably neat and orderly condition and kept free from accumulations of waste materials and rubbish during the entire construction period. Remove crates, cartons, and flammable waste materials or trash from the work areas at the end of each working day.

10. Upon completion of the work and before final acceptance and final payment shall be made, the CONTRACTOR shall completely clean and remove from the site of the work all equipment, construction materials, surplus and discarded materials, temporary structures and debris of every kind. CONTRACTOR shall leave the site of the work in a neat and orderly condition equal to that which originally existed, or as called for in the Contract documents. Surplus and waste materials removed from the site of the work shall be disposed of at locations satisfactory to the Engineer, and at the CONTRACTOR'S sole

11. All terraces, levees, and watercourses shall be restored to former condition to the satisfaction of OWNER so that they shall function as originally intended.

12. Fences disturbed by construction shall be restored to original condition and to the 13. Public and private streets, drives, and parking lots shall be restored to their original

14. When and where any damage or injury is done to public or private property on the part of the CONTRACTOR, it shall restore or have restored at its own cost and expense such property to a condition equal (or improved) to that existing before such damage was done by repairing, rebuilding or otherwise restoring as may be directed, or it shall make good such damage or injury in a manner acceptable to the property owner or the Engineer. Replacement of previously constructed items, such as curb, gutter, sidewalks, driveways, paving, etc., shall conform to the specifications for new

CONTRACTOR shall be responsible for complying with State laws and Federal regulations relating to excavation and trench safety, including those which may be enacted during the performance under this Contract. CONTRACTOR is advised that Federal Regulations 9 C.F.R. 1926.650—1926.652 have been, in their most recent version as amended, in effect since January 2, 1990. CONTRACTOR shall fully comply with the U.S. Department of Labor Occupational Safety and Health Administration (OSHA) regulations pertaining to excavations, trenching, and shoring and shall provide and familiarize its employees involved in excavation and trenching with the provisions in OSHA Pamphlet Number 2226, Excavating and Trenching Operations.

1. A Work Zone Permit must be obtained from the CITY at least two (2) working days prior to the start of work and/or placing or removing any barricades or modifying

2. CONTRACTOR shall be responsible for erecting and maintaining barricades and other traffic warning devices as necessary around the perimeter of construction and adjacent to any open trenches. Provide and maintain adequate detours around the work under construction. Provide sufficient lights, warning signs, and watchmen for the safety of 3. Any temporary street closure shall be coordinated with and approved by OWNER.

construction. CONTRACTOR shall notify Fire, Police, and EMSA headquarters when any street is temporarily closed. 4. CONTRACTOR is responsible for the prompt replacement and/or repair of all traffic control devices, signs, and appurtenances damaged or disturbed due to construction. Any existing traffic signals, signal loops, conduits, cables, signs, and other traffic control devices affected by the work shall be reset or replaced according to specifications. Coordinate the work with the traffic department.

ADA COMPLIANCE

1. CONTRACTOR is responsible for ensuring all sidewalks, curb ramps, ramps, stairs, accessible parking spaces, and building access routes comply with the current Americans with Disability Act (ADA) Standards prior to construction. Any errors found shall be brought the ENGINEER'S attention for resolution.

DEFECTIVE AND UNAUTHORIZED WORK 1. All work that has been rejected or condemned shall be repaired or if it can not be

- satisfactorily repaired, it shall be removed and replaced at the CONTRACTOR's expense. Defective materials shall be removed immediately from the site of the work. 2. Work done without lines and grades having been given, work done beyond the lines or not in conformity with grades shown on the plans or as given, work done with out proper inspection, or any extra or unclassified work done without written authority and prior written agreement as to prices, will be done at the CONTRACTOR's risk and will be considered unauthorized, and at the option of the ENGINEER, may not be measured an
- paid for and may be ordered to be removed at the CONTRACTOR's expense. 3. Upon failure of the CONTRACTOR to satisfactorily repair or to remove and replace, if so directed, and rejected, unauthorized, or condemned work or materials immediately after receiving notice from the ENGINEER, the ENGINEER shall, after giving written notice to the CONTRACTOR, have the authority to cause defective work to be remedied or removed and replaced, or to cause unauthorized work to be removed and replace, and to deduct the cost thereof from any compensation due or to become due the CONTRACTOR. If the ENGINEER and OWNER deem it not expedient to correct the work damaged or done not in accordance with the Contract, and equable deduction from the Contract Price shall be made thereof.

NUMBER	TITLE
BID PACKA	GE 01
C1-101	EXISTING CONDITIONS AND SURVEY CONTROL
C2-101	DEMOLITION PLAN
C5-701	EROSION CONTROL PLAN
C5-702	EROSION CONTROL DETAILS AND NOTES
C7-001	WATER TITLE SHEET
C7-201	WATER PLAN AND PROFILE
C7-202	WATER PLAN AND PROFILE
C7-203	WATER PLAN AND PROFILE
C7-501	WATER DETAILS
BID PACKA	GE 02
C5-101	GRADING PLAN
C5-102	GRADING PLAN
C5-103	EARTHWORK VOLUME STUDY
C5-104	GRADING PLAN
C5-105	GRADING PLAN
BID PACKA	GE 04
C4-101	UTILITY PLAN
C6-201	STORM SEWER PLAN AND PROFILE
C6-202	STORM SEWER PLAN AND PROFILE
C6-203	STORM SEWER PLAN AND PROFILE
C6-204	FOOTER DRAIN PLAN AND PROFILE
C6-205	FOOTER DRAIN PLAN AND PROFILE
C6-501	STORM SEWER DETAILS
C6-502	STORM SEWER DETAILS
C6-503	STORM SEWER DETAILS
C6-504	STORM SEWER DETAILS

NUMBER	TITLE		
BID PACKA	GE 01		
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BID PACKA	GE 02		
C5-101	GRADING PLAN		
C5-102	GRADING PLAN		
C5-103	EARTHWORK VOLUME STUDY		
C5-104	GRADING PLAN		
C5-105	GRADING PLAN		
BID PACKA	GE 04		
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C6-203	STORM SEWER PLAN AND PROFILE		
C6-204	FOOTER DRAIN PLAN AND PROFILE		
C6-205	FOOTER DRAIN PLAN AND PROFILE		
C6-501	STORM SEWER DETAILS		
C6-502	STORM SEWER DETAILS		
C6-503	STORM SEWER DETAILS		
C6-504	STORM SEWER DETAILS		

LINE LEGEND

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BARBED WIRE FENCE
CHAINLINK FENCE
PIPERAIL FENCE
STOCKADE FENCE
SECURITY FENCE
ELECTRIC UNDERGROUND
OVERHEAD ELECTRIC
GAS LINE
SANITARY SEWER
STORM DRAIN PIPE (SURVEYED)
STORM DRAIN CENTERLINE
WATER
NONPOTABLE WATER
CURB AND GUTTER
SURFACE DRAINAGE FLOWLINE
FIBER OPTIC
TELEPHONE (AERIAL)
TELEPHONE (BURIED)
TELEVISION (AERIAL)
TELEVISION (BURIED)
CENTERLINE
EASEMENTS
PROPERTY LINE
RIGHT OF WAY
EXISTING BUILDINGS
BUILDING SETBACK
EX 1 FT CONTOUR
EX 5 FT CONTOUR
FG 1 FT CONTOUR
FG 5 FT CONTOUR
PROJECT BOUNDARY
DEMOLITION LINE

SYMBOL LEGEND

AC	AIR CONDITIONER UNIT			
Å	FIRE HYDRANT			
G	GAS METER			
ර්	GAS VALVE			
Ë	GAS VENT			
TRA	GROUND TRANSFORMER			
0	GUARD POST			
¢	LIGHT POLE			
D	STORM DRAIN MANHOLE			
S	SANITARY SEWER MANHOLE			
•	PROPERTY CORNER FOUND			
0	PROPERTY CORNER SET			
0	SANITARY SEWER CLEANOUT			
	COMMERCIAL SIGN			
	SIGN			
ď	SPRINKLER HEAD			
ර්	SPRINKLER VALVE			
Ξ	TELEPHONE RISER			
PB ⊡	TRAFFIC/ELECTRIC PULL BOX			
Ŏ	WATER METER			
\bowtie	WATER VALVE BOX			
T	C=1121.63 TOP OF CURB SPOT ELEVA			
G	=1121.13 GUTTER SPOT ELEVATION			
х	1123.5 SPOT ELEVATION			
HAR	DSCAPE / LANDSCAPE			

	CONCRETE SIDEWALKS
	LIGHT DUTY ASPHALT PAVING
	HEAVY DUTY ASPHALT PAVING
र य प् य र य र य र य र य र य र य र य	LIGHT DUTY CONCRETE PAVING
4 4 4 7 8 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8	HEAVY DUTY CONCRETE PAVING
	REINFORCED HEAVY DUTY CONC
	Sodding / Seeding / Vegetat

CIVIL SHEET LIST

BID PACKA	GE 04 CONTINUED		
C6-505	STORM SEWER DETAILS		
C6-801	EXISTING HYDROLOGY		
C6-802	PROPOSED HYDROLOGY		
C8-201	SEWER PLAN AND PROFILE		
C8-501	LIFT STATION DETAILS		
CONSTRUCTION DOCUMENTS			
C0-001	CIVIL TITLE SHEET		
C3-101	SITE PLAN		
C3-501	SITE DETAILS		
C3-502	CONCRETE JOINT DETAILS		
C3-503	CONCRETE JOINT LAYOUT DETAILS		
C3-504	SITE FENCING DETAILS		

ABBREVIATIONS

AT

AFF

ABOVE FINISHED FLOOR

MINIMUM

MISCELLANEOUS

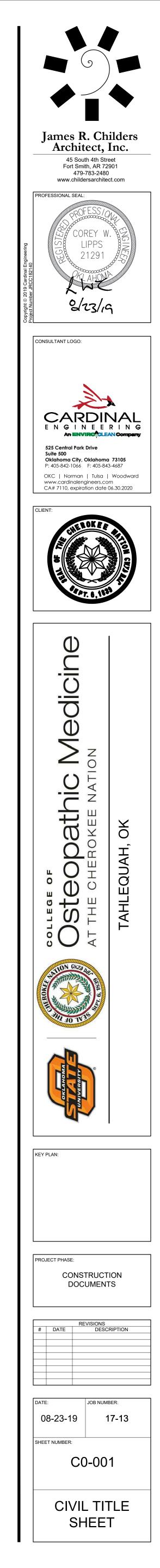
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MISC

	AFF AGRD AHJ APPROX ARCH ASS'Y	Above finished floor Adjacent grade Authority having jurisdi Approximate Architectural Assembly
	BFF BLDG	Below Finished Floor Building
	CIP CL CM CNTR CONC CONST CONT CONTR COORD	CAST IN PLACE CENTERLINE CONSTRUCTION MANAGER CENTER CONCRETE CONSTRUCT CONTINUOUS CONTRACTOR COORDINATE
	DIA DS DTL DWG(S)	DIAMETER DOWN SPOUT DETAIL DRAWINGS
	e Eg Egcl Elec Elev Ej Eq Etr Ex Exhd	EAST EASTING EXISTING GRADE EXISTING GRADE CENTER L ELECTRICAL ELEVATION EXPANSION JOINT EQUAL EXISTING TO REMAIN EXISTING EXTRA HEAVY DUTY
RB SPOT ELEVATION DT ELEVATION TION	FD FF FG FGCL FL FOC FT FTNG FV	FLOOR DRAIN FINISHED FLOOR FINISHED GRADE FINISHED GRADE CENTER L FLOWLINE FACE OF CONCRETE FOOT/FEET FOOTING FIELD VERIFY
DSCAPE PATTERNS	GA GALV GC GU	GAUGE GALVANIZED GENERAL CONTRACTOR GUTTER
LT PAVING	hd Horiz Ht	HEAVY DUTY HORIZONTAL HEIGHT
ALT PAVING RETE PAVING RETE PAVING	IN INFO ID IFGC IPC	INCH INFORMATION INSIDE DIAMETER INTERNATIONAL FUEL GAS INTERNATIONAL PLUMBING
DUTY CONCRETE PAVING	JT	JOINT
G / VEGETATIVE COVER	LD LF	LIGHT DUTY LINEAL FEET
	MH MAX MECH MIN	MANHOLE MAXIMUM MECHANICAL MINIMI IM

S		
HED FLOOR RADE	N/A	NOT APPLICABLE
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Remain 7 Duty I Dor	R RE: REINF REQ'D REV	RADIUS REFERENCE REINFORCED REQUIRED REVISION
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TER AL FUEL GAS CODE AL PLUMBING CODE	TC TEMP TOC TOE TOP TOW TPW TYP	TOP OF CURB TEMPORARY TOP OF CONCRETE TOE OF SLOPE TOP OF SLOPE TOE OF WALL TOP OF WALL TYPICAL
	UNO	UNLESS NOTED OTHERWISE
	VERT	VERTICAL
	W W/ WT	WEST WITH WEIGHT
US		







LEGAL DESCRIPTION

PARCELS 2 – 5

Legal Description (Warranty Deed, Book 1133, Page 722):

PARCEL 2

The South 329.1 feet of the SE4 NE4 NW4, LESS the East 220 feet of the South 230 feet thereof, AND the NE4 SE4 NW4, containing 13.84 Acres, more or less. Parcel 3

A tract of land lying in the SE4 SE4 NW4, more particularly described by metes and bounds as follows, to—wit:

Commencing at the Southeast corner of the NW4; Thence N01°40'44"W, a distance of 561.17 feet to the Point of Beginning; Thence S88°15'25"W, a distance of 658.37 feet; Thence N01°41'38"W, a distance of 101.49 feet to the Northwest corner of the SE4 SE4 NW4; Thence N88°15'25"E, a distance of 658.38 feet to the Northeast corner of the SE4 SE4 NW4; Thence S01°40'44"E along the East line thereof, a distance of 101.49 feet to the Point of Beginning, containing 1.535 acres, more or less.

PARCEL 4

The SE4 SE4 NW4, LESS AND EXCEPT the North 101.49 feet, containing 8.49 acres, more or less.

Parcel 5

A tract of land lying in the SW4 NE4 NW4 and in the NW4 SE4 NW4, more particularly described as follows:

Beginning at a point 503.90 feet South of the Northeast corner of said SW4 NE4 NW4; Thence S01°41'38"W, along the East boundary of said SW4 NE4 NW4, a distance of 330.00 feet; Thence S88°22'23"W, a distance of 457.55 feet; Thence N01°41'37"E, a distance of 330.00 feet; Thence N88°22'23"E, a distance of 457.55 feet to the Point of Beginning, said tract of land containing 3.466 acres, more or less.

All in Section 34, Township 17 North, Range 22 East, I.B.&M., Cherokee County, Oklahoma.

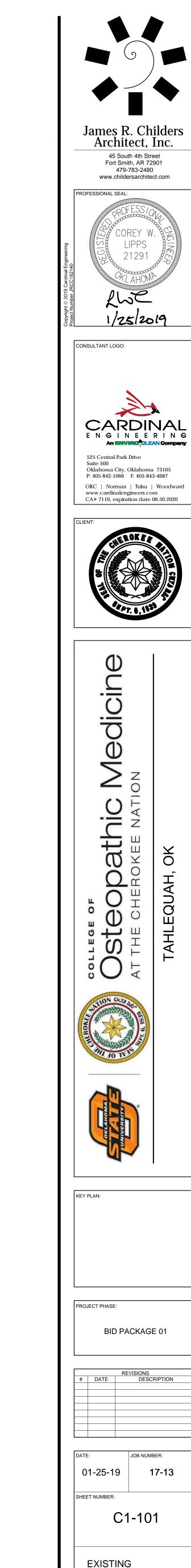
			Point Tabl	le
Point #	Elevation	Northing	Easting	Description
1	918.33	345448.18	2871759.26	CUT X TOP OF CURB
2	907.81	345552.27	2871399.63	CUT BOX TOP OF CURB
3000	919.59	345974.32	2872112.74	NO 4 BAR W LEMKE CONTROL CAP
3001	924.85	346372.33	2872627.77	NO 4 BAR W LEMKE CONTROL CAP
3002	927.43	346366.68	2873090.95	NO 4 BAR W LEMKE CONTROL CAP
3003	910.83	345345.57	2873140.97	NO 4 BAR W LEMKE CONTROL CAP
3004	904.46	344832.44	2873134.58	NO 4 BAR W LEMKE CONTROL CAP
3005	884.06	344771.16	2871698.56	NO 4 BAR W LEMKE CONTROL CAP

SCALE: 1" = 20'

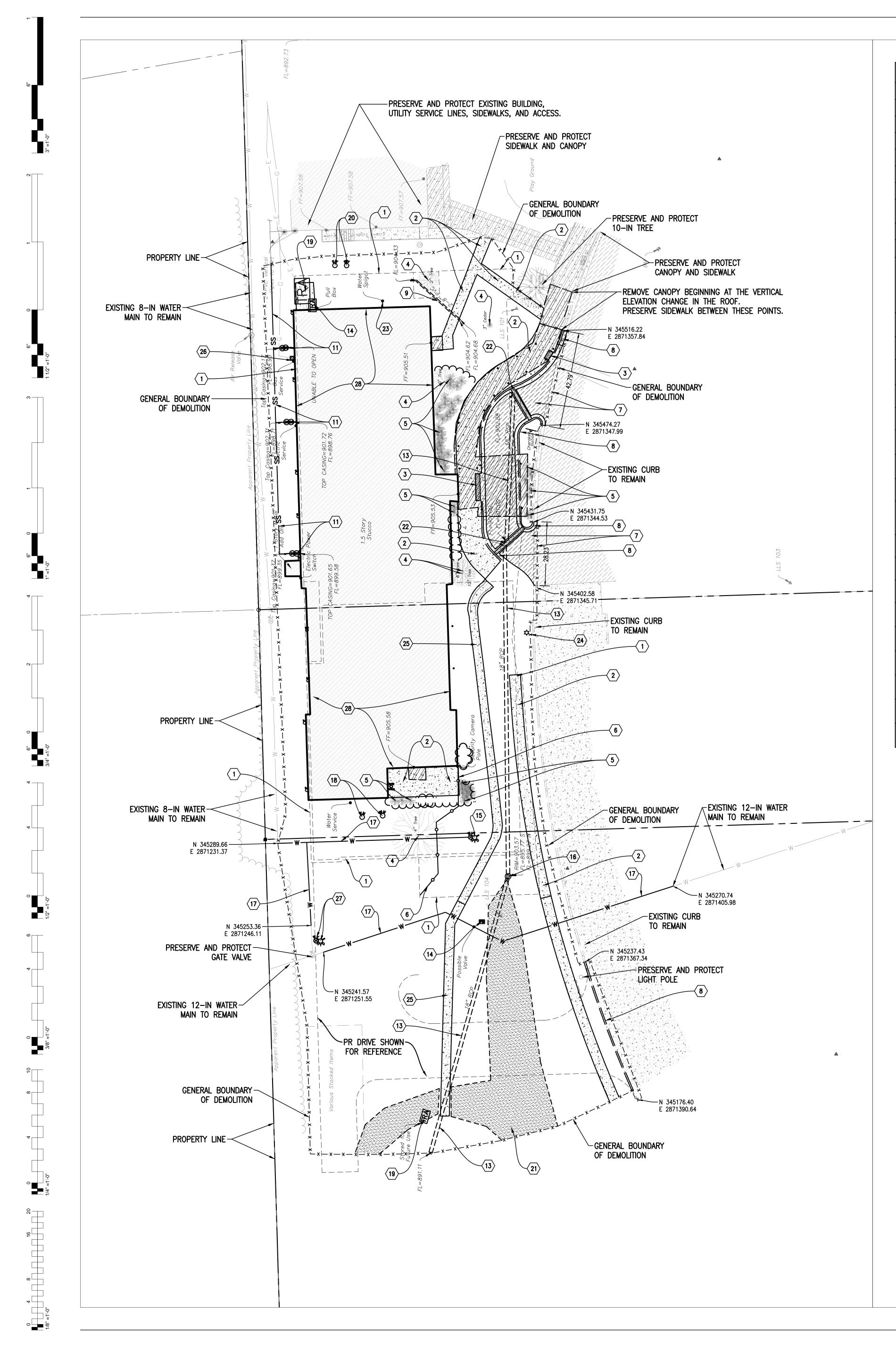
UTILITY WARNING: THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM RECORD DOCUMENTS OR FIELD LOCATIONS BY THE OPERATOR. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

UTILITY ELEVATIONS AND SIZES MAY HAVE BEEN MEASURED UNDER ADVERSE FIELD CONDITIONS. UPON EXPOSING THE UTILITY, ELEVATIONS AND LINE SIZES SHOULD BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHOULD VERIFY CRITICAL ELEVATIONS USING THE BENCHMARK PROVIDED BY THE SURVEYOR OR ENGINEER. ANY DISCREPANCIES SHOULD BE IMMEDIATELY BROUGHT TO THE ENGINEER'S AND SURVEYOR'S ATTENTION.





CONDITIONS AND SURVEY CONTROL



	DEMOLITION KEYNOTES
NO.	DESCRIPTION
1	PROPOSED BUILDING LINE SHOWN FOR REFERENCE.
2	REMOVE CONCRETE SIDEWALK.
3	REMOVE ADA TACTILE DOME STRIP.
4	REMOVE TREE.
5	REMOVE SHRUBS.
6	REMOVE FENCE.
7	SAWCUT ASPHALT PAVEMENT IN STRAIGHT LINE AND ASPHALT PAVING.
8	SAWCUT CONCRETE CURB AND REMOVE.
9	REMOVE (2) 8-IN PVC STORM PIPES.
10	REMOVE IRRIGATION VALVES. LOCATE THE EXISTING IRRIGATION CONDUITS, VALVES, HEADS, FITTINGS, AN AND REMOVE FROM THE FOOTPRINT OF THE PROPO BUILDING. COORDINATE WITH OWNER THE APPROPR LOCATION(S) TO CUT AND CAP THE EXISTING COND
11	REMOVE SANITARY SEWER CLEANOUT AND SEWER SILLINE.
12	REMOVE CONCRETE FLUME.
13	REMOVE 18" RCP STORM PIPE. SEE SHEETS C6-2 STORM SEWER RELOCATION PLAN.
14	REMOVE PULLBOX.
15	REMOVE FIRE HYDRANT.
16	REMOVE STORM MANHOLE. SEE SHEETS C6-202 STORM SEWER RELOCATION PLAN.
17	REMOVE EXISTING WATER LINE. SEE SHEETS C7-2 WATER LINE RELOCATION PLAN.
18	REMOVE WATER METERS.
19	REMOVE ELECTRICAL TRANSFORMER. CONTRACTOR COORDINATE WITH PRIVATE UTILITY COMPANY FOR D AND LOCATION OF THE TRANSFORMER.
20	REMOVE SPRINKLER VALVES.
21	REMOVE GRAVEL AREA.
22	REMOVE TRENCH DRAINS.
23	REMOVE WATER SPIGOT AND BURIED PIPE. CAP SE LINE AT THE MAIN.
24	REMOVE LIGHT POLE AND BASE.
25	REMOVE CONCRETE FLUME.
26	REMOVE GAS SERVICE. COORDINATE WITH NOPFA.
27	REMOVE FIRE HYDRANT. CLOSE VALVE AND ABANDO PLACE. SEE SHEETS C7-201 FOR RELOCATION PL
28	DEMOLISH BUILDING. BUILDING FOOTPRINT IS ≈ 13

EFERENCE.
LINE AND REMOVE
e existing Ttings, and wiring The proposed E appropriate Ting conduits.
SEWER SERVICE
EETS C6-202 FOR
S C6-202 FOR
ETS C7-201 FOR
NTRACTOR TO ANY FOR DIRECTION
E. CAP SERVICE

ND ABANDON IN OCATION PLAN.

RINT IS ≈ 13,400 SF.

DEMOLITION PLAN NOTES

- 1. PRIOR TO DEMOLITION, COORDINATE WITH OWNER THE SCHEDULE AND TO DETERMINE IF OWNER WANTS ANY ITEMS TO BE SALAVAGED FOR REUSE.
- 2. CONTACT OKIE (811 OR 1-800-522-OKIE) PRIOR TO CONSTRUCTION FOR
- LOCATING EXISTING UTILITIES.
- 3. NOTIFY ALL UTILITY COMPANIES AND GOVERNMENTAL AGENCIES WHO MAY HAVE UTILITY LINES ON OR ABOUT THE PREMISES OR WHO MAY BE AFFECTED BY THE CONSTRUCTION. NOTICE SHALL BE GIVEN NO LESS THAN TWENTY-FOUR HOURS PRIOR TO ANY WORK THAT MAY INTERFERE WITH A UTILITY. CONTRACTOR SHALL ALSO COORDINATE THE CONSTRUCTION ACTIVITIES WITH THE UTILITY COMPANIES TO ENSURE COMPLIANCE WITH THE PROJECT SCHEDULE.
- 4. COMPLY WITH THE CITY, STATE, AND FEDERAL REQUIREMENTS FOR THE MINIMIZATION AND CONTROL OF SEDIMENT EROSION AND SITE RUN-OFF IN STORM WATER RESULTING FROM CONSTRUCTION ACTIVITIES. INSTALL TEMPORARY EROSIONS CONTROLS PRIOR TO SITE CLEARING. COMPLY WITH THE REQUIREMENTS OF THE STORM WATER POLLUTION PREVENTION PLAN AND THE PERMIT(S) ISSUED BY THE CITY AND STATE.
- 5. ALL EXISTING STRUCTURES, IMPROVEMENT AND UTILITIES DESIGNATED TO REMAIN SHALL BE ADEQUATELY PROTECTED FROM DAMAGE THAT MIGHT OTHERWISE OCCUR DUE TO CONSTRUCTION OPERATIONS. WHERE CONSTRUCTION COMES IN CLOSE PROXIMITY TO EXISTING STRUCTURES, UTILITIES OR APPURTENANCES, OR IF IT BECOMES NECESSARY TO MOVE SERVICES, POLES, GUY WIRES, PIPE LINES OR OTHER OBSTRUCTIONS, CONTRACTOR SHALL NOTIFY AND COOPERATE WITH THE OWNER OF THE UTILITY, STRUCTURE, OR APPURTENANCE. THE UTILITY LINES AND OTHER EXISTING STRUCTURES SHOWN ON THE PLANS ARE FOR INFORMATION ONLY AND ARE NOT GUARANTEED TO BE COMPLETE OR ACCURATE AS TO LOCATION AND/OR DEPTH. CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO ANY UTILITIES RESULTING FROM THE CONTRACTOR'S OPERATIONS. DURING CONSTRUCTION, ALL FIRE HYDRANTS, VALVE BOXES, FIRE OR POLICE CALL BOXES AND OTHER EXISTING UTILITY CONTROLS SHALL BE LEFT INTACT, UNOBSTRUCTED AND ACCESSIBLE UNLESS NOTED ON THE PLAN.
- CONTRACTOR SHALL SATISFY THEMSELVES AS TO THE ACTUAL EXISTING SUBSURFACE CONDITIONS, INCLUDING BUT NOT LIMITED TO THE DEPTH, LOCATION AND SIZES OF PIPE OR CONDUITS OF VARIOUS KINDS IN PLACE PRIOR TO DEMOLITION. WHERE THE EXACT DEPTH OF ANY UTILITY OR OBSTRUCTION IS NOT SHOWN ON A PLAN, EXCAVATION SHALL BE MADE PRIOR TO REACHING THE OBSTRUCTION IN ORDER TO DETERMINE ADJUSTMENTS IN GRADE IF NEEDED TO PREVENT INTERFERENCE. REDESIGN TO ELIMINATE CONFLICTS MAY BE NECESSARY.
- 7. VERIFY THAT UTILITIES HAVE BEEN DISCONNECTED AND CAPPED BEFORE STARTING SELECTIVE DEMOLITION OPERATIONS.
- 8. PHOTOGRAPH, RECORD ON VIDEO, OR BOTH THE EXISTING CONDITIONS OF THE PROJECT SITE AND ADJOINING PROPERTY. 9. EXCEPT FOR ITEMS OR MATERIALS INDICATED TO BE RECYCLED, REUSED,
- SALVAGED, REINSTALLED, OR OTHERWISE INDICATED TO REMAIN OWNER'S PROPERTY, REMOVE DEMOLISHED MATERIALS FROM PROJECT SITE AND LEGALLY DISPOSE ACCORDING TO CITY, STATE, AND FEDERAL REGULATIONS. 10. DO NOT ALLOW DEMOLISHED MATERIALS TO ACCUMULATE ON-SITE.
- 11. REMOVE AND TRANSPORT DEBRIS IN A MANNER THAT WILL PREVENT SPILLAGE ON ADJACENT SURFACES AND AREAS.
- 12. DO NOT BURN DEMOLISHED MATERIALS. 13. TRANSPORT DEMOLISHED MATERIALS OFF OWNER'S PROPERTY AND LEGALLY
- DISPOSE OF THEM. 14. MAINTAIN ACCESS TO EXISTING WALKWAYS, EXITS, AND OTHER FACILITIES USED BY OCCUPANTS OF ADJACENT BUILDINGS.

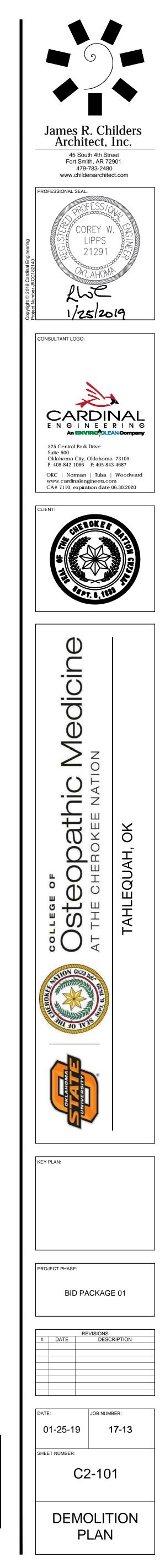


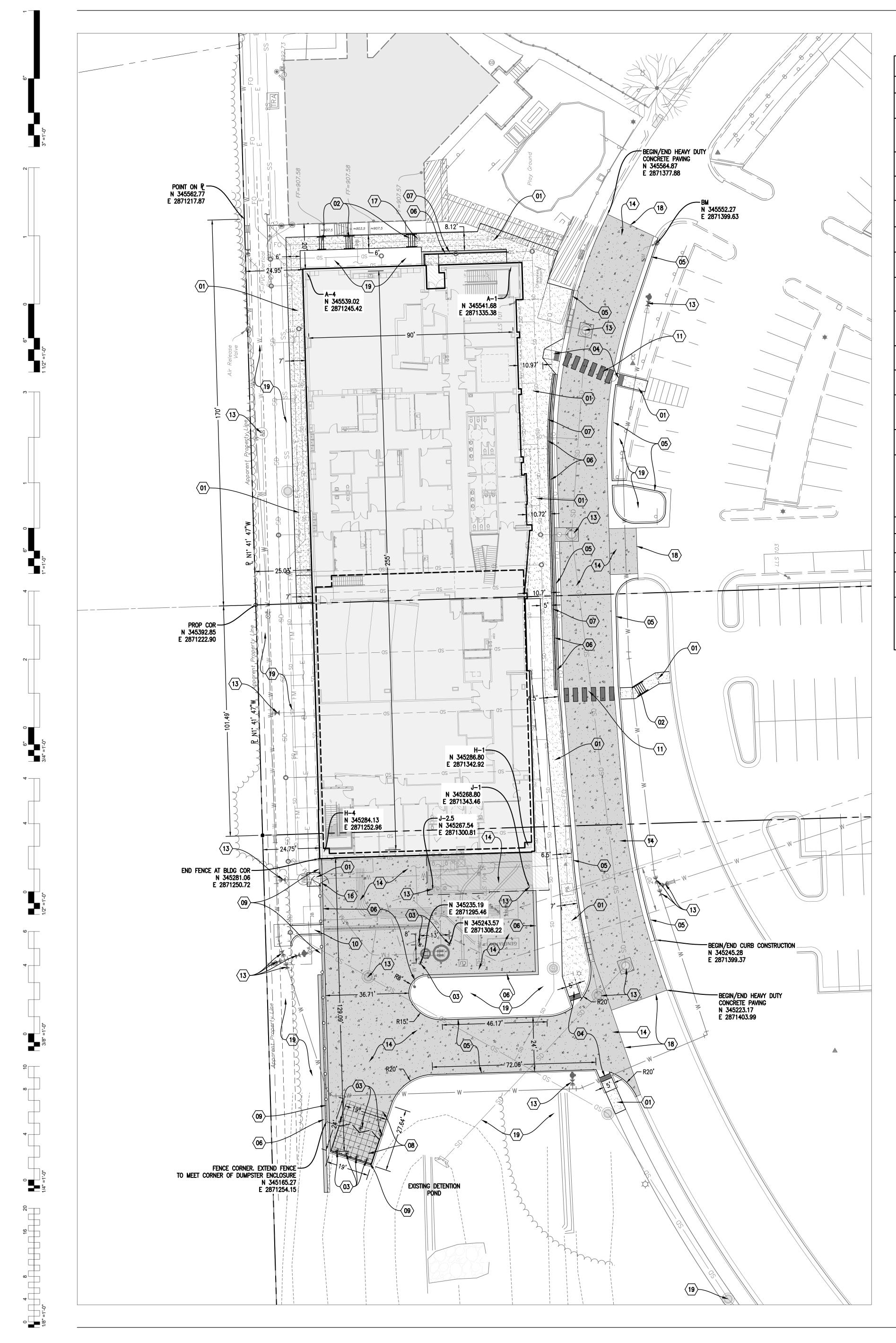
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	SITE PLAN KEYNOTES
NO.	DESCRIPTION
1	CONSTRUCT CONCRETE SIDEWALK PER DETAIL 02 – SIDEWALKS, SHEET C3–501 – SITE DETAILS.
2	CONSTRUCT CONCRETE STAIRS WITH HANDRAILS PER DETAIL 09 – EXTERIOR STAIRS AND HANDRAIL, SHEET C3–501 – SITE DETAILS.
3	CONSTRUCT BOLLARD PER DETAIL 06 – BOLLARD DETAIL, SHEET C3–501 – SITE DETAILS.
4	CONSTRUCT ADA COMPLIANT CURB RAMP WITH 2-FT WIDE TACTILE WARNING DOME STRIP.
5	CONSTRUCT 6—IN BARRIER CURB (NO 86—247). SEE DETAIL 03 — CURB AND GUTTER, SHEET C3—501 — SITE DETAILS.
6	CONSTRUCT CONCRETE RETAINING WALL. REFER TO STRUCTURAL DRAWINGS. SEE DTL A1, SHEET S6.01
7	SEE ARCHITECTURAL DRAWINGS FOR HAND RAIL DETAILS ALONG RETAINING WALL.
8	CONSTRUCT DUMPSTER PAD PAVING. SEE DETAIL 04 – DUMPSTER PAD PC CONCRETE PAVING, SHEET C3–501 – SITE DETAILS.
9	CONSTRUCT 8-FT TALL TREX SECLUSIONS FENCE. SEE DETAIL 01 - TREX SECLUSIONS FENCING, SHEET C3-504 - SITE FENCING DETAILS.
10	INSTALL CONCRETE FLUME. SEE DTL 07 - FLUMES SHEET C3-501 - SITE DETAILS.
11	INSTALL CROSSWALK STRIPING WITH 2-FT X 4-FT WHITE BARS EQUALLY SPACED 2-FT APART FROM EDGE TO EDGE.
12	CONSTRUCT DUMPSTER ENCLOSURE USING 8-FT TALL TREX SECLUSIONS FENCE. SEE DETAIL 01 - TREX SECLUSIONS FENCING, SHEET C3-504 - SITE FENCING DETAILS.
13	INSTALL CONCRETE COLLAR PER DETAIL 08 - MANHOLE VALVE CLEANOUT ISO. DTL, SHEET C3-501 - SITE DETAILS.
14	CONSTRUCT HEAVY DUTY CONCRETE PAVING PER DETAIL 01 – HEAVY DUTY PC CONCRETE PAVING, SHEET C3–501 – SITE DETAILS. PROVIDE JOINTS PER DETAILS AND NOTES ON SHEET C3–502 – CONCRETE JOINT DETAILS. SUBMIT JOINT LAYOUT PLAN FOR REVIEW AND APPROVAL PRIOR TO CONCRETE POUR.
15	KEYNOTE 15 IS NOT USED.
16	INSTALL SINGLE GATE.
17	ADJUST CLEAN-OUT TO GRADE
18	PROVIDE THICKENED CONCRETE EDGE PER DETAIL 05 – THICKENED CONCRETE EDGE, SHEET C3–501 – SITE DETAILS.
19	ALL DISTURBED AREAS SHALL BE REVEGETATED WITH BERMUDA GRASS SOD. PROVIDE ADEQUATE WATER, FERTILIZER, AND MOWING UNTIL ACCEPTABLE GROWTH IS ESTABLISHED, BUT NO LESS THAN 30 DAYS AFTER SUBSTANTIAL COMPLETION.

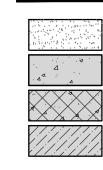
DETAIL

1. IN DRIVEWAYS AND PARKING AREAS WHERE NEW CONCRETE PAVING IS TO ABUT EXISTING PAVING, A THICKENED EDGE IN THE CONCRETE SHALL BE PROVIDED. SEE THICKENED EDGE DETAIL.

SITE PLAN NOTES

- 2. UNLESS OTHERWISE DIRECTED, A MEDIUM BROOM FINISH SHALL BE PROVIDED ON ALL CONCRETE WALKS, RAMPS, STAIRS AND PAVED SURFACES.
- 3. COORDINATES ON THE BUILDING ARE SHOWN FOR GENERAL LOCATION ONLY. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL AND STRUCTURAL PLANS FOR STRUCTURAL FOUNDATION LAYOUT. REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR CONSTRUCTION INFORMATION AND DETAILS FOR BUILDING ERECTION.
- 4. A JOINT LAYOUT PLAN SHALL BE SUBMITTED FOR REVIEW WHEN CONCRETE PAVEMENT IS TO BE CONSTRUCTED.

