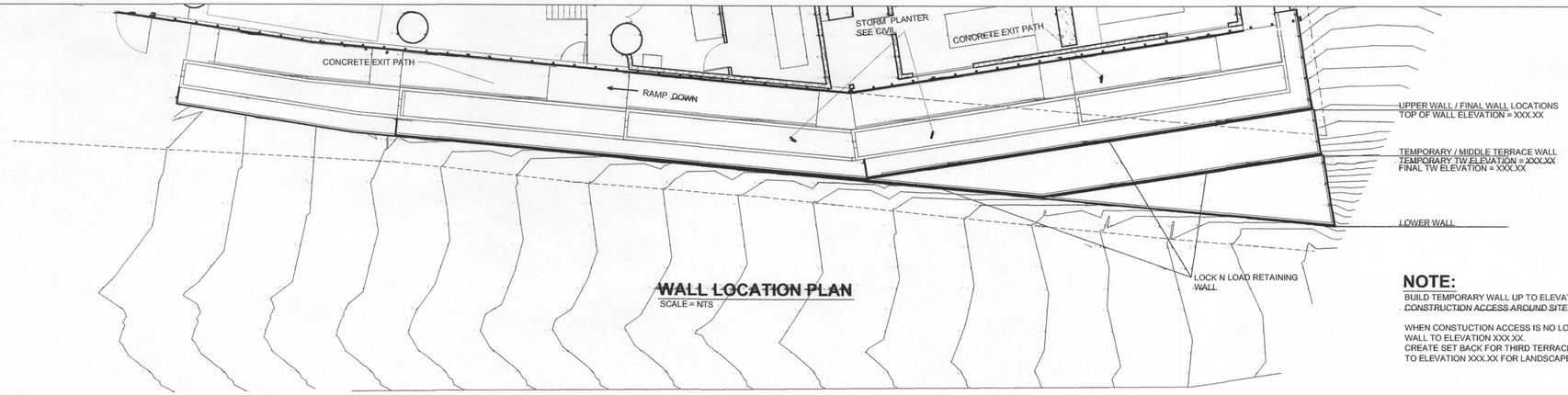


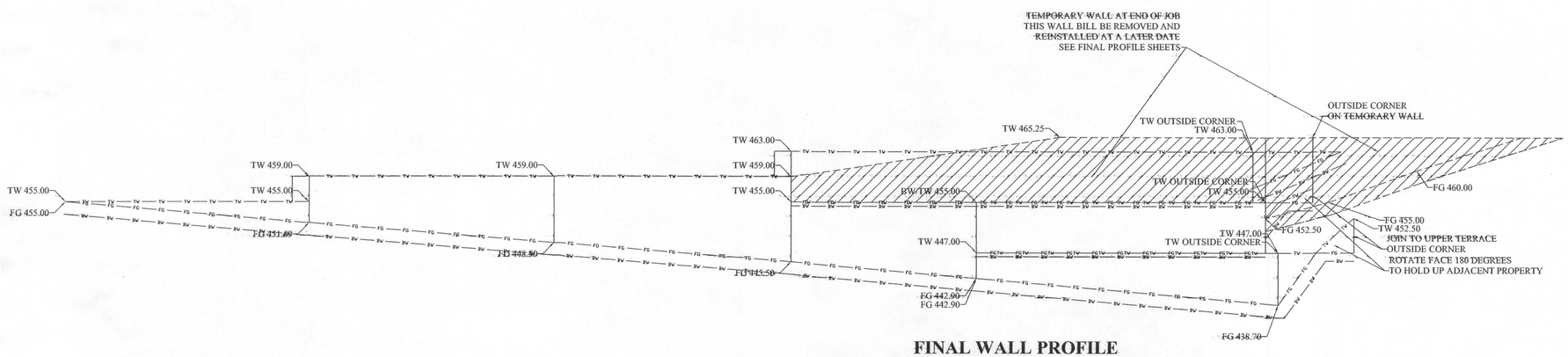
WALL LOCATION PLAN

SCALE = NTS

NOTE:

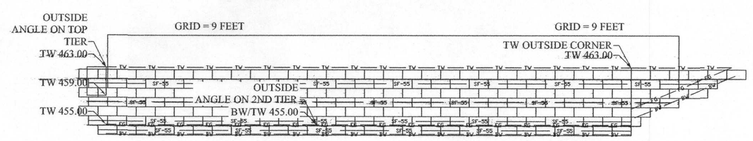
BUILD TEMPORARY WALL UP TO ELEVATION XXX.XX FOR CONSTRUCTION ACCESS AROUND SITE.

WHEN CONSTUCTION ACCESS IS NO LONGER NEEDED, TEAR DOWN WALL TO ELEVATION XXX.XX.
CREATE SET BACK FOR THIRD TERRACE WALL AND BUILD BACK UP TO ELEVATION XXX.XX FOR LANDSCAPE FEATURES.

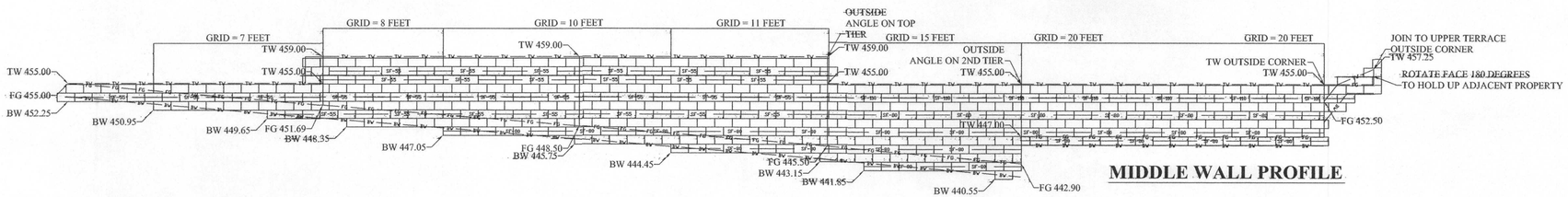


FINAL WALL PROFILE

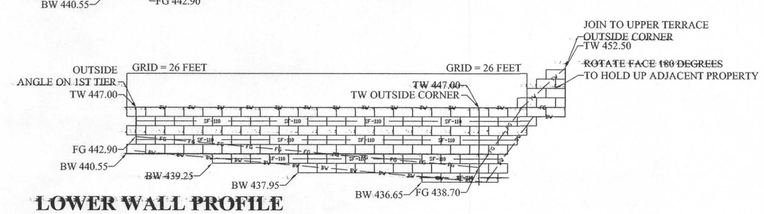
SCALE 1-10



UPPER WALL PROFILE



MIDDLE WALL PROFILE



LOWER WALL PROFILE

TW = TOP OF WALL
BW = BOTTOM OF WALL / TOP OF ROCK
FG = FINISH GRAD AT FACE OF WALL
STA = STATION

STA 0+00 | STA 0+20 | STA 0+40 | STA 0+60 | STA 0+80 | STA 1+00 | STA 1+20 | STA 1+40 | STA 1+60 | STA 1+80 | STA 2+00 | STA 2+20 | STA 2+40 | STA 2+60 | STA 2+80

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Items 4-7 on Site Development CheckSheet

RETAINING KEYWEST SYSTEMS

KEYWEST
RETAINING SYSTEMS
P.O. BOX 1049
SHERWOOD, OR. 97140
800.654.6353

DRAWN BY: KJA
DATE: 06/17/2008

SHRINERS HOSPITAL
PORTLAND OR

****
****
***

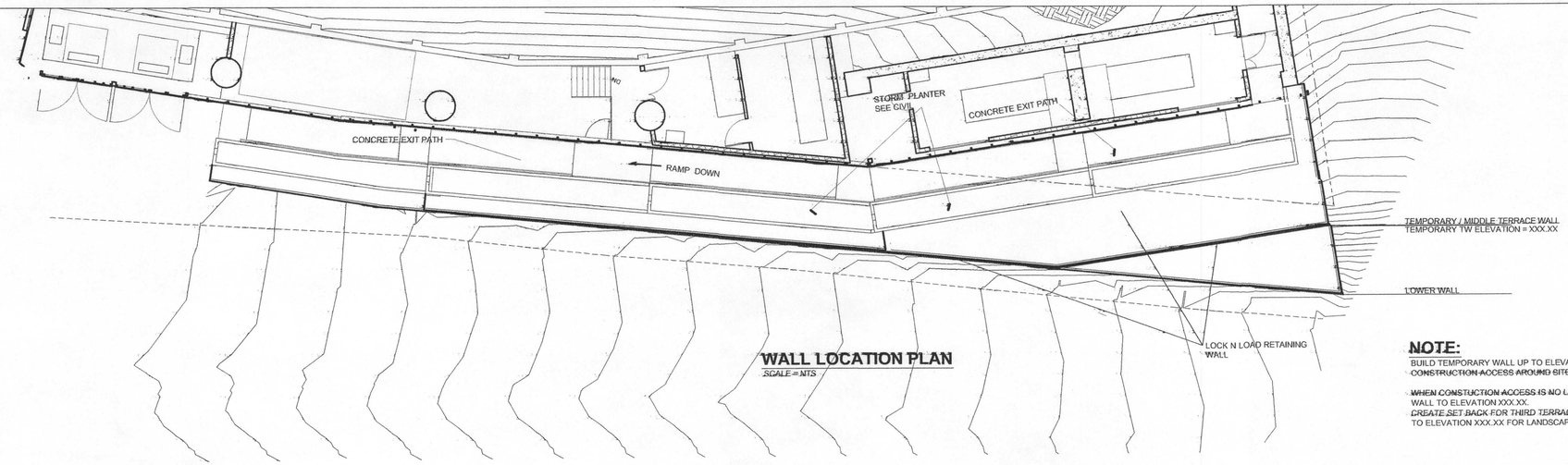
DAH/SE
DAVID A. HALL STRUCTURAL ENGINEERING
P.O. BOX 82228
PORTLAND, OR. 97282-0228
503.231.8727

08/04/08
REGISTERED PROFESSIONAL ENGINEER
STRUCTURAL
OREGON
SEPT. 17, 1985
DAVID A. HALL
EXPIRES: 06/30/09

REVISION # :	06/17/2008
REVISION #1:	07/07/2008
REVISION #2:	08/04/2008
REVISION #3:	****
REVISION #4:	****
REVISION #5:	****
REVISION #6:	****

PG: 1

*****THESE DRAWINGS ARE NOT FOR CONSTRUCTION USE, UNLESS STAMPED BY A LICENSED ENGINEER OR REVIEWED AND APPROVED BY THE GENERAL CONTRACTOR.*
*APPROVED DRAWINGS BY THE GENERAL MUST BE COPIED AND SIGNED BY THE PROJECT MANAGER BEFORE KEYWEST WILL INSTALL ANY WALL. *****



WALL LOCATION PLAN

SCALE = NTS

NOTE:

BUILD TEMPORARY WALL UP TO ELEVATION XXX.XX FOR CONSTRUCTION ACCESS AROUND SITE.

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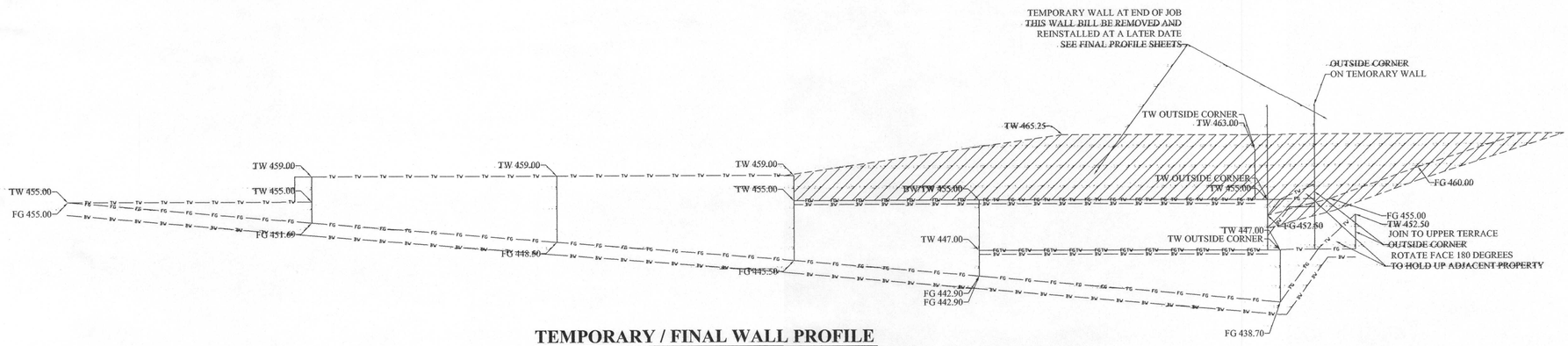
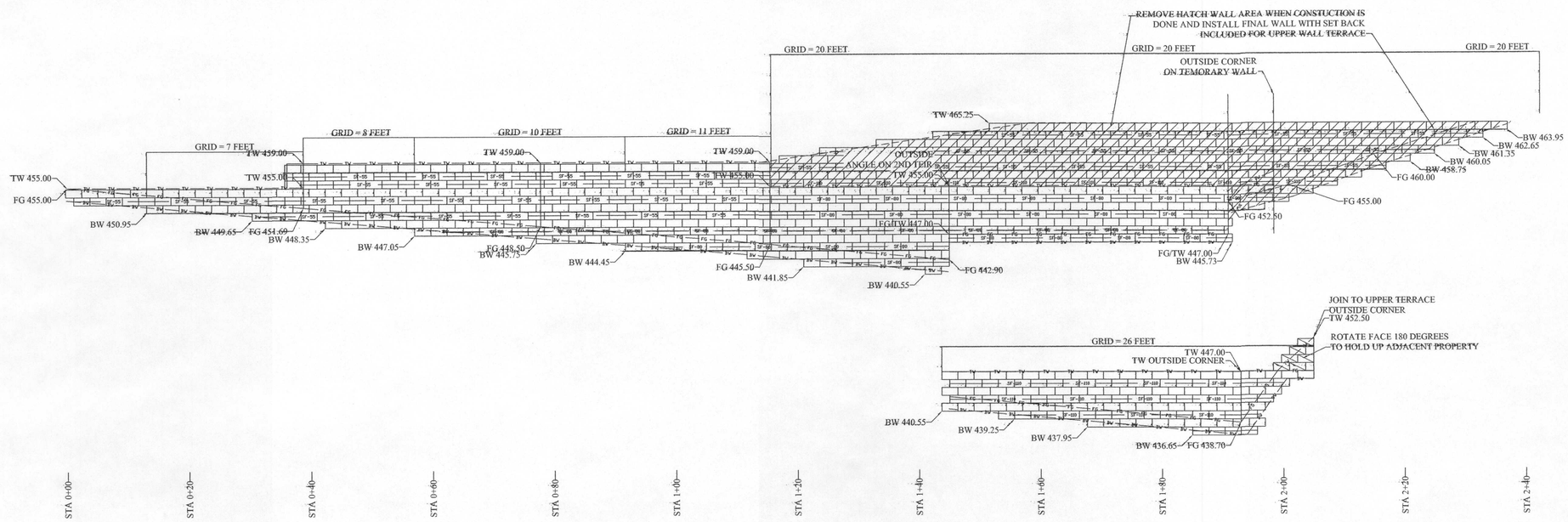
CREATE SET BACK FOR THIRD TERRACE WALL AND BUILD BACK UP TO ELEVATION XXX.XX FOR LANDSCAPE FEATURES.



TEMPORARY / FINAL WALL PROFILE

SCALE 1-10



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RETAINING KEYWEST SYSTEMS

KEYWEST
RETAINING SYSTEMS
P.O. BOX 1049
SHERWOOD, OR. 97140
800.654.6353

DRAWN BY: KJA
DATE: 06/17/2008

SHRINERS HOSPITAL
PORTLAND OR

****
****
****

DAH/SE
DAVID A. HALL STRUCTURAL ENGINEERING
P.O. BOX 82228
PORTLAND, OR. 97282-0228
503.231.8727

08/04/08
STRUCTURAL REGISTERED PROFESSIONAL ENGINEER
OREGON
SEPT. 17, 1981
DAVID A. HALL

EXPIRES: 06/30/09

REVISION # : 06/17/2008
REVISION #1: 07/07/2008
REVISION #2: 08/04/2008
REVISION #3: ****
REVISION #4: ****
REVISION #5: ****
REVISION #6: ****

TECHNICAL SPECIFICATION FOR
MECHANICALLY STABILIZED LOCK+LOAD RETAINING WALLS
PART 1: - GENERAL

1.01 It is recommended that field observations be provided during construction. This includes the review of the bearing stratum, verification of the specified soil compaction in the reinforcing zone, and the review and verification that the geogrids and drainage system were installed per plan. All pertinent soil parameters during construction.
1.02 The design of these walls was prepared for the exclusive use of Key West Retaining Systems, inc.. The use of these plans by any others shall be approved in writing by The Engineer prior to construction.
1.03 The construction of LOCK+LOAD retaining walls shall be performed by either a Contractor that has been approved as knowledgeable and experienced in the construction of MSE retaining walls using LOCK+LOAD or a Representative of LOCK+LOAD shall be present at the beginning of construction until it has been determined by them that the Contractor is capable of constructing this type of wall system.
1.04 The design of LOCK+LOAD Mechanically Stabilized Earth Retaining Walls is based on the U.S. Department of Transportation Federal Highway Administration's publication No. FWHA-NHI-00-043 "Mechanically Stabilized Earth Walls and Reinforced Soil Slopes Design and Construction Guidelines" which has been adopted by the latest American Association of Highway and Transportation Officials (AASHTO) and the National Concrete and Masonry Association (NCMA) codes.
1.05 Design compliance is made with reference to that stated in the Design Summary Table
1.06 Design Compliance is made with the following Factors of Safety:

Sliding	FS > 1.5
Bearing Capacity	FS > 2.0
Overturning	FS > 2.0
Internal Stability	FS > 1.5
Seismic Stability	FS > 75% of Static FS

1.07 The work described and shown involves the supply and installation of reinforced soil retaining walls. The concrete wall panel and counterfort create a LOCK+LOAD Retaining Module. Counterfort and Geo-grid are the types of soil reinforcement. The work includes but is not limited to:
   a. excavation to the lines and grades shown on the drawing; (or as required to obtain adequate bearing capacities) excavation to be coordinated with the General Contractor.
   b. supply and installation of geogrid reinforcement;
   c. supply and installation of drainage fill and piping;
   d. supply and installation of segmental LOCK+LOAD Modules
   e. supply and installation of reinforced soil fill.
   f. removal of all deleterious materials to the satisfaction of the Engineer.
1.08 The walls will be constructed on existing, natural, undisturbed soil or placed on a ¾" rock base.
1.09 The Contractor shall confirm the locations and conditions of all man-made elements which may be affected or damaged by the Work. Elements which may be affected or damaged by the Work must be reported to the Engineer in advance of the work beginning. The Engineer may modify the design or approve of changes to installation techniques proposed by the Contractor to preclude damage or conflict with existing elements.
1.10 The Contractor shall verify all dimensions and report discrepancies to the Engineer.

