



CLIENT

CITY OF CREST HILL
20600 CITY CENTER BLVD,
CREST HILL, IL
PHONE 815-741-5122

CALL J.U.L.I.E. 1-800-892-0123
WITH THE FOLLOWING:

COUNTY WILL
CITY, TOWNSHIP CREST HILL, LOCKPORT
SEC. & ¼ SEC. NO. T36N, R10E, SEC.29, SW 1/4

48 HOURS BEFORE YOU DIG.
EXCLUDING SAT., SUN. & HOLIDAYS

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	L3.1	DETAILS

BENCHMARK

ELEVATION:

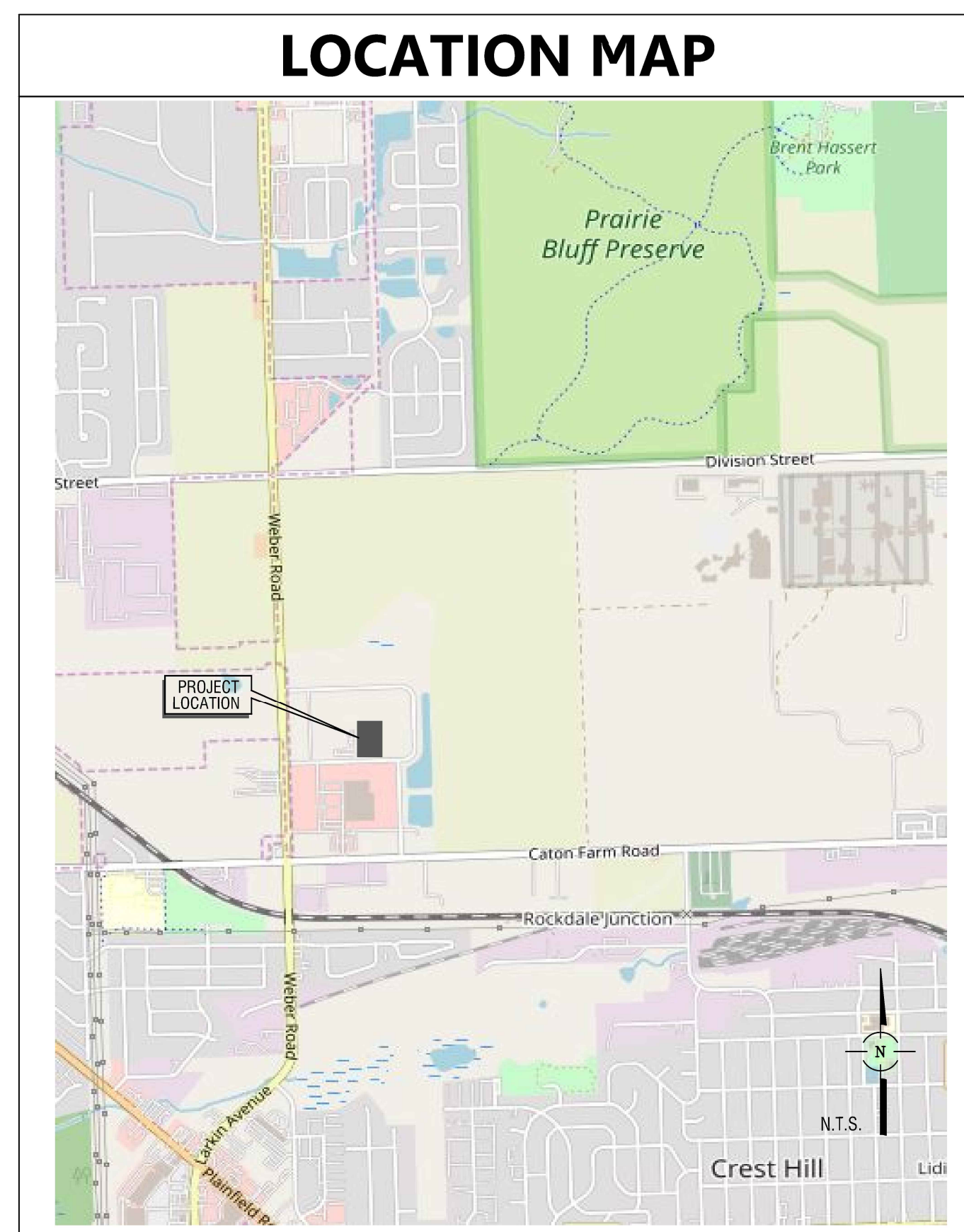
DESCRIPTION: SEE SHEET ET1 FOR
BENCHMARK INFORMATION

NOTE:

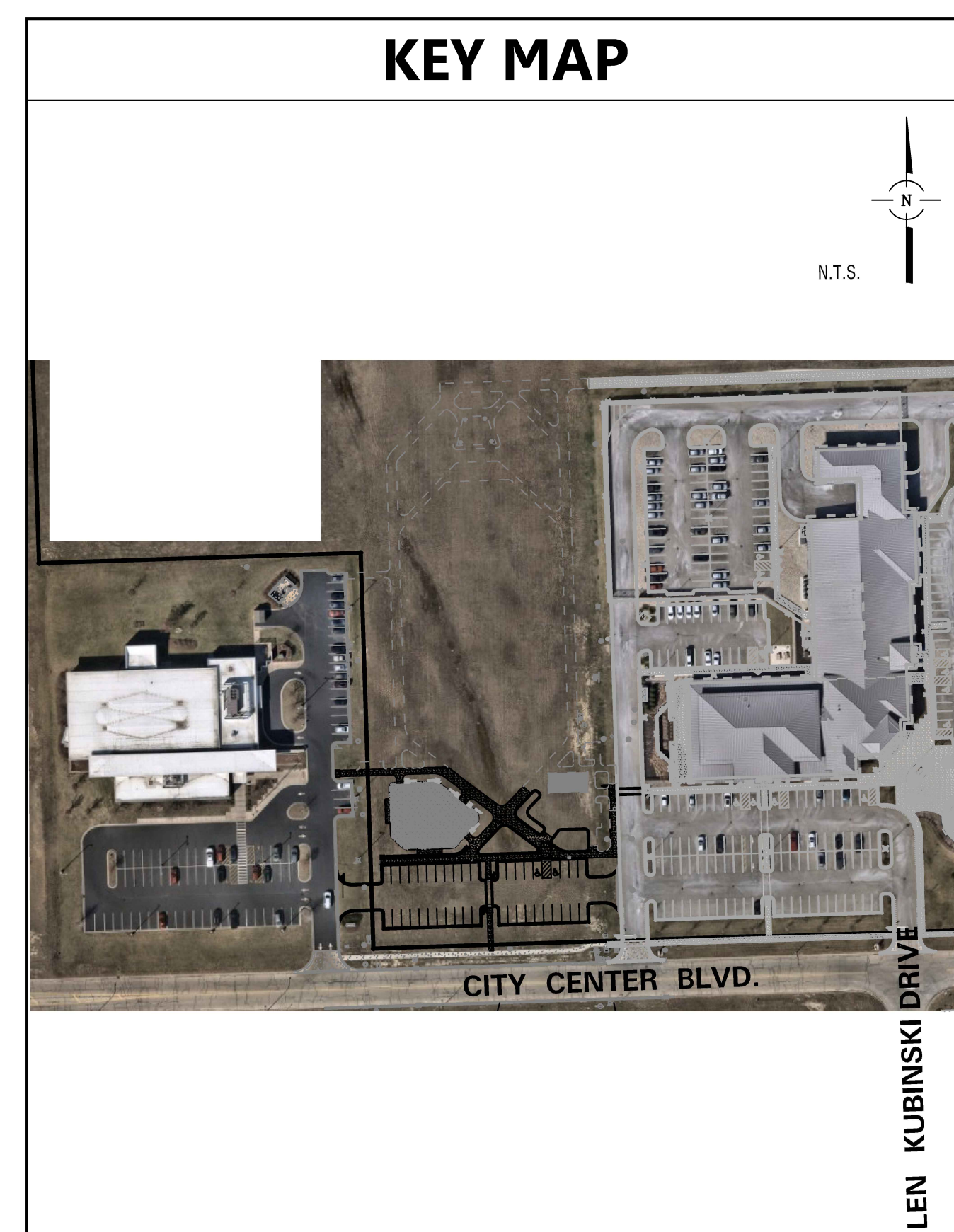
SPACECO, INC. IS TO BE NOTIFIED AT LEAST
THREE (3) DAYS PRIOR TO STARTING CONSTRUCTION
AND SHALL BE INCLUDED IN THE PRECONSTRUCTION MEETINGS

REVISIONS

ORIGINAL PLAN DATE: AUGUST 21, 2026

[illegible]

KEY MAP



James C. Kapustiak
ENGINEER
JAMES C. KAPUSTIAK, P.E.
ILLINOIS REGISTRATION NO.: 062-054942
EXPIRATION DATE: 11/30/2027

08/21/26
DATE

ILLINOIS PROFESSIONAL ENGINEER
JAMES C. KAPUSTIAK
NO. 062-054942
ILLINOIS

PROFESSIONAL DESIGN FIRM NO.: 184-001157
EXPIRATION DATE: 04/30/2027

THESE PLANS OR ANY PART THEREOF SHALL BE CONSIDERED VOID WITHOUT
THE SIGNATURE, SEAL AND EXPIRATION DATE OR SEAL OF THE ENGINEER

APPLIES ONLY TO CIVIL SHEETS 1 - 14

08-21-26—ISSUED FOR BID

SITE IMPROVEMENT PLANS CREST HILL COMMONS PHASE 1

Rosemont Office
9575 W. Higgins Road, Suite 700
Rosemont, Illinois 60018
Phone: (847) 696-4060

paceco
Civil Engineering & Surveying
Rosemont, IL - Morris, IL - Indianapolis, IN



spacecoin.com

FILENAME:
10656.04TITLE

DATE:
08/14/2026

JOB NO.
10656.04

SHEET
C1
1 OF 14

GENERAL NOTES

1. REFERENCED CODES
 - A. ALL PAVEMENT AND STORM SEWER CONSTRUCTION SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (SSRBC), AND SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS: ADOPTED APRIL 1, 2022 BY ILLINOIS DEPARTMENT OF TRANSPORTATION AND ALL AMENDMENTS THERETO, AND IN ACCORDANCE WITH THE LATEST EDITION OF THE CODE OF THE MUNICIPALITY, EXCEPT AS MODIFIED HEREIN. IN CASE OF CONFLICT, MUNICIPAL CODE SHALL TAKE PRECEDENCE.
 - B. ALL SANITARY SEWER AND WATERMAIN CONSTRUCTION SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS, PUBLISHED JANUARY 2014, AND IN ACCORDANCE WITH THE CODE OF THE MUNICIPALITY, EXCEPT AS MODIFIED HEREIN OR BY ANY PUBLIC AGENCY PERMITS ISSUED FOR THIS WORK. IN CASE OF CONFLICT, THE MORE RESTRICTIVE PROVISIONS SHALL APPLY.
 - C. ALL SIDEWALK AND PUBLIC AREAS MUST BE CONSTRUCTED IN ACCORDANCE WITH CURRENT ADA, ILLINOIS HANDICAP ACCESSIBILITY AND ANY APPLICABLE LOCAL ORDINANCES. WHEN CONFLICTS EXIST BETWEEN THE GOVERNING AGENCIES, THE MORE STRINGENT SHALL GOVERN.
 - D. THE CITED STANDARD SPECIFICATIONS, CODES AND PERMITS, WITH THESE CONSTRUCTION PLANS AND DETAILS, ARE ALL TO BE CONSIDERED PART OF THE CONTRACT. INCIDENTAL ITEMS OR ACCESSORIES NECESSARY TO COMPLETE THIS WORK MAY NOT BE SPECIFICALLY NOTED BUT ARE CONSIDERED A PART OF THIS CONTRACT.
2. UTILITY LOCATIONS
 - A. THE UTILITY COMPANIES HAVE BEEN CONTACTED IN REFERENCE TO UTILITIES THEY OWN AND OPERATE WITHIN THE LIMITS FOR THIS PROJECT. DATA FROM THESE AGENCIES HAS BEEN INCORPORATED INTO THE PLANS. IT IS, HOWEVER, THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM OR ESTABLISH THE EXISTENCE OF ALL UTILITY FACILITIES AND THEIR EXACT LOCATIONS, AND TO SAFELY SCHEDULE ALL UTILITY RELOCATIONS. FOR ADDITIONAL INFORMATION, THE AGENCIES LISTED ON THIS SHEET MAY BE CONTACTED.
 - B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING THE UTILITY COMPANIES LOCATE THEIR FACILITIES IN THE FIELD PRIOR TO CONSTRUCTION AND SHALL ALSO BE RESPONSIBLE FOR THE MAINTENANCE AND PRESERVATION OF THESE FACILITIES. THE ENGINEER DOES NOT WARRANT THE LOCATION OF ANY EXISTING UTILITIES SHOWN ON THE PLAN. THE CONTRACTOR SHALL CALL U.I.L.E. AT 800-882-0123 AND THE MUNICIPALITY, FOR UTILITY LOCATIONS. THE CONTRACTOR SHALL NOTIFY UTILITY COMPANIES AND THE MUNICIPALITY TWENTY-FOUR (24) HOURS PRIOR TO STARTING ANY CONSTRUCTION.
 - C. EASEMENTS FOR THE EXISTING UTILITIES, BOTH PUBLIC AND PRIVATE, AND UTILITIES WITHIN PUBLIC RIGHTS-OF-WAY ARE SHOWN ON THE PLANS ACCORDING TO AVAILABLE RECORDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION IN THE FIELD OF THESE UTILITY LINES AND THEIR PROTECTION FROM DAMAGE DUE TO CONSTRUCTION OPERATIONS. IF EXISTING UTILITY LINES OF ANY NATURE ARE ENCOUNTERED WHICH CONFLICT WITH LOCATIONS OF THE NEW CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER SO THAT THE CONFLICT MAY BE RESOLVED.
3. UTILITY COORDINATION
 - A. OWNER SHALL OBTAIN EASEMENTS AND PERMITS NECESSARY TO FACILITATE CONSTRUCTION OF THE PROPOSED UTILITIES. THE CONTRACTOR, HOWEVER, SHALL FURNISH ALL REQUIRED BONDS AND EVIDENCE OF INSURANCE NECESSARY TO SECURE THESE PERMITS.
 - B. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE NATURE AND STATUS OF ALL UTILITY RELOCATION WORK PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO ENSURE THAT CONSTRUCTION OPERATIONS DO NOT INTERFERE WITH UTILITY FACILITIES AND RELOCATION WORK. THE SCHEDULE SHOULD REFLECT CONSTRUCTION SEQUENCING WHICH COORDINATES WITH ALL UTILITY RELOCATION WORK. THE CONTRACTOR SHALL BE REQUIRED TO ADJUST THE ORDER OF ITS WORK FROM TIME TO TIME, TO COORDINATE SAME WITH UTILITY RELOCATION WORK, AND SHALL PREPARE REVISED SCHEDULE(S) IN COMPLIANCE THEREWITH AS DIRECTED BY THE OWNER.
 - C. THE OWNER AND THE ENGINEER SHALL BE NOTIFIED IN WRITING BY THE CONTRACTOR AT LEAST 48 HOURS PRIOR TO THE START OF ANY OPERATION REQUIRING COOPERATION WITH OTHERS. AT&T SHALL BE CONTACTED ONE MONTH PRIOR TO START OF CONSTRUCTION IN ITS UTILITY AREAS. ALL OTHER AGENCIES, UNLESS OTHERWISE NOTED, SHALL BE NOTIFIED IN WRITING BY THE CONTRACTOR TEN (10) DAYS PRIOR TO THE START OF ANY SUCH OPERATION.
4. NO PLAN SHALL BE USED FOR CONSTRUCTION UNLESS SPECIFICALLY MARKED "FOR CONSTRUCTION". PRIOR TO COMMENCEMENT OF CONSTRUCTION THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AFFECTING THE WORK WITH THE ACTUAL CONDITIONS AT THE JOB SITE. IN ADDITION, THE CONTRACTOR MUST VERIFY THE ENGINEER'S LINE AND GRADE STAKES. IF THERE ARE ANY DISCREPANCIES WITH WHAT IS SHOWN ON THE CONSTRUCTION PLANS, HE MUST IMMEDIATELY REPORT SAME TO ENGINEER BEFORE DOING ANY WORK. OTHERWISE, THE CONTRACTOR ASSUMES FULL RESPONSIBILITY. IN THE EVENT OF DISAGREEMENT BETWEEN THE CONSTRUCTION PLANS, SPECIFICATIONS AND/OR SPECIAL DETAILS, THE CONTRACTOR SHALL SECURE WRITTEN INSTRUCTION FROM THE ENGINEER PRIOR TO PROCEEDING WITH ANY PART OF THE WORK AFFECTED BY OMISSIONS OR DISCREPANCIES. FAILING TO SECURE SUCH INSTRUCTION, THE CONTRACTOR WILL BE CONSIDERED TO HAVE PROCEEDED AT HIS OWN RISK AND EXPENSE. IN THE EVENT OF ANY DOUBT OR QUESTIONS ARISING WITH RESPECT TO THE TRUE MEANING OF THE CONSTRUCTION PLANS OR SPECIFICATIONS, THE DECISION OF THE ENGINEER SHALL BE FINAL AND CONCLUSIVE.
5. ALL PROPOSED ELEVATIONS SHOWN ON THE PLANS ARE FINISHED SURFACE ELEVATIONS, UNLESS OTHERWISE SPECIFIED.
6. UPON AWARDING OF THE CONTRACT, AND WHEN REQUIRED BY THE MUNICIPALITY OR OWNER, THE CONTRACTOR SHALL FURNISH A LABOR, MATERIAL AND PERFORMANCE BOND IN THE AMOUNT REQUIRED GUARANTEEING COMPLETION OF THE WORK. THE UNDERWRITER SHALL BE ACCEPTABLE TO THE MUNICIPALITY OR OWNER, AS APPROPRIATE.
7. THE CONTRACTORS SHALL PLAN THEIR WORK BASED ON THEIR OWN BORINGS, EXPLORATIONS AND OBSERVATIONS TO DETERMINE SOIL CONDITIONS AT THE LOCATION OF THE PROPOSED WORK. HOWEVER, IF THE OWNER HAS A SOILS REPORT, THE RESULTS WILL BE AVAILABLE FROM THE OWNER UPON WRITTEN REQUEST.
8. CONTRACTOR SHALL VIDEO TAPE WORK AREA PRIOR TO CONSTRUCTION FOR THE PURPOSE OF DOCUMENTING EXISTING CONDITIONS.
9. COMMENCING CONSTRUCTION
 - A. THE CONTRACTOR SHALL NOTIFY THE OWNER AND/OR HIS REPRESENTATIVE AND THE AFFECTED GOVERNMENTAL AGENCIES IN WRITING AT LEAST TWO FULL WORKING DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION. IN ADDITION, THE CONTRACTOR SHALL NOTIFY AS NECESSARY, ALL TESTING AGENCIES, EITHER MUNICIPALITY'S OR THE OWNER'S, SUFFICIENTLY IN ADVANCE OF CONSTRUCTION. ALL MATERIAL TESTING SHALL BE THE RESPONSIBILITY AND EXPENSE OF THE CONTRACTOR. THE TESTING AGENCY SHALL MEET THE APPROVAL OF THE OWNER.
 - B. FAILURE OF CONTRACTOR TO ALLOW PROPER NOTIFICATION TIME WHICH RESULTS IN TESTING COMPANIES TO BE UNABLE TO VISIT SITE AND PERFORM TESTING WILL CAUSE CONTRACTOR TO SUSPEND OPERATION (PERTAINING TO TESTING) UNTIL TESTING AGENCY CAN SCHEDULE TESTING OPERATIONS. COST OF SUSPENSION OF WORK TO BE BORNE BY CONTRACTOR.
10. ALL CONTRACTORS SHALL KEEP ACCESS AVAILABLE AT ALL TIMES FOR ALL TYPES OF TRAFFIC. AT NO TIME SHALL ACCESS BE DENIED TO ADJACENT PROPERTIES.
11. THE CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES UNTIL THEY ARE NO LONGER NEEDED. ANY STAKES DESTROYED OR DISTURBED BY THE CONTRACTOR PRIOR TO THEIR USE SHALL BE RESET BY THE DEVELOPER'S ENGINEER AT CONTRACTOR'S COST.
12. ANY EXISTING SIGNS, LIGHT STANDARDS AND UTILITY POLES WHICH INTERFERE WITH CONSTRUCTION OPERATIONS AND NOT NOTED FOR DISPOSAL SHALL BE REMOVED AND RESET BY THE CONTRACTOR AT HIS OWN EXPENSE AS SHOWN ON THE ENGINEERING PLANS OR AS DIRECTED BY THE DEVELOPER. ANY DAMAGE TO THESE ITEMS SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE TO THE SATISFACTION OF THE OWNER. ANY SIGNS NOT REQUIRED TO BE RESET, SHALL BE DELIVERED TO THE RESPECTIVE OWNERS.
13. REMOVAL OF SPECIFIED ITEMS, INCLUDING BUT NOT LIMITED TO, PAVEMENT, SIDEWALK, CURB, CURB AND GUTTER, CULVERTS, ETC. SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR AT HIS OWN EXPENSE. HE IS RESPONSIBLE FOR ANY PERMIT REQUIRED FOR SUCH DISPOSAL.
14. ALL FIELD TILE ENCOUNTERED DURING CONSTRUCTION OPERATIONS SHALL BE CONNECTED TO THE PROPOSED STORM SEWER SYSTEM OR SHALL BE RESTORED TO PROPER OPERATING CONDITION. A RECORD OF THE LOCATION OF ALL FIELD TILE OR DRAIN PIPE ENCOUNTERED SHALL BE KEPT BY THE CONTRACTOR AND TURNED OVER TO THE ENGINEER, DEVELOPER OR MUNICIPAL ENGINEER UPON COMPLETION OF THE PROJECT. THE COST OF THIS WORK SHALL BE CONSIDERED AS INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
15. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR SAFETY ON THE JOB.
16. THE CONTRACTOR SHALL COLLECT AND REMOVE ALL CONSTRUCTION DEBRIS, EXCESS MATERIALS, TRASH, OIL AND GREASE RESIDUE, MACHINERY, TOOLS AND OTHER MISCELLANEOUS ITEMS WHICH WERE NOT PRESENT PRIOR TO PROJECT COMMENCEMENT AT NO ADDITIONAL EXPENSE TO THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ANY AND ALL PERMITS NECESSARY FOR THE HAULING AND DISPOSAL REQUIRED FOR CLEAN-UP AS DIRECTED BY THE ENGINEER OR OWNER. BURNING ON THE SITE IS NOT PERMITTED.
17. ALL EXISTING UTILITIES OR IMPROVEMENTS, INCLUDING WALKS, CURBS, PAVEMENT AND PARKWAYS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE PROMPTLY RESTORED TO THEIR RESPECTIVE ORIGINAL CONDITION. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT UNLESS SPECIFICALLY NOTED ON THE PLANS.
18. TREES NOT MARKED FOR REMOVAL SHALL BE CONSIDERED AS DESIGNATED TO BE SAVED AND SHALL BE PROTECTED UNDER THE PROVISIONS OF (SSRBC) ARTICLE 201.05.
19. LIMB PRUNING SHALL BE PERFORMED UNDER THE SUPERVISION OF THE LANDSCAPE ARCHITECT MEETING THE OWNER'S APPROVAL AND SHALL BE UNDERTAKEN IN A TIMELY FASHION SO AS NOT TO INTERFERE WITH CONSTRUCTION.
20. ALL LIMBS, BRANCHES, AND OTHER DEBRIS RESULTING FROM THIS WORK SHALL BE DISPOSED OFF-SITE BY THE CONTRACTOR AT HIS OWN EXPENSE OFF-SITE.
21. ALL CUTS OVER 1" IN DIAMETER SHALL BE MADE FLUSH WITH THE NEXT LARGE BRANCH. WOUNDS OVER 1" IN DIAMETER SHALL BE PAINTED WITH AN APPROVED TREE PAINT.

22. GENERAL EXCAVATION/UNDERGROUND NOTES

A. SLOPE SIDES OF EXCAVATIONS TO COMPLY WITH CODES AND ORDINANCES HAVING JURISDICTION. SHORE AND BRACE WHERE SLOPING IS NOT POSSIBLE EITHER BECAUSE OF SPACE RESTRICTIONS OR STABILITY OF MATERIAL EXCAVATED. MAINTAIN SIDES AND SLOPES OF EXCAVATIONS IN A SAFE CONDITION UNTIL COMPLETION OF BACKFILLING.

B. PROVIDE MATERIALS FOR SHORING AND BRACING, SUCH AS SHEET PILING, UPRIGHTS, STRINGERS AND CROSS BRACES, IN GOOD SERVICEABLE CONDITION. PROVIDE MINIMUM REQUIREMENTS FOR TRENCH SHORING AND BRACING TO COMPLY WITH CODES AND AUTHORITIES HAVING JURISDICTION. MAINTAIN SHORING AND BRACING IN EXCAVATIONS REGARDLESS OF TIME PERIOD EXCAVATIONS WILL BE OPEN. CARRY DOWN SHORING AND BRACING AS EXCAVATION PROGRESSES IN ACCORDANCE WITH OSHA AND GOVERNING AUTHORITY.

C. PREVENT SURFACE WATER AND SUBSURFACE OR GROUNDWATER FROM FLOWING INTO EXCAVATIONS. REMOVE WATER TO PREVENT SOFTENING OF FOUNDATION BOTTOMS, UNDERCUTTING FOOTINGS, AND SOIL CHANGES DETRIMENTAL TO STABILITY OF SUBGRADES AND FOUNDATIONS. PROVIDE AND MAINTAIN PUMPS, SUMPS, SUCTION AND DISCHARGE LINES AND OTHER Dewatering SYSTEM COMPONENTS NECESSARY TO CONVEY WATER AWAY FROM EXCAVATIONS. CONVEY WATER REMOVED FROM EXCAVATIONS AND HARROWER TO COLLECTING OR RUN-OFF AREAS ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION. PROVIDE AND MAINTAIN TEMPORARY DRAINAGE DITCHES AND OTHER DIVERSIONS OUTSIDE EXCAVATION LIMITS FOR EACH STRUCTURE. DO NOT USE TRENCH EXCAVATIONS AS TEMPORARY DRAINAGE DITCHES.

D. IMMEDIATELY REPORT CONDITIONS THAT MAY CAUSE UNSOUND BEARING TO THE OWNER/DEVELOPER BEFORE CONTINUING WORK.

23. FINAL ACCEPTANCE

A. BEFORE ACCEPTANCE BY THE OWNER AND FINAL PAYMENT, ALL WORK SHALL BE INSPECTED BY THE OWNER OR HIS REPRESENTATIVE. FINAL PAYMENT WILL BE MADE AFTER ALL THE CONTRACTORS WORK HAS BEEN APPROVED AND ACCEPTED.

B. NO UNDERGROUND WORK SHALL BE COVERED UNTIL IT HAS BEEN APPROVED BY THE MUNICIPALITY. APPROVAL TO PROCEED MUST BE OBTAINED FROM THE MUNICIPALITY PRIOR TO INSTALLING PAVEMENT BASE, BINDER, SURFACE, AND PRIOR TO PLACING ANY CONCRETE AFTER FORMS HAVE BEEN SET.

C. AT THE CLOSE OF EACH WORKING DAY AND AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE STRUCTURES AND FLOW LINES SHALL BE FREE FROM DIRT AND DEBRIS.

24. UNDERGROUND NOTES

A. UNDERGROUND WORK SHALL INCLUDE TRENCHING, INSTALLATION OF PIPE, CASTINGS, STRUCTURES, BACKFILLING OF TRENCHES AND COMPACTION AND TESTING AS SHOWN ON THE CONSTRUCTION PLANS. FITTINGS AND ACCESSORIES NECESSARY TO COMPLETE THE WORK MAY NOT BE SPECIFIED, BUT SHALL BE CONSIDERED AS INCIDENTAL TO THE COST OF THE CONTRACT.

B. WHERE SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, EXISTING DRAINAGE STRUCTURES AND SYSTEMS SHALL BE CLEANED OF DEBRIS AND PATCHED AS NECESSARY TO ASSURE INTEGRITY OF THE STRUCTURE. THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR STRUCTURES AND CONTRACT UNIT PRICE PER LINEAL FOOT FOR SYSTEMS WHICH SHALL BE PAYMENT IN FULL FOR CLEANING, PATCHING, REMOVAL, AND DISPOSAL OF DEBRIS AND DIRT. DRAINAGE STRUCTURES AND SYSTEMS CONSTRUCTED AS PART OF THIS PROJECT SHALL BE MAINTAINED BY THE CONTRACTOR AT HIS EXPENSE. NO PAYMENT WILL BE MADE FOR CLEANING STRUCTURES OR SYSTEMS CONSTRUCTED AS PART OF THIS PROJECT.

C. ANY Dewatering OF SEWER AND WATER TRENCHES AS WELL AS TEMPORARY SHEETING OR BRACING THAT MAY BE REQUIRED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL NOT BE CONSIDERED EXTRA WORK UNLESS THERE IS A SPECIFIC LINE ITEM FOR DEWATERING. IN THE EVENT THAT SOFT MATERIALS WITH UNCONFINED COMPRESSIVE STRENGTH LESS THAN 0.5 TSI ARE ENCOUNTERED IN SEWER CONSTRUCTION, THE CONTRACTOR SHALL, UPON APPROVAL OF THE OWNER AND/OR ENGINEER, OVER-EXCAVATE TO A DEPTH OF ONE (1) FOOT BELOW THE BOTTOM OF THE PIPE AND BACKFILL WITH COMPACTED CRUSHED STONE, PROPERLY FORMED TO FIT THE BOTTOM OF THE PIPE.

D. TRENCH BACKFILL WILL BE REQUIRED FOR THE FULL TRENCH DEPTH WITHIN TWO (2) FEET OF PROPOSED OR EXISTING PAVEMENTS, UTILITIES, DRIVEWAYS, AND SIDEWALKS AND EXTENDING A DISTANCE EQUAL TO A 1:1 SLOPE FROM SUBGRADE ELEVATION TO TOP OF PIPE. THE TRENCH BACKFILL SHALL CONSIST OF GRANULAR MATERIAL MEETING DOT CA-6 GRADATION. THE TRENCH BACKFILL SHALL BE COMPACTED IN ACCORDANCE WITH (SSBSS) SPECIFICATIONS. SETTING WITH WATER SHALL NOT BE PERMITTED. THE COST OF SUCH CONSTRUCTION SHALL BE CONSIDERED INCIDENTAL TO THIS CONTRACT AND SHALL BE INCLUDED IN THE UNIT PRICE OF THE PIPE. NO SEPARATE PAYMENT SHALL BE MADE FOR THIS ITEM.

E. THE CONTRACTOR SHALL INSTALL A 4" X 4" X 8" (NOMINAL) POST AT THE TERMINUS OF THE SANITARY, WATER AND STORM SERVICE, SANITARY AND STORM MANHOLES, CATCH BASINS, INLETS AND WATER VAULTS. THE POST SHALL EXTEND 4' ABOVE THE GROUND. THE TOP 12" OF EACH POST SHALL BE PAINTED AS FOLLOWS: SANITARY - RED, WATERMAIN - BLUE, STORM - GREEN.

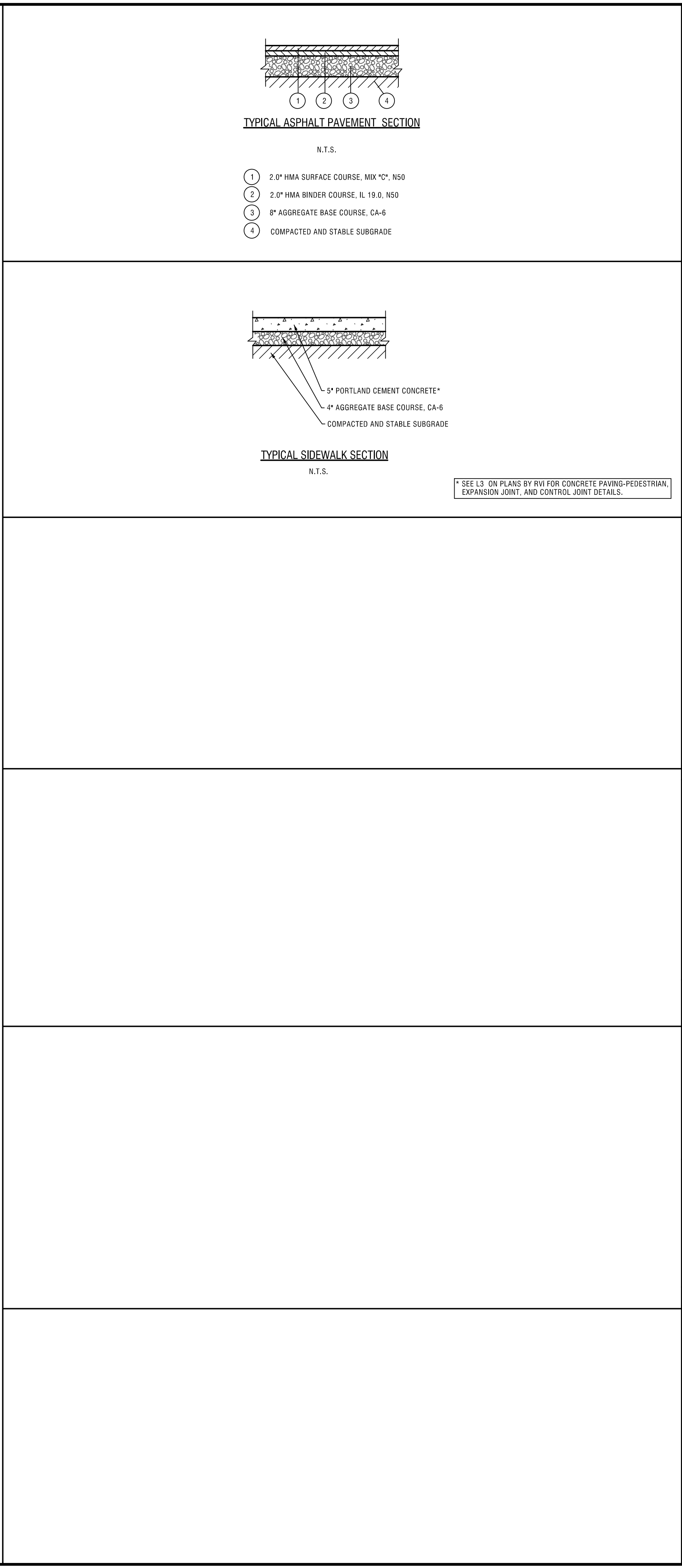
F. AFTER THE STORM SEWER SYSTEM HAS BEEN CONSTRUCTED, THE CONTRACTOR SHALL PLACE EROSION CONTROL AT REAR YARD INLET LOCATIONS, AND AT OTHER LOCATIONS SELECTED BY THE ENGINEER, TO MINIMIZE THE AMOUNT OF SILTATION WHICH NORMALLY WOULD ENTER THE STORM SEWER SYSTEM.

G. ALL TOP OF FRAMES FOR STORM AND SANITARY SEWERS AND VALVE VAULT COVERS ARE TO BE ADJUSTED TO MEET FINAL FINISH GRADE. THIS ADJUSTMENT IS TO BE MADE BY THE SEWER AND WATER CONTRACTOR AND THE COST IS TO BE CONSIDERED INCIDENTAL. THESE ADJUSTMENTS TO FINISHED GRADE WILL NOT ALLEVATE THE CONTRACTOR FROM ANY ADDITIONAL ADJUSTMENTS AS REQUIRED BY THE MUNICIPALITY UPON FINAL INSPECTION OF THE PROJECT. (FINAL GRADES TO BE DETERMINED BY THE MUNICIPALITY AT THE TIME OF FINAL INSPECTION AND MAY VARY FROM PLAN GRADE.) ALL FRAMES AND LIDS MUST BE PER CITY CONSTRUCTION DETAILS.

H. SLEEVES FOR UTILITY (COMED, TELEPHONE, ETC.) STREET CROSSING, SHALL BE INSTALLED WHERE DIRECTED BY THE OWNER. SLEEVES SHALL BE 6" PVC INSTALLED 36" BELOW THE TOP OF CURB AND EXTEND TWO FEET OUTSIDE THE CURB. TRENCH SHALL BE BACKFILLED WITH COMPACTED GRANULAR MATERIAL.

I. THE CONTRACTOR SHALL VERIFY THE SIZE AND INVERT ELEVATION OF ALL CONNECTIONS TO AVOID ANY CONFLICTS BEFORE STARTING WORK. NOTIFY OWNER OF ANY DISCREPANCIES.

25. IT SHALL BE UNDERSTOOD THAT NEITHER THE MUNICIPALITY, ITS OFFICIALS, CONSULTANTS, NOR ITS EMPLOYEES ARE AGENTS OF OR REPRESENTATIVES OF THE OWNER. NONE-THE-LESS, THE MUNICIPALITY, ITS OFFICIALS AND EMPLOYEES ARE TO BE PROVIDED SAFE ACCESS TO ALL PHASES OF ALL WORK PERFORMED ON THE PROJECT SITE TO MONITOR THE QUALITY OF THE WORK AND ASSURE ITS CONFORMITY WITH THE PLANS AND SPECIFICATIONS. THERE SHALL BE NO PERSONAL LIABILITY UPON ANY OFFICIAL OR EMPLOYEE OF THE MUNICIPALITY ON ACCOUNT OF ACTIONS TAKEN OR NOT TAKEN IN THE COURSE OF THEIR WORK. THE CONTRACTOR MUST AT ALL TIMES MAINTAIN A SAFE ACCESS TO THE WORK FOR INSPECTORS, "SAFE" MEANING CONDITIONS COMPLYING WITH ALL PROVISIONS OF ALL APPLICABLE AND RECOGNIZED SAFETY STANDARDS, FEDERAL, STATE AND LOCAL. IF ACCESS IS NOT SAFE AND INSPECTORS CANNOT BE MADE UNDER SAFE CONDITIONS, THE INSPECTOR CAN ORDER CESSATION OF THE WORK SO AFFECTED UNTIL SUCH TIME AS CONTRACTOR PROVIDES SAFE ACCESS.



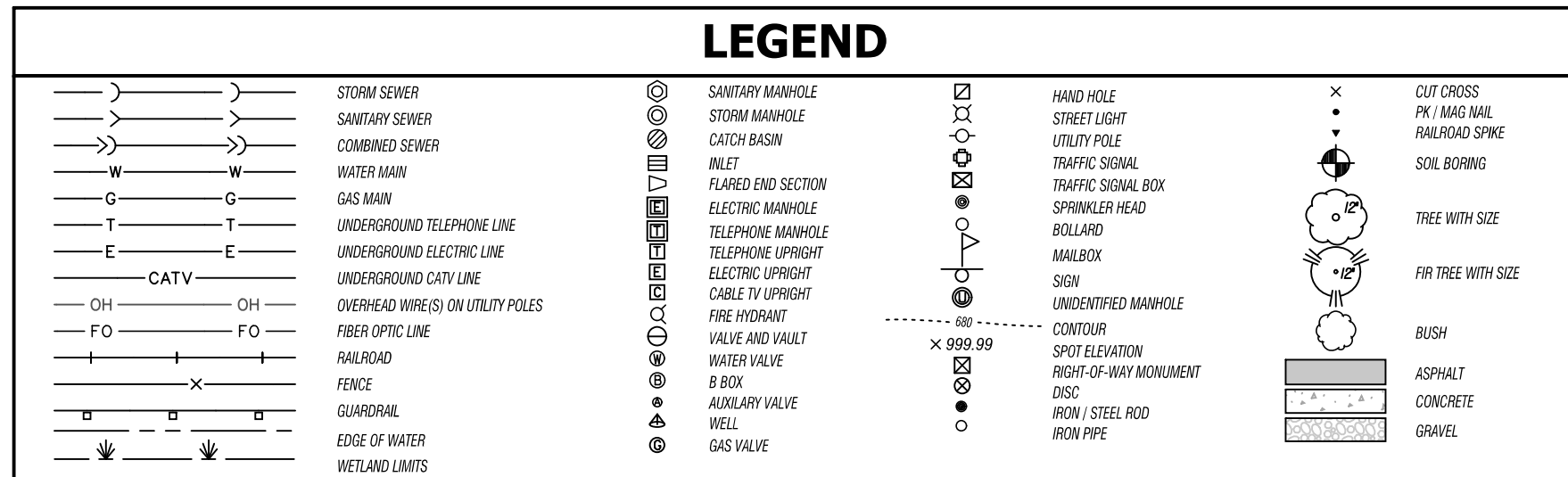
LEGEND		
EXISTING	DESCRIPTION	PROPOSED
	DRAIN TILE	
	STORM SEWER	
	SANITARY SEWER	
	SANITARY TRUNK SEWER	
	WATER MAIN (WITH SIZE)	
	PIPE TRENCH BACKFILL	
	GAS MAIN	
	TELEPHONE LINES	
	ELECTRIC LINE	
	FENCE	
	RIGHT-OF-WAY	
	EASEMENT	
	PROPERTY LINE	
	SETBACK LINE	
	CENTERLINE	
	CONTOUR	
	SANITARY MANHOLE	
	STORM MANHOLE	
	CATCH BASIN	
	INLET	
	FIRE HYDRANT	
	PRESSURE CONNECTION	
	PRESSURE REDUCER	
	VALVE AND VAULT, VALVE	
	FLARED END SECTION	
	STREET LIGHT	
	UTILITY POLE	
	CONTROL POINT	
	SIGN	
	SPOT ELEVATION	
	SOIL BORING	
	OVERLAND FLOW ROUTE	
	DRAINAGE SLOPE	
	GUARDRAIL	
	WATER'S EDGE	
	CONCRETE	
	REVERSE PITCH CURB	
	TREE, FIR TREE, BUSH, & PROPOSED TREE TO REMOVE	

<u>ABBREVIATIONS</u>		
M = STORM MANHOLE	I = INVERT OR INLET	T/P = TOP OF PIPE
S = SANITARY MANHOLE	TF = TOP OF FOUNDATION	B/P = BOTTOM OF PIPE
CB = CATCH BASIN	GF = GARAGE FLOOR	WM = WATERMAIN
LP = LIGHT POLE	TC = TOP OF CURB	SAN = SANITARY SEWER
VV = VALVE VAULT	TD = TOP OF DEPRESSED CURB	STM = STORM SEWER
E = END SECTION	TW = TOP OF RETAINING WALL	LO = LOOK OUT
FH = FIRE HYDRANT	BW = BOTTOM OF RETAINING WALL	PLO = PARTIAL LOOK OUT
GR = GRADE RING (HYDRANT)	OP = OUTLET OF PIPE	

PERMITS			
DESCRIPTION	LOG NO.	PERMIT NO.	DATE ISSUED
IDNR- EcoCAT		2700375	07/07/2026
IHPA - SHPO	#005070726		08/04/2026

BENCHMARK

SEE SHEET ET1 FOR BENCHMARK INFORMATION.