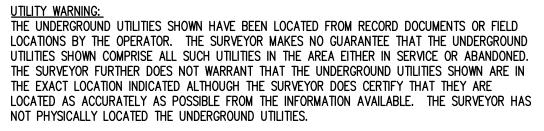
HARDSCAPE / LANDSCAPE PATTERNS



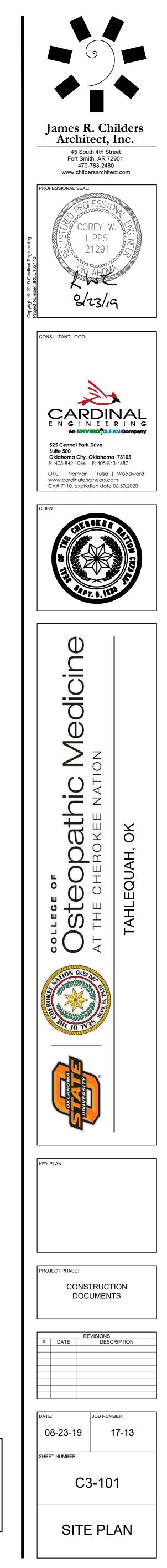
CONCRETE SIDEWALKS HEAVY DUTY CONCRETE PAVING REINFORCED HEAVY DUTY CONCRETE PAVING HEAVY DUTY ASPHALT PAVING

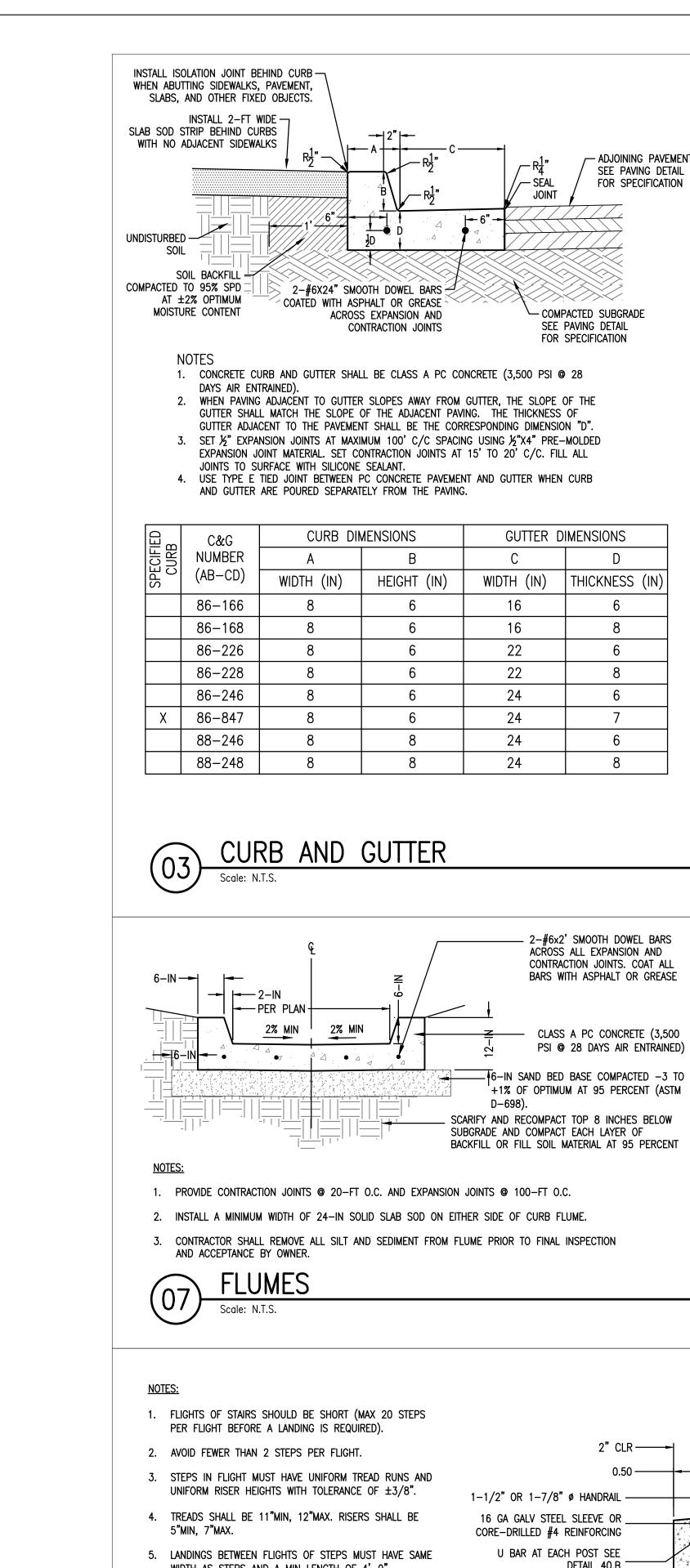


SCALE: 1'' = 20'







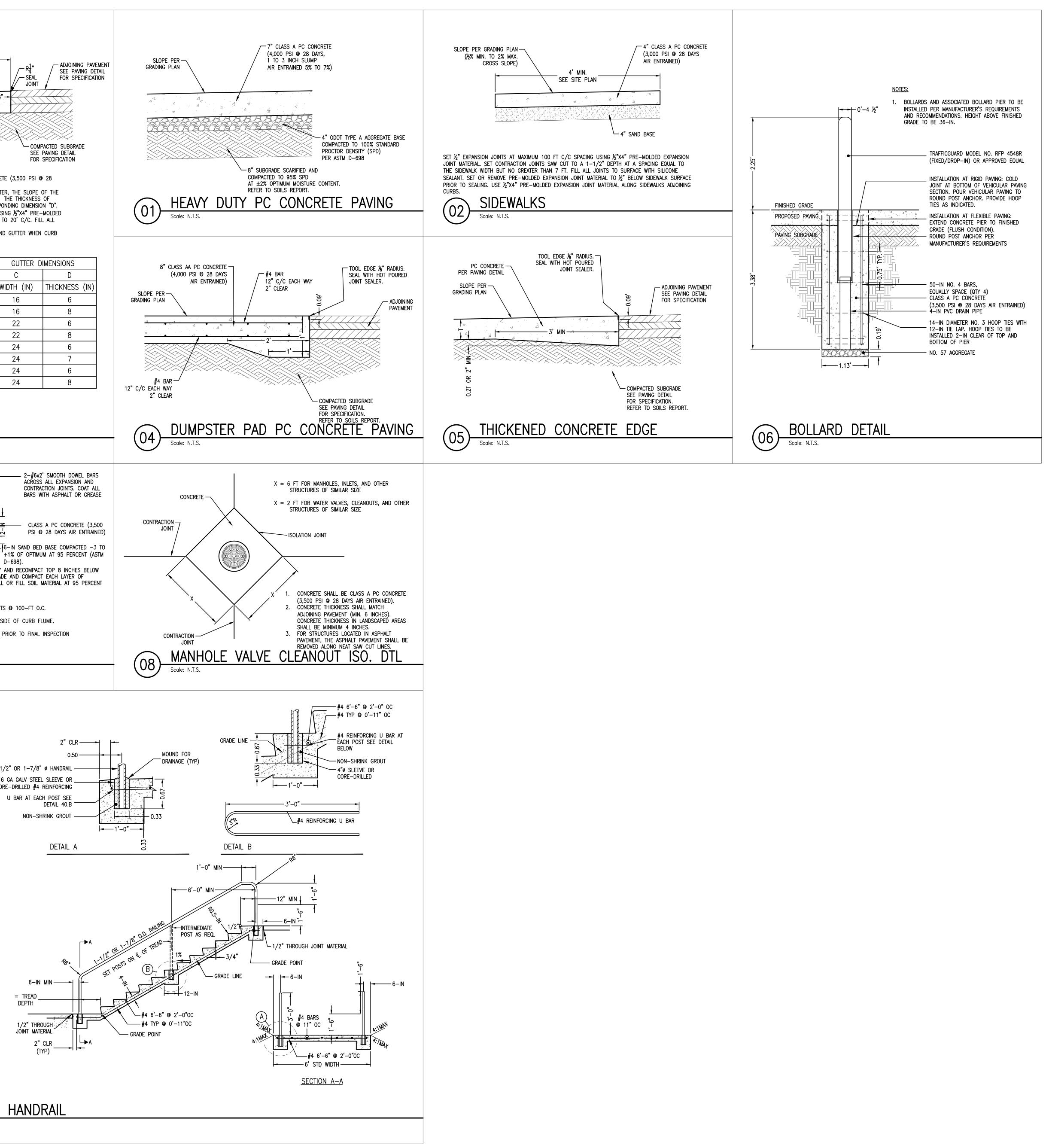


- WIDTH AS STEPS AND A MIN LENGTH OF 4'-0".
- 6. FLIGHTS OF 4 OR MORE STEPS SHALL HAVE HANDRAILS
- ON BOTH SIDES
- 7. FLIGHTS OF 4 OR MORE STEPS WIDER THAN 60 INCHES SHALL HAVE A CENTER HANDRAIL IN ADDITION TO EACH
- SIDE. 8. HANDRAILS SHALL BE CONTINUOUS ACROSS LANDINGS
- BETWEEN FLIGHTS OF STEPS.
 9. HANDRAILS SHALL BE 1.5" OR 1.9" O.D. TYPE 304 OR 316L POLISHED STAINLESS STEEL OR POWDER COATED STEEL (COLOR TO BE BLACK UNLESS INDICATED BY
- ARCHITECT/ENGINEER). 10. PIPE MATERIAL SHALL BE ASTM A53.
- 11. REINFORCING STEEL SHALL BE ASTM A615 GR 60.

13. SEE GRADING PLAN (C8 SERIES) FOR ACTUAL

12. ALL CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 3,500-PSI MINIMUM AND SHALL MEET THE REQUIREMENTS OF SECTION 03300 OF THE PROJECT SPECIFICATIONS.

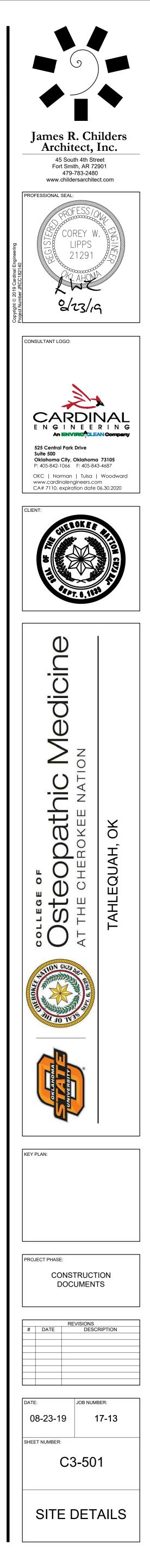
NUMBER OF STAIR RISERS/TREADS.

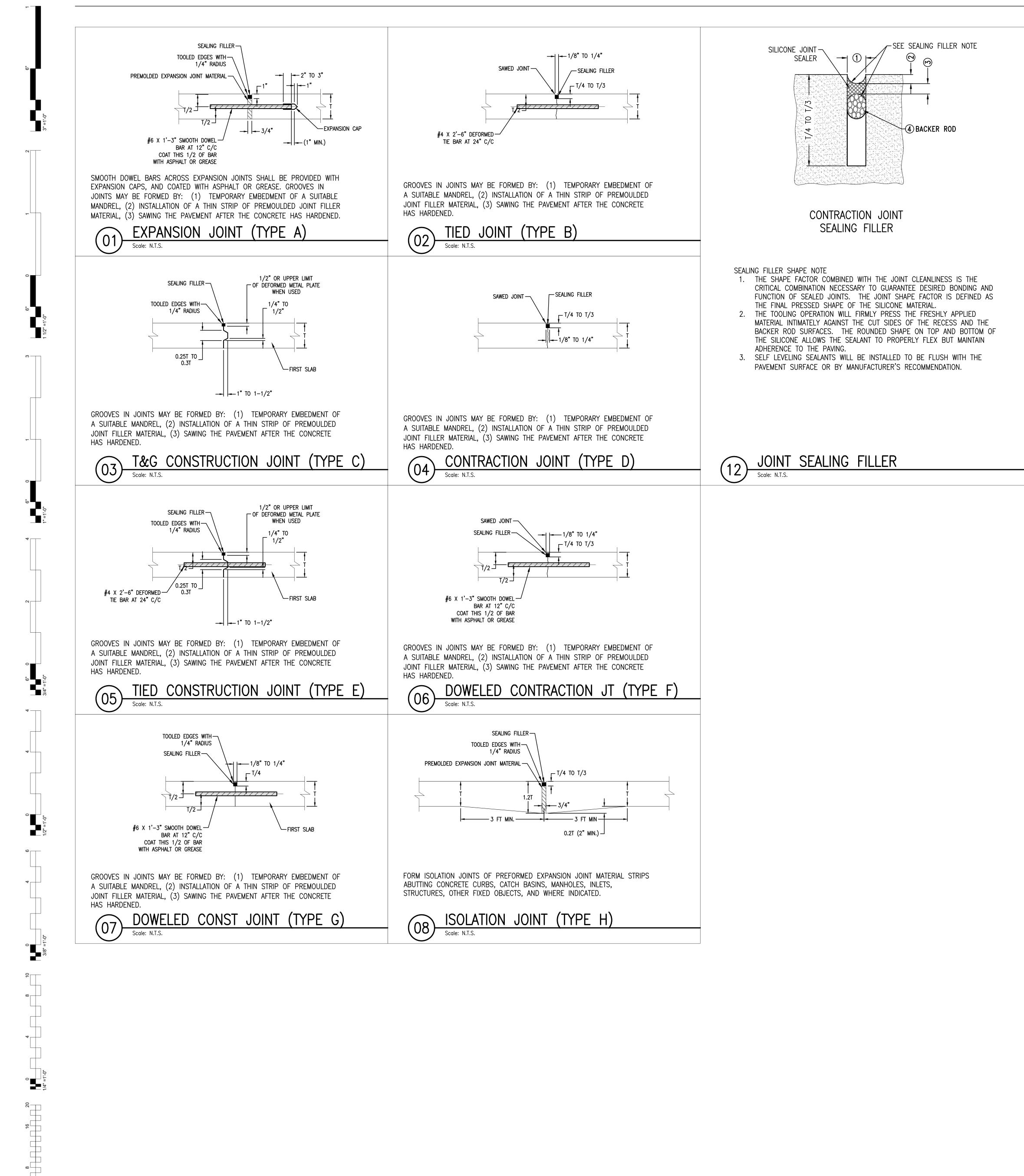


09 EXTERIOR STAIRS AND HANDRAIL Scale: N.T.S.

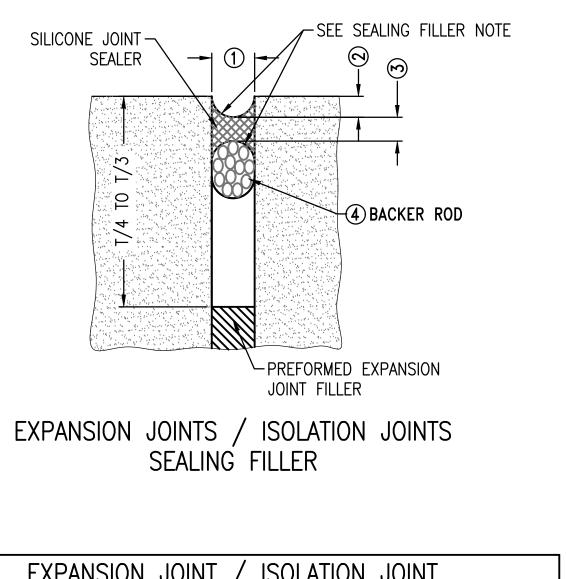
0 1/4" -×

0 4 1/8" =1'-0"



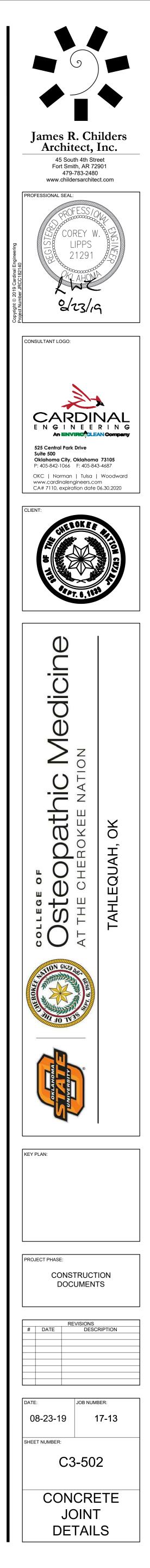


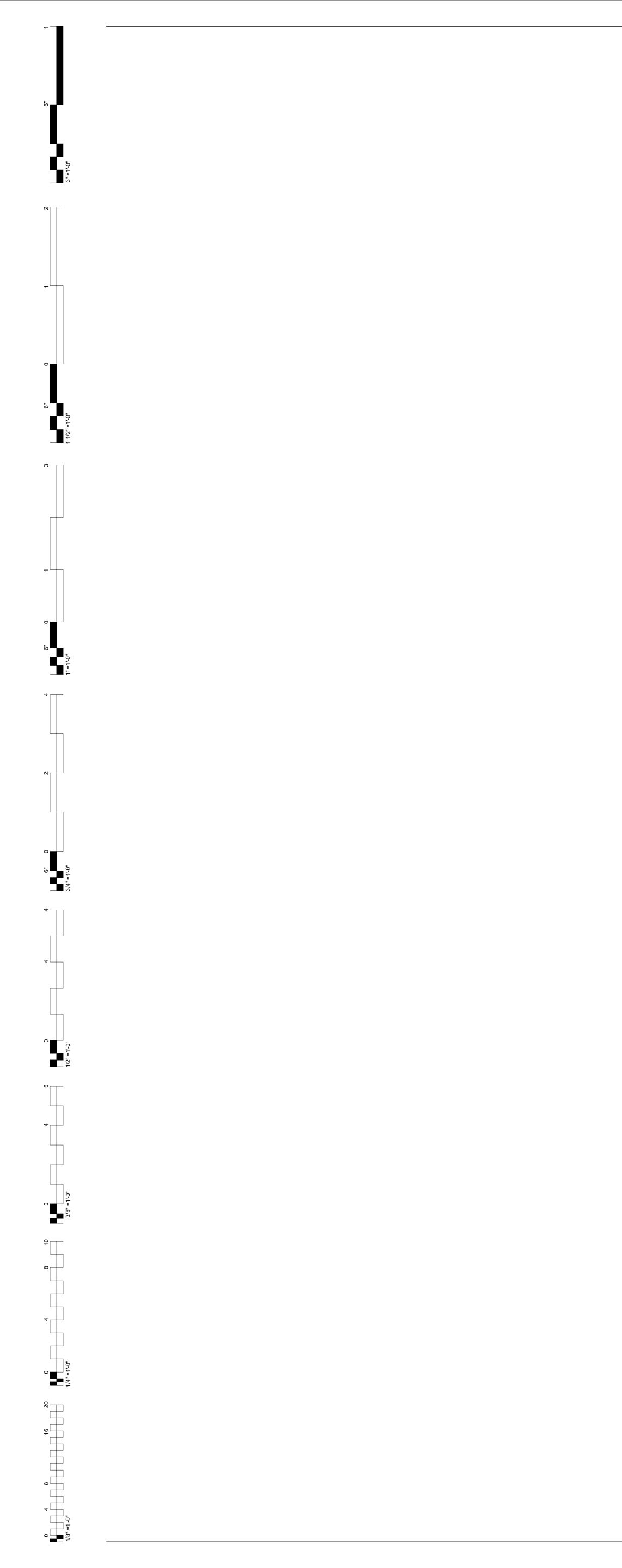
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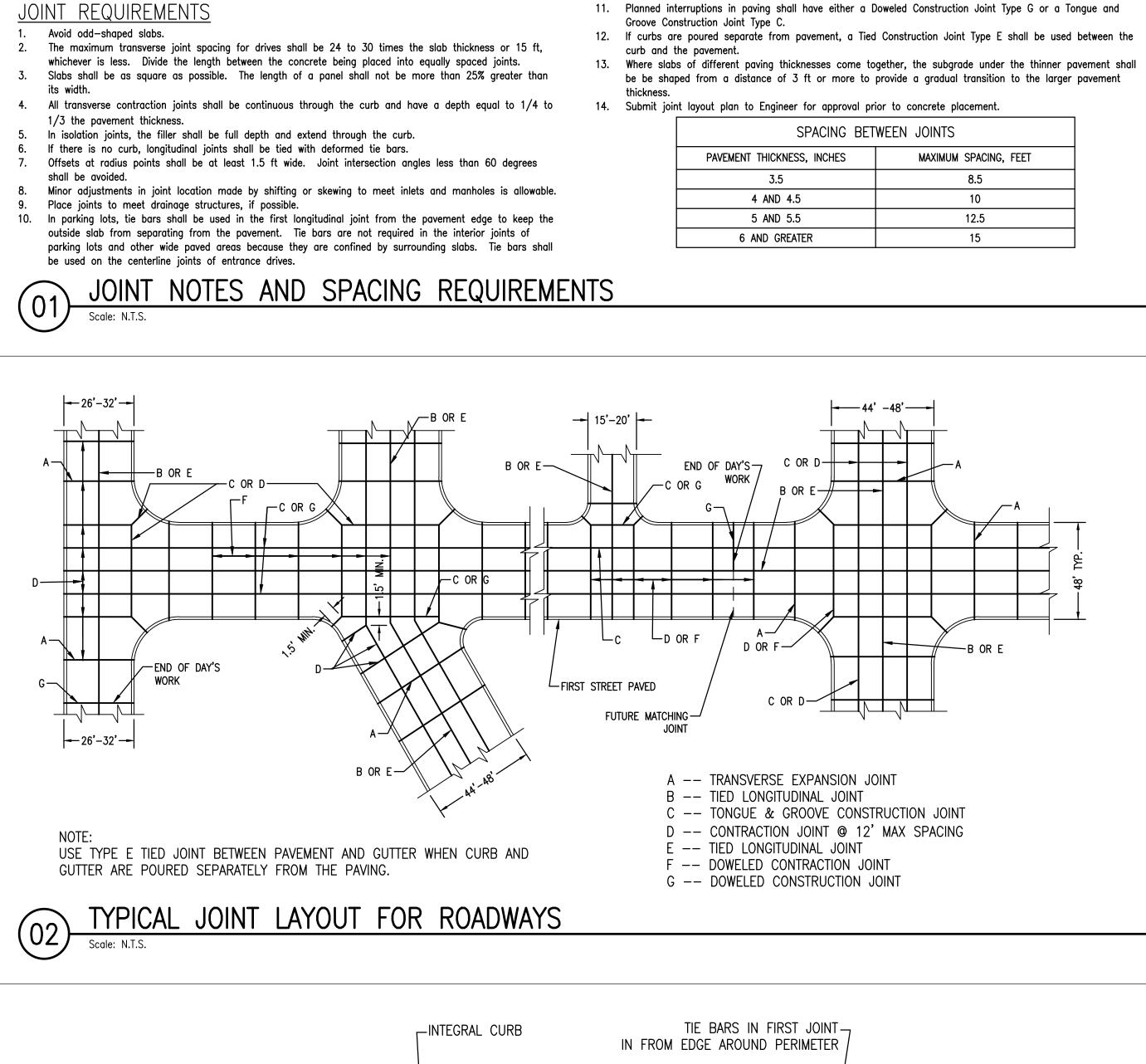


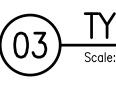
	LALANSION JUINT / ISULATION JUINT							
	TREATMENT TABLE							
	JOINT	SEALANT RECESS	SILICONE SEALANT	BACKER AND				
	WIDTH	DEPTH	THICKNESS	DIAMETER				
L	\bigcirc	2	(3)	(4)				
	1/2"	3/8"	1/4"	5/8"				
Γ	3/4"	3/8"	3/8"	7/8"				
	1"	3/8"	1/2"	1-1/4"				
	1-1/2"	1/2"	3/4"	2"				
	2"	1/2"	3/4"	2-1/2"				

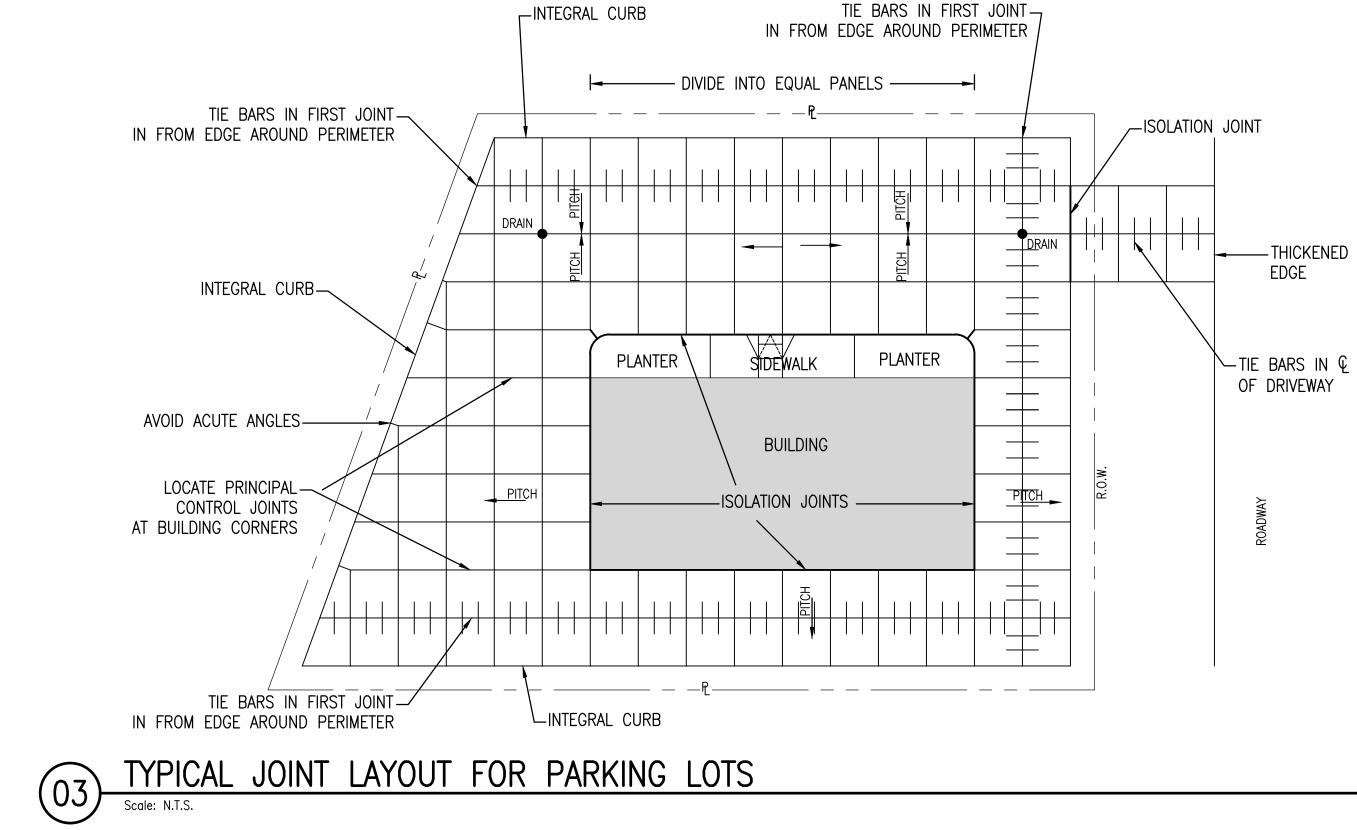
EXPANSION AND ISOLATION JOINT WIDTHS SHALL BE 3/4" UNLESS OTHERWISE SPECIFIED ON THE PLANS. TABLE VALUES AS SHOWN IN THIS TABLE SHALL BE USED IN THOSE SPECIFIED CASES.



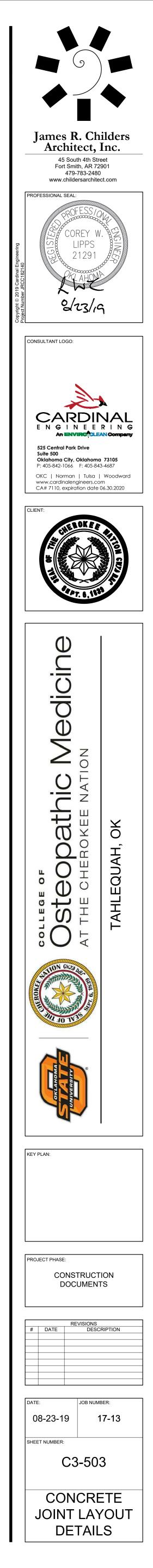


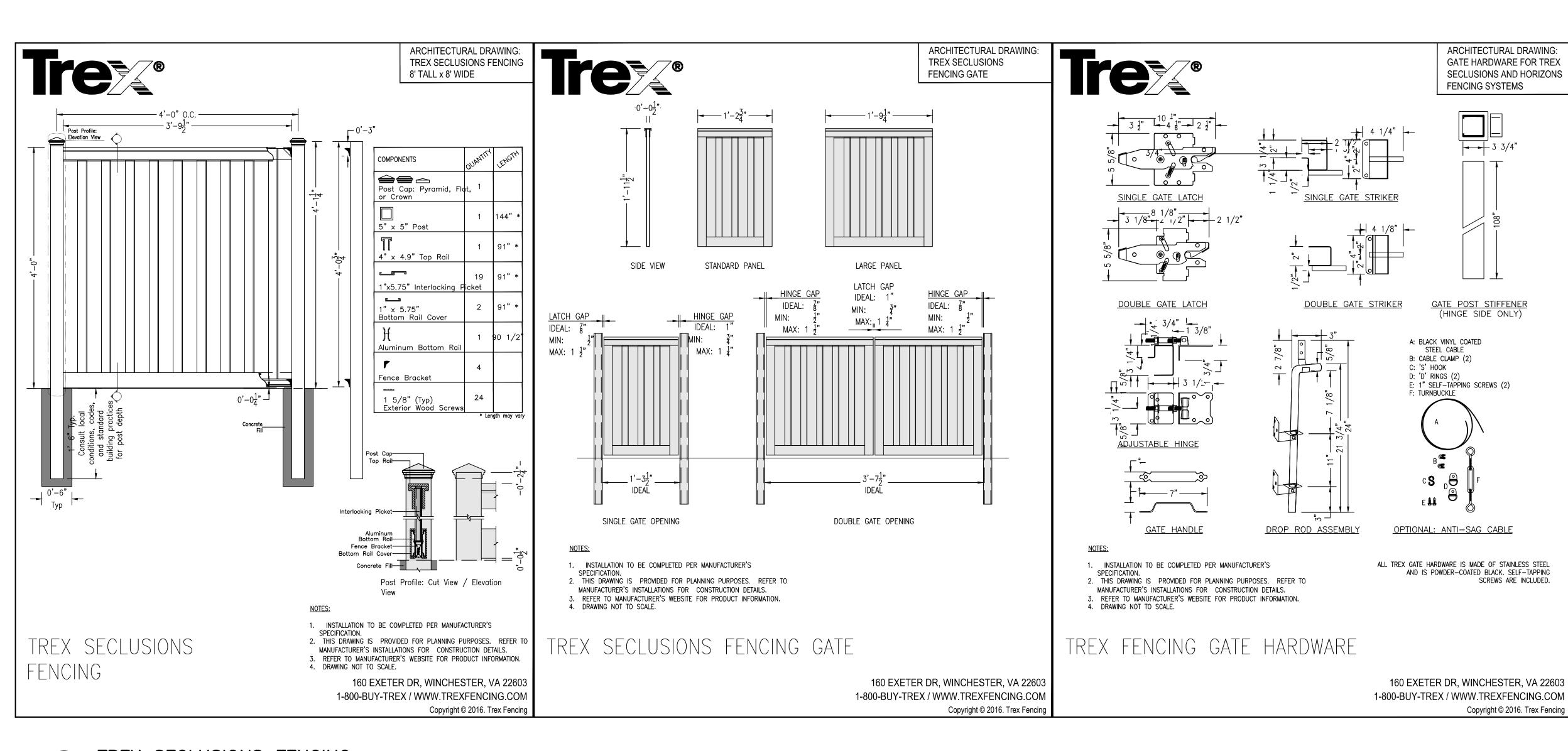




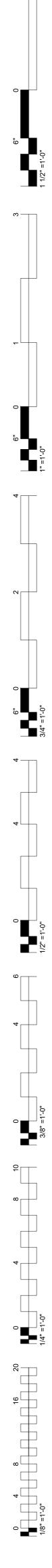


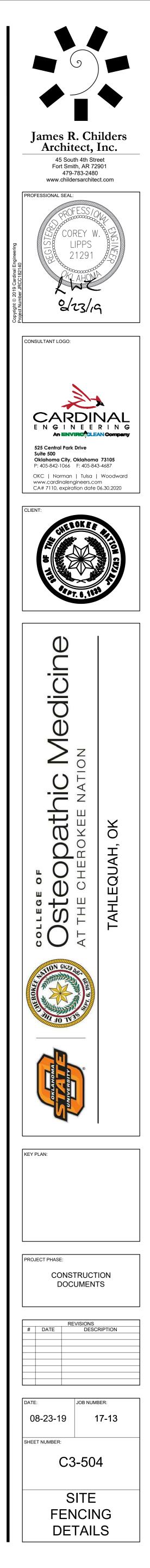
11. Planned interruptions in paving shall have either a Doweled Construction Joint Type G or a Tongue and

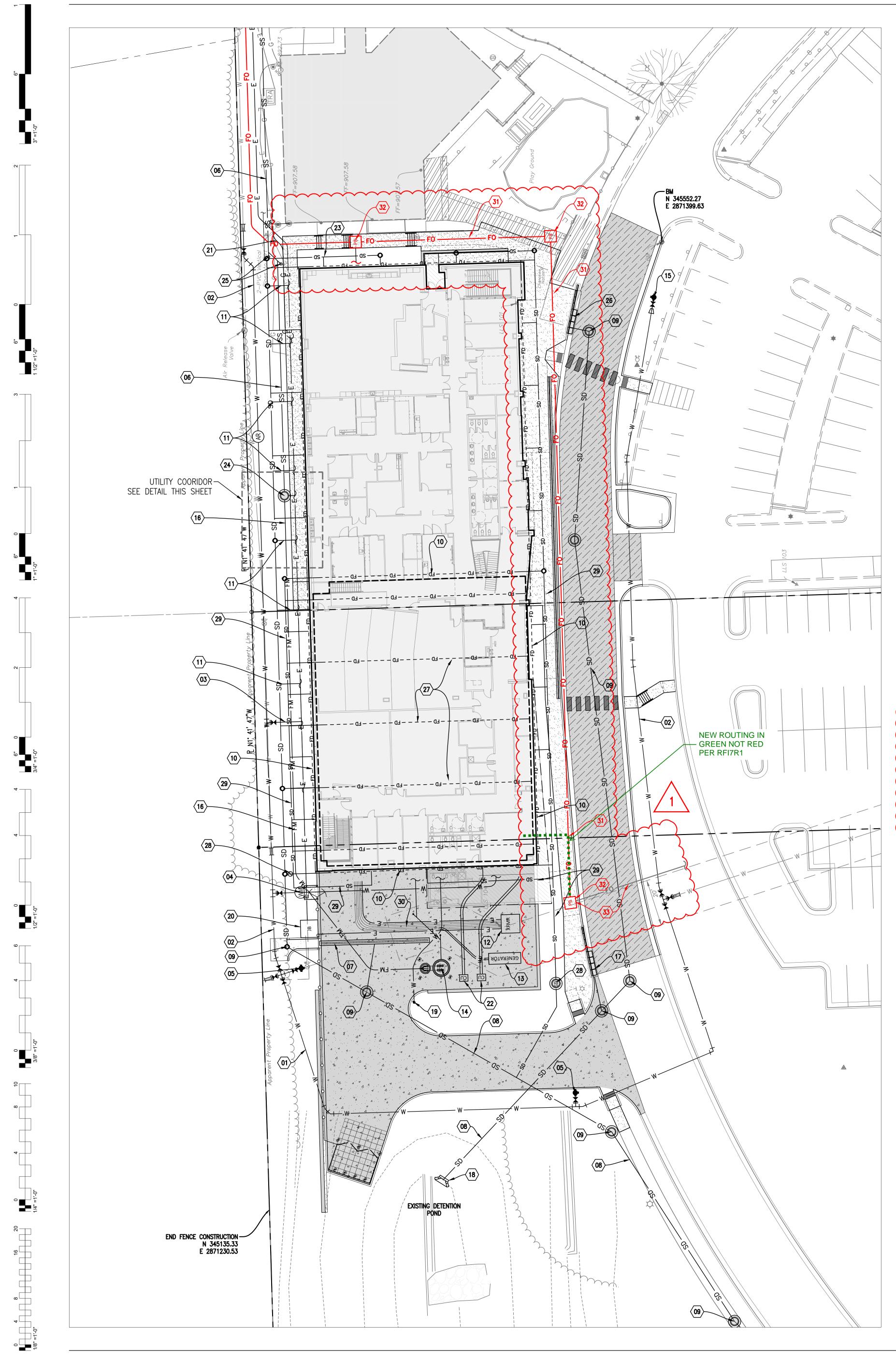






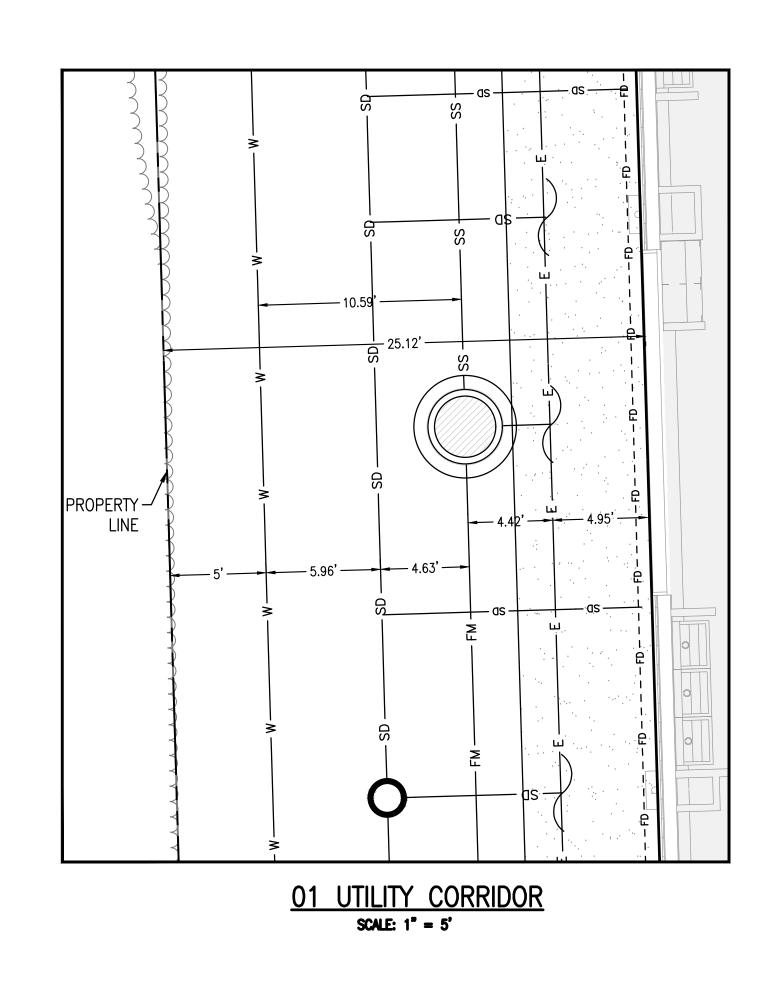






	UTILITY PLAN KEYNOTES
NO.	DESCRIPTION
01	CONSTRUCT RELOCATION OF 12-IN WATER LINE PER TPWA STANDARDS AND SPECIFICATIONS. SEE SHEET C7-201.
02	CONSTRUCT RELOCATION OF 8-IN WATER LINE PER TPWA STANDARDS AND SPECIFICATIONS. SEE SHEETS C7-201.
03	INSTALL 8-IN FIRE LINE TO FIRE RISER ROOM. SEE SHEETS C7-203.
04	INSTALL 3-IN WATER SERVICE LINE AND METER PER TPWA STANDARDS AND SPECIFICATIONS.
05	INSTALL FIRE HYDRANT. SEE SHEET C7-201.
06	INSTALL 6-IN SEWER SERVICE LINE. SEE SHEET C8-201.
07	INSTALL TRENCH DRAIN. SEE SHEETS C6-201 TO C6-203.
08	INSTALL HP STORM DRAIN PIPE. SEE SHEETS C6-201 TO C6-203.
09	INSTALL STORM DRAIN MANHOLE. SEE SHEETS C6-201 TO C6-203.
10	INSTALL 4-IN FOUNDATION DRAIN PIPE AROUND BASEMENT. SEE SHEET C6-204.
11	INSTALL HP STORM DRAIN PIPE FOR ROOF DRAINS. SEE SHEET C6-201.
12	PROPOSED TRANSFORMER LOCATION.
13	PROPOSED GENERATOR LOCATION.
14	PROPOSED LIFT STATION FOR BASEMENT SEWER.
15	INSTALL FIRE HYDRANT. SEE SHEET C7-202.
16	INSTALL BASEMENT SEWER FORCE MAIN. SEE SHEET C8-201.
17	INSTALL CAST IRON CURB AND GRATE INLET. SEE SHEET C6-501.
18	INSTALL CONCRETE HEADWALL. SEE SHEET C6-503.
19	INSTALL YARD WATER HYDRANT. SEE MEP FOR BUILDING CONNECTION.
20	ELECTRICAL SERVICE PULL-BOX.
21	INSTALL GAS LINE. REFER TO MEP FOR SIZE AND CONNECTION.
22	MORTECH CONDESNING UNITS. SEE PLUMBING PLANS AND MANUFACTURER DRAWINGS.
23	INSTALL FIBER OPTIC LINE TO BUILDING. REFER TO MEP FOR CONNECTION.
24	INSTALL SANITARY SEWER MANHOLE.
25	INSTALL SANITARY SEWER CLEANOUTS.
26	INSTALL STORM SEWER CURB INLET.
27	UNDERSLAB PERFORATED PIPE FOUNDATION DRAINS.
28	INSTALL 6-IN BACKWATER VALVE FOR FOUNDATION DRAINS.
29	6-IN DRAIN PIPE FOR FOUNDATION AND UNDERSLAB DRAINS.
30	SEE ELECTRICAL DRAWINGS FOR DUCT BANK TO BUILDING.
\sim	
31	INSTALL (2) 4-IN COMMUNICATION CONDUITS PER CHEROKEE NATION HEALTH IT SPECIFICATIONS FOR FIBER OPTIC SERVICE.
32	INSTALL 30-IN x 48-IN x 36-IN QUAZITE PULLBOX FOR FIBER OPTIC SERVICE. B14304836A BOX WITH C12304803Y COVER. RIM AND COVER OF BOXES WITHIN SIDEWALKS SHALL BE SET FLUSH WITH FINISHED GRADE OF SIDEWALK.
33	THE PRECISE LOCATION OF EXISTING FIBER OPTIC CONDUITS FROM THE OUTPATIENT HEALTH CLINIC IS NOT KNOWN. LOCATE EXISTING CONDUITS CROSSING THE SIDEWALK AND SET QUAZITE PULL BOX TO ROUTE FIBER OPTIC CONDUITS ALONG THE EAST SIDE OF THE NEW FACILITY.