PART 2 - MATERIALS

2.01 Concrete Panels and Counterforts are locked together to form a "Retaining Module". The retaining walls have been designed on the basis of Lock+Load retaining wall "Modules". Modules are to be purchased from a licensed LOCK+LOAD manufacturer. The LOCK+LOAD trademark on each pallet identifies LOCK+LOAD products.
Information on the purchase of LOCK+LOAD and a complete list of components can be
Obtained through:
Lock & Load Retaining Walls Ltd.
Tel. (877) 901-9990 Website www.lock-load.com <http://www.lock-load.com>
2.02 Geogrid - The retaining walls have been designed to be erected as shown on the Plans. Other geogrid materials may be considered suitable provided that they meet the specification and requirements of the design and are approved in advance by the Engineer.
2.03 Modular Fill - The fill immediately behind the LOCK+LOAD panel and surrounding the counterfort shall be "dense graded" select free draining material.
2.04 Drainage Fill. Drainage fill placed around and above the perforated drainage pipe shall be granular aggregate composed of inert, clean, tough, durable particles of crushed rock capable of with standing the deleterious effects of exposure to water, freeze-thaw, handling, spreading and compacting. The aggregate particles shall be uniform in quality and free from an excess of flat or elongated pieces. The drainage fill shall consist of round or angular rock between 3/4 inch and 1 inch.
2.05 Reinforced Backfill. As shown on the Plans or as approved by the Design Engineer. The Reinforced backfill shall have an angle of internal friction as stated in the Design Summary Table and compacted as stated within.

PART 3 - EXECUTION

3.01 The Contractor shall excavate to the lines and grades shown on the construction drawings. The excavation shall be reviewed and the foundation approved prior to the placement of the levelling pad or retaining modules.
3.02 Over-excavation of deleterious soil or rock shall be replaced with Reinforced and Retained Backfill meeting the specifications of Section 2.04 above, and compacted to that stated in the Design Summary Table within 2% of the optimum moisture content of the soil.
3.03 The first course of concrete Lock+Load Modules shall be placed on the level compacted foundation and the alignment and level checked.
3.04 Modules shall be placed with the top of the panel level and parallel to the wall face. The counterfort base installs horizontal and perpendicular to the face of the retaining wall.
3.05 Geogrid shall be oriented with the highest strength axis perpendicular to the wall alignment.
3.06 Geogrid reinforcement shall be placed at the elevations and to the extent shown on the Plans beginning at the back of the LOCK+LOAD panels and the top of the counterfort. The geogrid soil reinforcement shall be placed so that a minimum of 2 inches remains vertical and in contact with the panel after backfill is placed and compacted.
3.07 The geogrid shall be laid horizontally in the direction perpendicular to the face of the retaining wall and parallel to the alignment of the "Modules". The geogrid shall be pulled taut, free of wrinkles and anchored prior to backfill placement on the geogrid.
3.08 The geogrid reinforcement shall be continuous throughout their embedment lengths. Spliced connections between shorter pieces of geogrid are not permitted.
3.09 The drainage pipe discharge points shall be free and clear to allow drainage from the pipes.
3.10 Reinforced and Retained backfill shall be placed, spread and compacted in such a manner that minimizes the development of slack in the geogrid.
3.11 Connection, Reinforced and Retained backfill shall be placed and compacted in lifts not to exceed 8 inches where light compaction equipment (less than 1000Lb vibrating plate) is used and not more than 16 inches where heavy compaction equipment is used. **First** - compact over tail of counterfort then to the panel back and finally away from the retaining wall structure toward the end of the geogrid.
3.12 All backfill shall be compacted to that stated in the Design Summary Table or equivalent. The moisture content of the backfill material prior to and during compaction shall be uniformly distributed throughout each layer and shall be within 2 percent of the optimum moisture content.
Reinforced backfill shall be free of debris and meet the following gradation tested in accordance with ASTM D-422:

Sieve Size (Percent Passing)	2 inch (100%) 3/4 inch (75%) No. 40 (60%) No. 200 (15%)**
Plasticity Index	(PI) <15
Liquid Limit	<40 per ASTM D-4318.

** Soils having more than 15% passing a 200 sieve must be approved by the project Design Engineer and have an engineered drainage system to insure that a hydrostatic pressure is not built up behind the reinforced soil zone.
The maximum aggregate size shall be limited to 3/4 inch unless field tests have been performed to evaluate potential strength reductions to the geogrid design due to damage during construction.
Material can be site excavated soils where the above requirements can be met. Unsuitable soils for backfill (high plastic clays or organic soils) shall not be used in the backfill or in the reinforced soil mass.
3.13 Tracked construction equipment shall not be operated directly upon the geogrid reinforcement. A minimum fill thickness of 6 inches is required prior to operation of tracked vehicles over the geogrid. Tracked vehicles should not turn while on the geogrid to prevent tracks from displacing the fill and geogrid and damage or slack to result in the geogrid.
3.14 Rubber tired equipment may pass over the geogrid reinforcement at slow speeds less than 5 mph. Sudden braking and sharp turning shall be avoided.
3.15 Final grading in front of and behind the wall shall be achieved such that surface water is directed away from the structure and the reinforcement zone.
3.16 At the end of each day of operation, the Contractor shall slope the last lift of reinforced backfill away from the wall units to direct runoff away from the wall face. The Contractor shall not allow surface runoff from adjacent areas to enter the wall construction site.

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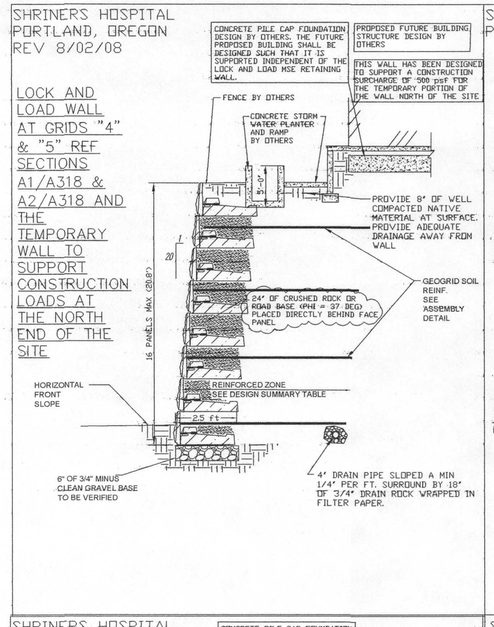
PORTLAND, OREGON
REV 8/02/08

LOCK AND LOAD WALL AT GRIDS "4" & "5" REF SECTIONS A1/A318 & A2/A318 AND THE TEMPORARY WALL TO SUPPORT CONSTRUCTION LOADS AT THE NORTH END OF THE SITE



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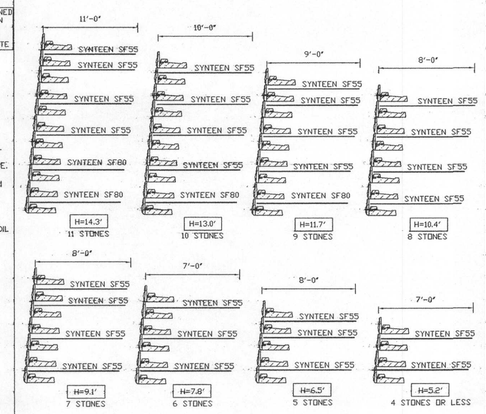
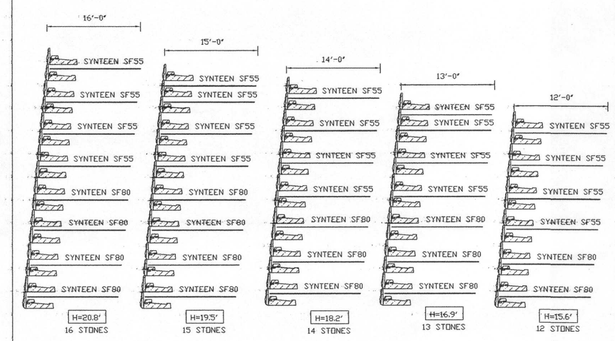
PORTLAND, OREGON



LOCK & LOAD ASSEMBLY DETAILS

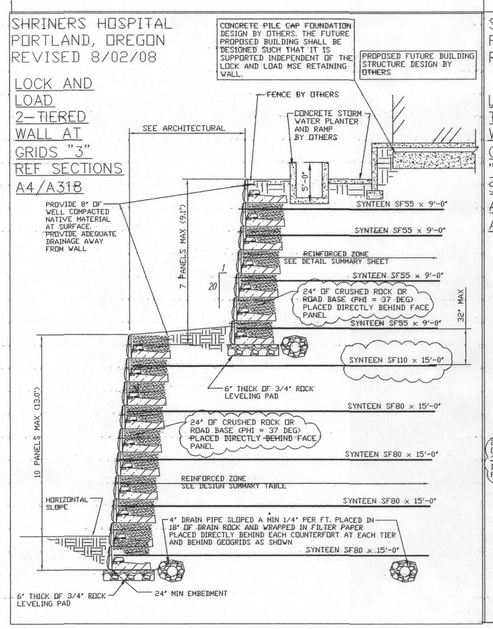
SHRINERS HOSPITAL
PORTLAND, OREGON



LOCK & LOAD ASSEMBLY DETAILS

SHRINERS HOSPITAL
PORTLAND, OREGON
REVISED 8/02/08

LOCK AND LOAD 2-TIERED WALL AT GRIDS "3" REF SECTIONS A4/A318



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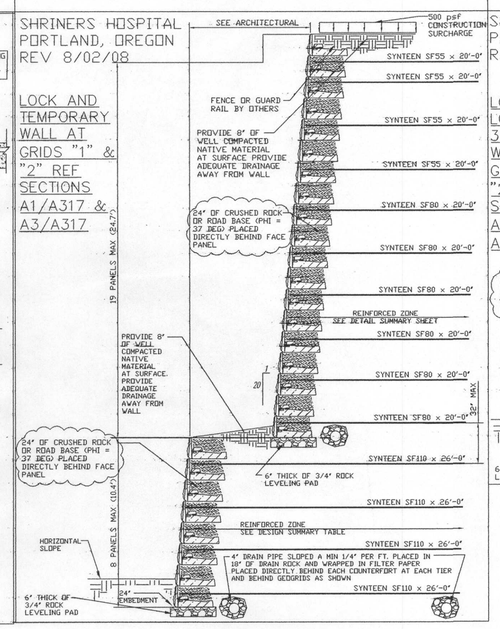
REV 8/02/08

LOCK AND TEMPORARY WALL AT GRIDS "1" & "2" REF SECTIONS A1/A317 & A3/A317



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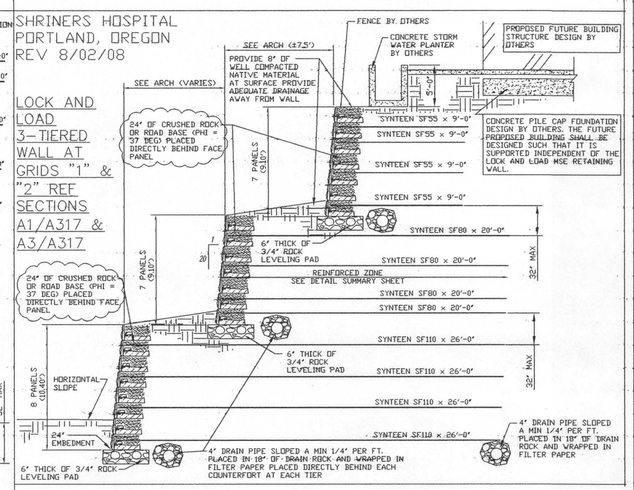
PORTLAND, OREGON
REV 8/02/08

LOCK AND LOAD 3-TIERED WALL AT GRIDS "1" & "2" REF SECTIONS A1/A317 & A3/A317



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SEP 09 2008

RETAINING KEYWEST SYSTEMS

KEYWEST
RETAINING SYSTEMS
P.O. BOX 1049
SHERWOOD, OR. 9714
800.654.6353

DRAWN BY: KJA
DATE: 06/17/2008

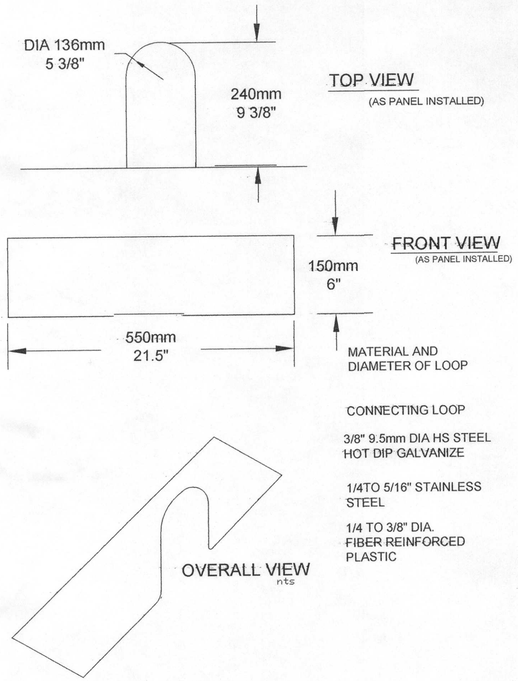
SHRINERS HOSPITAL
PORTLAND OR
*****
*****
***

DAH/SE
DAVID A. HALL STRUCTURAL ENGINEERING
P.O. BOX 82228
PORTLAND, OR. 97282-02
503.231.8727

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER 15082 OREGON SEPT. 17, 1987 DAVID A. HALL
EXPIRES: 12/31/09

REVISION # :	06/17/2008
REVISION #1:	07/07/2008
REVISION #2:	08/04/2008
REVISION #3:	****
REVISION #4:	****
REVISION #5:	****
REVISION #6:	****

CONNECTING LOOP - FILE 605

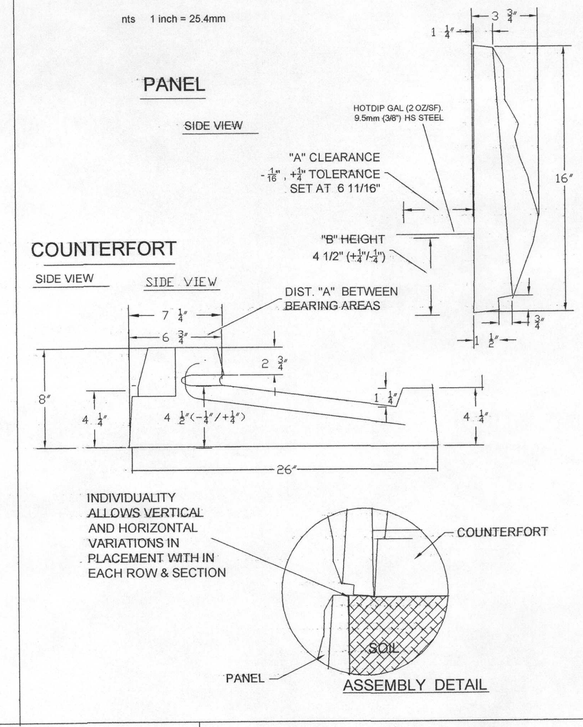


LOCK+LOAD Retaining Walls Ltd.

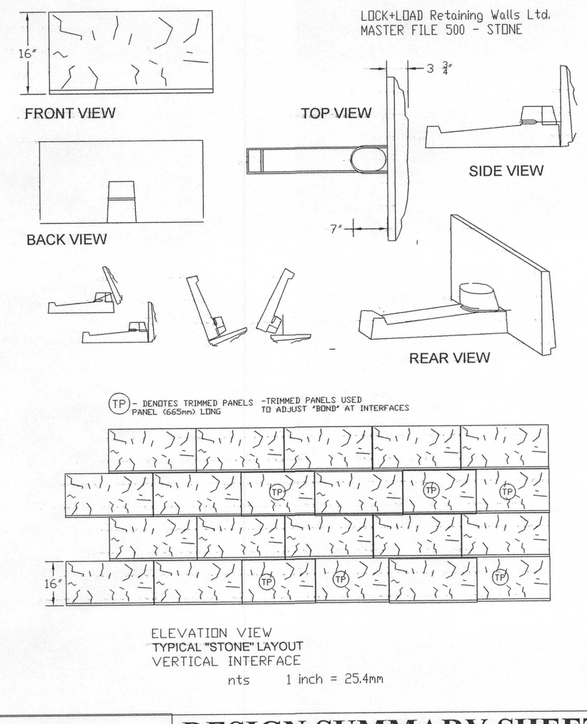
LOCK+LOAD-TOLERANCES-622

LOCK+LOAD Retaining Walls Ltd.

nts 1 inch = 25.4mm

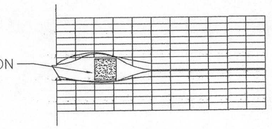


LOCK+LOAD - STONE - FILE 500



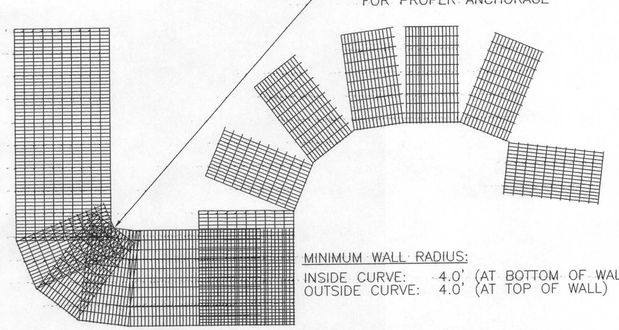
GEOGRID INSTALLATION AROUND OBSTRUCTIONS

SCALE: N.T.S.