NOTE:
UNDERGROUND UTILITIES ARE SHOWN BY USING PHYSICAL EVIDENCE FOUND ON THE SURFACE AND/OR FROM UTILITY COMPANY FIELD STAKES AND, THEREFORE, THEIR LOCATIONS ARE APPROXIMATE AND SUSPECTED AND MAY NOT BE COMPLETELY ACCURATE. FOR MORE ACCURATE LOCATION, FIELD EXCAVATE.

PIPE FLOW DIRECTIONS, IF SHOWN, ARE BASED ON FIELD INVERT ELEVATIONS UNLESS EXISTING PLANS INDICATE OTHERWISE, IN WHICH CASE THE EXISTING PLAN FLOW DIRECTION IS SHOWN.

LAST DATE OF FIELD WORK: JUNE 12, 2019.
DATE OF ADDITIONAL FIELD WORK: AUGUST 2, 2026

SOURCE BENCHMARK #1:
NATIONAL GEODETIC SURVEY
DESIGNATION: A 142
PID: MF0073
DISK SET IN CONCRETE AT THE NORTHWEST CORNER OF ST. PATRICKS CEMETERY ON JEFFERSON STREET, APPROXIMATELY 36' EAST OF WILCOX STREET.
ELEVATION = 647.55 NAVD 88

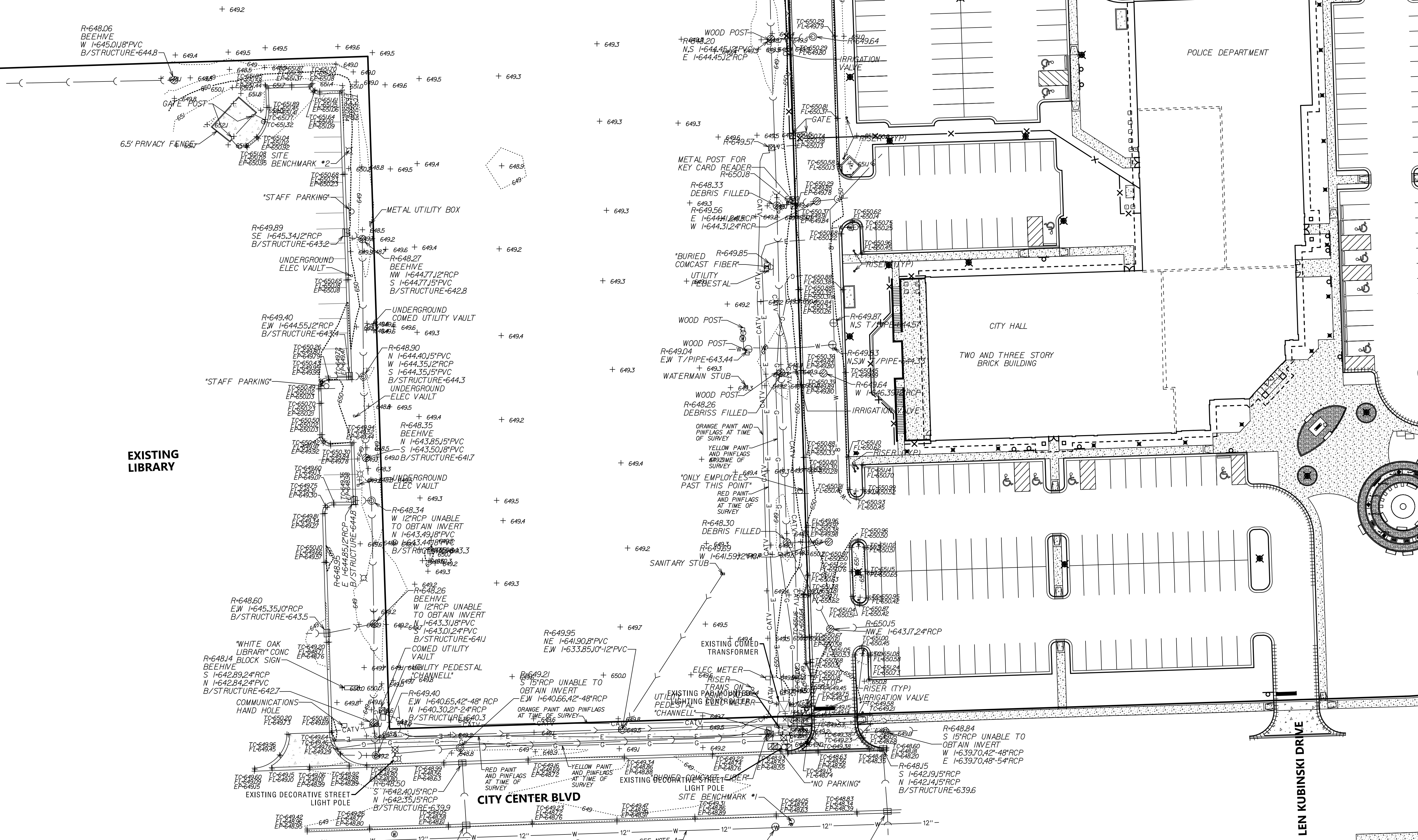
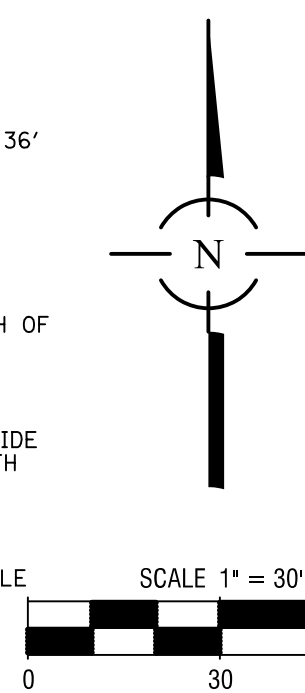
SOURCE BENCHMARK #2:
NATIONAL GEODETIC SURVEY
DESIGNATION: WRI 013
PID: DP5468
ROD IN ENCASUREMENT, EAST SIDE OF WEBER ROAD, 200' NORTH OF RENWICK ROAD.
ELEVATION = 649.47 NAVD 88

SITE BENCHMARK #1:
NORTHEAST FLANGE BOLT ON FIRE HYDRANT ON THE SOUTH SIDE OF LEN KUBINSKI DRIVE, APPROXIMATELY 300' EAST OF SOUTH DRIVE INTO LIBRARY.
ELEVATION = 651.30 NAVD 88

SITE BENCHMARK #2:
TOP LIGHT POLE BASE, EAST SIDE OF BASE, THIRD LIGHT POLE NORTH ALONG THE WEST PROPERTY LINE OF THE SITE AND LIBRARY.
ELEVATION = 653.87 NAVD 88

NOTE A: APPROXIMATE LOCATION OF UNDERGROUND UTILITIES PER UTILITY PLANS PREPARED BY GEOTECH INC. SIGNED 11/28/2006.

PER ATLAS: APPROXIMATE LOCATION OF UNDERGROUND UTILITIES PER VILLAGE ATLAS.

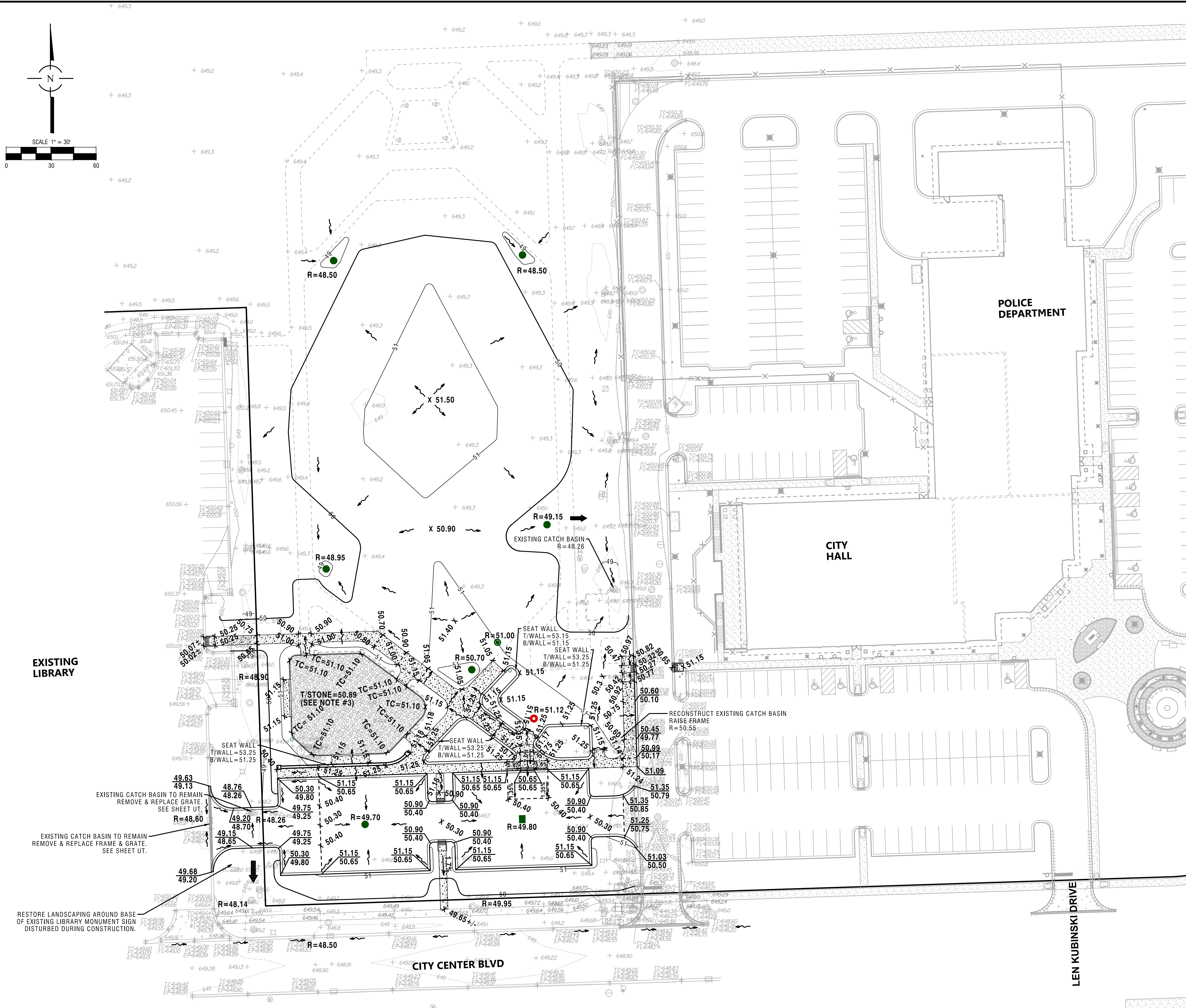


EXISTING CONDITIONS
SITE IMPROVEMENT PLANS
CREST HILL COMMONS -PHASE 1
CREST HILL, IL



FILENAME:	10656.04.ET
DATE:	08/21/26
JOB NO.	10656.04
SHEET	ET1
	3 OF 14

1. ADD 600 TO ELEVATIONS SHOWN AS XX.XX.
2. FUTURE CREST HILL COMMONS IMPROVEMENTS ARE SHOWN HALF-TONED FOR REFERENCE ONLY. THESE IMPROVEMENTS ARE NOT INCLUDED IN THIS CONTRACT.
3. SEE "PHASE 1 - PLAYGROUND SECTION" ON SHEET GM1.



GRADING PLAN

SITE IMPROVEMENT PLANS
CREST HILL COMMONS -PHASE 1
 CREST HILL, IL



Spaceco
Civil Engineering & Surveying

FILENAME:
10656.04 GR

DATE:
08/21/26

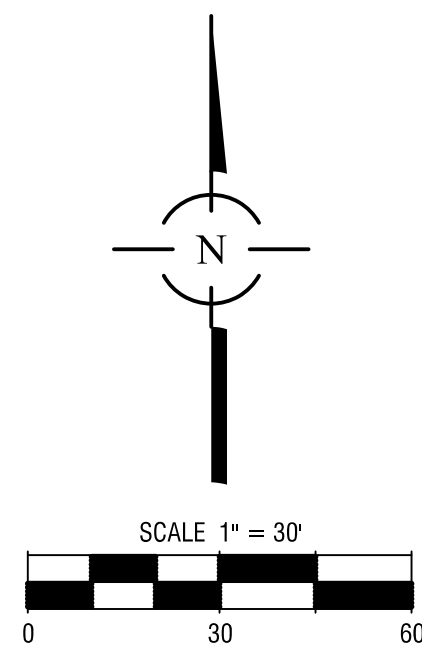
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10656.04

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GR1

5 OF 14

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1. ADD 600 TO ELEVATIONS SHOWN AS XX.XX.
2. FUTURE CREST HILL COMMONS IMPROVEMENTS
HALF-TONED FOR REFERENCE ONLY. THESE
IMPROVEMENTS ARE NOT INCLUDED IN THIS CONTRACT.

Diagram illustrating the breakdown of the structure code M-100 A4D,1P:

- M-100: STRUCTURE ABBREVIATION
- 100: STRUCTURE NUMBER
- A4D,1P: FRAME AND LID TYPE
- 4: DIAMETER & SIZE OF STRUCTURE
- D: TYPE OF STRUCTURE

I = INLET
CB = CATCH BASIN
M = MANHOLE
CO= CLEANOUT
S= SANITARY MANHOLE

1. ALL STORM SEWERS SHALL BE RCP CL-IV UNLESS NOTED AS PVC OR HDPE.
2. ALL SANITARY SEWER SHALL BE PVC SDR-26.
3. INDICATES TRENCH BACKFILL REQUIRED.
4. FRAME AND GRATE/LID FOR STORM SEWER STRUCTURES
 - 1C - MANHOLE-EAST JORDAN 1050 FRAME WITH CLOSED LID
 - 1B - INLET, CATCH BASIN-EAST JORDAN 1050 WITH TYPE MI OPEN LID
 - 1B - INLET, CATCH BASIN-EAST JORDAN 6527N BEEHIVE TYPE GRATE
5. UNDERGROUND CONTRACTOR TO FIELD VERIFY EXISTING SEWER MAIN AND WATER MAIN LOCATIONS AND DEPTHS WITHIN THE KUBINSKI SEWER AND PATRICK CREEK W.W.T.P. PRIOR TO PROCEED WITH CONSTRUCTION.
NOTIFY SPACECO, INC. OF ANY DISCREPANCIES.



Street and Parking Lot Sweeping

Purpose: To reduce the amount of pollutants that get washed into the storm drain and ultimately transported and deposited in waterbodies.

Application:

Limitations:

Maintenance:

Topsoil Salvage & Utilization

Purpose: To provide a method of preserving topsoil for use in establishing vegetation to achieve final site stabilization.

Specifications:

Material

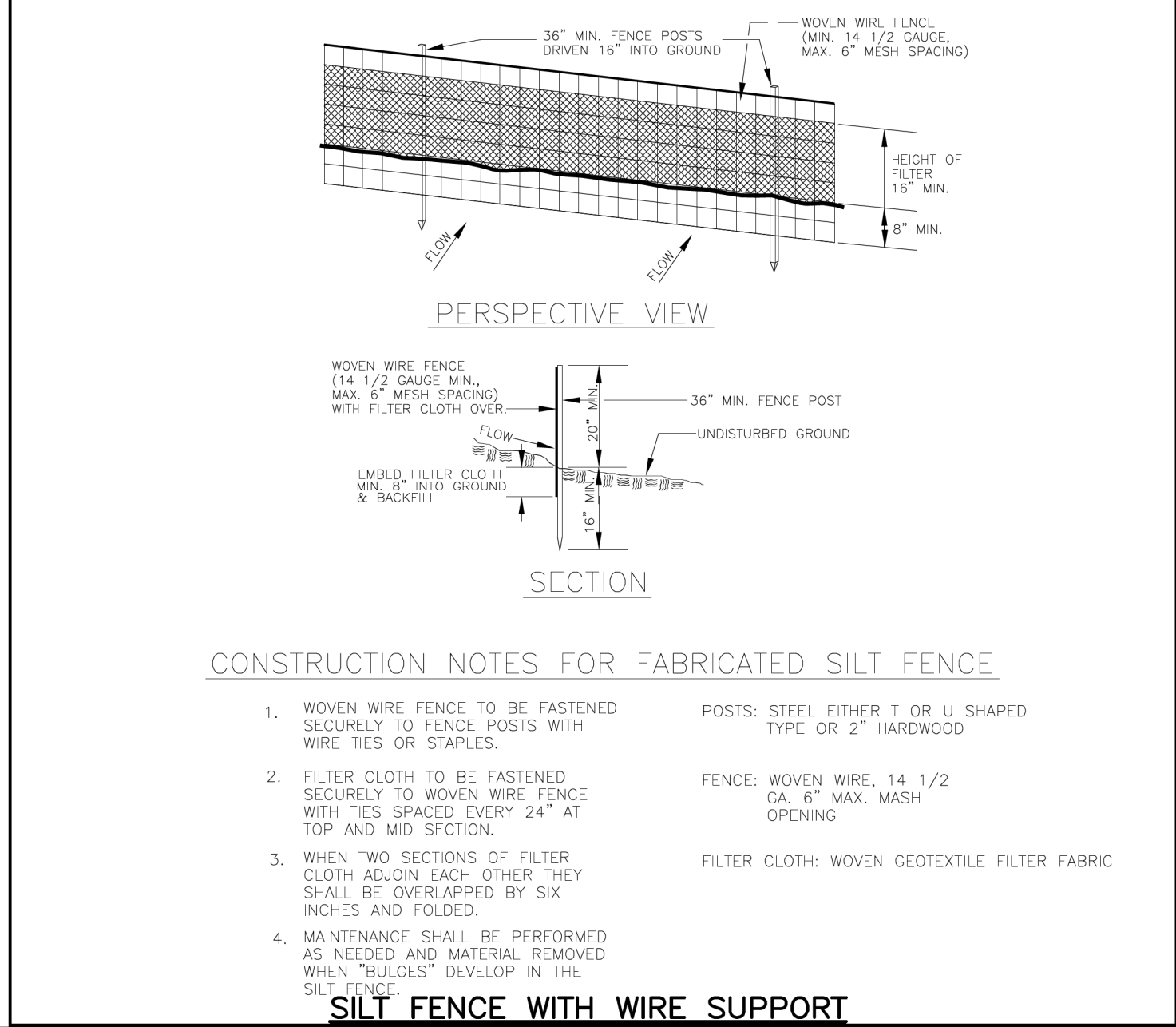
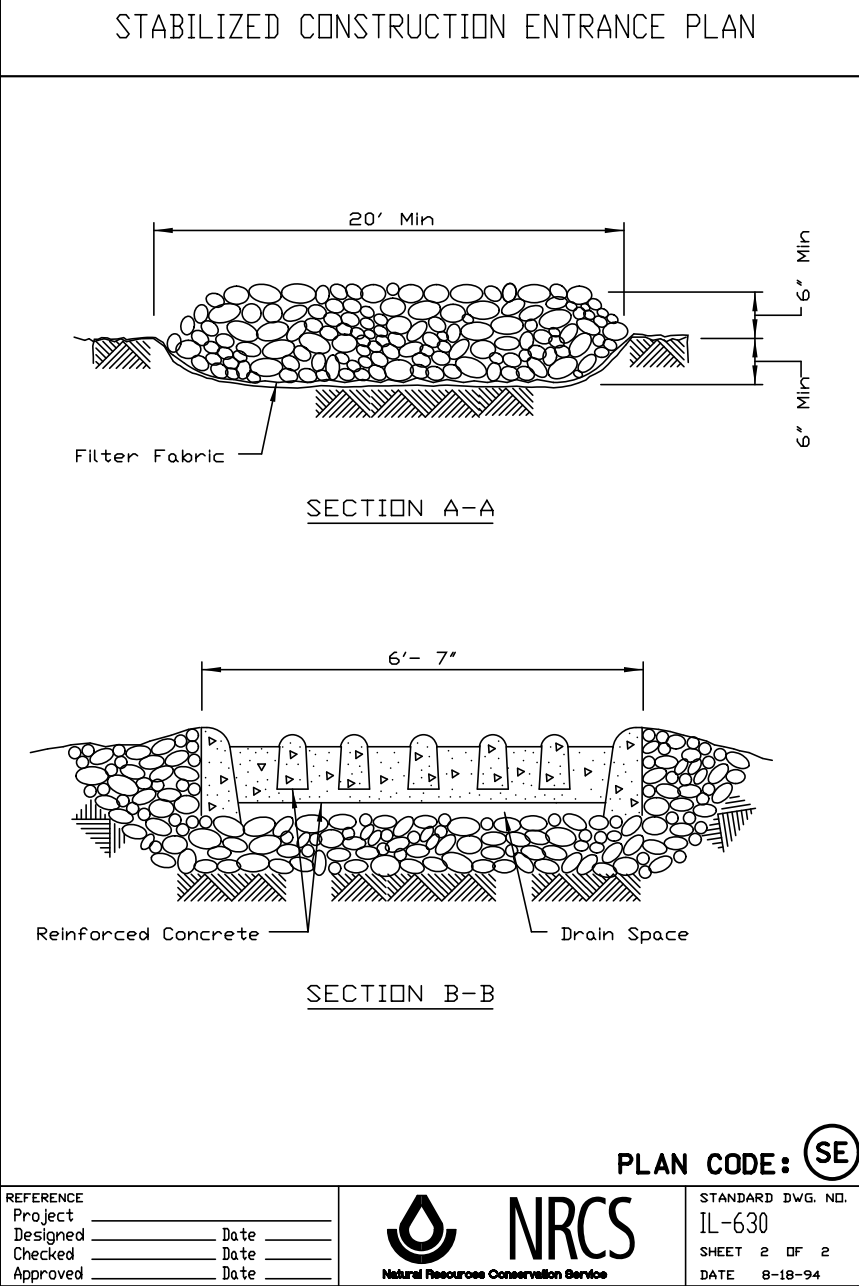
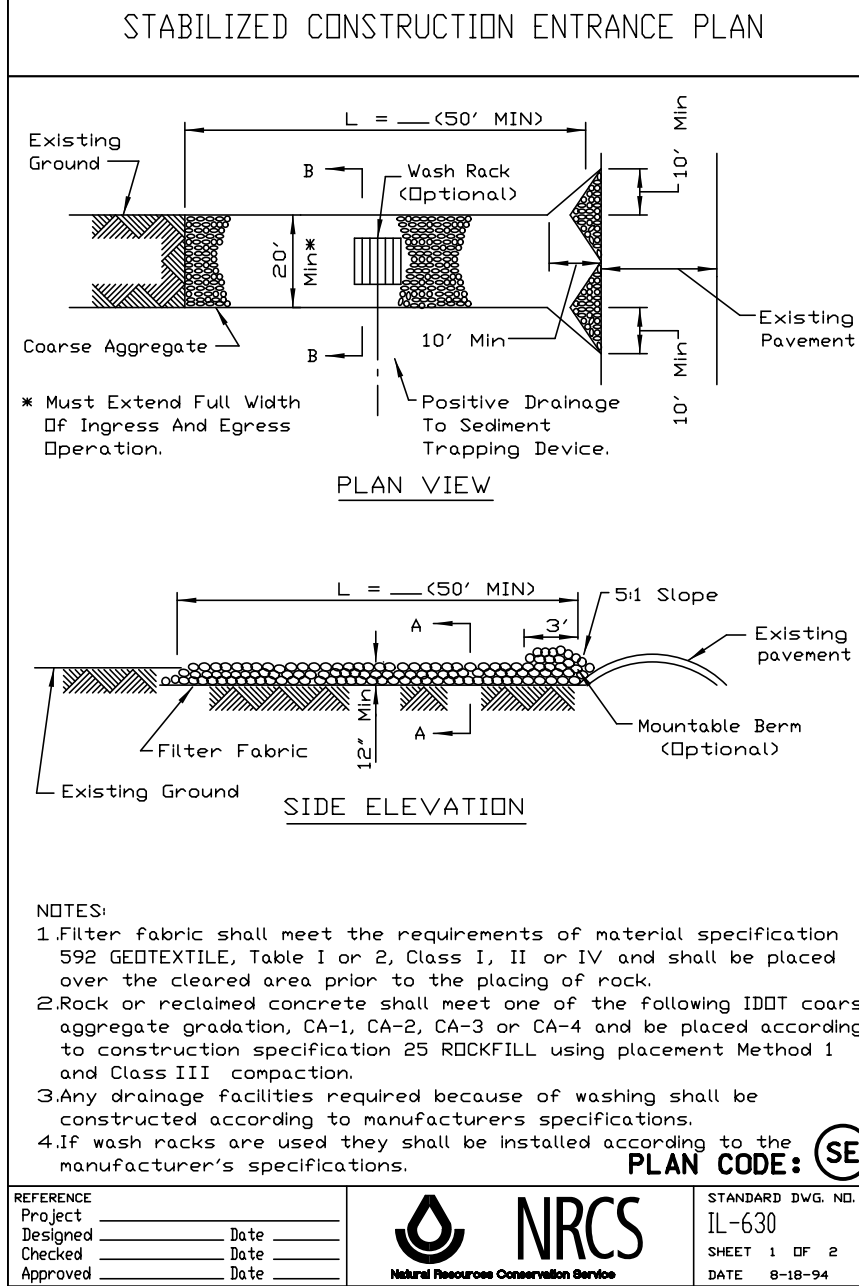
Storage Area

Application:

Salvaging and Stockpiling Topsoil

Spreading topsoil

Maintenance:



EROSION CONTROL GENERAL NOTES

SELF-MONITORING PROGRAM

- A SELF-MONITORING PROGRAM THAT INCLUDES THE FOLLOWING MUST BE IMPLEMENTED AT ALL PERMITTED PROJECT SITES:
- A TRAINED INDIVIDUAL SHALL PERFORM A WRITTEN EVALUATION OF THE PROJECT SITE A MINIMUM OF ONE (1) TIME PER WEEK AND BY THE END OF THE NEXT BUSINESS DAY FOLLOWING EACH MEASURABLE STORM EVENT.
 - THE EVALUATION MUST ADDRESS THE MAINTENANCE OF EXISTING STORM WATER QUALITY MEASURES TO ENSURE THEY ARE FUNCTIONING PROPERLY AND IDENTIFY ADDITIONAL MEASURES NECESSARY TO REMAIN IN COMPLIANCE WITH ALL APPLICABLE STATUTES AND RULES.
 - WRITTEN EVALUATION REPORTS MUST INCLUDE:
 - A. THE NAME OF INDIVIDUAL PERFORMING THE EVALUATION;
 - B. THE DATE OF EVALUATION;
 - C. PROBLEMS IDENTIFIED AT THE PROJECT SITE; AND
 - D. DETAILS OF CORRECTIVE ACTIONS RECOMMENDED AND COMPLETED.
 - ALL EVALUATION REPORTS FOR THE PROJECT SITE MUST BE MADE AVAILABLE TO THE CIM OR OTHER DESIGNATED ENTITY WITHIN FORTY-EIGHT (48) HOURS OF A REQUEST.
 - EVALUATION REPORTS MUST BE MAINTAINED FOR A PERIOD OF TWO (2) YEARS FROM DATE OF NOT.
 - ALL EVALUATION REPORTS WILL BE SUBMITTED TO THE OWNER WHEN REQUESTED.

SELF MONITORING PROGRAM

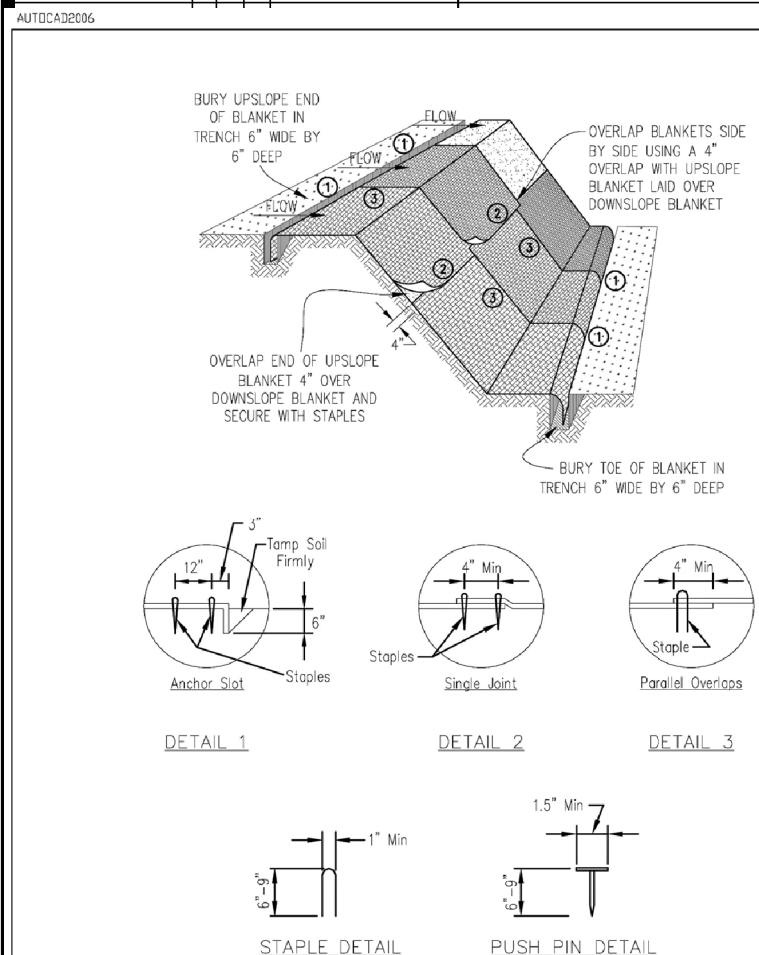
Date: _____
Project: _____
Inspected by: _____
Type of Inspection: ☐ Routine Weekly ☐ Rain Event (0.5" or more)

CONSTRUCTION SITE INSPECTION AND MAINTENANCE LOG
(To be completed by Trained Individual/Project Manager)

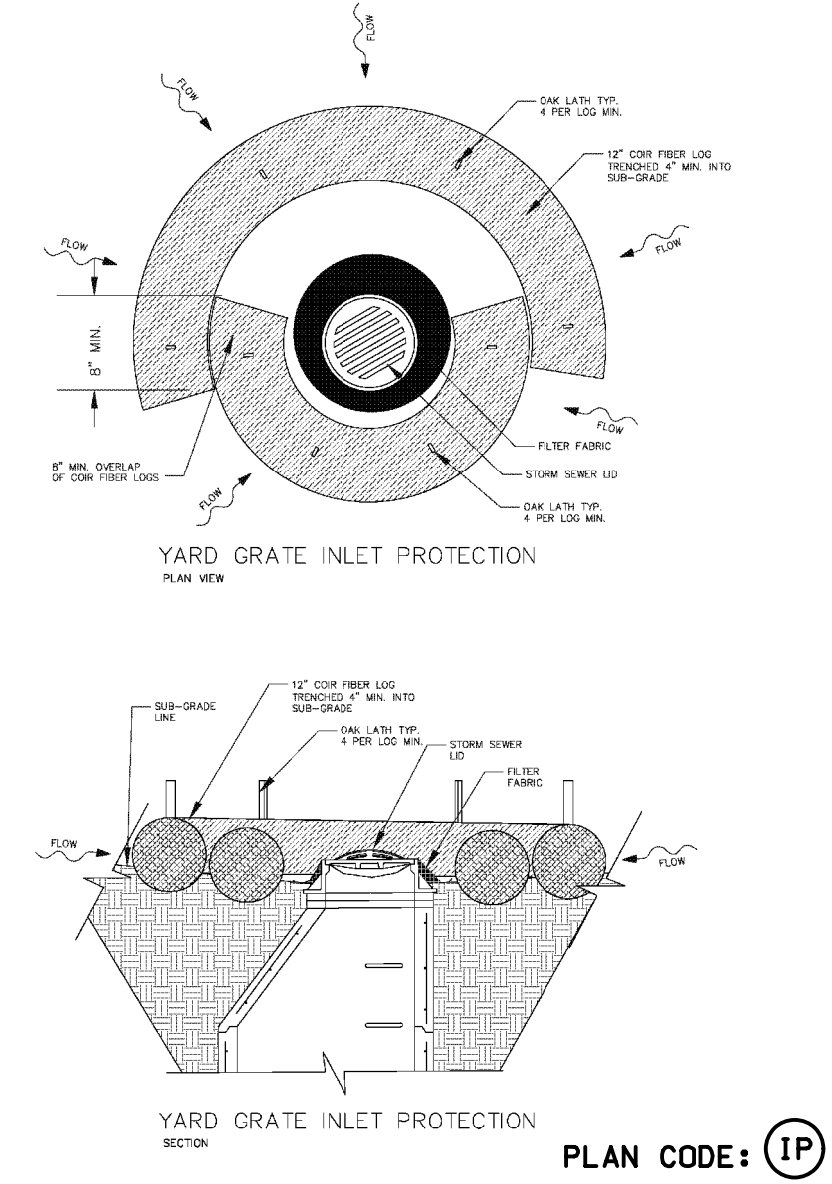
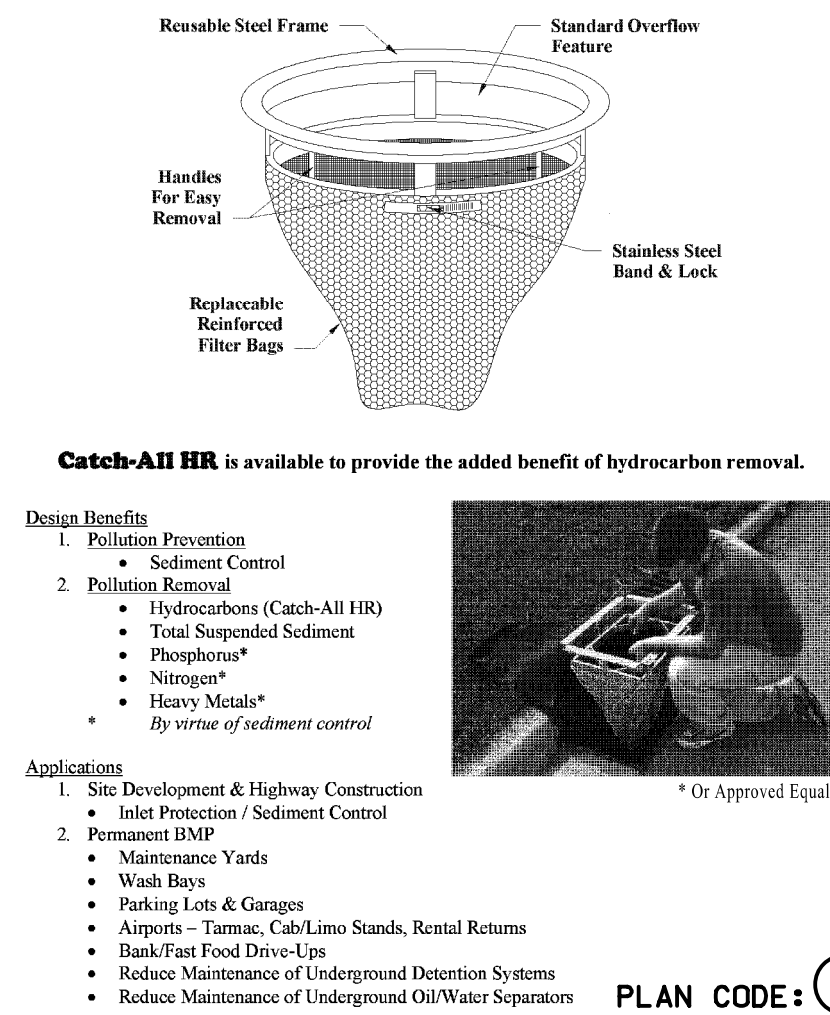
All approved stormwater pollution prevention practices shall be inspected and maintained as needed to ensure continued performance of their intended function during construction and shall continue until the entire site has been stabilized and an IDEM Notice of Termination (State Form 51514) has been issued. An inspection of the project site must be completed by the end of the next business day following each measurable storm event (0.5" or greater). If there are no measurable storm events within a given week, the site should be monitored at least once in that week. Maintenance and repair shall be conducted in accordance with the approved stormwater pollution prevention (SWP3) plan. This log shall be kept as a permanent record and must be made available to town stormwater inspectors, within forty-eight (48) hours upon request.

Yes	No	N/A	BMP	Description	
			Permit Posting	Rule 5 Permit Information (NOI) and Stormwater Permit properly posted?	
			Street Sweeping	Public roads at intersections with site access roads being kept clear of sediment, debris, and mud?	
			Stable Entrance	Temporary construction entrance being maintained?	
			Silt Fence	Silt fence (or equivalent) installed properly and being maintained?	
			Concrete Washout	Washout areas properly sited, clearly marked, and being utilized?	
			Inlet Protection	Inlet protection devices installed and being maintained?	
			Erosion Blanket	All areas of bare soil that have been inactive for 14 days or more are seeded?	
			Dewatering Bags	All slopes 3:1 or greater that are at final grade are protected from erosion through the implementation of acceptable soil stabilization practices?	
			Outfall Monitoring	Dewatering structures functioning properly?	
			Check Dams	All stormwater outfalls free of any noticeable pollutant discharges (including sediment)?	
			Staging Areas	Check dams are installed properly and being maintained?	
			Soil Stockpiles	Construction staging and parking areas are being utilized as indicated on the plans?	
			Sediment Traps	Soil stockpiles have been temporary seeded and has perimeter silt fence?	
			Sensitive Areas	Sediment traps have been installed in the proper location and are being maintained?	
			Fueling Areas	"Sensitive" areas designated on plan sheets clearly marked on-site and avoided?	
			Spill Response	Bulk fueling area(s) have proper containment, spill kits and no signs of leaks or spills?	
			Sequencing	Spill response equipment, emergency contact info. are accessible by all?	
			Containment	Construction sequence is being followed according to the approved SWP3?	
			Hazmat Controls	Solid waste is properly contained?	
			Corrective Actions	Hazardous materials, waste or otherwise are properly handled and stored?	
			Other:	Previously recommended corrective actions been implemented?	
			Other:		

If you answered "no" to any of the above questions, describe any corrective action which must be taken to remedy the problem and when the corrective actions are to be completed



Catch-All - is a manufactured inlet filtration device designed to significantly reduce the ingress of pollutants into stormwater systems, and therefore, improve water quality. Designs are available for a custom fit in virtually any drainage structure casting.