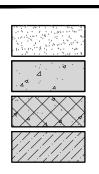


UTILITY LEGEND

— W —	W		W		W
SS		— SS —		— SS —	
— G ———	— G —		— G —		— G ———
— E — — —	— E —		— E —		— E — — — —
— G ———	— G —		— G —		— G ———
— W ———	— w —		— w —		— W ———
SS		— ss —		— SS —	
— E — — —	— Е —	· <u> </u>	— Е —		— E — — — —
— Е ———	— Е —		— Е —		— Е ———
——— FO ——		— F0 —		— F0 —	
_ T	—т—		— т —		T
SD		— SD —		— SD —	
———— FM ——		— FM —		— FM —	
—— FD — — — -	- — FD — —	— — — FD -		FD — — — ·	FD

EXISTING WATER LINE
EXISTING SANITARY SEWER LINE
EXISTING GAS LINE
EXISTING OVERHEAD ELECTRIC LINE
PROPOSED GAS LINE
PROPOSED WATER LINE
PROPOSED SANITARY SEWER LINE
PROPOSED OVERHEAD ELECTRIC LINE
PROPOSED UNDERGROUND ELECTRIC LINE
PROPOSED FIBER OPTIC LINE
PROPOSED TELEPHONE LINE
PROPOSED STORM SEWER
PROPOSED SANITARY SEWER FORCE MAIN
PROPOSED PERFORATED DRAIN PIPE

HARDSCAPE / LANDSCAPE PATTERNS



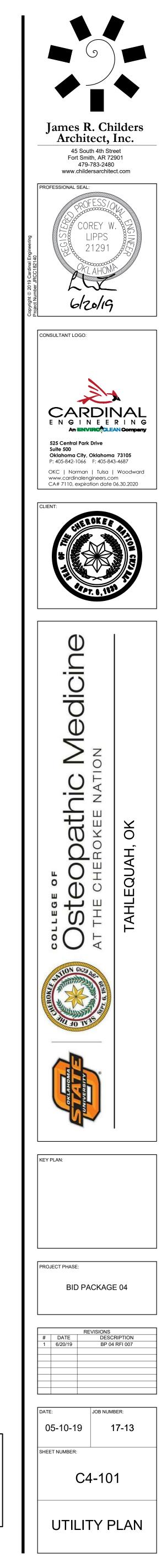
CONCRETE SIDEWALKS HEAVY DUTY CONCRETE PAVING REINFORCED HEAVY DUTY CONCRETE PAVING HEAVY DUTY ASPHALT PAVING

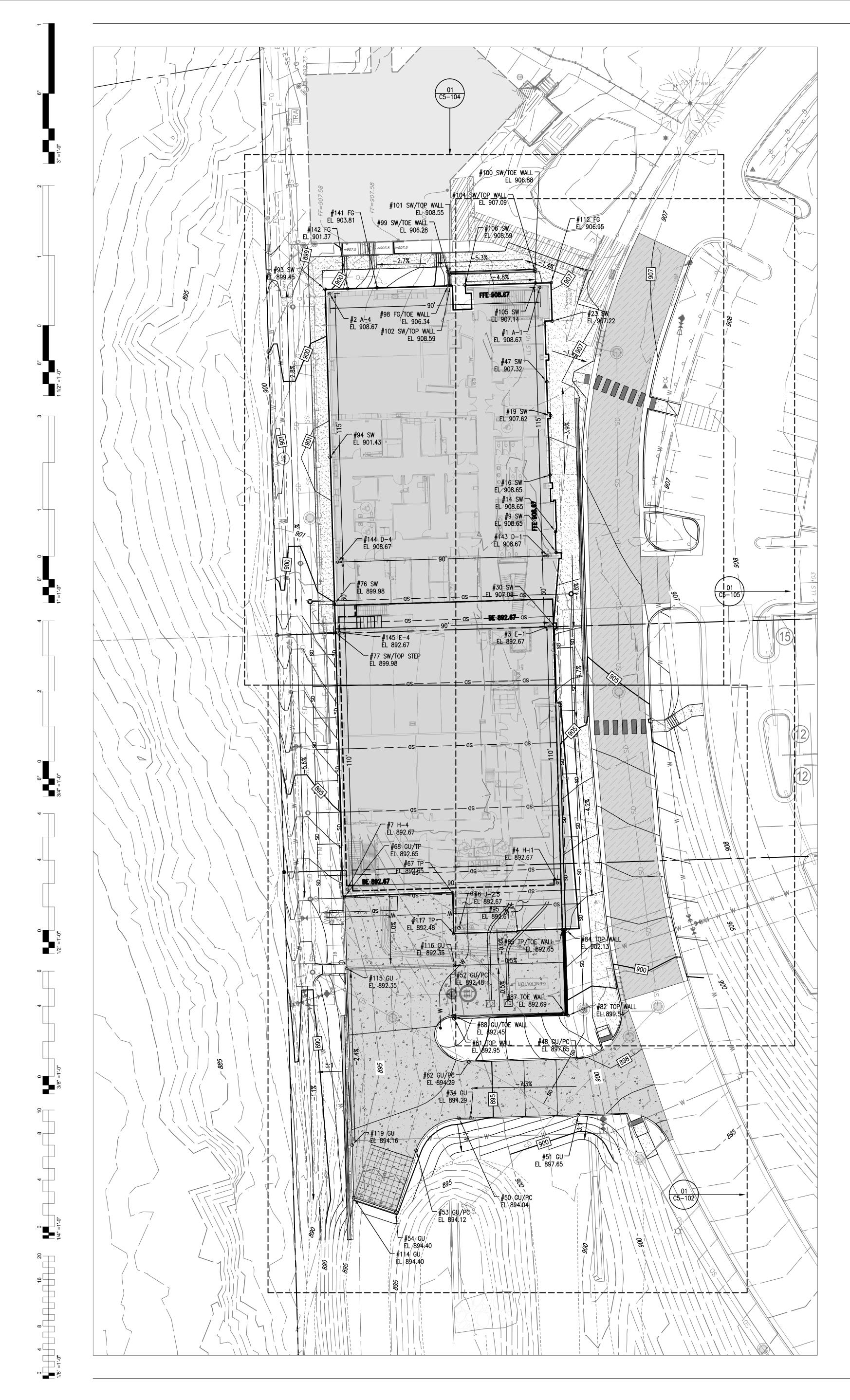


SCALE: 1" = 20'

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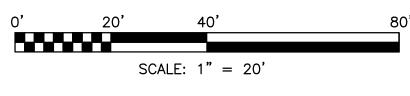




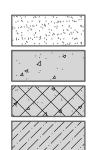


		Point 1	able		
Point #	Elevation	Northing	Easting	Description	
1	908.67	345541.68	2871335.38	A-1	\wedge
2	908.67	345539.02	2871245.42	A-4	$\langle \rangle \rangle$
3	892.67	345396.75	2871339.67	E-1	
4	892.67	345286.80	2871342.92	H–1	
6	892.67	345267.54	2871300.81	J-2.5	
7	892.67	345284.13	2871252.96	H-4	/2
9	908.65	345428.17	2871342.37	SW	
14	908.65	345437.09	2871342.11	SW	
16	908.65	345461.36	2871339.76	SW	
19	907.62	345486.80	2871339.99	SW	
23	907.22	345527.25	2871340.72	SW	
30	907.08	345395.50	2871342.61	SW]
34	894.29	345186.20	2871305.72	GU	
47	907.32	345501.28	2871338.40	SW	
48	897.65	345211.56	2871351.16	GU/PC	
50	894.04	345186.05	2871300.83	GU/PC	1
51	897.65	345187.57	2871351.87	GU	1
52	892.48	345229.95	2871298.14	GU/PC	1
53	894.12	345172.34	2871282.43	GU/PC	
54	894.40	345146.10	2871273.75	GU	
62	894.29	345210.19	2871305.01	GU/PC	
67	892.65	345282.55	2871297.98	, TP	
68	892.65	345281.02	2871251.89	GU/TP	
76	899.98	345406.02	2871247.47	SW	
			2871247.82	SW/TOP STEP	
77	899.98	345394.03		•	
81	892.95	345228.62	2871298.77	TOP WALL	
82	899.54	345230.06	2871347.44	TOP WALL	
84	902.13	345266.99	2871346.35	TOP WALL	
85	892.65	345266.95	2871345.01	TP/TOE WALL	
87	892.69	345231.35	2871346.07	TOE WALL	
88	892.45	345229.95	2871298.73	GU/TOE WALL	
93	899.45	345540.85	2871243.48	SW	-
94	901.43	345468.99	2871245.60	SW	
95	892.61	345265.90	2871325.87	TP	
98	906.34	345542.41	2871296.06	FG/TOE WALL	
99	906.28	345548.35	2871295.88	SW/TOE WALL	ļ
100	906.88	345549.46	2871333.31	SW/TOE WALL]
101	908.55	345547.38	2871296.91	SW/TOP WALL	
102	908.59	345542.44	2871297.06	SW/TOP WALL	1
104	907.09	345548.46	2871333.34	SW/TOP WALL	1
105	907.14	345543.55	2871333.49	, SW	1
106	908.59	345542.65	2871303.42	SW	1
112	906.95	345543.74	2871340.23	FG	1
114	894.40	345152.07	2871255.71	GU	1
115	892.35	345250.10	2871252.81	GU	1
116	892.35	345251.47	2871298.90	GU	1
117	892.48	345265.09	2871298.50	TP	1
119	894.16	345174.61	2871255.04	GU	1
141	903.81	345541.51	2871265.70	FG	1
142	901.37	345541.13	2871253.16	FG~	
143	908.67	345426.73	2871338.78	D-1	$ \land $
144	908.67	345424.07	2871248.82	D-4	5 > 2
	892.67				





HARDSCAPE / LANDSCAPE PATTERNS



HEAVY DUTY CONCRETE PAVING

CONCRETE SIDEWALKS

REINFORCED HEAVY DUTY CONCRETE PAVING

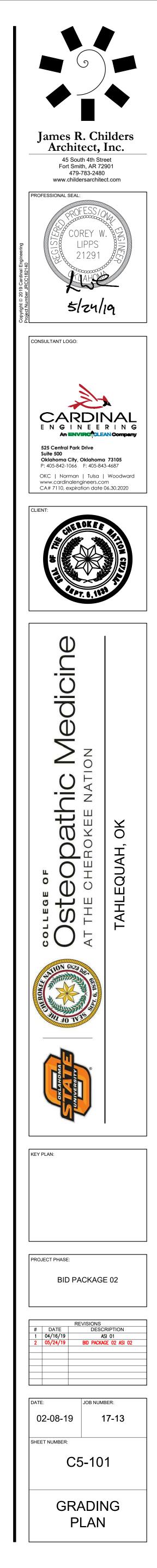
HEAVY DUTY ASPHALT PAVING

POINT CODE ABBREVIATION	٧S
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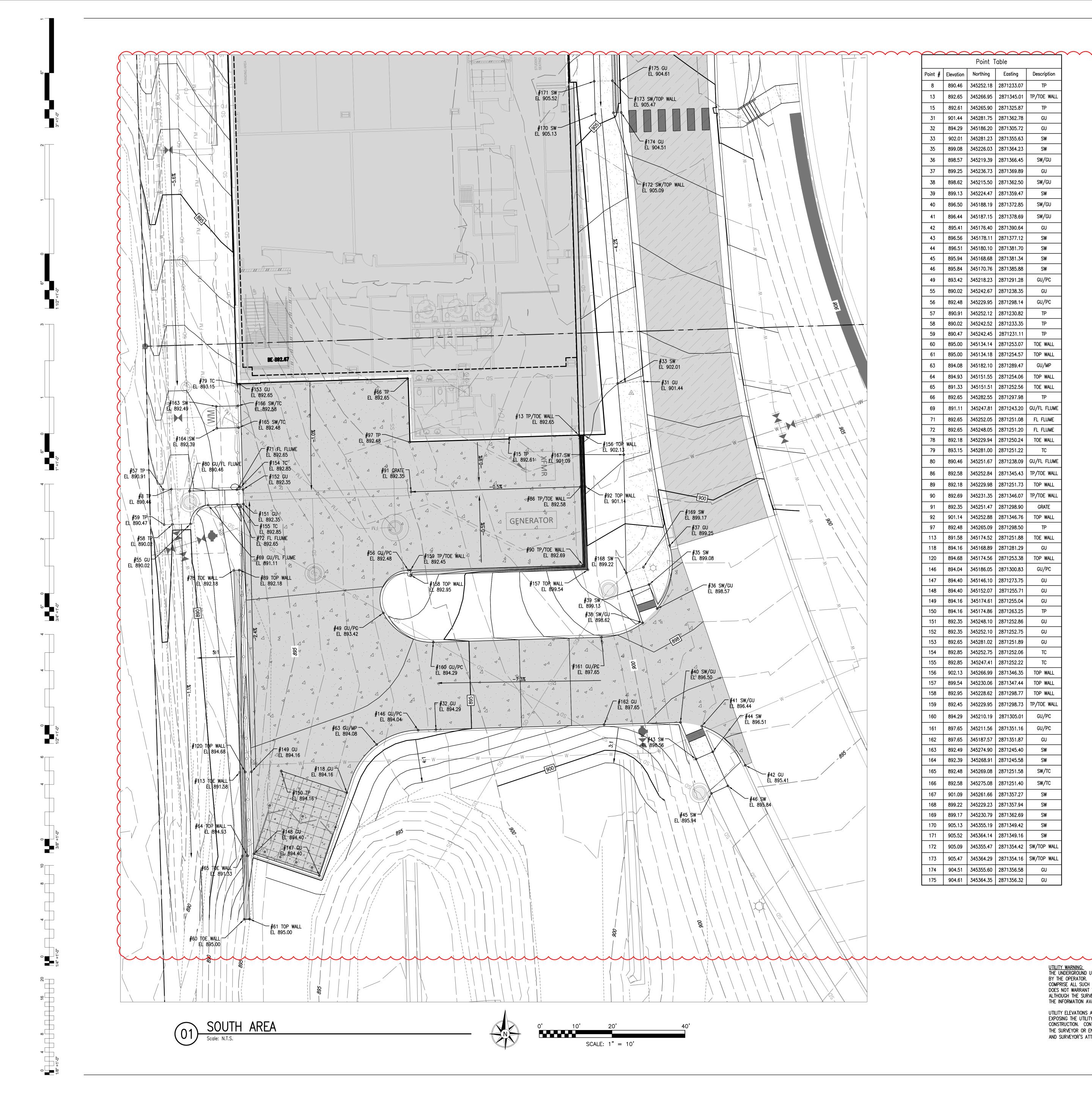
EG	EXISTING GRADE
FG	FINISHED GRADE
GRATE	TOP OF GRATE
GUT	GUTTER
MP	MID POINT
PC	POINT OF CURVATURE
SW	SIDEWALK
TC	TOP OF CURB
TP	TOP OF PAVING
TOE WALL	FINISHED GRADE AT TOE OF WALL
TOP WALL	FINISHED GRADE AT TOP OF WALL

UTILITY WARNING: THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM RECORD DOCUMENTS OR FIELD LOCATIONS BY THE OPERATOR. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.









Point Table int # Elevation Northing Easting Description 8 890.46 345252.18 2871233.07 TP 13 892.65 345266.95 2871345.01 TP/TOE W 15 892.61 345265.90 2871325.87 TP 31 901.44 345281.75 2871305.72 GU 32 894.29 345186.20 2871305.72 GU 33 902.01 345226.03 2871364.23 SW 35 899.08 345226.03 2871364.23 SW 36 898.57 345219.39 2871366.45 SW/GU 37 899.25 345226.03 2871362.50 SW/GU 38 898.62 345215.50 2871362.50 SW/GU 38 898.62 345224.47 2871372.85 SW/GU 39 899.13 345224.47 2871372.85 SW/GU 41 896.50 345188.19 2871372.85 SW/GU 42	ALL
N N	ALL
13 892.65 345266.95 2871345.01 TP/TOE W 15 892.61 345265.90 2871325.87 TP 31 901.44 345281.75 2871362.78 GU 32 894.29 345186.20 2871305.72 GU 33 902.01 345281.23 2871355.63 SW 35 899.08 345226.03 2871364.23 SW 36 898.57 345219.39 2871366.45 SW/GU 37 899.25 345236.73 2871362.50 SW/GU 38 898.62 345215.50 2871362.50 SW/GU 39 899.13 345224.47 2871359.47 SW 40 896.50 345188.19 2871372.85 SW/GU 41 896.44 345187.15 2871377.12 SW 42 895.41 345176.40 2871381.34 GU 43 896.56 345178.11 2871377.12 SW 44 896.51 345168.68 28	
15 892.61 345265.90 2871325.87 TP 31 901.44 345281.75 2871362.78 GU 32 894.29 345186.20 2871305.72 GU 33 902.01 345281.23 2871305.72 GU 35 899.08 345281.23 2871355.63 SW 35 899.08 345226.03 2871364.23 SW 36 898.57 345219.39 2871366.45 SW/GU 37 899.25 345236.73 2871369.89 GU 38 898.62 345215.50 2871369.89 GU 39 899.13 345224.47 2871359.47 SW/GU 39 896.50 345188.19 2871372.85 SW/GU 40 896.50 345187.15 2871390.64 GU 41 896.44 345176.40 2871390.64 GU 42 895.41 345180.10 2871381.70 SW 44 896.51 345180.10 2871381.34<	
31 901.44 345281.75 2871362.78 GU 32 894.29 345186.20 2871305.72 GU 33 902.01 345281.23 2871355.63 SW 35 899.08 345226.03 2871364.23 SW 36 898.57 345219.39 2871366.45 SW/GU 37 899.25 345236.73 2871369.89 GU 38 898.62 345224.47 2871362.50 SW/GU 39 899.13 345224.47 2871359.47 SW 40 896.50 345188.19 2871372.85 SW/GU 41 896.44 345187.15 2871379.64 GU 42 895.41 345176.40 2871390.64 GU 43 896.56 345178.11 2871377.12 SW 44 896.51 345180.10 2871381.70 SW 45 895.94 345168.68 2871381.34 SW 46 895.84 345170.76 2871385.88 SW 49 893.42 345218.23 2871291.28	
32 894.29 345186.20 2871305.72 GU 33 902.01 345281.23 2871355.63 SW 35 899.08 345226.03 2871364.23 SW 36 898.57 345219.39 2871366.45 SW/GU 37 899.25 345236.73 2871369.89 GU 38 898.62 345215.50 2871362.50 SW/GU 39 899.13 345224.47 2871359.47 SW 40 896.50 345188.19 2871372.85 SW/GU 41 896.44 345176.40 2871390.64 GU 43 896.56 345178.11 2871377.12 SW 44 896.51 345168.68 2871381.70 SW 45 895.94 345168.68 2871381.34 SW 46 895.84 345170.76 2871385.88 SW 49 893.42 345218.23 2871291.28 GU/PC	
35 899.08 345226.03 2871364.23 SW 36 898.57 345219.39 2871366.45 SW/GU 37 899.25 345236.73 2871369.89 GU 38 898.62 345215.50 2871362.50 SW/GU 39 899.13 345224.47 2871359.47 SW 40 896.50 345188.19 2871372.85 SW/GU 41 896.44 345187.15 2871379.69 SW/GU 42 895.41 345176.40 2871390.64 GU 43 896.56 345178.11 2871377.12 SW 44 896.51 345168.68 2871381.70 SW 45 895.94 345168.68 2871381.34 SW 46 895.84 345170.76 2871385.88 SW 49 893.42 345218.23 2871291.28 GU/PC	
36 898.57 345219.39 2871366.45 SW/GU 37 899.25 345236.73 2871369.89 GU 38 898.62 345215.50 2871362.50 SW/GU 39 899.13 345224.47 2871359.47 SW 40 896.50 345188.19 2871372.85 SW/GU 41 896.44 345187.15 2871378.69 SW/GU 42 895.41 345176.40 2871390.64 GU 43 896.56 345178.11 2871377.12 SW 44 896.51 345168.68 2871381.70 SW 45 895.94 345168.68 2871381.34 SW 46 895.84 345170.76 2871385.88 SW 49 893.42 345218.23 2871291.28 GU/PC	
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44 896.51 345180.10 2871381.70 SW 45 895.94 345168.68 2871381.34 SW 46 895.84 345170.76 2871385.88 SW 49 893.42 345218.23 2871291.28 GU/PC	
45 895.94 345168.68 2871381.34 SW 46 895.84 345170.76 2871385.88 SW 49 893.42 345218.23 2871291.28 GU/PC	
49 893.42 345218.23 2871291.28 GU/PC	
55 890.02 345242.67 2871238.35 GU	
56 892.48 345229.95 2871298.14 GU/PC	
57 890.91 345252.12 2871230.82 TP	
58 890.02 345242.52 2871233.35 TP	
59 890.47 345242.45 2871231.11 TP	
60 895.00 345134.14 2871253.07 TOE WAL	
61 895.00 345134.18 2871254.57 TOP WAI 63 894.08 345182.10 2871289.47 GU/MP	
63 894.08 345182.10 2871289.47 G0/MP 64 894.93 345151.55 2871254.06 TOP WAI	
65 891.33 345151.51 2871252.56 TOE WAI	
66 892.65 345282.55 2871297.98 TP	
69 891.11 345247.81 2871243.20 GU/FL FL	JME
71 892.65 345252.05 2871251.08 FL FLUN	E
72 892.65 345248.05 2871251.20 FL FLUN	E
78 892.18 345229.94 2871250.24 TOE WAI	L
79 893.15 345281.00 2871251.22 TC	
80 890.46 345251.67 2871238.09 GU/FL FL	JME
86 892.58 345252.84 2871345.43 TP/TOE W	
89 892.18 345229.98 2871251.73 TOP WAI	
90 892.69 345231.35 2871346.07 TP/TOE W	
91 892.35 345251.47 2871298.90 GRATE 92 901.14 345252.88 2871346.76 TOP WAI	
97 892.48 345265.09 2871298.50 TP	· L
113 891.58 345174.52 2871251.88 TOE WAI	L
118 894.16 345168.89 2871281.29 GU	
120 894.68 345174.56 2871253.38 TOP WAI	L
146 894.04 345186.05 2871300.83 GU/PC	
147 894.40 345146.10 2871273.75 GU	
148 894.40 345152.07 2871255.71 GU 148 994.40 745174.04 9974955.04 904	
149 894.16 345174.61 2871255.04 GU 150 894.16 345174.86 2871263.25 TP	
150 894.16 345174.86 2871263.25 TP 151 892.35 345248.10 2871252.86 GU	
152 892.35 345252.10 2871252.75 GU	
152 892.35 345252.10 2871252.75 GU	
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152 892.35 345252.10 2871252.75 GU 153 892.65 345281.02 2871251.89 GU 154 892.85 345252.75 2871252.06 TC 155 892.85 345247.41 2871252.22 TC 156 902.13 345266.99 2871346.35 TOP WAR	
152 892.35 345252.10 2871252.75 GU 153 892.65 345281.02 2871251.89 GU 154 892.85 345252.75 2871252.06 TC 155 892.85 345247.41 2871252.22 TC 156 902.13 345266.99 2871346.35 TOP WAR 157 899.54 345230.06 2871347.44 TOP WAR	L
152 892.35 345252.10 2871252.75 GU 153 892.65 345281.02 2871251.89 GU 154 892.85 345252.75 2871252.06 TC 155 892.85 345247.41 2871252.22 TC 156 902.13 345266.99 2871346.35 TOP WAI 157 899.54 345230.06 2871347.44 TOP WAI 158 892.95 345228.62 2871298.77 TOP WAI	L
152 892.35 345252.10 2871252.75 GU 153 892.65 345281.02 2871251.89 GU 154 892.85 345252.75 2871252.06 TC 155 892.85 345247.41 2871252.22 TC 156 902.13 345266.99 2871346.35 TOP WAI 157 899.54 345230.06 2871298.77 TOP WAI 158 892.95 345228.62 2871298.77 TOP WAI 159 892.45 345229.95 2871298.73 TP/TOE W	L L ALL
152 892.35 345252.10 2871252.75 GU 153 892.65 345281.02 2871251.89 GU 154 892.85 345252.75 2871252.06 TC 155 892.85 345266.99 2871346.35 TOP WAI 156 902.13 345230.06 2871346.35 TOP WAI 157 899.54 345228.62 2871298.77 TOP WAI 158 892.95 345229.95 2871298.73 TP/TOE W 159 894.29 345210.19 2871305.01 GU/PC	L L ALL
152 892.35 345252.10 2871252.75 GU 153 892.65 345281.02 2871251.89 GU 154 892.85 345252.75 2871252.06 TC 155 892.85 345266.99 2871346.35 TOP WAI 156 902.13 345230.06 2871346.35 TOP WAI 157 899.54 345228.62 2871298.77 TOP WAI 158 892.95 345229.95 2871298.73 TP/TOE W 159 894.29 345210.19 2871305.01 GU/PC 160 894.29 345211.56 2871351.16 GU/PC	L L ALL
152 892.35 345252.10 2871252.75 GU 153 892.65 345281.02 2871251.89 GU 154 892.85 345252.75 2871252.06 TC 155 892.85 345266.99 2871346.35 TOP WAI 156 902.13 345230.06 2871298.77 TOP WAI 157 899.54 345228.62 2871298.77 TOP WAI 158 892.95 345229.95 2871298.73 TP/TOE W 159 892.45 345210.19 2871305.01 GU/PC 160 894.29 345210.19 2871305.01 GU/PC 161 897.65 345211.56 2871351.16 GU/PC 162 897.65 345187.57 2871351.87 GU	L L ALL
152 892.35 345252.10 2871252.75 GU 153 892.65 345281.02 2871251.89 GU 154 892.85 345252.75 2871252.06 TC 155 892.85 345266.99 2871346.35 TOP WAI 156 902.13 345230.06 2871346.35 TOP WAI 157 899.54 345228.62 2871298.77 TOP WAI 158 892.95 345229.95 2871298.73 TP/TOE W 159 894.29 345210.19 2871305.01 GU/PC 160 894.29 345211.56 2871351.16 GU/PC	l L ALL
152 892.35 345252.10 2871252.75 GU 153 892.65 345281.02 2871251.89 GU 154 892.85 345252.75 2871252.06 TC 155 892.85 345266.99 2871346.35 TOP WAI 156 902.13 345230.06 2871298.77 TOP WAI 157 899.54 345228.62 2871298.77 TOP WAI 158 892.95 345229.95 2871298.73 TP/TOE W 159 892.45 345210.19 2871305.01 GU/PC 160 894.29 345210.19 2871351.16 GU/PC 161 897.65 345211.56 2871351.16 GU/PC 162 897.65 345274.90 2871351.87 GU 163 892.49 345274.90 2871351.87 GU	L L ALL
152 892.35 345252.10 2871252.75 GU 153 892.65 345281.02 2871251.89 GU 154 892.85 345252.75 2871252.06 TC 155 892.85 345247.41 2871252.22 TC 156 902.13 345266.99 2871346.35 TOP WAI 157 899.54 345230.06 2871298.77 TOP WAI 158 892.95 345228.62 2871298.77 TOP WAI 159 892.45 345229.95 2871305.01 GU/PC 160 894.29 345210.19 2871305.01 GU/PC 161 897.65 345187.57 2871351.16 GU/PC 162 897.65 345274.90 2871245.40 SW 163 892.49 345274.90 2871245.40 SW 164 892.39 345268.91 2871245.58 SW 165 892.48 345269.08 2871251.58 SW/TC	
152 892.35 345252.10 2871252.75 GU 153 892.65 345281.02 2871251.89 GU 154 892.85 345252.75 2871252.06 TC 155 892.85 345266.99 2871346.35 TOP WAI 156 902.13 345266.99 2871346.35 TOP WAI 157 899.54 345228.62 2871298.77 TOP WAI 158 892.95 345229.95 2871298.73 TP/TOE W 159 892.45 345229.95 2871305.01 GU/PC 160 894.29 345210.19 2871305.01 GU/PC 161 897.65 345211.56 2871351.16 GU/PC 162 897.65 345274.90 2871245.40 SW 163 892.49 345268.91 2871245.58 SW 164 892.39 345269.08 2871251.58 SW/TC 165 892.48 345269.08 2871251.58 SW/TC 166 892.58 345275.08 2871251.40 SW/TC	
152 892.35 345252.10 2871252.75 GU 153 892.65 345281.02 2871251.89 GU 154 892.85 345252.75 2871252.06 TC 155 892.85 345266.99 2871346.35 TOP WAI 156 902.13 345266.99 2871346.35 TOP WAI 157 899.54 345228.62 2871298.77 TOP WAI 158 892.95 345229.95 2871298.73 TP/TOE W 159 892.45 345229.95 2871305.01 GU/PC 160 894.29 345210.19 2871305.01 GU/PC 161 897.65 345211.56 2871351.16 GU/PC 162 897.65 345274.90 2871245.40 SW 163 892.49 345268.91 2871245.58 SW 164 892.39 345269.08 2871251.58 SW/TC 165 892.48 345269.08 2871251.58 SW/TC 166 892.58 345275.08 2871251.40 SW/TC	
152 892.35 345252.10 2871252.75 GU 153 892.65 345281.02 2871251.89 GU 154 892.85 345252.75 2871252.06 TC 155 892.85 345247.41 2871252.22 TC 156 902.13 345266.99 2871346.35 TOP WAI 157 899.54 345228.62 2871298.77 TOP WAI 158 892.95 345229.95 2871347.44 TOP WAI 159 892.45 345229.95 2871305.01 GU/PC 160 894.29 345210.19 2871305.01 GU/PC 161 897.65 345211.56 2871351.16 GU/PC 162 897.65 345274.90 2871351.87 GU 163 892.49 345269.08 2871245.40 SW 164 892.39 345269.08 2871251.58 SW/TC 165 892.48 345269.08 2871251.58 SW/TC 166 892.58 345275.08 2871251.40 SW/TC 167 901.09 345261	
152 892.35 345252.10 2871252.75 GU 153 892.65 345281.02 2871251.89 GU 154 892.85 345252.75 2871252.06 TC 155 892.85 345247.41 2871252.22 TC 156 902.13 345266.99 2871346.35 TOP WAI 157 899.54 345228.62 2871298.77 TOP WAI 158 892.95 345229.95 2871298.77 TOP WAI 159 892.45 345229.95 2871305.01 GU/PC 160 894.29 345210.19 2871305.01 GU/PC 161 897.65 345274.90 2871251.46 GU 162 897.65 345274.90 2871245.40 SW 163 892.49 345268.91 2871245.40 SW 164 892.39 345269.08 2871251.58 SW/TC 165 892.48 345269.08 2871251.58 SW/TC 166 892.58 345275.08 2871357.27 SW 167 901.09 345261.66 <td></td>	
152 892.35 345252.10 2871252.75 GU 153 892.65 345281.02 2871251.89 GU 154 892.85 345252.75 2871252.06 TC 155 892.85 345266.99 2871346.35 TOP WAI 156 902.13 345266.99 2871346.35 TOP WAI 157 899.54 345229.95 2871298.77 TOP WAI 158 892.95 345229.95 2871398.73 TP/TOE W 159 892.45 345210.19 2871305.01 GU/PC 160 894.29 345210.19 2871351.16 GU/PC 161 897.65 345274.90 2871351.16 GU/PC 162 897.65 345268.91 2871251.58 GW 164 892.39 345268.91 2871251.58 SW/TC 165 892.48 345269.08 2871251.58 SW/TC 166 892.58 345275.08 2871251.58 SW/TC 167 901.09 345261.66 2871357.27 SW 168 899.22	
152 892.35 345252.10 2871252.75 GU 153 892.65 345281.02 2871251.89 GU 154 892.85 345252.75 2871252.06 TC 155 892.85 345266.99 2871346.35 TOP WAI 156 902.13 345266.99 2871346.35 TOP WAI 157 899.54 345229.06 2871347.44 TOP WAI 158 892.95 345229.95 2871298.77 TOP WAI 159 892.45 345229.95 2871305.01 GU/PC 160 894.29 345210.19 2871305.01 GU/PC 161 897.65 345274.90 2871351.87 GU 162 897.65 345274.90 2871251.88 SW 163 892.49 345269.08 2871251.58 SW 164 892.39 345269.08 2871251.58 SW/TC 165 892.48 345269.08 2871251.58 SW/TC 166 892.58	
152 892.35 345252.10 2871252.75 GU 153 892.65 345281.02 2871251.89 GU 154 892.85 345252.75 2871252.06 TC 155 892.85 345266.99 2871346.35 TOP WAI 156 902.13 345266.99 2871346.35 TOP WAI 157 899.54 345229.95 2871298.77 TOP WAI 158 892.95 345229.95 2871398.73 TP/TOE W 159 892.45 345210.19 2871305.01 GU/PC 160 894.29 345210.19 2871351.16 GU/PC 161 897.65 345274.90 2871351.16 GU/PC 162 897.65 345268.91 2871251.58 GW 164 892.39 345268.91 2871251.58 SW/TC 165 892.48 345269.08 2871251.58 SW/TC 166 892.58 345275.08 2871251.58 SW/TC 167 901.09 345261.66 2871357.27 SW 168 899.22	
152 892.35 345252.10 2871252.75 GU 153 892.65 345281.02 2871251.89 GU 154 892.85 345252.75 2871252.06 TC 155 892.85 345266.99 2871346.35 TOP WAI 156 902.13 345228.62 2871298.77 TOP WAI 157 899.54 345229.95 2871298.77 TOP WAI 158 892.95 345229.95 2871305.01 GU/PC 159 892.45 345229.95 2871351.16 GU/PC 160 894.29 345210.19 2871351.16 GU/PC 161 897.65 345274.90 2871251.87 GU 162 897.65 345274.90 2871251.87 GU 163 892.49 345268.91 2871251.88 SW 164 892.39 345269.08 2871251.58 SW/TC 165 892.48 345269.08 2871251.40 SW/TC 166 892.58 34	

HARDSCAPE / LANDSCAPE PATTERNS

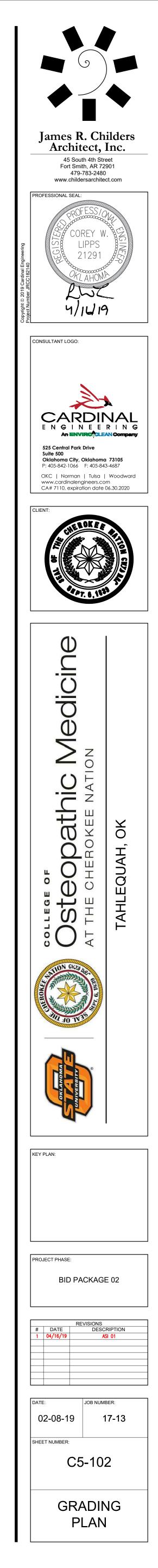
CONCRETE SIDEWALKS
HEAVY DUTY CONCRETE PAVING
REINFORCED HEAVY DUTY CONCRETE PAVING
HEAVY DUTY ASPHALT PAVING
SODDING / SEEDING / VEGETATIVE COVER

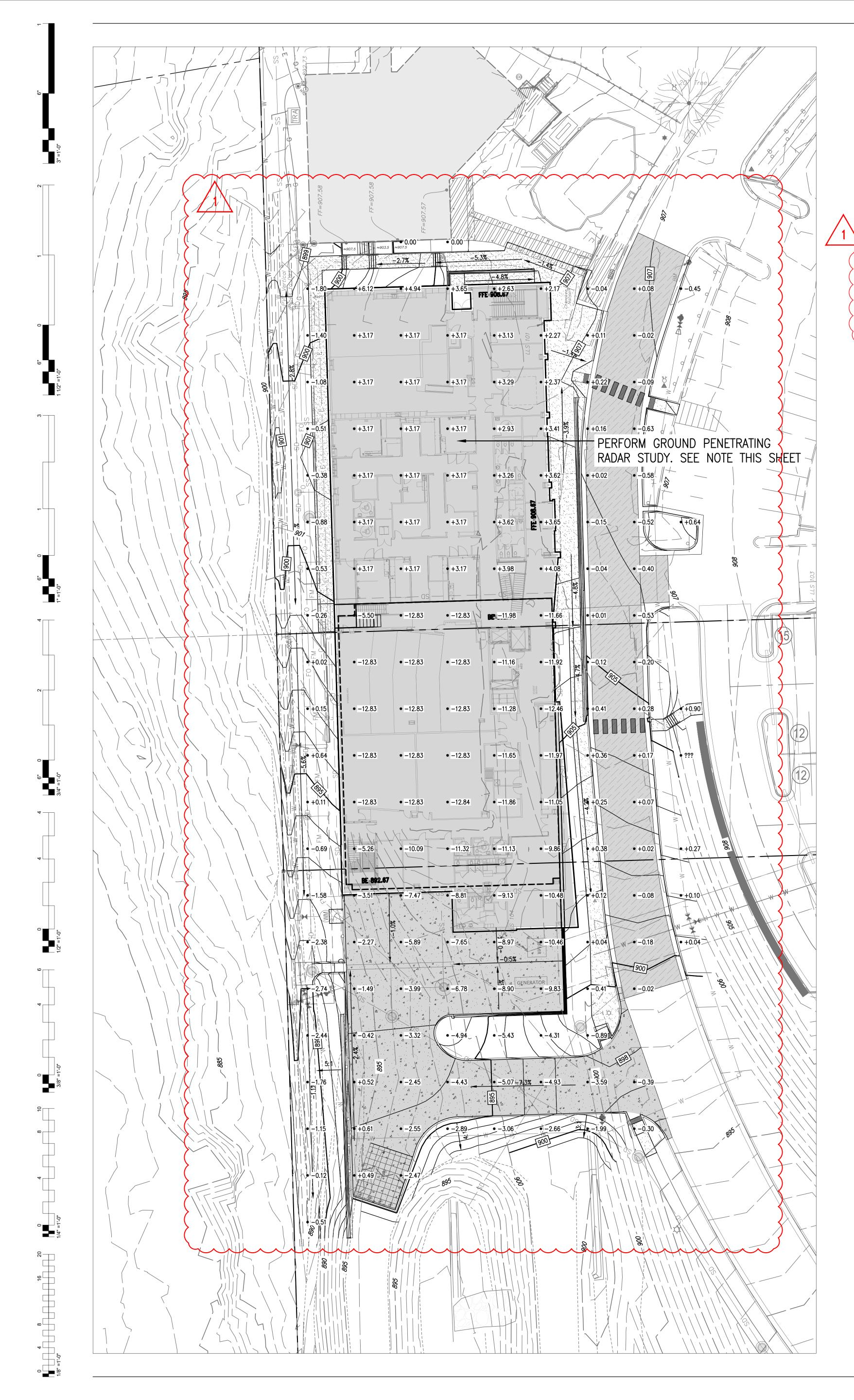
POINT CODE ABBREVIATIONS

EG	EXISTING GRADE
FG	FINISHED GRADE
GRATE	TOP OF GRATE
GUT	GUTTER
MP	MID POINT
PC	POINT OF CURVATURE
SW	SIDEWALK
TC	TOP OF CURB
TP	TOP OF PAVING
TOE WALL	FINISHED GRADE AT TOE OF WALL
TOP WALL	FINISHED GRADE AT TOP OF WALL

UTILITY WARNING: THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM RECORD DOCUMENTS OR FIELD LOCATIONS BY THE OPERATOR. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.







EARTHWORK CALCULATION NOTES

- 1. THE EARTHWORK VOLUMES PROVIDED ARE CALCULATED BY COMPARING THE FINISHED GRADE SURFACE MODEL WITH THE EXISTING GRADE SURFACE MODEL.
- 2. NO CORRECTION IS MADE FOR COMPACTION OR EXPANSION OF MATERIALS.
- NO CORRECTION IS MADE FOR PAVEMENT THICKNESS. NO CORRECTION IS MADE FOR UTILITY TRENCH SPOILS.
- ANY CUT OR FILL WITHIN THE FOOTPRINT OF THE EXISTING

STRUCTURE ARE NOT INCLUDED IN THE QUANTITIES BELOW.

		VOLUME VOLUME		•		
	NET	VOLUME	=	7,219	CY	CUT
$\overline{}$			\frown		$\overline{}$	\sim

GROUND PENETRATING RADAR

ONCE FINAL EXCAVATION WITHIN THE BUILDING FOOTPRINT IS ACHIEVED, THE SUBSURFACE AREA WITHIN THE FOOTPRINT SHALL BE INSPECTED WITH GROUND PENETRATING RADAR (GPR) TO POTENTIALLY LOCATE LARGE SHALLOW SUBSURFACE VOIDS, IF PRESENT.



HARDSCAPE / LANDSCAPE PATTERNS

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HEAVY DUTY CONCRETE PAVING

CONCRETE SIDEWALKS

REINFORCED HEAVY DUTY CONCRETE PAVING HEAVY DUTY ASPHALT PAVING

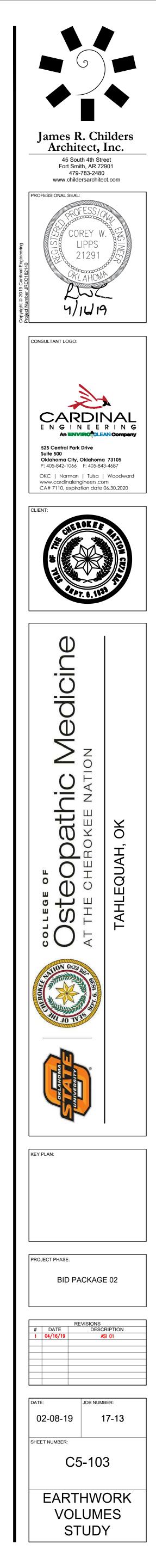
SODDING / SEEDING / VEGETATIVE COVER

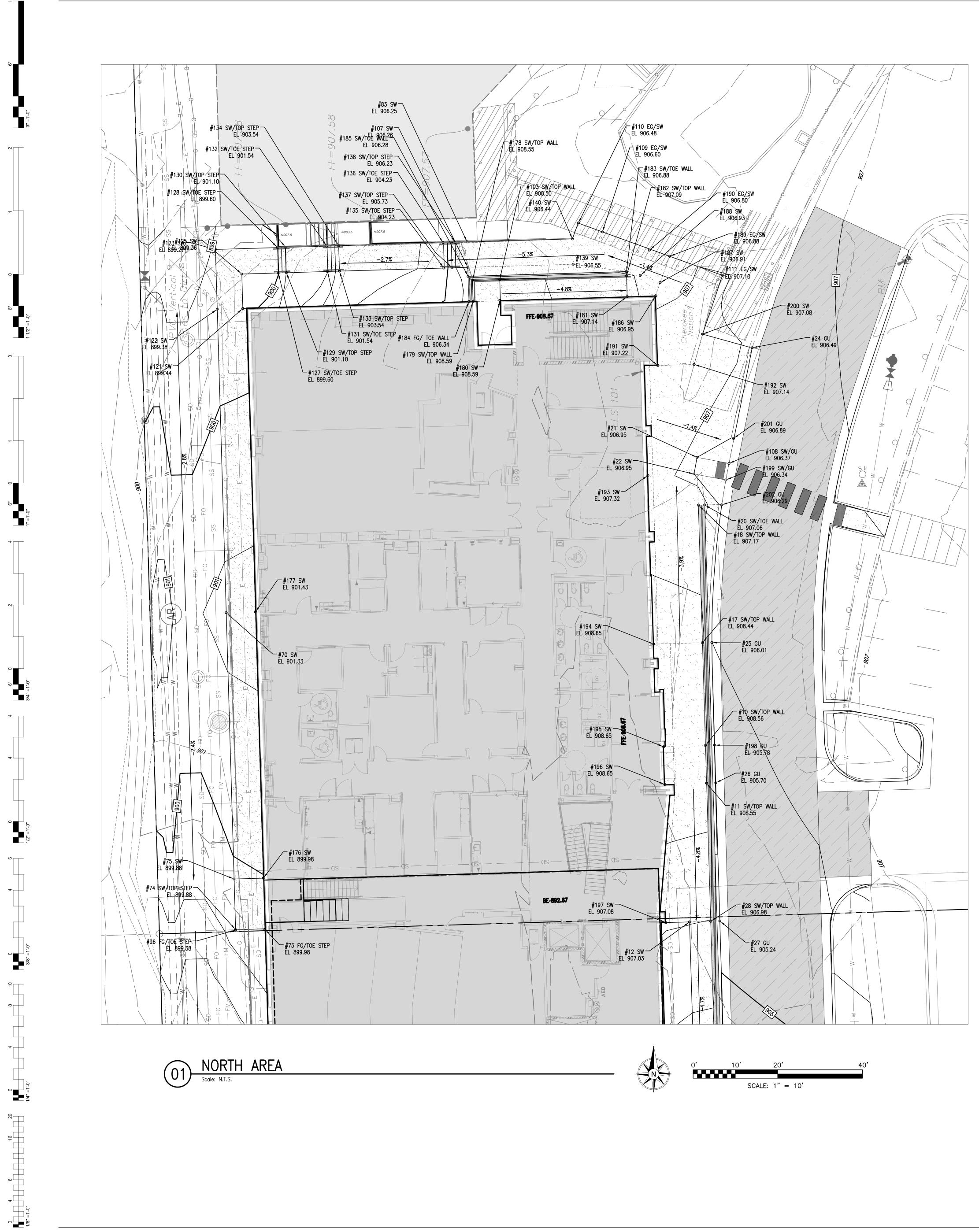
POINT CODE ABBREVIATIO	NS
------------------------	----

EG	EXISTING GRADE
FG	FINISHED GRADE
GRATE	TOP OF GRATE
GUT	GUTTER
MP	MID POINT
PC	POINT OF CURVATURE
SW	SIDEWALK
ТС	TOP OF CURB
TP	TOP OF PAVING
TOE WALL	FINISHED GRADE AT TOE OF WALL
TOP WALL	FINISHED GRADE AT TOP OF WALL

UTILITY WARNING: THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM RECORD DOCUMENTS OR FIELD LOCATIONS BY THE OPERATOR. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.