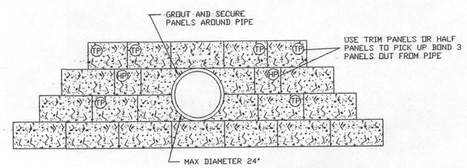
NOTE:

1. CHECK WITH MANUFACTURER SPECIFICATIONS ON CORRECT DIRECTION OF ORIENTATION FOR GEOGRID TO OBTAIN PROPER STRENGTH.



GEOGRID INSTALLATION ON CURVES AND CORNERS

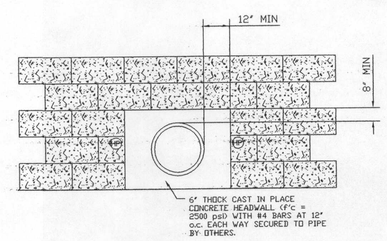
SCALE: N.T.S.



TP= TRIM PANEL
HP= HALF PANEL

1) CUT PANELS TO FIT PIPES OUTSIDE DIAMETER.

PIPE DIAMETERS 24" OR LESS



SPECIAL HEADWALL DESIGN IS REQUIRED FOR PIPE DIAMETERS GREATER THAN 5 FEET.

PIPE DIAMETERS GREATER THAN 24"

PIPE PENETRATION THROUGH WALL DETAIL

DESIGN SUMMARY SHEET

PROJECT DESCRIPTION: Shriners Hospital for Children
Portland, Oregon

GEOTECHNICAL REPORT:

*Design compliance of these MSE Retaining Walls was prepared with reference to the Geotechnical Report prepared by along with design Input Parameters listed below.

GRI, Inc.
Project #4666; Dated July 22, 2007

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*The Contractor shall adhere to this report in it's entirety.

DESIGN INPUT PARAMETERS:

Angle of Friction the Reinforced Zone	35 Degrees
Total Unit Weight of Soil	130 pcf
Cohesion	0 psf
Angle of Friction Retained Zone	35 Degrees
Total Unit Weight of Soil	130 pcf
Cohesion	0 psf
Angle of Friction Foundation Zone	35 Degrees
Total Unit Weight of Soil	130 pcf
Cohesion	0 psf

COMPACTION REQUIREMENTS 95 % Modified Proctor per ASTM D1557

****THE FOUNDATIONS FOR THE FUTURE PROPOSED BUILDING SHALL BE DESIGNED SUCH THAT IT IS SUPPORTED INDEPENDENT OF THESE LOCK AND LOAD MSE RETAINING WALLS.**

City of Portland REVIEWED FOR CODE COMPLIANCE SEP 23 2008

RETAINING KEYWEST SYSTEMS

KEYWEST
RETAINING SYSTEMS
P.O. BOX 1049
SHERWOOD, OR. 97140
800.654.6353

DRAWN BY: KJA
DATE: 06/17/2008

SHRINERS HOSPITAL
PORTLAND OR
****
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***

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P.O. BOX 82228
PORTLAND, OR. 97282-0228
503.231.8727

8/4/08
STRUCTURAL REGISTERED PROFESSIONAL ENGINEER OREGON SEPT. 17, 1987 DAVID A. HALL
EXPIRES: 6/30/09

REVISION # :	06/17/2008
REVISION #1:	07/07/2008
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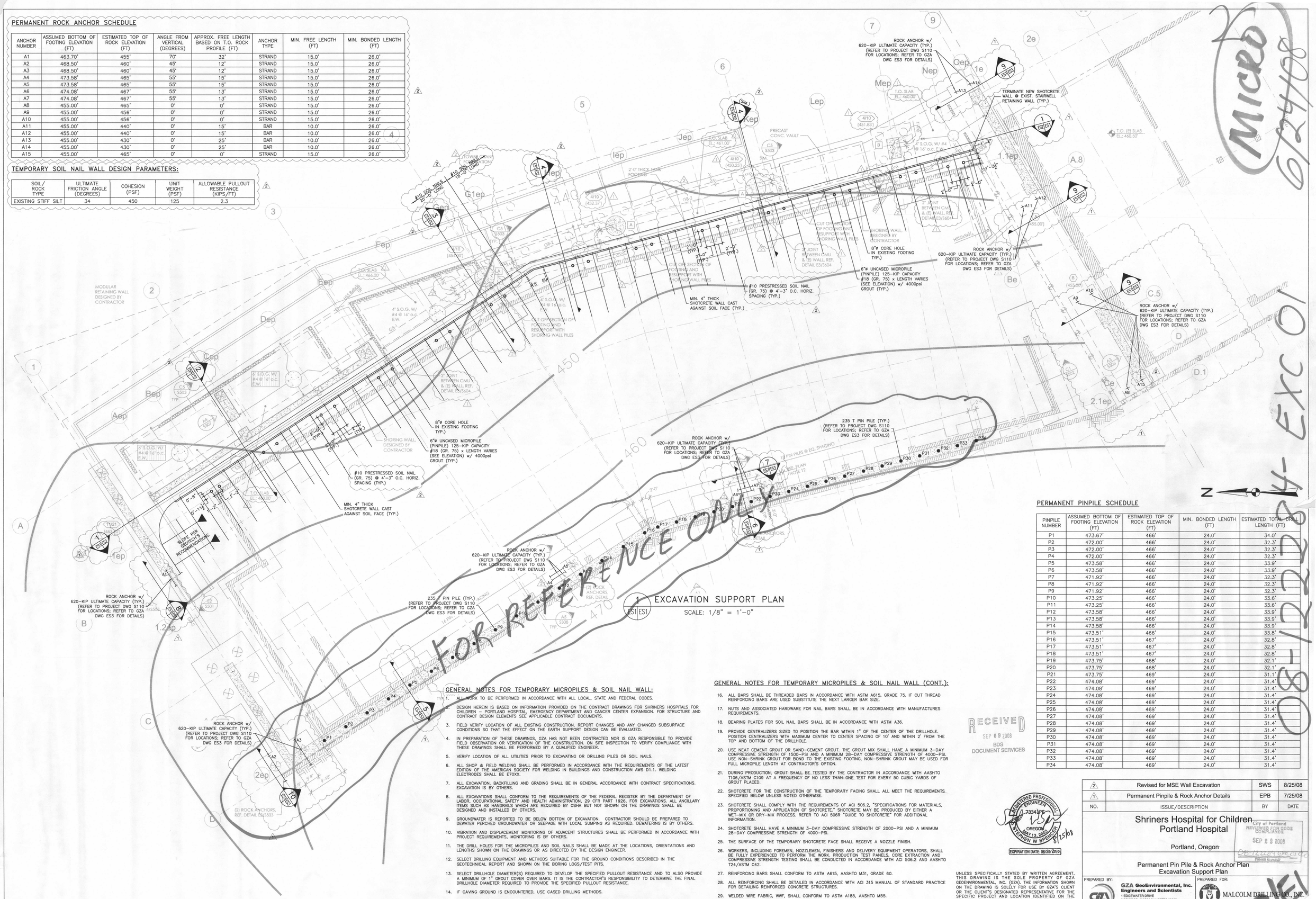
REVISION #3:	****
REVISION #4:	****
REVISION #5:	****
REVISION #6:	****

PERMANENT ROCK ANCHOR SCHEDULE

ANCHOR NUMBER	ASSUMED BOTTOM OF FOOTING ELEVATION (FT)	ESTIMATED TOP OF ROCK ELEVATION (FT)	ANGLE FROM VERTICAL (DEGREES)	APPROX. FREE LENGTH BASED ON T.O. ROCK PROFILE (FT)	ANCHOR TYPE	MIN. FREE LENGTH (FT)	MIN. BONDED LENGTH (FT)
A1	463.70'	455'	70°	32'	STRAND	15.0'	26.0'
A2	468.50'	460'	45°	12'	STRAND	15.0'	26.0'
A3	468.50'	460'	45°	12'	STRAND	15.0'	26.0'
A4	473.58'	465'	55°	15'	STRAND	15.0'	26.0'
A5	473.58'	465'	55°	15'	STRAND	15.0'	26.0'
A6	474.08'	467'	55°	13'	STRAND	15.0'	26.0'
A7	474.08'	467'	55°	13'	STRAND	15.0'	26.0'
A8	455.00'	465'	0°	0'	STRAND	15.0'	26.0'
A9	455.00'	456'	0°	0'	STRAND	15.0'	26.0'
A10	455.00'	456'	0°	0'	STRAND	15.0'	26.0'
A11	455.00'	440'	0°	15'	BAR	10.0'	26.0'
A12	455.00'	440'	0°	15'	BAR	10.0'	26.0'
A13	455.00'	430'	0°	25'	BAR	10.0'	26.0'
A14	455.00'	430'	0°	25'	BAR	10.0'	26.0'
A15	455.00'	465'	0°	0'	STRAND	15.0'	26.0'

TEMPORARY SOIL NAIL WALL DESIGN PARAMETERS:

SOIL/ ROCK TYPE	ULTIMATE FRICTION ANGLE (DEGREES)	COHESION (PSF)	UNIT WEIGHT (PSF)	ALLOWABLE PULLOUT RESISTANCE (KIPS/FT)
EXISTING STIFF SILT	34	450	125	2.3



1 ES1 ES1 EXCAVATION SUPPORT PLAN

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

PERMANENT PINPILE SCHEDULE

PINPILE NUMBER	ASSUMED BOTTOM OF FOOTING ELEVATION (FT)	ESTIMATED TOP OF ROCK ELEVATION (FT)	MIN. BONDED LENGTH (FT)	ESTIMATED TOTAL DRILL LENGTH (FT)
P1	473.67'	466'	24.0'	34.0'
P2	472.00'	466'	24.0'	32.3'
P3	472.00'	466'	24.0'	32.3'
P4	472.00'	466'	24.0'	32.3'
P5	473.58'	466'	24.0'	33.9'
P6	473.58'	466'	24.0'	33.9'
P7	471.92'	466'	24.0'	32.3'
P8	471.92'	466'	24.0'	32.3'
P9	471.92'	466'	24.0'	32.3'
P10	473.25'	466'	24.0'	33.6'
P11	473.25'	466'	24.0'	33.6'
P12	473.58'	466'	24.0'	33.9'
P13	473.58'	466'	24.0'	33.9'
P14	473.58'	466'	24.0'	33.9'
P15	473.51'	466'	24.0'	33.8'
P16	473.51'	467'	24.0'	32.8'
P17	473.51'	467'	24.0'	32.8'
P18	473.51'	467'	24.0'	32.8'
P19	473.75'	468'	24.0'	32.1'
P20	473.75'	468'	24.0'	32.1'
P21	473.75'	469'	24.0'	31.1'
P22	474.08'	469'	24.0'	31.4'
P23	474.08'	469'	24.0'	31.4'
P24	474.08'	469'	24.0'	31.4'
P25	474.08'	469'	24.0'	31.4'
P26	474.08'	469'	24.0'	31.4'
P27	474.08'	469'	24.0'	31.4'
P28	474.08'	469'	24.0'	31.4'
P29	474.08'	469'	24.0'	31.4'
P30	474.08'	469'	24.0'	31.4'
P31	474.08'	469'	24.0'	31.4'
P32	474.08'	469'	24.0'	31.4'
P33	474.08'	469'	24.0'	31.4'
P34	474.08'	469'	24.0'	31.4'

GENERAL NOTES FOR TEMPORARY MICROPILES & SOIL NAIL WALL:

1. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL CODES.
2. DESIGN HEREIN IS BASED ON INFORMATION PROVIDED ON THE CONTRACT DRAWINGS FOR SHRINERS HOSPITALS FOR CHILDREN – PORTLAND HOSPITAL, EMERGENCY DEPARTMENT AND CANCER CENTER EXPANSION. FOR STRUCTURE AND CONTRACT DESIGN ELEMENTS SEE APPLICABLE CONTRACT DOCUMENTS.
3. FIELD VERIFY LOCATION OF ALL EXISTING CONSTRUCTION, REPORT CHANGES AND ANY CHANGED SUBSURFACE CONDITIONS SO THAT THE EFFECT ON THE EARTH SUPPORT DESIGN CAN BE EVALUATED.
4. IN PREPARATION OF THESE DRAWINGS, GZA HAS NOT BEEN CONTRACTED NOR IS GZA RESPONSIBLE TO PROVIDE FIELD OBSERVATION OR VERIFICATION OF THE CONSTRUCTION. ON SITE INSPECTION TO VERIFY COMPLIANCE WITH THESE DRAWINGS SHALL BE PERFORMED BY A QUALIFIED ENGINEER.
5. VERIFY LOCATION OF ALL UTILITIES PRIOR TO EXCAVATING OR DRILLING PILES OR SOIL NAILS.
6. ALL SHOP & FIELD WELDING SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST EDITION OF THE AMERICAN SOCIETY FOR WELDING IN BUILDINGS AND CONSTRUCTION AWS D1.1. WELDING ELECTRODES SHALL BE E70XX.
7. ALL EXCAVATION, BACKFILLING AND GRADING SHALL BE IN GENERAL ACCORDANCE WITH CONTRACT SPECIFICATIONS. EXCAVATION IS BY OTHERS.
8. ALL EXCAVATIONS SHALL CONFORM TO THE REQUIREMENTS OF THE FEDERAL REGISTER BY THE DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, 29 CFR PART 1926, FOR EXCAVATIONS. ALL ANCILLARY ITEMS SUCH AS HANDRAILS WHICH ARE REQUIRED BY OSHA BUT NOT SHOWN ON THE DRAWINGS SHALL BE DESIGNED AND INSTALLED BY OTHERS.
9. GROUNDWATER IS REPORTED TO BE BELOW BOTTOM OF EXCAVATION. CONTRACTOR SHOULD BE PREPARED TO DEWATER PERCHED GROUNDWATER OR SEEPAGE WITH LOCAL SUMPING AS REQUIRED. DEWATERING IS BY OTHERS.
10. VIBRATION AND DISPLACEMENT MONITORING OF ADJACENT STRUCTURES SHALL BE PERFORMED IN ACCORDANCE WITH PROJECT REQUIREMENTS, MONITORING IS BY OTHERS.
11. THE DRILL HOLES FOR THE MICROPILES AND SOIL NAILS SHALL BE MADE AT THE LOCATIONS, ORIENTATIONS AND LENGTHS SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE DESIGN ENGINEER.
12. SELECT DRILLING EQUIPMENT AND METHODS SUITABLE FOR THE GROUND CONDITIONS DESCRIBED IN THE GEOTECHNICAL REPORT AND SHOWN ON THE BORING LOGS/TEST PITS.
13. SELECT DRILLHOLE DIAMETER(S) REQUIRED TO DEVELOP THE SPECIFIED PULLOUT RESISTANCE AND TO ALSO PROVIDE A MINIMUM OF 1" GROUT COVER OVER BARS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE FINAL DRILLHOLE DIAMETER REQUIRED TO PROVIDE THE SPECIFIED PULLOUT RESISTANCE.
14. IF CAVING GROUND IS ENCOUNTERED, USE CASED DRILLING METHODS.
15. WHERE HARD DRILLING CONDITIONS SUCH AS ROCK, COBBLES, BOULDERS OR OBSTRUCTIONS ARE ENCOUNTERED, USE PERCUSSION OR OTHER SUITABLE DRILLING EQUIPMENT CAPABLE OF DRILLING AND MAINTAINING STABLE DRILLHOLES THROUGH SUCH MATERIALS.
16. PROVIDE REINFORCING BARS FOR MICROPILES AND SOIL NAILS IN ACCORDANCE WITH THE DETAILS INCLUDED ON THE DRAWINGS.