SOIL EROSION AND SEDIMENT CONTROL PLAN - 2
SITE IMPROVEMENT PLANS
CREST HILL COMMONS -PHASE 1
CREST HILL, IL

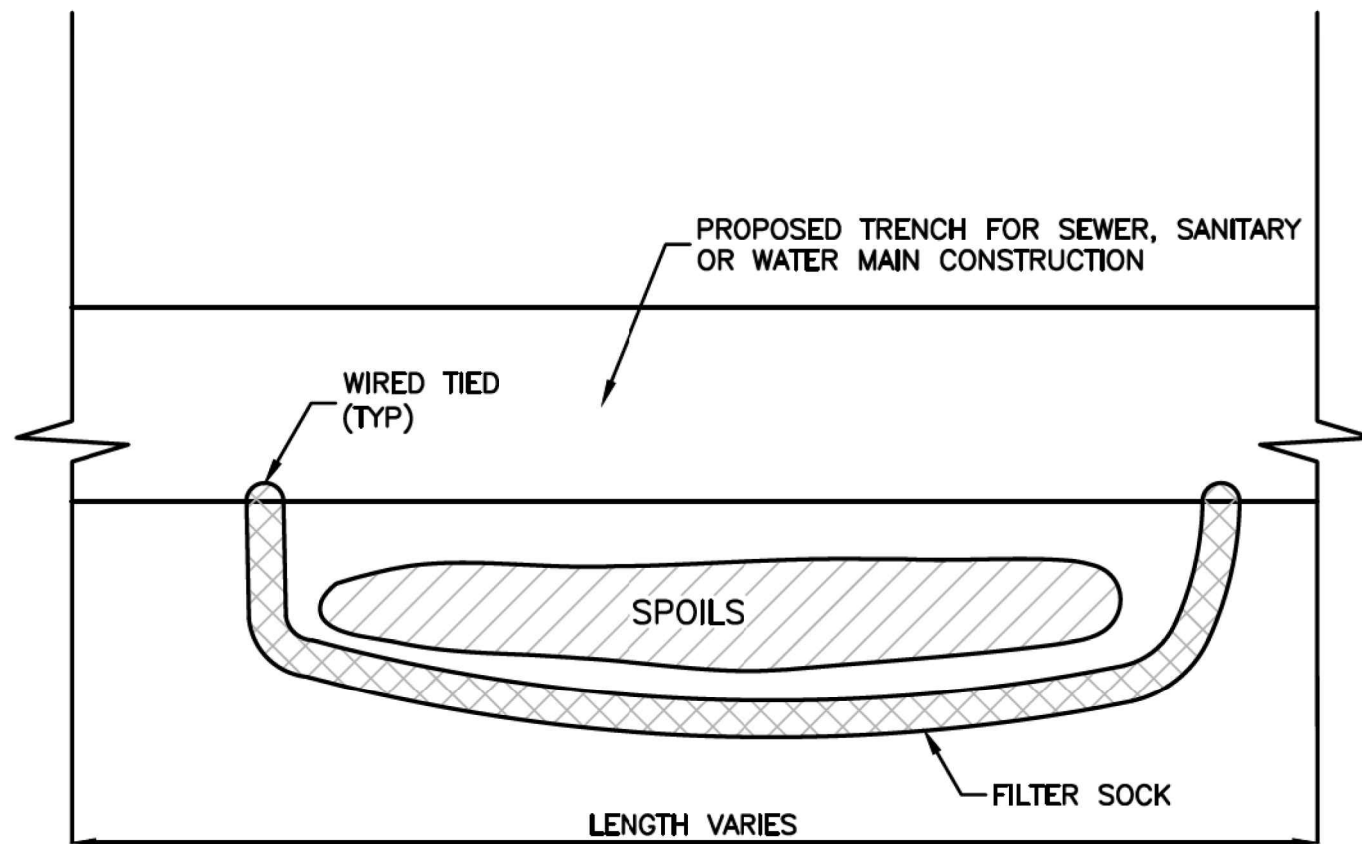
Spaceco
Civil Engineering & Surveying
Rosemont, IL - Morris, IL - Indianapolis, IN
spacecoinc.com

FILENAME:
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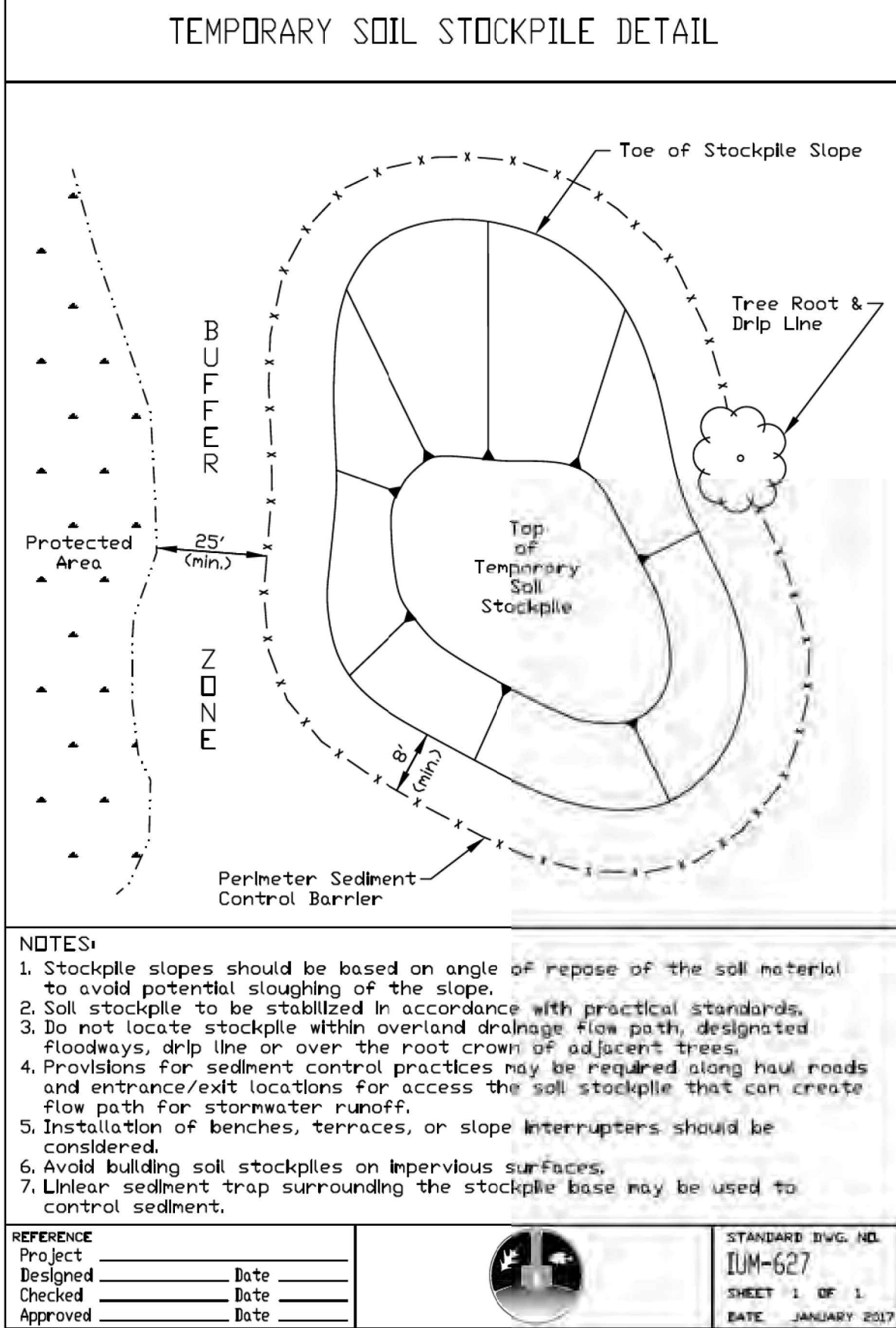
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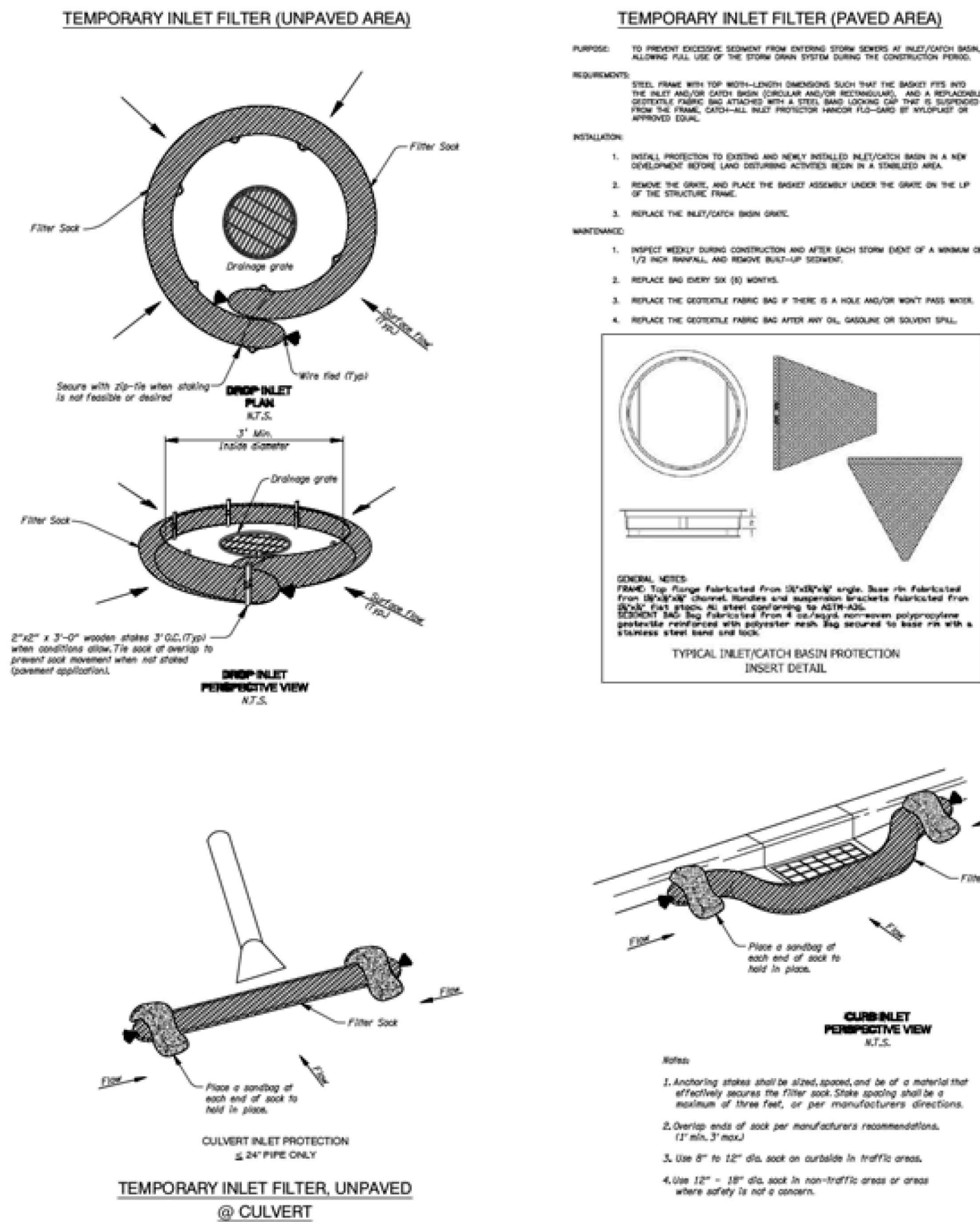
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TYPICAL SPOILS PROTECTION
ADJACENT TO TRENCH



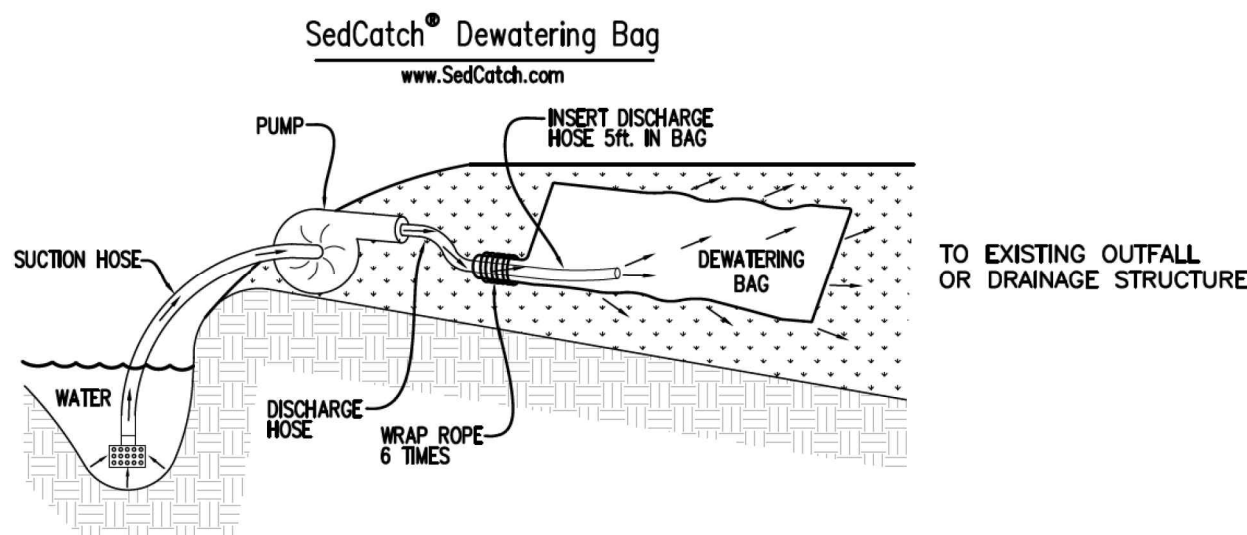
TEMPORARY SOIL STOCKPILE



TEMPORARY INLET FILTER

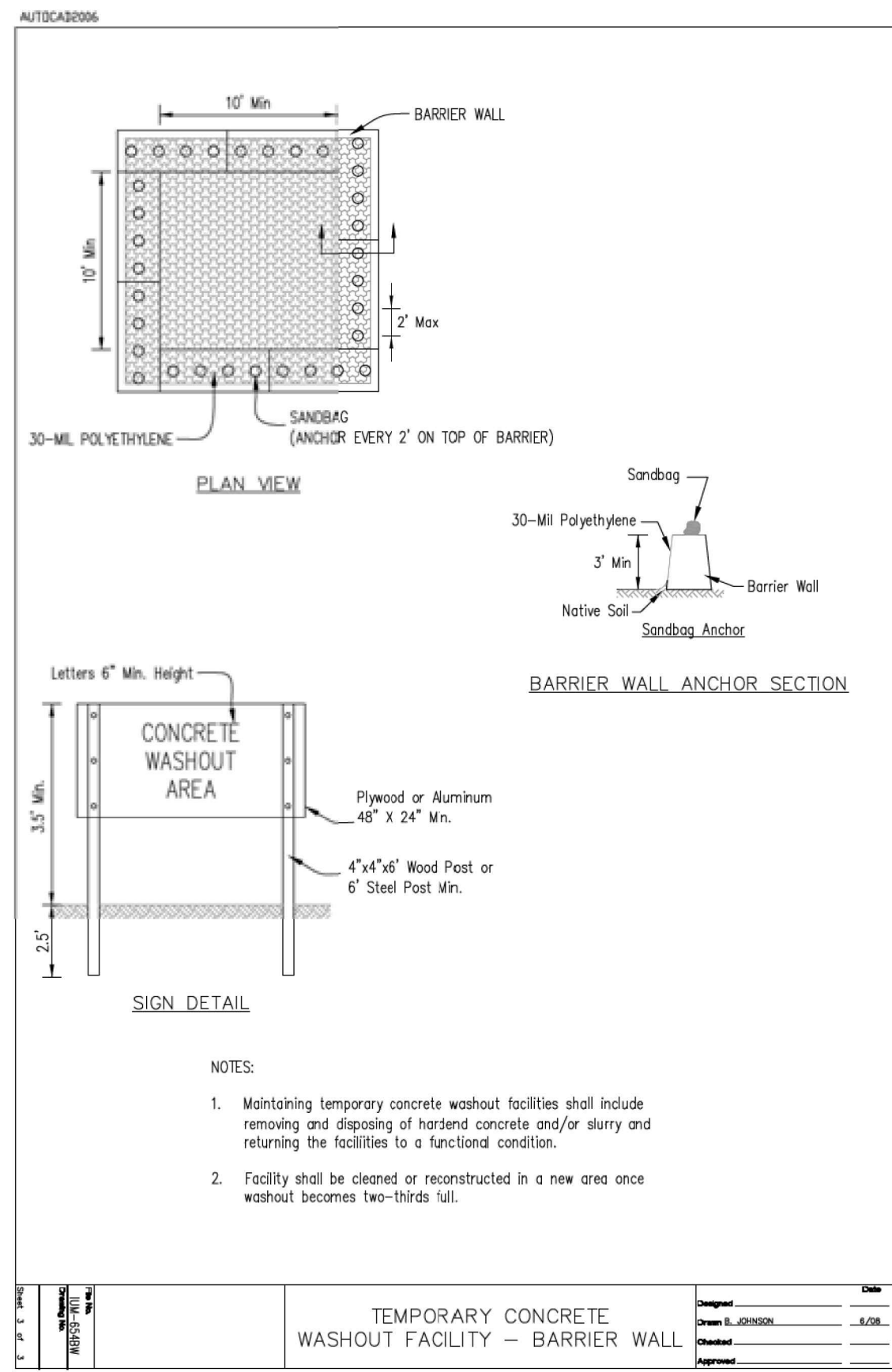
THE PURPOSE OF A DEWATERING BAG/TUBE IS TO COLLECT SEDIMENT CONTAINED IN THE DISCHARGED WATER, TO PREVENT THE SCOUR AND EROSION FROM WATER EXITING A PIPE AT HIGH VELOCITY, TO DEFUSE THE WATER OVER A WIDER AREA TO MINIMIZE EROSION AS THE WATER DRAINS AWAY, AND TO RETAIN OIL CONTAINED WITHIN EFFLUENT.

A SEDCATCH® DEWATERING BAG/TUBE OR APPROVED EQUAL SHOULD BE USED ANYTIME WATER IS PUMPED ON THE SITE.



- INSTALLATION AND USE:
1. PLACE SEDCATCH® DEWATERING BAG/TUBE ON THE GROUND OR ON A TRAILER OVER A RELATIVELY LEVEL, STABILIZED AREA.
 2. INSERT DISCHARGE PIPE A MINIMUM OF 5FT. INSIDE SEDCATCH® DEWATERING BAG/TUBE AND SECURE WITH A ROPE (INCLUDED) WRAPPED 6 TIMES ABOUT THE SNOUT OVER A 6 INCH WIDTH OF THE BAG. TO CLOSE OPEN END OF THE DEWATERING TUBE : OVERLAP THE TUBE 2 FT. FROM THE END. GATHER THE CENTER OF THE DOUBLED-UP PORTION FORMING A BOW TIE. SECURE WITH A ROPE WRAPPED MULTIPLE TIMES.
 3. REPLACE SEDCATCH® DEWATERING BAG WHEN HALF FULL OF SEDIMENT OR WHEN THE SEDIMENT HAS REDUCED THE FLOW RATE OF THE PUMP DISCHARGE TO AN IMPRACTICAL AMOUNT, OR; EMPTY SEDCATCH® SEDIMENT TUBE WHEN HALF FULL OF SEDIMENT OR WHEN THE SEDIMENT HAS REDUCED THE FLOW RATE OF THE PUMP DISCHARGE TO AN IMPRACTICAL RATE.
- MAINTENANCE AND DISPOSAL:
1. REMOVE AND DISPOSE OF ACCUMULATED SEDIMENT AWAY FROM WATERWAYS OR ENVIRONMENTALLY SENSITIVE AREAS. SUIT OPEN DEWATERING BAG AND REMOVE ACCUMULATED SEDIMENT. DISPOSE OF BAG AT AN APPROPRIATE RECYCLING OR SOLID WASTE FACILITY, OR; OPEN BOTH ENDS OF THE SEDCATCH® DEWATERING TUBE , PICK IT UP IN THE CENTER AND DUMP ACCUMULATED SEDIMENT OUT OF BOTH ENDS. ALLOW TO DRY AND STORE FOR RE-USE, OR; AS DIRECTED BY ENGINEER OR INSPECTOR.

DEWATERING BAG/TUBE



TEMPORARY CONCRETE WASHOUT (BARRIER WALL)



—INSTALL SILT FENCE ADJACENT TO
PLAYGROUND RIBBBON CURB AND
PLAYGOUND STONE BASE.

EXISTING CITY HALL

CITY CENTER BLVD

LEN KUBINSKI DRIVE

SOIL EROSION AND SEDIMENT CONTROL PLAN -4

SITE IMPROVEMENT PLANS

CREST HILL COMMONS -PHASE 1

CREST HILL, IL

EARTHWORK NOTES		STORM SEWER NOTES		MISCELLANEOUS SANITARY SEWER NOTES		SANITARY SEWER TESTING SPECIFICATIONS	
1. GENERAL: A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE SOIL AND GROUNDWATER CONDITIONS AT THE SITE. THE CONTRACTOR SHALL OBTAIN AND READ THE GEOTECHNICAL REPORTS AVAILABLE FROM THE OWNER. B. ANY QUANTITIES IN THE BID PROPOSAL ARE INTENDED AS A GUIDE FOR THE CONTRACTOR'S USE IN DETERMINING THE SCOPE OF THE COMPLETED PROJECT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ALL MATERIAL QUANTITIES AND APPRAISE HIMSELF OF ALL SITE CONDITIONS. THE CONTRACT PRICE SUBMITTED BY THE CONTRACTOR SHALL BE CONSIDERED AS LUMP SUM FOR THE COMPLETE PROJECT. NO CLAIMS FOR EXTRA WORK WILL BE RECOGNIZED UNLESS ORDERED IN WRITING BY THE OWNER. C. THE CONTRACTOR WILL NOTE THAT THE ELEVATIONS SHOWN ON THE CONSTRUCTION PLANS ARE FINISHED GRADE ELEVATIONS AND THAT PAVEMENT THICKNESS, TOPSOIL, ETC., MUST BE SUBTRACTED TO DETERMINE SUBGRADE ELEVATIONS. D. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE DURING CONSTRUCTION, AND PREVENT STORMWATER FROM RUNNING INTO OR STANDING IN EXCAVATED AREAS. THE FAILURE TO PROVIDE PROPER DRAINAGE WILL NEGATE ANY POSSIBLE ADDED COMPENSATION REQUESTED DUE TO DELAYS OR UNSUITABLE MATERIALS CREATED AS A RESULT THEREOF. FINAL GRADES SHALL BE PROTECTED AGAINST DAMAGE FROM EROSION, SEDIMENTATION AND TRAFFIC. E. PLANS FOR THE SITE DETERMINING, IF EMPLOYED, SHALL BE SUBMITTED TO AND APPROVED BY THE OWNER PRIOR TO IMPLEMENTATION. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR DETERMINING DURING CONSTRUCTION. F. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF THE "SOIL EROSION AND SEDIMENTATION CONTROL MEASURES". THE INITIAL ESTABLISHMENT OF EROSION CONTROL PROCEDURES AND THE PLACEMENT OF SILT AND FILTER FENCING, ETC., TO PROTECT ADJACENT PROPERTY, WETLANDS, ETC., SHALL OCCUR BEFORE GRADING BEGINS. A MUNICIPAL EROSION CONTROL INSPECTION MAY BE REQUIRED BEFORE ANY EARTHWORK IS PERFORMED. G. PRIOR TO COMMENCEMENT OF GRADING ACTIVITIES, THE CONTRACTOR SHALL ERECT A "SNOW FENCE" AROUND ANY TREE DESIGNATED TO BE PRESERVED. SAID FENCE SHALL BE PLACED IN A CIRCLE CENTERED AROUND THE TREE, THE DIAMETER OF WHICH SHALL BE SUCH THAT THE ENTIRE DRIP ZONE (EXTENT OF FURTHEST EXTENDING BRANCHES) SHALL BE WITHIN THE FENCE LIMITS. THE EXISTING GRADE WITHIN THE FENCED AREA SHALL NOT BE DISTURBED. H. EXCESS MATERIALS, IF NOT UTILIZED AS FILL, SHALL BE COMPLETELY REMOVED FROM THE CONSTRUCTION SITE AND DISPOSED OF OFF-SITE BY THE CONTRACTOR. I. ALL EARTHWORK SHALL BE DONE UNDER THE SUPERVISION OF AN ILLINOIS LICENSED ENGINEER WHO SPECIALIZES IN THE GEOTECHNICAL FIELD (SOILS ENGINEER). THIS ENGINEER WILL BE RESPONSIBLE FOR ENSURING THAT ALL UNSUITABLE MATERIALS ARE REMOVED, ALL STRUCTURAL FILL MATERIALS ARE PROPERLY PLACED AND COMPACTED, ALL PAVEMENT SUBGRADES ARE PROPERLY PREPARED, PROOF ROLLING SUBGRADES AND BASE COURSES, AND ENSURING THAT ALL WATER RETAINING EMBANKMENTS ARE PROPERLY CONSTRUCTED. THE DEVELOPER PAYS FOR ALL GEOTECHNICAL SERVICES. 2. TOPSOIL EXCAVATION INCLUDES: A. EXCAVATION OF TOPSOIL AND OTHER STRUCTURALLY UNSUITABLE MATERIALS WITHIN THOSE AREAS THAT WILL REQUIRE EARTH EXCAVATION OR COMPACTED EARTH FILL MATERIAL. EXISTING VEGETATION SHALL BE REMOVED PRIOR TO STRIPPING TOPSOIL OR FILLING AREAS. B. PLACEMENT OF THE EXCAVATED MATERIAL IN OWNER DESIGNATED AREAS FOR FUTURE USE WITHIN AREAS TO BE LANDSCAPED, AND THOSE AREAS NOT REQUIRING STRUCTURAL FILL MATERIAL. PROVIDE NECESSARY EROSION CONTROL MEASURES FOR STOCKPILE. C. TOPSOIL STOCKPILED FOR RESPREAD SHALL BE FREE OF CLAY AND SHALL NOT CONTAIN ANY OF THE TRANSITIONAL MATERIAL BETWEEN THE TOPSOIL AND CLAY. THE TRANSITIONAL MATERIAL SHALL BE USED IN NON-STRUCTURAL FILL AREAS OR DISPOSED OF OFF-SITE. D. TOPSOIL RESPREAD SHALL INCLUDE HAULING AND SPREADING 6" OF TOPSOIL OVER AREAS TO BE LANDSCAPED WHERE SHOWN ON THE PLANS OR DIRECTED BY THE OWNER. E. MODERATE COMPACTION IS REQUIRED IN NON-STRUCTURAL FILL AREAS. 3. EARTH EXCAVATION INCLUDES: A. EXCAVATION OF CLAY AND OTHER MATERIALS WHICH ARE SUITABLE FOR USE AS STRUCTURAL FILL. THE EXCAVATION SHALL BE TO WITHIN A TOLERANCE OF 0.1 FEET OF THE PLAN SUBGRADE ELEVATIONS WHILE MAINTAINING PROPER DRAINAGE. THE TOLERANCE WITHIN PAVEMENT AREAS SHALL BE SUCH THAT THE EARTH MATERIALS SHALL "BALANCE" DURING THE FINE GRADING OPERATION. B. PLACEMENT OF THE CLAY AND OTHER SUITABLE MATERIALS SHALL BE WITHIN THOSE AREAS REQUIRING STRUCTURAL FILL IN ORDER TO ACHIEVE THE PLAN SUBGRADE ELEVATIONS TO WITHIN A TOLERANCE OF 0.1 FEET. THE FILL MATERIAL SHALL BE PLACED IN LOOSE LIFTS THAT SHALL NOT EXCEED EIGHT (8) INCHES IN THICKNESS, AND THE WATER CONTENT SHALL BE ADJUSTED IN ORDER TO ACHIEVE REQUIRED COMPACTION. STRUCTURAL FILL MATERIAL MAY BE PLACED WITHIN THOSE PORTIONS OF THE SITE NOT REQUIRING STRUCTURAL FILL, TO WITHIN SIX (6) INCHES OF THE PLAN FINISHED GRADE ELEVATION, IN AREAS REQUIRING STRUCTURAL FILL. HOWEVER, THIS MATERIAL SHALL NOT BE PLACED OVER TOPSOIL OR OTHER UNSUITABLE MATERIALS UNLESS SPECIFICALLY DIRECTED BY A SOILS ENGINEER WITH THE CONCURRENCE OF THE OWNER. C. COMPACTION OF THE CLAY AND OTHER SUITABLE MATERIALS SHALL BE TO AT LEAST 93% OF THE MODIFIED PROCTOR DRY DENSITY WITHIN PROPOSED PAVEMENT AREAS, SIDEWALK, ETC. COMPACTION SHALL BE AT LEAST 95% OF THE MODIFIED PROCTOR WITHIN PROPOSED BUILDING PAD AREAS. D. EXCAVATIONS: QUANTITIES OF EARTH EXCAVATION INDICATED ELSEWHERE IN THIS CONTRACT HAVE BEEN COMPUTED BY THE END AREA METHOD AS PROVIDED FOR IN SECTION 202 OF THE STANDARD SPECIFICATIONS. EXCAVATED MATERIALS NOT NEEDED FOR THIS JOB SITE SHALL BE LEGALLY DISPOSED OF. PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE PER CUBIC YARD OF EARTH EXCAVATION. 4. UNSUITABLE MATERIAL UNSUITABLE MATERIAL SHALL BE CONSIDERED AS MATERIAL WHICH IS NOT SUITABLE FOR THE SUPPORT OF PAVEMENT AND BUILDING CONSTRUCTION, AND IS ENCOUNTERED BELOW NORMAL TOPSOIL DEPTHS AND THE PROPOSED SUBGRADE ELEVATION. THE DECISION TO REMOVE SAID MATERIAL, AND TO WHAT EXTENT, SHALL BE MADE BY A SOILS ENGINEER WITH THE CONCURRENCE OF THE OWNER. 5. MISCELLANEOUS THE CONTRACTOR SHALL: A. SPREAD AND COMPACT UNIFORMLY TO THE DEGREE SPECIFIED ALL EXCESS TRENCH SPOIL AFTER COMPLETION OF THE UNDERGROUND IMPROVEMENTS. B. SCARIFY, DISC, AERATE, AND COMPACT, TO THE DEGREE SPECIFIED, THE UPPER TWELVE (12) INCHES OF THE SUITABLE SUBGRADE MATERIAL, IN ALL AREAS THAT MAY BE SOFT DUE TO EXCESS MOISTURE CONTENT. THIS APPLIES TO CUT AREAS AS WELL AS FILL AREAS. C. PROVIDE WATER TO ADD TO DRY MATERIAL IN ORDER TO ADJUST THE MOISTURE CONTENT FOR THE PURPOSE OF ACHIEVING THE SPECIFIED COMPACTION. D. BACKFILL THE CURB AND GUTTER AFTER ITS CONSTRUCTION AND PRIOR TO THE PLACEMENT OF THE BASE COURSE MATERIAL. THE CURBS SHALL NOT BE BACKFILLED UNTIL THE CONCRETE HAS CURED FOR AT LEAST 7 DAYS. E. TRENCH COMPACTION: ALL TRENCHES SHALL BE COMPACTED BY MECHANICAL TECHNIQUES APPROVED BY THE SOILS ENGINEER UNTIL PROPER COMPACTION IS ACHIEVED. THE REQUIREMENT FOR MECHANICAL COMPACTION MAY BE WAIVED IF, IN THE OPINION OF THE SOILS ENGINEER AND THE MUNICIPAL ENGINEER, THE BACKFILLED TRENCHES MEET THE DENSITY REQUIREMENTS. JETTING OF TRENCHES FOR COMPACTION WILL NOT BE ALLOWED. 6. TESTING AND FINAL ACCEPTANCE A. THE CONTRACTOR SHALL PROVIDE AS A MINIMUM, A FULLY LOADED SIX-WHEEL TANDEM AXLE TRUCK FOR PROOF ROLLING THE PAVEMENT SUBGRADE PRIOR TO THE PLACEMENT OF THE CURB AND GUTTER AND THE BASE MATERIAL. THIS SHALL BE WITNESSED BY MUNICIPAL ENGINEER AND THE OWNER. SEE PAVING SPECIFICATION. B. ANY UNSUITABLE AREA ENCOUNTERED AS A RESULT OF PROOF ROLLING SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL, OR OTHERWISE CORRECTED, APPROVED BY THE SOILS CONSULTANT. C. ANY TESTING THAT IS REQUIRED OF THIS CONSTRUCTION IS CONSIDERED INCIDENTAL TO THE COST OF CONSTRUCTION. NO SEPARATE PAYMENT WILL BE MADE.		1. GENERAL: A. ALL STORM SEWER PIPE SHALL BE RCP, UNLESS OTHERWISE NOTED ON THE PLANS, IN ACCORDANCE WITH THE FOLLOWING: PLAN CODE: MATERIAL RCP: REINFORCED CONCRETE PIPE (ASTM C-76) WITH O-RING GASKETED JOINTS. (ASTM C-443): TYPE 1, CLASS IV, PER SSRC SECTION 603. ELLIPTICAL RCP PIPE SHALL BE TYPE 1, HE-111 PER SSRC SECTION 511. PRECAST FLARED END SECTIONS MAY HAVE MASTIC JOINTS. PAYMENTS SHALL BE MADE AT THE CONTRACT UNIT PRICE PER LINEAR FOOT OF STORM SEWER COMPLETE IN PLACE. DIP: DUCTILE IRON WATERMAIN QUALITY PIPE CLASS 52 (ANSI 21.51) WITH MECHANICAL OR PUSH-ON JOINTS (ANSI 21.11). CEMENT LINING IS NOT REQUIRED. PVC: POLYVINYL CHLORIDE SEWER PIPE, SDR 26, CONFORMING TO ASTM D-3034 WITH ASTM D-3212 PUSH-ON GASKETED JOINTS. HOPE: HIGH DENSITY POLYETHYLENE CORRUGATED PIPE WITH SMOOTH INTERIOR MEETING AASHTO M-294 SUCH AS ADS N-12 BY ADVANCED DRAINAGE SYSTEM, COLUMBUS, OH; OR H1-Q BY HANCON, FINDLEY, OH. JOINTS SHALL BE SPLIT CORRUGATED BANDS BY THE PIPE MANUFACTURER. UD: RIGID, PERFORATED PVC UNDERDRAIN PIPE (ASTM D-2729), SDR 35, OR SCHEDULE 40, WITH SOLVENT WELD JOINTS AND FILTER FABRIC WRAPPING OR SOCK. PERFORATED HOPE PIPE ALSO ACCEPTABLE. B. "BAND SEAL" OR SIMILAR COUPLINGS SHALL BE USED WHEN JOINING SEWER PIPES OF DISSIMILAR MATERIALS. "BAND SEAL", "FERROCO", AND "MISSION" TYPE COUPLINGS SHALL NOT BE USED ON SEWER MAINS. CHANGES IN PIPE MATERIAL SHALL BE MADE AT A STRUCTURE. C. ALL STORM SEWERS ARE TO BE CONSTRUCTED USING A LASER INSTRUMENT TO MAINTAIN LINE AND GRADE. D. ALL FOOTING DRAIN AND SUMP PUMP DISCHARGE PIPES SHALL BE CONNECTED TO THE STORM SEWER SYSTEM. DOWNSPOUTS SHALL DISCHARGE TO THE GROUND. E. THE CONTRACTOR SHALL MAINTAIN AT LEAST THREE (3') FEET OF COVER OVER THE TOP OF SHALLOW PIPES AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR SHALL MOUND OVER ANY PIPES WHICH HAVE LESS THAN THREE (3') FEET OF COVER DURING CONSTRUCTION UNTIL THE AREA IS FINAL GRADED OR PAVED. 2. BEDDING: A. ALL STORM SEWERS SHALL BE INSTALLED ON A TYPE A GRANULAR BEDDING, 1/4" TO 3/4" IN SIZE (CA-13) WITH A MINIMUM THICKNESS EQUAL TO 1/4 THE OUTSIDE DIAMETER OF THE SEWER PIPE BUT NOT LESS THAN 4". BLOCKING OF ANY KIND FOR GRADE IS NOT PERMITTED. THE BEDDING MATERIALS SHALL BE COMPACTED TO 90% OF MODIFIED PROCTOR DENSITY. BEDDING SHALL EXTEND TO THE SPRINGLINE ON ALL RCP AND DIP PIPE. BEDDING SHALL EXTEND TO 12" OVER ANY PVC OR HOPE PIPE. COST OF BEDDING SHALL BE CONSIDERED INCIDENTAL TO THE COST OF PIPE. NO SEPARATE PAYMENT SHALL BE MADE FOR THIS. 3. STRUCTURES: A. MANHOLE, CATCH BASIN AND INLET BOTTOMS SHALL BE PRECAST CONCRETE SECTIONAL UNITS OR MONOLITHIC CONCRETE. MANHOLES AND CATCH BASINS SHALL BE A MINIMUM 4' IN DIAMETER UNLESS OTHERWISE SPECIFIED ON THE PLANS. STRUCTURE JOINTS SHALL BE SEALED WITH O-RING OR BUTYL ROPE. "CRETEX" RISER RINGS SHALL EXCLUSIVELY BE USED, AS NEEDED, TO ADJUST THE FRAMES AND GRATES OF ALL STRUCTURES UP TO A MAXIMUM OF TWELVE INCHES (12"). THEY SHALL BE INSTALLED AND SEALED UNDERNEATH THE FRAMES ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS. B. A CONCRETE BENCH TO DIRECT FLOWS SHALL BE CONSTRUCTED IN THE BOTTOM OF ALL INLETS AND MANHOLES. C. THE FRAME, GRATE, AND/OR CLOSED LID SHALL BE CAST IRON OF THE STYLE SHOWN ON THE PLANS. D. MANHOLE LIDS SHALL BE EAST JORDAN. THE CLOSED LIDS SHALL HAVE THE WORD "CREST HILL STORM" CAST ON THE LID. THE JOINTS BETWEEN CONCRETE SECTION ADJUSTING RINGS, AND FRAME SHALL BE SEALED WITH A MASTIC COMPOUND. 4. FRENCH DRAIN: A. ALL LOW POINT STORM STRUCTURES ARE TO HAVE FOUR 1" DIAMETER WEEP HOLES PROVIDED 24" BELOW THE TOP OF THE LID. THE HOLES SHALL BE COVERED WITH A GEOTEXTILE FILTER FABRIC CEMENTED IN PLACE WITH BITUMINOUS MASTIC. THE DRAIN SHALL BE BACKFILLED WITH BEDDING OR CA-7 CRUSHED STONE TO TOP OF SUBGRADE OR BOTTOM OF TOPSOIL. 5. CASTINGS: A. CASTINGS FOR SEWER OR OTHER STRUCTURES SHALL BE "E1" OR APPROVED EQUAL. COST OF CASTINGS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE STRUCTURE. NO SEPARATE PAYMENT SHALL BE MADE FOR THIS ITEM. 6. CLEANING: A. THE STORM SEWER SYSTEM SHALL BE THOROUGHLY CLEANED PRIOR TO FINAL INSPECTION AND TESTING. 7. TELEVISION: A. THE STORM SEWER SYSTEM SHALL BE TELEVIEWED IF REQUIRED BY MUNICIPALITY. 1. GENERAL: A. ALL STORM SEWER PIPE SHALL BE RCP, UNLESS OTHERWISE NOTED ON THE PLANS, IN ACCORDANCE WITH THE FOLLOWING: PLAN CODE: MATERIAL RCP: REINFORCED CONCRETE PIPE (ASTM C-76) WITH O-RING GASKETED JOINTS. (ASTM C-443): TYPE 1, CLASS IV, PER SSRC SECTION 603. ELLIPTICAL RCP PIPE SHALL BE TYPE 1, HE-111 PER SSRC SECTION 511. PRECAST FLARED END SECTIONS MAY HAVE MASTIC JOINTS. PAYMENTS SHALL BE MADE AT THE CONTRACT UNIT PRICE PER LINEAR FOOT OF STORM SEWER COMPLETE IN PLACE. DIP: DUCTILE IRON WATERMAIN QUALITY PIPE CLASS 52 (ANSI 21.51) WITH MECHANICAL OR PUSH-ON JOINTS (ANSI 21.11). CEMENT LINING IS NOT REQUIRED. PVC: POLYVINYL CHLORIDE SEWER PIPE, SDR 26, CONFORMING TO ASTM D-3034 WITH ASTM D-3212 PUSH-ON GASKETED JOINTS. HOPE: HIGH DENSITY POLYETHYLENE CORRUGATED PIPE WITH SMOOTH INTERIOR MEETING AASHTO M-294 SUCH AS ADS N-12 BY ADVANCED DRAINAGE SYSTEM, COLUMBUS, OH; OR H1-Q BY HANCON, FINDLEY, OH. JOINTS SHALL BE SPLIT CORRUGATED BANDS BY THE PIPE MANUFACTURER. UD: RIGID, PERFORATED PVC UNDERDRAIN PIPE (ASTM D-2729), SDR 35, OR SCHEDULE 40, WITH SOLVENT WELD JOINTS AND FILTER FABRIC WRAPPING OR SOCK. PERFORATED HOPE PIPE ALSO ACCEPTABLE. B. "BAND SEAL" OR SIMILAR COUPLINGS SHALL BE USED WHEN JOINING SEWER PIPES OF DISSIMILAR MATERIALS. "BAND SEAL", "FERROCO", AND "MISSION" TYPE COUPLINGS SHALL NOT BE USED ON SEWER MAINS. CHANGES IN PIPE MATERIAL SHALL BE MADE AT A STRUCTURE. C. ALL STORM SEWERS ARE TO BE CONSTRUCTED USING A LASER INSTRUMENT TO MAINTAIN LINE AND GRADE. D. ALL FOOTING DRAIN AND SUMP PUMP DISCHARGE PIPES SHALL BE CONNECTED TO THE STORM SEWER SYSTEM. DOWNSPOUTS SHALL DISCHARGE TO THE GROUND. E. THE CONTRACTOR SHALL MAINTAIN AT LEAST THREE (3') FEET OF COVER OVER THE TOP OF SHALLOW PIPES AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR SHALL MOUND OVER ANY PIPES WHICH HAVE LESS THAN THREE (3') FEET OF COVER DURING CONSTRUCTION UNTIL THE AREA IS FINAL GRADED OR PAVED.		1. Sanitary sewers, main, and services and their fittings shall be constructed of one (1) or more of the following materials: a. PVC pipe, ASTM D-3034, SDR26 with elastomeric gasket joints conforming to ASTM D-3212. b. Ductile iron pipe Class 52 with joints conforming to ANSI A21.11. Only when approved for structural purposes by the City Engineer or Director of Public Works or designated representative. 2. Sanitary sewer manholes shall be at least five (5)-feet zero (0)-inches diameter precast structures. Frames shall be East Jordan 1020, 1022 on 1050 HD with self-sealing application lids with concealed pick holes. Lids shall be imprinted with the words "CITY OF CREST HILL SANITARY". 3. Sanitary sewer manholes and inspection manholes shall have eccentric cones. All manhole sections and adjusting rings shall be securely sealed to each other using pre-formed bituminous mastic such as "RAM-NEK." This mastic shall be applied in such a manner that ground water inflow cannot enter the manhole through gaps between barrel sections or cone sections and adjusting rings. Double "TAR STICK" may be required in areas with high water tables. External "CRETEX" brand chimney seals shall be installed in all manholes. "MAC RAP" is to be used at all manhole section joints. All adjusting rings shall be "CRETEX" brand. No concrete adjustment rings shall be allowed. 4. All pipe connections in/out of a sanitary manhole shall be cored, booted, and grouted with gasket type water stop gaskets, with stainless steel bands per ASTM C923. 5. Sanitary sewer service risers shall be used when sewer main exceeds 12-feet in depth. The bedding under the riser tee shall thoroughly compacted. The engineer reserves the right to require concrete encasement of the riser or a concrete thrust block under the tee. 6. All sanitary sewers including service stubs shall be subject to an air test Section 31 of the Standard Specifications. Applicable portions of main line sewer including main with riser sections shall be subjected to a deflection test conducted by the contractor. All testing shall be observed by a City of Crest Hill Public Works Department Representative. 7. The main sanitary sewer shall be televised prior to acceptance. Digital video footage (on a DVD, flash drive, or similar) along with a paper report shall be submitted to the City of Crest Hill Public Works Department. All sewer televising must be performed by NASSCO certified operators using current NASSCO standards and coding system that can be found in current NASSCO documents. The contractor, without delay, shall preform all necessary corrective work. 8. Control and sampling manholes must be installed in the ROW or as approved by the City of Crest Hill on a straight portion of the line without any bends inside the manhole or within five (5)-feet of the exterior of the manhole. In the event that a grease trap is needed, the grease trap shall precede the sample manhole. The grease waste service must connect to a main service before the sample manhole. 9. All sump pumps must discharge outside of the home or to the storm sewer system. All interior floor drains waste ejector pits must connect to the sanitary sewer system. 10. All sanitary sewer stubs shall be marked with 4x4 post painted green and marked on the curb (if applicable). 11. Structures, manholes, inlets, catch basin sumps, and valve vaults shall be cleaned prior to any inspection at the end of the project and prior to City acceptance. Sanitary and storm sewer main shall be jet cleaned if evidence of debris build-up is present at the time of City acceptance. 12. Vehicle and truck dock drains must meet the plumbing code requirements, including waste interceptors, and must be approved by the City Public Works Director or designated representative. 13. When existing stubs are not available, all service connections to mainline sewer shall consist of the following: a. If existing sewer is PVC or clay pipe, the mainline sewer shall be cut and a wye section with chamfer shall be installed with non-sheer mission coupling placed over connection points; for clay, a minimum of two (2)-feet of PVC is required on each side of wye; b. Existing stubs or services planned for use must be televised and verified by the City of Crest Hill to be in acceptable condition prior to use or reuse; and c. Break in connections are not permitted. d. Sanitary Services must be a minimum of 6" and have an outside clean out access. 14. Only 45° of Bends per service is allowed.		1. Testing and Inspection for Acceptance of Sanitary Sewers a. Exfiltration of air under pressure. b. Deflection of flexible Thermoplastic Pipe. c. Televising. 2. Testing Technique All Testing Methods: All wyes, tees, and stubs shall be plugged with flexible jointed caps, or acceptable alternate, securely fastened to withstand the internal test pressure. Such plugs or caps shall be readily removable. a. Air Testing Method Procedures: The section of sewer to be tested shall have been trench backfilled and cleared. Pneumatic plugs (having a sealing length equal to or greater than the diameter of the pipe to be tested) placed in both ends of the pipe to be tested shall be inflated to 25 psig. The sealed sewer pipe shall then be pressurized to four (4) psig above the average back pressure of groundwater over the sewer pipe and the air pressure allowed to stabilize for at least two (2) minutes. After the stabilization period the line shall be pressurized to three and a half (3.5) psig and the time in minutes measured for pressure to drop to two and a half (2.5) psig. If groundwater is present, the air pressure within shall be increased to three and a half (3.5) psig above the level of the groundwater and the drop of one (1) pound of air pressure measured in minutes. Air testing techniques shall be in accordance with the latest ASTM Standard Practice for testing sewer lines by low-pressure air test method for the appropriate pipe material, except that the time shall not be less than that shown in the Air Test Table contained in Section 31-1.11 C of the Standard Specifications for Water and Sewer Main Construction. 3. Deflection Testing for Flexible Thermoplastic Pipe: a. The pipeline shall be tested for excess deflection by pulling a "go/no go" mandrel through the pipe from manhole to manhole. The mandrel shall be sized in accordance with Section 31-1.11 and record deflection. b. Wherever possible and practical, the testing shall initiate at the downstream lines and proceed towards the upstream lines. c. Where deflection is found to be in excess of allowable testing limits, the contractor shall excavate to the point of excess deflection and carefully compact around the point where excess deflection was found. The line shall then retested for deflection. However, should after the initial testing the deflection pipe fail to return to the original size (inside diameter), the line shall be replaced. 4. Televising Standards a. The main sanitary sewer shall be televised prior to acceptance. A videotape, CD, or DVD (along with a paper report) shall be submitted to the City of Crest Hill Public Works Department. All sewer televising must be performed by NASSCO certified operators using current NASSCO standards and coding system that can be found in current NASSCO documents. The contractor without delay shall preform all necessary corrective work.	

