

GENERAL STRUCTURAL NOTES

MASONRY CONSTRUCTION NOTES

1. DESIGN MASONRY ASSEMBLAGE STRENGTH, $f_m = 1500$ PSI. NET AREA COMPRESSIVE STRENGTH OF CONCRETE MASONRY UNITS SHALL BE A MINIMUM OF 1900 PSI.

2. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 AND BE MANUFACTURED WITH LIGHTWEIGHT AGGREGATE.

3. MORTAR SHALL CONFORM TO ASTM C 270 TYPE 'M' (2500 PSI). GROUT FOR FILLED CELL SHALL CONFORM TO ASTM C416 AND SHALL NOT CONTAIN ADMIXTURES. GROUT SHALL ATTAIN A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI, SLUMP 9 IN.

4. REINFORCEMENT SHALL BE DEFORMED BARS CONFORMING TO ASTM A615 / A615M, GRADE 60 AND SHALL HAVE FABRICATION TOLERANCES IN ACCORDANCE WITH ACI 318. SHOP-FABRICATE REINFORCING BARS WHICH ARE INDICATED TO BE BENT OR HOOKED.

5. PROVIDE 9 GAGE HORIZONTAL REINFORCEMENT AT 16" SPACING LADDER TYPE FOR NON-LOAD BEARING WALL, TRUSS TYPE FOR LOAD BEARING WALL.

6. ALUMINUM CONDUITS, PIPES, AND ACCESSORIES SHALL NOT BE EMBEDDED IN MASONRY GROUT, OR MORTAR, UNLESS EFFECTIVELY COATED OR COVERED TO PREVENT ALUMINUM-CEMENT CHEMICAL REACTION OR ELECTROLYTIC REACTION BETWEEN ALUMINUM AND STEEL.

7. PROVIDE VERTICAL REBARS ACCORDING TO PLAN OR WALL SCHEDULE. SEE 'TYPICAL WALL END AND CORNER DETAILS' FOR SPECIAL REINFORCING DETAIL.

8. VERTICAL REINFORCEMENT MUST HAVE A MINIMUM 48 BAR DIAMETER LAP SPLICE, UNLESS OTHERWISE NOTED. CENTER WALL REINFORCEMENT IN BLOCK CELLS: USE NON-METALLIC BAR POSITIONERS.

9. PROVIDE DOUCEL REINFORCEMENT IN FOUNDATION OF SAME SIZE AND SPACING AS VERTICAL WALL REINFORCEMENT.

10. PROVIDE A CONTINUOUS BOND BEAM AT TOP OF WALL WITH 2 #5 BARS INSIDE. VERTICAL REBARS SHALL BE DEVELOPED INTO BOND BEAM, UNLESS OTHERWISE NOTED.

11. BRACE TOP OF INTERIOR, NON-LOAD BEARING MASONRY WALLS TERMINATING AT THE UNDERSIDE OF FLOOR OR ROOF STRUCTURE AGAINST OUT-OF-PLANE MOVEMENT IN ACCORDANCE WITH THE 'TYPICAL NON-BEARING CMU WALL BRACING' DETAIL.

12. PROVIDE CONCRETE LINTEL AND WINDOW SILL ACCORDING TO SCHEDULES IN TYPICAL OPENING DETAIL.

CONCRETE CONSTRUCTION NOTES

1. UNLESS NOTED OTHERWISE, CONCRETE STRENGTH SPECIFIED HEREIN IS 28-DAY NORMAL WEIGHT CONCRETE COMPRESSION STRENGTH. DESIGN SLUMP IS 4 INCHES, v_c 1 INCH. GC SHOULD SUBMIT SIGNED AND SEALED CONCRETE MIX DESIGN BY THE MANUFACTURER TO BEA INTERNATIONAL FOR REVIEW AND APPROVAL.

DESIGN CONCRETE STRENGTH:

A) FILL ON COMPOSITE FLOOR DECK FILL IN STAIR PANS AND TREADS AND ALL INTERIOR CONCRETE 3500 PSI

B) SLAB ON GRADE: 3000 PSI
C) ALL OTHER CAST-IN-PLACE CONCRETE: 4000 PSI
D) GROUT FOR MASONRY FILLED CELL: 3000 PSI

- A MINIMUM OF 5 CONCRETE SPECIMENS SHALL BE TAKEN FROM EVERY 50 CU. YD. OR PORTION THEREOF. SPECIMENS SHALL BE TESTED ACCORDING TO ASTM C-39, ONE AT 3, ONE AT 7, AND 3 AT 28 DAYS.