GENERAL NOTES FOR TEMPORARY MICROPILES & SOIL NAIL WALL (CONT.):

16. ALL BARS SHALL BE THREADED BARS IN ACCORDANCE WITH ASTM A615, GRADE 75. IF CUT THREAD REINFORCING BARS ARE USED SUBSTITUTE THE NEXT LARGER BAR SIZE.
17. NUTS AND ASSOCIATED HARDWARE FOR NAIL BARS SHALL BE IN ACCORDANCE WITH MANUFACTURES REQUIREMENTS.
18. BEARING PLATES FOR SOIL NAIL BARS SHALL BE IN ACCORDANCE WITH ASTM A36.
19. PROVIDE CENTRALIZERS SIZED TO POSITION THE BAR WITHIN 1" OF THE CENTER OF THE DRILLHOLE. POSITION CENTRALIZERS WITH MAXIMUM CENTER TO CENTER SPACING OF 10' AND WITHIN 2' FROM THE TOP AND BOTTOM OF THE DRILLHOLE.
20. USE NEAT CEMENT GROUT OR SAND-CEMENT GROUT. THE GROUT MIX SHALL HAVE A MINIMUM 3-DAY COMPRESSIVE STRENGTH OF 1500-PSI AND A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000-PSI. USE NON-SHRINK GROUT FOR BOND TO THE EXISTING FOOTING, NON-SHRINK GROUT MAY BE USED FOR FULL MICROPILE LENGTH AT CONTRACTOR'S OPTION.
21. DURING PRODUCTION, GROUT SHALL BE TESTED BY THE CONTRACTOR IN ACCORDANCE WITH AASHTO T106/ASTM C109 AT A FREQUENCY OF NO LESS THAN ONE TEST FOR EVERY 50 CUBIC YARDS OF GROUT PLACED.
22. SHOTCRETE FOR THE CONSTRUCTION OF THE TEMPORARY FACING SHALL ALL MEET THE REQUIREMENTS SPECIFIED BELOW UNLESS NOTED OTHERWISE.
23. SHOTCRETE SHALL COMPLY WITH THE REQUIREMENTS OF ACI 506.2, "SPECIFICATIONS FOR MATERIALS, PROPORTIONING AND APPLICATION OF SHOTCRETE." SHOTCRETE MAY BE PRODUCED BY EITHER A WET-MIX OR DRY-MIX PROCESS. REFER TO ACI 506R "GUIDE TO SHOTCRETE" FOR ADDITIONAL INFORMATION.
24. SHOTCRETE SHALL HAVE A MINIMUM 3-DAY COMPRESSIVE STRENGTH OF 2000-PSI AND A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000-PSI.
25. THE SURFACE OF THE TEMPORARY SHOTCRETE FACE SHALL RECEIVE A NOZZLE FINISH.
26. WORKERS, INCLUDING FOREMEN, NOZZLEMEN, FINISHERS AND DELIVERY EQUIPMENT OPERATORS, SHALL BE FULLY EXPERIENCED TO PERFORM THE WORK. PRODUCTION TEST PANELS, CORE EXTRACTION AND COMPRESSIVE STRENGTH TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH ACI 506.2 AND AASHTO T24/ASTM C42.
27. REINFORCING BARS SHALL CONFORM TO ASTM A615, AASHTO M31, GRADE 60.
28. ALL REINFORCING SHALL BE DETAILED IN ACCORDANCE WITH ACI 315 MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES.
29. WELDED WIRE FABRIC, WWF, SHALL CONFORM TO ASTM A185, AASHTO M55.
30. ALL REINFORCEMENT SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINTS.
31. ALL DEFORMED REINFORCING BAR LAPS SHALL BE CLASS B, IN ACCORDANCE WITH THE 2006 INTERNATIONAL BUILDING CODE, LAP SPLICE LENGTH FOR #4 REINFORCING BARS SHALL BE AT LEAST 16 INCHES. LAP SPLICES OF WWF SHALL BE AT LEAST 12 INCHES.

RECEIVED
SEP 09 2008
BDS
DOCUMENT SERVICES

REGISTERED PROFESSIONAL ENGINEER
23343PE
OREGON
JULY 13, 1988
STEPHEN W. SPENCER
8/25/08
EXPIRATION DATE: 06/30/2010

NO.	ISSUE/DESCRIPTION	BY	DATE
2	Revised for MSE Wall Excavation	SWS	8/25/08
1	Permanent Pinpile & Rock Anchor Details	EPB	7/25/08

Shriners Hospital for Children
Portland Hospital

Portland, Oregon

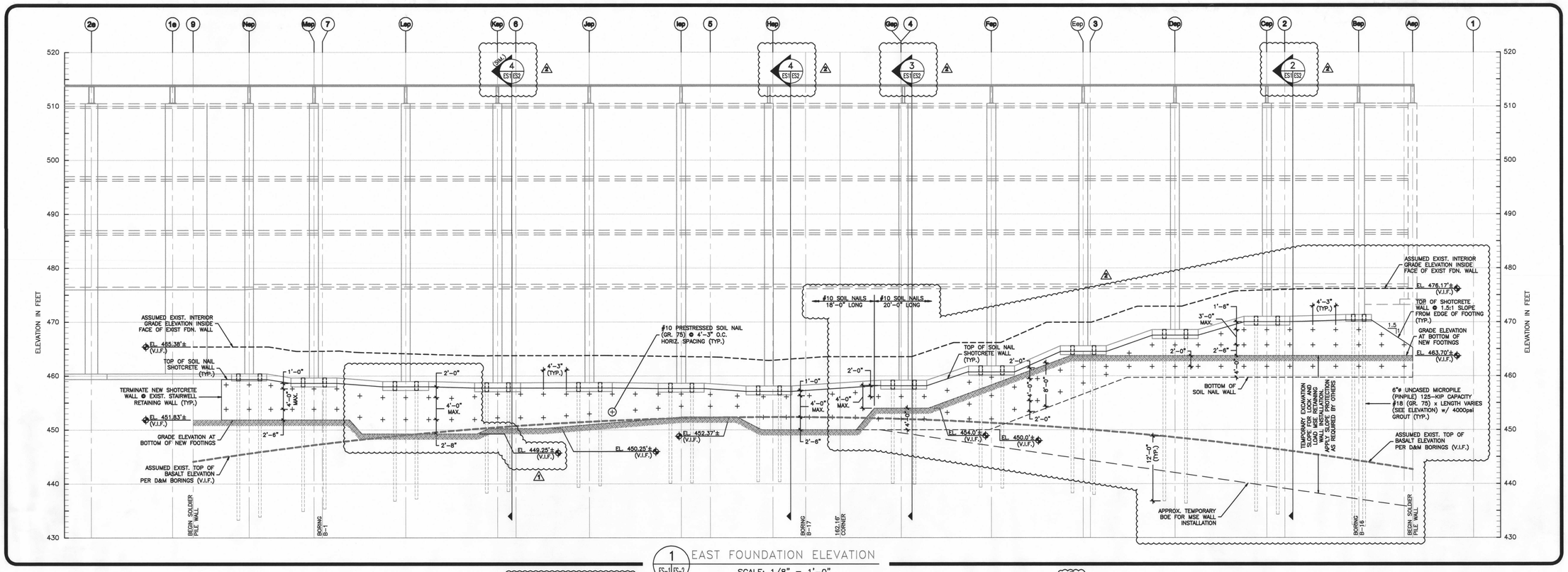
City of Portland REVIEWED FOR CODE COMPLIANCE SEP 23 2008 Bureau of Development Services

Permanent Pin Pile & Rock Anchor Plan
Excavation Support Plan

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists, 1 EDGEWATER DRIVE NORWOOD, MASSACHUSETTS 02062 (781) 278-3700

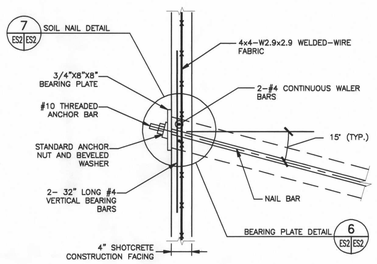
PREPARED FOR: MALCOLM DRILLING CO., INC.

PROJ MGR:	SWS	REVIEWED BY:	RE	CHECKED BY:	RT	FIGURE:
DESIGNED BY:	SWS/RT	DRAWN BY:	EPB	SCALE:	AS NOTED	ES
DATE	7/25/2008	PROJECT NO.	02.0019855.00	REVISION NO.	2	SHEET NO.



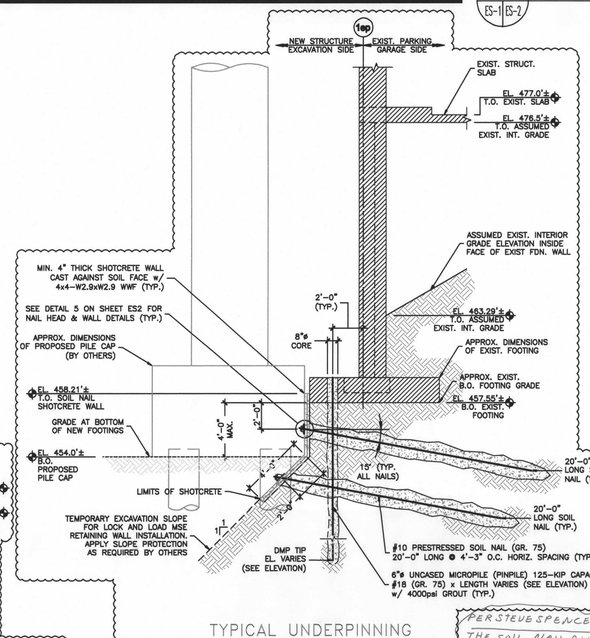
1 ES-1 ES-2 EAST FOUNDATION ELEVATION

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



5 ES2 ES2 TYPICAL SOIL NAIL WALL & HEAD DETAIL

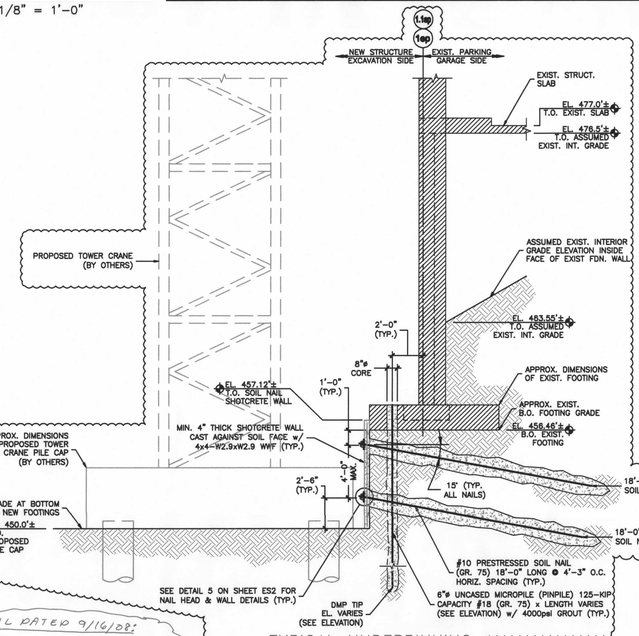
SCALE: 1" = 1'-0"



3 ES1 ES2 TYPICAL UNDERPINNING @ COLUMN LINE-Gep & Kep

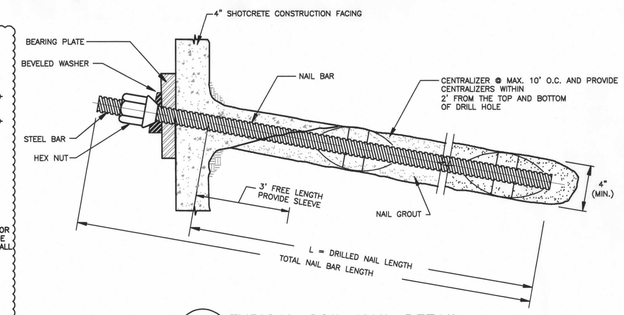
SCALE: 1/4" = 1'-0"

PER STEVE SPENCER EMAIL DATED 9/16/08:
THE SOIL NAIL ALLOWABLE DESIGN LOADS ARE AS FOLLOWS:
NAIL HEAD LOAD = 31 KIPS
NAIL BAR LOAD = 57 KIPS
MAXIMUM CALCULATED NAIL LOAD = 39 KIPS



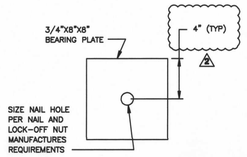
4 ES1 ES2 TYPICAL UNDERPINNING @ COLUMN LINE-Hep

SCALE: 1/4" = 1'-0"



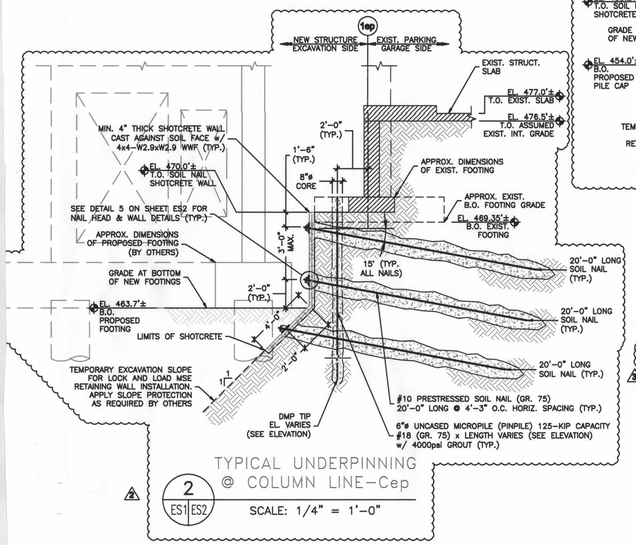
7 ES2 ES2 TYPICAL SOIL NAIL DETAIL

NOT TO SCALE



6 ES2 ES2 TYPICAL SOIL NAIL BEARING PLATE DETAIL

SCALE: 1" = 1'-0"



2 ES1 ES2 TYPICAL UNDERPINNING @ COLUMN LINE-Cep

SCALE: 1/4" = 1'-0"

CONSTRUCTION SEQUENCE FOR TEMPORARY MICROPILES AND SOIL NAIL WALL:

1. REFER TO GZA DWG. ES1 FOR GENERAL NOTES (TYP.)
2. PERFORM SURVEY MONITORING IN ACCORDANCE WITH SETTLEMENT MONITORING PROGRAM AS PRESCRIBED BY GRI IN MEMORANDUM DATED SEPTEMBER 15, 2008.
3. CORE FOOTING WITH 8"ø DIAMOND CORE BARREL AT LOCATIONS SPECIFIED ON PLAN.
4. INSTALL ONE SACRIFICIAL TEST DRILLED MICROPILE AND PERFORM STATIC TENSION TEST IN ACCORDANCE WITH ASTM D 3689 TO 200% OF THE PILE DESIGN LOAD. PILE WORKING DESIGN LOAD IS 125-KIPS. TEST MICROPILE SERVES AS VERIFICATION OF THE ROCK BOND STRESS FOR ALL TEMPORARY MICROPILES. ASTM STANDARD LOADING PROCEDURE TO BE PERFORMED AS OUTLINED IN ITEM 7.2 WITH THE FOLLOWING EXCEPTION, THE 200% TEST LOAD (250-KIPS) MAY BE REMOVED AFTER 1 HOUR ONCE TOTAL CREEP MOVEMENT IS LESS THAN 0.01 INCHES/HOUR.
5. INSTALL PRODUCTION MIRCROPILES. PRODUCTION MICROPILES MAY BE INSTALLED PRIOR TO TESTING OF TEST PILE PROVIDED MEANS FOR POST GROUTING IS PROVIDED.
6. INSTALL TWO SACRIFICIAL TEST SOIL NAILS AND PERFORM NAIL TESTING IN ACCORDANCE GZA SPECIFICATION SECTION 02390 – TEMPORARY SOIL NAIL AND WALL EXCAVATION.
7. EXCAVATE TO NO GREATER THAN 4 FEET BELOW BOTTOM OF EXISTING COLUMN FOOTINGS.
8. DRILL, INSTALL, AND GROUT LEVEL I SOIL NAILS AT THE ELEVATION AND LOCATION SHOWN ON PLANS.
9. PLACE REINFORCING AND APPLY SHOTCRETE STRUCTURAL FACING. NO EXCAVATION WHICH HAS EXPOSED WALL FACE SHALL BE LEFT UNSTABILIZED BY SHOTCRETE AT THE END OF THE WORK DAY UNLESS THE ENGINEER APPROVES OTHERWISE. PROVIDE PVC SLEEVE AT NAIL BAR LOCATION.
10. ATTACH A BEARING PLATE AND NUT TO EACH NAIL HEAD AS SHOWN ON THE DRAWINGS WHILE THE SHOTCRETE IS STILL PLASTIC AND BEFORE INITIAL SET, ENSURE THE PLATE IS FIRMLY SEATED IN THE SHOTCRETE FREE OF ANY VOIDS OR POCKETS BEHIND THE PLATE.
11. PROOF TEST 5% OF THE PRODUCTION SOIL NAILS, MINIMUM OF TWO PER LEVEL. PRESTRESS SOIL NAILS TO 25-KIP LOCK-OFF LOAD.
12. EXCAVATE TO BOTTOM OF EXCAVATION FOR PROPOSED PILE CAPS. MAXIMUM VERTICAL EXCAVATION DEPTH BELOW BOTTOM OF EXISTING COLUMN FOOTING PRIOR TO INSTALLATION OF LEVEL 2 NAILS IS 7 FEET.
13. REPEAT STEPS 8 THROUGH 11 TO INSTALL LEVEL 2 SOIL NAILS.
14. PERFORM THIRD EXCAVATION LIFT AND PLACE SHOTCRETE FROM COL LINES 6 TO 7 AT LOCATIONS WHERE VERTICAL EXCAVATION DEPTH EXCEEDS 7 FEET BELOW BOTTOM OF EXISTING COLUMN FOOTINGS.
15. EXCAVATE 4' OF TEMPORARY SLOPE FOR MSE WALL INSTALLATION AND REPEAT STEPS 8 THROUGH 11 TO INSTALL LEVEL 3 SOIL NAILS.
16. CONTINUE TEMPORARY SLOPED EXCAVATION FOR MSE WALL INSTALLATION. APPLY SLOPE PROTECTION AS REQUIRED. REFER TO DESIGN BY OTHERS FOR DETERMINATION OF SLOPE LIMITS. SLOPE SHALL BE NO STEEPER THAN 1:1.
17. CONSTRUCT MSE RETAINING WALL AND PERMANENT FOUNDATION ELEMENTS AND BACKFILL. TEMPORARY SOIL NAILS DO NOT REQUIRE DE-TENSIONING.