11 OF 14

SP1

SHEET

JOB NO.
10656.04

DATE:
08/21/26

FILENAME:
10656.04SPEC

spacecoinc.com

Civil Engineering & Surveying

Indianapolis, IN

Morris, IL

Rosemont, IL

CREST HILL COMMONS -PHASE 1

CREST HILL, IL

SPECIFICATIONS

REMARKS

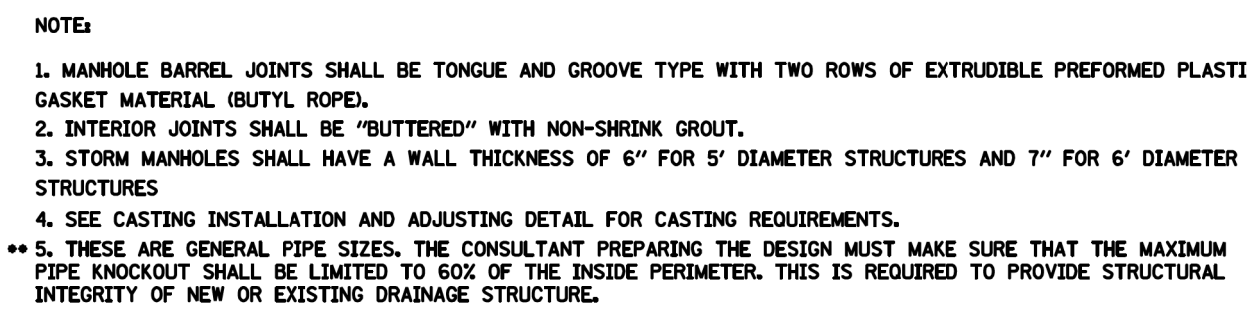
DATE

NO.

REMARKS

DATE

NO.

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SEE PLAN FOR DEPTH

THREADED SCREW TYPE PLUG

PLUG - 45° BEND

PVC WYE BRANCH

PLUG

NOTE:
FITTINGS USED FOR ROD-OUT TO BE
COMPATIBLE WITH PVC, SDR 26 ASTM 3034
SEE SHEET UT1 FOR CLEANOUT SIZES

STORM CLEAN OUT

UNPAVED AREA, 6'-9" TOPSOIL

PROPOSED HMA SURFACE COURSE (SEE NOTES)

PROPOSED HMA BASE COURSE (SEE NOTES)

SAW CUT JOINT

EXCAVATED MATERIALS, COMPACTED TO 85% MODIFIED PROCTOR MAXIMUM DENSITY, EXCEPT WHERE CA-T IS REQUIRED

TRENCH BACKFILL (PER SECTION 208) SHALL BE PROVIDED FOR PIPES BEHATH OR WITHIN 2' OF EXISTING OR PROPOSED PAVEMENTS, DRIVEWAYS, OR SIDEWALKS.

DEPTH OF TRENCH

STORM SEWER SHALL BE REINFORCED CONCRETE PIPE (ASTM C76) WITH RUBBER GASKET JOINTS (ASTM C443). WHERE ELLIPTICAL PIPE IS USED (ASTM PIPE CLASS SHALL BE EQUAL TO OR GREATER THAN THE MINIMUM REQUIRED BY ARTICLE 650.03 OF THE IDOT STANDARD SPECIFICATIONS (CLASS III MDL).

FOR PRIVATE STORM SEWER APPLICATIONS, RCP & STORM PIPE MUST COMPLY WITH MINIMUM IDOT STANDARD SPECIFICATIONS

ENTERED, REMOVE UNSUITABLE AND REPLACE WITH SUITABLE AS DIRECTED BY THE ENGINEER

MAX WIDTH = 9" + 40d + 9" WHEN D ≤ 5 FT
MAX WIDTH = 18" + 40d + 18" WHEN D > 5 FT

OUTSIDE DIAMETER

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5" MIN.

5" MIN.

2'-0" DIA.

R=2"

CAST-IN-PLACE CONCRETE FILLET SLOPE TO DRAIN

PRECAST CONCRETE BOTTOM

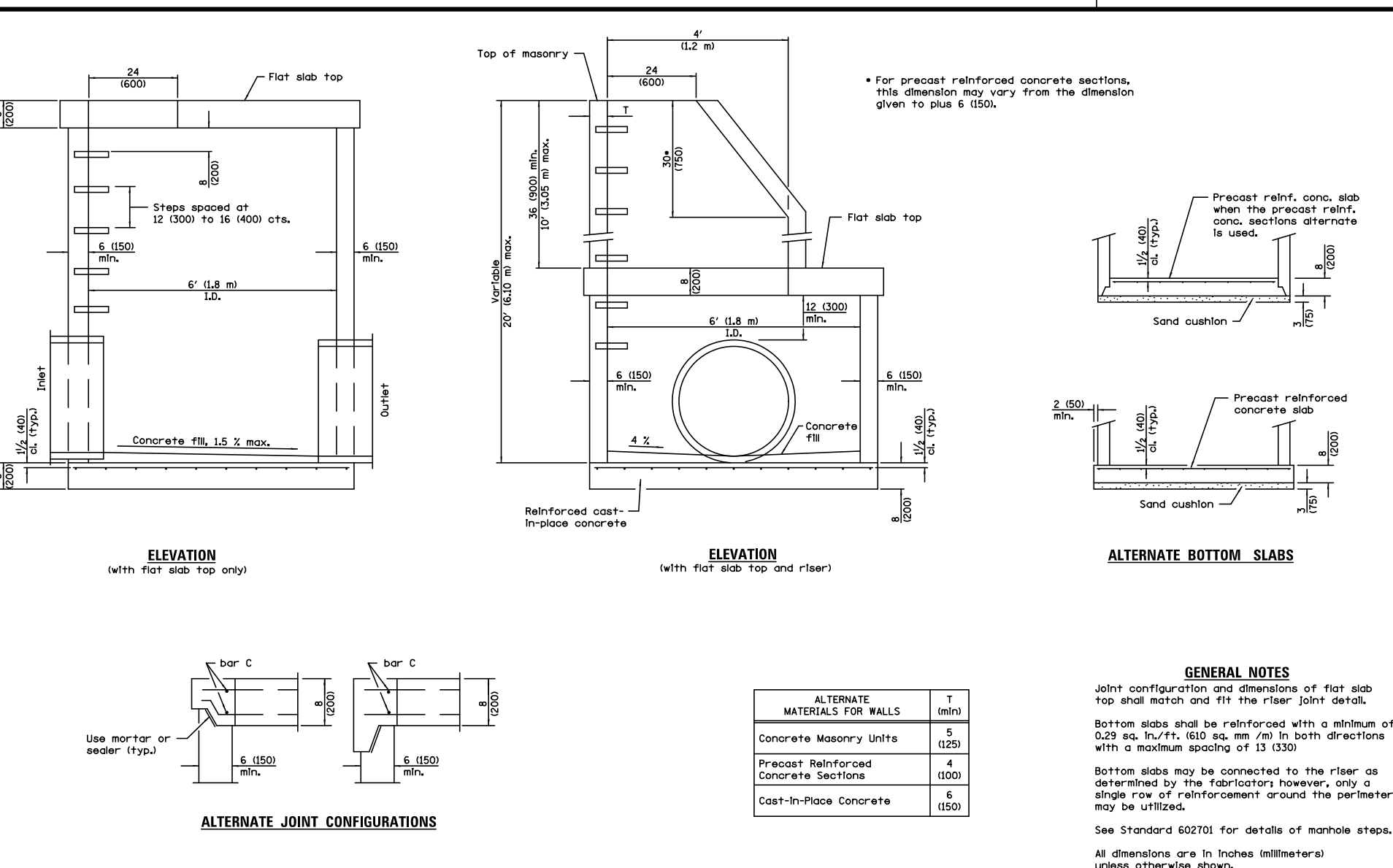
4" CA-7 BEDDING

NO SCALE

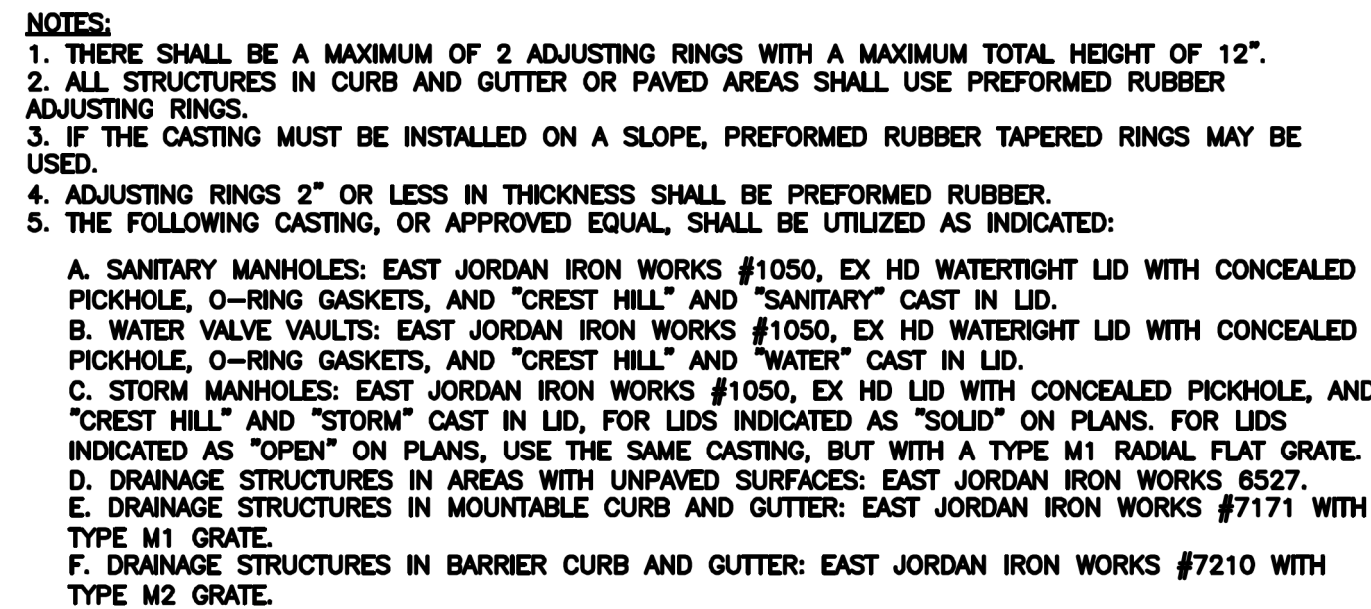
NOTES:

1. SEE CASTING INSTALLATION AND ADJUSTMENT DETAIL FOR CASTING REQUIREMENTS.
2. INTERIOR JOINTS SHALL BE "BUTTERED" WITH NON-SHRINK GROUT.
3. STRUCTURE SHALL COMPLY WITH ASTM C478.

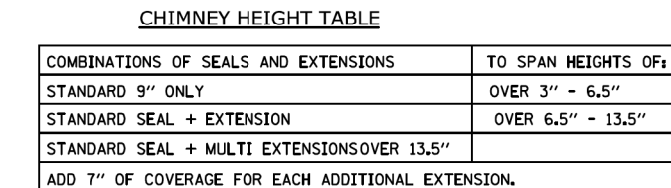
INLET

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DETAILS - 1



TYPE 1 LID-CLOSED LID

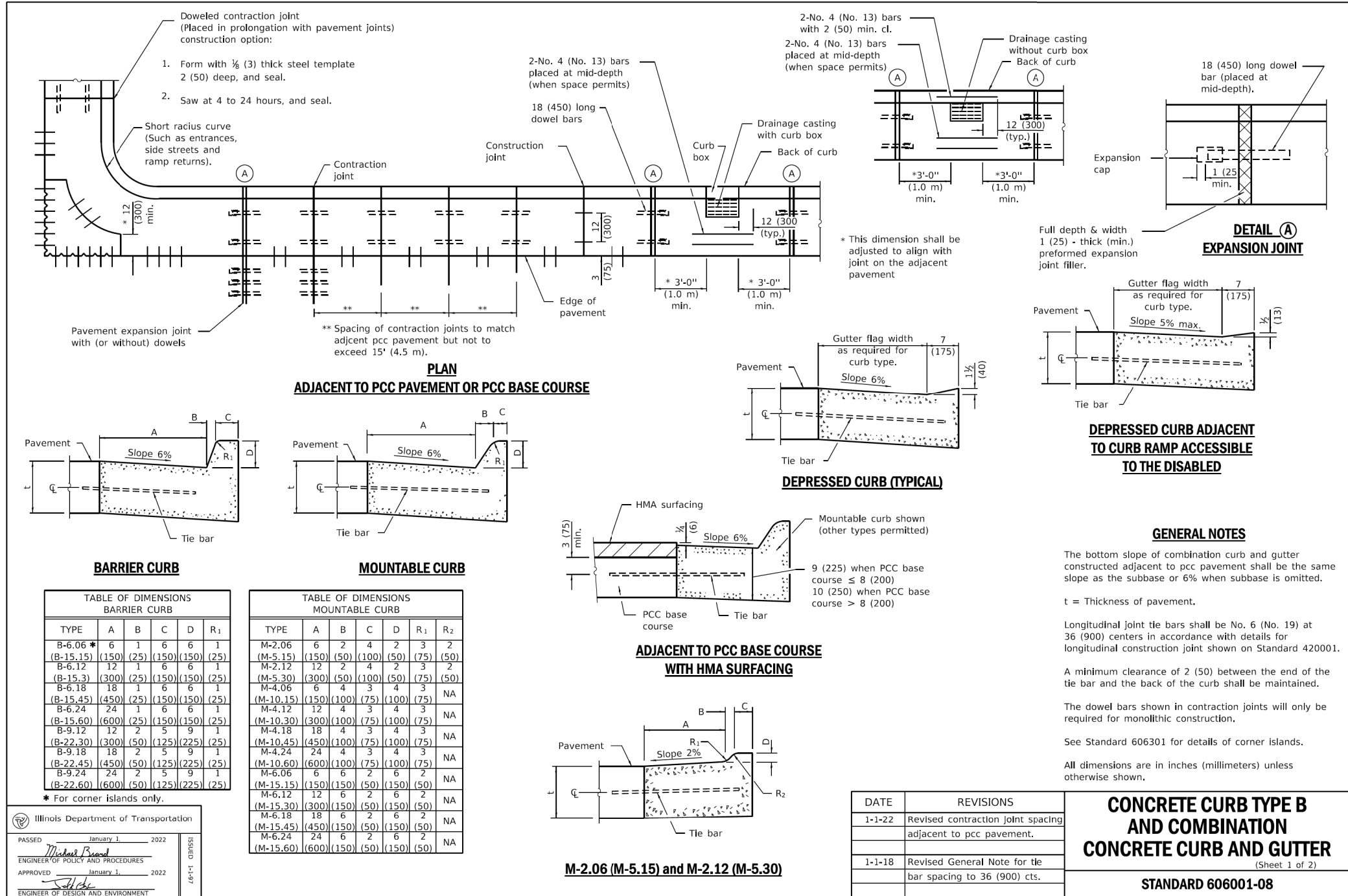
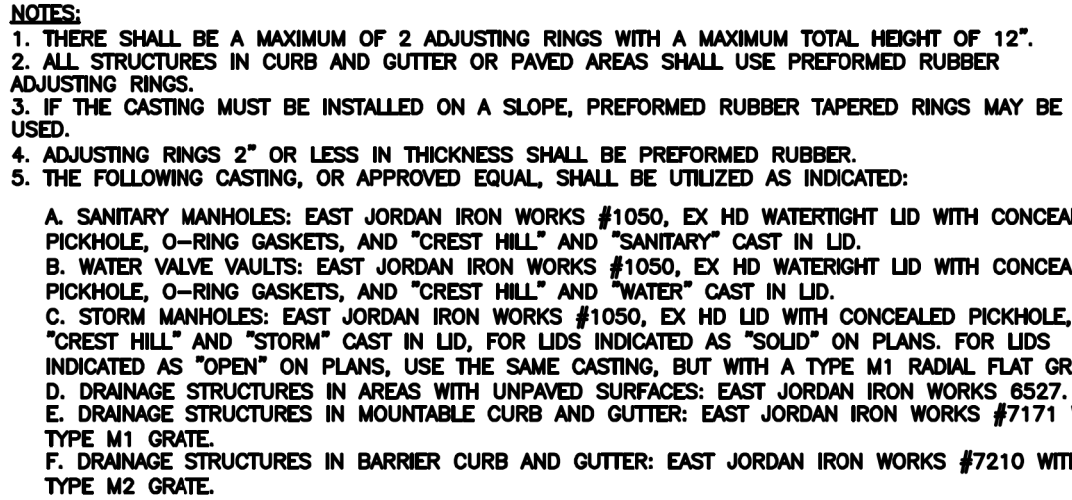


ALL BLOCKING MUST BEAR ON UNDISTURBED EARTH.
ALL BENDS OR ELBOWS GREATER THAN AND INCLUDING 11.25°
SHALL HAVE THRUST BLOCKING. WOOD SHIMS NOT ALLOWED.



NOTES:
1. DEPTHS 10' SDR 26 PVC SEWER PIPE PER ASTM D-3034 CELL CLASS 1245A8
2. NEW SERVICES TO BE PVC OR CAST IRON ONLY. CLAY NOT PERMITTED. 4. SEE SAN-8 FOR BEDDING AND BACKFILL
3. SEE SAN-8 FOR BEDDING AND BACKFILL
4. WATER MAIN QUALITY PVC C909 PIPE IF OVER EXISTING UTILITY

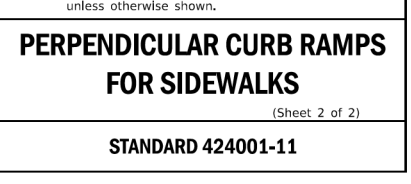
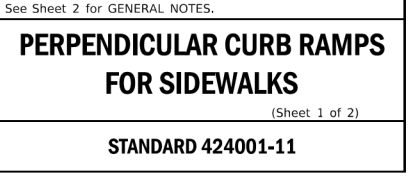
BUILDING SERVICE RISER



BARRIER CURB										MOUNTABLE CURB									
TABLE OF DIMENSIONS										TABLE OF DIMENSIONS									
BARRIER CURB										MOUNTABLE CURB									
TYPE	A	B	C	D	E	F	G	H	I	TYPE	A	B	C	D	E	F	G	H	I
8-0-06	6	1	6	6	6	1				N-016	6	2	4	2	3	2			
8-0-06	12	1	12	12	12	1				N-016	12	2	4	2	3	2			
8-0-17	12	1	12	12	12	1				N-017	12	2	4	2	3	2			
8-0-17	12	1	12	12	12	1				N-017	12	2	4	2	3	2			
8-0-18	18	1	18	18	18	1				N-018	18	2	4	2	3	2			
8-0-18	18	1	18	18	18	1				N-018	18	2	4	2	3	2			
8-0-24	24	1	24	24	24	1				N-024	12	2	4	2	3	2			
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8-0-24	24	1	24	24	24	1				N-024	12	2	4	2	3	2			
8-0-17	12	1	12	12	12	1				N-017	12	2	4	2	3	2			
8-0-18	18	1	18	18	18	1				N-018	18	2	4	2	3	2			
8-0-18	18	1	18	18	18	1				N-018	18	2	4	2	3	2			
8-0-24	24	1	24	24	24	1				N-024	24	4	2	3	4	3			
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8-0-18	18	1	18	18	18	1				N-018	18	2	4	2	3	2			
8-0-18	18	1	18	18	18	1				N-018	18	2	4	2	3	2			
8-0-24	24	1	24	24	24	1				N-024	24	4	2	3	4	3			
8-0-24	24	1	24	24	24	1				N-024	24	4	2	3	4	3			
8-0-24	24	1	24	24	24	1				N-024	24	4	2	3	4	3			

DATE	REVISIONS	CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER (Sheet 1 of 2) STANDARD 606001-08
1-1-22	Revised contraction joint spacing adjacent to pcc pavement.	
1-1-18	Revised General Note for tie bar spacing to 36 (900) cts.	

CASTING INSTALLATION AND ADJUSTING



1. ADA ramps shall be placed in all locations required by the Americans with Disabilities Act of 1990. (ADA) The ADA requires curb ramps and ramps to be installed along any accessible route in a public area, along a path where there is a change in height greater than 1/4 inch. As an alternative, a facility may use elevators or platform/chair lifts to provide accessibility. In addition, accessibility routes with a 5% or greater slope must be fit with ADA-compliant ramps.
2. Inset ADA Detectable warning surface tile is specified. No dyed concrete will be allowed.
3. The type of detectable warning tile shall be TuFTile warning system or Armor tile, access tile, color brick red.

LIGHTING GENERAL NOTES

1. THE LOCATION OF BURIED AND ABOVE GROUND UTILITIES SHOWN ARE APPROXIMATE AND ARE SHOWN FOR INFORMATION ONLY. REROUTING, DISCONNECTION, RELOCATION, PROTECTION ETC., OF ANY UTILITIES MUST BE COORDINATED BETWEEN THE CONTRACTOR, UTILITY COMPANY, AND OWNER. THE CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES BASED ON UTILITY/JULIE MARKINGS PRIOR TO BEGINNING CONSTRUCTION.
2. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A PERMIT FROM THE CITY OF CREST HILL BEFORE THE START OF WORK. ANY COST FOR PERMIT SHALL BE INCIDENTAL.
3. BEFORE INSTALLING LIGHT STANDARDS NEAR OVERHEAD AND UNDERGROUND ELECTRIC UTILITIES THE CONTRACTOR SHALL CALL ELECTRIC UTILITY COMPANY FOR LOCATION APPROVAL AND MINIMUM EQUIPMENT CLEARANCE REQUIREMENTS.
4. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE FOLLOWING SPECIFICATIONS:

A. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AS PREPARED BY IDOT, ALSO REFERRED TO AS THE "STANDARD SPECIFICATIONS"

B. NATIONAL ELECTRIC CODE (NEC)

C. LOCAL CODES AND STANDARDS

D. COM ED STANDARDS
5. LIGHT POLE LOCATIONS SHALL COMPLY WITH THE MINIMUM CLEAR WIDTHS FOR AN ACCESSIBLE ROUTE FOR SIDEWALKS PER THE CURRENT AMERICAN DISABILITIES ACT (ADA) REQUIREMENTS AND COMPLY WITH IDOT BDE CHAPTER 17-4.04.
6. NO LIGHT POLE SHALL BE ERECTED UNTIL THE FOUNDATION HAS CURED PER ARTICLE 1020.13 OF THE STANDARD SPECIFICATIONS.
7. THE CONTRACTOR SHALL INSTALL LUMINAIRES LEVEL WITH OPTICS SET PERPENDICULAR TO THE CENTERLINE OF THE ROADWAY OR SIDEWALK/PATHWAY.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ESTABLISHMENT OF THE TOP OF FOUNDATION ELEVATION WITH FINISH GRADE AND PROPOSED SITE FEATURES. THE LIGHTING CONTRACTOR SHALL COORDINATE ALL SITE WORK WITH OTHER SUBCONTRACTORS.
9. UNDERGROUND CABLES SHALL BE DISCONNECTED AND REMOVED FROM CONDUITS TO BE ABANDONED.
10. UNDERGROUND CONDUITS TO BE ABANDONED SHALL BE REMOVED TO A MINIMUM OF 2 FT BELOW GRADE.
11. THE ELECTRICAL CONTRACTOR SHALL FURNISH TWO SETS OF FULL SIZE RECORD DRAWINGS TO THE ENGINEER UPON COMPLETION OF THE LIGHTING AND ELECTRICAL IMPROVEMENTS. THE DRAWINGS SHALL SHOW THE INSTALLED LOCATIONS OF ALL LIGHT POLES, CONTROLLERS, UNDERGROUND CONDUITS/WIRING, HANDHOLES, JUNCTION BOXES & RECEPTACLES. THE DRAWINGS WILL BE REVIEWED BY THE ENGINEER.
12. THE CONTRACTOR SHALL LABEL ALL WIRES WITH WIRE MARKERS INDICATING THE CIRCUIT ID IN EVERY CONTROLLER, POLE BASE, HAND HOLE, AND SPLICE/CONNECTION POINT. WIRE MARKERS SHALL BE WHITE NYLON WITH INTEGRAL MECHANICAL FASTENER WITH MINIMUM 3/4" X 1" WRITABLE AREA.
13. ABOVE GRADE CONDUITS SHALL BE RIGID GALVANIZED STEEL (RGS), UNLESS OTHERWISE DIRECTED.

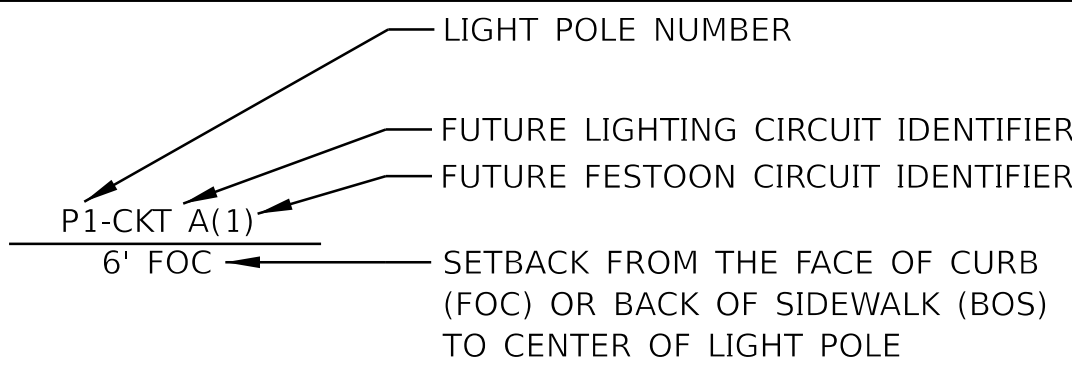
ABBREVIATIONS

ABBREVIATION	DESCRIPTION
AC	ALTERNATING CURRENT
A/C	AERIAL CABLE
B.O.C.	BACK OF CURB
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CP	CONTROL POINT
CT	CURRENT TRANSFORMER
DA	DAVIT ARM
DC	DIRECT CURRENT
DIA	DIAMETER
DP	DISTRIBUTION PANEL
E	EXISTING UNIT TO REMAIN
ECA	ELECTRIC CABLE ASSEMBLY
E.O.P.	EDGE OF PAVEMENT
F.O.C.	FACE OF CURB
FT	FEET OR FOOT
FU	FUSE
GALV	GALVANIZED
GND	GROUND
JB	JUNCTION BOX
KVA	KILOVOLT-AMPERE
KW	KILOWATT
MA	MAST ARM
MC	MULTI-CONDUCTOR
M.H.	MOUNTING HEIGHT
MW	MESSANGER WIRE
NO. #	NUMBER
N.T.S.	NOT TO SCALE
P	PROPOSED
PB	PUSH BUTTON
PNL	PANEL
PVC	POLYVINYL CHLORIDE
PVCC RGC	PVC COATED RIGID GALVANIZED STEEL
PT	POTENTIAL TRANSFORMER
R	EXISTING UNIT TO BE REMOVED
RR	EXISTING UNIT TO BE REMOVED AND REINSTALLED
RECP	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
SEL SW	SELECTOR SWITCH
SPARE	SPARE
SPACE	SPACE
SS	STAINLESS STEEL
STA	STATION
T/F	TOP OF FOUNDATION
UD	UNIT DUCT
U.N.O.	UNLESS OTHERWISE NOTED
WP	WOOD POLE
XFMR	TRANSFORMER
LTFM	LIQUID TIGHT FLEXIBLE METALLIC

LIGHTING LEGEND

	FUTURE 117W LED ORNAMENTAL TYPE LUMINAIRE MOUNTED ON A 28 FT ROUND STRAIGHT ALUMINUM LIGHT POLE
	FUTURE 54W LED POST TYPE LUMINAIRE MOUNTED ON A 14 FT ROUND STRAIGHT ALUMINUM LIGHT POLE
	FUTURE EVENT LIGHT POLE
	FUTURE LIGHTED BOLLARD
	CONCRETE PAD FOR GROUND MOUNTED RECEPTACLE CABINET FOR TREE HOLIDAY LIGHTING
	CONCRETE PAD FOR GROUND MOUNTED RECEPTACLE CABINET FOR EVENT POWER
	COMPOSITE CONCRETE HANDHOLE
	EXISTING LIBRARY LIGHT POLE TO REMAIN
	PROPOSED PAD MOUNTED COM ED TRANSFORMER
	EXISTING PAD MOUNTED COM ED TRANSFORMER

CALL-OUT SAMPLE



BILL OF MATERIALS

ITEM NO.	ITEM DESCRIPTION	UNITS	TOTAL QUANTITIES
20800150	TRENCH BACKFILL	CU YD	33
81028230	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3 1/2" DIA.	FOOT	482
81028320	UNDERGROUND CONDUIT, PVC, 1" DIA.	FOOT	1,687
81028340	UNDERGROUND CONDUIT, PVC, 1 1/2" DIA.	FOOT	2,238
81028350	UNDERGROUND CONDUIT, PVC, 2" DIA.	FOOT	3,570
81028370	UNDERGROUND CONDUIT, PVC, 3" DIA.	FOOT	2,391
81400730	HANDHOLE, COMPOSITE CONCRETE	EACH	18
84500120	REMOVAL OF ELECTRIC SERVICE INSTALLATION	EACH	1
* X8360110	LIGHT POLE FOUNDATION (SPECIAL)	FOOT	69
* X8780105	CONCRETE FOUNDATIONS (SPECIAL)	EACH	5
* -	REMOVE AND RELOCATE EXISTING MONUMENT SERVICE	EACH	1

* SEE LIGHTING PLANS/DETAILS FOR DESCRIPTION, MATERIAL AND CONSTRUCTION REQUIREMENTS ASSOCIATED WITH THE PAY ITEM NUMBERS.

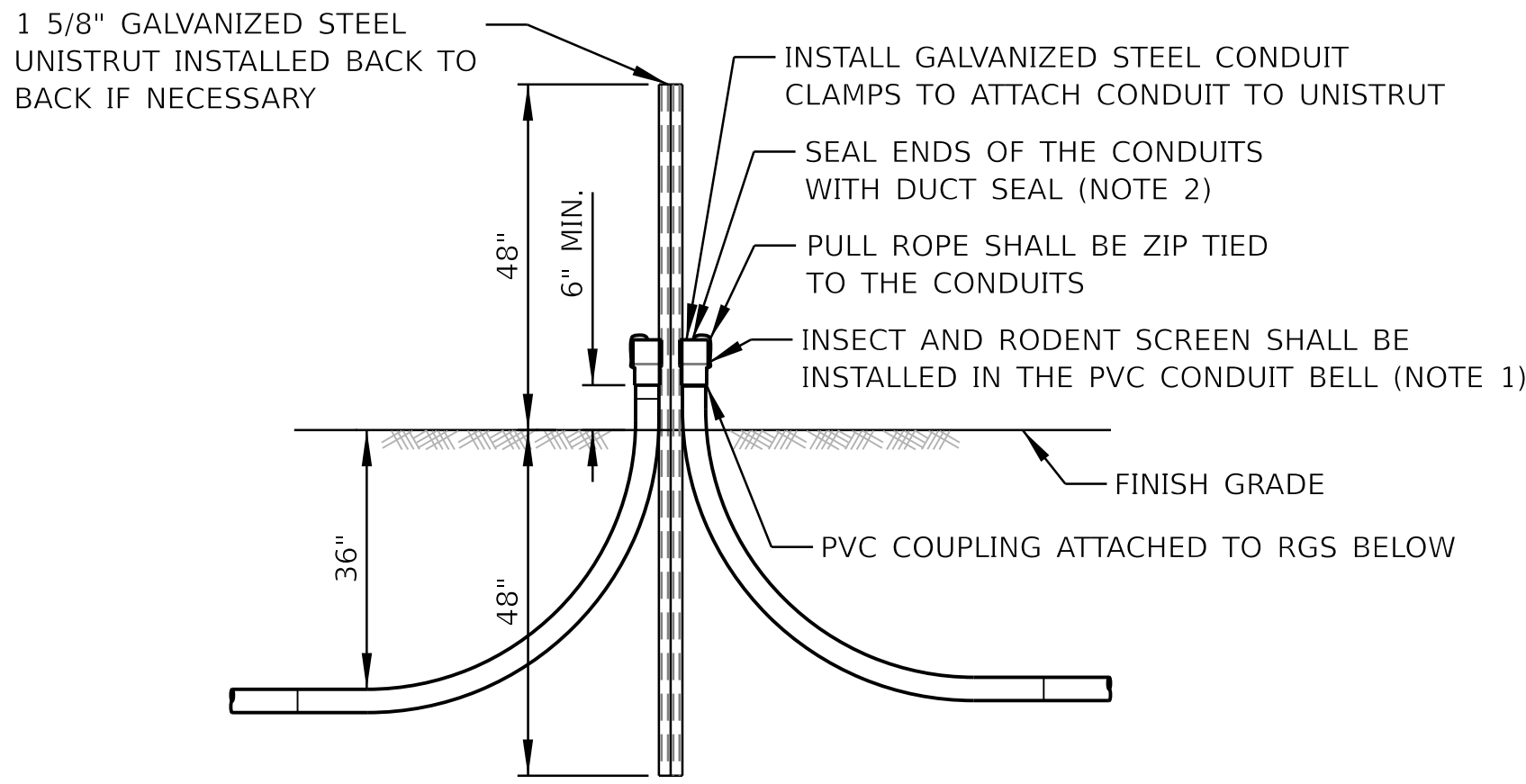
LIGHTING LEGEND, GENERAL NOTES, AND BILL OF MATERIALS

SITE IMPROVEMENT PLANS
CREST HILL COMMONS - PHASE 1
CREST HILL, IL

**Spaceco**
Civil Engineering & Surveying
spacecoinc.com

ROSEMONT, IL - MORRIS, IL - INDIANAPOLIS, IN

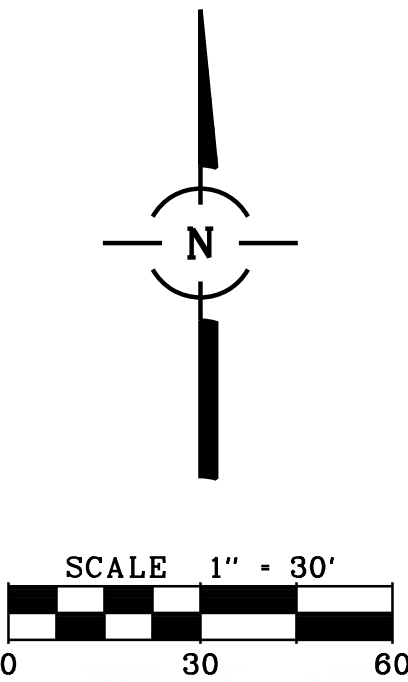
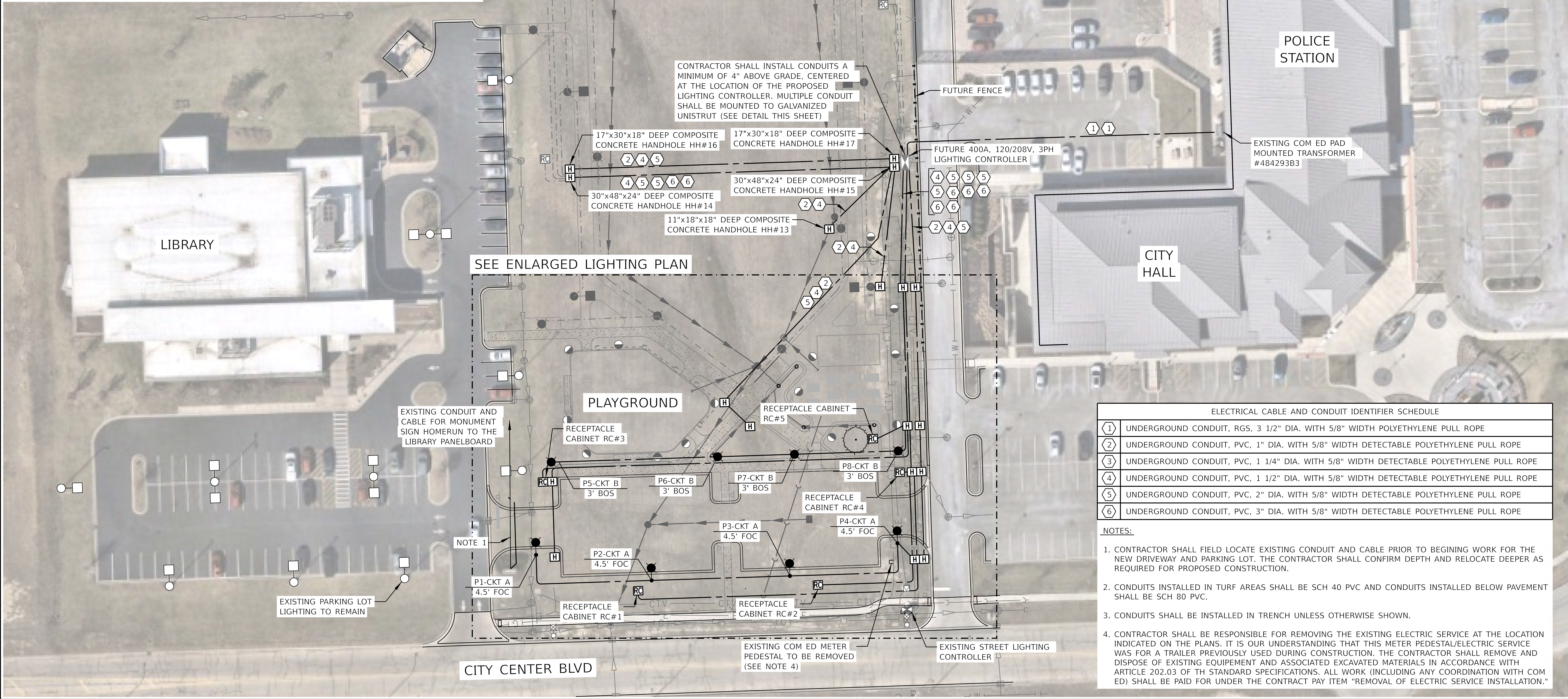
FILENAME: 0022204.01-GENNOTES
DATE: 8/21/2026
JOB NO. 0022204.01
SHEET E-1 1 OF 6



NOTES:

1. INSECT/RODENT SCREEN SHALL BE LIGHTWEIGHT ALUMINUM SHELL WITH 316 STAINLESS STEEL 18x18 WIRE MESH SCREEN. THE SCREEN SHALL BE FABRICATED TO SIT WITHIN PVC CONDUIT HUBS AND COUPLINGS. THE SCREEN SHALL BE HELD IN PLACE WITH AN INTERNAL WIRE CLIP. SCREEN SHALL BE AS MANUFACTURED BY PVC VENT SCREEN, OR APPROVED EQUAL.
2. DUCT SEAL SHALL CONSIST OF NON-HARDENING SEALING COMPOUND, AS MANUFACTURED BY IDEAL, OR APPROVED EQUAL.
3. MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENT, NEC, AND ALL LOCAL CODES.
4. ABOVE WORK INCLUDING UNIT STRUT, SCREEN, DUCT SEAL, ELBOWS, ETC. SHALL BE INCLUDED IN THE "UNDERGROUND CONDUIT" PAY ITEM, OF THE SIZE SHOWN.

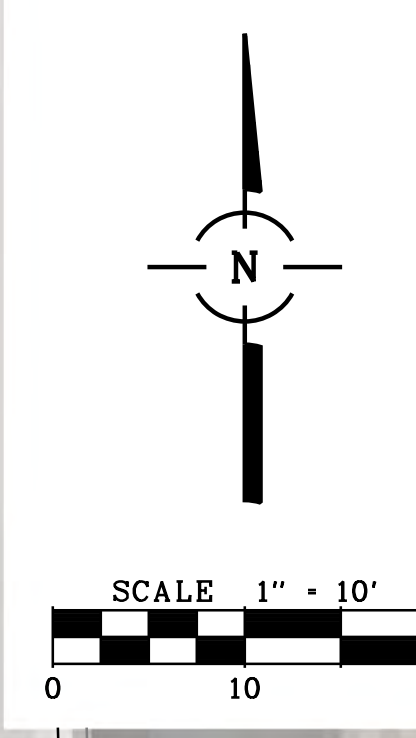
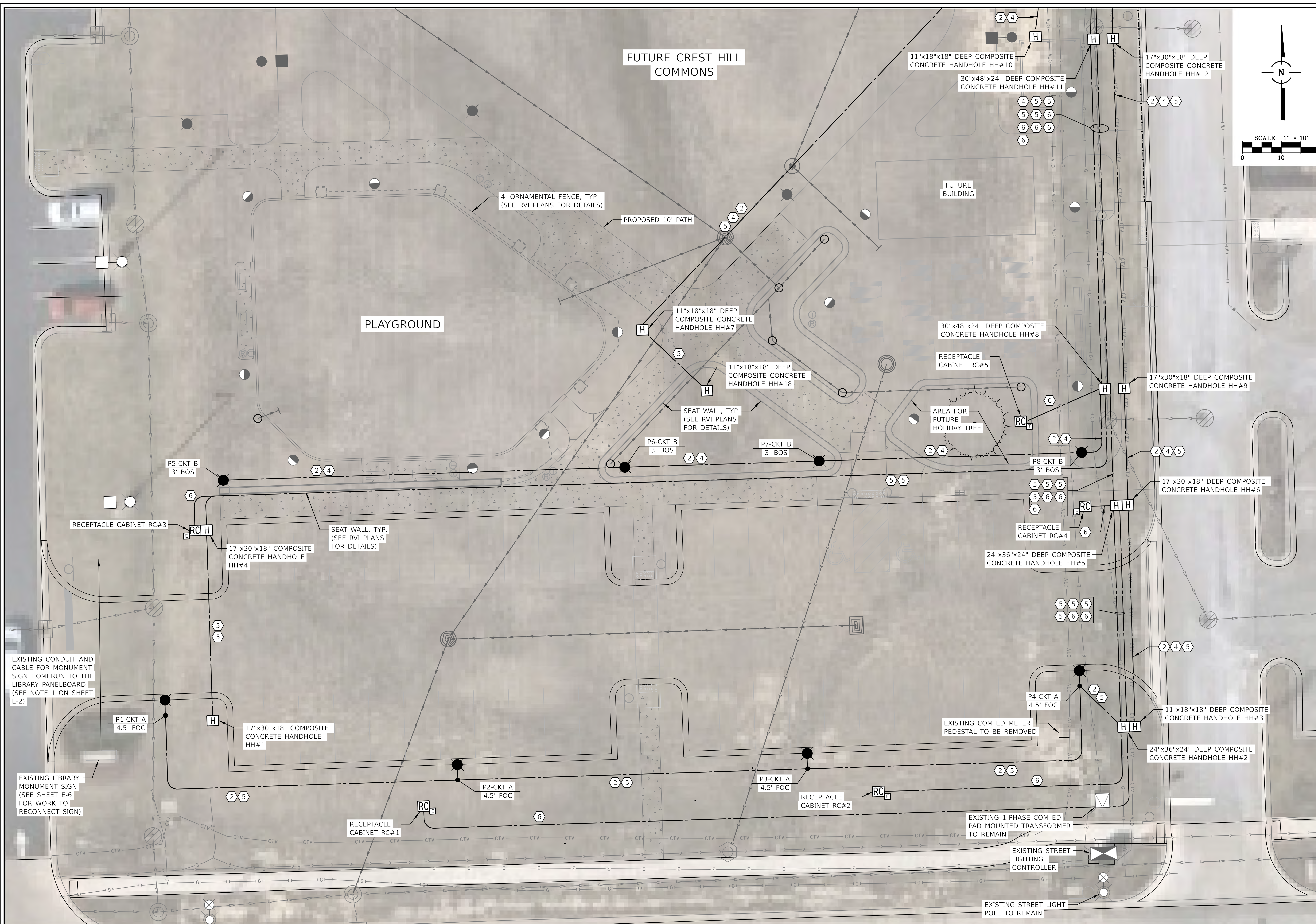
VERTICAL CONDUIT SUPPORT DETAIL
N.T.S.