HARDSCAPE / LANDSCAPE PATTERNS

$\begin{array}{ccc} \psi & \psi & \psi \\ \psi & \psi & \psi \end{array}$

HEAVY DUTY CONCRETE PAVING

CONCRETE SIDEWALKS

REINFORCED HEAVY DUTY CONCRETE PAVING HEAVY DUTY ASPHALT PAVING

SODDING / SEEDING / VEGETATIVE COVER

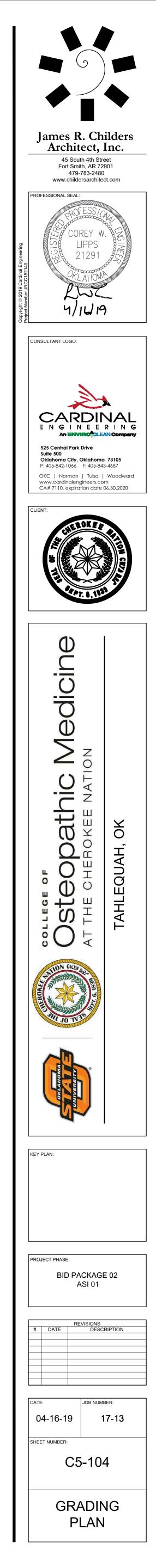
POINT	CODE ABBREVIATIONS
EG	EXISTING GRADE
FG	FINISHED GRADE
GRATE	TOP OF GRATE

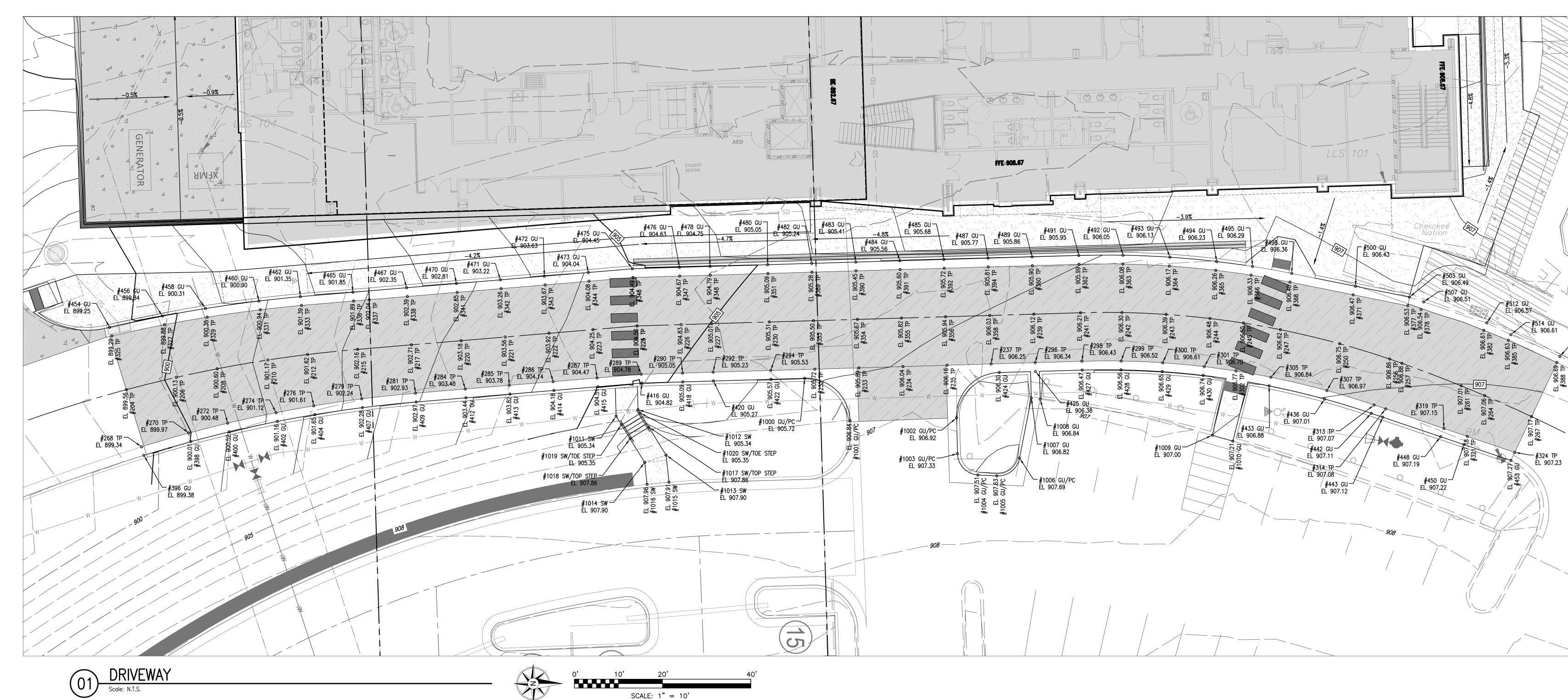
FG	FINISHED GRADE
GRATE	TOP OF GRATE
GUT	GUTTER
MP	MID POINT
PC	POINT OF CURVATURE
SW	SIDEWALK
TC	TOP OF CURB
TP	TOP OF PAVING
TOE WALL	FINISHED GRADE AT TOE OF WALL
TOP WALL	FINISHED GRADE AT TOP OF WALL

		Point ⁻	Table	
Point #	Elevation	Northing	Easting	Description
10	908.56	345437.41	2871351.99	SW/TOP WALL
11	908.55	345428.47	2871352.26	SW/TOP WALL
12	907.03	345395.67	2871348.23	SW
17	908.44	345461.70	2871351.27	SW/TOP WALL
18	907.17	345494.24	2871350.31	SW/TOP WALL
20	907.06	345494.28	2871351.81	SW/TOE WALL
21	906.95	345505.53	2871350.01	SW
22	906.95	345501.60	2871349.28	SW
24	906.49	345531.45	2871363.04	GU
25 26	906.01 905.70	345461.71 345428.56	2871353.50 2871354.42	GU GU
20	905.24	345395.91	2871355.39	GU
28	906.98	345395.81	2871353.22	SW/TOP WALL
70	901.33	345468.79	2871238.69	SW
73	899.98	345393.94	2871247.83	FG/TOE STEP
74	899.88	345393.82	2871240.91	SW/TOP STEP
75	899.88	345405.82	2871240.55	SW
83	906.25	345556.46	2871295.64	SW
96	899.38	345393.74	2871240.83	FG/TOE STEP
103	908.50	345547.57	2871303.35	SW/TOP WALL
107	906.26	345550.46	2871295.82	SW
108	906.37	345504.11	2871357.55	SW/GU
109	906.60	345558.84	2871327.63	EG/SW
110	906.48	345560.98	2871321.95	EG/SW
111	907.10	345548.56	2871356.01	EG/SW
121	899.44	345540.74	2871242.62	SW
122	899.38	345540.56	2871236.56	SW
123	899.27	345554.70	2871236.15	SW
125	899.36	345548.88	2871242.38	SW
127	899.60	345549.14	2871251.00	SW/TOE STEP
128	899.60	345555.14	2871250.82	SW/TOE STEP
129	901.10	345549.19	2871252.92	SW/TOP STEP
130	901.10	345555.19	2871252.74	SW/TOP STEP
131	901.54	345549.48	2871262.63	SW/TOE STEP
132	901.54	345555.48	2871262.45	SW/TOE STEP
133	903.54	345549.57	2871265.46	SW/TOP STEP
134	903.54	345555.56	2871265.29	SW/TOP STEP
135	904.23	345550.30	2871290.15	SW/TOE STEP
136	904.23	345556.29	2871289.98	SW/TOE STEP
137	905.73	345550.35	2871292.07	SW/TOP STEP
138	906.23	345556.38	2871292.81	SW/TOP STEP
139	906.55	345551.20	2871320.70	SW
140	906.44	345557.20	2871320.52	SW
176	899.98	345406.02	2871247.47	SW
177	901.43	345468.99	2871245.60	SW
178	908.55	345547.38	2871296.91	SW/TOP WALL
179	908.59	345542.44	2871297.06	SW/TOP WALL
180 181	908.59 907.14	345542.65 345543.55	2871303.42 2871333.49	SW SW
181	907.14	345548.46	2871333.34	SW SW/TOP WALL
183	907.09	345549.46	2871333.31	SW/TOP WALL
184	906.34	345542.41	2871333.31	FG/ TOE WALL
185	906.28	345548.35	2871295.88	SW/TOE WALL
185	906.28	345543.74	2871295.88	SW/TOE WALL
187	906.91	345546.85	2871340.23	SW
188	906.93	345548.56	2871336.57	SW
189	906.88	345553.08	2871343.53	EG/SW
190	906.80	345554.55	2871338.76	EG/SW
191	907.22	345527.25	2871340.72	SW
192	907.14	345527.51	2871349.32	SW
193	907.32	345501.28	2871338.40	SW
194	908.65	345461.36	2871339.76	SW
	908.65 908.65	345437.09	2871342.11	SW
195		345428.17	2871342.37	SW
196		345305 50	28713/261	CW/
	907.08 905.78	345395.50 345437.47	2871342.61 2871354.16	SW GU
196 197	907.08			
196 197 198	907.08 905.78	345437.47	2871354.16	GU
196 197 198 199	907.08 905.78 906.34	345437.47 345500.18	2871354.16 2871356.81	GU SW/GU

<u>UTILITY WARNING:</u> THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM RECORD DOCUMENTS OR FIELD LOCATIONS BY THE OPERATOR. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.







		Point Ta	ble	
Point #	Elevation	Northing	Easting	Description
204	899.56	345240.51	2871384.02	TP
206	900.13	345251.84	2871381.23	TP
208	900.60	345261.11	2871379.28	TP
210	901.17	345272.64	2871377.29	TP
212	901.62	345281.59	2871376.05	TP
215	902.16	345292.96	2871374.88	TP
217	902.71	345305.16	2871373.86	TP
220	903.18	345316.45	2871372.91	TP
221	903.56	345326.41	2871372.08	TP
222	903.92	345336.38	2871371.24	TP
223	904.25	345346.34	2871370.40	TP
224	904.56	345356.31	2871369.57	TP
225	904.56	345356.33	2871369.57	TP
226	904.83	345366.31	2871369.27	TP
227	905.01	345373.23	2871369.07	TP
230	905.31	345386.30	2871368.68	TP
232	905.72	345396.62	2871379.38	TP
233	905.89	345406.61	2871379.08	TP
234	906.04	345416.61	2871378.79	TP
235	906.16	345426.60	2871378.49	TP
237	906.25	345436.60	2871378.19	TP
239	906.12	345446.27	2871366.90	TP
241	906.21	345456.86	2871366.59	TP
242	906.30	345466.26	2871366.53	TP
243	906.39	345476.25	2871366.96	TP
244	906.48	345486.21	2871367.88	TP
245	906.55	345493.83	2871368.93	TP
247	906.62	345502.18	2871370.42	TP
250	906.75	345515.63	2871373.61	TP
256	906.86	345526.96	2871377.08	TP
257	906.88	345529.73	2871378.04	TP
261	907.01	345543.18	2871383.16	TP
264	907.06	345548.52	2871385.38	TP
267	907.17	345559.12	2871390.12	TP
268	899.34	345243.98	2871396.98	TP
270	899.97	345254.70	2871393.86	TP
272	900.48	345263.49	2871391.62	TP
274	901.12	345274.47	2871389.24	TP
276	901.61	345283.02	2871387.69	TP
279	902.24	345293.90	2871386.10	TP

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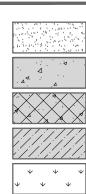
Point Table					
Point #	Elevation	Northing	Easting	Description	
281	902.93	345306.08	2871384.82	TP	
284	902.95	345317.37	2871383.87	TP	
285	903.78	345327.33	2871383.04	TP	
	903.76	345337.30			
286			2871382.20	TP TP	
287	904.47	345347.26	2871381.37		
289	904.78	345357.25	2871380.53	TP	
290	905.05 905.23	345366.63	2871380.27	TP TD	
292		345373.57	2871380.06	TP	
294	905.53	345386.62	2871379.67	TP	
296	906.34	345446.60	2871377.90	TP	
298	906.43	345457.18	2871377.58	TP	
299	906.52	345466.07	2871377.53	TP	
300	906.61	345475.51	2871377.93	TP	
301	906.70	345484.92	2871378.80	TP	
302	906.77	345492.12	2871379.79	TP	
305	906.84	345500.02	2871381.21	TP	
307	906.97	345512.72	2871384.22	TP	
313	907.07	345523.43	2871387.50	TP	
314	907.08	345526.05	2871388.38	TP	
319	907.15	345539.26	2871392.84	TP	
321	907.18	345544.57	2871394.63	TP	
324	907.23	345555.30	2871398.25	TP	
325	899.29	345237.25	2871371.83	TP	
327	899.88	345249.14	2871369.29	TP	
329	900.35	345258.84	2871367.58	TP	
331	900.94	345270.89	2871365.90	TP	
333	901.39	345280.23	2871364.92	TP	
336	901.89	345292.04	2871363.92	TP	
337	902.04	345295.60	2871363.62	TP	
338	902.39	345304.24	2871362.90	TP	
341	902.85	345315.53	2871361.95	TP	
342	903.26	345325.49	2871361.11	TP	
343	903.67	345335.46	2871360.28	TP	
344	904.08	345345.42	2871359.44	TP	
345	904.49	345355.39	2871358.61	TP	
346	904.49	345355.41	2871358.60	TP	
347	904.67	345365.98	2871358.28	TP	
348	904.79	345372.91	2871358.07	TP	
351	905.09	345385.97	2871357.68	TP	
353	905.50	345396.29	2871368.38	TP	

Point Table					
oint #	Elevation	Northing	Easting	Description	
354	905.67	345406.29	2871368.09	TP	
355	905.82	345416.28	2871367.79	TP	
356	905.94	345426.28	2871367.49	TP	
358	906.03	345436.27	2871367.20	TP	
360	905.90	345445.94	2871355.91	TP	
362	905.99	345456.53	2871355.59	TP	
363	906.08	345466.46	2871355.53	TP	
364	906.17	345477.00	2871355.98	TP	
365	906.26	345487.50	2871356.95	TP	
366	906.33	345495.53	2871358.06	TP	
368	906.40	345504.34	2871359.64	TP	
371	906.47	345518.67	2871362.51	TP	
377	906.53	345531.05	2871365.00	TP	
378	906.54	345534.06	2871365.84	TP	
382	906.61	345548.28	2871370.59	TP	
385	906.63	345553.87	2871372.83	TP	
388	906.69	345564.86	2871377.88	TP	
389	905.28	345395.97	2871357.39	TP	
390	905.45	345405.96	2871357.09	TP	
391	905.60	345415.96	2871356.79	TP	
392	905.72	345425.95	2871356.50	TP	
394	905.81	345435.95	2871356.20	TP	
396	899.38	345244.50	2871398.91	GU	
398	900.01	345255.14	2871395.81	GU	
400	900.52	345263.87	2871393.59	GU	
402	901.16	345274.77	2871391.22	GU	
404	901.65	345283.26	2871389.68	GU	
407	902.28	345294.07	2871388.09	GU	
409	902.97	345306.24	2871386.81	GU	
412	903.44	345317.54	2871385.87	GU	
413	903.82	345327.50	2871385.03	GU	
414	904.18	345337.47	2871384.19	GU	
415	904.51	345347.43	2871383.36	GU	
416	904.82	345357.40	2871382.52	GU	
418	905.09	345366.69	2871382.26	GU	
420	905.27	345373.63	2871382.06	GU	
422	905.57	345386.68	2871381.67	GU	
424	906.30	345438.44	2871380.14	GU	
425	906.38	345446.65	2871379.90	GU	
427	906.47	345457.24	2871379.58	GU	

		Point Ta	ble	
Point #	Elevation	Northing	Easting	Description
428	906.56	345466.04	2871379.53	GU
429	906.65	345475.38	2871379.93	GU
430	906.74	345484.69	2871380.79	GU
433	906.88	345499.62	2871383.16	GU
436	907.01	345512.19	2871386.15	GU
442	907.11	345522.79	2871389.39	GU
443	907.12	345525.39	2871390.27	GU
448	907.19	345538.50	2871394.69	GU
450	907.22	345543.78	2871396.47	GU
453	907.27	345554.45	2871400.06	GU
454	899.25	345236.73	2871369.89	GU
456	899.84	345248.70	2871367.34	GU
458	900.31	345258.46	2871365.62	GU
460	900.90	345270.59	2871363.92	GU
462	901.35	345279.99	2871362.93	GU
465	901.85	345291.88	2871361.93	GU
467	902.35	345304.07	2871360.90	GU
470	902.81	345315.36	2871359.96	GU
471	903.22	345325.33	2871359.12	GU
472	903.63	345335.29	2871358.29	GU
473	904.04	345345.26	2871357.45	GU
475	904.45	345355.25	2871356.61	GU
476	904.63	345365.92	2871356.28	GU
478	904.75	345372.86	2871356.07	GU
480	905.05	345385.91	2871355.68	GU
482	905.24	345395.91	2871355.39	GU
483	905.41	345405.90	2871355.09	GU
484	905.56	345415.90	2871354.80	GU
485	905.68	345425.89	2871354.50	GU
487	905.77	345435.89	2871354.20	GU
489	905.86	345445.89	2871353.91	GU
491	905.95	345456.47	2871353.59	GU
492	906.05	345466.49	2871353.53	GU
493	906.13	345477.13	2871353.98	GU
494	906.23	345487.73	2871354.97	GU
495	906.29	345495.84	2871356.08	GU
498	906.36	345504.75	2871357.68	GU
500	906.43	345519.20	2871360.59	GU
503	906.49	345531.44	2871363.04	GU
507	906.51	345534.67	2871364.12	GU

Point Table				
Point #	Elevation	Northing	Easting	Description
512	906.57	345548.98	2871368.88	GU
514	906.61	345554.41	2871371.55	GU
517	906.66	345565.52	2871376.49	GU
1000	905.72	345394.31	2871381.45	GU/PC
1001	906.84	345404.60	2871391.07	GU/PC
1002	906.92	345428.74	2871390.42	GU/PC
1003	907.33	345428.97	2871398.53	GU/PC
1004	907.51	345433.57	2871403.37	GU/PC
1005	907.63	345437.88	2871403.58	GU/PC
1006	907.69	345443.03	2871399.55	GU/PC
1007	906.82	345445.71	2871385.90	GU
1008	906.84	345447.72	2871386.19	GU
1009	907.00	345486.72	2871394.36	GU
1010	907.21	345491.39	2871395.71	GU
1011	905.34	345351.57	2871390.03	SW
1012	905.34	345356.53	2871388.55	SW
1013	907.90	345362.90	2871398.87	SW
1014	907.90	345358.05	2871400.53	SW
1015	907.91	345363.55	2871405.02	SW
1016	907.96	345358.58	2871405.50	SW
1017	907.86	345358.98	2871392.52	SW/TOP STEP
1018	907.86	345354.72	2871395.14	SW/TOP STEP
1019	905.35	345352.75	2871391.95	SW/TOE STEP
1020	905.35	345357.01	2871389.33	SW/TOE STEP

HARDSCAPE / LANDSCAPE PATTERNS



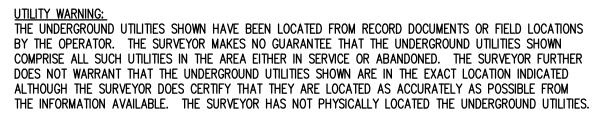
CONCRETE SIDEWALKS HEAVY DUTY CONCRETE PAVING

REINFORCED HEAVY DUTY CONCRETE PAVING

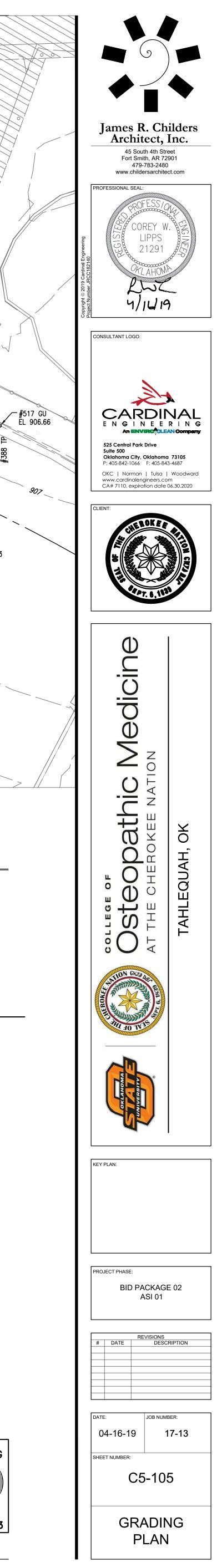
HEAVY DUTY ASPHALT PAVING SODDING / SEEDING / VEGETATIVE COVER

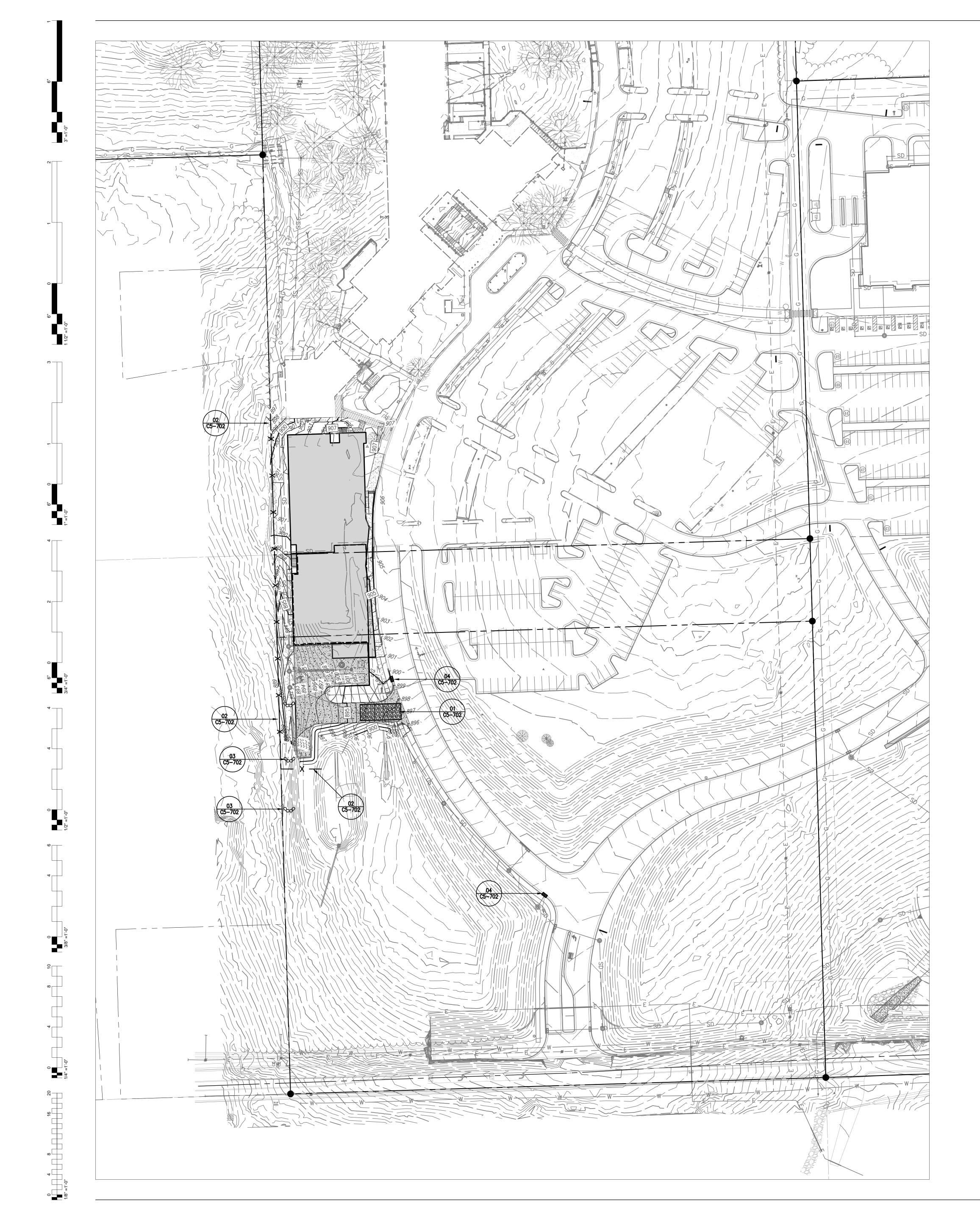
POINT CODE ABBREVIATIONS

EG	EXISTING GRADE
FG	FINISHED GRADE
GRATE	TOP OF GRATE
GUT	GUTTER
MP	MID POINT
PC	POINT OF CURVATURE
SW	SIDEWALK
TC	TOP OF CURB
TP	TOP OF PAVING
TOE WALL	FINISHED GRADE AT TOE OF WALL
TOP WALL	FINISHED GRADE AT TOP OF WALL







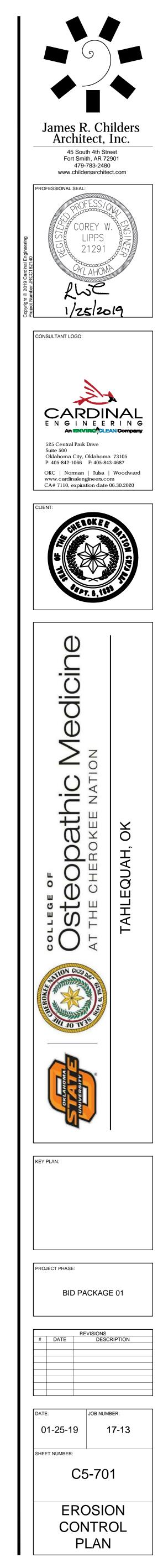


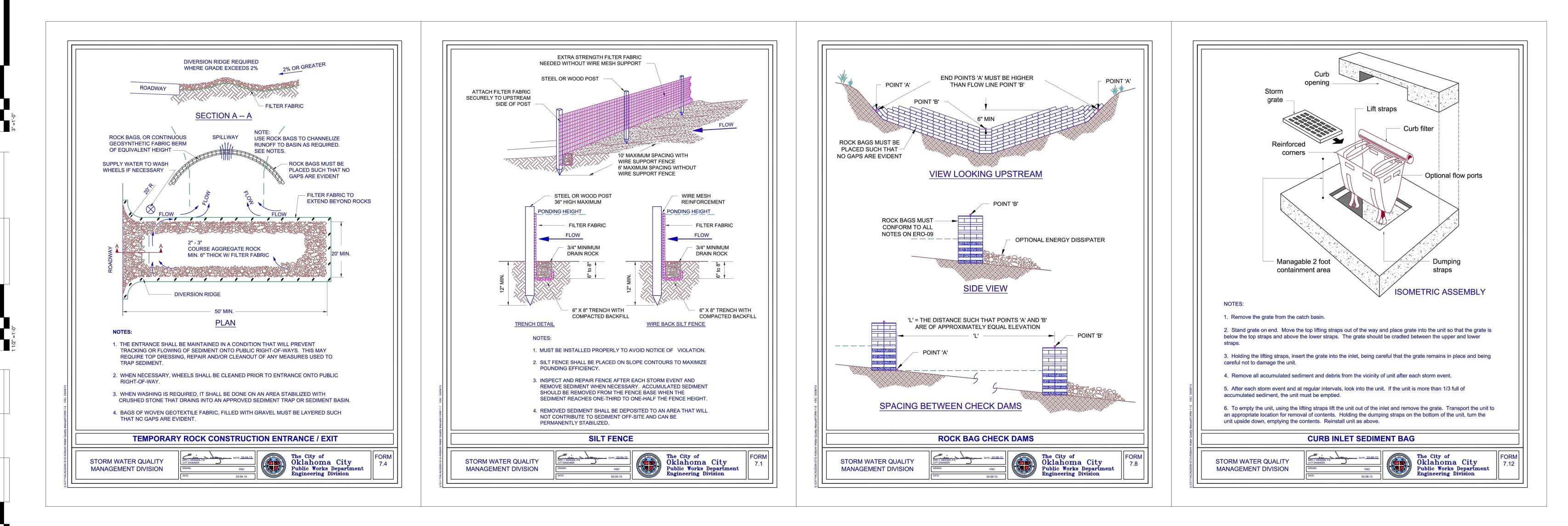


SCALE: 1" = 50'

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TEMPORARY ROCK CONSTRUCTION ENTRANCE (01 Scale: N.T.S.

STORMWATER POLLUTION PREVENTION PLAN

A STORMWATER POLLUTION PREVENTION PLAN (SWP3) HAS BEEN PREPARED FOR THE WORK AND AN NOTICE OF INTENT (NOI) HAS BEEN SUBMITTED BY OWNER TO THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY. CONTRACTOR SHALL IMPLEMENT THE SWP3, AND CONSTRUCT, INSPECT, AND MAINTAIN THE EROSION CONTROLS TO PREVENT RUNOFF OF SILT AND SEDIMENT FROM THE SITE. A COPY OF THE SWP3 SHALL BE KEPT AT THE SITE AT ALL TIMES AND BE MADE AVAILABLE TO INSPECTORS UPON REQUEST. INSPECTIONS REPORTS SHALL BE MAINTAINED IN THE SWP3 AND THE SWP3 SHALL BE UPDATED WHEN NECESSARY.

POSTING OF PUBLIC NOTICE

- CONTRACTOR SHALL BE RESPONSIBLE FOR POSTING PUBLIC NOTICE. THE NOTICE SHALL BE POSTED NEAR THE MAIN ENTRANCE OF THE CONSTRUCTION SITE THAT INDICATES THE FOLLOWING INFORMATION:
- THE PERMIT NUMBER FOR THE PROJECT OR A COPY OF THE NOI IF A PERMIT NUMBER HAS NOT YET BEEN ASSIGNED.
- THE NAME AND TELEPHONE NUMBER OF A LOCAL CONTACT PERSON.
- A BRIEF DESCRIPTION OF THE PROJECT.
- THE LOCATION OF THIS SWP3 IF THE SITE IS INACTIVE OR DOES NOT HAVE AN ON-SITE LOCATION TO STORE THE PLAN.

EROSION AND SEDIMENT CONTROLS

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- 1. CONSTRUCTION AND PLACEMENT OF EROSION AND SEDIMENT CONTROL DEVICES SHALL BE PERFORMED IN CONJUNCTION WITH THE PROGRESS OF GENERAL CONSTRUCTION. CONTRACTOR SHALL INSTALL THE EROSION CONTROL DEVICES SHOWN AND INSTALL ADDITIONAL EROSION CONTROL DEVICES AS NECESSARY TO PREVENT SILT RUNOFF FROM THE WORK AREA ONTO ADJACENT AREAS.
- 2. THE EROSION AND SEDIMENT CONTROLS TO BE USED FOR THIS SITE ARE:
 - TEMPORARY CONSTRUCTION ENTRANCE/EXIT -STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT ALL POINTS WHERE CONSTRUCTION OR EMPLOYEE VEHICLES ENTER OR LEAVE THE CONSTRUCTION OR STAGING AREAS.
 - ROCK BAG FILTER BERMS ROCK BAG FILTER BERMS SHALL BE PLACED IN SMALL OPEN CHANNELS. THE BERMS SHALL BE PLACED SO THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM DAM.
 - ROCK BAG INLET BARRIER ROCK BAG INLET BARRIERS SHALL BE PLACED AROUND ALL INLETS PROPOSED AND EXISTING THAT ARE RECEIVING RUNOFF FROM THE SITE.
 - SILT FENCES SILT FENCES SHALL BE PLACED ALONG THE PERIMETER OF THE PROJECT WHERE STORM WATER WILL EXIT THE SITE. SILT FENCES SHALL ALSO BE UTILIZED ALONG SLOPE CONTOURS WHERE VEGETATIVE COVER IS NOT SUFFICIENTLY ESTABLISHED TO PREVENT EROSION.
 - SODDING/SITE SEEDING SODDING AND SEEDING SHALL BE USED TO ESTABLISH FINAL VEGETATIVE COVER.
- 3. THE FOLLOWING ARE SOME OTHER CONTROLS THAT MAY BE USED IN THE COURSE OF THIS PROJECT. COMMON VEGETATIVE PRACTICES – TEMPORARY
 - SEEDING, MULCHING, PERMANENT SEEDING AND PLANTING, PRESERVATION OF NATURAL VEGETATION,

DUST CONTROL

 STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES - SILT FENCE, STORM DRAIN INLET PROTECTION, OUTLET PROTECTION, BERMS FOR FUEL STORAGE AND DISPENSING AREAS

(02)

ADDITIONAL CONTROLS NOT LISTED ABOVE MAY ALSO BE CONSIDERED FOR USE.

OTHER CONTROLS

- 1. THE PREMISES AND THE JOB SITE SHALL BE MAINTAINED IN A REASONABLY NEAT AND ORDERLY CONDITION AND KEPT FREE FROM ACCUMULATIONS OF WASTE MATERIALS AND RUBBISH DURING THE ENTIRE CONSTRUCTION PERIOD. REMOVE CRATES, CARTONS, AND FLAMMABLE WASTE MATERIALS OR TRASH FROM THE WORK AREAS AT THE END OF EACH WORKING DAY.
- PAVEMENT ON-SITE AND ON ADJOINING STREETS SHALL BE KEPT FREE OF ANY SEDIMENT OR MUD TRACKING FROM TRUCK TIRES OR FROM OTHER EQUIPMENT. CHEMICAL TOILETS FOR THE USE OF ALL CONSTRUCTION
- PERSONNEL SHALL BE PROVIDED AT A LOCATION WITHIN THE LIMITS OF THE SITE. CHEMICAL TOILETS SHALL BE MAINTAINED IN A SANITARY CONDITION.
- 4. ANY DISPOSAL OF CONSTRUCTION WASTES, HAZARDOUS PRODUCTS, CONTAMINATED SOILS SHALL BE DISPOSED OF ACCORDING TO REQUIREMENTS OF THE CITY, COUNTY, ODEQ, AND THE U.S. ENVIRONMENTAL PROTECTION AGENCY.
- 5. THE WHEELS OF VEHICLES LEAVING THE CONSTRUCTION AREAS SHALL BE CLEANED OF MUD PRIOR TO LEAVING THE CONSTRUCTION OR STAGING AREAS. WHEEL WASHING SHALL BE PERFORMED IN AN AREA STABILIZED WITH STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
- ADEQUATE CONTROLS SHALL BE MADE TO PREVENT AND/OR CONTROL ANY RELEASE OF PESTICIDES. PETROLEUM PRODUCTS, FERTILIZERS AND DETERGENTS AND HAZARDOUS PRODUCTS.
- 7. ANY SPILL OF PESTICIDES, PETROLEUM PRODUCTS, FERTILIZERS AND DETERGENTS, AND HAZARDOUS PRODUCTS SHALL BE CONTAINED AND REMOVED ACCORDING TO STATE AND FEDERAL REQUIREMENTS. ANY SPILL OF PESTICIDES, PETROLEUM PRODUCTS, FERTILIZERS AND DETERGENTS, AND HAZARDOUS PRODUCTS SHALL BE REPORTED ACCORDING TO STATE AND FEDERAL REQUIREMENTS.

MAINTENANCE

- 1. ALL EROSION AND SEDIMENT CONTROL MEASURES AND OTHER PROTECTIVE MEASURES SHALL BE MAINTAINED IN EFFECTIVE OPERATING CONDITION. IF SITE INSPECTIONS IDENTIFY EROSION CONTROLS THAT ARE NOT OPERATING EFFECTIVELY, MAINTENANCE SHALL BE PERFORMED BEFORE THE NEXT ANTICIPATED STORM EVENT, OR AS NECESSARY TO MAINTAIN THE CONTINUED EFFECTIVENESS OF STORM WATER CONTROLS. IF MAINTENANCE PRIOR TO THE NEXT ANTICIPATED STORM EVENT IS IMPRACTICABLE. AS SOON AS PRACTICABLE.
- MAINTENANCE MUST BE SCHEDULED AND ACCOMPLISHED 2. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT SHALL BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFFSITE IMPACTS (E.G., FUGITIVE SEDIMENT IN STREET COULD BE WASHED INTO STORM SEWERS BY THE NEXT RAIN AND/OR POSE A SAFETY HAZARD TO USERS OF PUBLIC STREETS). 3. SEDIMENT SHALL BE REMOVED FROM SEDIMENT TRAPS OR
- SEDIMENTATION PONDS WHEN THE DESIGN CAPACITY HAS

SILT FENCE Scale: N.T.S.

4. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION

BEEN REDUCED BY 50%.

PICKED UP DAILY).

INSPECTIONS

GREATER.

INSPECTED.

DRAINAGE SYSTEM

OPERATING CORRECTLY

TO RECEIVING WATERS.

OFFSITE SEDIMENT TRACKING.

OF EROSION CONTROLS SHALL BE MADE.

ARE PRACTICABLE

CHEMICALS EXPOSED TO STORM WATER SHALL BE

PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR

STORM WATER DISCHARGES (E.G., SCREENING OUTFALLS,

CONTRACTOR SHALL INSPECT DISTURBED AREAS OF THE

STABILIZED, AREAS USED FOR STORAGE OF MATERIALS

CONTROL MEASURES, AND LOCATIONS WHERE VEHICLES

FOURTEEN (14) CALENDAR DAYS AND WITHIN 24 HOURS

OF THE END OF A STORM EVENT OF 0.25 INCHES OR

. THE FOLLOWING ITEMS, LOCATIONS, AND AREAS SHALL BE

DISTURBED AREAS AND AREAS USED FOR STORAGE

POTENTIAL FOR, POLLUTANTS ENTERING THE

BE OBSERVED TO ENSURE THAT THEY ARE

WHERE DISCHARGE LOCATIONS OR POINTS ARE

ACCESSIBLE, THEY SHALL BE INSPECTED TO

WHERE DISCHARGE LOCATIONS ARE INACCESSIBLE,

LOCATIONS WHERE VEHICLES ENTER OR EXIT THE

SITE SHALL BE INSPECTED FOR EVIDENCE OF

1. A REPORT SUMMARIZING THE SCOPE OF THE INSPECTION,

NAME(S) AND QUALIFICATIONS OF PERSONNEL MAKING

THE INSPECTION, THE DATE(S) OF THE INSPECTION, AND

MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION

2. MAJOR OBSERVATIONS SHOULD INCLUDE: THE LOCATION(S)

OF DISCHARGES OF SEDIMENT OR OTHER POLLUTANTS

FROM THE SITE; LOCATION(S) OF EROSION CONTROLS

CONTROLS THAT FAILED TO OPERATE AS DESIGNED OR

PROVED INADEQUATE FOR A PARTICULAR LOCATION; AND

NEEDED THAT DID NOT EXIST AT THE TIME OF

RESULT OF INSPECTIONS SHALL BE RECORDED.