REGISTERED PROFESSIONAL ENGINEER 73341PE OREGON MAY 13, 2003 STEPHEN W. SPENCER 9/15/08

EXPIRATION DATE: 06/30/2010

NO.	ISSUE/DESCRIPTION	BY	DATE
3	Revised Construction Sequence	SWS	9/15/08
2	Revised for MSE Wall Excavation	SWS	8/25/08
1	Transformer Vault Bottom of Excavation Change	EPB	7/25/08

RECEIVED SEP 16 2008 BDS DOCUMENT SERVICES

City of Portland REVIEWED FOR CODE COMPLIANCE SEP 23 2008

Shriners Hospital for Children Portland Hospital

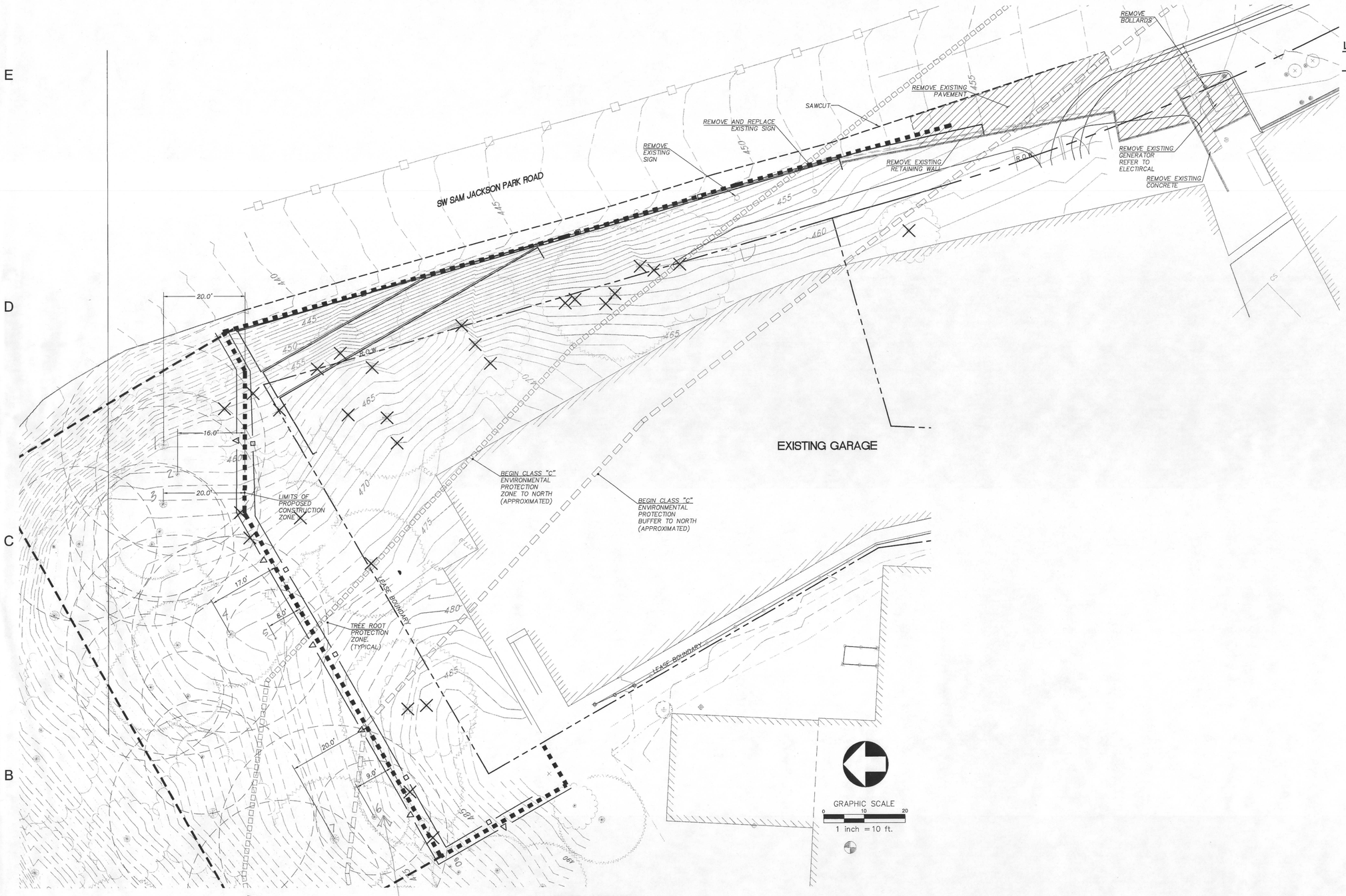
Portland, Oregon

Support of Excavation East Foundation Elevation

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists, 1 EDGEWATER DRIVE, NORWOOD, MASSACHUSETTS 02062, (781) 278-3700

PREPARED FOR: MALCOLM DRILLING CO., INC.

PROJ MGR: SWS	REVIEWED BY: RE	CHECKED BY: RT	FIGURE
DESIGNED BY: SWS/RT	DRAWN BY: EPB	SCALE: AS NOTED	ES2
DATE 7/25/2008	PROJECT NO. 02.0019855.00	REVISION NO. 3	SHEET NO. 2 OF 3



LEGEND

EXISTING	PROPOSED	DESCRIPTION
		PROPERTY LINE
		SAWCUT LINE
		DEMOLITION EXISTING ASPHALT, CONCRETE, OR STRUCTURE
		ENVIRONMENTAL PROTECTION ZONE
		ENVIRONMENTAL PROTECTION BUFFER
		CONSTRUCTION ZONE
		TREE REMOVAL
		SILT FENCE
		CONSTRUCTION FENCE

City of Portland
Bureau of Development Services
By SMK Date 9/22/08
Approved by Planning and Zoning Review

TREE # TEK ARBORIST REPORT BY TERAGAN

NORTH ADDITION
1 / C1.00 DEMOLITION PLAN
1" = 1'0"

SRG PARTNERSHIP INC
ARCHITECTURE PLANNING INTERIORS
621 SW Morrison Street, Suite 200
Portland, Oregon 97205
T: 503.222.1917 F: 503.294.0272

REGISTERED PROFESSIONAL ENGINEER 18684 OREGON JULY 16, 1986 DAVID J. HUNGER
EXPIRES 6-30-09

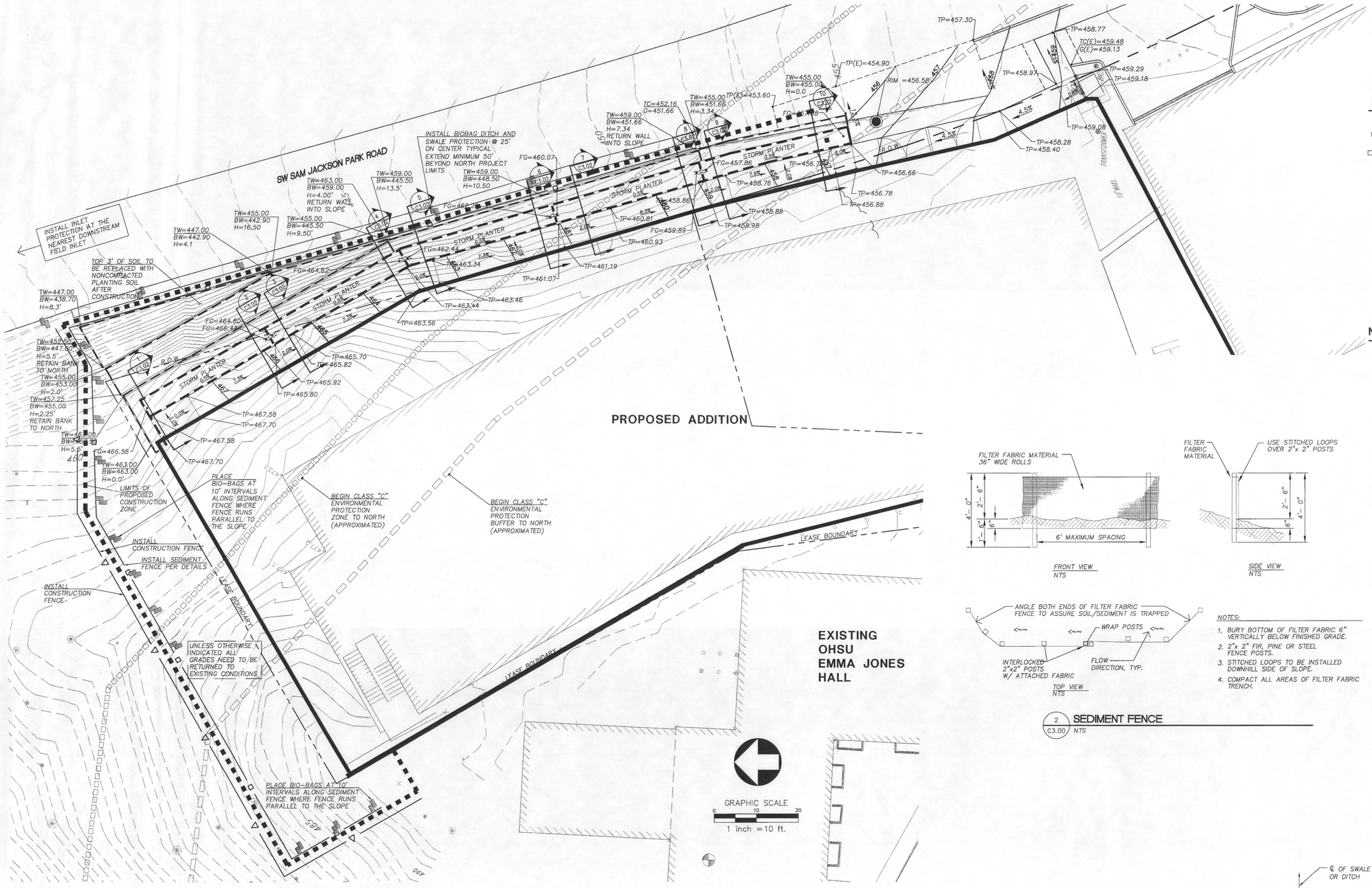
Shriners Hospital for Children
Portland Hospital
Portland, Oregon

EXCAVATION & SHORING PERMIT

Drawing Title
DEMO PLAN
NORTH

Drawn by
Checked by
Date 08-21-08
Project No 2644
Consultant Project No
Owner Project No
Drawing No **C1.00**

Drawing Name:



1 C3.00 NORTH ADDITION GRADING AND EROSION CONTROL PLAN
1" = 10'

LEGEND

EXISTING	PROPOSED	DESCRIPTION
		ENVIRONMENTAL PROTECTION ZONE
		ENVIRONMENTAL PROTECTION BUFFER
		CONSTRUCTION ZONE
		SILT FENCE
		CONSTRUCTION FENCE
	TP=XXX.XX	GRADE AT TOP OF PAVEMENT
	TW=XXX.XX	GRADE AT TOP OF WALL
	BW=XXX.XX	GRADE AT BOTTOM OF WALL
	H=X.X'	HEIGHT OF WALL
	FG=XXX.XX	FINISHED GRADE
	G(E)=XXX.XX	EXISTING GRADE AT GUTTER
	TC(E)=XXX.XX	EXISTING GRADE AT TOP OF CURB
	TC=XXX.XX	TOP OF CURB

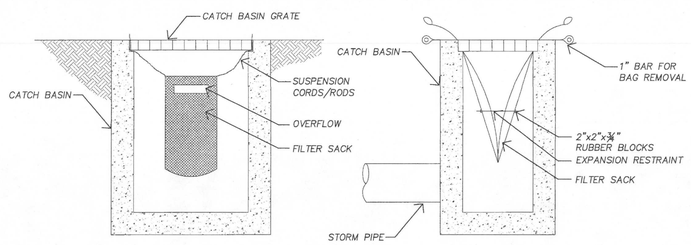
NOTES

1. CONTRACTOR SHALL BENCH ALL FILL SLOPES STEEPER THAT 1:5.
2. CONTRACTOR SHALL APPLY FIBER STRAW OR EROSION BLANKET AS REQUIRED TO EXPOSED SLOPES TO MITIGATE EROSION POTENTIAL.

NOTES:

1. BURY BOTTOM OF FILTER FABRIC 6" VERTICALLY BELOW FINISHED GRADE.
2. 2"x 2" FIR, PINE OR STEEL FENCE POSTS.
3. STITCHED LOOPS TO BE INSTALLED DOWNHILL SIDE OF SLOPE.
4. COMPACT ALL AREAS OF FILTER FABRIC TRENCH.

2 C3.00 SEDIMENT FENCE
NTS

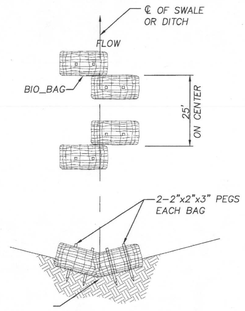


INSERT SACK FRONT VIEW

INSERT SACK SIDE VIEW

NOTE:
REPLACE BIOFILTER BAGS WITH INSERT SACKS AFTER THE FIRST LIFT OF PAVING.

3 C3.00 FILTER FABRIC INLET PROTECTION
NTS



NOTES:
* EMBED BAGS 4" TO 6".
* DRIVE STAKES MIN. 12" INTO GROUND SURFACE.

4 C3.00 BIO-BAGS IN DITCHES AND SWALES
NTS

ARCHITECTURE PLANNING INTERIORS
621 SW Morrison Street, Suite 200
Portland, Oregon 97205
T: 503.222.1917 F: 503.294.0272
SRG PARTNERSHIP INC

REGISTERED PROFESSIONAL ENGINEER 18684 OREGON JULY 16, 1996 DAVID J. HUMBER
EXPIRES 6-30-09

Shriners Hospital for Children
Portland Hospital

Portland, Oregon

EXCAVATION & SHORING PERMIT

Drawing Title
GRADING AND EROSION CONTROL PLAN - NORTH

Drawn by

Checked by

Date
08-21-08

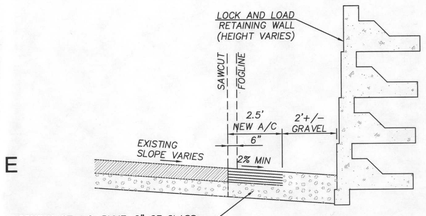
Project No
2644

Consultant Project No

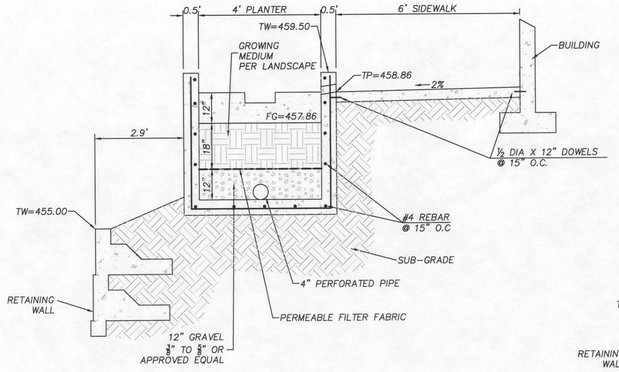
Owner Project No

Drawing No
C3.00

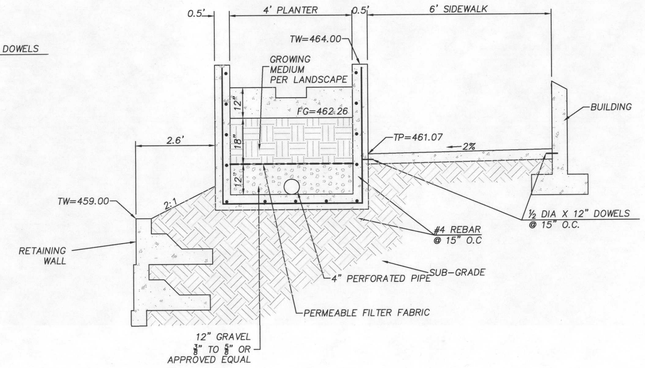
Drawing Name:



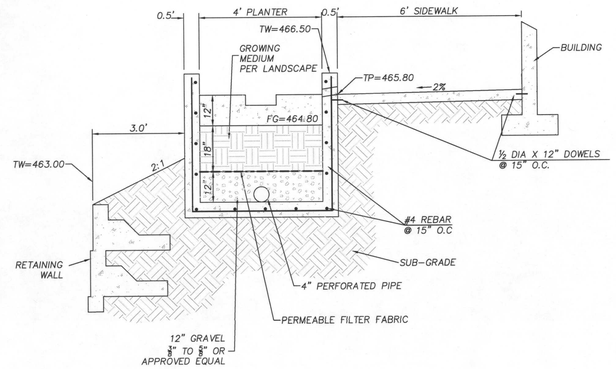
12 / C3.02 PAVEMENT SECTION AT SAWCUT
N.T.S.



9 / C3.02 PLANTER SECTION AT ADDITION GRID '5'
N.T.S.



6 / C3.02 PLANTER SECTION AT ADDITION GRID '4'
N.T.S.



3 / C3.02 PLANTER SECTION AT ADDITION GRID '2'
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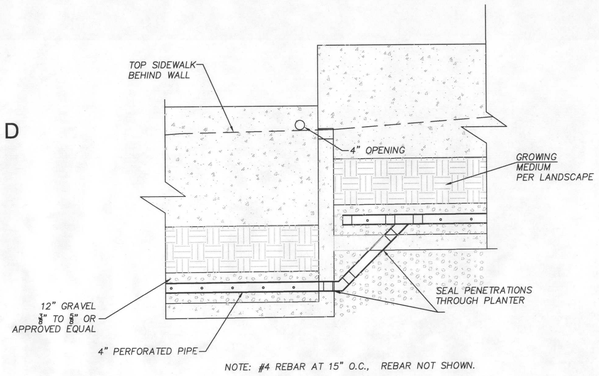
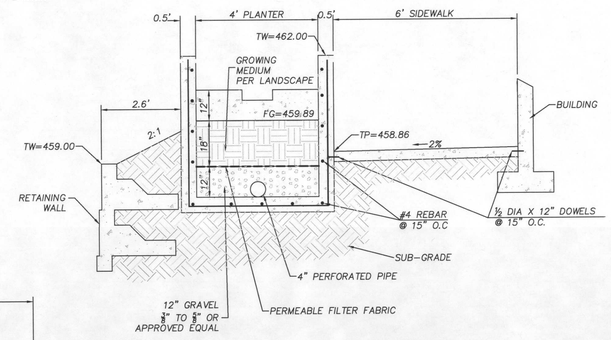


NOTE: #4 REBAR AT 15" O.C., REBAR NOT SHOWN.