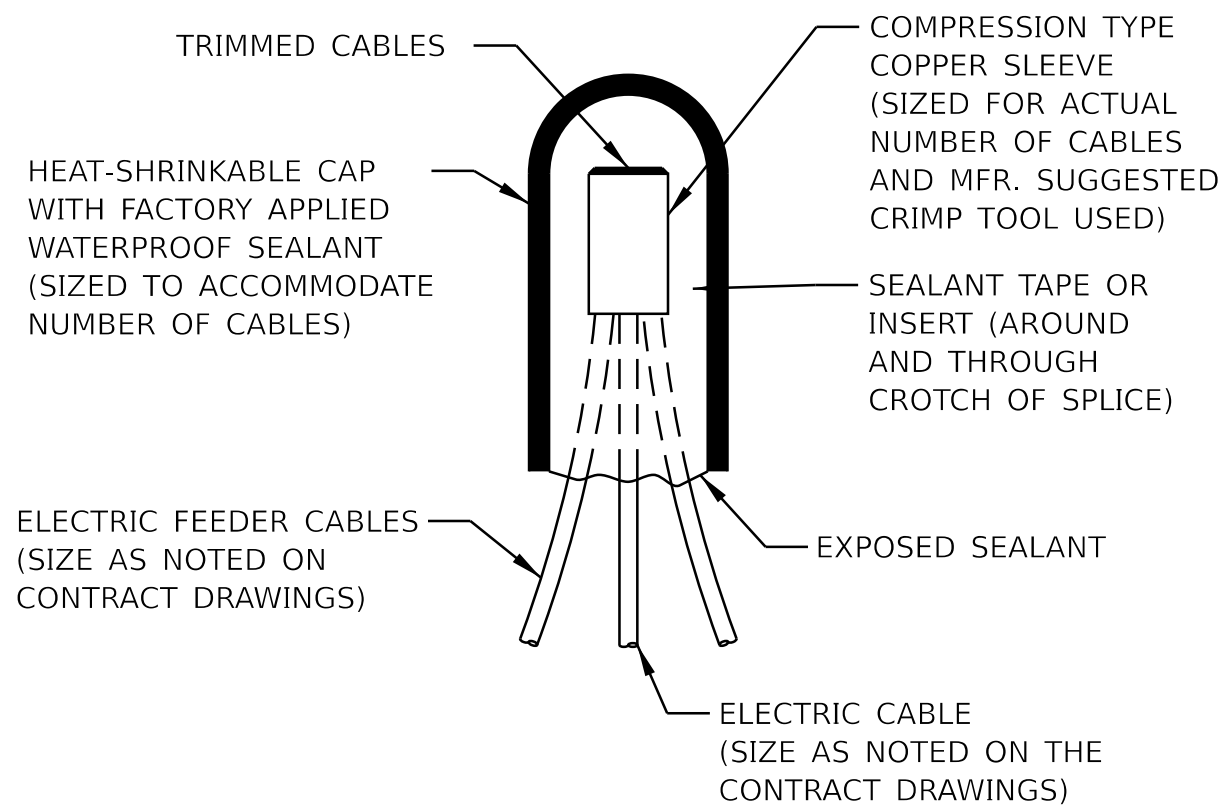


ELECTRICAL CABLE AND CONDUIT IDENTIFIER SCHEDULE	
①	UNDERGROUND CONDUIT, RGS, 3 1/2" DIA. WITH 5/8" WIDTH POLYETHYLENE PULL ROPE
②	UNDERGROUND CONDUIT, PVC, 1" DIA. WITH 5/8" WIDTH DETECTABLE POLYETHYLENE PULL ROPE
③	UNDERGROUND CONDUIT, PVC, 1 1/4" DIA. WITH 5/8" WIDTH DETECTABLE POLYETHYLENE PULL ROPE
④	UNDERGROUND CONDUIT, PVC, 1 1/2" DIA. WITH 5/8" WIDTH DETECTABLE POLYETHYLENE PULL ROPE
⑤	UNDERGROUND CONDUIT, PVC, 2" DIA. WITH 5/8" WIDTH DETECTABLE POLYETHYLENE PULL ROPE
⑥	UNDERGROUND CONDUIT, PVC, 3" DIA. WITH 5/8" WIDTH DETECTABLE POLYETHYLENE PULL ROPE

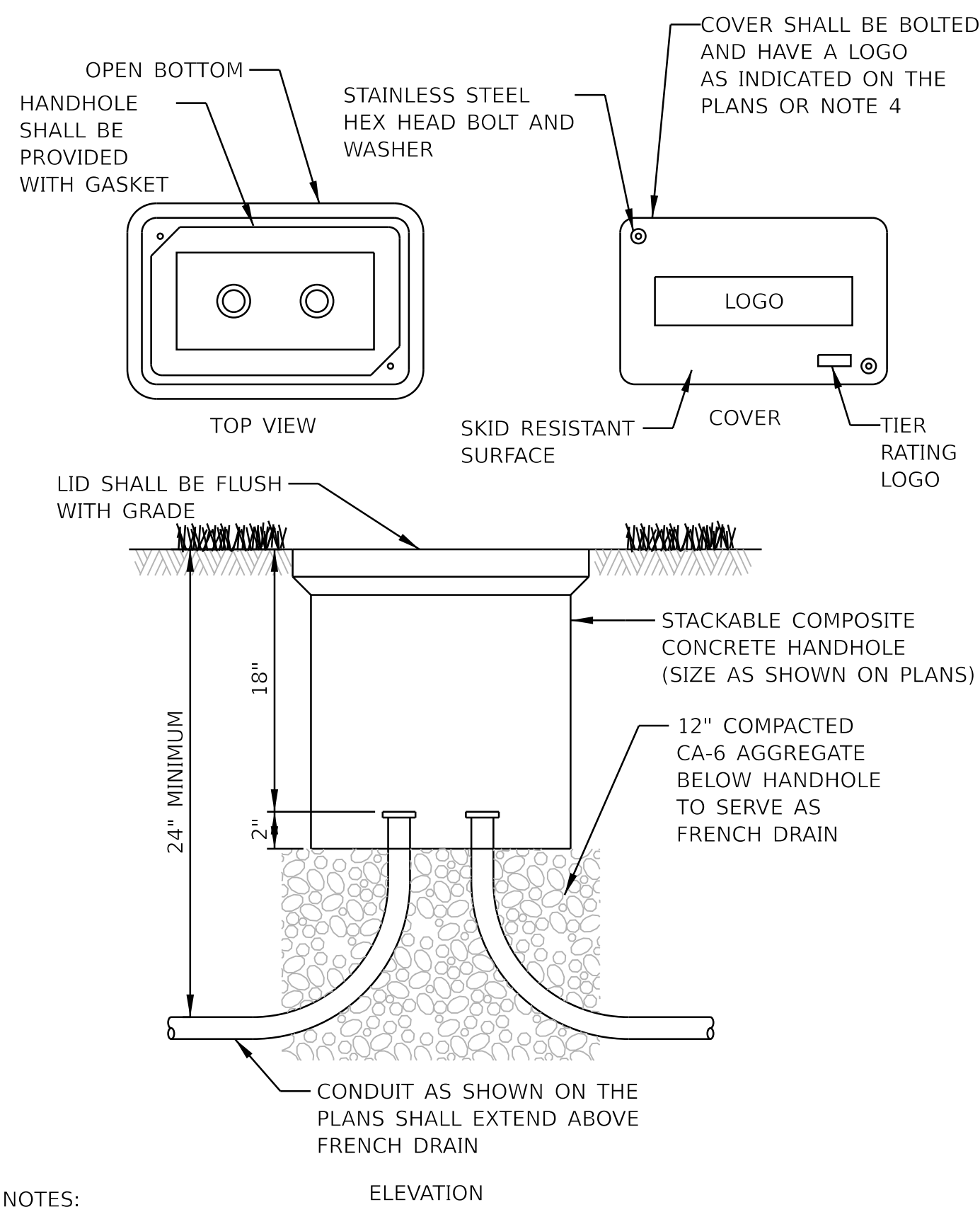
NOTES:

1. CONTRACTOR SHALL FIELD LOCATE EXISTING CONDUIT AND CABLE PRIOR TO BEGINING WORK FOR THE NEW DRIVEWAY AND PARKING LOT. THE CONTRACTOR SHALL CONFIRM DEPTH AND RELOCATE DEEPER AS REQUIRED FOR PROPOSED CONSTRUCTION.
2. CONDUITS INSTALLED IN TURF AREAS SHALL BE SCH 40 PVC AND CONDUITS INSTALLED BELOW PAVEMENT SHALL BE SCH 80 PVC.
3. CONDUITS SHALL BE INSTALLED IN TRENCH UNLESS OTHERWISE SHOWN.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING THE EXISTING ELECTRIC SERVICE AT THE LOCATION INDICATED ON THE PLANS. IT IS OUR UNDERSTANDING THAT THIS METER PEDESTAL/ELECTRIC SERVICE WAS FOR A TRAILER PREVIOUSLY USED DURING CONSTRUCTION. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING EQUIPMENT AND ASSOCIATED EXCAVATED MATERIALS IN ACCORDANCE WITH ARTICLE 202.03 OF TH STANDARD SPECIFICATIONS. ALL WORK (INCLUDING ANY COORDINATION WITH COM ED) SHALL BE PAID FOR UNDER THE CONTRACT PAY ITEM "REMOVAL OF ELECTRIC SERVICE INSTALLATION."





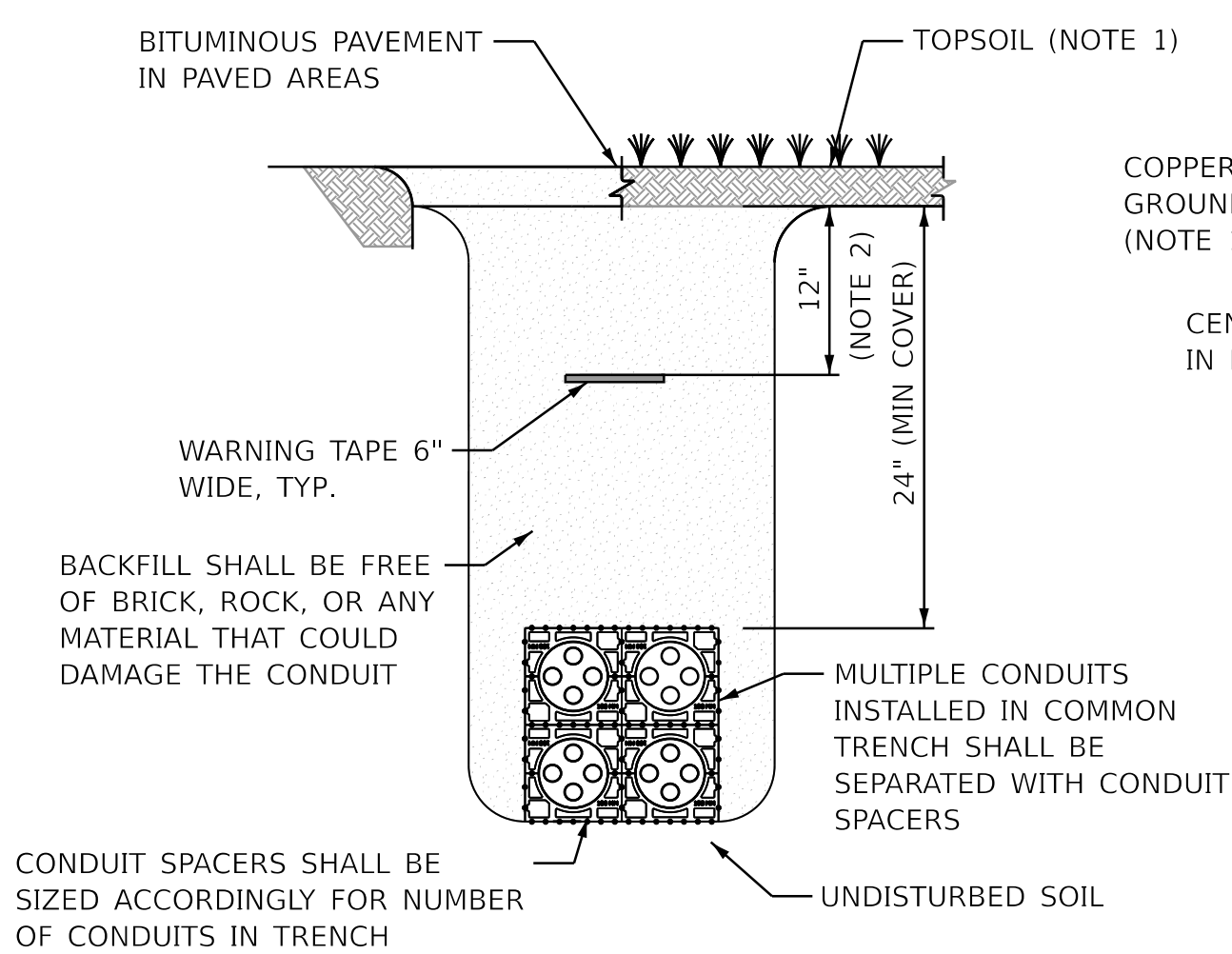
TYPICAL SPLICE DETAIL
N.T.S.



NOTES:

1. NO SPLICING SHALL BE ALLOWED IN HANDHOLE.
2. POLYMER CONCRETE HANDHOLE AND LID SHALL BE GREEN IN LANDSCAPED AREAS AND MATCH COLOR IN CONCRETE/BRICK AREAS.
3. BOX & LID SHALL MEET/EXCEED ANSI TIER 15 LOADING REQUIREMENTS, AND BE TESTED IN ACCORDANCE WITH THE LATEST EDITION OF THE ANSI/SCTE 77 "SPECIFICATION FOR UNDERGROUND ENCLOSURE INTEGRITY", AND THE PROVISIONS OF PARAGRAPHS 5.2.3 AND 5.2.4 OF WESTERN UNDERGROUND COMMITTEE GUIDE 3.6.
4. HANDHOLES SHALL HAVE THE FOLLOWING LOGOS:
"ELECTRIC" = FOR POWER CONDUIT/CABLES
"CONTROL" = FOR CONTROL CONDUIT/CABLES
"GROUND" = FOR GROUND GRID
5. SEE LIGHTING PLANS FOR COMPOSITE CONCRETE HANDHOLE SIZES.
6. POWER/LIGHTING CONDUIT AND CABLES SHALL BE INSTALLED IN SEPARATE HANDHOLES AS THE CONTROL VOLTAGE CONDUIT AND CABLES.

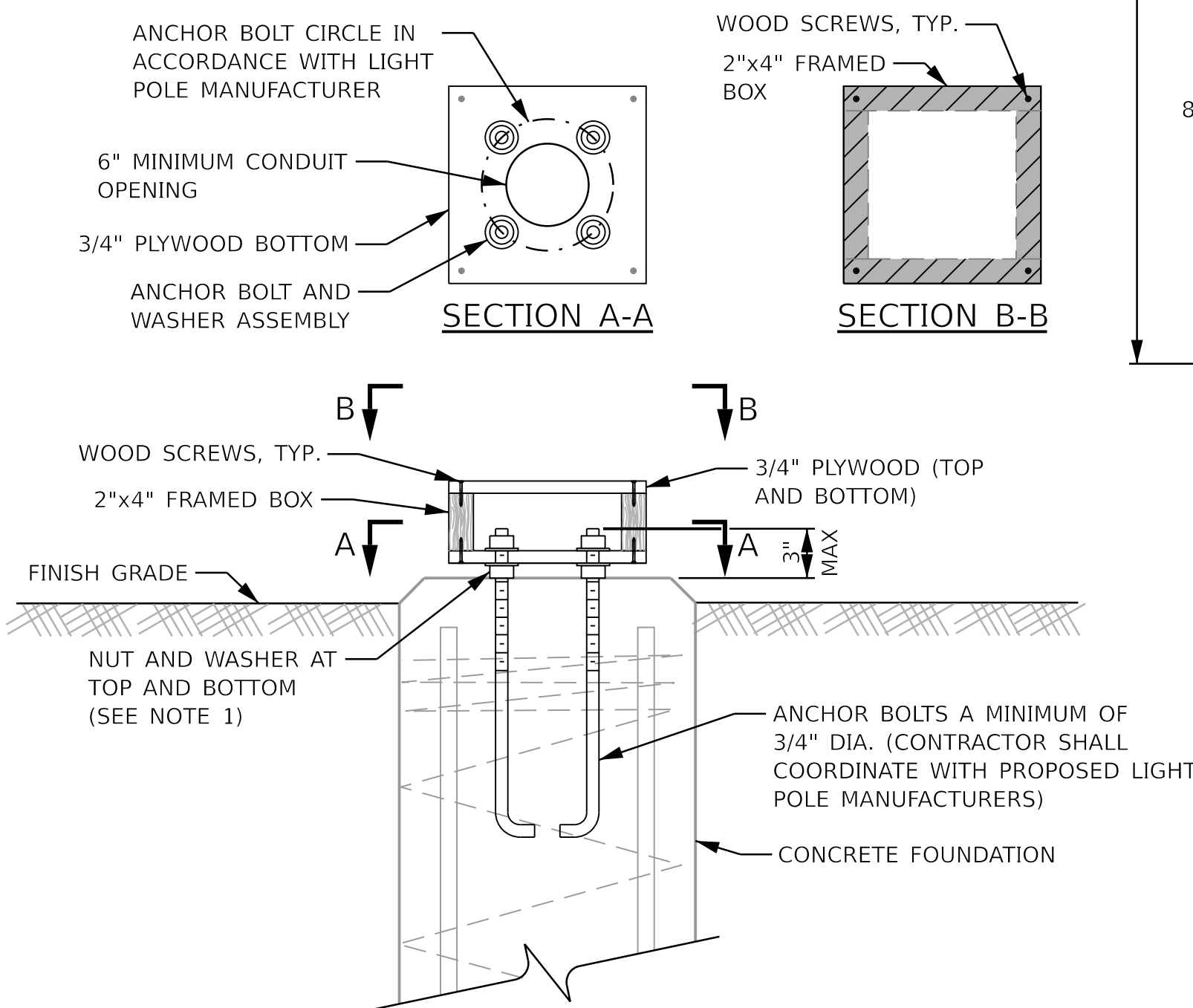
HANDHOLE, COMPOSITE CONCRETE
N.T.S.



NOTES:

1. TOPSOIL IN LANDSCAPE AREA AND PAVEMENT TO MATCH SURROUNDING PAVEMENT WHERE INSTALLED.
2. COMPACTED GRANULAR STRUCTURAL BACKFILL (IDOT CA-6) IN PAVED AREAS, CLEAN, NATIVE OR BORROW BACKFILL COMPACTED W/ PNEUMATIC HAND TAMPER IN GRASS AREAS.
3. CONTRACTOR SHALL BE ALLOWED TO USE HOT-DIPPED GALVANIZED STEEL UNISTRUT TO SUPPORT CONDUITS IN LIEU OF SPACERS.
4. CONDUIT SPACERS SHALL BE INCLUDED IN THE CONDUIT PAY ITEM. SEPARATE PAYMENT SHALL NOT BE MADE FOR THE SPACERS OR SUPPORT SYSTEM.

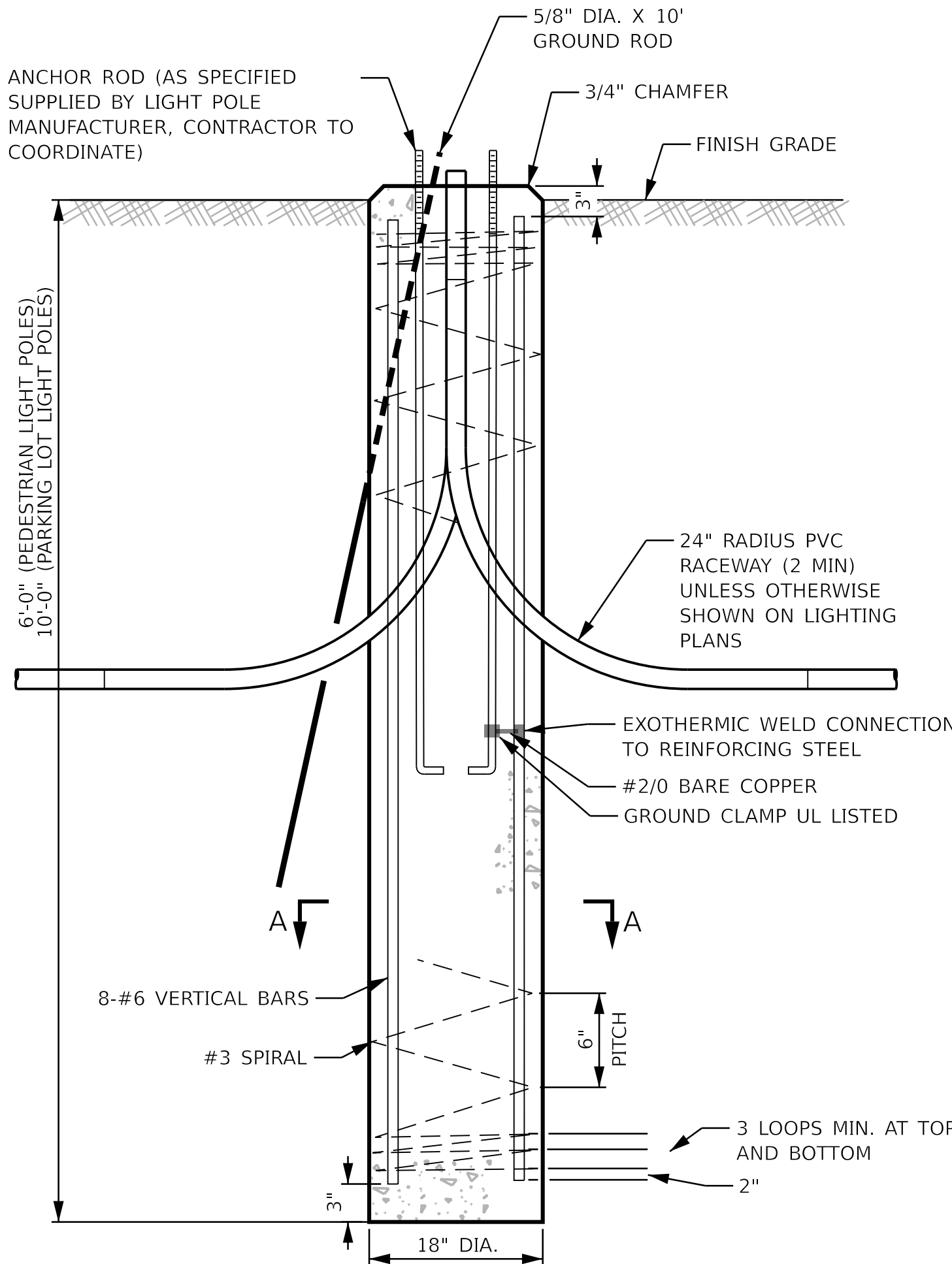
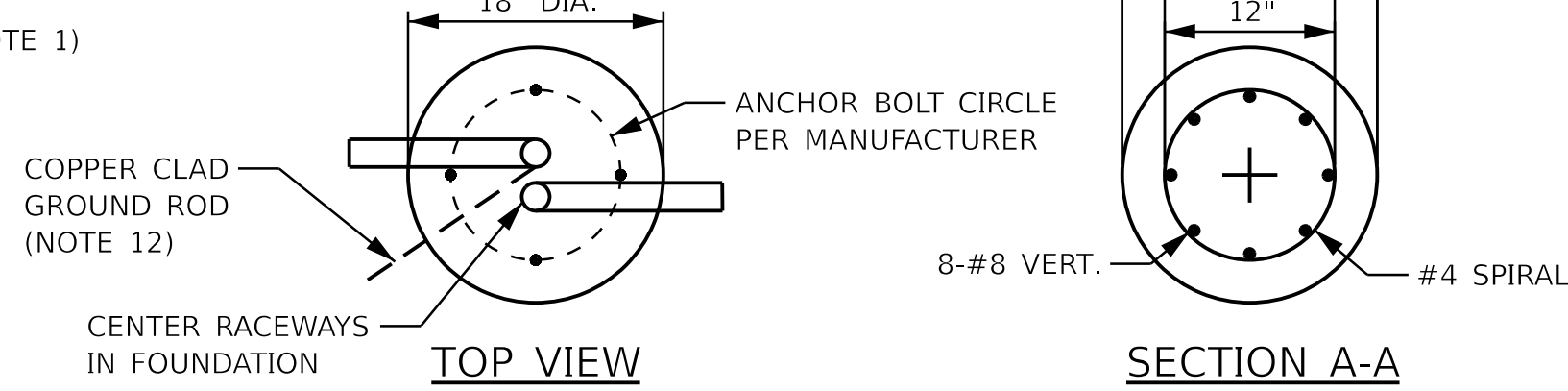
TYPICAL CONDUIT IN TRENCH DETAIL
N.T.S.



NOTES:

1. CONTRACTOR SHALL SUPPLY GALVANIZED STEEL NUT AND WASHER TO INSTALL CAP ASSEMBLY FLUSH TO THE CONCRETE FOUNDATION.
2. THE WOODEN CAP ASSEMBLY SHALL FIELD PAINTED SAFETY YELLOW.
3. FOUNDATION CAP SHALL BE INCLUDED IN THE FOUNDATION PAY ITEM.

TEMPORARY FOUNDATION CAP DETAIL
N.T.S.

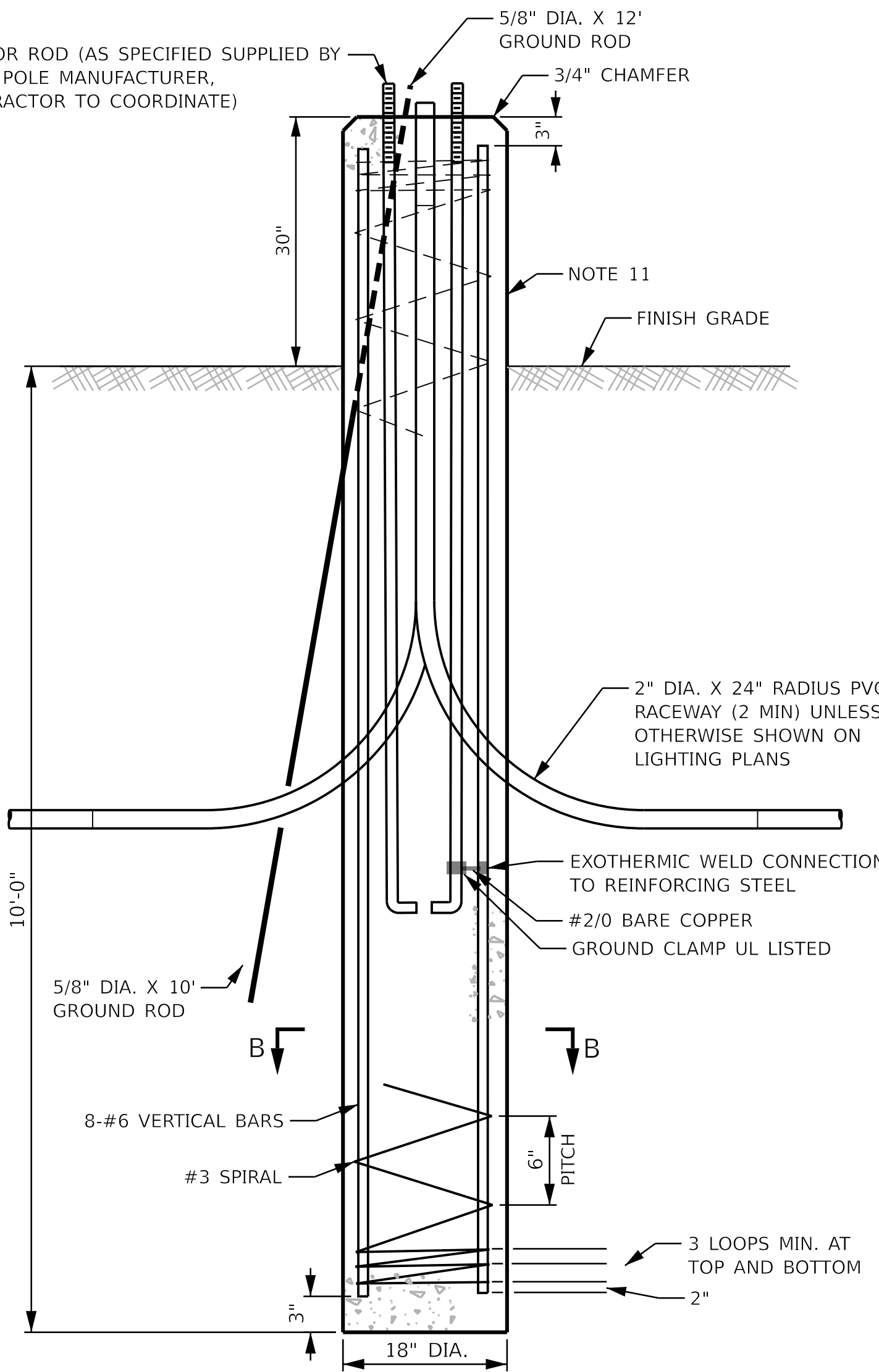
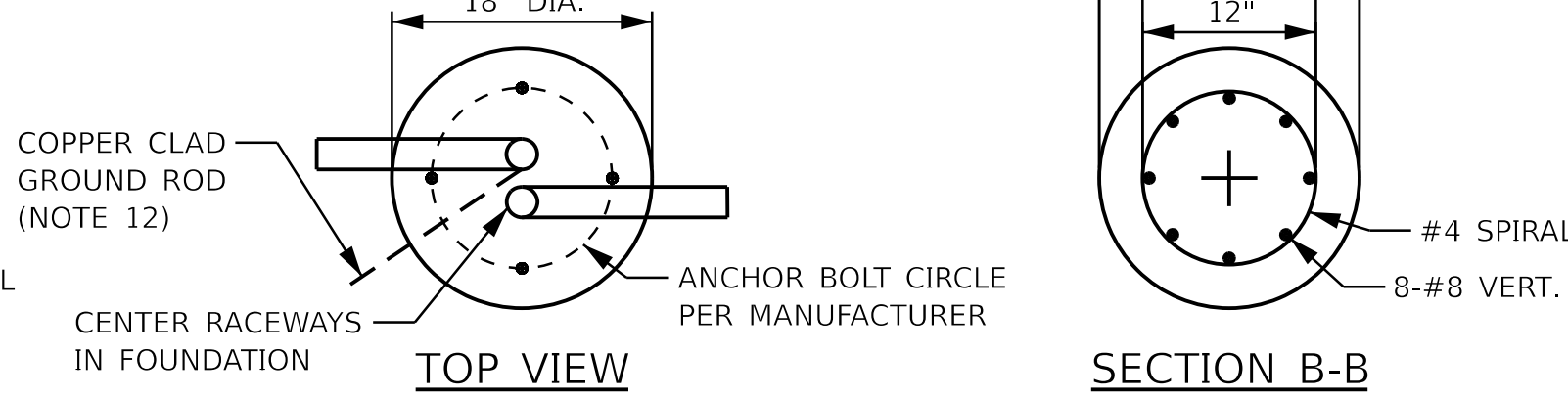


AT-GRADE FOUNDATION DETAIL
(FOR LIGHT POLES P1, P4, AND P5-P8)

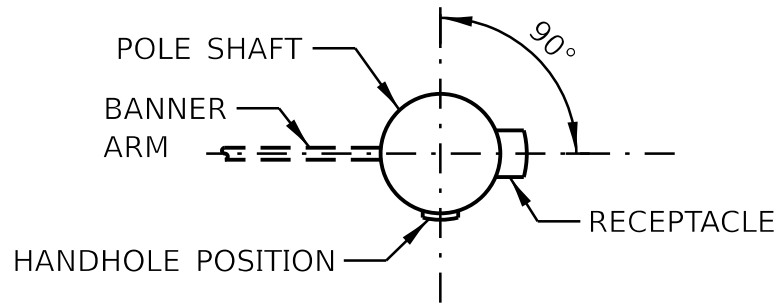
NOTES:

1. THE ANCHOR RODS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IS PLACED.
2. FOUNDATIONS INSTALLED AT GRADE SHALL NOT PROTRUDE MORE THAN 4 IN. ABOVE FINISHED GRADE.
3. THE HOLE FOR THE FOUNDATION SHALL BE MADE BY DRILLING WITH AN AUGER, OF THE SAME DIAMETER AS THE FOUNDATION. IF SOIL CONDITIONS REQUIRE THE USE OF A LINER TO FORM THE HOLE, THE LINER SHALL BE WITHDRAWN AS THE CONCRETE IS DEPOSITED.
4. THE TOP OF THE FOUNDATION SHALL BE CONSTRUCTED LEVEL. A LINER OR FORM SHALL BE USED TO PRODUCE A UNIFORM SMOOTH SIDE TO THE TOP OF THE FOUNDATION.
5. THE CONCRETE SHALL BE CLASS SI. CONCRETE SHALL CURE ACCORDING TO ARTICLE 1020.13 BEFORE LIGHT POLES ARE INSTALLED.
6. ANCHOR RODS, NUTS, AND WASHERS SHALL BE COMPLETELY GALVANIZED BY EITHER THE HOT-DIPPED PROCESS CONFORMING WITH AASHTO M 232, THE MECHANICAL PLATING METHOD CONFORMING TO AASHTO M 298, CLASS 50 WITH A MAXIMUM COATING THICKNESS OF 150 UM OR THE ELECTROLYTIC PROCESS ACCORDING TO ASTM F 1136.
7. ANCHOR RODS SHALL BE SIZED IN ACCORDANCE WITH LIGHT POLE MANUFACTURER REQUIREMENTS.
8. THE CONTRACTOR SHALL USE A #3 SPIRAL AT 6" PITCH OR MAY SUBSTITUTE #3 TIES AT 12" O.C. WITH THE APPROVAL OF THE ENGINEER.
9. THE FOUNDATION SHALL BE BACK FILLED AND COMPACTED AS SPECIFIED BEFORE THE LIGHT POLE IS ERECTED.
10. THE RACEWAYS SHALL PROJECT ABOVE THE TOP OF THE FOUNDATION AND CAPPED WITH BUSHINGS.
11. RAISED CONCRETE SHALL HAVE A RUBBED FINISH.
12. GROUND ROD SHALL BE CAST INTO CONCRETE FOUNDATION WITH 8 FEET IN CONTACT WITH SOIL.

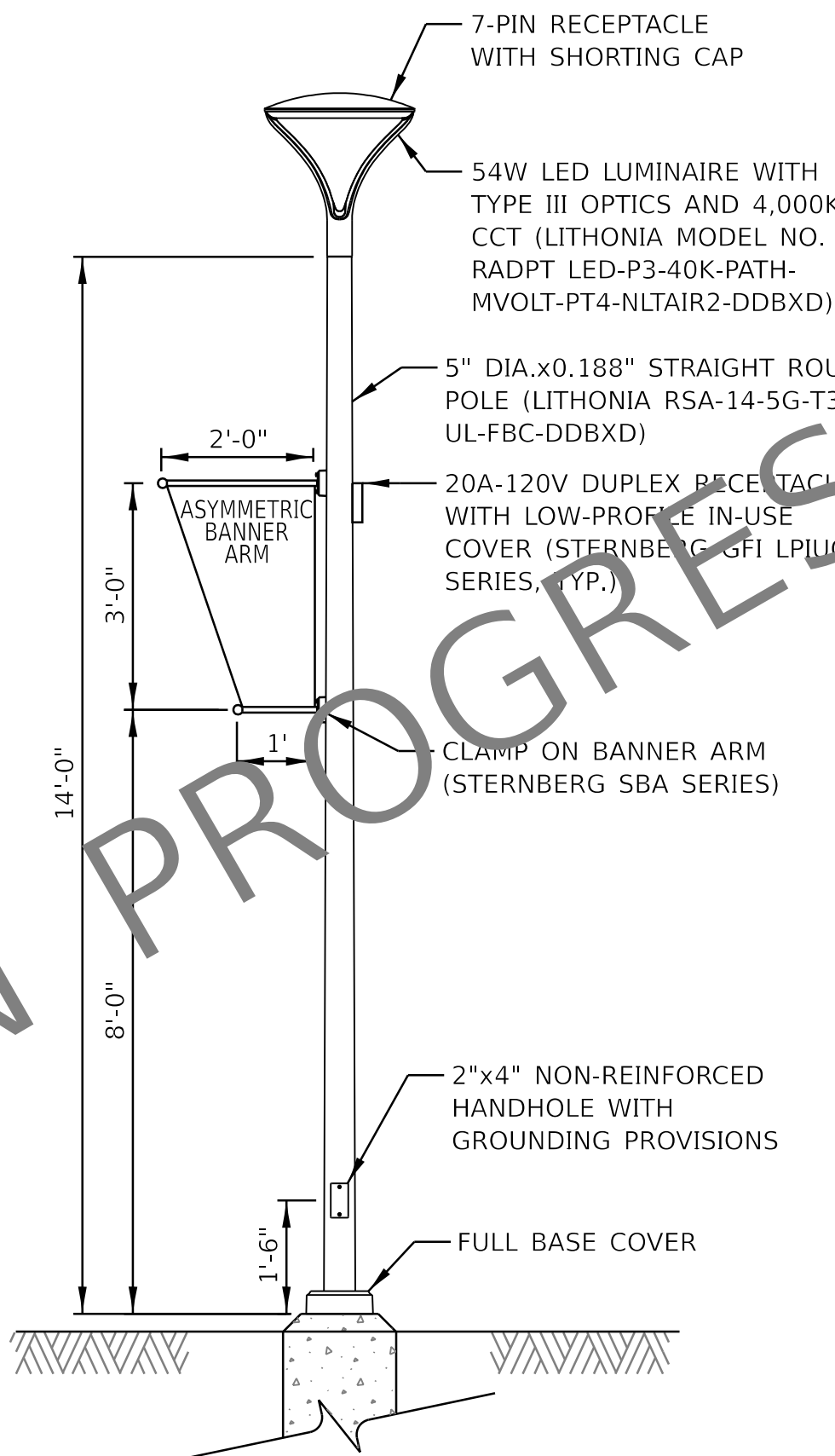
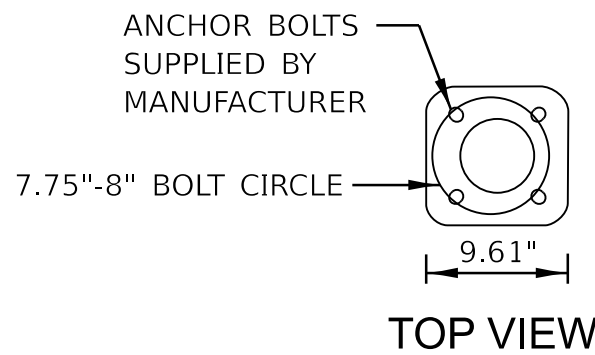
LIGHT POLE FOUNDATION (SPECIAL)
N.T.S.



RAISED FOUNDATION DETAIL
(FOR LIGHT POLES P2-P3)



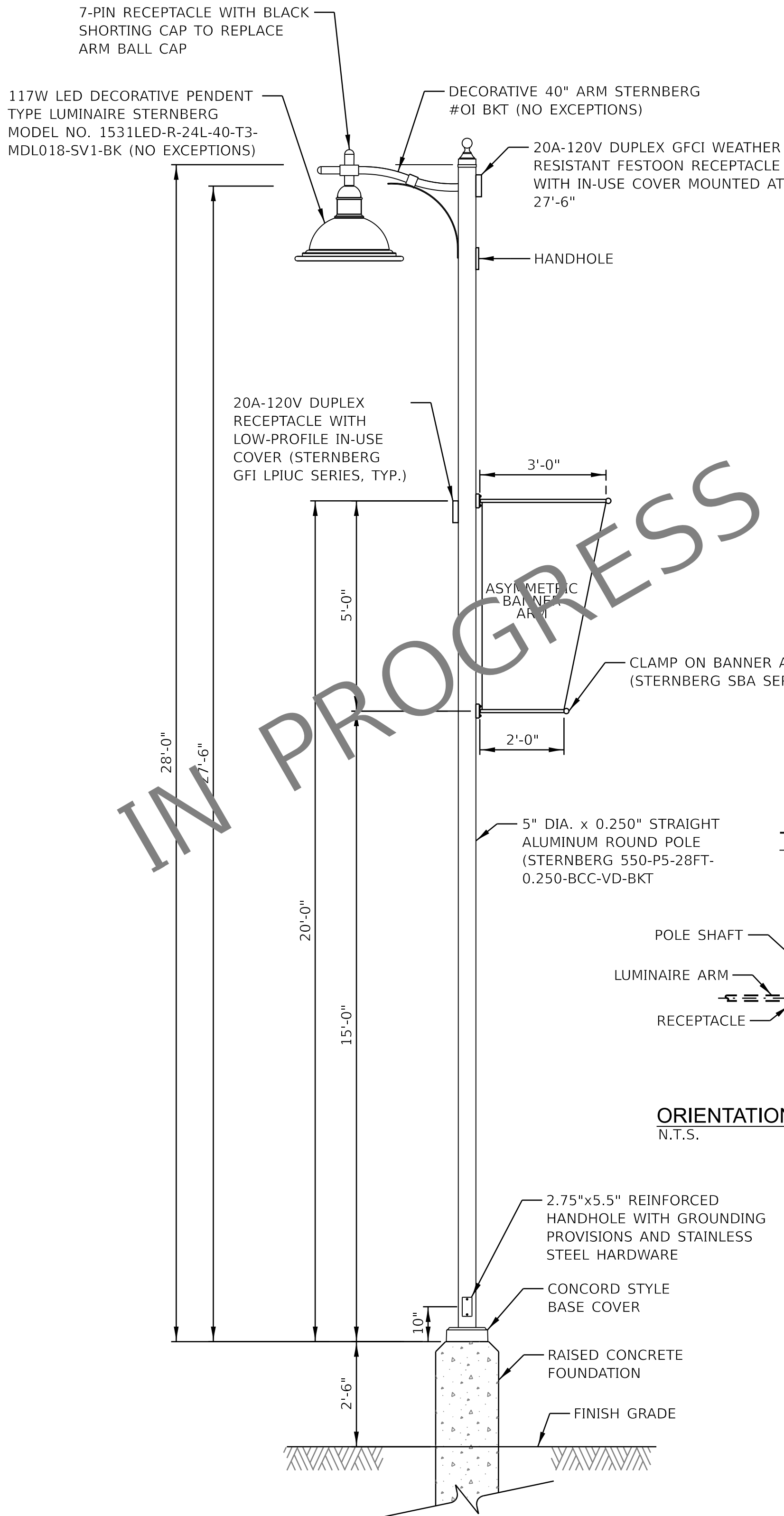
ORIENTATION OF POLE FEATURES
N.T.S.