4. REPORTS SHALL IDENTIFY ANY INCIDENTS OF

MODIFICATIONS MADE TO EROSION CONTROLS AS A

NONCOMPLIANCE, THE REPORT SHALL CONTAIN A

CERTIFICATION THAT THE FACILITY IS IN COMPLIANCE WITH

THE STORM WATER POLLUTION PREVENTION PLAN AND

THIS PERMIT. THE OWNER OR CONTRACTOR SHALL SIGN

INSPECTION.

NONCOMPLIANCE.

THE REPORT.

LOCATION(S) WHERE ADDITIONAL EROSION CONTROLS ARE

THAT NEED TO BE MAINTAINED; LOCATION(S) OF EROSION

NEARBY DOWNSTREAM LOCATIONS SHALL BE

ASCERTAIN WHETHER EROSION CONTROL MEASURES

ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS

INSPECTED TO THE EXTENT THAT SUCH INSPECTIONS

OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION

SHALL BE INSPECTED FOR EVIDENCE OF, OR THE

SEDIMENT AND EROSION CONTROL MEASURES SHALL

CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY

THAT ARE EXPOSED TO PRECIPITATION, STRUCTURAL

ENTER OR EXIT THE SITE, AT LEAST ONCE EVERY

ANY PERSON SIGNING THE REPORT SHALL MAKE THE FOLLOWING CERTIFICATION. I CERTIFY UNDER PENALTY OF

03 ROCK BAG CHECK DAMS Scale: N.T.S.

- LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS. 7. INSPECTION REPORTS SHALL BE MAINTAINED ON SITE.
- MODIFICATIONS OR ADDITIONS TO EROSION CONTROLS 1. BASED ON THE RESULTS OF THE INSPECTION, EROSION CONTROLS SHALL BE MODIFIED AS NECESSARY OR ADDITIONAL CONTROL SHALL BE PROVIDED TO CORRECT THE PROBLEMS IDENTIFIED. IF EXISTING EROSION CONTROLS NEED TO BE MODIFIED OR IF ADDITIONAL CONTROLS ARE NECESSARY, IMPLEMENTATION SHALL BE COMPLETED BEFORE THE NEXT ANTICIPATED STORM EVENT. IF IMPLEMENTATION BEFORE THE NEXT ANTICIPATED STORM EVENT IS IMPRACTICABLE, THEY SHALL BE IMPLEMENTED AS SOON AS PRACTICABLE.

STABILIZATION REQUIREMENTS

- 1. FINE GRADING SHALL BE PERFORMED ACCORDING TO THE GRADING PLAN.
- 2. ALL AREAS DISTURBED DURING THE COURSE OF CONSTRUCTION SHALL BE REVEGETATED ACCORDING TO THE LANDSCAPING PLAN. IF A LANDSCAPING PLAN IS NOT PROVIDED, THE DISTURBED AREAS SHALL BE SEEDED OR HYDRO-MULCHED.
- EXCEPT WHERE THE LANDSCAPING PLAN IDENTIFIES OTHER GRASSES, GROUNDCOVER, PLANTS, OR SHRUBS TO BE PLANTED, A 4 FT WIDE STRIP OF BERMUDA GRASS SOD SHALL BE PLACED BEHIND ALL CURBS
- 3. CONTRACTOR SHALL PROVIDE SUFFICIENT WATER AND FERTILIZER TO ESTABLISH THE SUFFICIENT GROWTH OF SOD AND SEEDS UNTIL FINAL STABILIZATION OF THE AREA IS ACHIEVED.
- STABILIZATION MEASURES 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 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
- 5. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARY OR PERMANENTLY CEASES IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE
- 6. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH-DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 21 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO
- BE INITIATED ON THAT PORTION OF SITE. . WHERE A REPORT DOES NOT IDENTIFY ANY INCIDENTS OF 7. IN AREAS EXPERIENCING DROUGHTS WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED IS PRECLUDED BY SEASONAL ARID CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE.
 - 8. TEMPORARY SEEDING OR HYDRO-MULCHING MAY BE USED

CURB INLET SEDIMENT BAG 04 Scale: N.T.S

FOR TEMPORARY STABILIZATION, IF NECESSARY,

CONSTRUCTION COMPLETION AND FINAL STABILIZATION CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL STRUCTURES UPON COMPLETION OF CONSTRUCTION AND THE ESTABLISHMENT OF FINAL STABILIZATION. FINAL STABILIZATION SHALL BE COMPLETE WHEN ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND A UNIFORM (E.G., EVENLY DISTRIBUTED, WITHOUT LARGE BARE AREAS) PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70% OF THE NATIVE BACKGROUND VEGETATIVE COVER FOR THE AREA HAS BEEN ESTABLISHED ON ALL UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES, OR EQUIVALENT PERMANENT STABILIZATION MEASURES (SUCH AS THE USE OF RIPRAP, GABIONS, OR GEOTEXTILES) HAVE BEEN EMPLOYED.

ROCK BAG NOTES

ROCK BAGS SHALL BE WOVEN POLYPROPYLENE BAGS WITH APPROXIMATE DIMENSIONS OF 18.5 INCHES BY 28 INCHES. BAGS SHALL BE FILLED ½ TO 3 FULL WITH 1 TO 3 INCH STONE. THE ENDS OF FILLED BAGS SHALL BE SEALED

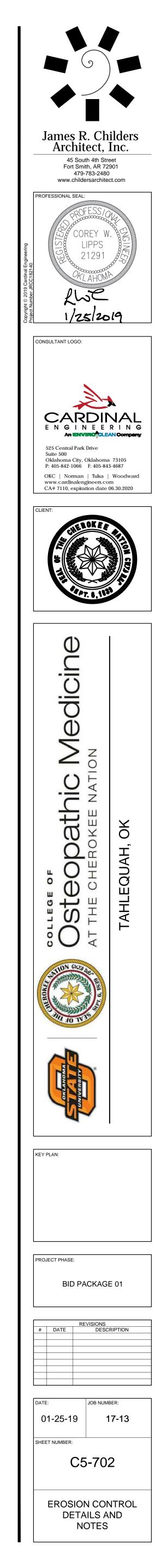
USING EITHER DRAW STRINGS OR WIRE TIES INTERWEAVE THE LOOSE ENDS OF THE BAGS SO THAT GAPS BETWEEN BAGS ARE FILLED AND ENDS OF BAGS ARE SEALED. COMPLETELY SURROUND INLET WITH A MINIMUM OF TWO ROWS OF BAGS TO MINIMUM OF 12 INCHES IN HEIGHT. THE CONDITION OF THE ROCK BAGS SHALL BE EXAMINED DURING INSPECTIONS. ANY DAMAGE TO BAGS SHALL BE REPAIRED IMMEDIATELY. IF BAGS HAVE DETERIORATED DUE TO ULTRAVIOLET BREAKDOWN OR WEAR AND TEAR, THE

SHALL BE REPLACED. SEDIMENT MUST BE REMOVED WHEN IT REACHES 3 INCHES HIGH ON THE BAGS.

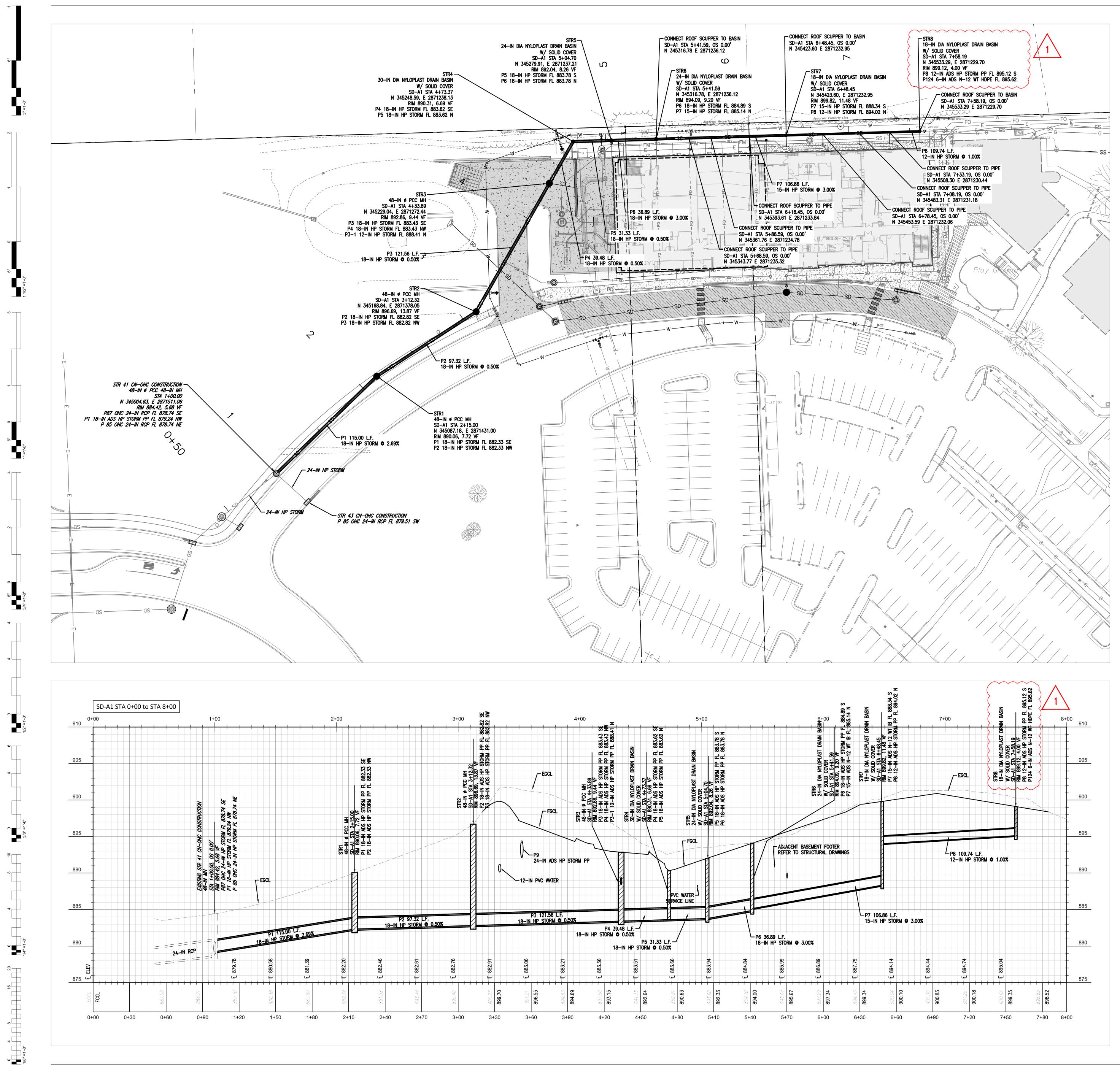
Plant	Rate/Acre	Planting Time	Irrigation	Other
Bermudagrass Seed (Arizona common or Guymon)	10 lbs.	May	Low	Full sun; heat and drought tolerant
Bermudagrass Sprigs (Arizona common or Guymon)	30 lbs.	May-July	Low	Full sun; heat and drought tolerant; plant same day harvested and water immediately after planting
Bermudagrass Sod		May-July	Low	Full sun; heat and drought tolerant; plant within 24 hours of cut
Buffalograss Seed	6-12 lbs.	By June 1	Low	Full sun; heat, cold and drought tolerant
Buffalograss Sod		May-July	Low	Full sun; heat, cold and drought tolerant compared to bermudagrass
Ryegrass Annual	30-40 lbs.	OctoberApril	High	Die in summer; re-seed if not mowed
Ryegrass Perennial	30-40 lbs.	October April	High	Die in summer
Rye Grain	120 lbs.	August 15-December	Low	Die in summer; re-seed if not mowed
Wheat	120 lbs.	August 15-December	Low	Die in summer; re-seed if not mowed

Contractor shall provide adequate water and fertilizer to establish the sufficient growth of sod and seeds until final stabilization of the area is achieved.



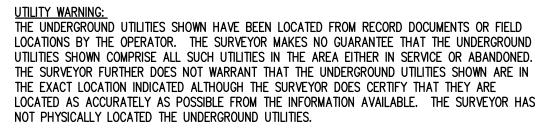


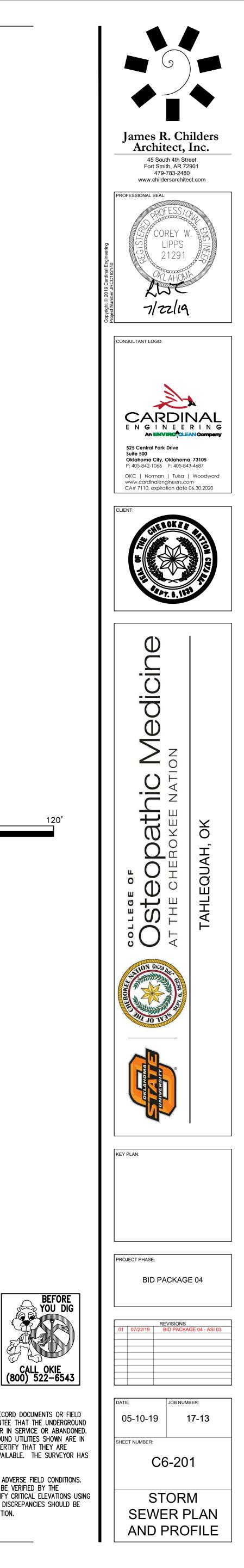


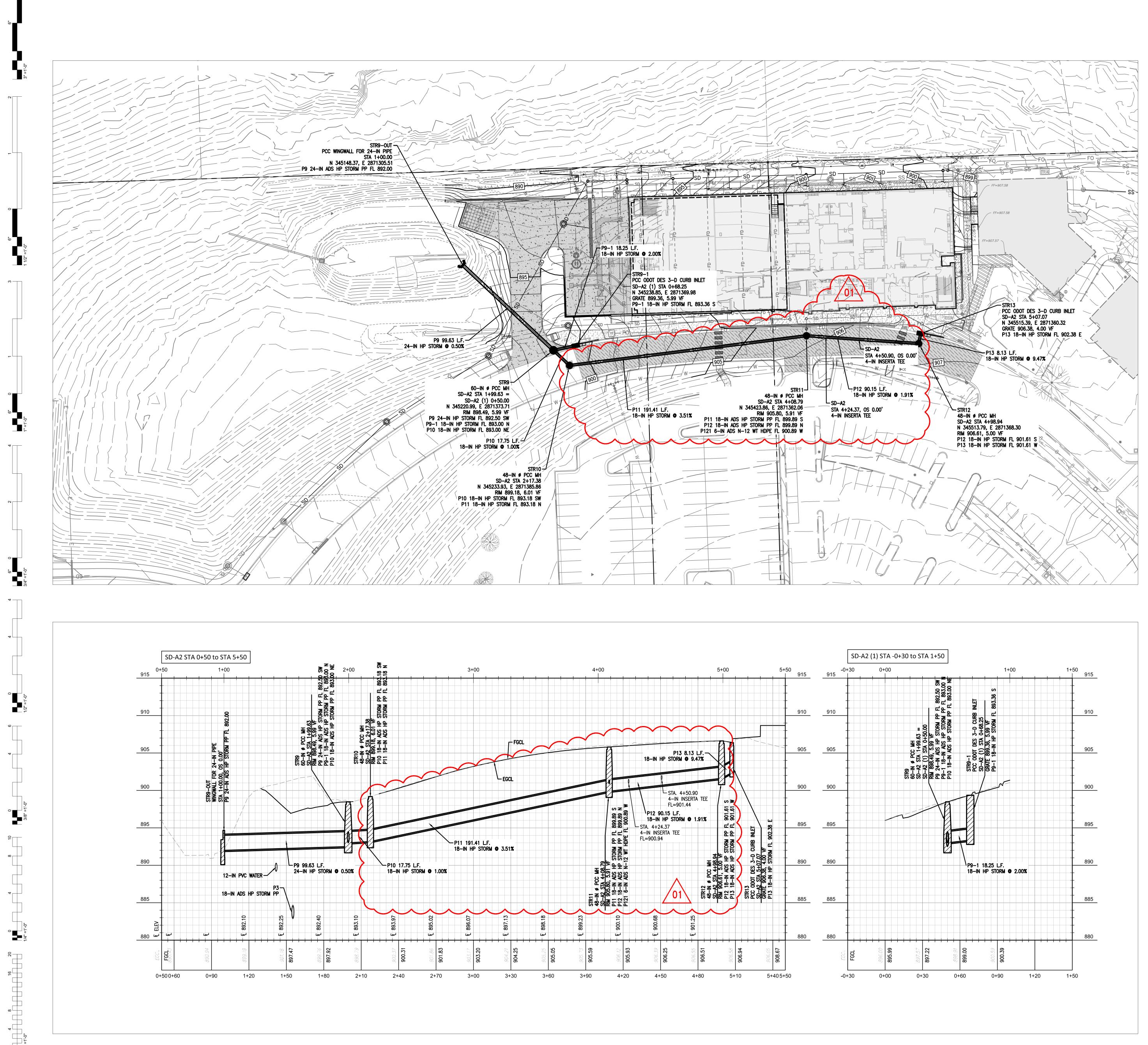




0' 30' 60' SCALE: 1" = 30'







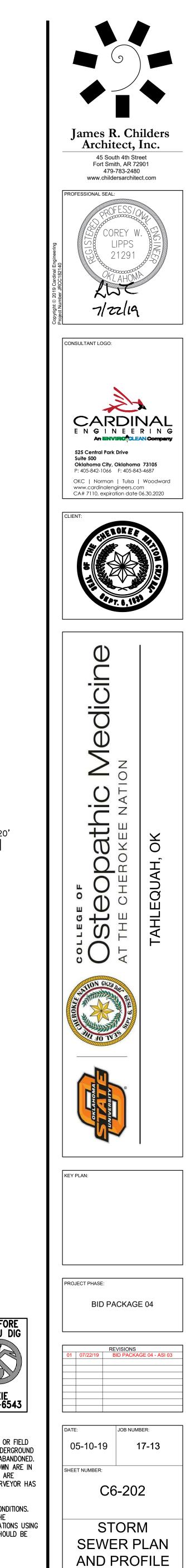
1/8"



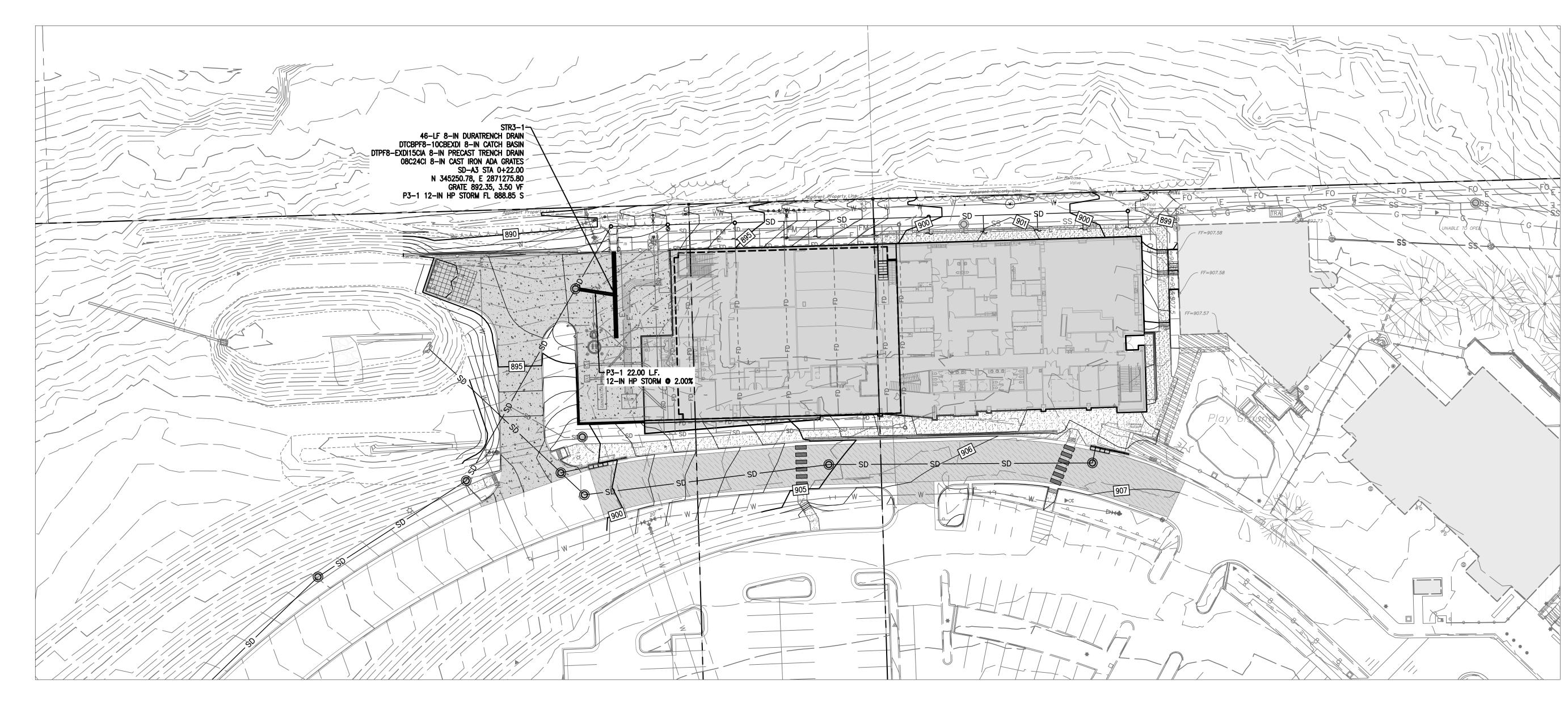
SCALE: 1" = 30'

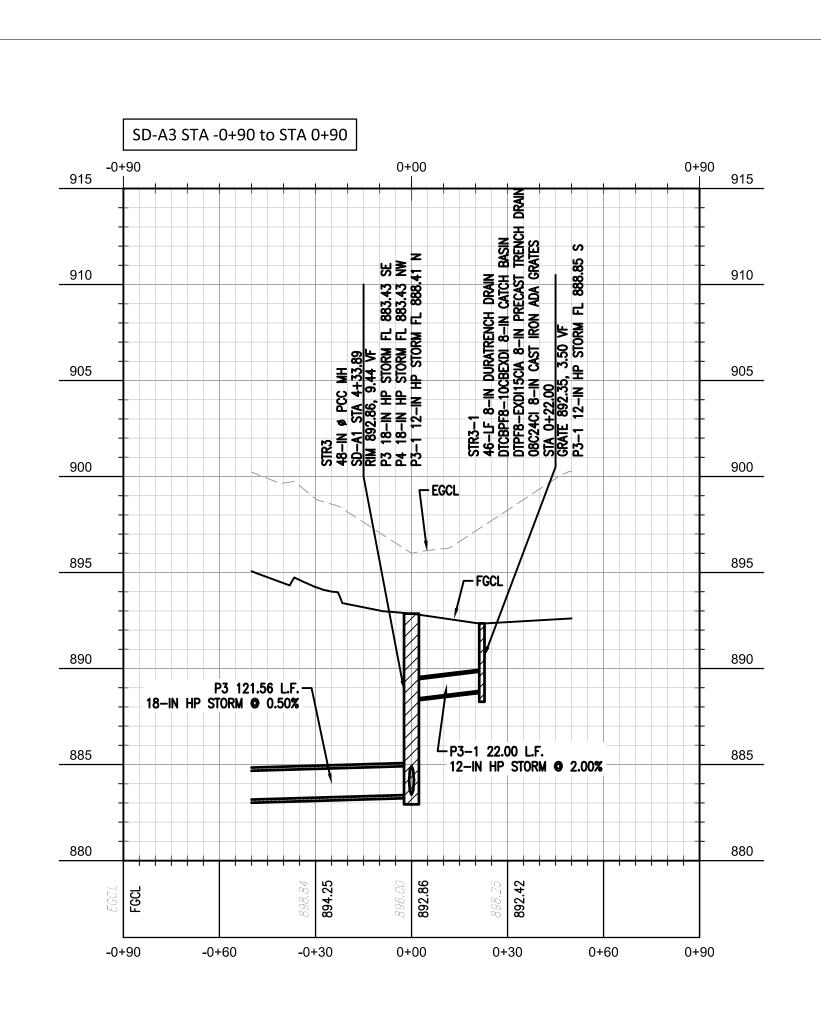
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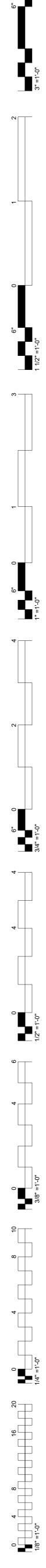
UTILITY ELEVATIONS AND SIZES MAY HAVE BEEN MEASURED UNDER ADVERSE FIELD CONDITIONS. UPON EXPOSING THE UTILITY, ELEVATIONS AND LINE SIZES SHOULD BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHOULD VERIFY CRITICAL ELEVATIONS USING THE BENCHMARK PROVIDED BY THE SURVEYOR OR ENGINEER. ANY DISCREPANCIES SHOULD BE IMMEDIATELY BROUGHT TO THE ENGINEER'S AND SURVEYOR'S ATTENTION.



BEFORE YOU DIG CALL OKIE (800) 522-6543







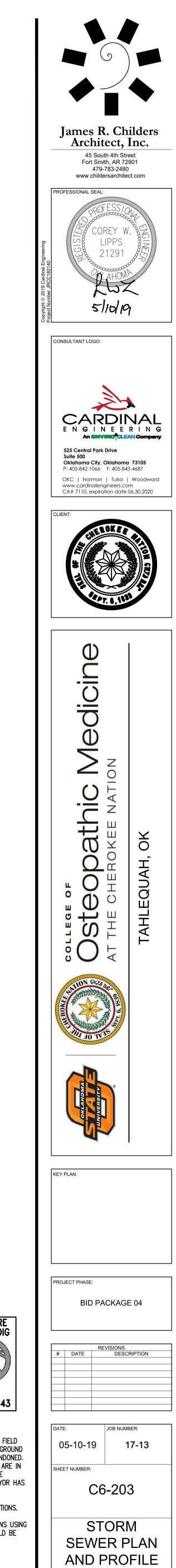


SCALE: 1" = 30'

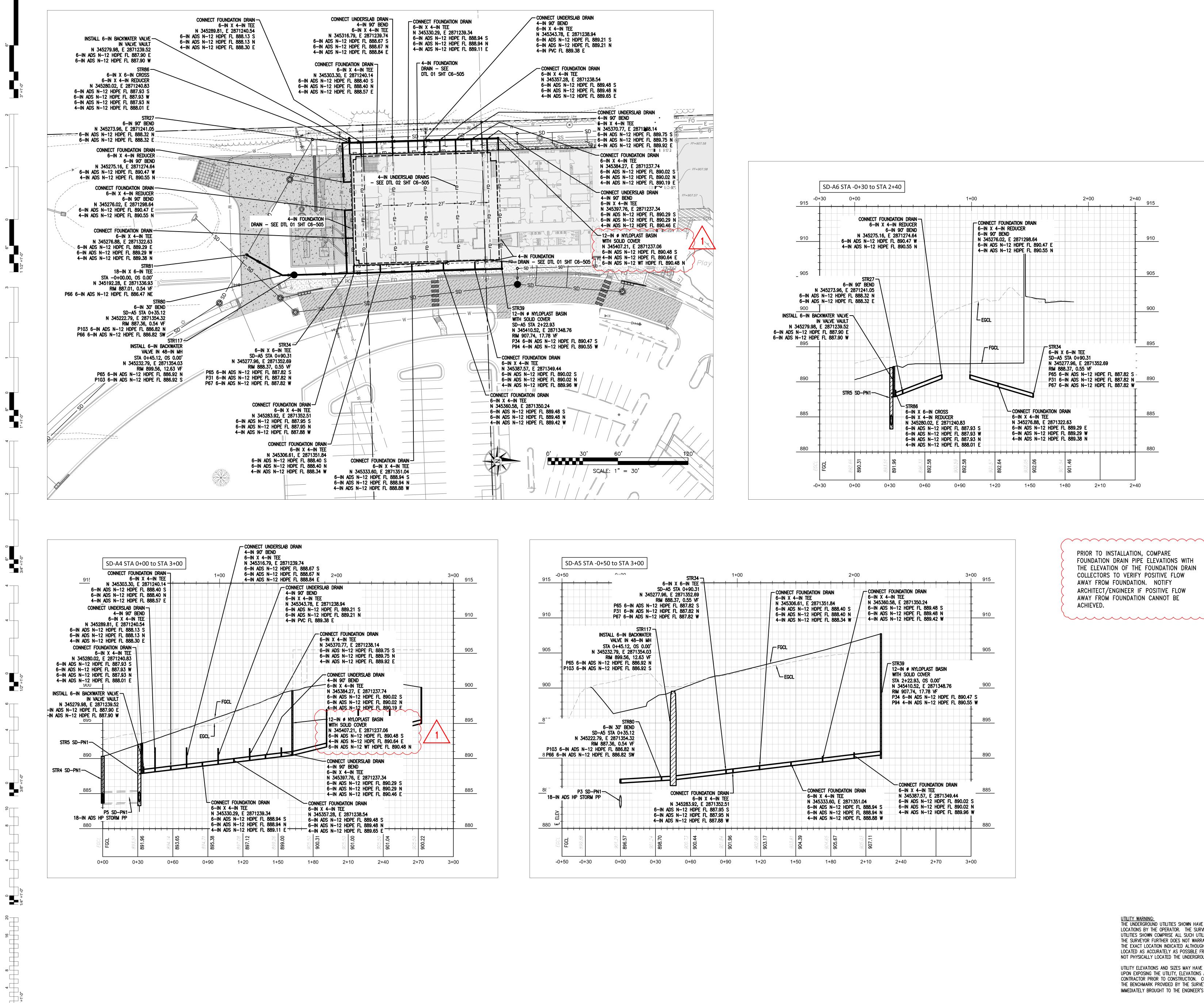


<u>UTILITY WARNING:</u> THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM RECORD DOCUMENTS OR FIELD LOCATIONS BY THE OPERATOR. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

UTILITY ELEVATIONS AND SIZES MAY HAVE BEEN MEASURED UNDER ADVERSE FIELD CONDITIONS. UPON EXPOSING THE UTILITY, ELEVATIONS AND LINE SIZES SHOULD BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHOULD VERIFY CRITICAL ELEVATIONS USING THE BENCHMARK PROVIDED BY THE SURVEYOR OR ENGINEER. ANY DISCREPANCIES SHOULD BE IMMEDIATELY BROUGHT TO THE ENGINEER'S AND SURVEYOR'S ATTENTION.



BEFORE YOU DIG CALL OKIE (800) 522-6543



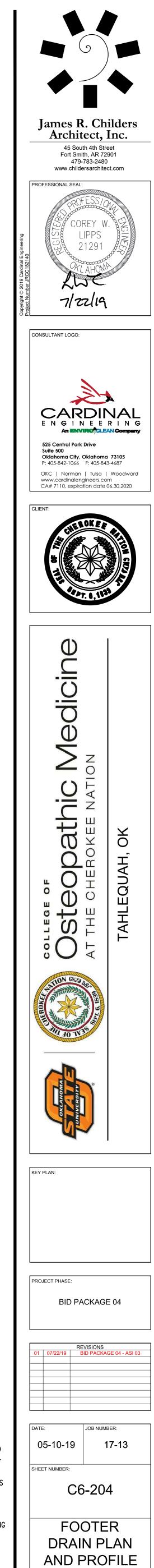
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PRIOR TO INSTALLATION, COMPARE FOUNDATION DRAIN PIPE ELEVATIONS WITH THE ELEVATION OF THE FOUNDATION DRAIN COLLECTORS TO VERIFY POSITIVE FLOW AWAY FROM FOUNDATION. NOTIFY ARCHITECT/ENGINEER IF POSITIVE FLOW AWAY FROM FOUNDATION CANNOT BE

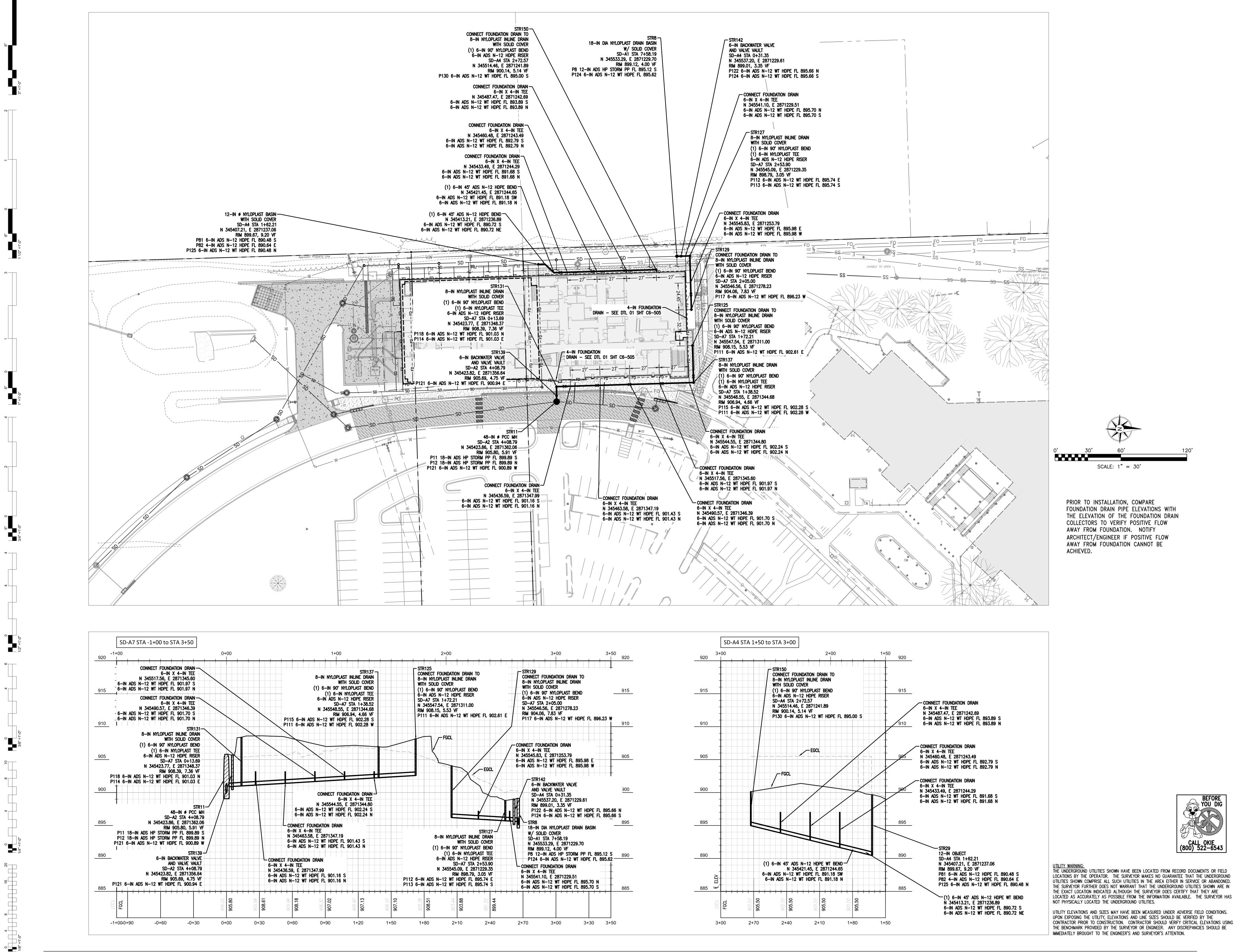


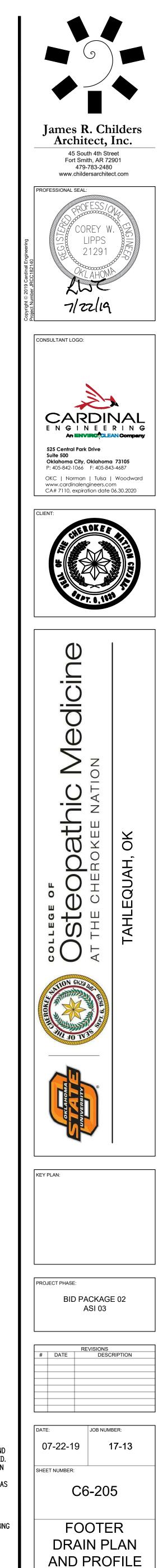


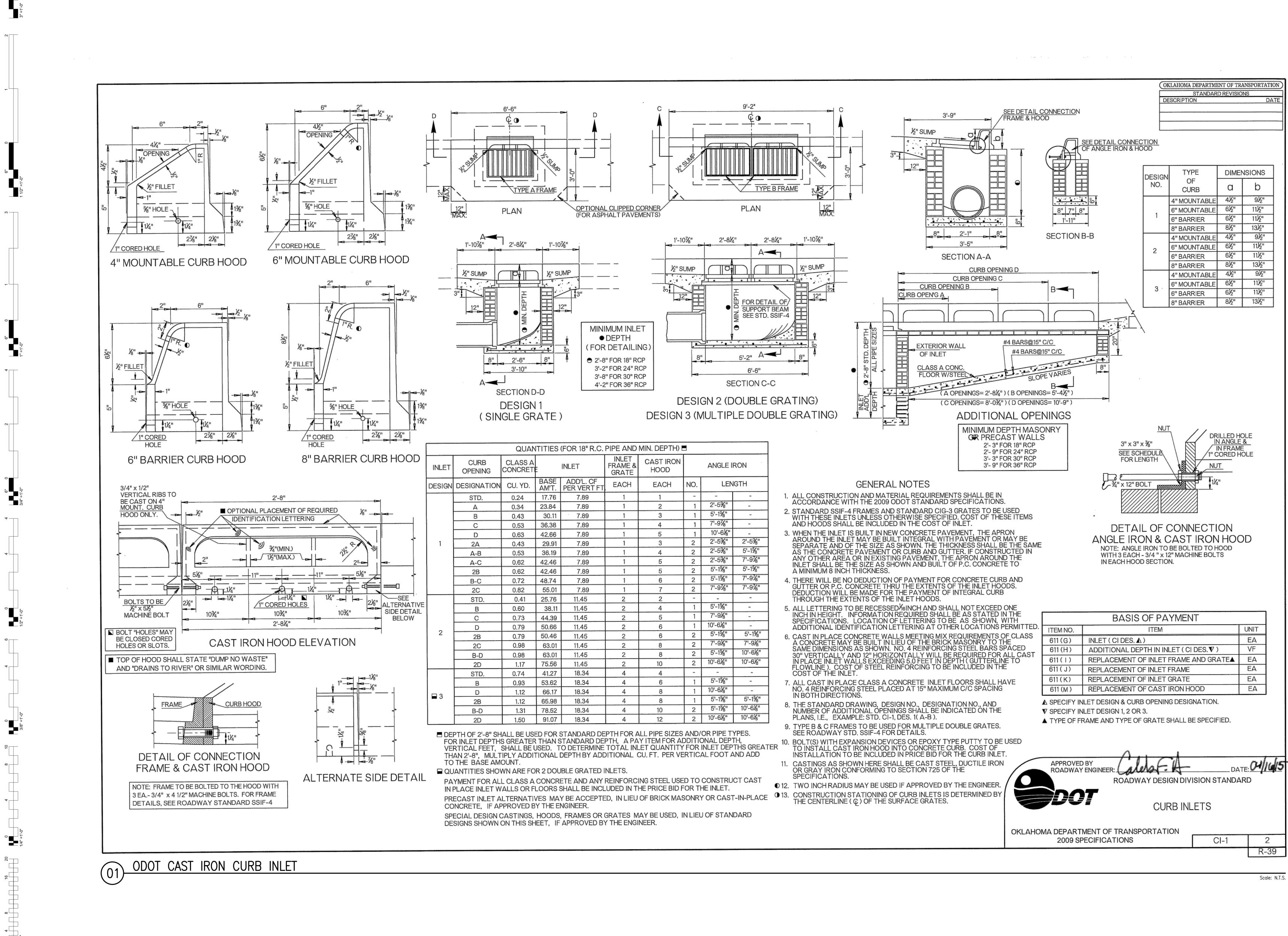
THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM RECORD DOCUMENTS OR FIELD LOCATIONS BY THE OPERATOR. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