11 / C3.02 TYPICAL PLANTER SECTION AT STEPPED PLANER LOOKING WEST
N.T.S.



8 / C3.02 PLANTER SECTION AT ADDITION GRID '5'
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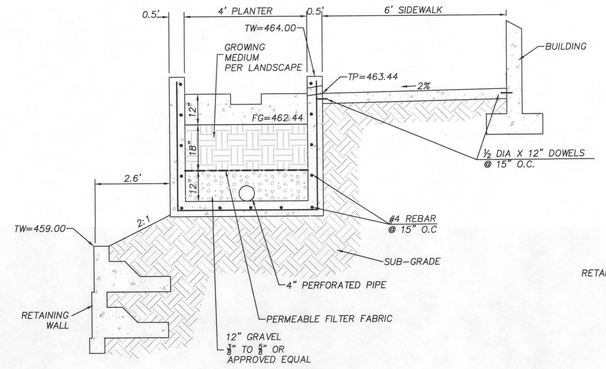

5 / C3.02 PLANTER SECTION AT ADDITION GRID '3'
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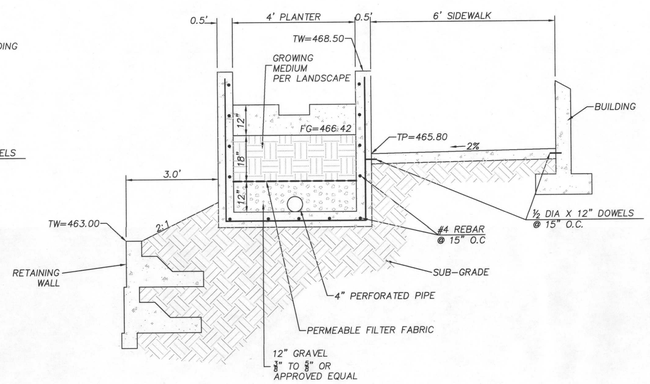

2 / C3.02 PLANTER SECTION AT ADDITION GRID '2'
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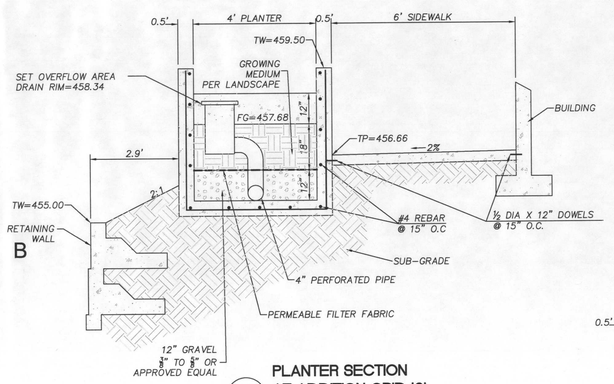

10 / C3.02 PLANTER SECTION AT ADDITION GRID '6'
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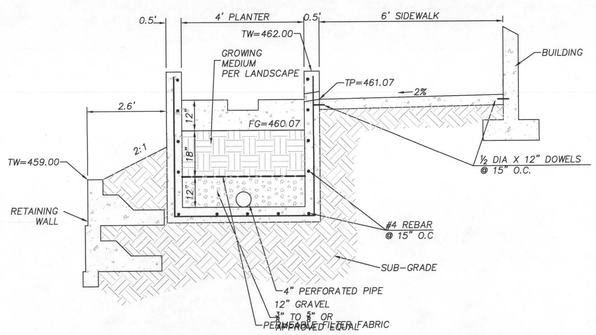

7 / C3.02 PLANTER SECTION AT ADDITION GRID '4'
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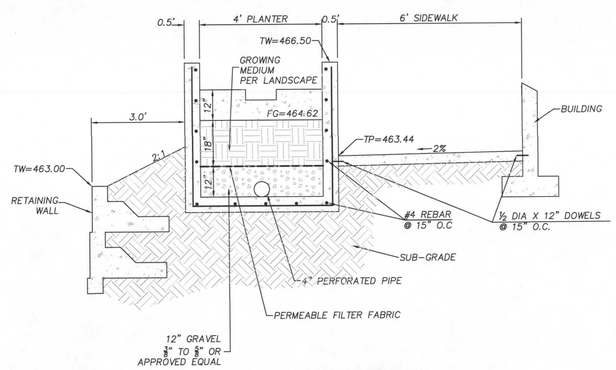

4 / C3.02 PLANTER SECTION AT ADDITION GRID '3'
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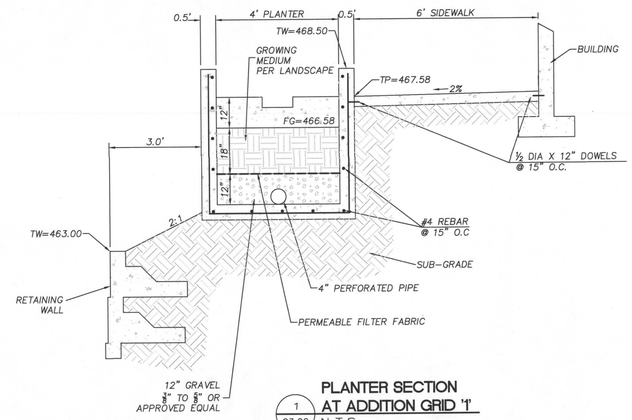

1 / C3.02 PLANTER SECTION AT ADDITION GRID '1'
N.T.S.

E
D
C
B
A

1 2 3 4 5

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Portland Hospital
Portland, Oregon

EXCAVATION & SHORING PERMIT

Drawing Title
PLANTER SECTIONS

PLAN - NORTH

Drawn by

Checked by

Date
08-21-08

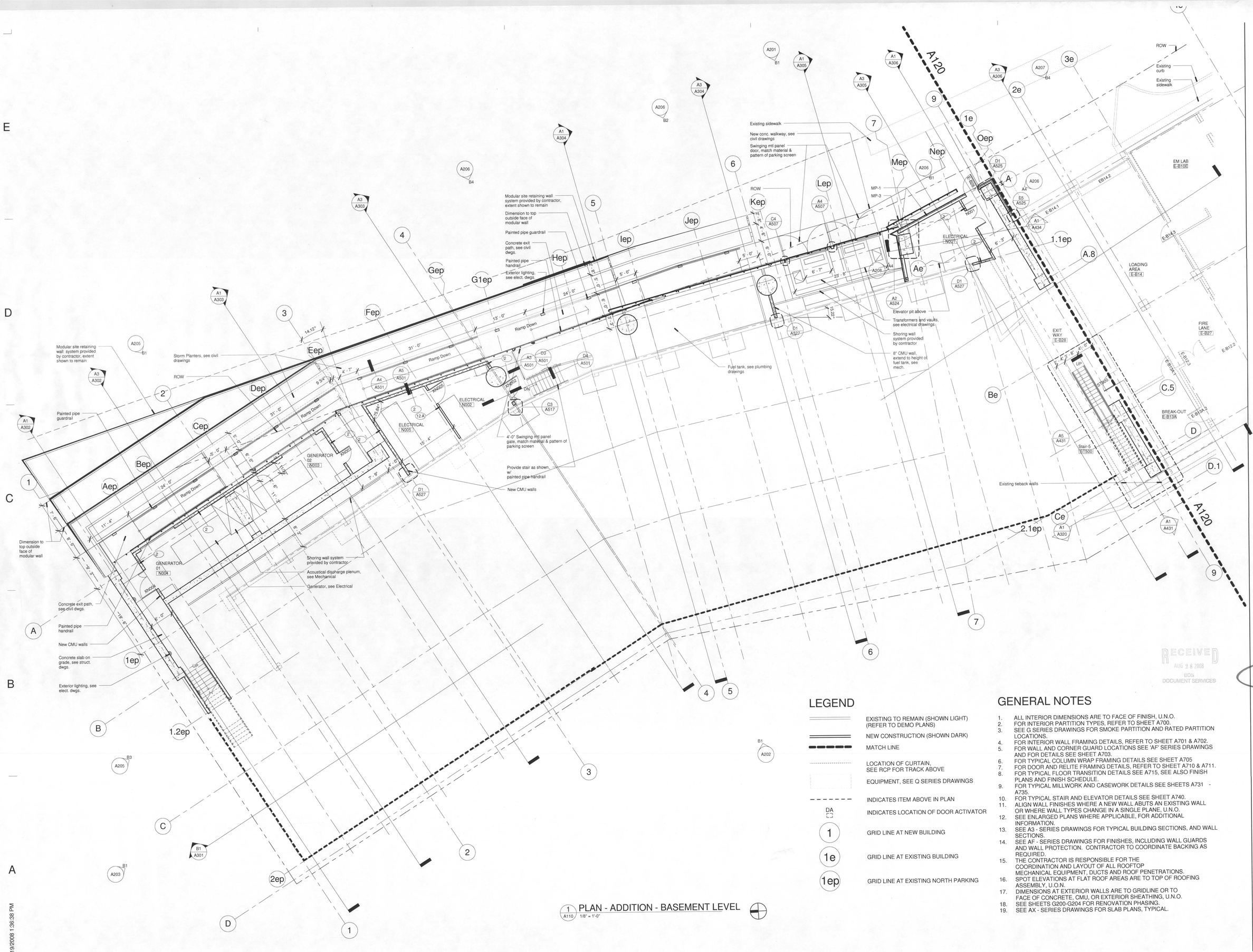
Project No
2644

Consultant Project No

Owner Project No

Drawing No
C3.02

Drawing Name:



1 A110 PLAN - ADDITION - BASEMENT LEVEL
1/8" = 1'-0"

LEGEND

	EXISTING TO REMAIN (SHOWN LIGHT) (REFER TO DEMO PLANS)
	NEW CONSTRUCTION (SHOWN DARK)
	MATCH LINE
	LOCATION OF CURTAIN, SEE RCP FOR TRACK ABOVE
	EQUIPMENT, SEE Q SERIES DRAWINGS
	INDICATES ITEM ABOVE IN PLAN
DA	INDICATES LOCATION OF DOOR ACTIVATOR
1	GRID LINE AT NEW BUILDING
1e	GRID LINE AT EXISTING BUILDING
1ep	GRID LINE AT EXISTING NORTH PARKING

GENERAL NOTES

1. ALL INTERIOR DIMENSIONS ARE TO FACE OF FINISH, U.N.O.
2. FOR INTERIOR PARTITION TYPES, REFER TO SHEET A700.
3. SEE G SERIES DRAWINGS FOR SMOKE PARTITION AND RATED PARTITION LOCATIONS.
4. FOR INTERIOR WALL FRAMING DETAILS, REFER TO SHEET A701 & A702.
5. FOR WALL AND CORNER GUARD LOCATIONS SEE 'AF' SERIES DRAWINGS AND FOR DETAILS SEE SHEET A703.
6. FOR TYPICAL COLUMN WRAP FRAMING DETAILS SEE SHEET A705
7. FOR DOOR AND RELITE FRAMING DETAILS, REFER TO SHEET A710 & A711.
8. FOR TYPICAL FLOOR TRANSITION DETAILS SEE A715, SEE ALSO FINISH PLANS AND FINISH SCHEDULE.
9. FOR TYPICAL MILLWORK AND CASEWORK DETAILS SEE SHEETS A731 - A735.
10. FOR TYPICAL STAIR AND ELEVATOR DETAILS SEE SHEET A740.
11. ALIGN WALL FINISHES WHERE A NEW WALL ABUTS AN EXISTING WALL OR WHERE WALL TYPES CHANGE IN A SINGLE PLANE, U.N.O.
12. SEE ENLARGED PLANS WHERE APPLICABLE, FOR ADDITIONAL INFORMATION.
13. SEE A3 - SERIES DRAWINGS FOR TYPICAL BUILDING SECTIONS, AND WALL SECTIONS.
14. SEE AF - SERIES DRAWINGS FOR FINISHES, INCLUDING WALL GUARDS AND WALL PROTECTION. CONTRACTOR TO COORDINATE BACKING AS REQUIRED.
15. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION AND LAYOUT OF ALL ROOFTOP MECHANICAL EQUIPMENT, DUCTS AND ROOF PENETRATIONS.
16. SPOT ELEVATIONS AT FLAT ROOF AREAS ARE TO TOP OF ROOFING ASSEMBLY, U.O.N.
17. DIMENSIONS AT EXTERIOR WALLS ARE TO GRIDLINE OR TO FACE OF CONCRETE, CMU, OR EXTERIOR SHEATHING, U.N.O.
18. SEE SHEETS G200-G204 FOR RENOVATION PHASING.
19. SEE AX - SERIES DRAWINGS FOR SLAB PLANS, TYPICAL.

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Excavation & Shoring Permit Reference Drawings

Drawing Title
PLAN - ADDITION - BASEMENT LEVEL

Revisions

No.	Description	Date
1	Addendum	06-20-08

Drawn by
Author

Checked by
Checker

Date
06-21-08

Project No
2644

Consultant Project No

Owner Project No

Drawing No

A110

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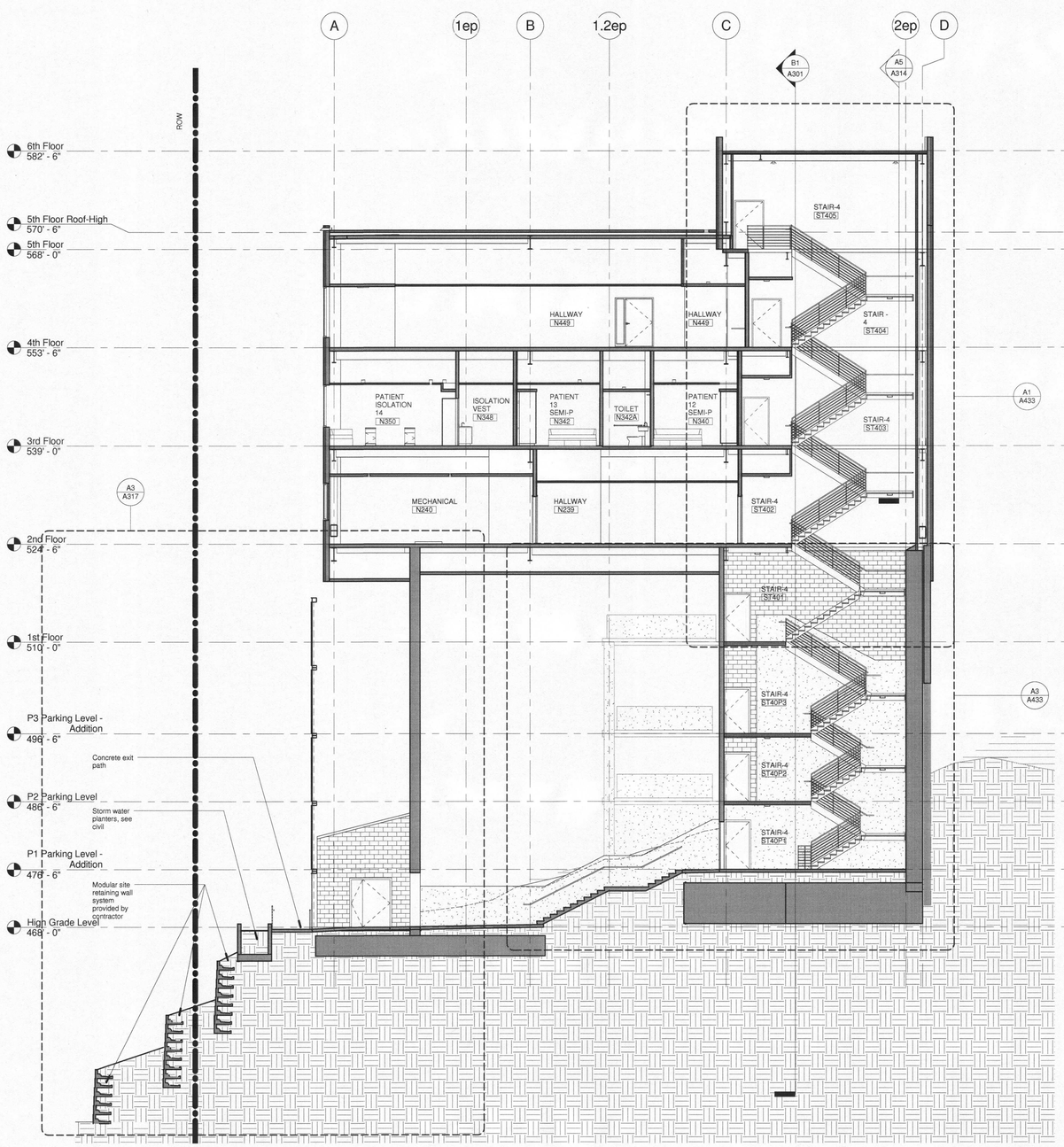
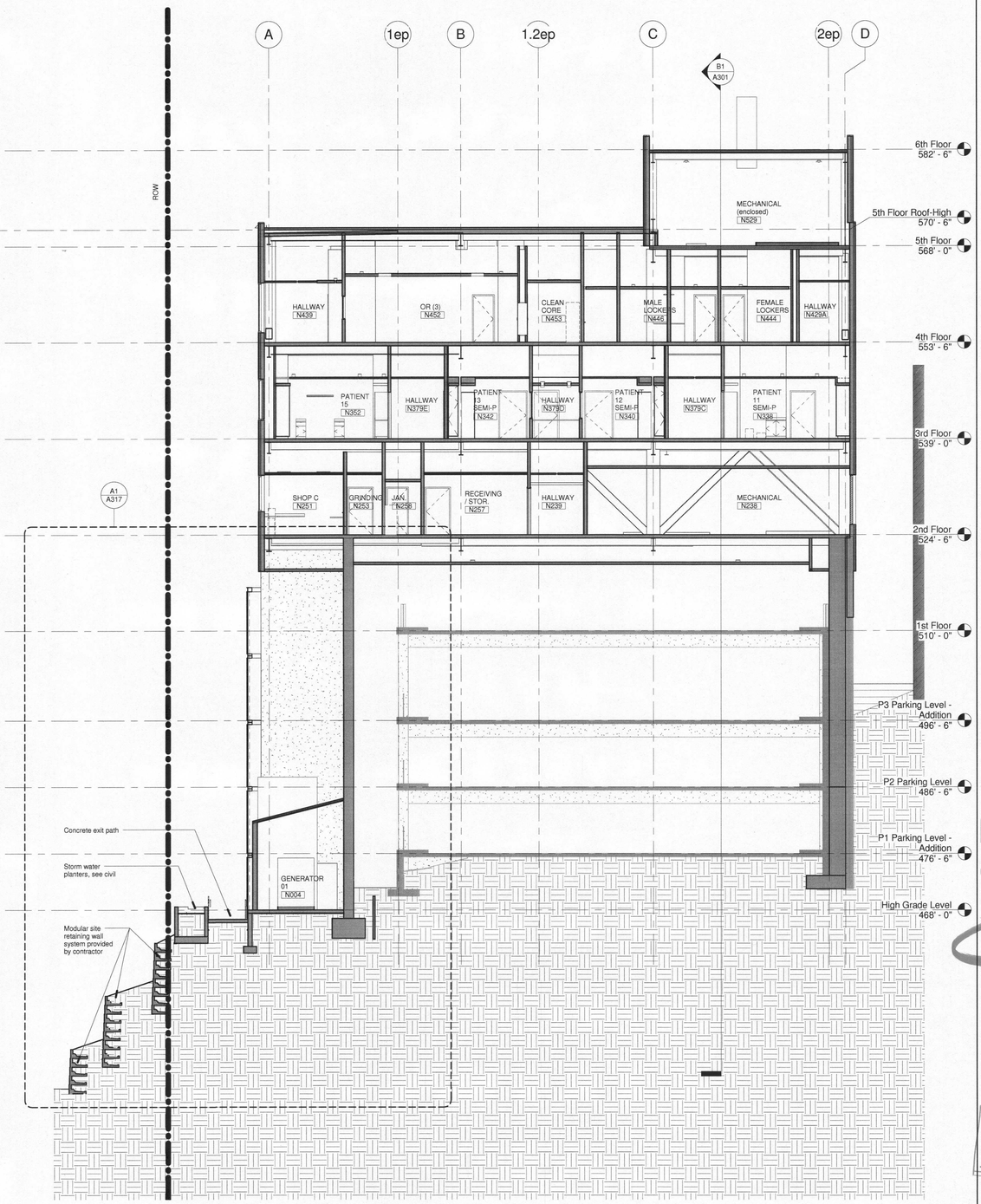