NOTES:

1. LIGHT POLES WILL BE INSTALLED IN THE FUTURE. THEY ARE PROVIDED FOR REFERENCE ONLY.

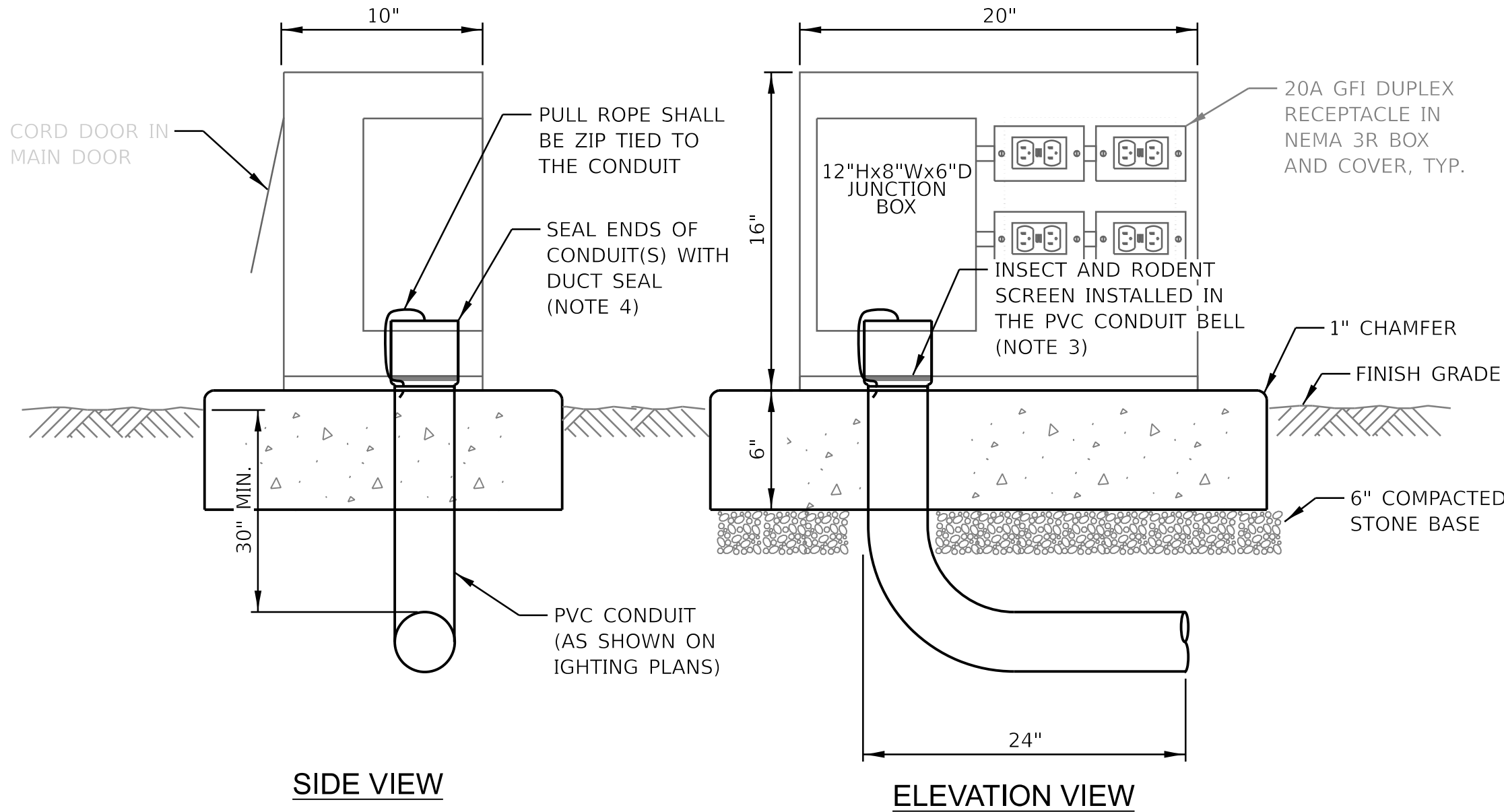
PATHWAY LIGHT POLE DETAIL
N.T.S. (FOR REFERENCE ONLY)



NOTES:

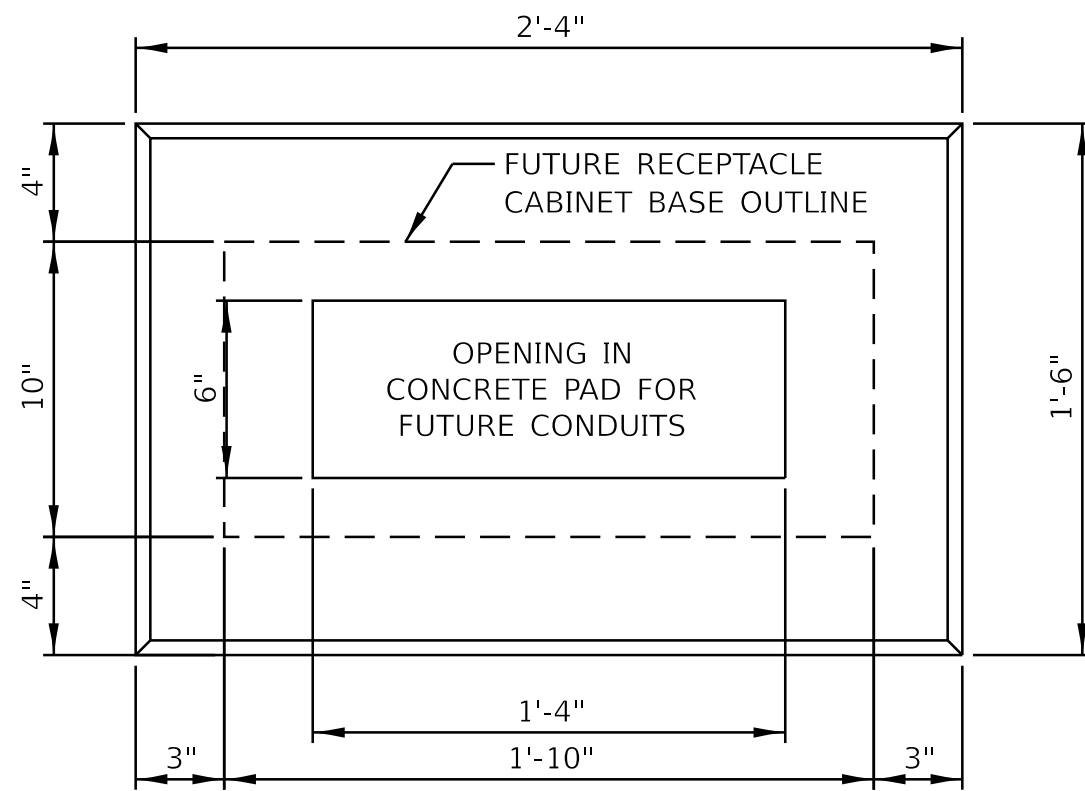
1. LIGHT POLES WILL BE INSTALLED IN THE FUTURE. THEY ARE PROVIDED FOR REFERENCE ONLY.

PARKING LOT LIGHT POLE DETAIL
N.T.S. (FOR REFERENCE ONLY)

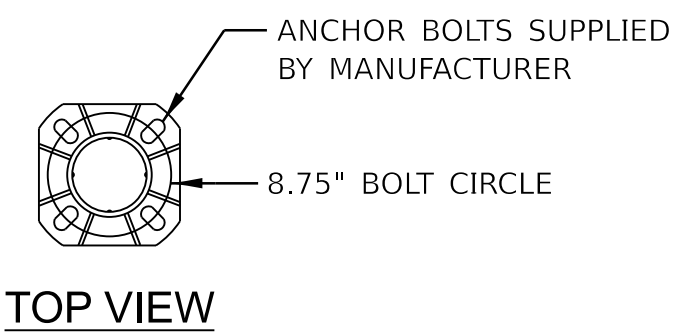


SIDE VIEW

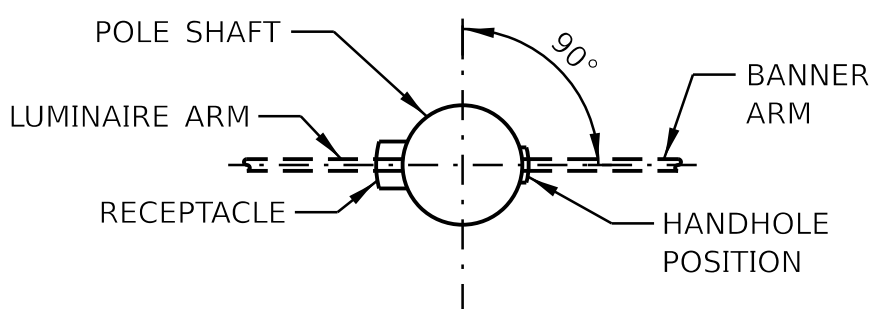
ELEVATION VIEW



PLAN VIEW



TOP VIEW

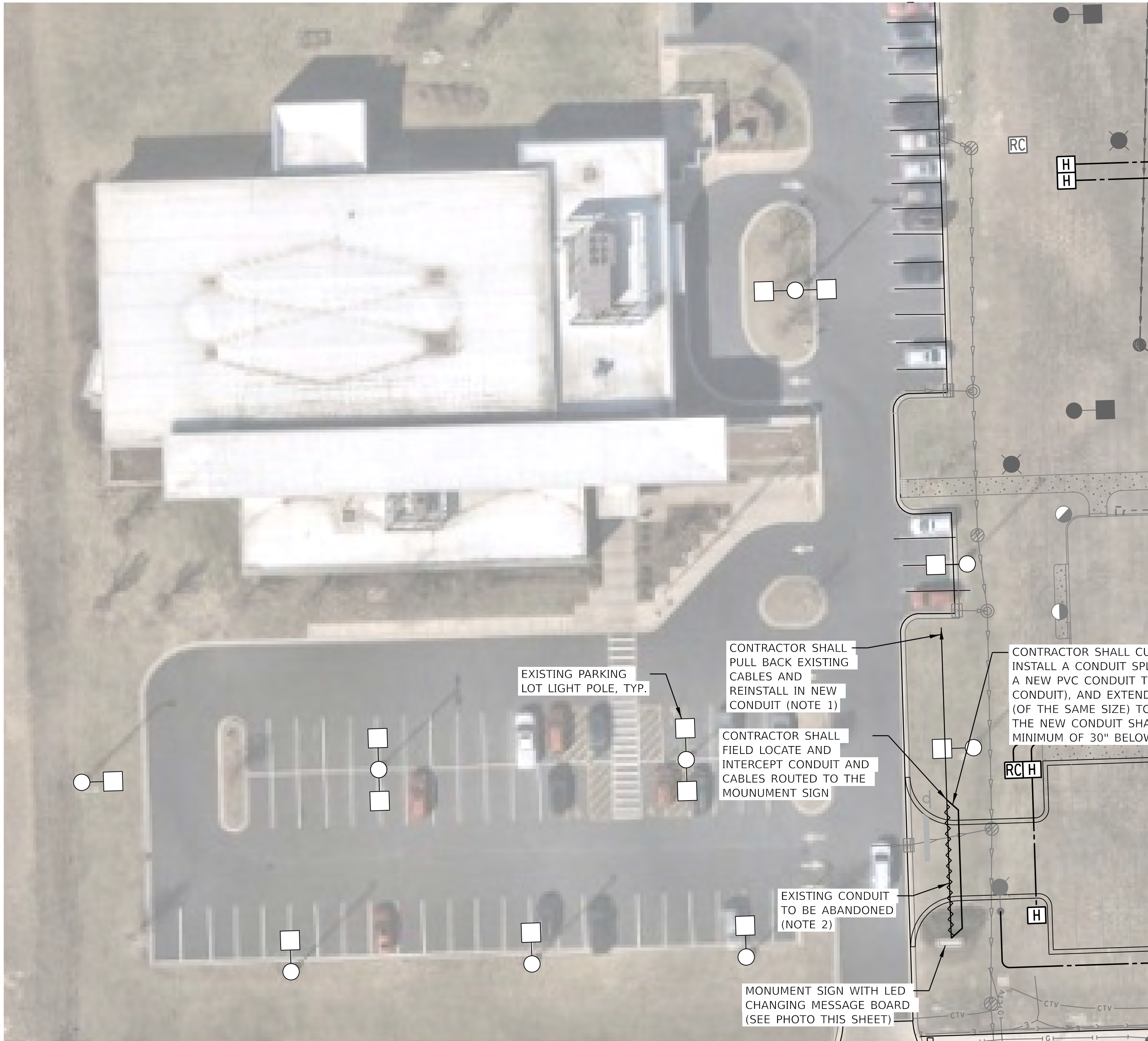


ORIENTATION OF POLE FEATURES
N.T.S.

NOTES:

1. RECEPTACLE CONCRETE PAD SHALL BE PAID FOR UNDER "CONCRETE FOUNDATIONS (SPECIAL)".
2. CONCRETE SHALL BE IDOT CLASS SI CONCRETE, OR EQUAL. THE CONTRACTOR MAY ELECT TO INSTALL A PRECAST CONCRETE PAD IN LIEU OF POURED IN PLACE CONCRETE PAD.
3. INSECT/RODENT SCREEN SHALL BE LIGHTWEIGHT ALUMINUM SHELL WITH 316 STAINLESS STEEL 18x18 WIRE MESH SCREEN. THE SCREEN SHALL BE FABRICATED TO SIT WITHIN PVC CONDUIT HUBS AND COUPLINGS. THE SCREEN SHALL BE HELD IN PLACE WITH AN INTERNAL WIRE CLIP. SCREEN SHALL BE AS MANUFACTURED BY PVC VENT SCREEN, OR APPROVED EQUAL.
4. DUCT SEAL SHALL CONSIST OF NON-HARDENING SEALING COMPOUND, AS MANUFACTURED BY IDEAL, OR APPROVED EQUAL.

CONCRETE FOUNDATIONS (SPECIAL)
N.T.S.



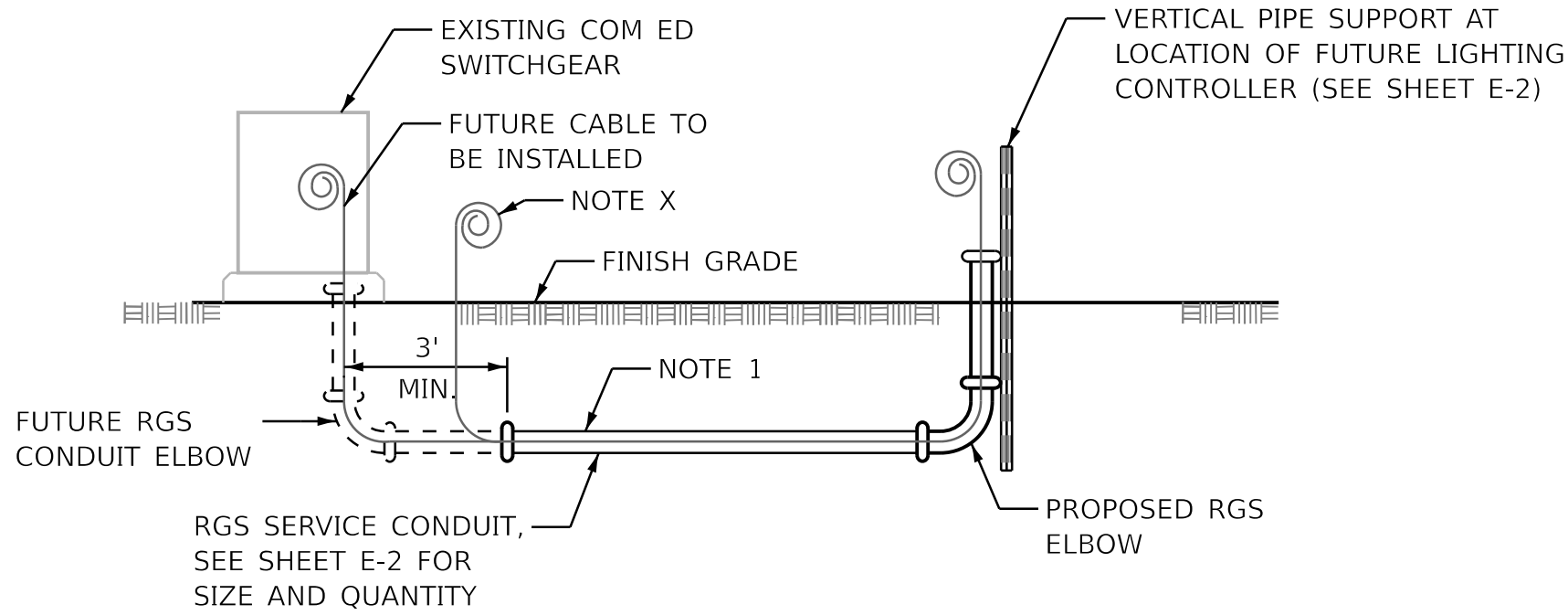
NOTES:

- CONTRACTOR SHALL NOTIFY THE CONTRACTOR IF THERE IS NOT ENOUGH EXISTING CABLE TO RECONNECT TO THE MONUMENT SIGN. A HANDHOLE MAY BE PROVIDED TO SPLICE EXISTING CABLES ADJACENT TO THE MONUMENT SIGN. CONTRACTOR SHALL COORDINATE WORK WITH THE ENGINEER PRIOR TO PROCEEDING WITH WORK.
- CONDUITS TO BE ABANDONED SHALL BE CUT TO A MINIMUM OF 1'-0" BELOW GRADE.
- CONTRACTOR SHALL COORDINATE ALL WORK WITH THE LIBRARY AND ENGINEER.
- ALL WORK TO REROUTE EXISTING CONDUIT AND CABLES TO THE MONUMENT SIGN SHALL BE INCLUDED IN THE PAY ITEM "REMOVE AND RELOCATE EXISTING MONUMENT SERVICE."

REMOVE AND RELOCATE EXISTING MONUMENT SERVICE
N.T.S.



EXISTING MONUMENT SIGN
N.T.S.



NOTES:

- CONTRACTOR SHALL INSTALL PROPOSED CONDUIT ADJACENT TO THE EXISTING SWITCHGERAR FOUNDATION, FOR FUTURE CONNECTION OF ELECTRIC SERVICE TO LIGHTING CONTROLLER.
- CONTRACTOR SHALL INSTALL STAKE LOCATING THE END OF THE PROPOSED CONDUIT, RECORD LOCATION(S) ON RECORD DRAWING, AND COIL A MINIMUM OF 20FT OF PULL ROPE.
- ALL ABOVE CONDUIT, PULL ROPE, STAKES, FITTINGS, ETC. REQUIRED TO INSTALL SERVICE CONDUITS SHALL BE INCLUDED IN THE CONTRACT PAY ITEM "UNDERGROUND CONDUIT, GALVANIZED STEEL, 3 1/2" DIA."

ELECTRIC SERVICE CONDUIT INSTALLATION DETAIL
N.T.S.

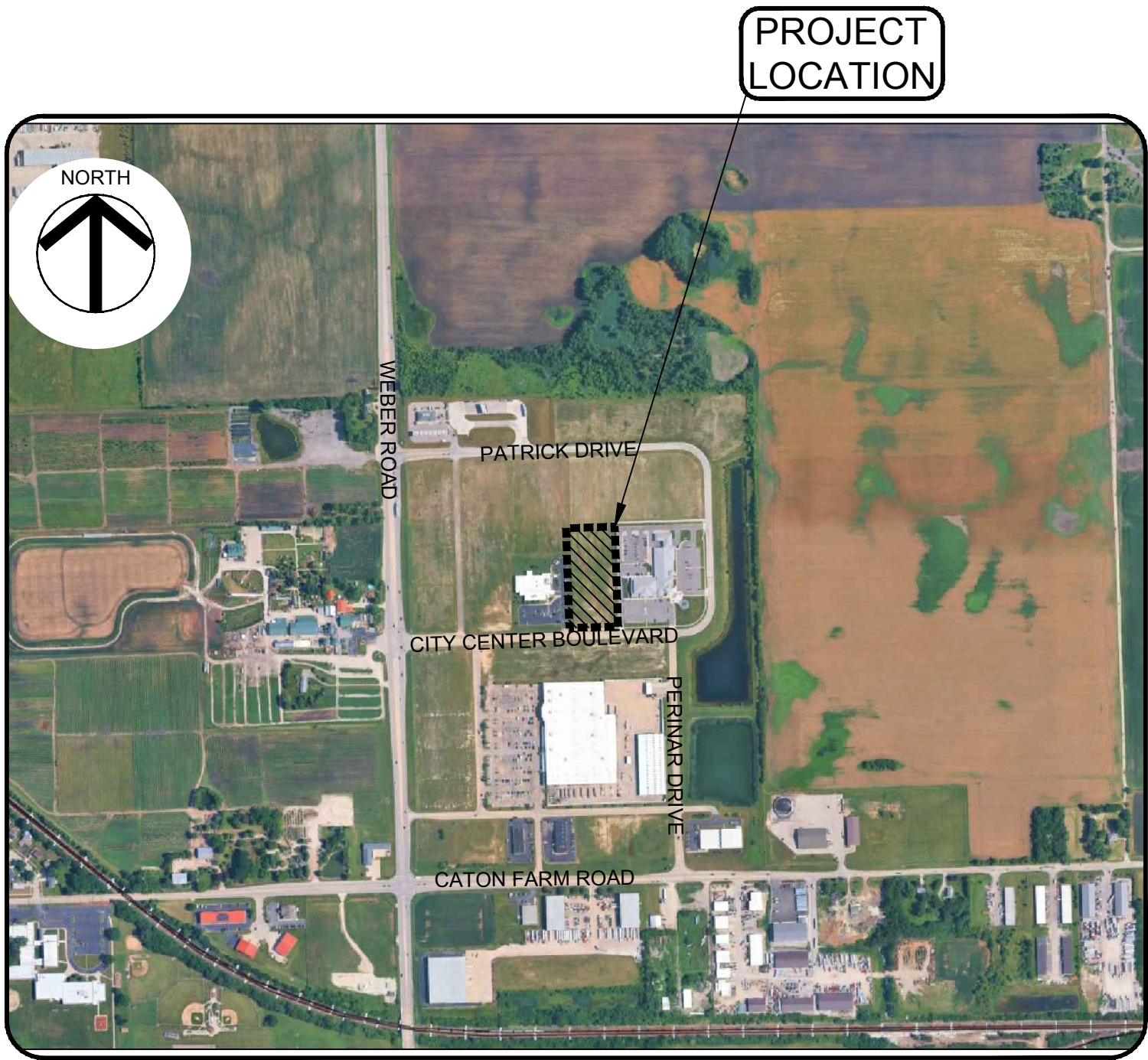
L:\Naperville\2026\26006459 Crest Hill City Center Park\08 LANDSCAPE ARCHITECTURE\03 CD\01 CURRENT PLANS\00 - cover.dwg 8/22/2026 caitlin_coburn

ISSUE FOR BID
AUGUST 21, 2026

CREST HILL COMMONS PHASE 1

20650 CITY CENTER BOULEVARD,
CREST HILL, ILLINOIS, 60403

CITY OF CREST HILL
20600 CITY CENTER BOULEVARD,
CREST HILL, ILLINOIS, 60403



PROJECT LOCATION MAP

SCALE: 1"=800'-00"

CONSULTANT INFORMATION

LANDSCAPE ARCHITECT
RVi PLANNING + LANDSCAPE
ARCHITECTURE
22 EAST CHICAGO AVENUE
SUITE 200A
NAPERVILLE, ILLINOIS 60540
T 630.961.1787

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ELECTRICAL ENGINEER
CIORBA GROUP, INC.
8725 W HIGGINS ROAD
SUITE 600
CHICAGO, ILLINOIS, 60631
T 773.775.4009

SHEETS: E-SERIES

CIVIL ENGINEER
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9575 WEST HIGGINS ROAD,
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ROSEMONT, ILLINOIS, 60018
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F 847.696.4065

SHEETS C-SERIES

SHEET INDEX

#	SHEET
	L-SERIES
L0.0	SPECIFICATIONS
L0.1	SPECIFICATIONS
L1.0	LAYOUT AND MATERIALS PLAN - PHASE 1 ENLARGEMENT
L2.0	PLANTING PLAN
L2.1	PLANTING PLAN - PHASE 1 ENLARGEMENT
L3.0	DETAILS
L3.1	DETAILS

GENERAL NOTES

- BASEMAP INFORMATION OBTAINED FROM PLANS PREPARED BY SPACE CO, INC. RECEIVED SEPTEMBER 17, 2021.
- VERIFY SITE CONDITIONS AND INFORMATION ON DRAWINGS. PROMPTLY REPORT ANY CONCEALED CONDITIONS, MISTAKES, DISCREPANCIES OR DEVIATIONS FROM THE INFORMATION SHOWN IN THE CONTRACT DOCUMENTS. THE OWNER IS NOT RESPONSIBLE FOR UNAUTHORIZED CHANGES OR EXTRA WORK REQUIRED TO CORRECT UNREPORTED DISCREPANCIES.
- SECURE AND PAY FOR PERMITS, FEES AND INSPECTIONS NECESSARY FOR THE PROPER EXECUTION OF THIS WORK. COMPLY WITH CODES APPLICABLE TO THIS WORK.
- REFER TO SPECIFICATIONS FOR ADDITIONAL CONDITIONS, STANDARDS AND NOTES.
- THE PLANS AND SPECIFICATIONS ARE INTENDED TO BE COMPLETED ENTIRELY BY THE CONTRACTOR, UNLESS CLEARLY IDENTIFIED AS "BY OWNER." ALL WORK CONTAINED WITHIN IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

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PREPARED FOR
CITY OF CREST
HILL

20600 CITY CENTER
BOULEVARD,
CREST HILL, ILLINOIS, 60403

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ELECTRICAL ENGINEER
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T 773.775.4009

CREST HILL COMMONS PHASE 1
ISSUE FOR BID
20650 CITY CENTER BOULEVARD
CREST HILL, ILLINOIS, 60403

PROJECT NO: 26006459
DATE: 08/14/2026
DRAWN: KRE/CNO
REVIEWED: LJL/EFH

AUGUST 14, 2026

REVISIONS:

NO. DATE ISSUE

SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section specifies cast-in place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes.
- B. See Civil Plans, SP1, for earthwork and drainage fill under slabs-on-grade.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Design Mixtures: For each concrete mixture.
- C. Shop Drawings: Provide shop drawings of the manufacturers recommended installation and foundation requirements prior to actual field installation work for battering cage posts and ballfield netting posts.
- D. Concrete cylinder testing.

1.3 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
 - 1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."
- B. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:
- C. Preinstallation Conference: Conduct conference at Project site.

PART 2 - PRODUCTS

2.1 FORM-FACING MATERIALS

- A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
- B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.

2.2 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.
- B. Plain-Steel Welded Wire Reinforcement: ASTM A 185, plain, fabricated from as-drawn steel wire into flat sheets.
- C. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice."

2.3 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:
 - 1. Portland Cement: ASTM C 150, Type II
 - a. Fly Ash: ASTM C 618, Class C.
 - b. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.
- B. Normal-Weight Aggregates: ASTM C 33, graded, 3/4-inch nominal maximum coarse-aggregate size.
 - 1. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- C. Lightweight Aggregate: ASTM C 330, 1/2-inch nominal maximum aggregate size.
- D. Water: ASTM C 94/C 94M and potable.
- E. Air-Entraining Admixture: ASTM C 260.
- F. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
 - 1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
 - 2. Retarding Admixture: ASTM C 494/C 494M, Type B.
 - 3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
 - 4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
 - 5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
 - 6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

2.4 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.
- B. Water: Potable.

- C. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A.

2.5 RELATED MATERIALS

Select one or all options in paragraph below. Joint-filler strips are used in floor isolation joints.

- A. Expansion- and Isolation-Joint-Filler Strips: ½" thick polyethylene, closed cell, expansion joint filler w/ strip cap.
- B. Joint Sealant: See Division 32 "Concrete Paving."
- C. Aggregate Base Course: See Division 32 "Earth Moving."

2.6 CONCRETE MIXTURES

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301 and ACI 211.1.
- B. Proportion normal-weight concrete mixture as follows:
 - 1. Minimum Compressive Strength: 4500 psi at 28 days.
 - 2. Maximum Water-Cementitious Materials Ratio: 0.40.
 - 3. Slump Limit: 3 inches, plus or minus 1 inch.
 - 4. Air Content: 6 percent, plus or minus 1.5 percent at point of delivery for 1-inch nominal maximum aggregate size.

2.7 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.8 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information.
 - 1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 FORMWORK

- A. Design, erect, shore, brace, and maintain formwork according to ACI 301 to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.
- C. Provide ¼" chamfer of exterior corners and edges of permanently exposed concrete.

3.2 EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
- B. Place expansion joint material with caulk around all embedded items.

3.3 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.

3.5 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
- B. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
 - 1. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
- C. Cold-Weather Placement: Comply with ACI 306.1.
- D. Hot-Weather Placement: Comply with ACI 301.

3.6 FINISHING FORMED SURFACES

- A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

- 1. Apply to concrete surfaces below finish grade.
- B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
 - 1. Apply to concrete surfaces above finish grade.
 - 2. Apply rubbed finish to these surfaces.
- C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.7 FINISHING FLOORS AND SLABS

- A. General: Comply with ACI 302.1R recommendations for screeding, re-straightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, and ramps, and elsewhere as indicated.

3.8 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.
- B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- C. Cure concrete according to ACI 308.1, by one or a combination of the following methods:
 - 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days.
 - 2. Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

3.9 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.

3.10 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports. Contractor will be responsible to coordinate testing with the Owner and their selected testing agency.
 - 1. Testing Services: Tests shall be performed according to ACI 301.
 - 2. Contractor to pull 3 cylinders for every 50 CY of concrete for compression testing. One at 7 days, one at 28 days and a spare.

END OF SECTION 033000

SECTION 034500 - PRECAST ARCHITECTURAL CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Precast Coping
 - 2. Precast Cap

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM).
 - 1. ASTM C-150
 - 2. ASTM C-33
 - 3. ASTM C-260
 - 4. ASTM C-494
 - 5. ASTM C-128
 - 6. ASTM C-31
- B. Precast/Prestressed Concrete Institute (PCI)
- C. American Concrete Institute (ACI)
 - 1. ACI-318

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Design Mixtures: For each precast concrete mixture. Include compressive strength and water-absorption tests.
- C. Shop Drawings: Detail fabrication and installation of architectural precast concrete cladding units. Indicate locations, plans, elevations, dimensions, shapes, and cross sections of each unit. Indicate joints, reveals, and extent and location of each surface finish. Details shall show all reinforcing and special hardware required for fastening.
- D. Samples: For each type of finish, including color and texture, indicated on exposed surfaces of architectural precast concrete units, approximately 6" x 6" (300 by 300 by 50 mm).
- E. Certification
 - 1. Suppliers shall furnish certification attesting that materials meet specification requirements.

1.4 QUALITY ASSURANCE

- A. Design Standards: Comply with ACI 318 (ACI 318M) and design recommendations of PCI MNL 120, "PCI Design Handbook - Precast and Prestressed Concrete," applicable to types of architectural precast concrete units indicated.
- B. Quality-Control Standard: For manufacturing procedures and testing requirements, quality-control recommendations, and dimensional tolerances for types of units required, comply with PCI MNL 117, "Manual for Quality Control for Plants and Production of Architectural Precast Concrete Products."
- C. Manufacturer's Instructions: In addition to specified requirements, comply with precast concrete manufacturer's instructions and recommendations for substrate preparation, material storage, mixing and application, finishing and curing.
- D. Qualifications: Precast Concrete Manufacturer and Trade Contractor must have a minimum of 5 years of successful experience on projects of similar magnitude and complexity to the project.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Packaging and Shipping: Precast Concrete to be palletized and shrink wrapped, delivered in original unopened packaging with legible manufacturer identification, including size, piece number, quantities, manufacturer date and inspectors initials.
- B. Storage and Protection: Precast Concrete to be stored in secure area in original packaging. Protect from damage by other trades.

1.6 WARRANTY

- A. Manufacturer and Installer shall warranty installed system for a period of (1) one year from date of final acceptance against failure of workmanship and materials.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable manufacturers:
 - 1. Wausau Tile, Inc. as represented by SUSTAIN Architectural Representatives 773.528.9230 or Approved Equal.
 - 2. Marystone as represented by Cassandra Kraft 651.437.7972 or Approved Equal.
 - 3. Architectural Cast Stone 630.377.4800 or Approved Equal.

2.2 REINFORCING MATERIALS

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.
- B. Low-Alloy-Steel Reinforcing Bars: ASTM A 706/A 706M, deformed.
- C. Plain-Steel Welded Wire Reinforcement: ASTM A 185, fabricated from steel wire into flat sheets.
- D. Deformed-Steel Welded Wire Reinforcement: ASTM A 497/A 497M, flat sheet.

2.3 CONCRETE MATERIALS

- A. Portland Cement: ASTM C 150, Type I or Type III, gray, unless otherwise indicated.

- 1. For surfaces exposed to view in finished structure, mix gray with white cement, of same type, brand, and mill source.
- B. Supplementary Cementitious Materials:
 - 1. Fly Ash: ASTM C 618, Class C, with maximum loss on ignition of 3 percent.
 - 2. Metakaolin Admixture: ASTM C 618, Class N.
 - 3. Silica Fume Admixture: ASTM C 1240, with optional chemical and physical requirement.
 - 4. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.
- C. Normal-Weight Aggregates: Except as modified by PCI MNL 117, ASTM C 33, with coarse aggregates complying with Class 5S. Stockpile fine and coarse aggregates for each type of exposed finish from a single source (pit or quarry) for Project.
- D. Face-Mixture-Coarse Aggregates: Selected, hard, and durable; free of material that reacts with cement or causes staining; to match selected finish sample.
 - a. Gradation: Uniformly graded
- 2. Face-Mixture-Fine Aggregates: Selected, natural or manufactured sand of same material as coarse aggregate, unless otherwise approved by Architect.
- D. Coloring Admixture: ASTM C 979, inorganic pigments, resistant to alkalinity, temperature stable, and nonfading.
 - 1. Color to be selected by Landscape Architect from full manufacturer's range.
- E. Air-Entraining Admixture: ASTM C 260, certified by manufacturer to be compatible with other required admixtures.
- F. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures and to not contain calcium chloride, or more than 0.15 percent chloride ions or other salts by weight of admixture.

2.4 STEEL CONNECTION MATERIALS

- A. Zinc-Coated Finish: For exterior steel items and items indicated for galvanizing, apply zinc coating by hot-dip process according to ASTM A 123/A 123M or ASTM A 153/A 153M.
 - 1. Galvanizing Repair Paint: High-zinc-dust-content paint with dry film containing not less than 94 percent zinc dust by weight, and complying with DOD-P-21035A or SSPC-Paint 20.

2.5 GROUT MATERIALS

- A. Nonmetallic, Nonshrink Grout: Premixed, nonmetallic, noncorrosive, nonstaining grout containing selected silica sand, portland cement, shrinkage-compensating agents, plasticizing and water-reducing agents, complying with ASTM C 1107, Grade A for drypack and Grades B and C for flowable grout and of consistency suitable for application within a 30-minute working time.

2.6 CONCRETE MIXTURES

- A. Prepare design mixtures for each type of precast concrete required.
 - 1. Limit use of fly ash and silica fume to 20 percent of portland cement by weight; limit metakaolin and silica fume to 10 percent of portland cement by weight.
- B. Design mixtures may be prepared by a qualified independent testing agency or by qualified precast plant personnel at architectural precast concrete fabricator's option.
- C. Limit water-soluble chloride ions to maximum percentage by weight of cement permitted by ACI 318 (ACI 318M) or PCI MNL 117 when tested according to ASTM C 1218/C 1218M.
- D. Normal-Weight Concrete Mixtures: Proportion mixtures by either laboratory trial batch or field test data methods according to ACI 211.1, with materials to be used on Project, to provide normal-weight concrete with the following properties:
 - 1. Compressive Strength (28 Days): 5000 psi (34.5 MPa) minimum.
 - 2. Air Content 6-8%
 - 3. Water-Cement Ratio .45:1
- E. Water Absorption: 6 percent by weight or 14 percent by volume, tested according to PCI MNL 117.
- F. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having an air content complying with PCI MNL 117.
- G. When included in design mixtures, add other admixtures to concrete mixtures according to manufacturer's written instructions.

2.7 FABRICATION

- A. Cast-in Anchors, Inserts, Plates, Angles, and Other Anchorage Hardware: Fabricate anchorage hardware with sufficient anchorage and embedment to comply with design requirements. Accurately position for attachment of loose hardware, and secure in place during pre-casting operations. Locate anchorage hardware where it does not affect position of main reinforcement or concrete placement.
- B. Furnish loose hardware items including steel plates, clip angles, seat angles, anchors, dowels, cramps, hangers, and other hardware shapes

- for securing architectural precast concrete units to supporting and adjacent construction.
- C. Cast-in reglets, slots, holes, and other accessories in architectural precast concrete units as indicated on the Contract Drawings.
- D. Reinforcement: Comply with recommendations in PCI MNL 117 for fabricating, placing, and supporting reinforcement.
- E. Reinforce architectural precast concrete units to resist handling, transportation, and erection stresses.
- F. Comply with requirements in PCI MNL 117 and requirements in this Section for measuring, mixing, transporting, and placing concrete. After concrete batching, no additional water may be added.
- G. Place face mixture to a minimum thickness after consolidation of the greater of 1 inch (25 mm) or 1.5 times the maximum aggregate size, but not less than the minimum reinforcing cover specified.
- H. Place concrete in a continuous operation to prevent seams or planes of weakness from forming in precast concrete units.
 - 1. Place backup concrete mixture to ensure bond with face-mixture concrete.
- I. Thoroughly consolidate placed concrete by internal and external vibration without dislocating or damaging reinforcement and built-in items, and minimize pour lines, honeycombing, or entrapped air on surfaces. Use equipment and procedures complying with PCI MNL 117.
 - 1. Place self-consolidating concrete without vibration according to PCI TR-6, "Interim Guidelines for the Use of Self-Consolidating Concrete in Precast/Prestressed Concrete Institute Member Plants."
- J. Comply with PCI MNL 117 for hot- and cold-weather concrete placement.
- K. Identify pickup points of architectural precast concrete units and orientation in structure with permanent markings, complying with markings indicated on Shop Drawings. Imprint or permanently mark casting date on each architectural precast concrete unit on a surface that will not show in finished structure.
- L. Cure concrete, according to requirements in PCI MNL 117, by moisture retention without heat or by accelerated heat curing using low-pressure live steam or radiant heat and moisture. Cure units until compressive strength is high enough to ensure that stripping does not have an effect on performance or appearance of final product.
- M. Discard and replace architectural precast concrete units that do not comply with requirements, including structural, manufacturing tolerance, and appearance, unless repairs meet requirements in PCI MNL 117 and Architect's approval.

2.8 FABRICATION TOLERANCES

- A. Fabricate architectural precast concrete units straight and true to size and shape with exposed edges and corners precise and true so each finished panel complies with PCI MNL 117 product tolerances as well as position tolerances for cast-in items.
- B. All units to conform to shop drawings, with a 1/16" tolerance in dimension.

2.9 FINISHES

- A. Panel faces shall be free of joint marks, grain, and other obvious defects. Corners, including false joints shall be uniform, straight, and sharp. Finish exposed-face surfaces of architectural precast concrete units to match approved sample and as follows:
 - 1. Sand Smooth Finish: Use continuous mechanical abrasion with fine grit
- B. Finished surfaces to match approved control sample.
- C. Finish unexposed surfaces of architectural precast concrete units by float finish.

2.10 CAULKS AND SEALANTS

- A. Caulk
 - 1. Sikaflex 1A, installed as recommended by manufacturer: Color to match precast and shall be selected by Landscape Architect from Manufacturer's standard colors.
- B. Graffiti Control Sealer
 - 1. Sure Klean Blok-Guard Graffiti Control Ultra as manufactured by PROSOC 800.255.4255 or approved equal.

2.11 SOURCE QUALITY CONTROL

- A. Quality-Control Testing: Test and inspect precast concrete according to PCI MNL 117 requirements. If using self-consolidating concrete, also test and inspect according to PCI TR-6, "Interim Guidelines for the Use of Self-Consolidating Concrete in Precast/Prestressed Concrete Institute Member Plants."
- B. Owner will employ an independent testing agency to evaluate architectural precast concrete fabricator's quality-control and testing methods.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Examine areas to receive precast concrete for the following:
 - 1. Defects in existing work or substrate.
 - 2. Deviation beyond allowable tolerances for the substrate.
- B. Start work only when defects have been corrected.

3.2 INSTALLATION

- A. Pre-cast Coping
 - 1. Install clips, hangers, bearing pads, pins and other accessories required for connecting architectural precast concrete units to supporting members and backup materials.
 - 2. Provide mortar setting bed as indicated for cap panels.
 - 3. Erect architectural precast concrete level, plumb, and square within specified allowable tolerances. Provide temporary supports and bracing as required to maintain position, stability, and alignment as units are being permanently connected.
 - a. Maintain horizontal and vertical joint alignment and uniform joint width as erection progresses.
 - b. Unless otherwise indicated, provide for uniform joint widths of 3/4 inch (19 mm).
- 4. Install Skate Stops in all joints per manufacturers recommendations.
- 5. Connect architectural precast concrete units in position by bolting, welding, grouting, or as otherwise indicated on Shop Drawings. Remove temporary shims, wedges, and spacers as soon as practical after connecting and grouting are completed.
- 6. Grouting Connections: Grout connections where required or indicated. Retain grout in place until hard enough to support itself. Pack spaces with stiff grout material, tamping until voids are filled to 1/2" below top of . Place grout to finish smooth, level, and plumb with adjacent concrete surfaces. Keep grouted joints damp for not less than 24 hours after initial set. Promptly remove grout material from exposed surfaces before it affects finishes or hardens.
- 7. Erect architectural precast concrete units level, plumb, square, true, and in alignment without exceeding the noncumulative erection tolerances of PCI MNL 117, Appendix I.