- CONCRETE COVER:

CONCRETE CAST AGAINST EARTH: 3'
FORMED CONCRETE IN CONTACT WITH EARTH: 2"
BEAMS AND COLUMNS: 1-1/2"
INTERIOR SLAB: 3/4"
EXTERIOR SLAB: 1-1/2"

2. CONCRETE DENSITY SHALL BE NORMAL WEIGHT UNLESS SPECIFICALLY OTHERWISE NOTED.

3. CONCRETE REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615/A615M, GRADE 60.

4. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A105. PROVIDE SHEET-TYPE WELDED WIRE FABRIC. SHEET LAPS SHALL BE TIED AND LAPPED ONE FULL MESH SPACING.

5. CONCRETE REINFORCING STEEL SHALL BE CONTINUOUS UNLESS OTHERWISE INDICATED. CONTINUOUS REINFORCING STEEL SHALL BE LAPPED IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 318.

6. MINIMUM CONCRETE COVER FOR REINFORCING STEEL SHALL BE AS INDICATED. IN NO CASE SHALL REINFORCEMENT COVER BE LESS THAN THE REQUIREMENTS OF ACI 301.

7. CONCRETE REINFORCING STEEL MARKED STANDARD HOOK SHALL HAVE A 90 DEGREE HOOK WITH A MINIMUM EXTENSION BEYOND THE BEND OF 12 BAR DIAMETERS IN LENGTH, UNLESS OTHERWISE NOTED. STIRRUP, TIE AND 180-DEGREE HOOKS SHALL CONFORM TO THE REQUIREMENTS OF ACI 318.

8. REINFORCING STEEL SHALL BE SPREAD AT SLEEVES, TIEBACKS, RECESSES AND OTHER EMBEDDED ITEMS UNLESS OTHERWISE INDICATED. REINFORCEMENT SHALL NOT BE CUT TO FACILITATE PLACEMENT OF EMBEDDED ITEMS.

9. ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED 1" OR AS INDICATED.

10. ALUMINUM SHALL NOT BE PLACED IN DIRECT CONTACT WITH CONCRETE UNLESS EFFECTIVELY COATED OR COVERED TO PREVENT ALUMINUM-CONCRETE REACTION AND ELECTROLYTIC ACTION BETWEEN ALUMINUM AND STEEL.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTIMATING AND SUPPLYING ANY ADDITIONAL CONCRETE REQUIRED TO ACHIEVE SPECIFIED FLOOR FLATNESS CRITERIA.

STEEL NOTES

1. STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

A) SQUARE AND RECTANGULAR TS ASTM A 500, GRADE B, $F_y = 46$ KSI
B) ROUND TS ASTM A 500, GRADE B, $F_y = 42$ KSI
C) WIDE-FLANGE SHAPES AND TEES ASTM A 992, $F_y = 50$ KSI
D) CHANNELS AND S-SHAPES ASTM A 572 / A 572M, GRADE 50
E) FLATES AND ANGLES ASTM A 36 / A 36M
F) HIGH STRENGTH BOLTS ASTM A 325
G) ANCHOR BOLTS ASTM A 307, GRADE 36
H) THREADED ROD ASTM A 36 / A 36M
I) WELDING ELECTRODES AWS D11/D1M, E70XX

2. FIELD CUTTING OF STRUCTURAL STEEL MEMBERS BY ANY TRADE SHALL NOT BE PERMITTED. BOLT HOLES SHALL NOT BE CUT OR ENLARGED BY FLAME CUTTING IN THE FIELD.

3. SHEAR CONNECTIONS FOR BEAMS SHALL BE DESIGNED FOR UNFACTORED (SERVICE) REACTIONS SHOWN ON THE DRAWINGS. WHERE FORCES ARE NOT PROVIDED ON THE DRAWINGS, SHEAR CONNECTIONS SHALL BE DESIGNED THE FULL UNIFORM LOADS AS INDICATED IN THE ALLOWABLE LOAD TABLES OF PART 2 OF THE AISC 'MANUAL OF STEEL CONSTRUCTION - ALLOWABLE STRESS DESIGN', NINTH EDITION. FOR COMPOSITE BEAMS, CONNECTIONS SHALL BE DESIGNED 15X THE FULL UNIFORM LOADS AS INDICATED ABOVE UNLESS SHOWN OTHERWISE. HIGH STRENGTH THREADED FASTENERS ARE REQUIRED FOR ALL CONNECTIONS.