A1 / A302 BUILDING SECTION @ GRID '1'
1/8" = 1'-0"



A3 / A302 BUILDING SECTION @ GRID '2'
1/8" = 1'-0"

8/19/2008 1:29:02 PM

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Excavation & Shoring Permit Reference Drawings

Drawing Title
BUILDING SECTIONS

Revisions

No.	Description	Date

Drawn by
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Checked by
HAM

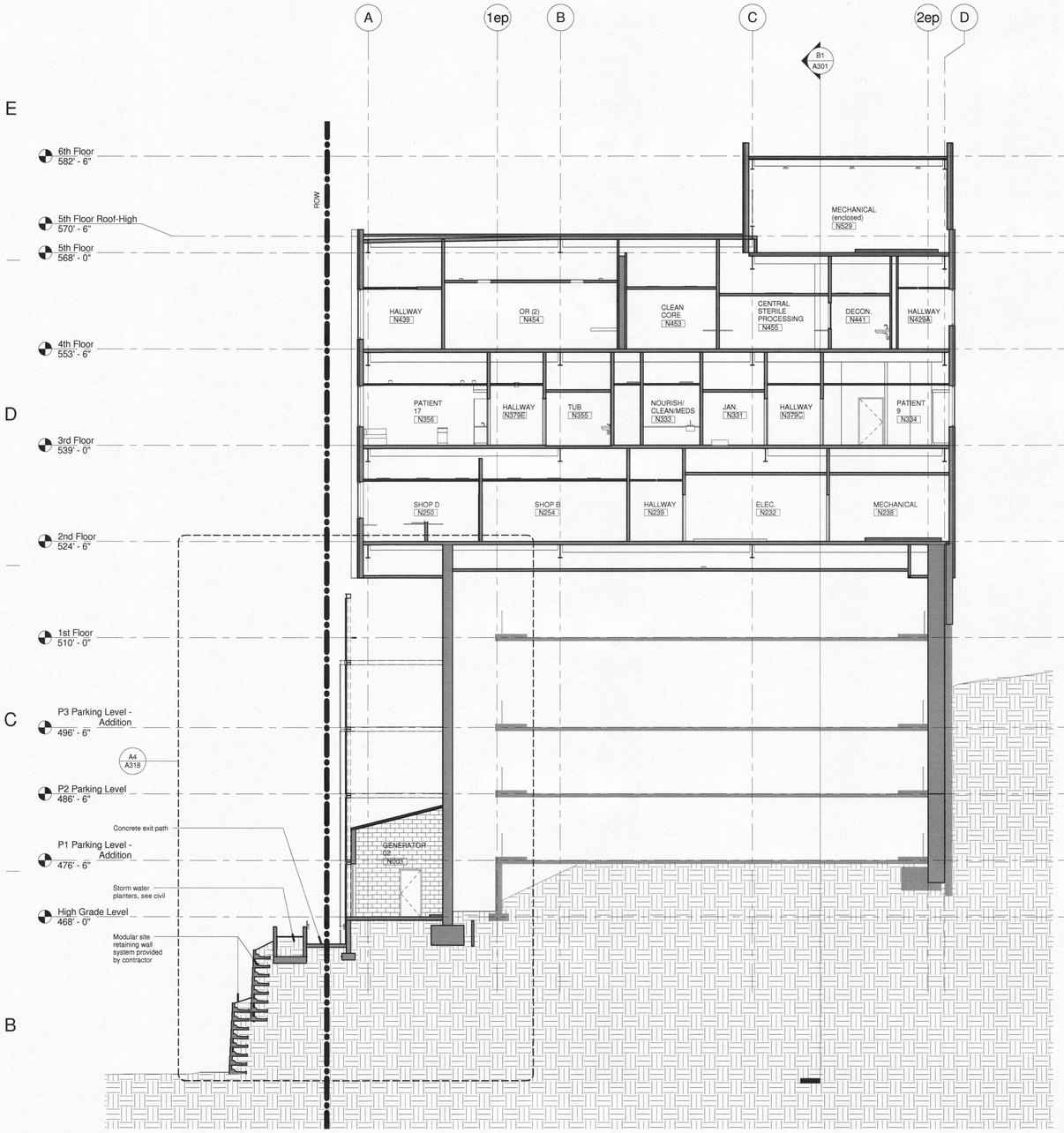
Date
08-21-08

Project No
2644

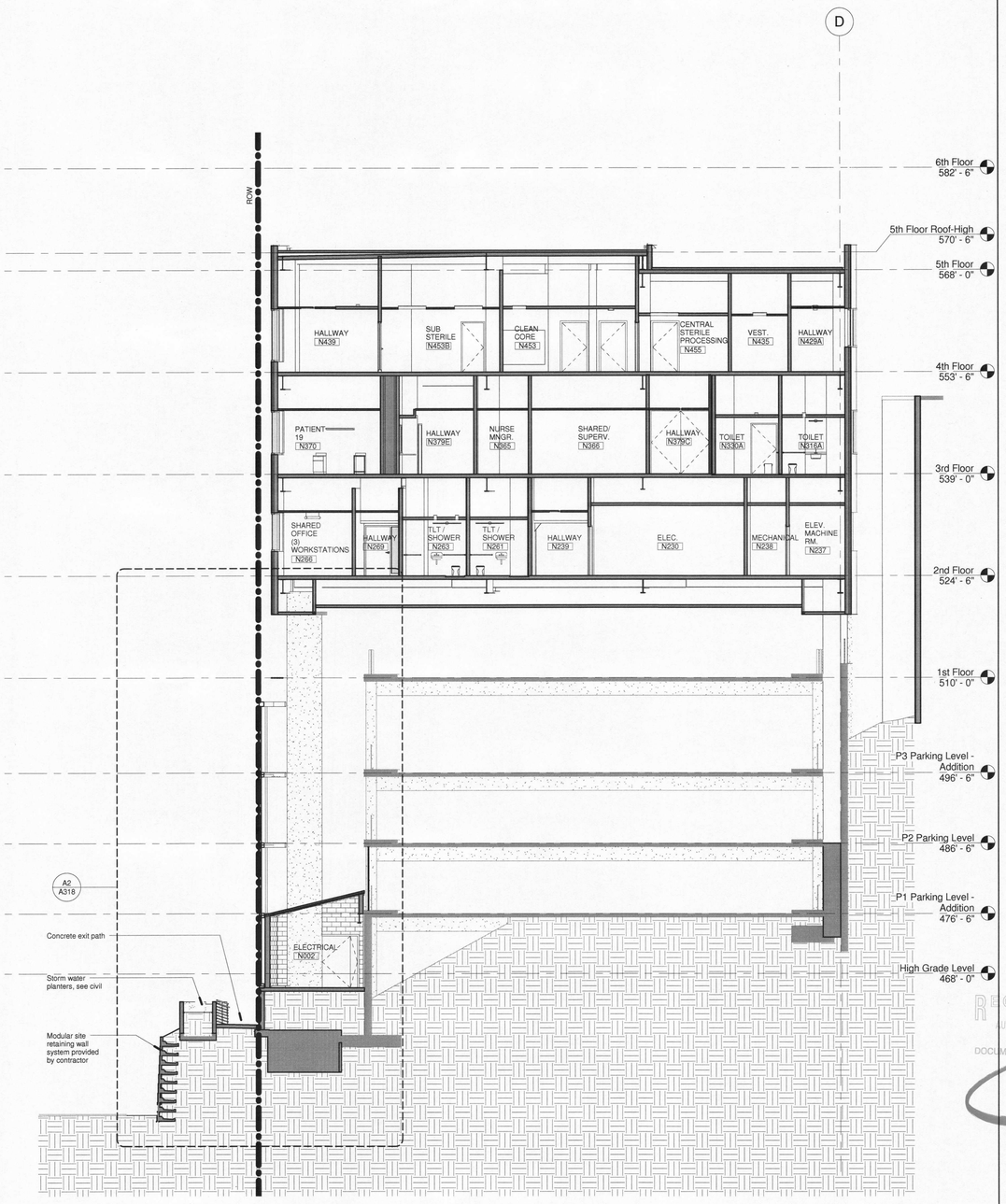
Consultant Project No

Owner Project No

Drawing No
A302



A1 A303 BUILDING SECTION @ GRID '3'
1/8" = 1'-0"



A3 A303 BUILDING SECTION @ GRID '4'
1/8" = 1'-0"

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06-21-08

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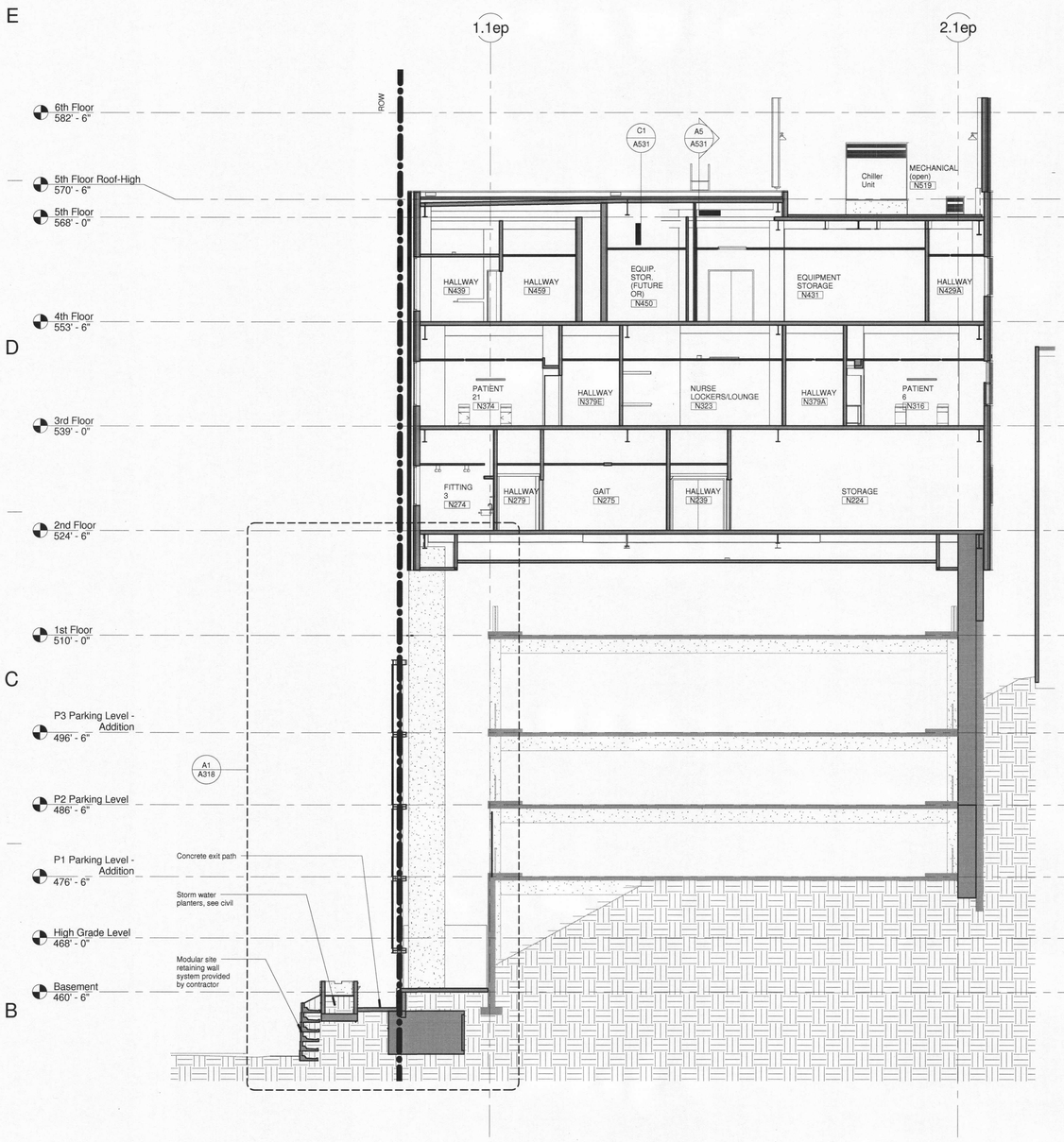
2644

Consultant Project No

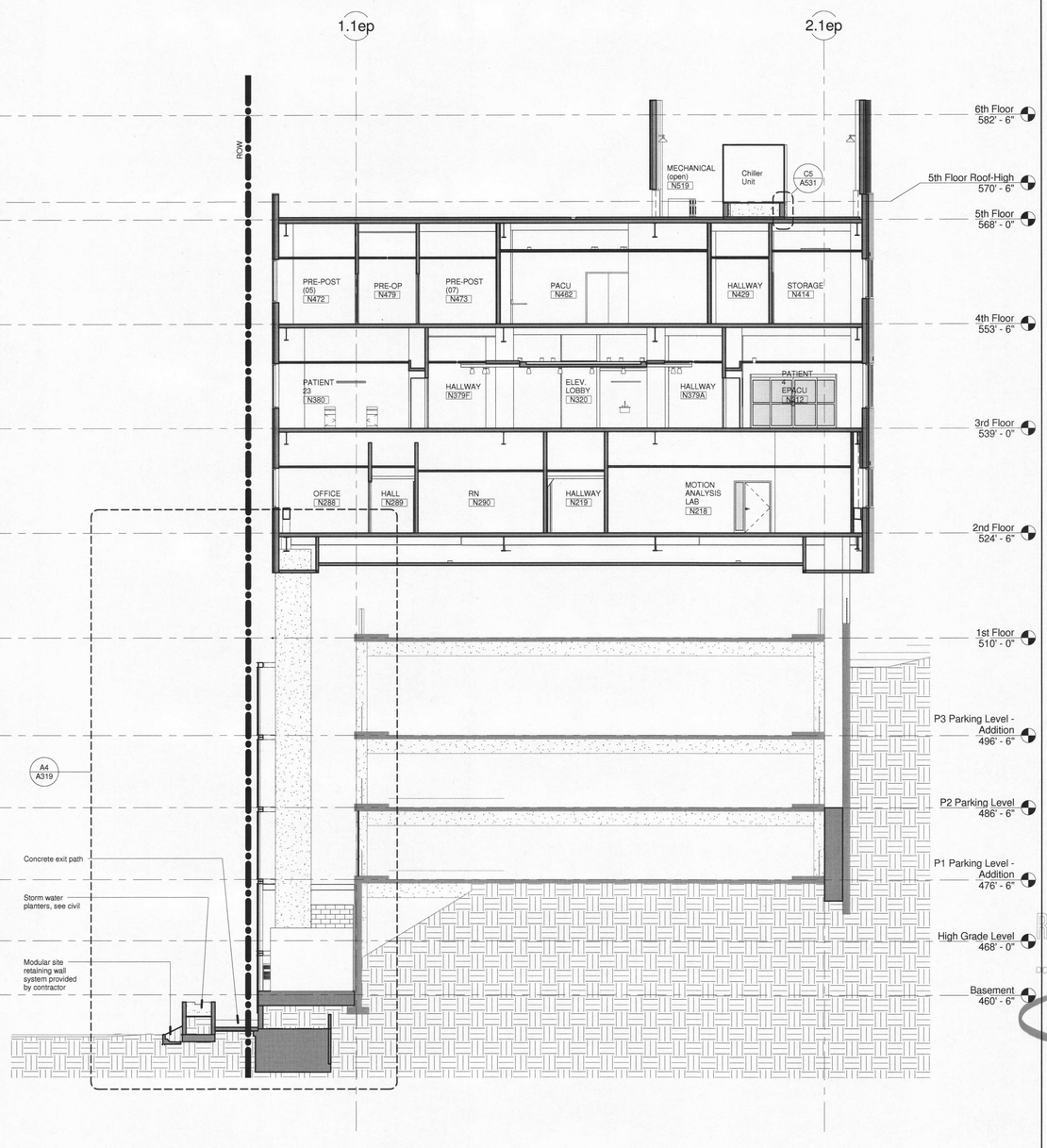
Owner Project No

Drawing No

A303



A1 A304 BUILDING SECTION @ GRID '5'
1/8" = 1'-0"