3.3 REPAIRS

- A. Repair damaged architectural precast concrete units if permitted by Landscape Architect. The Landscape Architect reserves the right to reject repaired units that do not comply with requirements.
- B. Mix patching materials and repair units so cured patches blend with color, texture, and uniformity of adjacent exposed surfaces and show no apparent line of demarcation between original and repaired work, when viewed in typical daylight illumination from a distance of 20 feet (6 m).
- C. Prepare and repair damaged galvanized coatings with galvanizing repair paint according to ASTM A 780.
- D. Wire brush, clean, and paint damaged prime-painted components with same type of shop primer.
- E. Remove and replace damaged architectural precast concrete units when repairs do not comply with requirements.

3.4 CLEANING

- A. Clean surfaces of precast concrete units exposed to view.
- B. Clean mortar, plaster, fireproofing, weld slag, and other deleterious material from concrete surfaces and adjacent materials immediately.
- C. Clean exposed surfaces of precast concrete units after erection and completion of joint treatment to remove weld marks, other markings, dirt, and stains.
 - 1. Perform cleaning procedures, if necessary, according to precast concrete fabricator's recommendations. Clean soiled precast concrete surfaces with detergent and water, using stiff fiber brushes and sponges, and rinse with clean water. Protect other work from staining or damage due to cleaning operations.
 - 2. Do not use cleaning materials or processes that could change the appearance of exposed concrete finishes or damage adjacent materials.
- D. Apply Graffiti Control Sealer per manufacturer's recommendations.

END OF SECTION 034500



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PROJECT NO:	26006459
DATE:	08/14/2026
DRAWN:	KRE/CNO
REVIEWED:	LJL/EFH

AUGUST 14, 2026	
REVISIONS:	
NO. DATE	ISSUE

SPECIFICATIONS

L0.0

SECTION 044300 - STONE MASONRY

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes the following applications of stone masonry:
 1. Stone Veneer
 2. Anchored to concrete backdrop.

1.2 RELATED REQUIREMENTS

- A. Structural Design: Details on Drawings indicate a design approach for wall fabrication but do not necessarily include all fabricating details required for the complete structural integrity of the signs, including consideration for static, dynamic, and erection loads during handling, erecting, and service at the installed locations, nor do they necessarily consider the preferred shop practices of the individual wall fabricators. Therefore, it shall be the responsibility of the Fabricator to perform the complete structural design of the signs and to incorporate all the reasonable safety factors necessary to protect the Owner and their representatives, against public liability. Designs which survive rational engineering analysis will be acceptable, provided that shop drawings, including structural design, are approved by the Owner. Signs must meet all applicable local, state, and national codes, as well as testing laboratory listings where required. Connection details and structural calculations to be verified by the structural engineer prior to any fabrication. Fabricator to coordinate with Owner on all footings, structural attachments, and penetrations of slabs.

- B. The Drawings presented for pricing are not fabrication drawings. The Contractor is expected to provide all details necessary to effectively explain and specify the fabrication process and the expected performance of the installed product. The Contractor must demonstrate through details and specifications their complete understanding of the desired final product and the method/process by which they are producing said product. The Contractor is responsible to field measure prior to submitting. Repackaging the supplied Drawings with new title blocks and delivering as submittals will not be accepted. Although art may be supplied electronically, Contractors must be prepared to create all graphic content from scratch - per instance as requested - to demonstrate and verify the quality and accuracy of the delivered product.

- C. The Bid Set Drawings represent the design intent for the walls required for the Project. The fabricator is responsible for the proper engineering of all elements of the Work and where applicable, to include a set of wet stamped, signed engineering calculations by a licensed Structural Engineer. The internal structure, dimensions, and specifications for all items shall be indicated in the shop drawings.

1.3 SUBMITTALS

- A. Contractor shall be responsible for securing all permits, including payment of fees, required by the governing municipal offices for installation of the Project.
- B. Structural design and calculations for all walls to confirm structural integrity of the designed support. All structural connections will require certification by licensed Engineer.
- C. Mockups: Provide a mockup for installation of all stone masonry indicating craftsmanship, color range, arrangement of stones, patterns, finishes, and jointing. If accepted, these mockups may be a part of the final product. Provide enough time in the schedule to allow for mockup review and adjustment prior to proceeding.
- D. Samples
 1. For each stone type indicated, color of mortar, stone accessory and manufactured product.

1.4 PROJECT CONDITIONS

- A. Protection of Stone Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work.
- B. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.
 1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F and above and will remain so until masonry has dried.
- C. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

PART 2 - PRODUCTS

2.1 LIMESTONE

- A. Limestone: Comply with ASTM C568, Specifications for dimensions Limestone and following physical characteristics: Wisconsin (Racine Dolomitic) limestone, Grade A. Absorption: ASTM C97, 1.36% maximum. Compressive strength: ASTM C170, 32,000 psi minimum.
- B. Stone Veneer:
 1. Match stone veneer to Crest Hill City Hall entry columns
 2. Manufacturer: Halquist Stone, 262-246-9000

- or approved equal
- 3. Grade/quality: Standard grade free of cracks, seams or starts which may impair its structural integrity or function.

2.2 SPOT MORTAR MATERIALS

- A. Masonry cement: ASTM C91, white nonstaining type.
- B. Aggregate: ASTM C144, clean masonry sand, 100% passing #16 sieve.
 1. White mortar: Natural white sand or ground white sand.
- C. Water: Clean, fresh, and potable.
- D. Water repellent admixture: Ammonium stearate, aluminum trisearate or calcium stearate.

2.3 STONE MORTAR MIXES

- A. Provide water repellent admixture in all mortar used for stone masonry work. Add to mix in accordance with manufacturer's recommendations. Maximum 2% by weight of portland cement content of mortar.
- B. Setting mortar: 1-part non-staining masonry cement, 1-part hydrated lime, and 6 parts damp loose sand.
- C. Pointing mortar: same as Setting mortar.
- D. Grout: 1-part non-staining masonry cement, 1-1/2 part white damp loose sand.
- E. Measure and batch materials either by volume or weight. Use accurate measuring devices to ensure uniformity and coloration of mix. Shovel count measurement of sand is not acceptable.
- F. Mix cementitious materials and aggregate in a clean mechanical mixer for at least 5 minutes. Add water in amount to provide satisfactory workable consistency of mortar.

2.4 MASONRY CLEANERS

- A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar and grout stains, efflorescence, and other new construction stains from stone masonry surfaces without discoloring or damaging masonry surfaces; expressly approved for intended use by cleaner manufacturer and stone producer.

2.5 FABRICATION

- A. Select stone to produce pieces of thickness, size, and shape indicated, including details on Drawings. Dress joints (bed and vertical) straight and at right angle to face unless otherwise indicated.
- B. Finish exposed faces and edges of stone to comply with requirements indicated for finish and to match approved samples and mockups.

PART 3 - EXECUTION

3.1 SETTING OF MANUFACTURED STONE MASONRY, GENERAL

- A. Perform necessary field cutting and trimming as stone is set.
 1. Use power saws to cut stone that is fabricated with saw-cut surfaces.
 2. Use hammer and chisel to split stone that is fabricated with split surfaces.
- B. Sort stone before it is placed in wall to remove stone that does not comply with requirements relating to aesthetic effects, physical properties, or fabrication or that is otherwise unsuitable for intended use.
- C. Arrange stones in uncoursed random rubble pattern with 1" maximum joint widths and within tolerances indicated. Insert small stones into spaces between larger stones as needed to produce joints as uniform in width as practical.
- D. Arrange stones with color and size variations uniformly dispersed for an evenly blended appearance.
- E. Maintain uniform joint widths except for variations due to different stone sizes and where minor variations are required to maintain bond alignment if any.
- F. Minimize sharp points, corners or edges. Field modification may be necessary.
- G. Add spot mortar where needed to ensure wall stability.

3.2 CONSTRUCTION TOLERANCES

- A. Variation from Plumb: For vertical lines and surfaces, do not exceed 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2 inch in 40 feet or more. For external corners, expansion joints, control joints, and other conspicuous lines, do not exceed 1/4 inch in 20 feet or 1/2 inch in 40 feet or more.
- B. Variation from Level: For bed joints and lines of exposed lintels, sills, parapets, horizontal grooves, and other conspicuous lines, do not exceed 1/4 inch in 20 feet or 1/2 inch in 40 feet or more.
- C. Variation of Linear Building Line: For position shown in plan, do not exceed 1/2 inch in 20 feet or 3/4 inch in 40 feet or more.

3.3 POINTING

- A. Prepare stone-joint surfaces for pointing with mortar by removing dust and mortar particles. Where setting mortar was removed to depths

- greater than surrounding areas, apply pointing mortar in layers not more than 3/8-inch-deep until a uniform depth is formed.
- B. Point stone joints by placing and compacting pointing mortar in layers not more than 3/8 inch deep. Compact each layer thoroughly and allow to become thumbprint hard before applying next layer.
- C. Tool joints, when pointing mortar is thumbprint hard, with a smooth jointing tool to produce the following joint profile:
 1. Joint Profile: Concave.

3.4 ADJUSTING AND CLEANING

- A. In-Progress Cleaning: Clean stone masonry as work progresses. Remove mortar fins and smears before tooling joints.
- B. Final Cleaning: After mortar is thoroughly set and cured, clean stone masonry as follows:
 1. Test cleaning methods on mockup; leave one-half of panel uncleaned for comparison purposes.
 2. Protect adjacent stone and nonmasonry surfaces from contact with cleaner by covering them with liquid stripable masking agent, polyethylene film, or waterproof masking tape.
 3. Wet wall surfaces with water before applying cleaner; remove cleaner promptly by rinsing thoroughly with clean water.
 4. Clean stone masonry by bucket and brush hand-cleaning method described in BIA Technical Note No. 20 Revised II, using job-mixed detergent solution.
 5. Clean stone masonry with proprietary acidic cleaner applied according to manufacturer's written instructions.

END OF SECTION 044300

SECTION 321313 - CONCRETE PAVING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes exterior cement concrete pavement for the following:
 1. Concrete paving
- B. Design Mixtures: For each concrete pavement mixture.
- C. Mockup: Provide 4'x4' mockup for each finish type to serve as the basis for all work, to be maintained on site until after construction. Mockup can be part of the finished area.

1.3 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer of ready-mixed concrete products who complies with ASTM C 94/C 94M requirements for production facilities and equipment.
- B. ACI Publications: Comply with ACI 301, "Specification for Structural Concrete," unless modified by requirements in the Contract Documents.
- C. Provide 2 year warranty on materials and workmanship.

PART 2 - PRODUCTS

2.1 STEEL REINFORCEMENT

- A. Plain-Steel Welded Wire Reinforcement: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.
- B. Plain-Steel Reinforcing Bars: ASTM A 615/A 615M, Grade 60; deformed.
- C. Plain Steel Wire: ASTM A 82, as drawn.
- D. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars, welded wire reinforcement, and dowels in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice."

2.2 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source throughout the Project.
 1. Portland Cement: ASTM C 150, Type I, II, or more.
 - a. Fly Ash: ASTM C 618, Class F.
 - b. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.
 2. Normal-Weight Aggregates: ASTM C 33, coarse aggregate, uniformly graded. Provide aggregates from a single source.
 3. Water: ASTM C 94/C 94M.
 4. Air-Entraining Admixture: ASTM C 260.
 5. Chemical Admixtures: ASTM C 494/C 494M, of type suitable for application, certified by manufacturer to be compatible with other admixtures and to contain not more than 0.1 percent water-soluble chloride ions by mass of cementitious material.

2.4 CURING MATERIALS

- A. Water: Potable.
- B. Evaporation Retarder: Waterborne, monomolecular film forming; manufactured for application to fresh concrete.
- C. Clear Waterborne Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.
- D. Concrete will be sealed using a water based silane / siloxane water repellent for color sensitive concrete. Follow manufacturer's recommendations for curing.

2.5 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: 1/2" thick polyethylene, closed cell, expansion joint filler w/ strip cap
- B. Joint Sealant / Caulk: Sonneborn, Sonolastic TX 1 or approved equal

2.6 CONCRETE MIXTURES

- A. Prepare design mixtures, proportioned according to ACI 301, with the following properties:
 1. Compressive Strength (28 Days): 3500 psi.
 2. Maximum Water-Cementitious Materials Ratio at Point of Placement: 0.45.
 3. Slump Limit: 4 inches, plus or minus 1 inch.
 4. Air Content: 5-1/2 percent plus or minus 1.5 percent.

2.7 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Furnish batch certificates for each batch discharged and used in the Work.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Proof-roll prepared subbase surface below concrete pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding.

3.2 EDGE FORMS AND SCREED CONSTRUCTION

- A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides for pavement to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.
- B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

3.3 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

3.4 JOINTS

- A. General: Form construction, isolation, and contraction joints and seal edgings true to line with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline, unless otherwise indicated.
- B. Construction Joints: Set construction joints at side and end terminations of pavement and at locations where pavement operations are stopped for more than one-half hour unless pavement terminates at isolation joints.
- C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, walks, other fixed objects, and where indicated.
- D. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness to match jointing of existing adjacent concrete pavement.
- E. Edging: Tool edges of pavement, gutters, curbs, and joints in concrete after initial floating with an edging tool to a 1/4-inch radius. Repeat tooling of edges after applying surface finishes. Eliminate tool marks on concrete surfaces.

3.5 CONCRETE PLACEMENT

- A. Moisten subbase to provide a uniform dampened condition at time concrete is placed.
- B. Comply with ACI 301 requirements for measuring, mixing, transporting, and placing concrete.
- C. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.
- D. Screed pavement surfaces with a straightedge and strike off.
- E. Commence initial floating using bull floats or darbies to impart an open textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.

3.6 FLOAT FINISHING

- A. General: Do not add water to concrete surfaces during finishing operations.
 - B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats, or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.
 1. Medium-to-Coarse-Textured Broom Finish: Provide a coarse finish by striating float-finished concrete surface 1/16 to 1/8 inch deep with a stiff-bristled broom, perpendicular to line of traffic.
 - C. After completion of floating and troweling when excess moisture or surface sheen has disappeared, complete surface finishing using mechanical or hand methods.
- 3.7 CONCRETE PROTECTION AND CURING
- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
 - B. Comply with ACI 306.1 for cold-weather protection.
 - C. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
 - D. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.
 - E. Curing Methods: Cure concrete by curing and sealing compound.

3.8 PAVEMENT TOLERANCES

- A. Comply with tolerances of ACI 117 and as follows:
 1. Elevation: 1/4 inch.
 2. Thickness: Plus 3/8 inch, minus 1/4 inch.
 3. Surface: Gap below 10-foot-long, unlevelled straightedge not to exceed 1/4 inch.
 4. Joint Spacing: 3 inches.
 5. Contraction Joint Depth: Plus 1/4 inch, no minus.
 6. Joint Width: Plus 1/8 inch, no minus.

3.9 REPAIRS AND PROTECTION

- A. Remove and replace concrete pavement that is broken, damaged, or defective or that does not comply with requirements in this Section.
- B. Protect concrete from damage. Exclude traffic from pavement for at least 14 days after placement.
- C. Maintain concrete pavement free of stains, discoloration, dirt, and other foreign material. Sweep concrete pavement not more than two days before date scheduled for Substantial Completion inspections.

3.10 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports.
 1. Testing Services: Tests shall be performed according to ACI 301.
 2. Contractor to pull 4 cylinders for every 50 CY of concrete for compression testing. One at 7 days, two at 28 days and a spare.

END OF SECTION 321313

SECTION 329200 - TURF AND GRASSES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 1. Turf Grass Seed
 2. Turf Grass Sod (Alternate)
 3. Topsoil
 4. Herbicide
 5. Fertilizer
 6. Planting Soil Mix

1.2 DEFINITIONS

- A. Finish Grade: Elevation of finished surface of planting soil.
 - B. Manufactured Soil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.
 - C. Planting Soil: Native or imported topsoil, manufactured topsoil, or surface soil modified to become topsoil; mixed with soil amendments.
 - D. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill immediately beneath planting soil.
 - E. Subsoil: All soil beneath the topsoil layer of the soil profile and typified by the lack of organic matter and soil organisms.
- 1.3 SUBMITTALS
- A. Product Data: For each type of product indicated.
 - B. Certification of grass seed.
 - C. Certification of each seed mixture for turf grass sod.
 - D. Product certificates.
 - E. Planting Schedule: Indicating anticipated planting dates for each type of planting.
- 1.4 QUALITY ASSURANCE
- A. Installer's Qualifications: A qualified landscape installer whose work has resulted in successful lawn establishment.
 1. Installer's Field Supervision: Require installer to maintain an experienced full-time supervisor of Project site when planting is in progress.
 - B. Soil-Testing Laboratory Qualifications: An independent laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.
 1. Topsoil Analysis: As indicate in Division 32 "Exterior Plants"

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with maintenance periods to provide required maintenance from date of Substantial Completion.
 1. Spring Planting: April 15-June 15
 2. Fall Planting: August 15-October 15
 - B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit.
- 1.6 LAWN MAINTENANCE
- A. Initial Lawn Maintenance Service: Provide full maintenance by skilled employees of landscape installer. Maintain as required in Part 3. Begin maintenance immediately after each area is established and continue until acceptable lawn is planted, but for not less than the following periods:
 1. Seed: 60 days from date of Substantial Completion.
 2. Sod: 30 days from date of Substantial Completion

PART 2 - PRODUCTS

2.1 SEED

- A. Seed Species: State-certified seed of grass species, as follows:
 1. Field of Dreams Gameday Mixture: Available as through Conserv FS, 815.334.5950
 - a. 70% Kentucky Bluegrass of three varieties or equals (Divra, Appalachian, Gateway, Award, Rockstar, Nuglade, Wild Horse, or Blue Chip Plus)
 - b. 30% Perennial Ryegrass of two varieties or equals (Top Gumm II, Accent II, Palmer III, Panther H20, or Penant H20)
 2. IDOT Class 2A Salt Tolerant Roadside Mixture: Available as through Conserv FS, 815.334.5950
 - a. Inferno Tall Fescue or Tarheel II Tall Fescue: 60lbs / acre
 - b. Perennial Ryegrass: 20 lbs / acre
 - c. Audubon Red Fescue: 30 lbs / acre
 - d. Rescue 911 Hard Fescue: 30 lbs / acre
 - e. Fults Distans Alkaligrass: 60 lbs / acre

2.2 SEED / PERFORMANCE CRITERIA

- A. Mixes shall meet the following criteria, according to the National Turfgrass Evaluation Program
 1. Sun/Shade: Sun
 2. Traffic: High traffic
 3. Water: None after establishment
 4. Maintenance: Low Level of Care
 5. Overall quality: >5.0 (NTEP)
 6. Density: 5.0-9 (dense)
 7. Greenuip: 5.0-9 (early greenup)
 8. Texture: 5.0-9 (fine)
 9. Color: 5.0-9 (Dark green)
 10. Disease resistance: 5.0-9 (High resistance)
 11. Establishment Vigor: 5.0-9 (Vigorous)

2.3 TURFGRASS SOD (ALTERNATE)

- A. If sod alternate is elected, sod species shall perform in a similar manner and be submitted for approval prior to ordering.
- B. Turfgrass Sod: Certified Number 1 Quality/Premium, including limitations on thatch, weeds, diseases, nematodes, and insects, complying with TPI's "Specifications for Turfgrass Sod Materials" in its "Guideline Specifications to Turfgrass Sodding." Furnish viable sod of uniform density, color, and texture, strongly rooted, and capable of vigorous growth and development when planted.
 1. Minimum 3/4" soil depth.
- C. Turfgrass Species: Kentucky Bluegrass
 1. HD 2000 Kentucky Bluegrass: Available through Central Sod Farms, Inc., 630.904.1017 or approved equal

2.4 TOPSOIL

- A. Topsoil: A naturally occurring loam or silt loam (USDA texture) soil from on-site sources Natural soil shall be a harvested loam or silt loam mineral soil, uniform in color and texture, containing no gray clay and free from grass roots, sod, weeds, rocks or stones greater than 0.75 in. diameter, stiff clay, clods, or any other substance undesirable to plant growth. The soil shall be loose, friable, and of good till. The particle size distribution ranges using USDA Particle Size Classes shall be as follows:

Sand	2.00 - 0.05mm	15-50%
Silt	0.05 -0.002mm	30-70%
Clay	<0.002mm	3-20%
- B. Topsoil shall be suitable for ornamental plant growth with pH range of 5.5 to 7, and a minimum of 8 percent organic material content.
- C. Segregated Topsoil from on-site sources will be considered acceptable unless otherwise noted.

2.5 HERBICIDES

- A. Selective herbicides: EPA registered and approved, of type recommended by manufacturer for application.

2.6 FERTILIZER

- A. Superphosphate: Commercial, phosphate mixture, soluble; a minimum of 20 percent available phosphoric acid.
- B. Starter Fertilizer: Coarse grade "endoROOTS" granular, 3-3-4 fertilizer as manufactured by Roots Inc. 800.342.6173 or approved equal.
- C. Growth Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorus, and potassium in the following composition:
 1. Composition: Country Club 17-0-17 granular fertilizer as manufactured by Lebanon Turf Products or approved equal.
- D. Maintenance Fertilizer: Granular or pelleted Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:
 1. Composition: Roots Fine Grade Turf Food, 15-3-8 as manufactured by Roots Inc. 800.342.6173 or approved equal.

2.7 EROSION CONTROL BLANKET

- A. Erosion control blanket shall be Curlex NetFree Blanket as manufactured by American Excelsior Company 815.768.5866 or approved equal.
 1. Secure in place with E-Staple manufactured by American Excelsior Company or approved equal.

2.8 PLANTING SOIL MIX

- A. 12" Depth Planting Soil Mix: Topsoil mixed with the following soil amendments and fertilizers in the following quantities:
 1. Ratio of Soil Conditioner to Topsoil by Volume: 1:4.
 2. Weight of Commercial Fertilizer per 1000 Sq. Ft.: 5 pounds.
 3. Weight of Slow-Release Fertilizer per 1000 Sq. Ft.: 5 pounds.
- B. 24" Depth Planting Soil Mix: Provide planter soil consisting of the approximate percentages by volume:
 1. 50% Sandy loam mineral soil
 2. 20% Coarse washed sand
 3. 15% Organic amendment
 4. 15% Coarse horticultural-grade perlite

Thoroughly blend components prior to placement. Place soil in lifts and lightly consolidate to establish uniform density without excessive compaction. Provide sufficient additional material to compensate for initial settlement and establish specified finish grades.

PART 3 - EXECUTION

3.1 LAWN PREPARATION

- A. Limit lawn subgrade preparation to areas to be planted.
- B. Newly Graded Subgrades: Loosen subgrade to a minimum depth of 4 inches. Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
 1. Spread planting soil mix to a depth of 6 inches but not less than required to meet finish grades after light rolling and natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.
- C. Unchanged Subgrades: If lawns are to be planted in areas unaltered or undisturbed by excavating, grading, or surface soil stripping operations, prepare surface soil as follows:

1. Remove existing grass, vegetation, and turf. Do not mix into surface soil.
 2. Loosen surface soil to a depth of at least of 6 inches. Apply soil amendments and according to planting soil mix proportions and mix thoroughly into top 6 inches of soil. Till soil to a homogeneous mixture of fine texture.
 3. Remove stones larger than 1 inch in any dimension and sticks, roots, trash, and other extraneous matter.
 4. Legally dispose of waste material, including grass, vegetation, and turf, off Owner's property.
 - D. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1/2 inch of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit fine grading to areas that can be planted within 7 days.
 - E. Apply Starter Fertilizer at 10 lbs / 1000 sq. Work into soil to 1 inch depth.
 - F. Moisten prepared lawn areas before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.
 - G. Restore areas if eroded or otherwise disturbed after finish grading and before planting.
- 3.2 SEEDING
- A. Do not broadcast or drop seed when wind velocity exceeds 5 mph. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.
 - B. Sow seed at a total rate of 10 lbs /1000 sq. ft.
 - C. Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with fine spray.
 - D. Apply erosion control blanket to all areas
 - E. Protect seeded areas from hot, dry weather or drying winds by applying peat mulch or topsoil within 24 hours after completing seeding operations. Soak areas, scatter mulch uniformly to a depth of 3/16 inch, and roll surface smooth.
 - F. Install seed under favorable weather conditions unless approved by the Owner's Representative. The conditions of the guarantee apply regardless of the date of installation. The generally accepted times for seeding are:

Spring - April 1 to May 31
Fall - August 15 to September 31

3.3 LAWN MAINTENANCE

- A. Maintain and establish lawn by watering, fertilizing, weeding, mowing, trimming, replanting, and other operations. Roll, regrade, and replant bare or eroded areas to produce a uniformly smooth lawn. Provide materials and installation the same as those used in the original installation.
- B. Watering: Provide and maintain temporary piping, hoses, and lawn-watering equipment to convey water from sources and to keep lawn uniformly moist to a depth of 4 inches.
 1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
 2. Water lawn at a minimum rate of 1 inch per week.
- C. Mow lawn as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than 40 percent of grass height. Remove no more than 40 percent of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain the following grass height:
 1. Mow grass 1-1/2 to 2 inches high.
- D. Lawn Postfertilizing: Apply fertilizer after initial mowing and when grass is dry.
 1. Use fertilizer that will provide actual nitrogen of at least 5 lb/1000 sq. ft. to lawn area.

3.4 SATISFACTORY LAWNS

- A. Satisfactory Seeded Lawn: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. and bare spots not exceeding 5 by 5 inches.
- B. Use specified materials to reestablish lawns that do not comply with requirements and continue maintenance until lawns are satisfactory.

3.5 CLEANUP AND PROTECTION

- A. Promptly remove soil and debris created by lawn work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.
- B. Erect barricades and warning signs as required to protect newly planted areas from traffic. Maintain barricades throughout maintenance period and remove after lawn is established.

END OF SECTION 329200

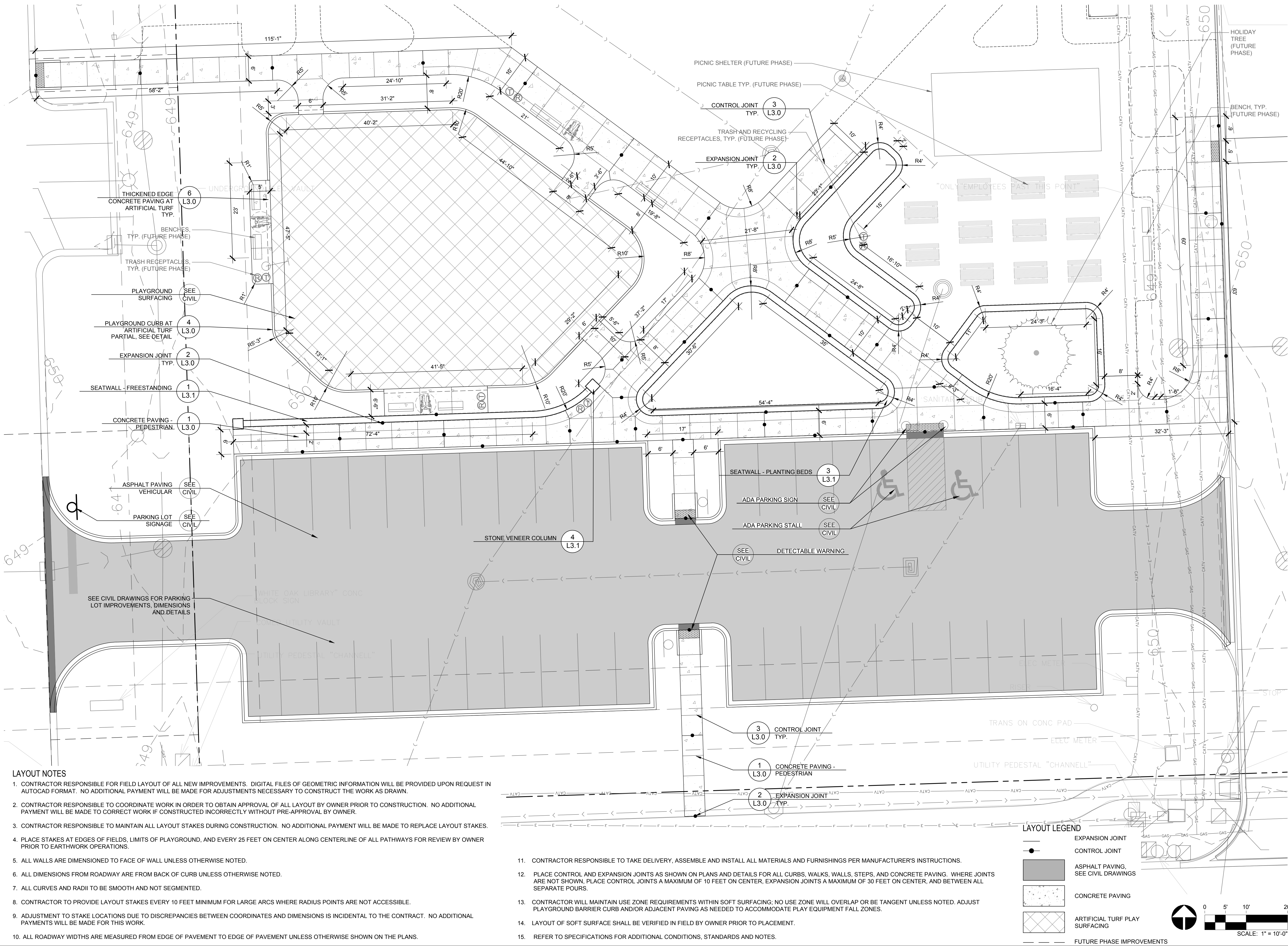
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L:\Naperville\202606459 Crest Hill City Center Park\06 LANDSCAPE ARCHITECTURE\03 CD\01 CURRENT PLANS\1.0 LAYOUT AND MATERIALS PLAN.dwg 8/20/2026 cdellin rsbturn



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CIVIL ENGINEER
SPACE CO. INC.
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ELECTRICAL ENGINEER
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8725 W HIGGINS ROAD
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CREST HILL COMMONS PHASE 1

ISSUE FOR BID

20650 CITY CENTER BOULEVARD
CREST HILL, ILLINOIS, 60403

PROJECT NO: 26006459
DATE: 08/14/2026
DRAWN: KRE/CNO
REVIEWED: LJL/EFH

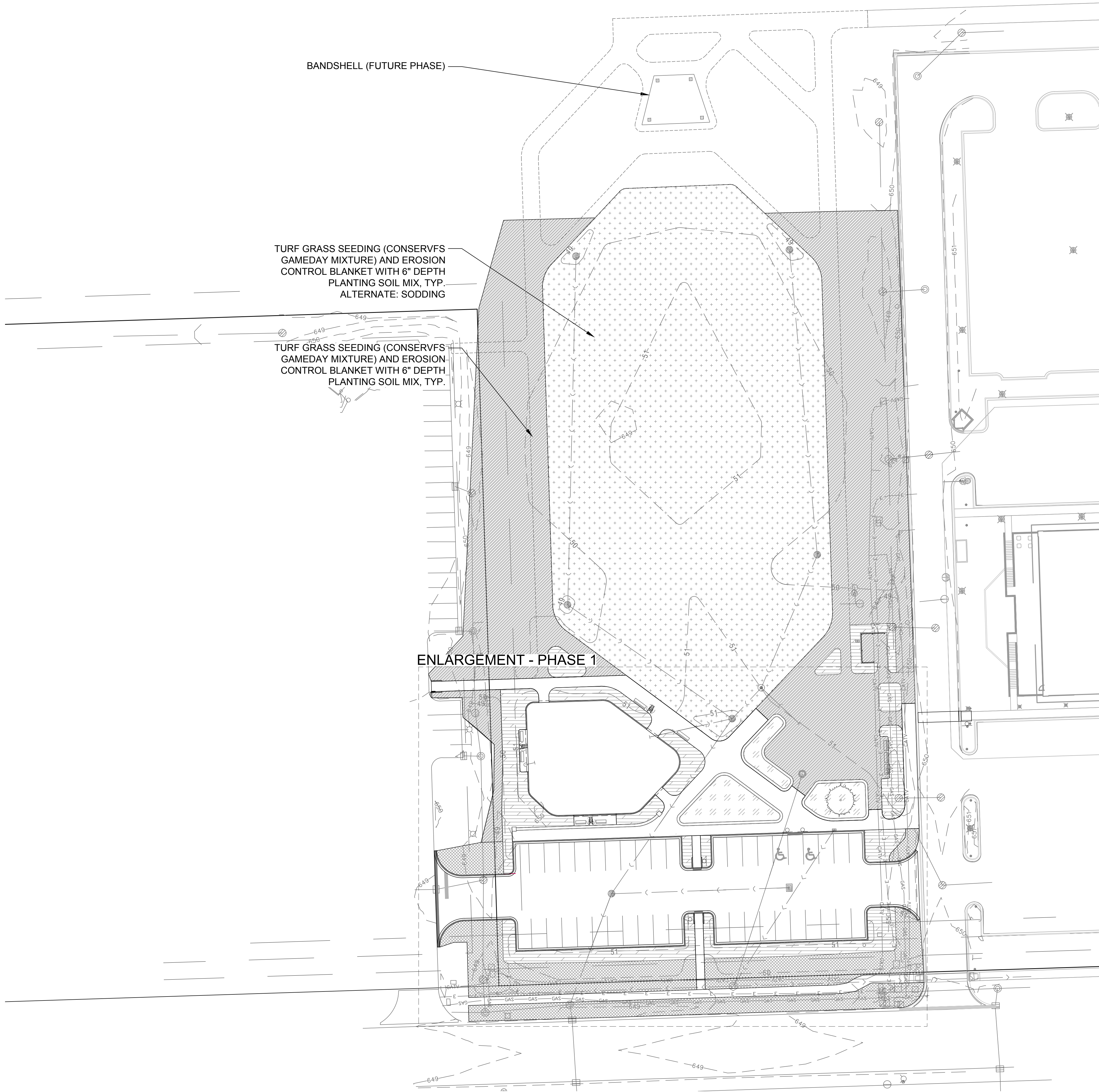
AUGUST 14, 2026
REVISIONS:
NO. DATE ISSUE

LAYOUT AND MATERIALS PLAN - PHASE 1

L1.0

01 ORIGINAL ISSUE

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PLANTING NOTES

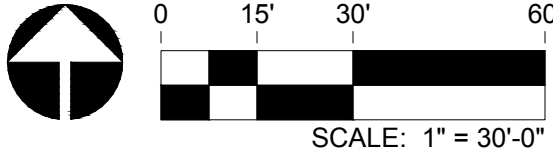
1. Seed/Sod limit line is approximate. Seed/Sod to limits of grading and disturbance. Contractor responsible for restoration of any unauthorized disruption outside of designated construction area.
2. Contractor responsible for erosion control in all seeded/sodded areas.
3. Bedlines are to be spade cut to a minimum depth of 3 inches unless otherwise shown on the plans. Curved bedlines are to be smooth and not segmented.
4. Do not locate plants within 10' of utility structures, or within 5' horizontally of underground utility lines unless otherwise shown on the plans. Consult with Landscape Architect if these conditions exist.
5. FOR UNIT PRICE CONTRACTS, Payments will be made based on actual quantities installed as measured in place by the Owners Representative.
6. Refer to specifications for additional conditions, standards and notes.

PLANTING LEGEND

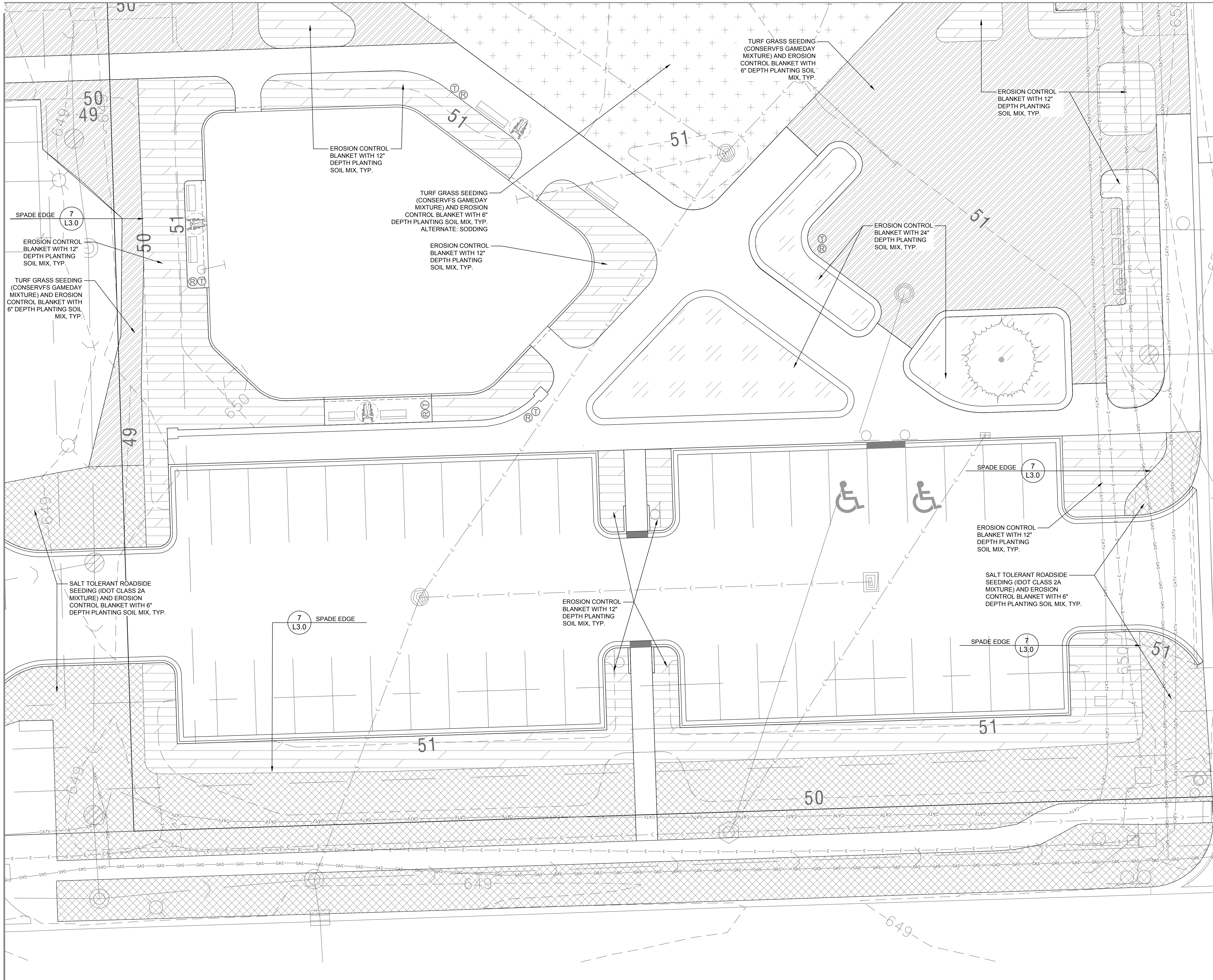
- Erosion control blanket with 24" depth planting soil mix, typ.
- Erosion control blanket with 12" depth planting soil mix, typ.
- Salt tolerant roadside seeding and erosion control blanket with 6" depth planting soil mix, typ.
- Turf grass seeding and erosion control blanket with 6" depth planting soil mix, typ.
- Turf grass seeding (ConservFS Gameday mixture) and erosion control blanket with 6" depth planting soil mix, typ. ALTERNATE: Sodding
- Future Phase Improvements

TURF SEED MIXES		
Mix	Seed Type	% by count
Field of Dreams Gameday Mixture		
<i>Kentucky Bluegrass (70% of 3 varieties)</i>		70.00%
	Diva	
	Appalachian	
	Gateway	
	Award	
	Rockstar	
	Nuglade	
	Wild Horse	
	Blue Chip Plus	
<i>Perennial Ryegrass (30% of 2 varieties)</i>		30.00%
	Top Gunn II	
	Accent II	
	Palmer III	
	Panther H20	
	Pennant H20	
Total		100.00%
IDOT Class 2A Salt Tolerant Roadside Mixture		
	<i>Inferno Tall Fescue</i>	30.00%
	<i>Perennial Ryegrass</i>	10.00%
	<i>Audubon Red Fescue</i>	15.00%
	<i>Rescue 911 Hard Fescue</i>	15.00%
	<i>Fults Distans Alkaligrass</i>	30.00%
Total		100.00%

See Sheet L0.1 Specifications for product information and installation.



L:\Naperville\2026\2006459 Crest Hill City Center Park\06 LANDSCAPE ARCHITECTURE\CD\01 CURRENT PLANS\2.0 PLANTING PLAN.dwg 8/20/2026 callin odum

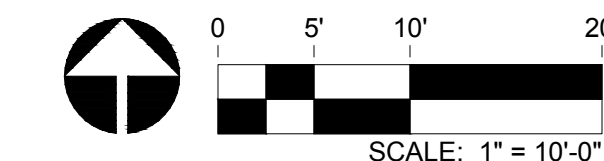


PLANTING NOTES

- Seed/Sod limit line is approximate. Seed/Sod to limits of grading and disturbance. Contractor responsible for restoration of any unauthorized disruption outside of designated construction area.
- Contractor responsible for erosion control in all seeded/sodded areas.
- Bedlines are to be spade cut to a minimum depth of 3 inches unless otherwise shown on the plans. Curved bedlines are to be smooth and not segmented.
- Do not locate plants within 10' of utility structures, or within 5' horizontally of underground utility lines unless otherwise shown on the plans. Consult with Landscape Architect if these conditions exist.
- FOR UNIT PRICE CONTRACTS. Payments will be made based on actual quantities installed as measured in place by the Owners Representative.
- Refer to specifications for additional conditions, standards and notes.