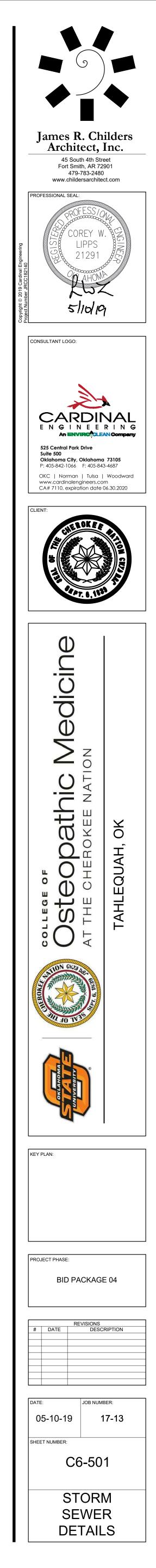


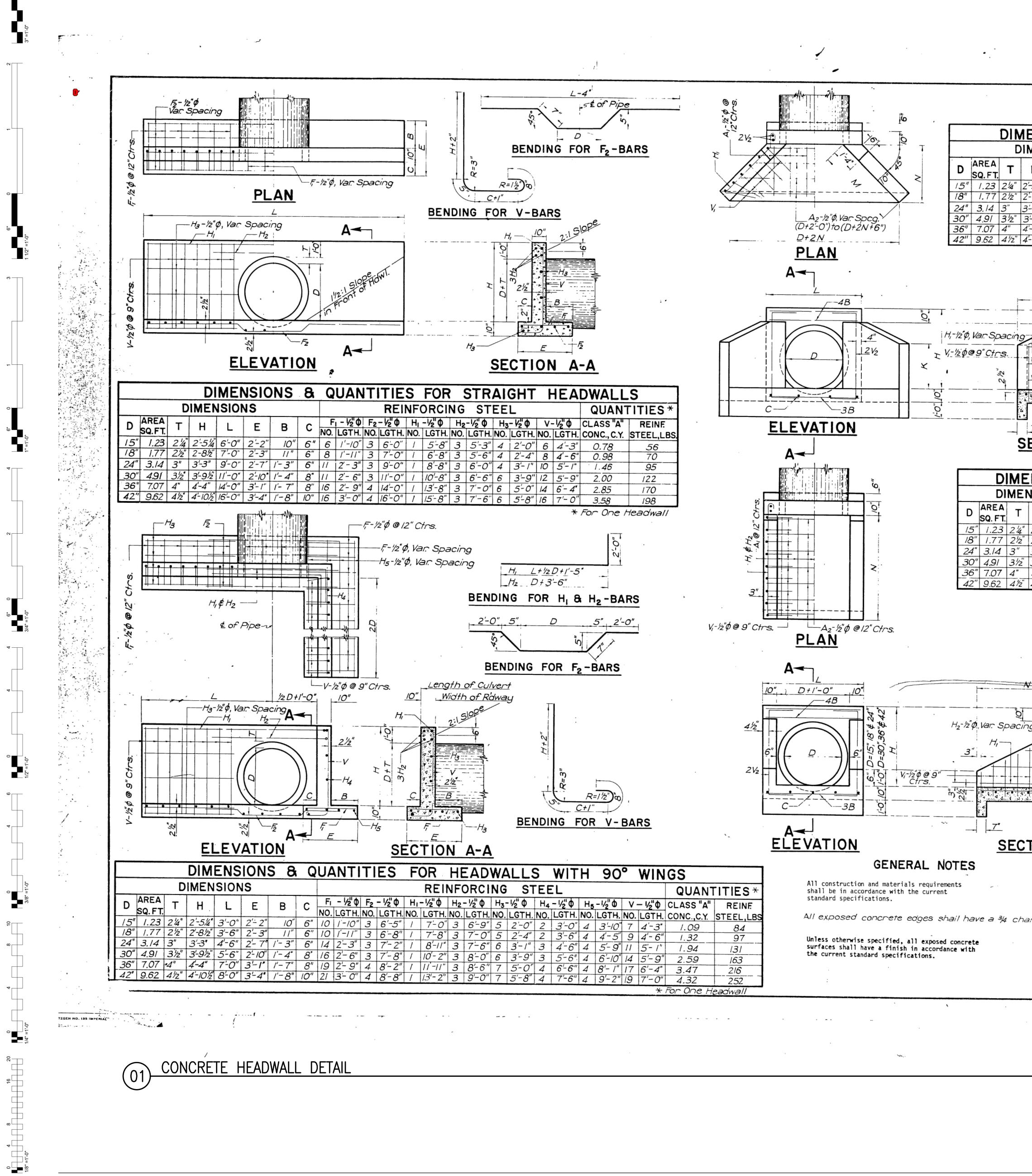




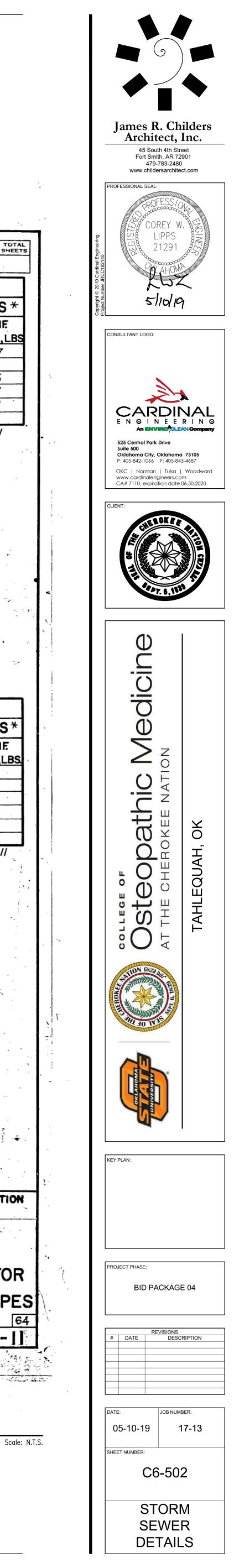


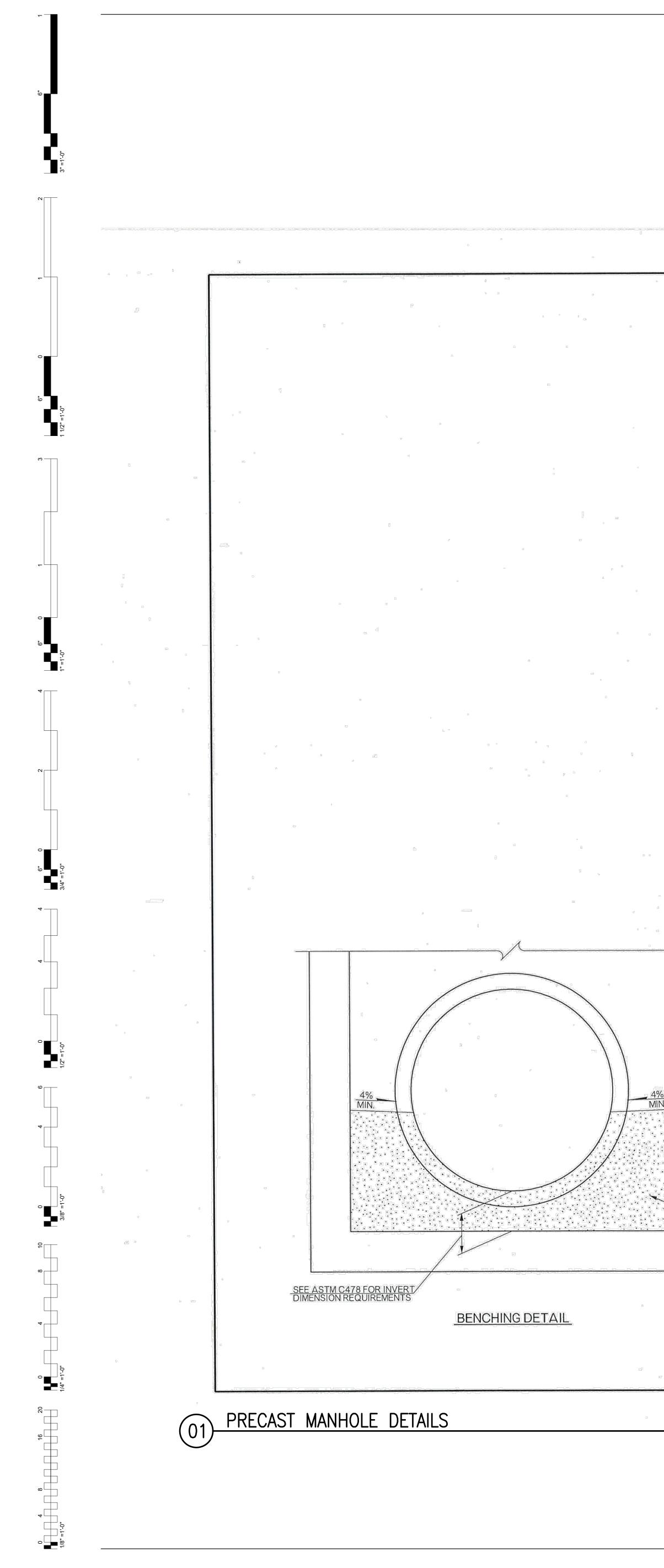


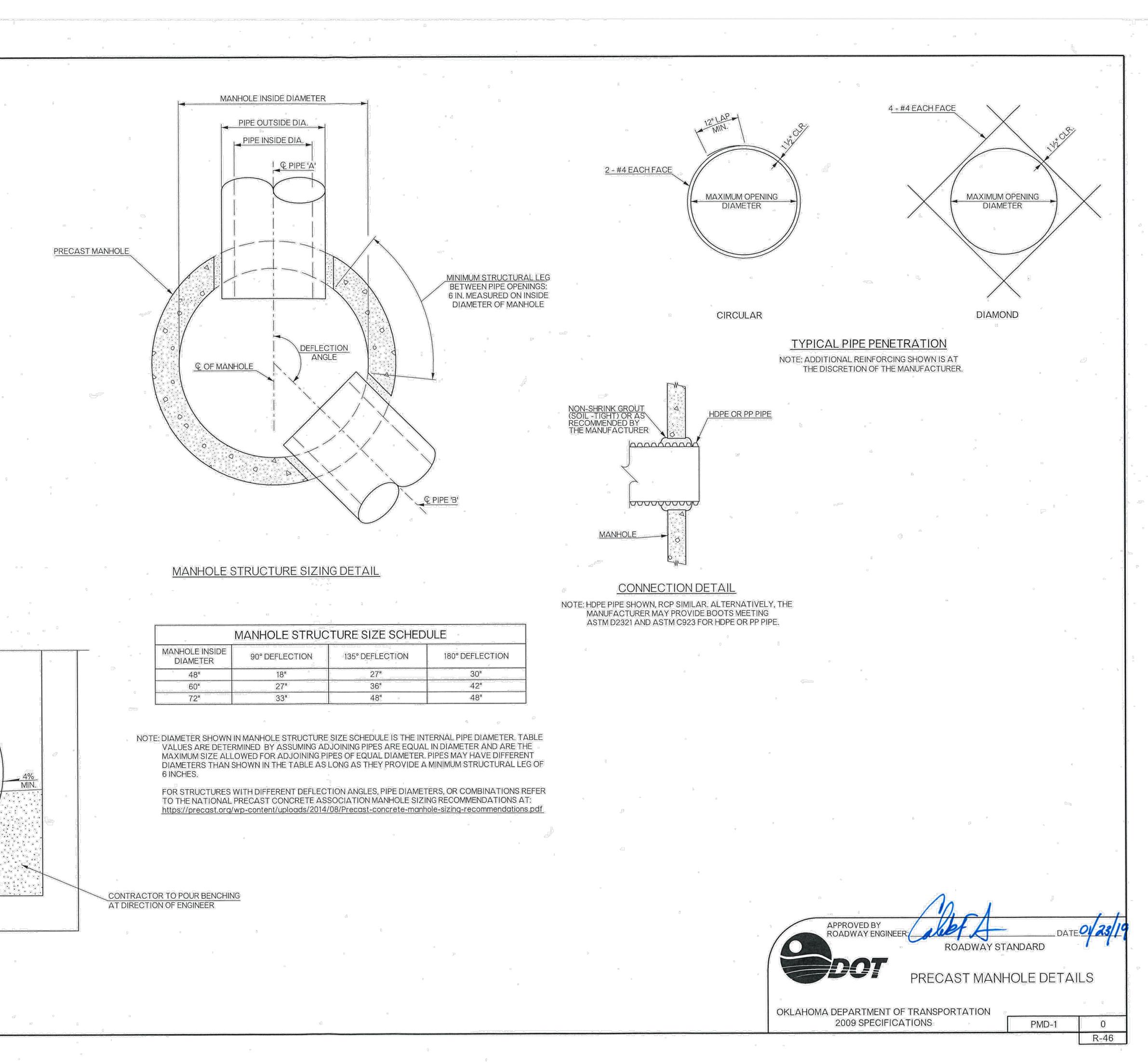




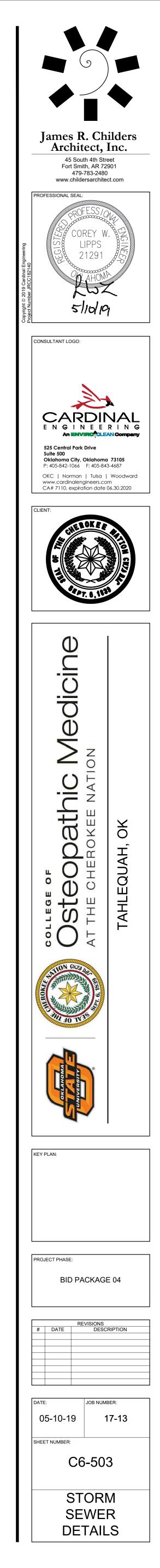
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		DIST NO. STA	TE PROJ. NO. SHEET TOT.
		6 OKL	
ENSIONS & QUANTITIES FOR HEAD	DWALLS WIT	H 45° WING	26
IMENSIONS REINFO			QUANTITIES *
$\Delta = \frac{1}{2} $		$v_1 - v_2^{"} \Phi = v_2 - v_2^{"} \Phi$	CLASS "A" REINE
NO. LGTH. NO. LGTH. NO. LGTH.	NO. LGTH. NO. LGTH. N	D. LGTH. NO. LGTH.	CONC.,C.Y. STEEL,LB
$2'-5'\!$	3 1'-6" 4 2'-1" 3 1'-6" 4 2'-6"	4 3'-5" Av. 4 5'-10" 4 3'-8" Av. 4 6'-1"	0.74 57 0.91 61
$3-3''$ $1-10''_2$ $4-4'' 2-10'' 2-0'' 5 1-8'' 3 5-3'' AV. 7 4-0''$		5 4' - 1'' Av. 4 6' - 8''	1.3/ 85
$\frac{3' 9_2''}{4' - 4''} \frac{2' - 2''}{2' - 5_2''} \frac{4' - 10''}{3' - 6_2''} \frac{3' - 6_2''}{2' - 6''} \frac{5}{5} \frac{2' - 2''}{2} \frac{3}{5} \frac{6' - 3''}{4V} \frac{4' - 6''}{5} \frac{4' - 6''}{6} \frac{2' - 8''}{4} \frac{4' - 3''}{7 - 3''} \frac{3' - 0''}{6} \frac{5}{2' - 8''} \frac{4}{4} \frac{7' - 3''}{7 - 3''} \frac{4V}{4V} \frac{7}{5' - 0''} \frac{5' - 0''}{6} \frac{4'' - 3''}{2' - 8''} \frac{4'' - 3''}{4} \frac{3' - 0''}{6} \frac{5}{2' - 8''} \frac{4}{4} \frac{7' - 3''}{7 - 3''} \frac{4V}{4V} \frac{7}{5' - 0''} \frac{5'' - 0''}{6} \frac{4'' - 3''}{4} \frac{3' - 0''}{7 - 3''} \frac{4'' - 3''}{4} \frac{3' - 0''}{7 - 3''} \frac{4'' - 3''}{7 - 3''} \frac{3' - 0''}{6} \frac{5}{2' - 8''} \frac{4}{4} \frac{7' - 3''}{7 - 3''} \frac{4'' - 3''}{7 - 5' - 0''} \frac{4'' - 3''}{6} \frac{3' - 0''}{7 - 3''} \frac{4'' - 3''}{7 - 3''} \frac{3' - 0''}{7 - 3''} \frac{4'' - 3''}{7 - 3''} \frac{4'' - 3''}{7 - 3''} \frac{3' - 0''}{7 - 3''} \frac{4'' - 3''}{7 - 3''} \frac{3' - 0''}{7 - 3''} \frac{4'' - 3''}{7 - 3''} \frac{3' - 0''}{7 - 3''} \frac{4'' - 3''}{7 - 3''} \frac{3' - 0''}{7 - 3''} \frac{4'' - 3''}{7 - 3''} \frac{3' - 0''}{7 - 3''} \frac{4'' - 3''}{7 - 3''} \frac{3' - 0''}{7 - 3''} \frac{4'' - 3''}{7 - 3''} \frac{3' - 0''}{7 - 3''} \frac{4'' - 3''}{7 - 3''} \frac{3'' - 0''}{7 - 3''} \frac{4'' - 3''}{7 - 3''} \frac{3'' - 0''}{7 - 3''} \frac{4'' - 3''}{7 - 3''} \frac{3'' - 0''}{7 - 3''} \frac{4'' - 3''}{7 - 3''} \frac{3'' - 0''}{7 - 3''} \frac{4'' - 3''}{7 - 3''} \frac{3'' - 0''}{7 - 3''} \frac{4'' - 3''}{7 - 3''} \frac{3'' - 0''}{7 - 3''} \frac{4'' - 3''}{7 - 3''} \frac{3'' - 0''}{7 - 3''} \frac{4'' - 3'''}{7 - 3''} \frac{3'' - 0''}{7 - 3''} \frac{3'' - 0'''}{7 - 3''} \frac{3'' - 0''}{7 - 3''} \frac{3'' - 0''}{7 - 3''} \frac{3'' - 0''}{7 - 3'''} \frac{3'' - 0'''}{7 - 3''''} \frac{3'''''}{7 - 3''''} 3''''''''''''''''''''''''''''''''''''$		3 4'-6'' AV 4 7'-2''	1.77 104
$\frac{1}{4'-10/2} 2'-9'' 5'-10'' 4'-11/2'' 3'-6'' 6 3'-2'' 4 8'-3'' Av. 7 5'-6''$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	2 4'-/1" Av. 4 7'-9" 2 5'-4" Av. 4 8'-3"	2.29 /30 2.89 /5/
			For One Headwall
Width of Ridway	:. T I	17	T · ·
	<u></u>		9-1
$\frac{N}{2!150} = \frac{D}{5''(1-0'' to 2'-0'')}$	±	15" 2'-10"	<u> </u>
4B - (2-1 to 2-3")	<i>D=</i>	18" 3'-1"	
D = 24''(2'-4' to 2'-10'') $D = 30''(2'-8'' to 3'-4'')$	D=2 D=2		
D=36''(2'-11'' to 3'-11'')	 		
D = 42''(3'-3'' to 4'-5'')	D=_	42" 5'-3"	
BENDING FOR VI-BAR	RS BENDI	IG FOR V2-BAR	<u>IS</u>
	8	• • •	
	8 (m) 19		
7"			1
SECTION A-A BENDING FOR H	-BADS	•	-
	-DARS		
ENSIONS & QUANTITIES FOR HEADY	WALLS WITH	U-TYPE W	NCS
NSIONS REINFORCIN		U-ITPE W	NGS QUANTITIES*
$\Delta_{1} = \frac{1}{2} \left[\frac{1}{2} \frac$	$H_1 - V_2^{"} \Phi + H_2 - V_2^{"} \Phi$	$V_1 - V_2^{\mu} \Phi = V_2 - V_2^{\mu} \Phi$	CLASS "A" REINE
NO. LGTH. NO. LGTH. NO. LGTH. NO. LGTH. NO. LGTH. NO.	LGTH. NO. LGTH. NO	. LGTH. NO. LGTH.	CONC., C.Y. STEEL, LBS
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		0.95 71
3'-3". 4'-8" 4'-2" 4 3'-10" 5 4'-4" 7 4'-4" 4 1'-6" 2	5'-2" 4 2'-11"Av. 12	3'-5'' Av. 4 6'-8''	1.15 79 1.60 109
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	5'-3" 4 3'-5"Av. 12	3'-11"Av. 4 7'-2"	1.91 120
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	6'-4" 6 3'-11" Av. 14 7'-5" 6 4'-10" Av. 18	4'-2"Av. 4 7'-9" 4'-6"Av. 4 8'-3"	2.48 152 3.12 186
			For One Headwall
·		- <u>-</u> - +	
		TI.	
"- - -			9
Length of Culvert $D=15"(1-0" to)$	2'-0")	D=15"	2'-10"
D = 18''(1-0'' to	2'-2")	D = 18"	<u>3'- /" </u>
$\frac{D}{2!!} = \frac{D}{2!!} = \frac{D}{2!} =$			$\frac{3'-8''}{4'-2''}$
	3'-10")	D=36	4'-9"
		· ·	<u>5'-3"</u>
BENDING FOR	V _I -BARS	BENDING FOR V	2-BARS
	8	•	Q "
			$R = 1/2^{*}$
$N \neq 4^{n}$	$\underline{R=1/2}$	D= 15" 1'-4"	
BENDING FOR	R H,-BARS	D= 18" 2'-0"	
		D=24" (1-6" to 3' D=30" (1-8" to 3'	
· ·		D=36" (I'-6" to 5'	-0")
TION A-A	ang	D=42" (2-3" to 6"	- /")
	17 - 200 - 200 17 - 200 17 - 200	BENDING FOR H	2-BARS
REVISIONS	RECORD	MA DEPARTMENT	OF TRANSPORTATIO
NO DESCRIPTION BY DATE ITEM	BY DATE	UKLAHUMA CITY, C	
Rev. Reinf. Steel Wts. GMW 5-23-63 DESIG Rev. General Notes LED 963	N		
	L FRC 7-47	STAND	ARD
TRACE	0 JWW 7-47 CONC	RETE HEAD	WALLS FOR
CHECK	' µµ		•
		42" REINE	CONC. PIPE
	LD DIM 3-48		
SQUAD			<u> CP-2₁-1</u>
	PROJECT NO.	SHEET NO	
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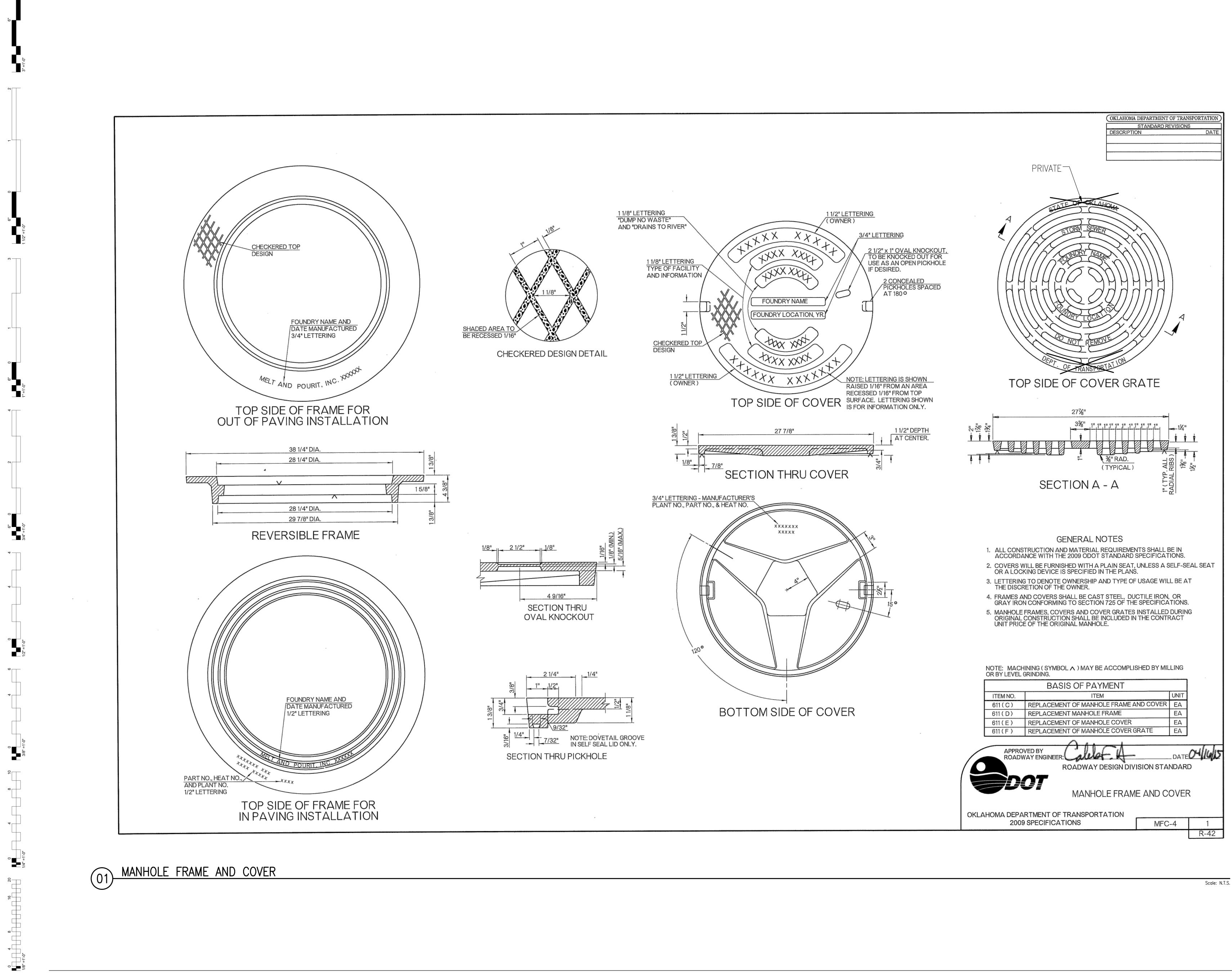


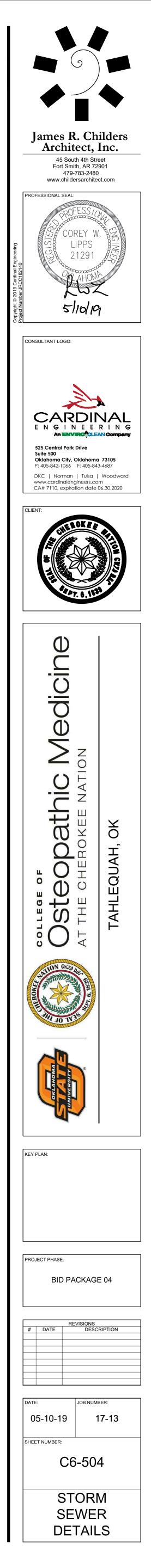


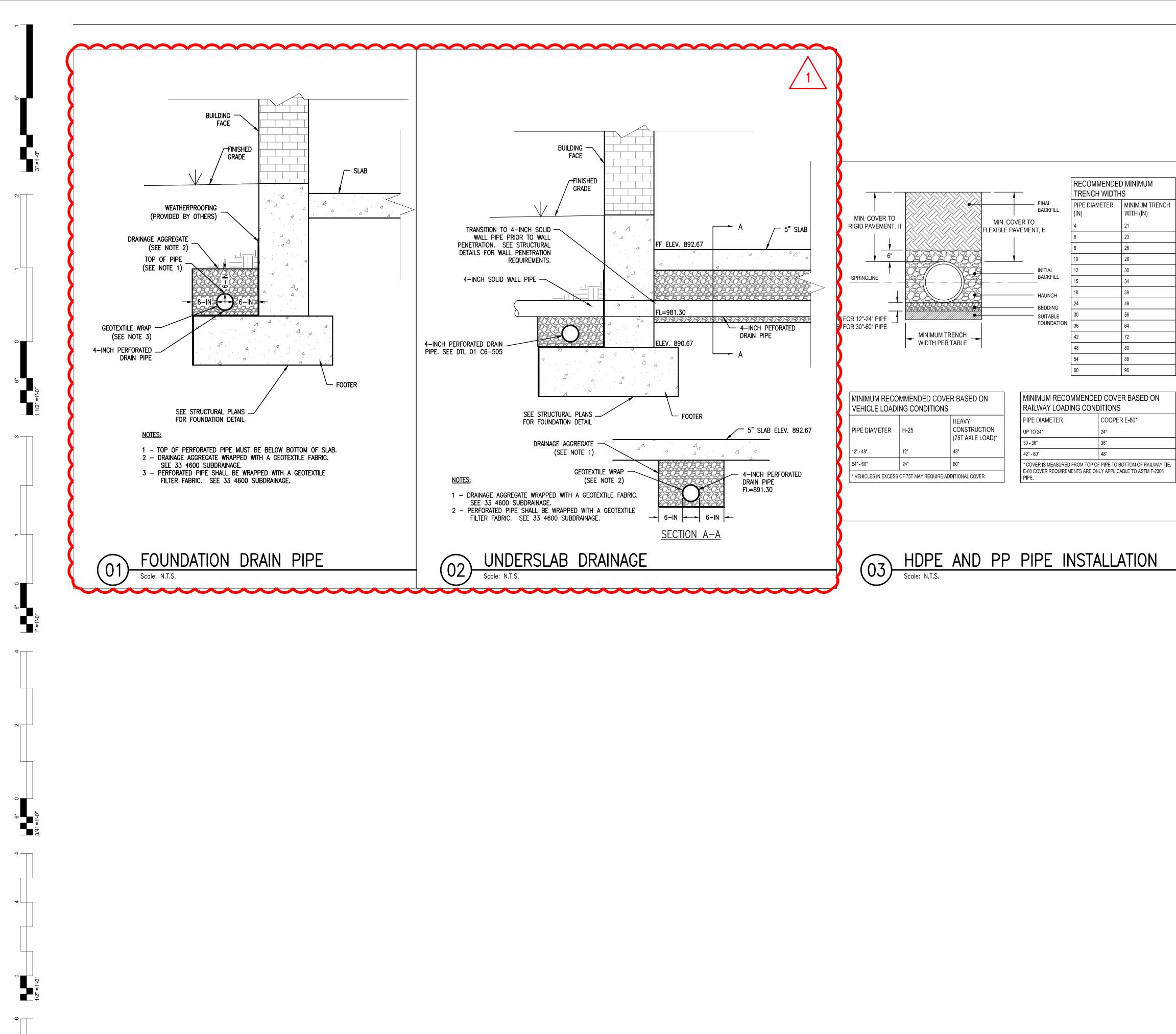


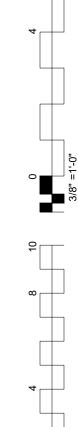
U	MANHOLE STRUC	TURE SIZE SCHED	JULE
MANHOLE INSIDE DIAMETER	90° DEFLECTION	135° DEFLECTION	180° DEFLECTION
48"	18"	2.7"	
60"	27 ⁿ	36" 36"	42"
72"	33	48	48"











1/4" 0

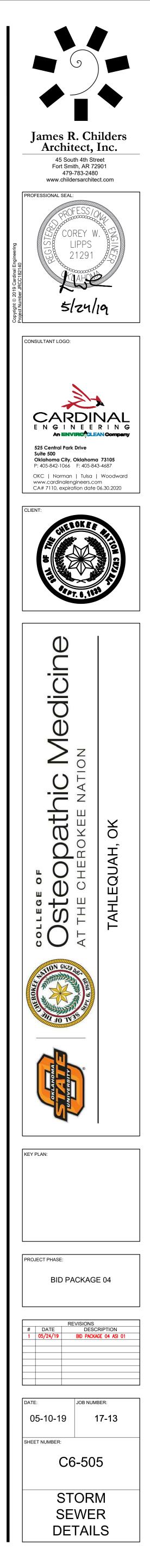
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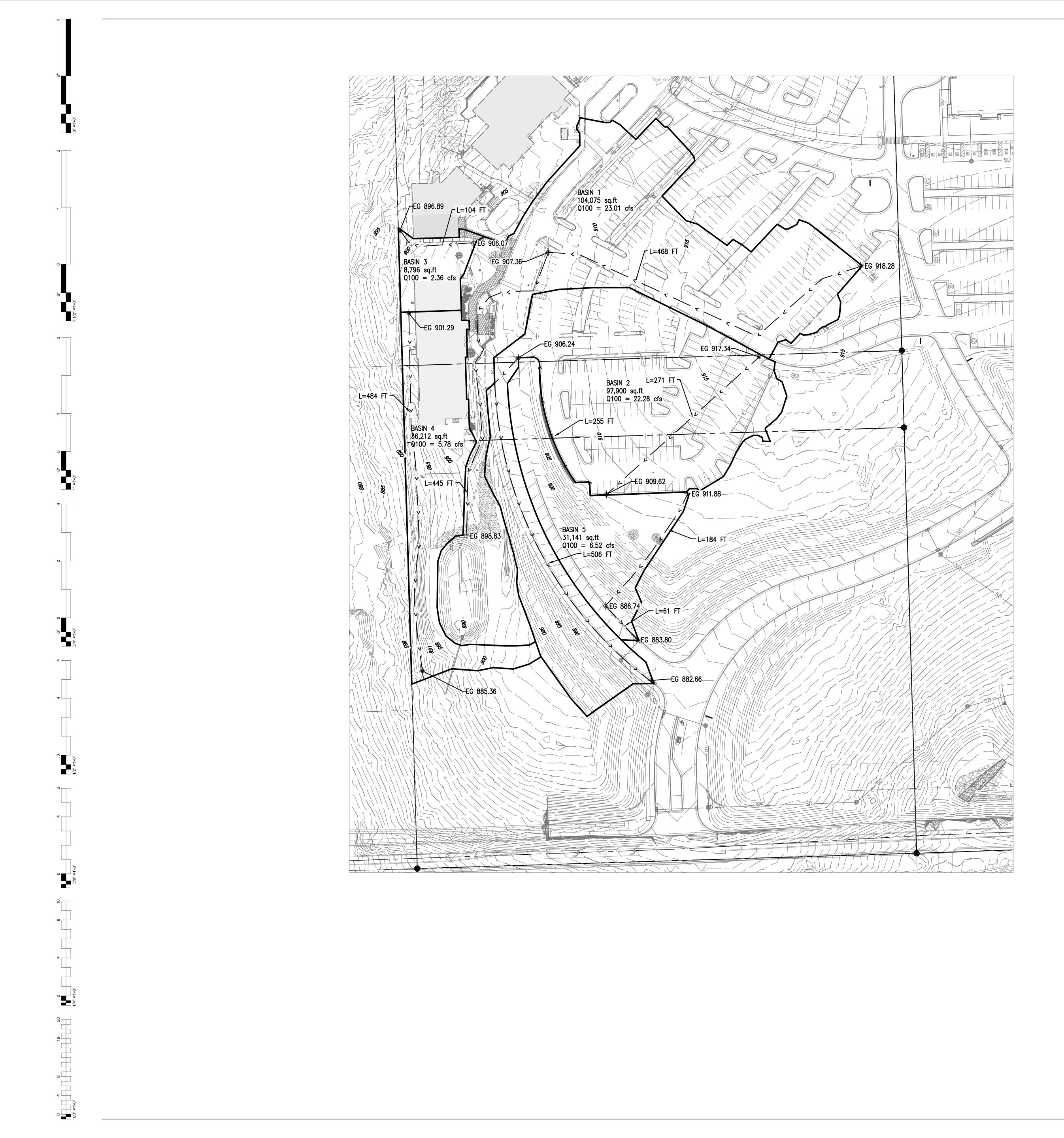
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0 1/8" = 1'-0"

GENERAL NOTES:

- ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION.
- MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
- 3. WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
- SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-900mm).
- 5. SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
- 6. MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.





	DRAINAGE SUB-BASIN(S)					
ZONE 2	Sub-Basin ID(s) / Description area (sq.ft) area (acres)	Basin 1 104,075 2.39	Basin 2 97,900 2.25	Basin 3 8,796 0.20	Basin 4 36,212 0.83	Basin 5 31,141 0.71
	TIME OF CONCENTRATION					
SUB-BASIN OVERLAND	elevation 1 (ft) elevation 2 (ft) overland flow length (Lo, ft) overland flow slope (So, %) Retardance Factor Category Ko time of overland flow (To, min) sub-basin time of overland flow (To, min)	918.3 907.4 468 2.33% Pavement 0.372 7.68 7.68	917.3 909.6 271 2.84% Pavement 0.372 6.03	906.1 896.9 104 8.85% Average Grass 1.040 9.42 9.42	901.3 885.4 484 3.29% Average Grass 1.040 20.28 20.28	911.9 886.7 184 13.70% Average Grass 1.040 10.66
	elevation 1 (ft)	907.4	909.6			886.7
CHANNEL	elevation 1 (ft) elevation 2 (ft) channel length (ft) Channel Slope (Sf, ft/ft) Channel Category Kf time of channel flow (Tf, min)	907.4 898.8 445 0.019 Curbed Street 0.0035 1.75	909.6 906.2 255 0.013 Curbed Street 0.0035 1.32			885.7 883.8 61 0.048 Curbed Street 0.0035 0.27
SUB-BASIN CHANNEI	elevation 1 (ft) elevation 2 (ft) channel length (ft) Channel Slope (Sf, ft/ft) Channel Category Kf time of channel flow (Tf, min)		906.2 882.7 506 0.046 Curbed Street 0.0035 1.38			
Тс	total time of concentration (Tc, min)	9.43	8.72	5.00	20.28	10.93
	RUN-OFF COEFFICIENT					
СА	Run-Off Coefficient A (description) Run-Off Coefficient A (value) c*A	commercial - of 0.900 2.15	fi commercial - of 0.900 2.02	ffi commercial - of 0.900 0.18	fi commercial - of 0.900 0.75	fi commercial - o 0.900 0.64
	RUNOFF FLOW RATE					
ш	110 (in/hr) 125 (in/hr) 150 (in/hr) 1100 (in/hr)	6.08 7.24 7.79 8.64	6.27 7.44 8.01 8.87	7.53 8.79 9.44 10.38	4.27 5.19 5.61 6.27	5.73 6.85 7.38 8.19
INTENSITY/RUN-OFF	10-yr C _f x C 25-yr C _f x C	0.90 0.99	0.90 0.99	0.90 0.99	0.90 0.99	0.90 0.99
TENSITY	50-yr C _f x C 100-yr C _f x C	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00
INT	Q10 (cfs) = C _f ClA Q25 (cfs) = C _f ClA	13.08	12.68	1.37	3.20	3.68
	U_{L} U_{L	17.13	16.56	1.76	4.27	4.85

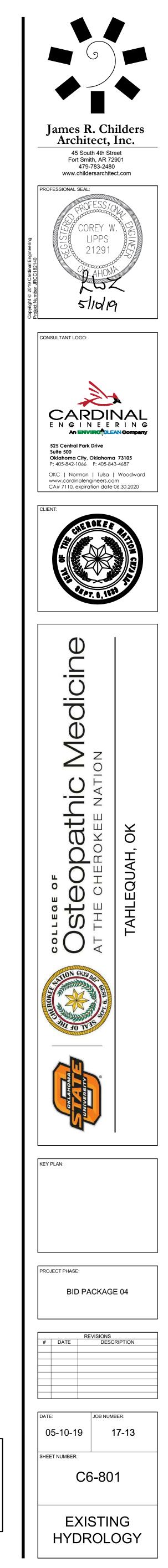


100 SCALE: 1" = 50'

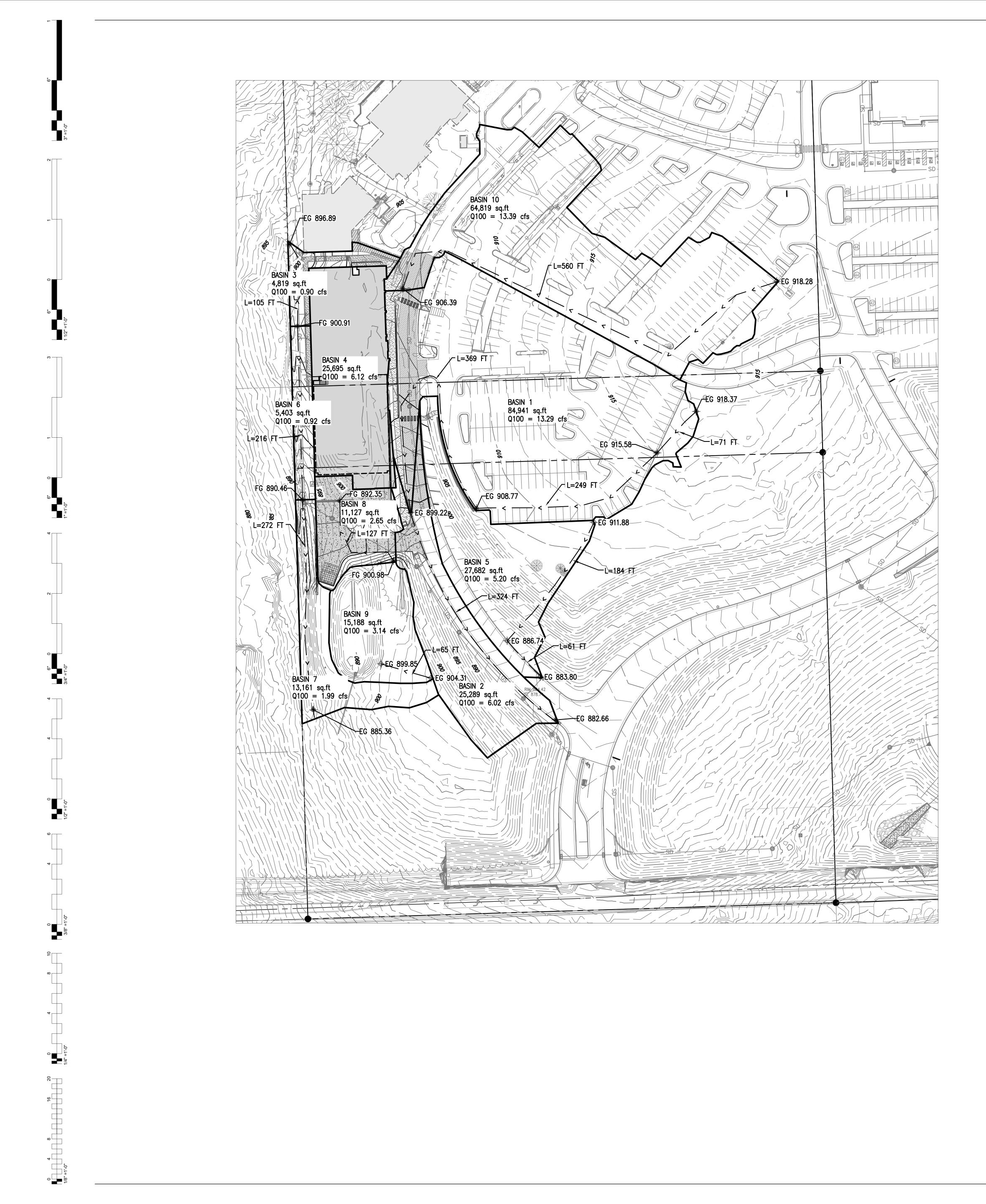
UTILITY WARNING: THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM RECORD DOCUMENTS OR FIELD LOCATIONS BY THE OPERATOR. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

UTILITY ELEVATIONS AND SIZES MAY HAVE BEEN MEASURED UNDER ADVERSE FIELD CONDITIONS. UPON EXPOSING THE UTILITY, ELEVATIONS AND LINE SIZES SHOULD BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHOULD VERIFY CRITICAL ELEVATIONS USING THE BENCHMARK PROVIDED BY THE SURVEYOR OR ENGINEER. ANY DISCREPANCIES SHOULD BE IMMEDIATELY BROUGHT TO THE ENGINEER'S AND SURVEYOR'S ATTENTION.