A3 A304 BUILDING SECTION @ GRID '6'
1/8" = 1'-0"

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Drawing Title
BUILDING SECTIONS

Revisions

No.	Description	Date

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Date
08-21-08

Project No
2644

Consultant Project No

Owner Project No

Drawing No
A304

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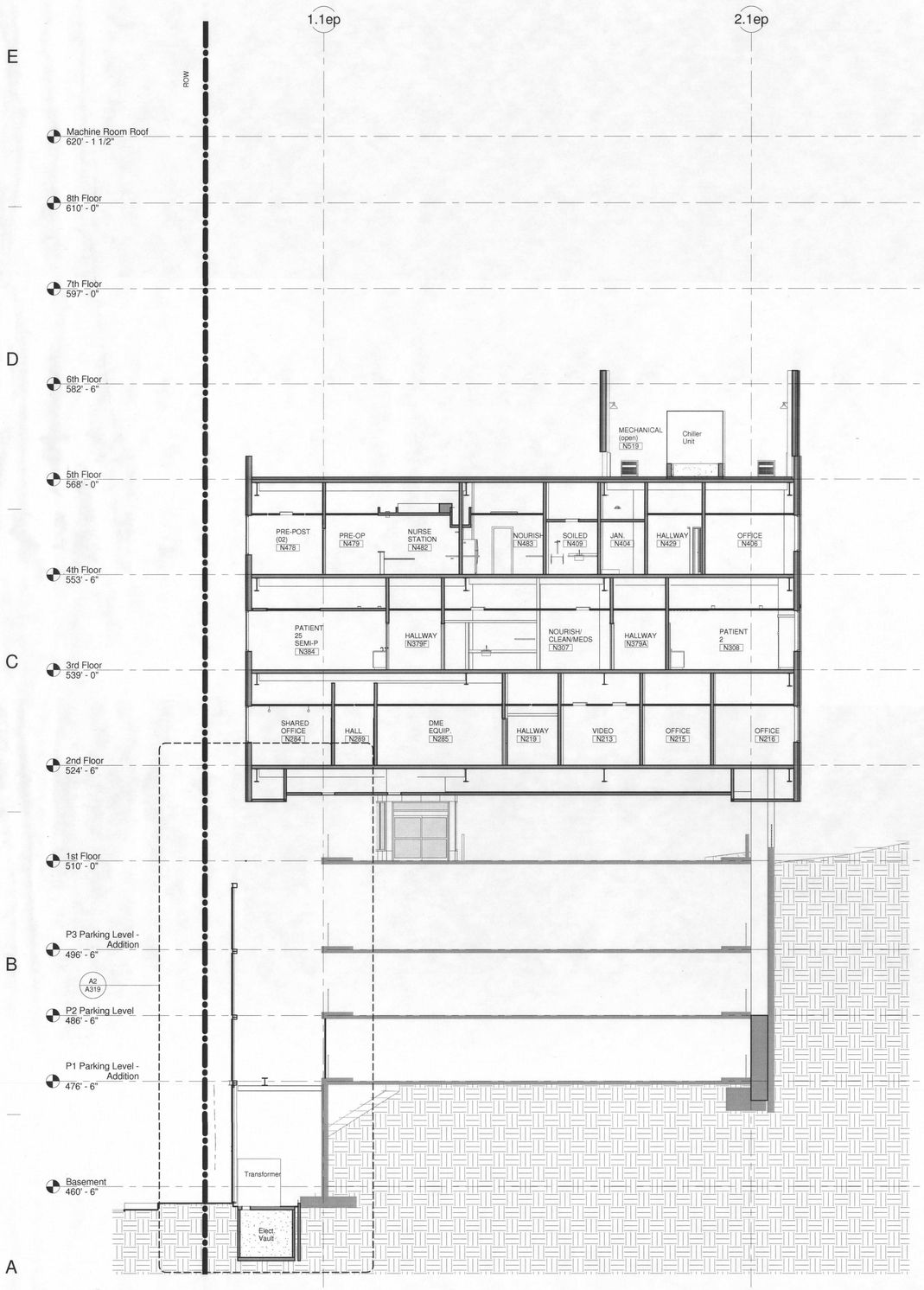
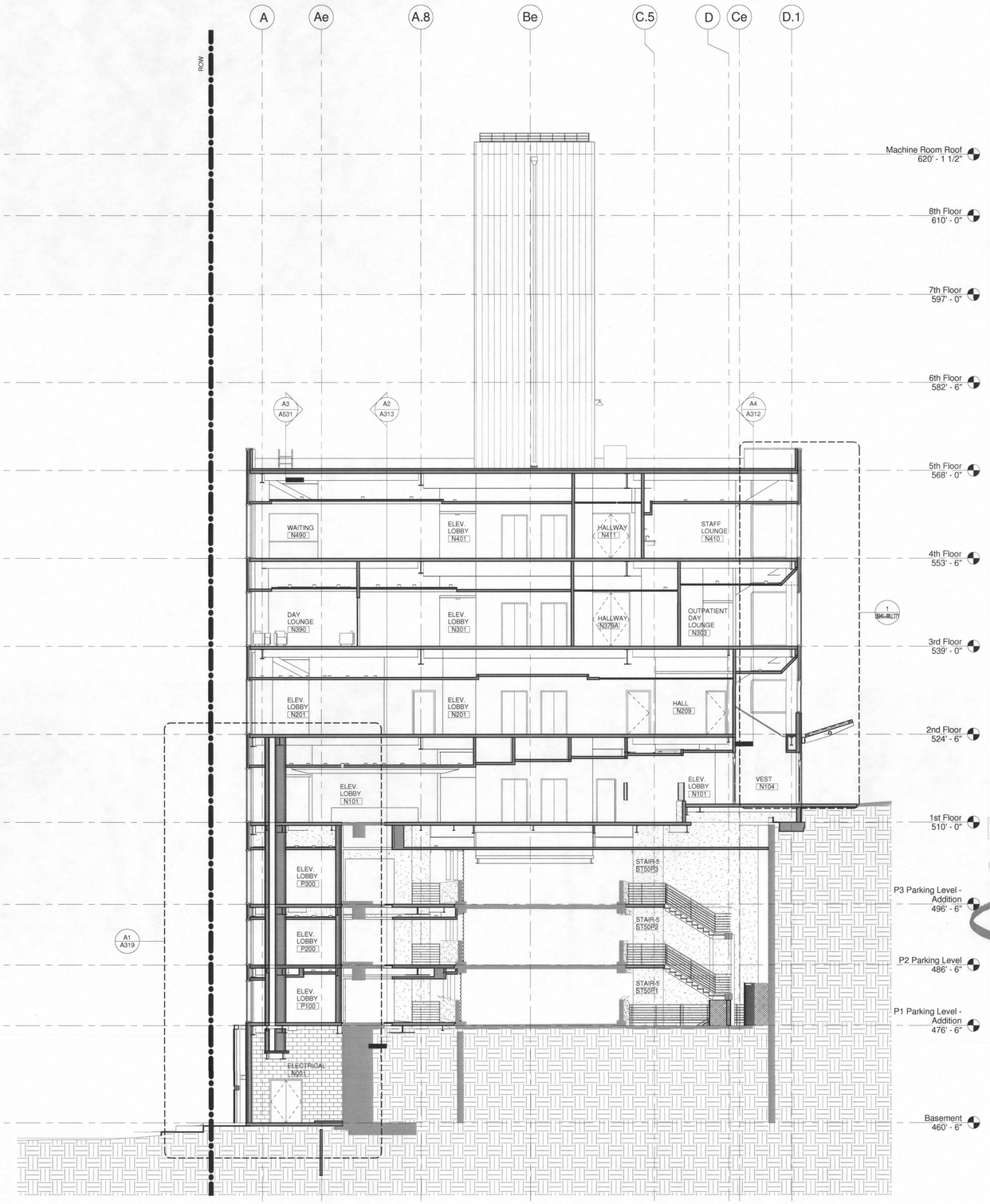


A1 A305 BUILDING SECTION @ GRID '7'
1/8" = 1'-0"



A3 A305 BUILDING SECTION @ GRID '8'
1/8" = 1'-0"

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BUILDING SECTIONS

Revisions

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HAM

Date
08-21-08

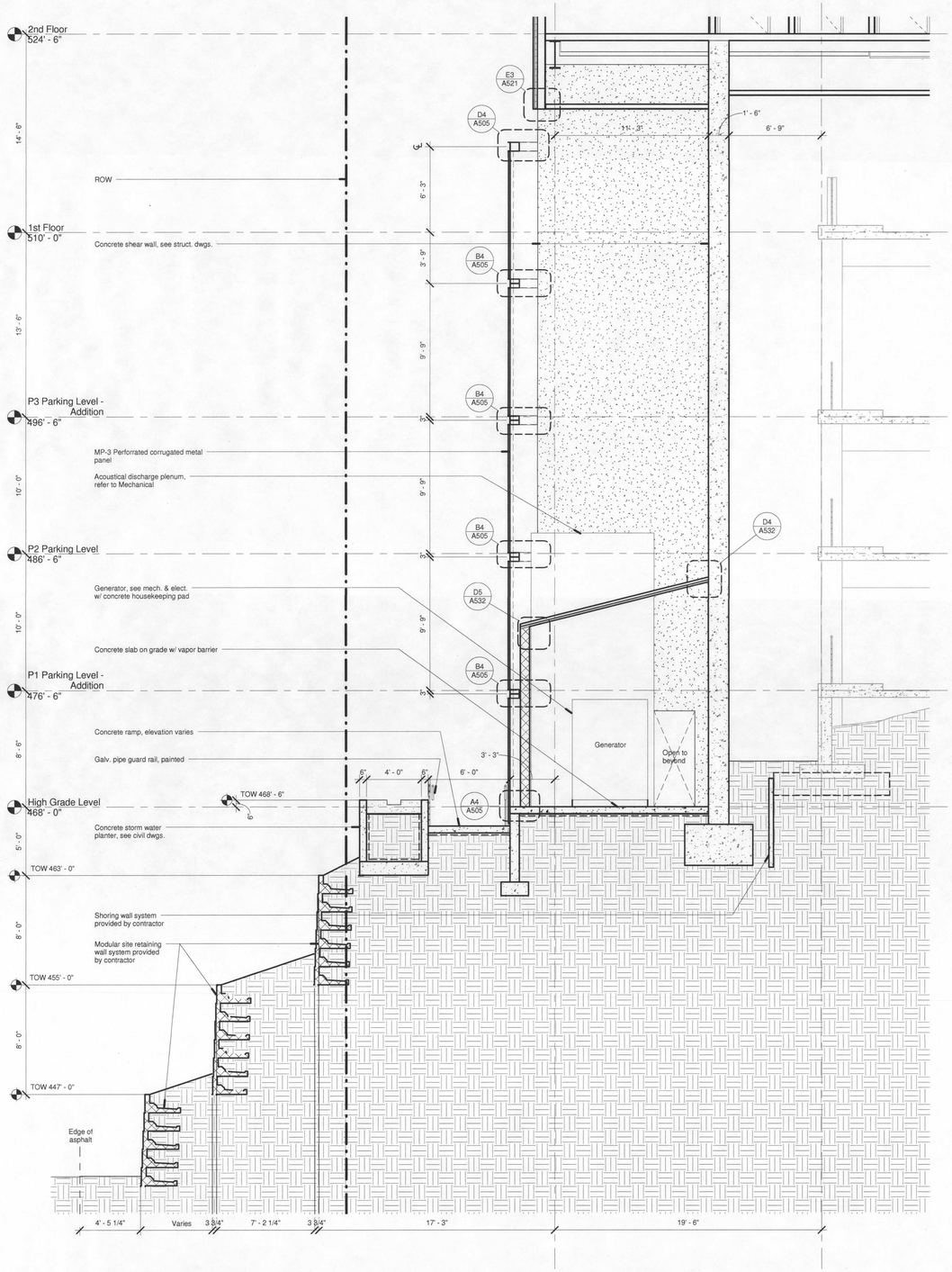
Project No
2644

Consultant Project No

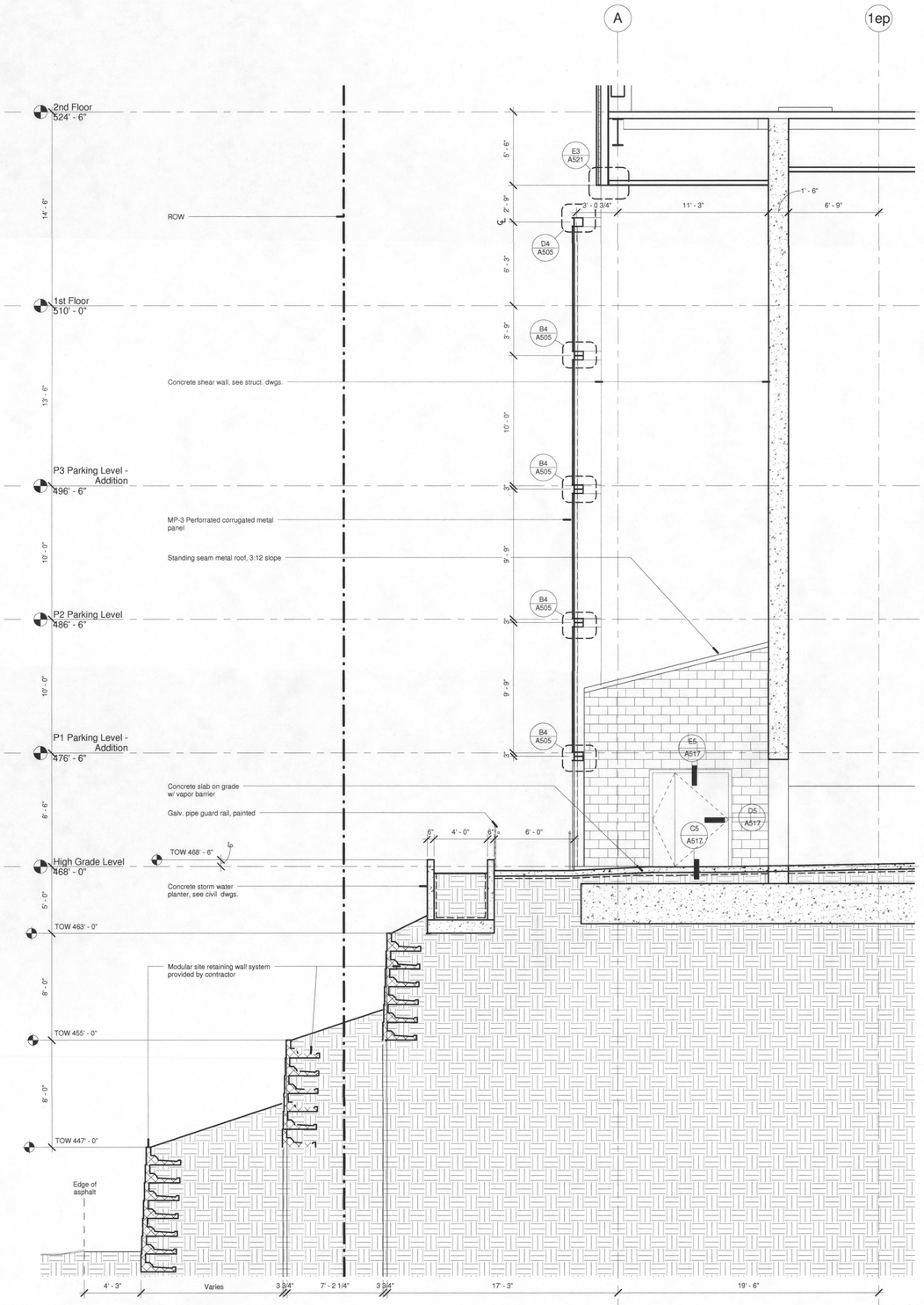
Owner Project No

Drawing No
A305

8/19/2008 1:30:29 PM



A1 A317 WALL SECTION @ ADDITION GRID '2'
1/4" = 1'-0"



A3 A317 WALL SECTION @ ADDITION GRID '1'
1/4" = 1'-0"

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Drawing Title
WALL SECTIONS

Revisions

No.	Description	Date

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Date
08-21-08

Project No
2644

Consultant Project No

Owner Project No

Drawing No
A317

8/19/2008 1:30:55 PM

8/19/2008 1:31:23 PM

A1 A318 1/4" = 1'-0" WALL SECTION @ ADDITION GRID '5'

A2 A318 1/4" = 1'-0" WALL SECTION @ ADDITION GRID '4'

A4 A318 1/4" = 1'-0" WALL SECTION @ ADDITION GRID '3'

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Reference Drawings

Drawing Title
WALL SECTIONS

No.	Revisions Description	Date

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2634
Consultant Project No

Owner Project No

Drawing No
A318

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