PLANTING LEGEND

- Erosion control blanket with 24" depth planting soil mix, typ.
- Erosion control blanket with 12" depth planting soil mix, typ.
- Salt tolerant roadside seeding and erosion control blanket with 6" depth planting soil mix, typ.
- Turf grass seeding and erosion control blanket with 6" depth planting soil mix, typ.
- Turf grass seeding (ConservFS Gameday mixture) and erosion control blanket with 6" depth planting soil mix, typ. ALTERNATE: Sodding



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PREPARED FOR CITY OF CREST HILL

20600 CITY CENTER
BOULEVARD,
CREST HILL, ILLINOIS, 60403

CONSULTANTS

CIVIL ENGINEER
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CREST HILL COMMONS PHASE 1

ISSUE FOR BID
20650 CITY CENTER BOULEVARD
CREST HILL, ILLINOIS, 60403

PROJECT NO: 26006459
DATE: 08/14/2026
DRAWN: KRE/CNO
REVIEWED: LJL/EFH

AUGUST 14, 2026

REVISIONS:

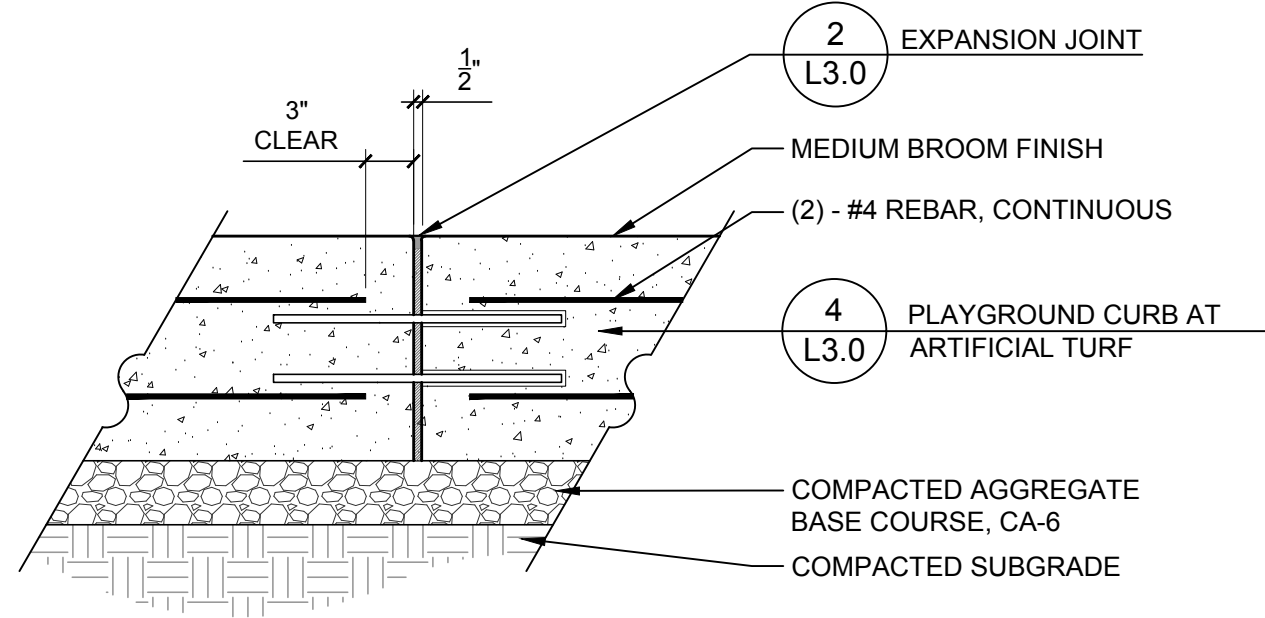
NO. DATE ISSUE

PLANTING PLAN - PHASE 1 ENLARGEMENT

L2.1

01_ORIGINAL ISSUE

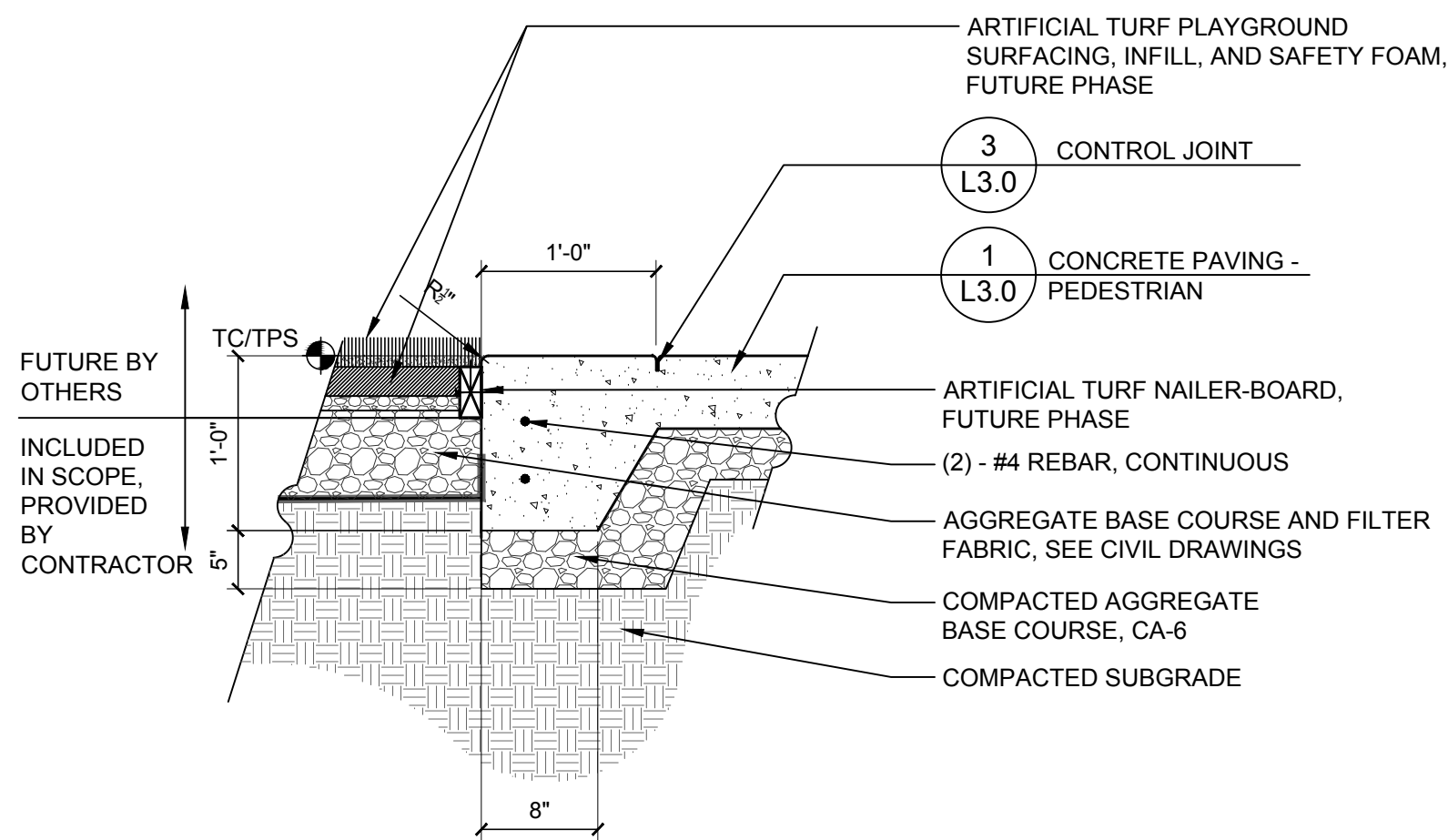
L:\Naperville\2026\20606459 Crest Hill City Commons Landscape Architecture\CD\01 CURRENT PLANS\L3.0 DETAILS.dwg 8/20/2026 callin osburn



NOTE:
PLACE EXPANSION JOINTS 30' O.C. UNLESS OTHERWISE NOTED.

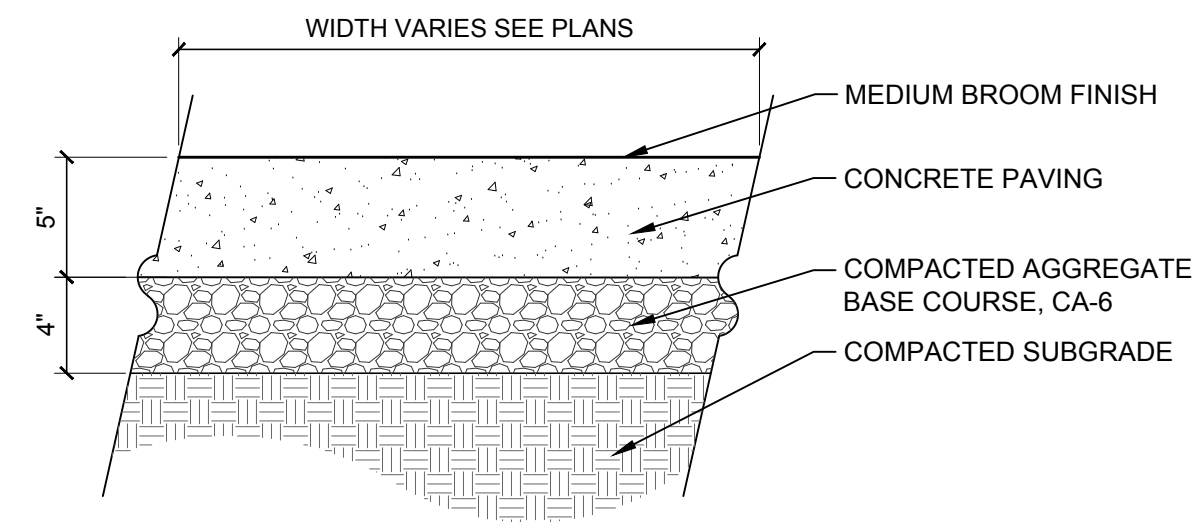
5 EXPANSION JOINT AT PLAYGROUND CURB

1" = 1'-0"



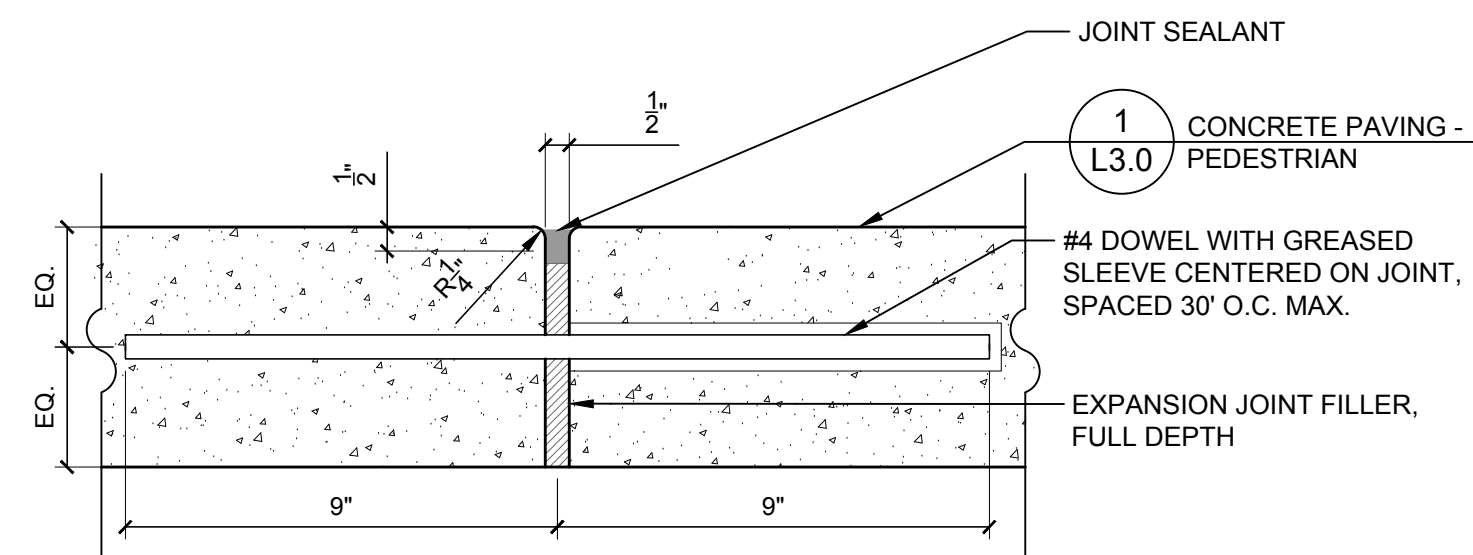
6 THICKENED EDGE CONCRETE PAVING AT ARTIFICIAL TURF

1" = 1'-0"



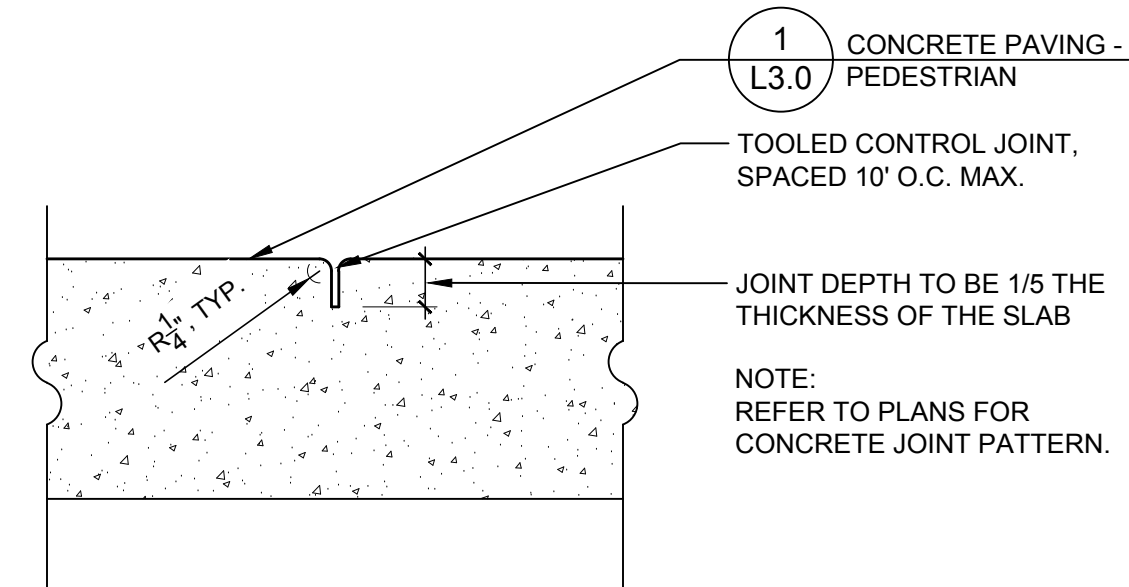
1 CONCRETE PAVING - PEDESTRIAN

1 1/2" = 1'-0"



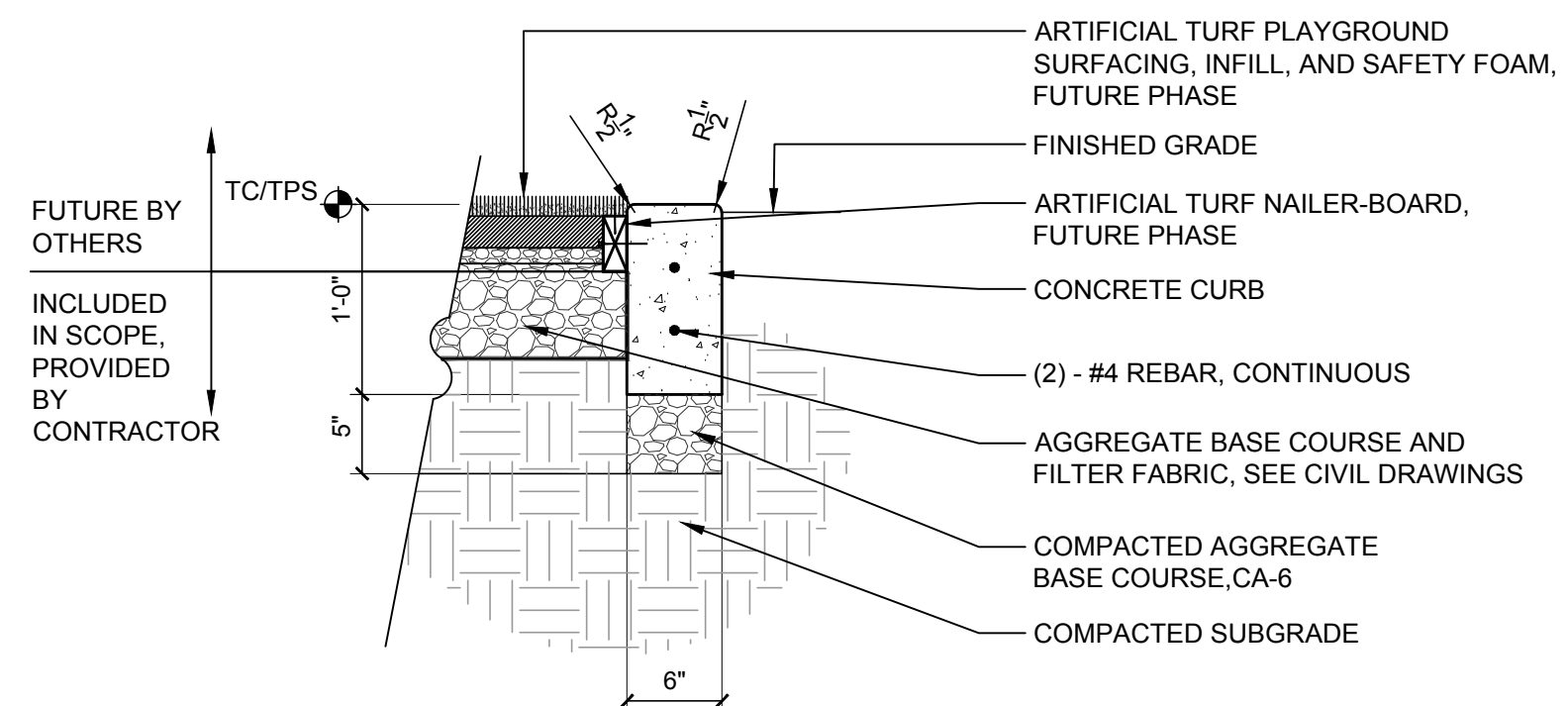
2 EXPANSION JOINT

3" = 1'-0"



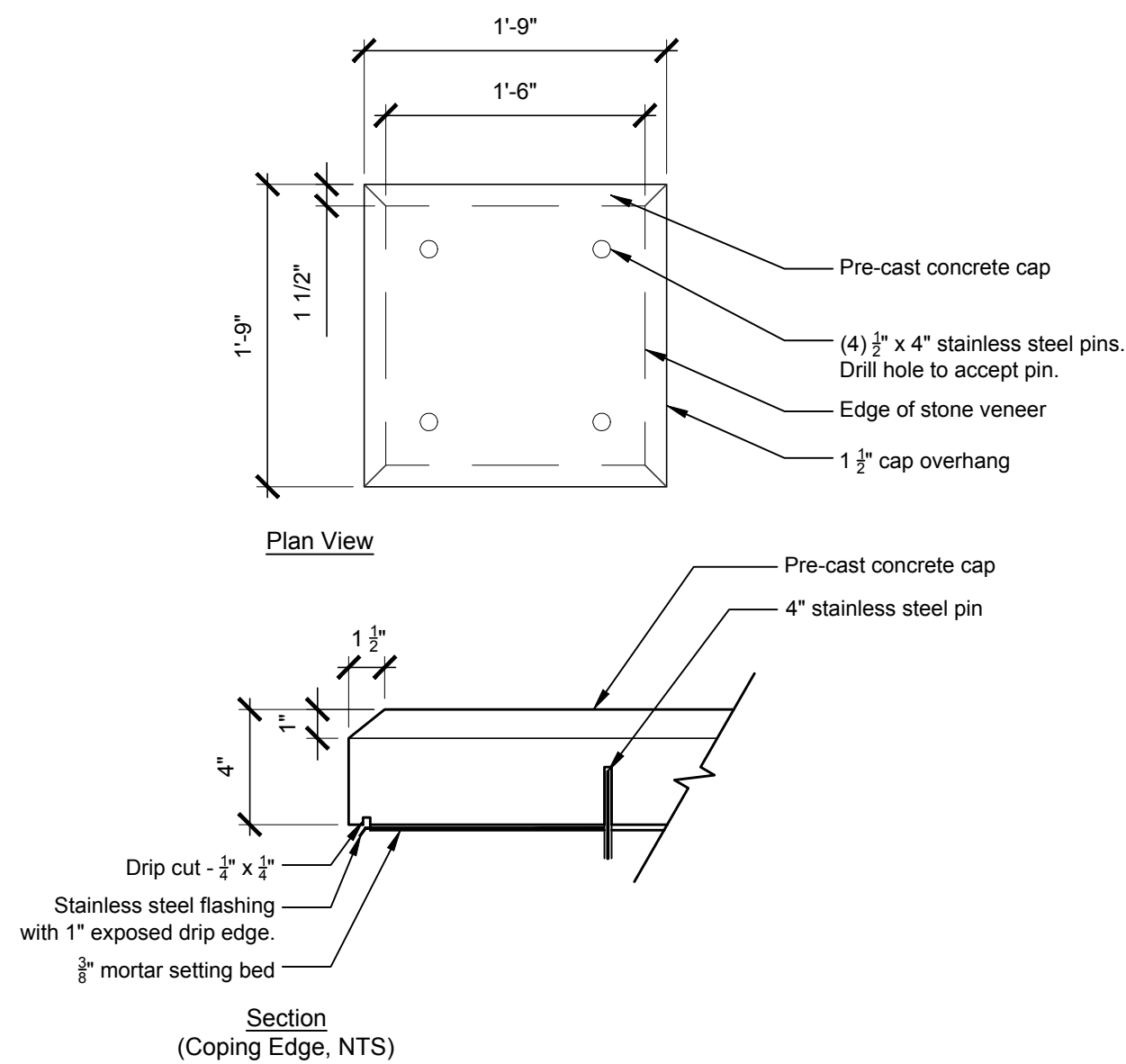
3 CONTROL JOINT

3" = 1'-0"



4 PLAYGROUND CURB AT ARTIFICIAL TURF

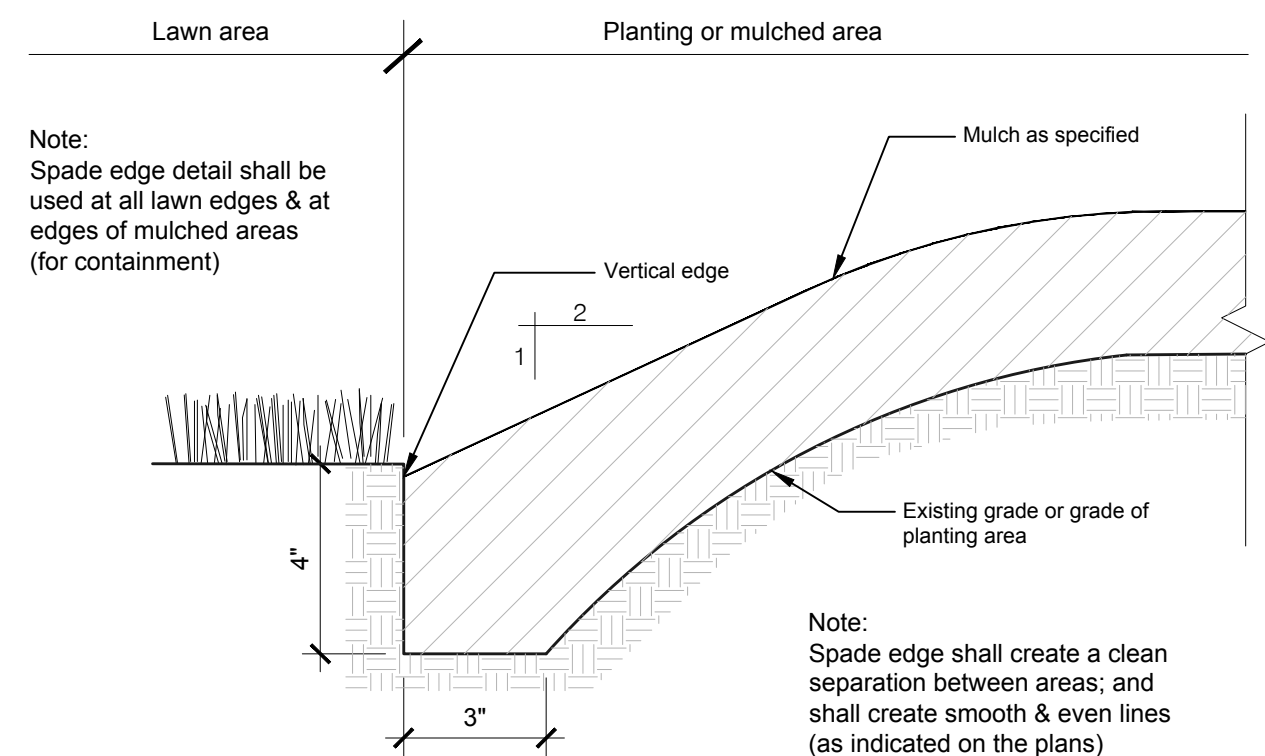
1" = 1'-0"



9 PRECAST CAP - COLUMN

1" = 1'-0"

P-NN-LOC-CRES-85



7 SPADE EDGE

3" = 1'-0"

PREPARED FOR CITY OF CREST HILL

20600 CITY CENTER
BOULEVARD,
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CREST HILL COMMONS PHASE 1

ISSUE FOR BID
20650 CITY CENTER BOULEVARD
CREST HILL, ILLINOIS, 60403

PROJECT NO: 26006459
DATE: 08/14/2026
DRAWN: KRE/CNO
REVIEWED: LJL/EFH

AUGUST 14, 2026

REVISIONS:
NO. DATE ISSUE

DETAILS

L3.0

PREPARED FOR
CITY OF CREST
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20600 CITY CENTER
BOULEVARD,
REST HILL, ILLINOIS, 60403

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Stone veneer to match existing stone columns at Crest Hill City Hall Complex.

CREST HILL COMMONS PHASE 1

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20650 CITY CENTER BOULEVARD
CREST HILL, ILLINOIS, 60403

PROJECT NO: 26006459
DATE: 08/14/2026
DRAWN: KRE/CNO
REVIEWED: LJI/EFH

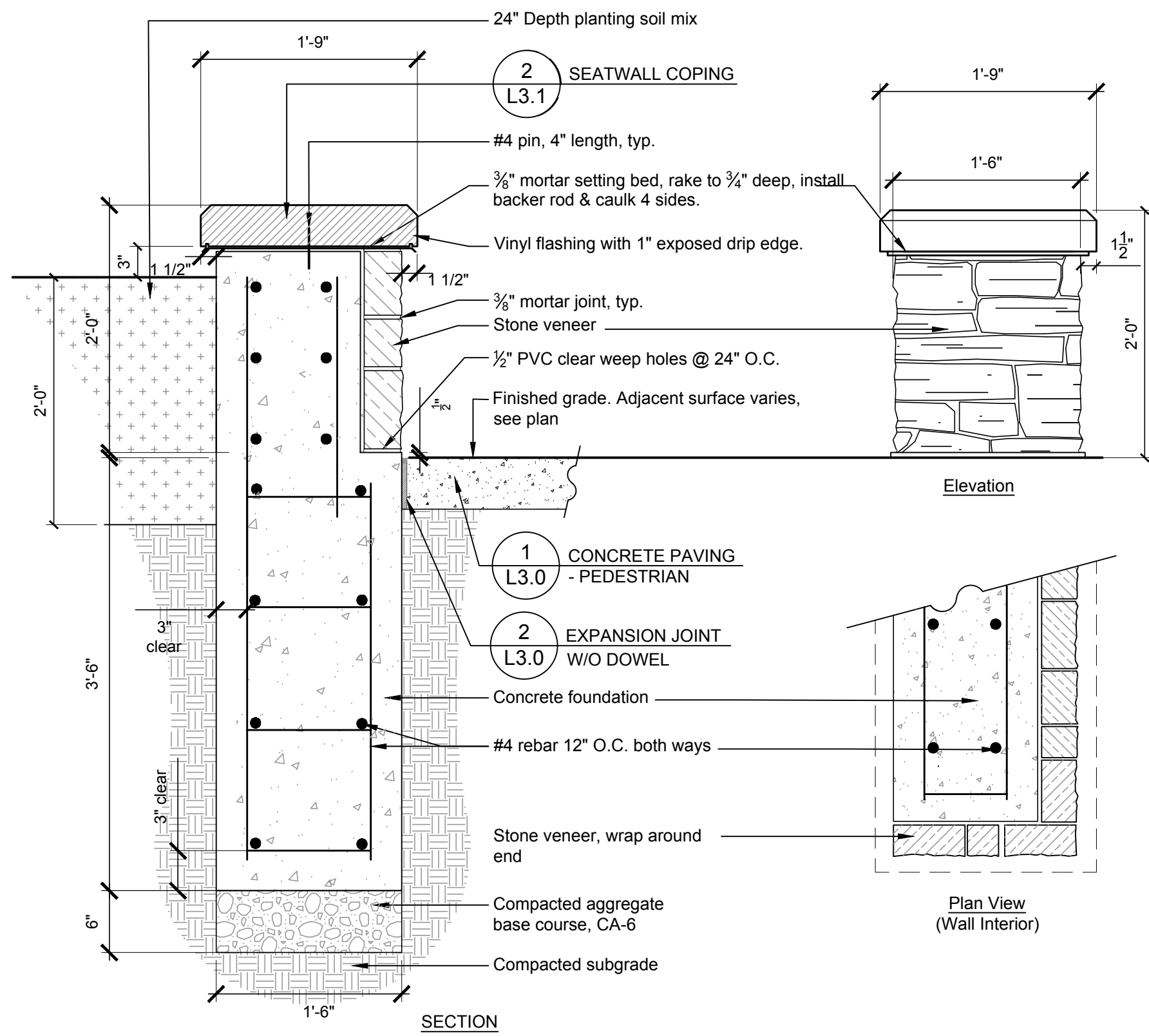
AUGUST 14, 2026

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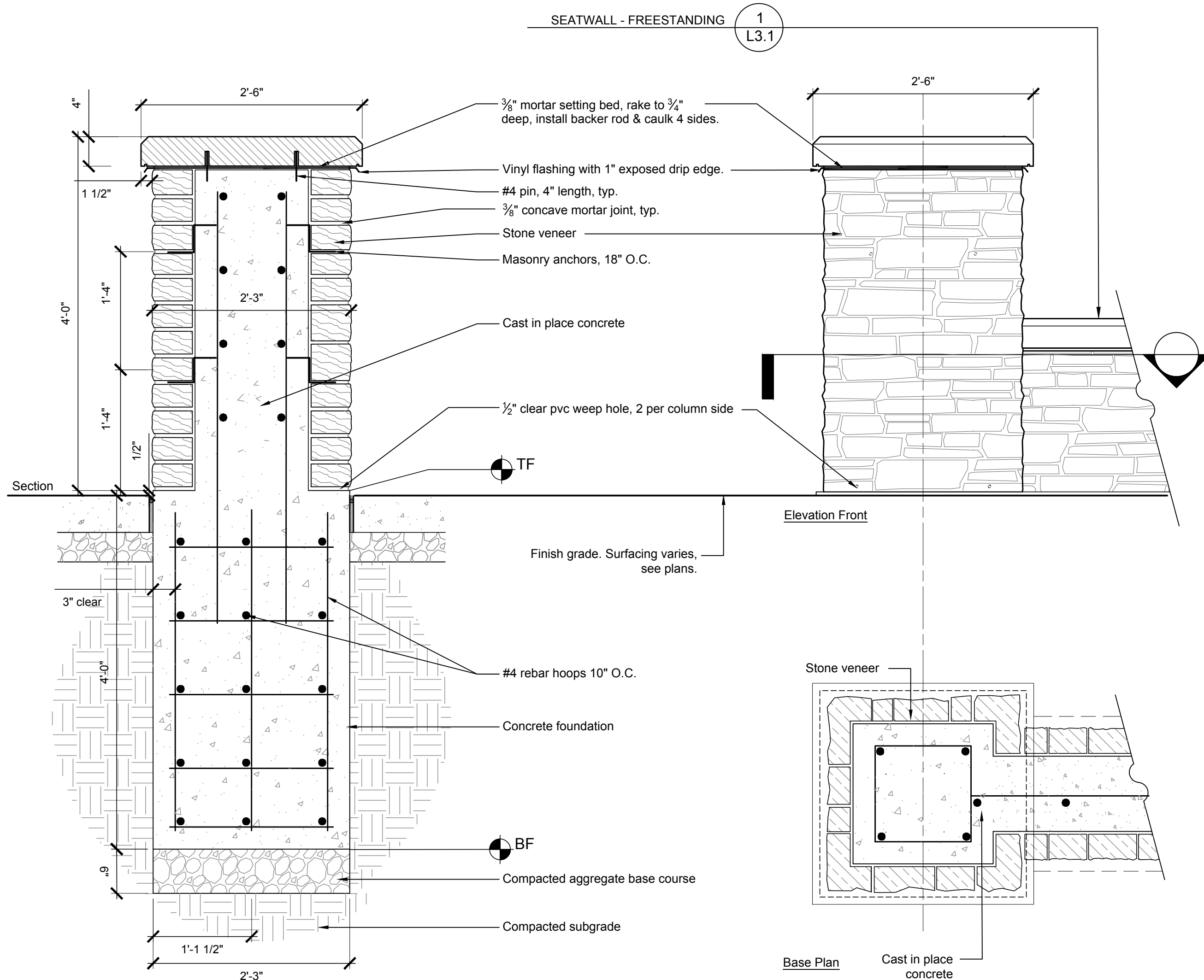
DETAILS

L3.1

01_ORIGINAL ISSUE



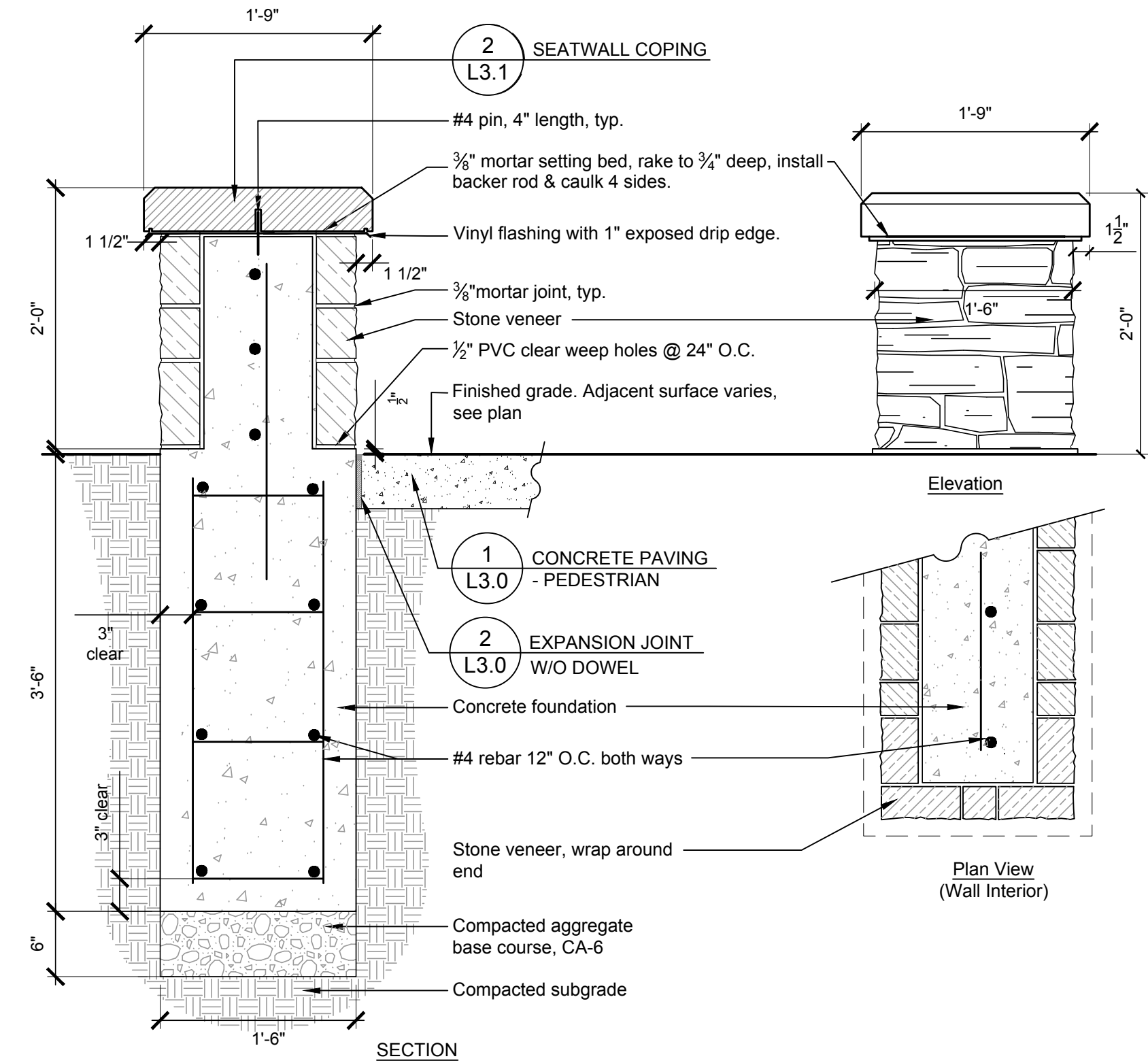
3 SEATWALL - PLANTING BEDS

$$1'' = 1'-0''$$


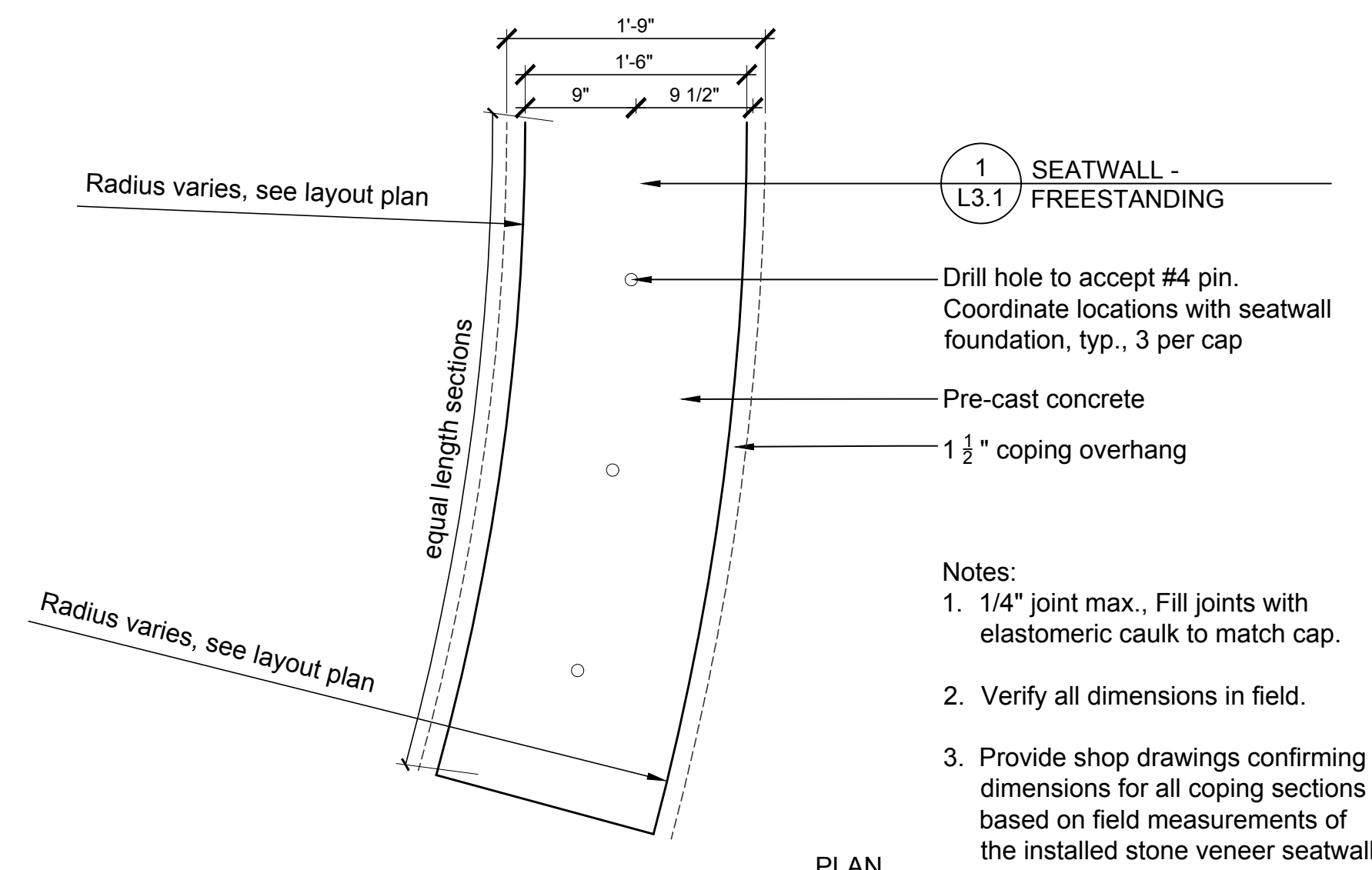
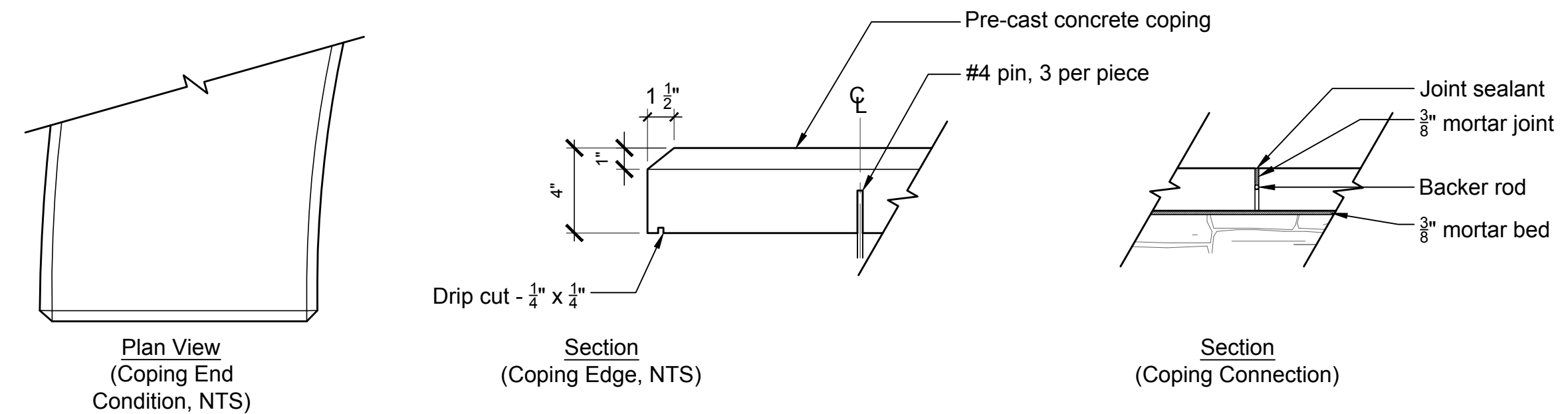
4 STONE VENEER COLUMN

$$1'' = 1'-0''$$

P-NN-LOC-CRES-84



SEATWALL - FREESTANDING

$$1'' = 1'-0''$$


SEATWALL COPING

$$1'' = 1'-0''$$