4. BEAMS FRAMING INTO A GIRDER FROM ONE SIDE ONLY SHALL BE MADE WITH DOUBLE ANGLE CONNECTIONS. ALL OTHER CONNECTIONS MAY BE DOUBLE ANGLE CONNECTIONS OR SINGLE PLATE SHEAR CONNECTIONS (DESIGNED FOR A FLEXIBLE SUPPORT CONDITION), UNLESS INDICATED OTHERWISE.

5. MOMENT CONNECTIONS SHALL BE DESIGNED FOR THE MOMENT AND SHEAR AS SHOWN IN THE DRAWINGS.

6. FULL PENETRATION AND PARTIAL PENETRATION FIELD WELDS IN MATERIAL OVER 5/16" THICK AND WELDED FIELD SPLICE OF MAIN MEMBERS SHALL BE SUBJECT TO NON-DISTRUCTIVE TESTING BY THE INDEPENDENT LABORATORY. ALL BOLTS IN BRACED FRAMES AND BOLTS IN SHEAR CONNECTIONS USED IN CONJUNCTION WITH FULL OR PARTIAL PENETRATION WELDS SHALL BE SLIP CRITICAL TYPE.

7. COMPOSITE BEAMS AND GIRDERS ARE DESIGNED TO BE UNSHORED DURING CONSTRUCTION.

8. ALL SHELF ANGLES, LINTELS IN EXTERIOR WALLS, ALL EXTERIOR STEEL EXPOSED TO THE ELEMENTS, AND ALL ITEMS INDICATED ON THE DRAWINGS AS 'GALVANIZED' SHALL BE GALVANIZED.

9. INCLUDE AN ALLOWANCE IN THE BID TO PROVIDE AND ERECT 5 ADDITIONAL TONS OF STRUCTURAL AND/OR MISCELLANEOUS STEEL (SHAPES, ANGLES, PLATES, ETC.) MATERIAL TO BE USED AND ITS APPLICATION SHALL BE DETERMINED BY THE ARCHITECT. CONNECTIONS, IF REQUIRED, SHALL BE FIELD-WELDED.

STEEL JOISTS

1. SPECIFICATIONS:
A. FABRICATION AND ERECTION TO BE SJI REQUIREMENTS.
B. MEMBER TO BE A MEMBER OF SJI.

2. BRIDGING:

A. NUMBER OF ROUS AS SHOWN IN THE CONTRACT DRAWINGS.

B. HORIZONTAL BRIDGING MAY BE WELDED TO THE JOISTS.

C. DIAGONAL BRIDGING IS TO BE BOLTED TO THEIR POINT OF INTERSECTION. ENDS OF DIAGONAL BRIDGING ARE TO BE ANCHORED. WITH HORIZONTAL BRIDGING UNLESS SHOWN OTHERWISE. HORIZONTAL BRIDGING IN NO MORE THAN TWO CONSECUTIVE BAYS MAY BE USED TO PROVIDE PASSAGE FOR DUCT WORK.

D. ANCHOR BRIDGING TO INTERSECTING STRUCTURAL STEEL OR MASONRY WALLS.

3. BEARING:

A. WELD ALL JOISTS TO SUPPORTING STEEL WITH 1-1/2 INCHES OF 1/8 FILET FOR K-SERIES JOISTS AND 2 INCHES OF 1/4 INCH FILLETED WELD FOR LH- OR DLH- SERIES JOISTS EACH SIDE OF BEARING. JOISTS ARE TO BE FIELD BOLTED AT COLUMN LINES OR, IF THERE ARE NO JOISTS AT THE COLUMN LINE, FIELD BOLT THE JOIST NEAREST THE COLUMN ON EACH SIDE OF THE BEAM. EXTEND BOTTOM CHORDS OF THE SAME JOISTS AND WELD THEM TO THE BEAM OR COLUMN.

B. EXTEND ALL JOISTS 1 INCH MINIMUM PAST CENTERLINE OF SUPPORTING MEMBER WHERE POSSIBLE. BEARINGS TO BE PER DRAWINGS, OR WHERE SPECIAL INSTRUCTIONS ARE NOT GIVEN, ACCORDING TO THE STANDARD SPECIFICATIONS OOF SJI.