200' BEFORE YOU DIG



DRAINAGE SUB-BASIN(5) UTILITY VARD SMALL POND Sub-Basin ID(s) / Description Basin 1 Basin 2 Basin 3 Basin 4 Basin 5 Basin 6 Basin 7 Basin 8 Basin 9 area (acres) 1.95 0.58 0.11 0.59 0.64 0.12 0.30 0.26 0.35 TIME OF CONCENTRATION elevation 1 (ft) 918.4 900.9 901.9 890.5 890.5 890.4 892.4 899.9 overland flow length (Lo, ft) 71 105 184 216 272 127 65 overland flow length (Lo, ft) 71 105 184 216 272 127 65 verage Grass Average Grass	Basins 6 and 7 18,564 0.43	L Basin 10 64,819 1.49 918.3 906.4 560 2.13% Pavement 0.372 8.35
Sub-Basin 1D(s) / Description area (sq. ft) area (acres) Basin 1 84,941 Basin 2 25,289 Basin 3 4,819 Basin 4 25,695 Basin 5 27,682 Basin 6 5,403 Basin 7 13,161 Basin 8 11,127 Basin 9 15,188 TIME OF CONCENTRATION elevation 1 (ft) elevation 2 (ft) overland flow length (Lo, ft) 918.4 900.9 911.9 900.9 890.5 901.0 904.3 overland flow length (Lo, ft) 915.6 896.9 886.7 890.5 891.4 899.9 overland flow length (Lo, ft) 71 105 184 216 65 overland flow length (Lo, ft) 71 105 1344 216 1.83% 6.77% 6.77% Retardance Factor Category Average Grass <	18,564 0.43	64,819 1.49 918.3 906.4 560 2.13% Pavement 0.372
TIME OF CONCENTRATION TIME OF CONCENTRATION elevation 1 (ft) 918.4 900.9 911.9 900.9 890.5 901.0 904.3 elevation 2 (ft) 915.6 896.9 886.7 890.5 885.4 892.4 899.9 overland flow length (Lo, ft) 71 105 184 216 272 127 65 overland flow slope (So, %) 3.93% 3.81% 13.70% 4.81% 1.88% 6.77% 6.77% Retardance Factor Category Average Grass	0.43	1.49 918.3 906.4 560 2.13% Pavement 0.372
TIME OF CONCENTRATION TIME OF CONCENTRATION elevation 1 (ft) 918.4 900.9 911.9 900.9 890.5 901.0 904.3 elevation 2 (ft) 915.6 896.9 886.7 890.5 885.4 892.4 899.9 overland flow length (Lo, ft) 71 105 184 216 272 127 65 overland flow slope (So, %) 3.93% 3.81% 13.70% 4.81% 1.88% 6.77% 6.77% Retardance Factor Category Average Grass		918.3 906.4 560 2.13% Pavement 0.372
VPUTOT NOT 918.4 900.9 911.9 900.9 890.5 901.0 904.3 elevation 2 (ft) 915.6 896.9 886.7 890.5 885.4 892.4 899.9 overland flow length (Lo, ft) 71 105 184 216 272 127 65 overland flow slope (So, %) 3.93% 3.81% 13.70% 4.81% 1.88% 6.77% 6.77% Retardance Factor Category Average Grass Aver	5	906.4 560 2.13% Pavement 0.372
elevation 1 (ft) 918.4 900.9 911.9 900.9 890.5 901.0 904.3 overland flow length (Lo, ft) 71 105 184 216 272 127 65 overland flow slope (So, %) 3.93% 3.81% 13.70% 4.81% 1.88% 6.77% 6.77% Retardance Factor Category Average Grass	5	906.4 560 2.13% Pavement 0.372
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PPPOPOPOPOPOPOPOPOPOPOPOPOPOPOPOPOPOPO	5	906.4 560 2.13% Pavement 0.372
overland flow length (Lo, ft) 71 105 184 216 272 127 65 overland flow slope (So, %) 3.93% 3.81% 13.70% 4.81% 1.88% 6.77% 6.77% Retardance Factor Category Average Grass	5	560 2.13% Pavement 0.372
overland flow slope (So, M)3.93%3.81%13.70%4.81%1.88%6.77%6.77%Retardance Factor CategoryAverage GrassAverage GrassAve	5	2.13% Pavement 0.372
Retardance Factor CategoryAverage GrassAverage GrassAverage GrassAverage GrassAverage GrassAverage GrassPavementAverage GrassKo1.0401.0401.0401.0401.0401.0401.0401.0400.3721.040time of overland flow (To, min)9.6211.1910.6613.9418.333.838.35elevation 1 (ft)908.80verland flow length (Lo, ft)2490verland flow slope (So, %)2.73%1.0401.0401.0401.040werage Grass0verland flow slope (So, %)2.73%2.73%1.0401.0401.0401.0401.040sub-basin time of overland flow (To, min)15.6711.1910.6613.9418.333.838.35	s	Pavement 0.372
Ko 1.040 1.040 1.040 1.040 1.040 0.372 1.040 time of overland flow (To, min) 9.62 11.19 10.66 13.94 18.33 3.83 8.35 elevation 1 (ft) 915.6 908.8 overland flow length (Lo, ft) 908.8 5 </td <td>S</td> <td>0.372</td>	S	0.372
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Retardance Factor Category KoPavementKo0.372time of overland flow (To, min)6.05sub-basin time of overland flow (To, min)15.6711.1910.6613.9418.333.838.35		8.35
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sub-basin time of overland flow (To, min) 15.67 11.19 10.66 13.94 18.33 3.83 8.35		
		8.35
		0.00
elevation 1 (ft) 908.8 889.2 886.7		
Applie Belevation 2 (ft) 899.22 882.7 883.8		
Verticity 908.8 889.2 886.7 elevation 2 (ft) 899.22 882.7 883.8 channel length (ft) 369 324 61		
Channel Slope (Sf, ft/ft) 0.026 0.020 0.048 Channel Category Curbed Street Curbed Street Curbed Street Kf 0.0035 0.0035 0.0035 time of channel flow (Tf, min) 1.35 1.35 0.27		
Kf 0.0035 0.0035 0.0035		
Image: Similar biase 1.35 1.35 0.27		
Tc total time of concentration (Tc, min) 17.02 5.00 11.19 5.00 10.93 13.94 18.33 5.00 8.35	32.27	8.35
RUN-OFF COEFFICIENT		
Run-Off Coefficient A (description) commercial - offi commercial -		
Run-Off Coefficient A (value) 0.90	0.90	0.90
CA c*A 1.75 0.52 0.10 0.53 0.57 0.11 0.27 0.23 0.31	0.38	1.34
RUNOFF FLOW RATE		
110 (in/hr) 4.67 7.53 5.67 7.53 5.73 5.14 4.50 7.53 6.37 125 (in/hr) 5.55 5.72 5.73 5.14 4.50 7.53 6.37	3.30	6.37
125 (in/hr) 5.65 8.79 6.78 8.79 6.85 6.19 5.46 8.79 7.56 150 (i. /l.) 6.10 7.21 7.21 7.20 7.20 7.40 7.21	4.04	7.56
ISO (in/hr) 6.10 9.44 7.31 9.44 7.38 6.68 5.89 9.44 8.13 1200 (in /hr) 6.01 9.02 9.12 10.22 7.38 6.68 5.89 9.44 8.13	4.38	8.13
1100 (in/hr) 6.81 10.38 8.12 10.38 8.19 7.44 6.59 10.38 9.00	4.92	9.00
10-yr C _f x C 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.	0.90	0.90
25-yr C _f x C 0.99	0.99	0.99
25-yr Cf x C 1.00	1.00	1.00
↓ 50-yr C _f x C 1.00 <td></td> <td></td>		
Ho 10-yr C _f x C 0.90 0.99 0.99 0.99 0.99 0.99 0.99 0.99 0.99 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.99 0.99 0.99 0.99 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 <td>1.00</td> <td>1.00</td>	1.00	1.00
≥ Q10 (cfs) = C _f ClA 8.20 3.94 0.56 4.00 3.28 0.57 1.22 1.73 2.00	1.27	8.53
Q25 (cfs) = C_fCIA 10.91 5.05 0.74 5.13 4.31 0.76 1.63 2.22 2.61	1.71	11.13
		12.09
	1 87	12.00
Q50 (cfs) = C _f ClA11.905.480.815.574.690.831.782.412.83Q100 (cfs) = C _f ClA13.296.020.906.125.210.921.992.653.14	1.87 2.10	13.39

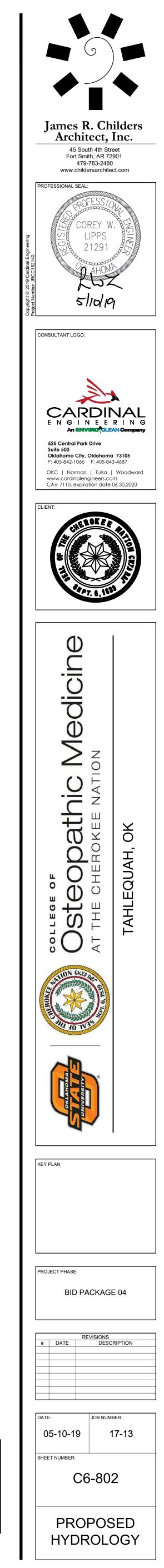


0' 50' 100'

SCALE: 1'' = 50'

<u>UTILITY WARNING:</u> THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM RECORD DOCUMENTS OR FIELD LOCATIONS BY THE OPERATOR. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.





TPWA WATER LINE CONSTRUCTION DOCUMENTS FOR COLLEGE OF OSTEOPATHIC MEDICINE AT THE CHEROKEE NATION

SUMMARY OF WORK 1. The Work to be performed consists of providing all labor, materials, equipment and services necessary for the complete construction and start up of the COLLEGE OF OSTEOPATHIC MEDICINE AT THE CHEROKEE NATION as shown on the Drawings and herein specified in accordance with the Contract Documents.

- 1. All costs for labor, materials, equipment, and services necessary for complete construction and start-up of the Work as shown on the Drawings and specified herein shall be included in the contract price unless otherwise indicated in the Contract Documents
- 2. Work shown on the Drawings or required by the Specifications but not specifically listed in the Summary of Quantities shall be considered incidental construction, and the cost of such work shall be included in the Unit Prices Bid.
- 3. CONTRACTOR shall make their own estimate of the labor, materials, equipment, and services necessary to complete the work and shall visit the site and fully acquaint himself of the existing conditions prior to commencing construction. CONTRACTOR shall notify ENGINEER of any errors in the ENGINEER's construction quantities; or any condition at the site that may affect the construction of the work as shown on the Drawings.

GENERAL REQUIREMENTS

CONTRACT COSTS

- 1. Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Cardinal Engineering, Inc., including electronic media editions, shall not be reused on extensions of the Project or any other project without written consent of OWNER and Cardinal Engineering, Inc. and specific written verification or adaptation by Cardinal Engineering, Inc.
- 2. Survey information shown on the drawings were provided by Lemke Land Surveying. <u>3226 Bart Conner Drive, Norman, OK, 73072 Phone (405) 366-8541, CA #2054.</u>

APPLICABLE CODES AND SPECIFICATIONS

1. All references to codes, specifications, and standards referred to in the Specification and on the Drawings shall mean, and are intended to be, the latest edition, amendment, and/or revision of such reference standard in effect as of the date of these Contract Documents.

PROCEDURAL REQUIREMENTS

- 1. CONTRACTOR shall make the coordination of the operations of all trades, subcontractors, and material suppliers engaged upon or in connection with the Work. Every effort shall be made to assure a harmonious, cooperative attitude on the part of all concerned. CONTRACTOR shall guarantee to each of his foremen and subcontractors the proper dimensions they may require for the fitting of their work to adjoining work. All fitting and adjusting necessary to make all the parts of the work join together properly shall be made
- 2. Cooperation with utility and government officials and inspectors shall occur at all times. If any official or inspector deems special inspection is necessary, assistance and facilities that will expedite his inspection shall be provided.

TEMPORARY FACILITIES AND CONTROLS

- 1. Arrange for and provide temporary facilities and controls as specified herein and as required for the proper and expeditious prosecution of the work. Pay all costs, except as otherwise specified, until final acceptance of the work unless the OWNER makes arrangements for the use of completed portions of the work after substantial completion in accordance with the provisions of the General Conditions.
- 2. Make all temporary connections to utilities and services in locations acceptable to the OWNER, ENGINEER, and local authorities having jurisdiction thereof; furnish all necessary labor and materials, and make all installations in a manner subject to the acceptance of such authorities and the ENGINEER; maintain such connections; remove the temporary installation and connections when no longer required; restore the services and sources of supply to proper operating condition.
- 3. Pay all costs for temporary electrical power and temporary water.
- 4. Water necessary for construction purposes shall be provided. All temporary connections shall be made to existing mains. A temporary meter shall be provided. Arrangements and payment for the temporary water service, including cost of installation, maintenance thereof, and water used shall be made. At the completion of the construction work, all temporary water service equipment and piping shall be removed.
- 5. Chemical toilets for the use of all construction personnel shall be provided at a location within the limits of the Site. Chemical toilets shall be maintained in a sanitary condition. 6. From the commencement to the completion of the work, keep all parts of the site and
- the project free from accumulation of water, and supply, maintain, and operate all necessary pumping and bailing equipment.
- 7. Remove snow and ice as necessary for the protection and prosecution of the work, and protect the work against weather damage.

PRODUCT REQUIREMENTS

- 1. Materials, products, and equipment shall be properly containerized, packaged, boxed, and protected to prevent damage during transportation and handling. 2. Provide suitable temporary weather tight storage facilities as may be required for materials that will be damaged by storage in the open. Any off-site storage space
- used is the responsibility of the CONTRACTOR. Store and protect materials delivered at the site from damage. Do not use damaged material on the work. 3. Manufactured articles, materials, and equipment shall be applied, installed, connected,
- erected, used, cleaned, and conditioned as directed by the respective manufacturers, unless otherwise specified. 4. References to approved equal or similar terms mean that approval of the ENGINEER is
- required. 5. Whenever the Contract Documents require that a product be in accordance with Federal specification, ASTM designation, ANSI specification, AWWA specification, or other association standard, the CONTRACTOR shall present an affidavit from the manufacturer certifying that the product complies therewith. Where requested or specified, submit supporting test data to substantiate compliance.

EXECUTION REQUIREMENTS

- 1. CONTRACTOR shall be responsible for properly laying out the work, and for lines and measurements for the work executed under the Contract Documents. Verify the figures shown on the Drawings before ordering any materials and laying out the work, and report errors or inaccuracies in writing to the ENGINEER before commencing work. The ENGINEER or his representative will in no case assume the responsibility for laying out the work.
- 2. OWNER has or will perform a survey of the site, stake the property limits, and provide a reference benchmark elevation. CONTRACTOR shall be responsible for any additional offset staking or layout survey required to locate improvements and control grade of improvements. Be responsible for the proper location and level of the work and for the maintenance of reference lines and benchmarks. Any re-staking requested by the CONTRACTOR shall be done at his expense.
- 3. Existing survey points other than those specifically mentioned herein shall not be considered as acceptable control points unless approved by the ENGINEER. If approval is secured. CONTRACTOR remains responsible for maintaining them and for their accuracy. Be responsible for preserving all existing iron or metal, and all concrete survey points or monuments for the construction period.

STORM WATER POLLUTION PREVENTION PLAN

____0 _____0 _____0

773

- 1. Construction activities that result in land disturbance of equal to or greater than one (1) acre, or less than one (1) acre, if they are part of a larger common plan of development or sale that totals at least one (1) acre must also obtain a permit for Storm Water Discharges from Construction Activities. This means that land disturbing of one (1) acre or more must permit with EPA.
- 2. A copy of the erosion control site plan must be on site at all times and made available to the inspector upon request.
- 3. The contractor shall be responsible for the repair or replacement of all erosion control devices damaged due to construction.
- 4. A Storm water Pollution Prevention Plan (SWPPP) has been prepared for the WORK and a Notice of Intent (NOI) has been submitted by OWNER. CONTRACTOR shall implement the SWPPP, and construct, inspect, and maintain the erosion controls to prevent runoff of silt and sediment from the site. A copy of the SWPPP shall be kept at the site at all times and be made available to inspectors upon request. Inspections reports shall be maintained in the SWPPP and the SWPPP shall be updated when necessary.
- 5. The erosion control plan, Notice of Intent (NOI), and the Storm Water Pollution Prevention Plan (SWPPP), as well as any other applicable state or municipal permits shall be kept on site by the construction superintendent at all times. Said items shall be made available to state and municipal authorities upon request.
- 6. Inspect disturbed areas of the construction site that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, structural control measures, and locations where vehicles enter or exit the site, at least once every fourteen (14) calendar days and within 24 hours of the end of a storm event of 0.25 inches or greater.

- accomplished as soon as practicable.
- hazard to users of public streets).
- design capacity has been reduced by 50%.

EXISTING UTILITIES AND STRUCTURES

- existing utilities.
- utilities by probing, excavating, hydro-vac, or by any other means.
- schedule.
- be left intact, unobstructed and accessible unless noted on the plan.
- PROTECTION AND MAINTENANCE
- employees, and the public in general.
- Drawinas
- to the OWNER.

- driveways or entrances.
- proper vegetation is reestablished.

- satisfaction of OWNER. condition.
- construction, unless directed otherwise by the OWNER. EXCAVATION AND TRENCH SAFETY SYSTEMS

7. All erosion and sediment control measures and other protective measures identified in this SWPPP must be maintained in effective operating condition. If site inspections identify erosion controls that are not operating effectively, maintenance shall be performed before the next anticipated storm event, or as necessary to maintain the continued effectiveness of storm water controls. If maintenance prior to the next anticipated storm event is impracticable, maintenance must be scheduled and

8. If sediment escapes the construction site, off-site accumulations of sediment shall be removed at a frequency sufficient to minimize offsite impacts (e.g., fugitive sediment in street could be washed into storm sewers by the next rain and/or pose a safety 9. Sediment shall be removed from sediment traps or sedimentation ponds when the

10. Litter, construction debris, and construction chemicals exposed to storm water shall be prevented from becoming a pollutant source for storm water discharges (e.g., screening outfalls, picked up daily).

1. CONTRACTOR shall contact OKIE (1-800-522-6543) prior to construction for locating

The underground utilities shown have been located from field survey surface information and existing drawings. ENGINEER and Surveyor make no auarantee that the underground utilities shown comprise all such utilities in the area, either in service or abandoned. The underground utilities are located as accurately as possible from information available; however, ENGINEER and Surveyor further do not guarantee that the underground utilities shown are in the exact location indicated either vertically or horizontally. ENGINEER and Surveyor have not physically located the underground

3. Prior to construction, CONTRACTOR shall notify all utility companies and governmental agencies who may have utility lines on or about the premises or who may be affected by the construction. Notice shall be given no less than twenty-four hours prior to any work that may interfere with a utility. CONTRACTOR shall also coordinate the construction activities with the utility companies to ensure compliance with the project

4. All existing structures, improvement and utilities designated to remain shall be adequately protected from damage that might otherwise occur due to construction operations. Where construction comes in close proximity to existing structures, utilities or appurtenances, or if it becomes necessary to move services, poles, quy wires, pipe lines or other obstructions, CONTRACTOR shall notify and cooperate with the owner of the utility, structure, or appurtenance. The utility lines and other existing structures shown on the plans are for information only and are not guaranteed to be complete or accurate as to location and/or depth. CONTRACTOR shall be liable for damage to any utilities resulting from the CONTRACTOR's operations. During construction, all fire hydrants, valve boxes, fire or police call boxes and other existing utility controls shall

5. Any existing valve boxes, meters, fire hydrants, manholes, and other public utilities shall be rebuilt to finished grades according to specifications. All valves, manhole lids, and sewer clean-outs located in paved areas, shall be rated for H-20 traffic loading. Coordinate the work with the appropriate utility department.

1. Perform all special construction operations and take all precautions necessary to adequately protect the materials and work performed, the property and landscape OWNER and others, existing buildings and improvements, existing utilities, workers and

Where trees, plants, shrubbery, and other vegetation are adjacent to the line of the work and are designated not to be destroyed or removed and replaced, CONTRACTOR shall protect these items by substantial wooden boxes and guards and shall not permit machinery or employees to scrape, tear the limbs from or damage, or attach guy cables to them. Hand excavation may be required if machinery could damage trees, plants, shrubbery, and other vegetation designated to be left undisturbed. CONTRACTOR shall be responsible for all damages to such trees, plants, shrubbery, and other vegetation unless specific provisions are made for their removal or abandonment on the

3. Existing fences that require cutting for gates or other reasons shall be adequately braced to prevent slacking of the fence before it is cut. Livestock may be present in all fenced areas; therefore, points of entrance shall be kept closed at all times and the CONTRACTOR shall be responsible for the containment of livestock, their safety, and the safety of the public. All fencing shall be done in a workmanlike manner with standard construction practices as per the standard details provided. Gates installed shall be chained and locked closed. Locks shall be keved alike. Provide a set of kevs

4. The sides of all excavations shall be sufficiently sheeted and shored to prevent slides, cave-ins, settlement or movement of the banks and to maintain the excavation clear of all obstructions that will, in any way, hinder or delay the progress of the work. All sheeting, shoring and bracing shall have sufficient strength and rigidity to withstand the pressure exerted and maintain the sides of the excavation properly in place and protect all persons, including workmen, and all property from injury or damage. The removal of sheeting, shoring and bracing shall be done in such manner as to not endanger new or existing structures, public or private property, and to avoid cave-ins or slides of the banks. Sheeting, shoring, or bracing shall not be left in place.

5. Shore up and protect any building or other structure which may be endangered during the work and restore all buildings, culverts, fences, walls, or other properties disturbed during the work to a condition equal to that existing before operation. CONTRACTOR shall be responsible for any injuries to persons and for damages to existing buildings or other structures affected by the work, and OWNER shall not be liable therefore. . Immediately remove all surface or seepage water from sewers, drains, ditches, and other sources that may accumulate water during the excavation and construction work by pumping, bailing, or draining. CONTRACTOR shall have available at all times

sufficient equipment in proper working order for doing the work herein required. All water removed from excavations shall be disposed of in an approved manner, so as to not create unsanitary conditions, nor to cause injury to persons or property or damage to the work in progress, nor to interfere unduly with the use of streets, private

7. When existing storm sewers, drains, or ditches are blocked, cut, opened, or removed in the course of the work, CONTRACTOR shall provide and maintain temporary outlets and connections until permanent facilities have been restored. Provide and maintain any pumps, diversions, piping, containers, and other facilities required for this purpose. 8. During construction and until such time as vegetation is reestablished, keep exposed dirt areas within the limits of construction and in stockpiles areas damp to prevent blowing. CONTRACTOR shall be responsible for providing and maintaining adequate erosion protection during construction and following construction until such time as

9. The premises and the job site shall be maintained in a reasonably neat and orderly condition and kept free from accumulations of waste materials and rubbish during the entire construction period. Remove crates, cartons, and flammable waste materials or trash from the work areas at the end of each working day.

10. Upon completion of the work and before final acceptance and final payment shall be made, the CONTRACTOR shall completely clean and remove from the site of the work all equipment, construction materials, surplus and discarded materials, temporary structures and debris of every kind. CONTRACTOR shall leave the site of the work in a neat and orderly condition equal to that which originally existed, or as called for in the Contract documents. Surplus and waste materials removed from the site of the work shall be disposed of at locations satisfactory to the Engineer, and at the CONTRACTOR'S sole

11. All terraces, levees, and watercourses shall be restored to former condition to the satisfaction of OWNER so that they shall function as originally intended. 12. Fences disturbed by construction shall be restored to original condition and to the

13. Public and private streets, drives, and parking lots shall be restored to their original

14. When and where any damage or injury is done to public or private property on the part of the CONTRACTOR, it shall restore or have restored at its own cost and expense such property to a condition equal (or improved) to that existing before such damage was done by repairing, rebuilding or otherwise restoring as may be directed, or it shall make good such damage or injury in a manner acceptable to the property owner or the Engineer. Replacement of previously constructed items, such as curb, gutter, sidewalks, driveways, paving, etc., shall conform to the specifications for new

1. CONTRACTOR shall be responsible for complying with State laws and Federal regulations relating to excavation and trench safety, including those which may be enacted during the performance under this Contract. CONTRACTOR is advised that Federal Regulations 29 C.F.R. 1926.650-1926.652 have been, in their most recent version as amended, in effect since January 2, 1990. CONTRACTOR shall fully comply with the U.S. Department of Labor Occupational Safety and Health Administration (OSHA) regulations pertaining to excavations, trenching, and shoring and shall provide and familiarize its employees involved in excavation and trenching with the provisions in OSHA Pamphlet Number 2226, Excavating and Trenching Operations.

TRAFFIC CONTROL

- 1. A Work Zone Permit must be obtained from the CITY at least two (2) working days prior to the start of work and/or placing or removing any barricades or modifying existing traffic control devices.
- 2. CONTRACTOR shall be responsible for erecting and maintaining barricades and other traffic warning devices as necessary around the perimeter of construction and adjacent to any open trenches. Provide and maintain adequate detours around the work under construction. Provide sufficient lights, warning signs, and watchmen for the safety of
- the public. 3. Any temporary street closure shall be coordinated with and approved by OWNER. CONTRACTOR shall establish all detour routes while streets are closed during construction. CONTRACTOR shall notify Fire, Police, and EMSA headquarters when any
- street is temporarily closed. 4. CONTRACTOR is responsible for the prompt replacement and/or repair of all traffic control devices, signs, and appurtenances damaged or disturbed due to construction. Any existing traffic signals, signal loops, conduits, cables, signs, and other traffic control devices affected by the work shall be reset or replaced according to specifications. Coordinate the work with the traffic department.

ADA COMPLIANCE

1. CONTRACTOR is responsible for ensuring all sidewalks, curb ramps, ramps, stairs, accessible parking spaces, and building access routes comply with the current Americans with Disability Act (ADA) Standards prior to construction. Any errors found shall be brought the ENGINEER'S attention for resolution.

DEFECTIVE AND UNAUTHORIZED WORK

- 1. All work that has been rejected or condemned shall be repaired or if it can not be satisfactorily repaired, it shall be removed and replaced at the CONTRACTOR's expense. Defective materials shall be removed immediately from the site of the work.
- 2. Work done without lines and grades having been given, work done beyond the lines or not in conformity with grades shown on the plans or as given, work done with out proper inspection, or any extra or unclassified work done without written authority and prior written agreement as to prices, will be done at the CONTRACTOR's risk and will be considered unauthorized, and at the option of the ENGINEER. may not be measured an paid for and may be ordered to be removed at the CONTRACTOR's expense.
- 3. Upon failure of the CONTRACTOR to satisfactorily repair or to remove and replace, if so directed, and rejected, unauthorized, or condemned work or materials immediately after receiving notice from the ENGINEER, the ENGINEER shall, after giving written notice to the CONTRACTOR, have the authority to cause defective work to be remedied or removed and replaced, or to cause unauthorized work to be removed and replace, and to deduct the cost thereof from any compensation due or to become due the CONTRACTOR. If the ENGINEER and OWNER deem it not expedient to correct the work damaged or done not in accordance with the Contract, and equable deduction from the Contract Price shall be made thereof.

LINE LEGEND

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— G —			G ———	
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CIVIL SHEET LIST

	WATERLINE SHEETS
Number	Title
C7-001	WATERLINE TITLE SHEET
C1-101	EXISTING CONDITIONS AND SURVEY CONTROL
C7-201	WATERLINE PLAN AND PROFILE SHEET
C7-202	WATERLINE PLAN AND PROFILE SHEET
C7-203	WATERLINE PLAN AND PROFILE SHEET
C7-501	WATER DETAILS
C5-701	EROSION CONTROL PLAN
C5-702	EROSION CONTROL DETAILS AND NOTES

-	
G	GAS METER
ර්	GAS VALVE
Ľ	GAS VENT
TRA	GROUND TRANSFORMER
8	GUARD POST
¢	LIGHT POLE
D	STORM DRAIN MANHOLE
S	SANITARY SEWER MANHOLE
•	PROPERTY CORNER FOUND

SYMBOL LEGEND

AC AIR CONDITIONER UNIT

C FIRE HYDRANT

O PROPERTY CORNER SET (CO) SANITARY SEWER CLEANOUT ---- COMMERCIAL SIGN ----- SIGN ້ວິ SPRINKLER HEAD び SPRINKLER VALVE TELEPHONE RISER 門 TRAFFIC/ELECTRIC PULL BOX Ö WATER METER

\bowtie	WATER VALVE	BOX	
	TC=1121.63	TOP	OF CUR
1	G=1121.13	GUTTE	ER SPOT
	X 1123.5	SPOT	ELEVAT

CONCRETE SIDEWALKS
light duty asphalt
HEAVY DUTY ASPHALT
LIGHT DUTY CONCRET
HEAVY DUTY CONCRE
REINFORCED HEAVY D
SODDING / SEEDING

WATER MAIN SEPARATION REQUIREMENTS
WATER MAIN SHALL BE INSTALLED ACCORDING TO THE FOLLOWING MINIMUM SEPARATION DISTANCES, MEASURED EDGE TO EDGE, BETWEEN WATER LINES AND OTHER BURIED UTILITIES, SHOULD SUCH UTILITIES BE ENCOUNTERED DURING CONSTRUCTION:
1. 10-FEET HORIZONTALLY FROM SEWER LINES.
2. 2-FEET VERTICALLY FROM SEWER LINES WITH SEWER LINES ARRANGED SO THAT
ITS JOINTS WILL BE EQUIDISTANT FROM THE WATER LINE.
3. 2-FEET VERTICALLY BETWEEN THE WATER LINE AND ANY EXISTING OR PROPOSED

- J. Z-FELI VERHUALLT BEIWEEN IHE WAIER LINE AND ANY EXISTING OR PROPOSED STORM SEWERS. RAW WATER LINES. PETROLEUM PRODUCT LINES, NATURAL GAS LINES. AND OTHER BURIED UTILITIES.
- 4. 5-FEET HORIZONTALLY FROM EXISTING OR PROPOSED STORM SEWERS. RAW WATER LINES, PETROLEUM PRODUCT LINES, NATURAL GAS LINES, AND OTHER BURIED UTILITY LINES.
- 5. LOCATE CAST IRON WATER LINES AT LEAST 10-FEET FROM ANY GASOLINE STORAGE TANKS AND PVC WATER LINES AT LEAST 50-FEET HORIZONTALLY FROM ANY GASOLINE STORAGE TANKS AND LINES.
- 6. 15-FEET FROM ALL PARTS OF SEPTIC TANKS, ADSORPTION FIELDS, OR OTHER SEWAGE TREATMENT AND DISPOSAL SYSTEMS.
- WHEN IT IS IMPOSSIBLE TO OBTAIN SUCH HORIZONTAL OR VERTICAL SEPARATION BETWEEN THE WATER AND SEWER LINES. CONSTRUCT THE SEWER LINE OF WATER PIPE MATERIAL AND PRESSURE TEST IT TO ASSURE WATER TIGHTNESS.

INSTALLATION NOTES

- MIDCO RESTRAINTS SHALL BE INSTALLED ON ALL MECHANICAL JOINTS.
- BELL RESTRAINTS SHALL BE INSTALLED WITHIN 40 FT IN BOTH DIRECTIONS OF A MECHANICAL JOINT.
- 3. 14 GAUGE TRACER WIRE SHALL BE STUBBED OUTSIDE OF VALVE BOXES AND HYDRANTS.
- 4. MINIMUM COVER SHALL BE 36-IN OVER TOP OF PIPE.

ABBREVIATIONS

0	AT		
ĂFF	ABOVE FINISHED FLOOR	N/A	NOT APPLICABLE
AGRD	ADJACENT GRADE		
AHJ	AUTHORITY HAVING JURISDICTION		
APPROX	APPROXIMATE	OD	OUTSIDE DIAMETER
ARCH	ARCHITECTURAL	NTON	
ASS'Y	ASSEMBLY	MTCH	
BFF	BELOW FINISHED FLOOR	MEP	MECHANICAL / ELECTRICAL
BLDG	BUILDING		/ PLUMBING
0200	20.220	Ν	NORTH
CIP	CAST IN PLACE	N	NORTHING
CL	CENTERLINE	NO.	NUMBER
CM	CONSTRUCTION MANAGER		
CNTR CONC	CENTER CONCRETE	00	ON CENTER
CONST	CONSTRUCT	ODEQ	OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
CONT	CONTINUOUS	ODOT	OKLAHOMA DEPARTMENT OF
CONTR	CONTRACTOR	0001	TRANSPORTATION
COORD	COORDINATE	OWRB	OKLAHOMA WATER RESOURCES
	DIAMETER		BOARD
DIA DS	DIAMETER DOWN SPOUT	OZ	OUNCE
DTL	DETAIL		
DWG(S)	DRAWINGS	PC PC	PORTLAND CEMENT PRE-CAST
2110(0)		PC	POINT OF CURVATURE
E E	EAST	PLBG	PLUMBING
	EASTING	POC	POINT OF CONNECTION
EG	EXISTING GRADE	PRC	POINT OF REVERSE CURVATURE
EGCL ELEC	EXISTING GRADE CENTER LINE ELECTRICAL	PT	POINT OF TANGENCY
ELEC	ELEVATION	PVI	POINT OF VERTICAL INTERSECTION
EJ	EXPANSION JOINT	QTY	QUANTITY
EQ	EQUAL	4	
ETR	EXISTING TO REMAIN	R	RADIUS
EX	EXISTING	RE:	REFERENCE
EXHD	EXTRA HEAVY DUTY	REINF	REINFORCED
FD	FLOOR DRAIN	REQ'D REV	REQUIRED REVISION
FF	FINISHED FLOOR	KEV	REVISION
FG	FINISHED GRADE	S	SOUTH
FGCL	FINISHED GRADE CENTER LINE	SAN	SANITARY
FL FOC	FLOWLINE FACE OF CONCRETE	SCHED	SCHEDULE
FUC	FACE OF CONCRETE FOOT/FEET	SECT	SECTION
FTNG	FOOTING	SF SHT	SQUARE FEET SHEET
FV	FIELD VERIFY	SPEC	SPECIFICATION
		SQ	SQUARE
GA	GAUGE	STRUC	STRUCTURAL
GALV	GALVANIZED	STD	STANDARD
GC GU	GENERAL CONTRACTOR GUTTER	SW SY	SIDEWALK
00	SOTTER	51	SQUARE YARD
HD	HEAVY DUTY	TC	TOP OF CURB
HORIZ	HORIZONTAL	TEMP	TEMPORARY
HT	HEIGHT	TOC	TOP OF CONCRETE
INI	INCL	TOE	TOE OF SLOPE
in Info	INCH INFORMATION	TOP TOW	TOP OF SLOPE TOE OF WALL
ID	INSIDE DIAMETER	TPW	TOP OF WALL
IFGC	INTERNATIONAL FUEL GAS CODE	TYP	TYPICAL
IPC	INTERNATIONAL PLUMBING CODE		
т		UNO	UNLESS NOTED OTHERWISE
JT	JOINT	VERT	VERTICAL
LD	LIGHT DUTY	VERI	YLIVIUAL
LF	LINEAL FEET	W	WEST
		 W/	WITH
MH	MANHOLE	WT	WEIGHT
MAX MECH	MAXIMUM MECHANICAL		
MIN	MINIMUM		
MISC	MISCELLANEOUS		
-			

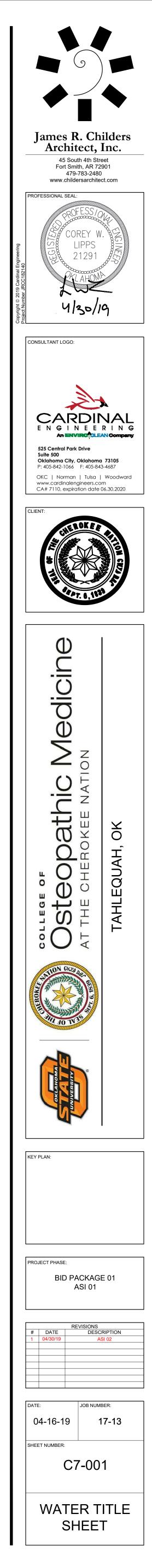


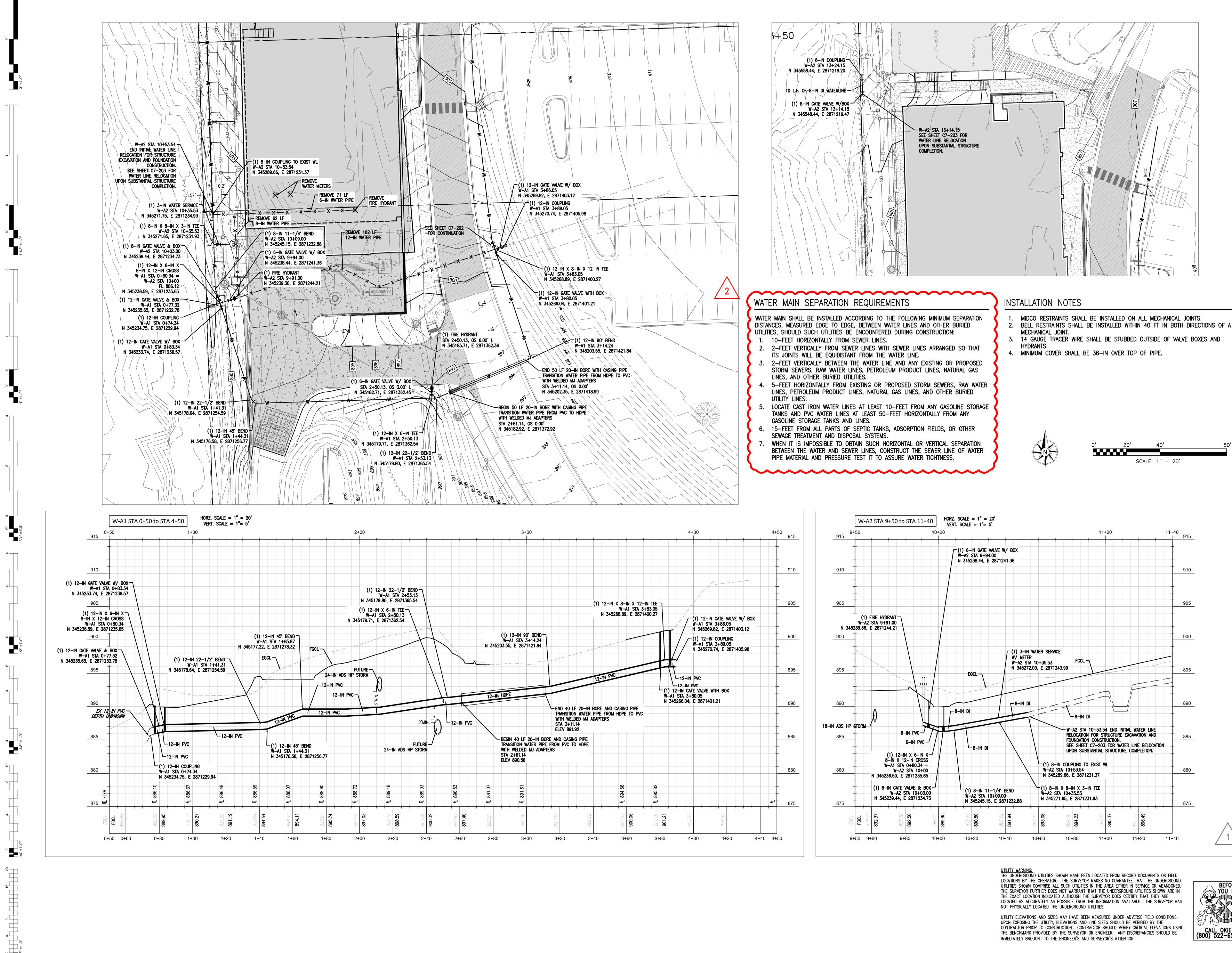
RB SPOT ELEVATION ELEVATION TION

HARDSCAPE / LANDSCAPE PATTERNS

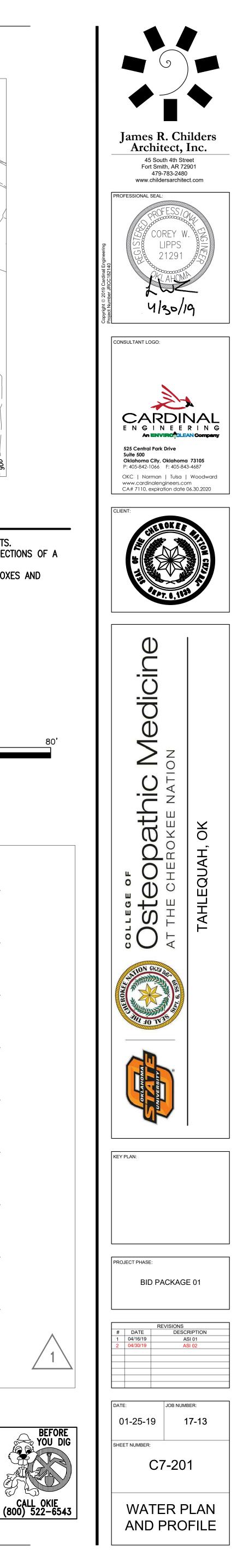
VING		
AVING		
PAVING		
PAVING		
Y CONCRETE PAVING		
VEGETATIVE COVER		

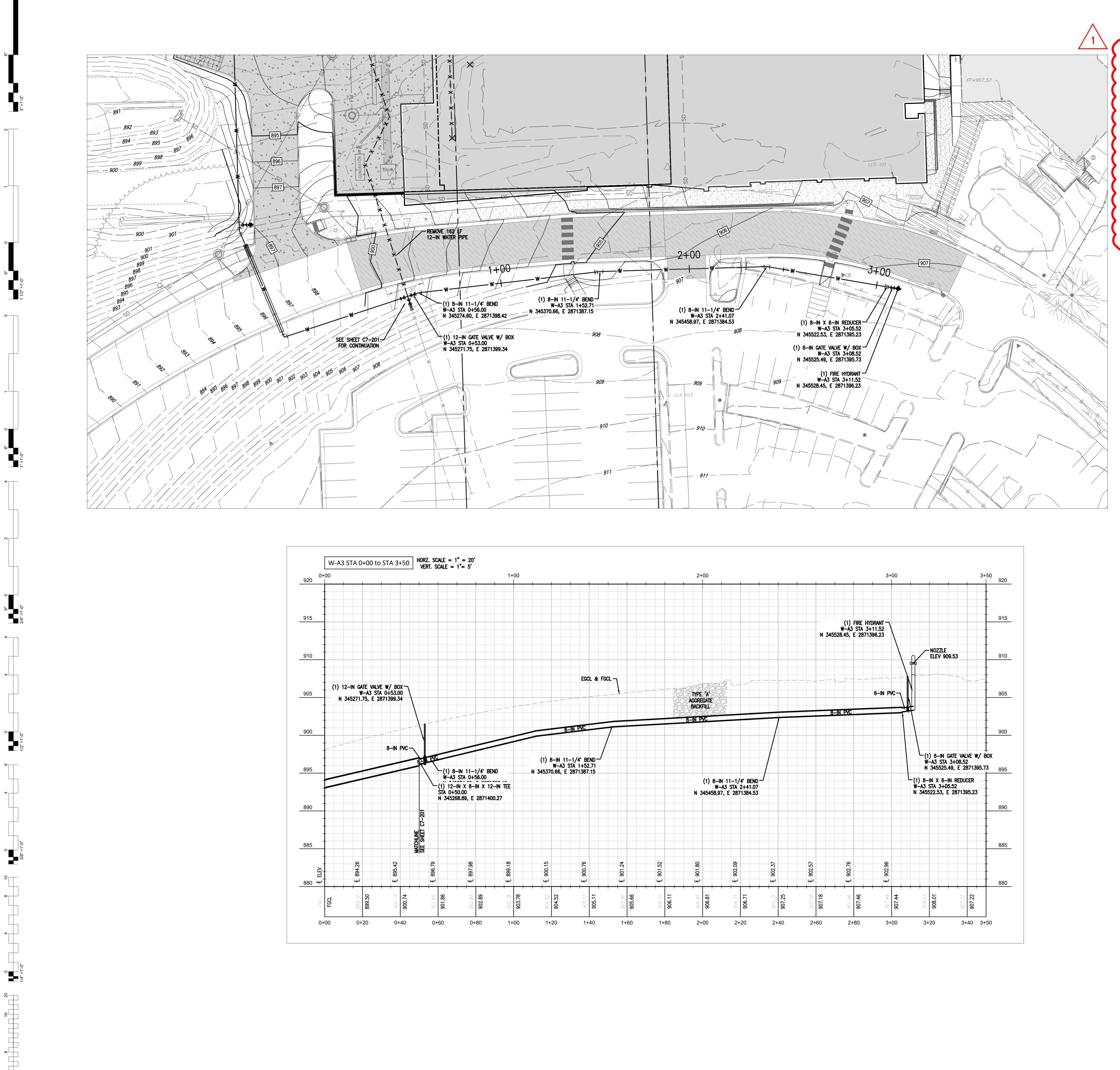






1/8" 0





1/8"

WATER MAIN SEPARATION REQUIREMENTS

WATER MAIN SHALL BE INSTALLED ACCORDING TO THE FOLLOWING MINIMUM SEPARATION DISTANCES, MEASURED EDGE TO EDGE, BETWEEN WATER LINES AND OTHER BURIED UTILITIES, SHOULD SUCH UTILITIES BE ENCOUNTERED DURING CONSTRUCTION: 1. 10-FEET HORIZONTALLY FROM SEWER LINES.

- 2. 2-FEET VERTICALLY FROM SEWER LINES WITH SEWER LINES ARRANGED SO THAT ITS JOINTS WILL BE EQUIDISTANT FROM THE WATER LINE. 3. 2-FEET VERTICALLY BETWEEN THE WATER LINE AND ANY EXISTING OR PROPOSED
- STORM SEWERS, RAW WATER LINES, PETROLEUM PRODUCT LINES, NATURAL GAS LINES, AND OTHER BURIED UTILITIES. 4. 5-FEET HORIZONTALLY FROM EXISTING OR PROPOSED STORM SEWERS, RAW WATER
- LINES, PETROLEUM PRODUCT LINES, NATURAL GAS LINES, AND OTHER BURIED UTILITY LINES.
- LOCATE CAST IRON WATER LINES AT LEAST 10-FEET FROM ANY GASOLINE STORAGE TANKS AND PVC WATER LINES AT LEAST 50-FEET HORIZONTALLY FROM ANY GASOLINE STORAGE TANKS AND LINES.
- 6. 15-FEET FROM ALL PARTS OF SEPTIC TANKS, ADSORPTION FIELDS, OR OTHER SEWAGE TREATMENT AND DISPOSAL SYSTEMS. WHEN IT IS IMPOSSIBLE TO OBTAIN SUCH HORIZONTAL OR VERTICAL SEPARATION
- BETWEEN THE WATER AND SEWER LINES, CONSTRUCT THE SEWER LINE OF WATER PIPE MATERIAL AND PRESSURE TEST IT TO ASSURE WATER TIGHTNESS.

INSTALLATION NOTES

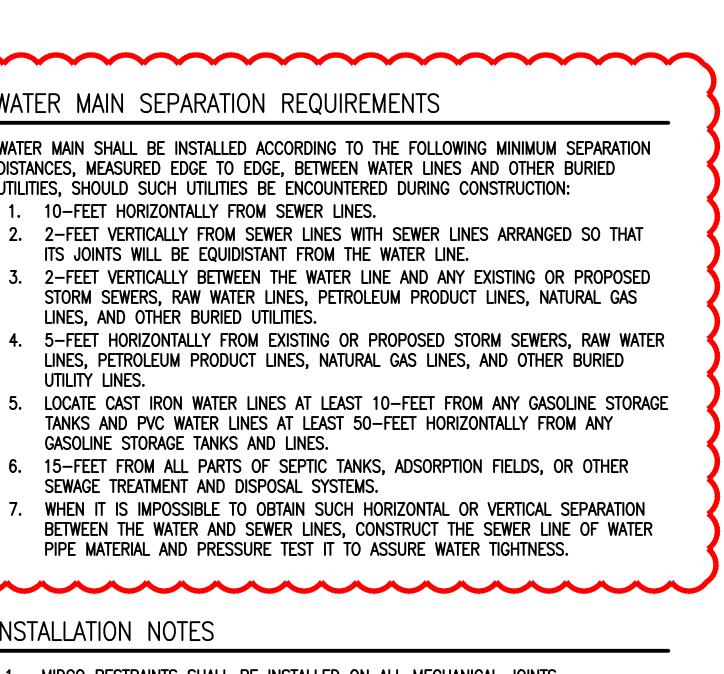
- MIDCO RESTRAINTS SHALL BE INSTALLED ON ALL MECHANICAL JOINTS. 2. BELL RESTRAINTS SHALL BE INSTALLED WITHIN 40 FT IN BOTH DIRECTIONS OF A
- MECHANICAL JOINT. 3. 14 GAUGE TRACER WIRE SHALL BE STUBBED OUTSIDE OF VALVE BOXES AND
- HYDRANTS. 4. MINIMUM COVER SHALL BE 36-IN OVER TOP OF PIPE.



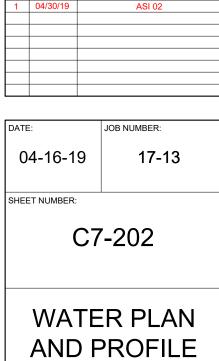
SCALE: 1'' = 20'

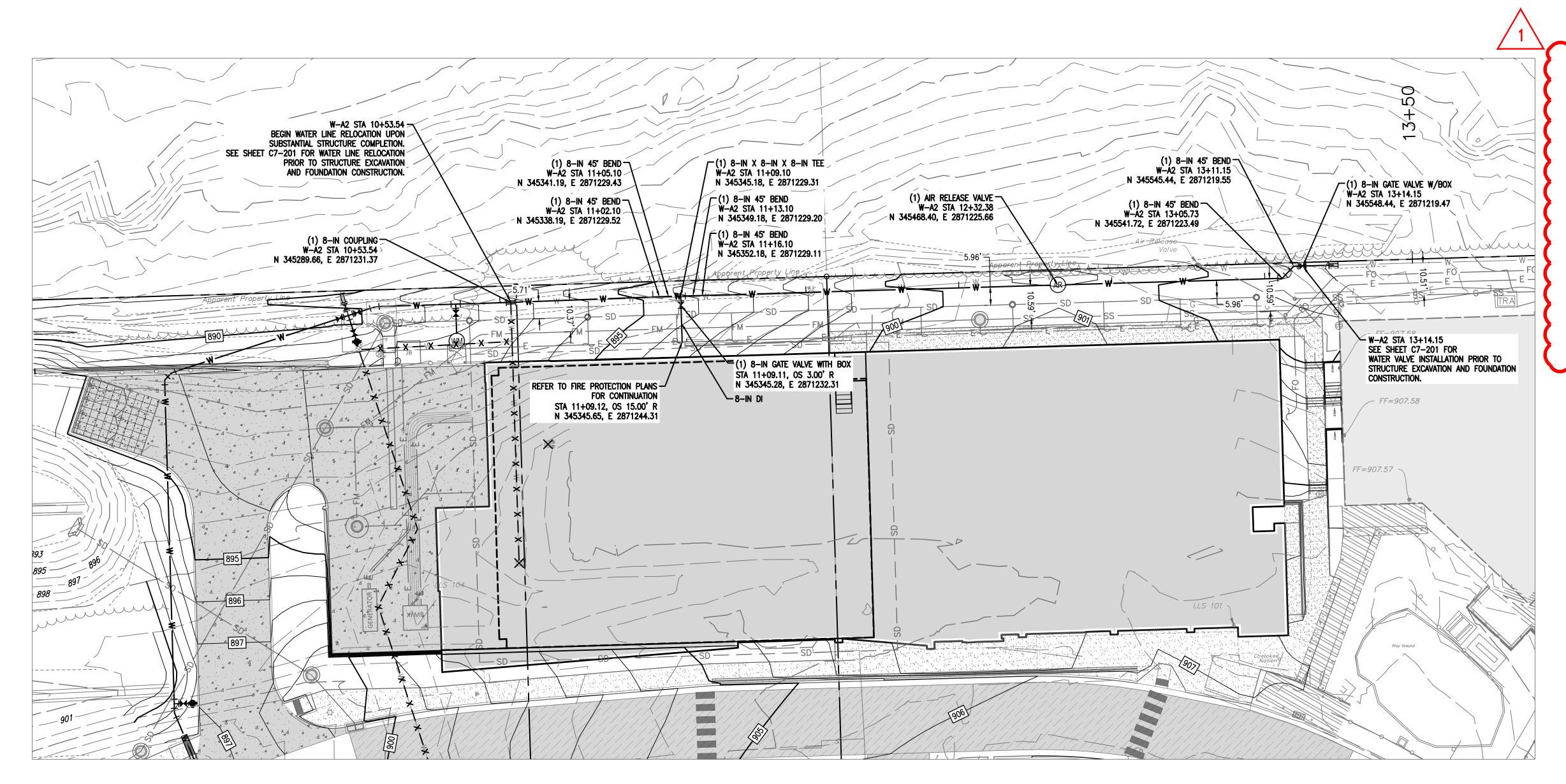
UTILITY WARNING: THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM RECORD DOCUMENTS OR FIELD LOCATIONS BY THE OPERATOR. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

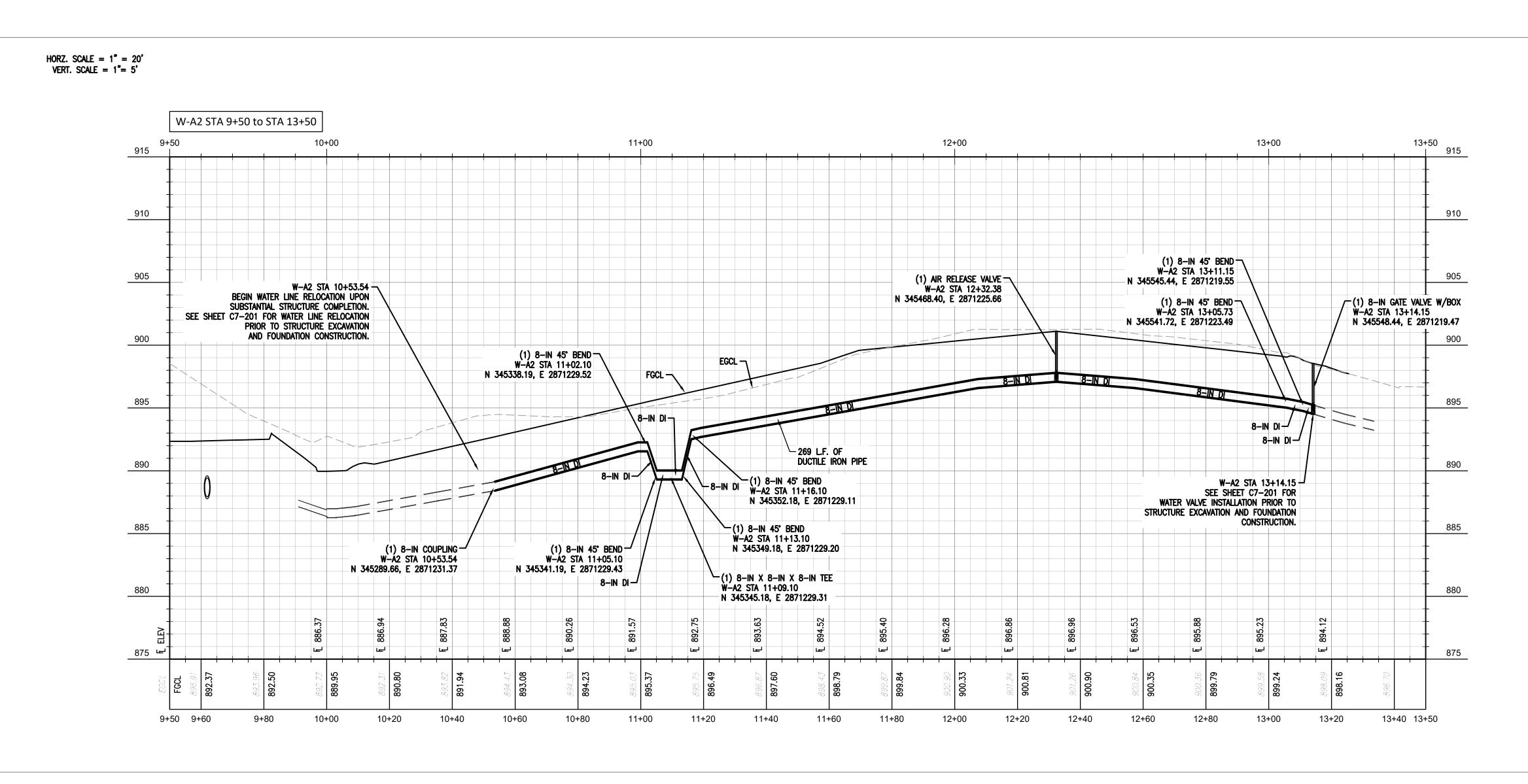


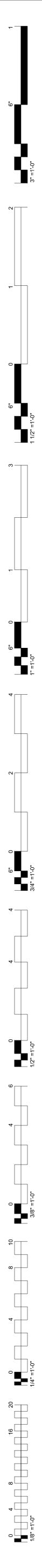












WATER MAIN SEPARATION REQUIREMENTS

WATER MAIN SHALL BE INSTALLED ACCORDING TO THE FOLLOWING MINIMUM SEPARATION DISTANCES, MEASURED EDGE TO EDGE, BETWEEN WATER LINES AND OTHER BURIED UTILITIES, SHOULD SUCH UTILITIES BE ENCOUNTERED DURING CONSTRUCTION: 1. 10-FEET HORIZONTALLY FROM SEWER LINES.

- 2. 2-FEET VERTICALLY FROM SEWER LINES WITH SEWER LINES ARRANGED SO THAT
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INSTALLATION NOTES

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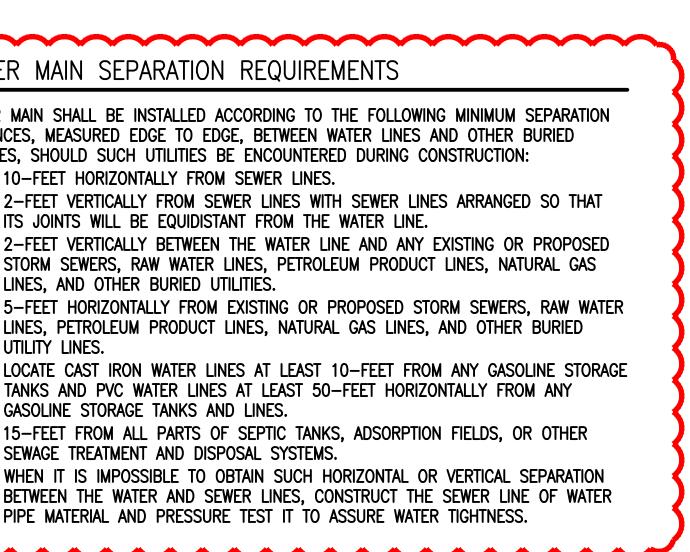


SCALE: 1'' = 20'

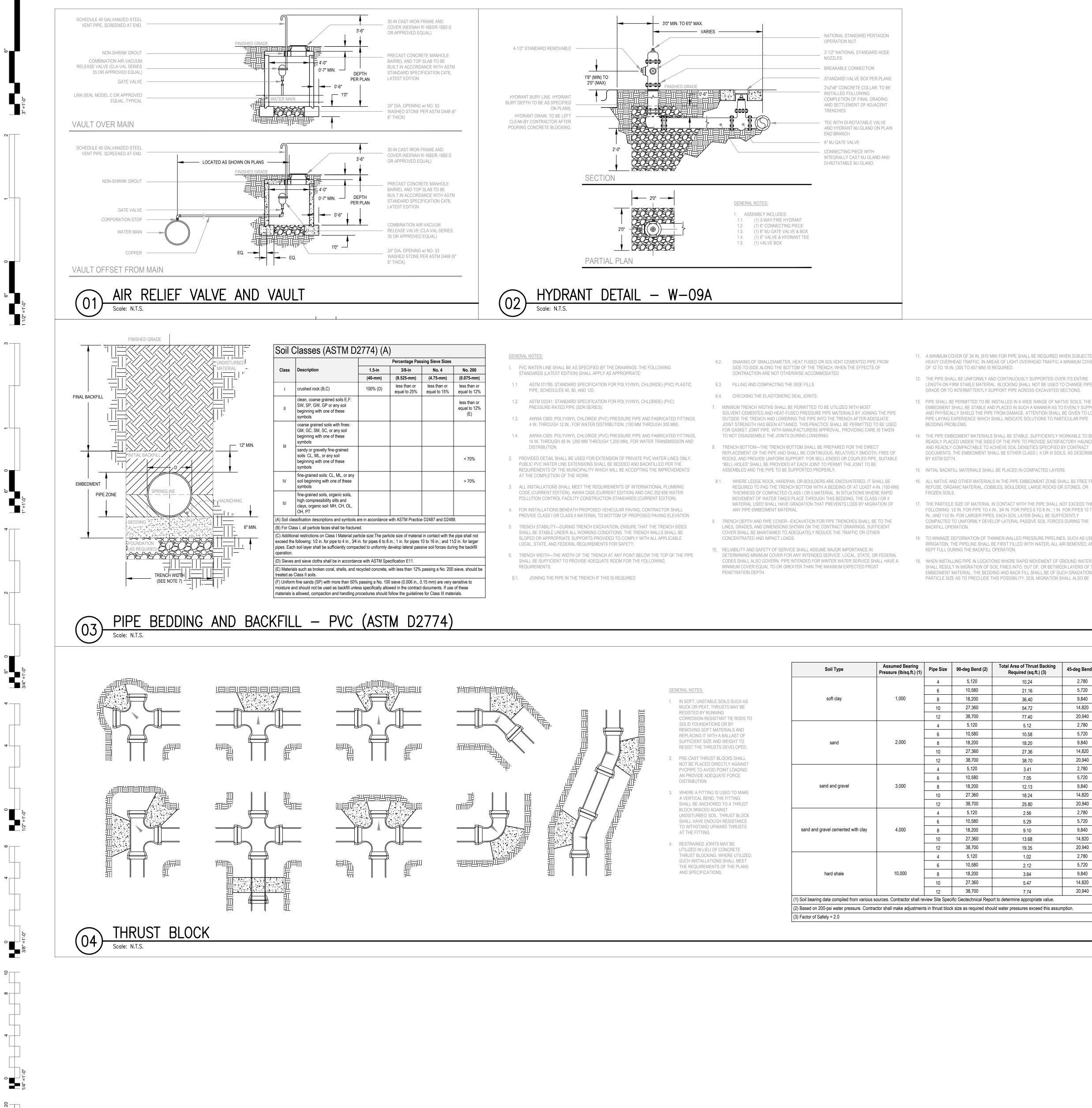
UTILITY WARNING: THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM RECORD DOCUMENTS OR FIELD

LOCATIONS BY THE OPERATOR. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.









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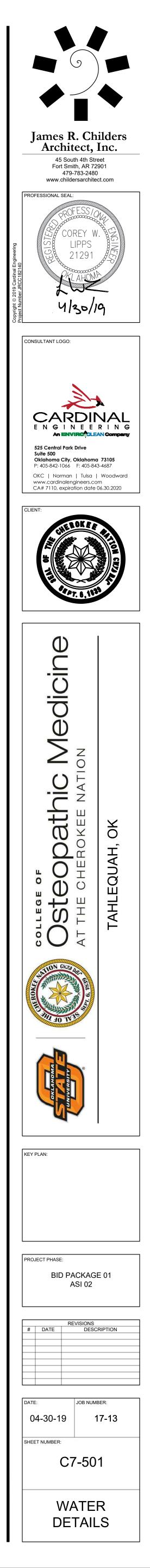
- 11. A MINIMUM COVER OF 24 IN. (610 MM) FOR PIPE SHALL BE REQUIRED WHEN SUBJECTED TO HEAVY OVERHEAD TRAFFIC. IN AREAS OF LIGHT OVERHEAD TRAFFIC A MINIMUM COVER OF 12 TO 18 IN. (305 TO 457 MM) IS REQUIRED.

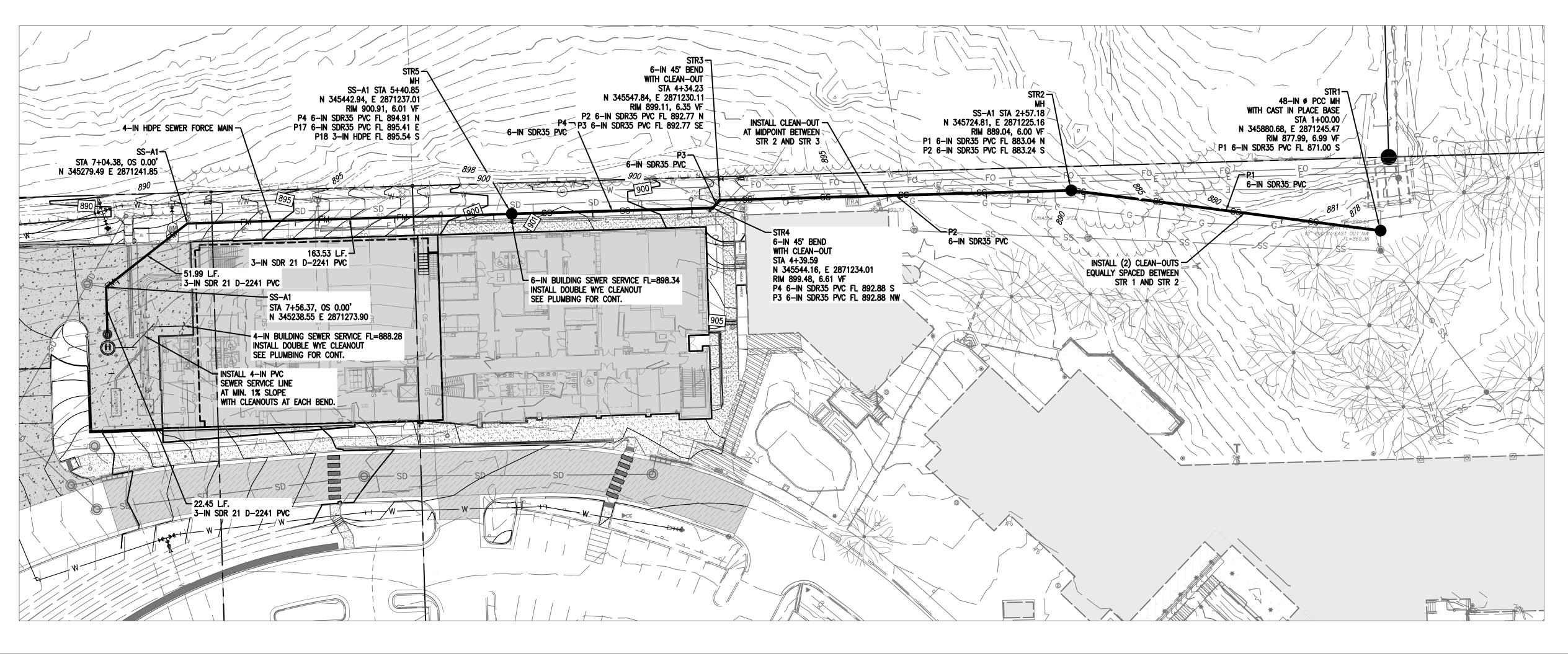
- REFUSE, ORGANIC MATERIAL, COBBLES, BOULDERS, LARGE ROCKS OR STONES, OR
- COMPACTED TO UNIFORMLY DEVELOP LATERAL PASSIVE SOIL FORCES DURING THE
- KEPT FULL DURING THE BACKFILL OPERATION.

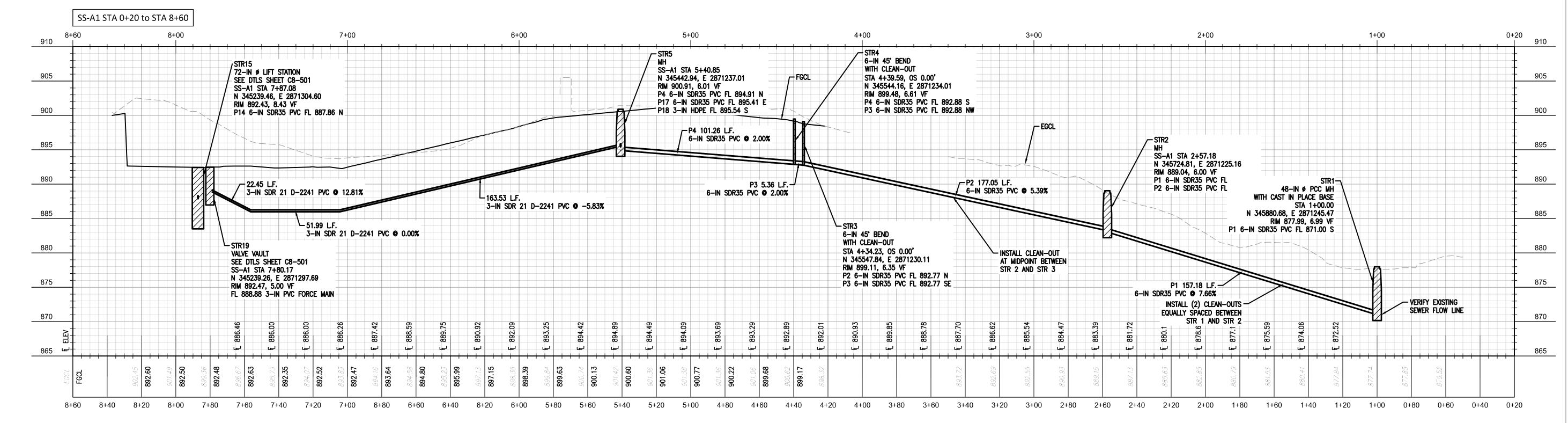
soft clay	-			Required (sq.ft.) (3)	45-deg Bend (2)	Total Area of Thrust Backing Required (sq.ft.) (3)	Tee/Plug (2)	Total Area of Thrust Backing Required (sq.ft.) (3)
soft clay	F	4	5,120	10.24	2,780	5.56	3,620	7.24
soft clay	1,000	6	10,580	21.16	5,720	11.44	7,480	14.96
		8	18,200	36.40	9,840	19.68	12,860	25.72
		10	27,360	54.72	14,820	29.64	19,720	39.44
		12	38,700	77.40	20,940	41.88	27,380	54.76
		4	5,120	5.12	2,780	2.78	3,620	3.62
		6	10,580	10.58	5,720	5.72	7,480	7.48
sand	2,000	8	18,200	18.20	9,840	9.84	12,860	12.86
		10	27,360	27.36	14,820	14.82	19,720	19.72
		12	38,700	38.70	20,940	20.94	27,380	27.38
		4	5,120	3.41	2,780	1.85	3,620	2.41
	-	6	10,580	7.05	5,720	3.81	7,480	4.99
sand and gravel	3,000	8	18,200	12.13	9,840	6.56	12,860	8.57
		10	27,360	18.24	14,820	9.88	19,720	13.15
		12	38,700	25.80	20,940	13.96	27,380	18.25
		4	5,120	2.56	2,780	1.39	3,620	1.81
	-	6	10,580	5.29	5,720	2.86	7,480	3.74
and and gravel cemented with clay	/ 4,000	8	18,200	9.10	9,840	4.92	12,860	6.43
		10	27,360	13.68	14,820	7.41	19,720	9.86
		12	38,700	19.35	20,940	10.47	27,380	13.69
	10,000	4	5,120	1.02	2,780	0.56	3,620	0.72
		6	10,580	2.12	5,720	1.14	7,480	1.50
hard shale		8	18,200	3.64	9,840	1.97	12,860	2.57
		10	27,360	5.47	14,820	2.96	19,720	3.94
		12	38,700	7.74	20,940	4.19	27,380	5.48
il bearing data compiled from various source sed on 200-psi water pressure. Contractor ctor of Safety = 2.0					nption.			

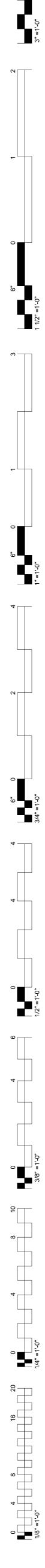
19. WHEN INSTALLING PIPE IN LOCATIONS WHERE RAPID MOVEMENT OF GROUND WATER SHALL RESULT IN MIGRATION OF SOIL FINES INTO, OUT OF, OR BETWEEN LAYERS OF THE EMBEDMENT MATERIAL. THE BEDDING AND BACK FILL SHALL BE OF SUCH GRADATION IN PARTICLE SIZE AS TO PRECLUDE THIS POSSIBILITY. SOIL MIGRATION SHALL ALSO BE

- 18. TO MINIMIZE DEFORMATION OF THINNER-WALLED PRESSURE PIPELINES, SUCH AS USED IN IRRIGATION. THE PIPELINE SHALL BE FIRST FILLED WITH WATER. ALL AIR REMOVED. AND
- 17. THE PARTICLE SIZE OF MATERIAL IN CONTACT WITH THE PIPE SHALL NOT EXCEED THE FOLLOWING: 1/2 IN. FOR PIPE TO 4 IN., 3/4 IN. FOR PIPES 6 TO 8 IN.; 1 IN. FOR PIPES 10 TO 16 IN.; AND 11/2 IN. FOR LARGER PIPES. EACH SOIL LAYER SHALL BE SUFFICIENTLY
- 16. ALL NATIVE AND OTHER MATERIALS IN THE PIPE EMBEDMENT ZONE SHALL BE FREE FROM
- 14. THE PIPE EMBEDMENT MATERIALS SHALL BE STABLE, SUFFICIENTLY WORKABLE TO BE READILY PLACED UNDER THE SIDES OF THE PIPE TO PROVIDE SATISFACTORY HAUNCHING, AND READILY COMPACTABLE TO ACHIEVE SOIL DENSITIES SPECIFIED BY CONTRACT DOCUMENTS. THE EMBEDMENT SHALL BE EITHER CLASS I, II OR III SOILS, AS DESCRIBED IN
- LENGTH ON FIRM STABLE MATERIAL. BLOCKING SHALL NOT BE USED TO CHANGE PIPE GRADE OR TO INTERMITTENTLY SUPPORT PIPE ACROSS EXCAVATED SECTIONS. 13. PIPE SHALL BE PERMITTED TO BE INSTALLED IN A WIDE RANGE OF NATIVE SOILS. THE PIPE EMBEDMENT SHALL BE STABLE AND PLACED IN SUCH A MANNER AS TO EVENLY SUPPORT AND PHYSICALLY SHIELD THE PIPE FROM DAMAGE. ATTENTION SHALL BE GIVEN TO LOCAL PIPE LAYING EXPERIENCE WHICH SHALL INDICATE SOLUTIONS TO PARTICULAR PIPE
- OUTSIDE DIAMETER TIMES 1.25, PLUS 12 IN. (300 MM). 24. CONTRACTOR RESPONSIBLE FOR REVEGATATION OF ALL DISTURBED AREAS THAT ARE OUTSIDE THE LIMITS OF AREAS SPECIFICALLY IDENTIFIED TO RECEIVE VEGETATIVE COVER AT THE COMPLETION OF THE PROJECT. REVEGATATION TO BE COMPLETED VIA SOLID SLAB SOD PER CORRESPONDING SECTIONS OF THE PROJECT SPECIFICATIONS.
- DOCUMENTS OR BY THE APPROPRIATE GOVERNMENT JURISDICTION. 23. WHERE TRENCH WALLS ARE STABLE OR SUPPORTED, PROVIDE A WIDTH SUFFICIENT, BUT NO GREATER THAN NECESSARY, TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER EMBEDMENT MATERIALS. THE SPACE BETWEEN THE PIPE AND TRENCH WALL MUST BE WIDER THAN THE COMPACTION EQUIPMENT USED IN THE PIPE ZONE. MINIMUM WIDTH SHALL BE NOT LESS THAN THE GREATER OF EITHER THE PIPE OUTSIDE DIAMETER PLUS 16 IN. (400 MM) OR THE PIPE
- LARGE ROCKS, STONES, FROZEN CLODS, AND OTHER DEBRIS GREATER THAN 3 IN. (76 MM) IN DIAMETER SHALL BE REMOVED. 2. WHEN COMPACTION IS REQUIRED, ROLLING EQUIPMENT OR HEAVY TAMPERS SHALL ONLY BE USED TO COMPACT THE FINAL BACKFILL, PROVIDED THE PIPE IS COVERED BY AT LEAST 18 IN. OF BACKFILL. TRENCHES UNDER PAVEMENTS, SIDEWALKS, OR ROADS SHALL BE BACKFILLED AND COMPACTED TO THE REQUIRED DENSITY SPECIFIED BY CONTRACT
- CLASS V SOIL. IF BACKFILL IS TO BE COMPACTED, DO NOT USE CLASS V SOILS. 21. THE FINAL BACKFILL SHALL BE PLACED AND SPREAD IN APPROXIMATELY UNIFORM LAYERS IN SUCH A MANNER AS TO FILL THE TRENCH COMPLETELY SO THAT THERE WILL BE NO UNFILLED SPACES UNDER OR ABOUT ROCKS OR LUMPS OF EARTH IN THE BACKFILL.
- CONTROLLED BY USING AN APPROPRIATE SOIL FILTER OR A GEOTEXTILE FILTER FABRIC BETWEEN COARSE EMBEDMENT AND FINE SOILS. 20. UNCOMPACTED FINAL BACKFILL CAN BE EITHER CLASS I, CLASS II, CLASS III, CLASS IV, OR







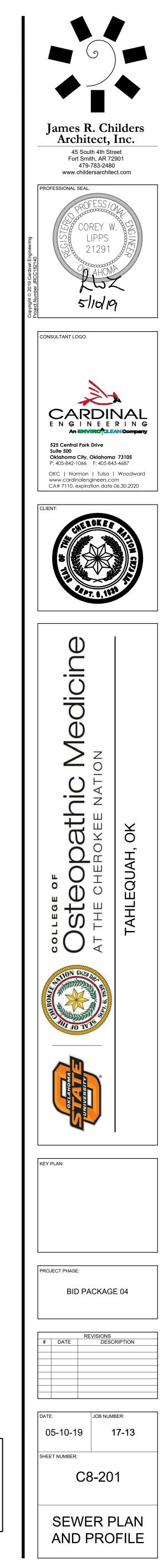


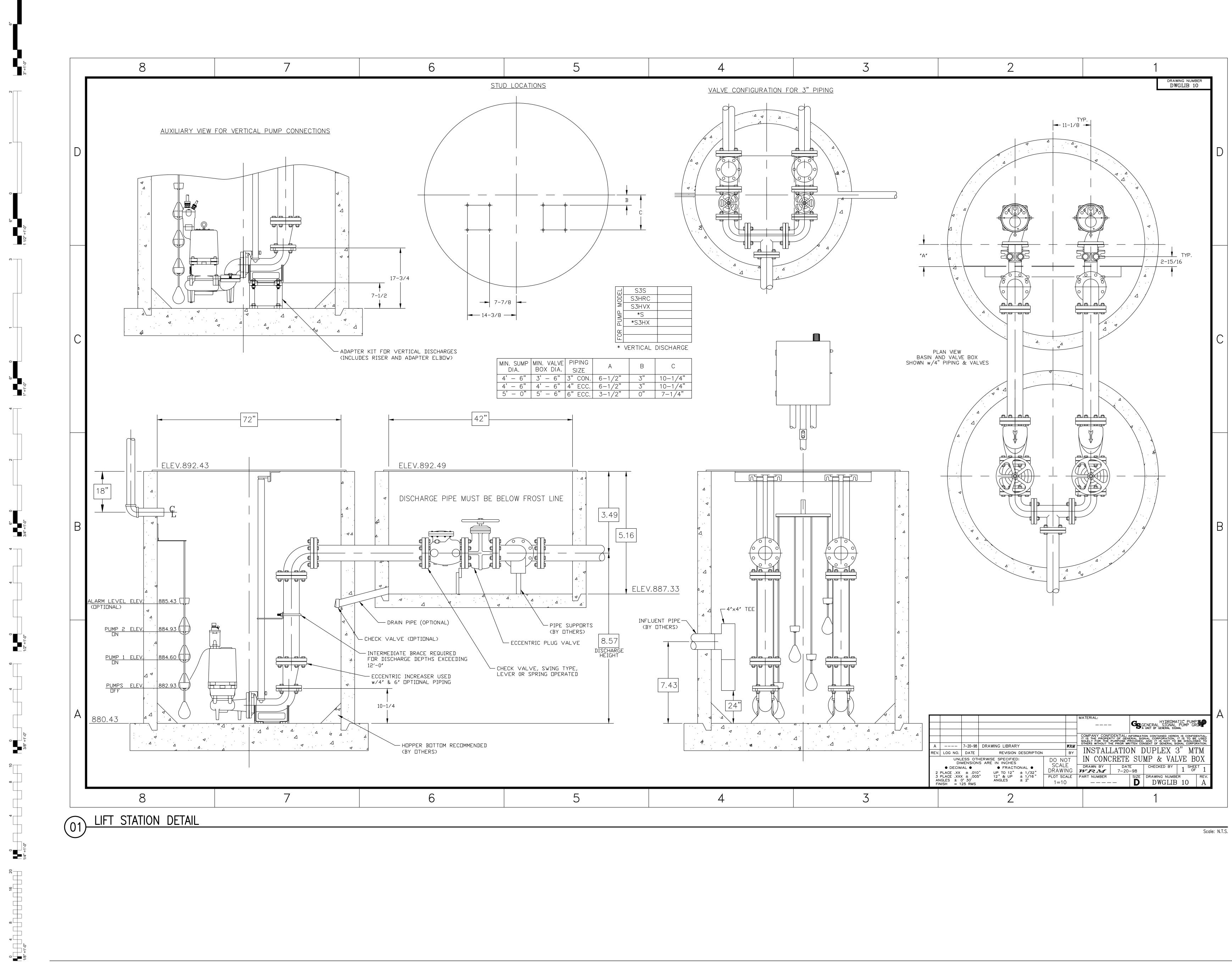


SCALE: 1" = 30'

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