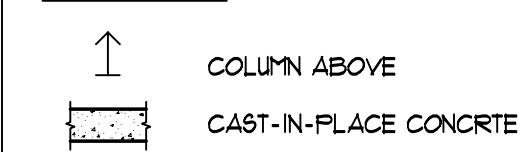
4. MISCELLANEOUS:

A. ADJACENT JOISTS OF THE SAME DEPTH ARE TO HAVE WEB MEMBERS IN LINE TO PERMIT PASSAGE OF HVAC DUCTS.

B. SEE DRAWINGS FOR SPECIAL BEARING SHOES, EXTENDED ENDS, LOAD DIAGRAM ETC.

C. JOISTS AND JOIST GIRDERS WITH CONCENTRATED LOADS ON THE TOP OR BOTTOM CHORDS NOT LOCATED AT A PANEL POINT SHALL BE REINFORCED WITH A FIELD INSTALLED MEMBER. THE FIELD INSTALLED MEMBER SHALL BE LOCATED AT THE CONCENTRATED LOAD AND SHALL BRACE THE CHORD BACK TO A PANEL POINT IN ACCORDANCE WITH THE 'TYPICAL JOIST REINFORCEMENT DETAIL'.

LEGEND



GENERAL NOTES:

1. THESE DRAWINGS ARE INCOMPLETE UNLESS ACCOMPANIED BY THE CONTRACT SPECIFICATIONS.

2. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ALL OTHER DRAWINGS. CONTRACTOR SHALL COORDINATE THE WORK OF OTHER TRADES INCLUDING, BUT NOT LIMITED TO, THE REQUIREMENTS FOR SLEEVES, INSERTS, HOLES, HANGERS AND ANCHORS.

3. THE GENERAL SCOPE OF THIS STRUCTURAL WORK IS A TWO-STORY TERMINAL BUILDING WITH A PARTIAL MECHANICAL MEZZANINE SITTING ON A CONCRETE PIER WHICH IS DESIGNED BY P/N/D Incorporated, Consulting Engineers.

4. REPORT DISCREPANCIES IN DIMENSIONS BETWEEN DIFFERENT DRAWINGS TO THE OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK IN AREAS THAT WILL BE AFFECTED.

5. DETAILS ENTITLED OR NOTED AS 'TYPICAL' APPLY NOT ONLY WHERE SPECIFICALLY INDICATED OR REFERENCED, BUT ALSO IN ALL OTHER CASES WHERE THE NATURE OF THE CONSTRUCTION REQUIRES THEIR USE. DETERMINE APPLICABILITY OF TYPICAL DETAILS FROM DESCRIPTIVE TITLES OR FROM THE SIMILARITY OF A CONSTRUCTION CONDITION TO ANOTHER CONDITION WHERE THE DETAIL IS SPECIFICALLY INDICATED OR REFERENCED.

6. ELEVATIONS ON THE STRUCTURAL DRAWINGS ARE DENOTED AS ('X'-X'), REFERENCED TO THE FINISHED FIRST FLOOR ELEVATION DATUM = 0'-0". ACTUAL FINISHED FIRST FLOOR ELEVATION (16.87') N.G.V.D.

7. VERIFY AND COORDINATE ALL DIMENSIONS, ELEVATIONS, ETC., NECESSARY FOR THE PROPER CONSTRUCTION AND ALIGNMENT OF THE NEW WORK RELATIVE TO THE EXISTING STRUCTURE. TAKE ALL MEASUREMENTS NECESSARY FOR PROPER FABRICATION, ALIGNMENT, AND INSTALLATION OF STRUCTURAL MEMBERS AND COMPONENTS.

8. REPRODUCTION OF CONTRACT DRAWINGS SHALL NOT BE USED AS SHOP DRAWINGS UNDER ANY CIRCUMSTANCE.

9. ALL ITEMS SHOWN IN THESE DRAWINGS ARE NEW CONSTRUCTION UNLESS SPECIFICALLY NOTED AS EXISTING.

10. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTED AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE, AND TO ENSURE THE STABILITY OF THE BUILDING AND ITS COMPONENT PARTS, AND THE ADEQUACY OF TEMPORARY OR INCOMPLETE CONNECTIONS, DURING ERECTION.

DESIGN CRITERIA

1. STRUCTURAL DESIGN IS IN ACCORDANCE WITH THE FOLLOWING CODES AND SPECIFICATIONS:

A) IBCO NATIONAL BUILDING CODE 1999
B) ACI 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.
C) ASCE 7, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.
D) MANUAL OF STEEL CONSTRUCTION ALLOWABLE STRESS DESIGN NINTH EDITION.

2. DESIGN LOAD CRITERIA:

LIVE LOADS:

FIRST FLOOR	100 PSF
MEZZAZINE	200 PSF
STAIR	100 PSF

NOTE: LIVE LOAD REDUCTION WAS NOT USED IN THE DESIGN OF THIS STRUCTURE.

C) WIND LOAD:

BASIC WIND SPEED, V	85 MPH
WIND IMPORTANCE FACTOR, I_W	1.23
WIND EXPOSURE	D
INTERNAL PRESSURE COEFFICIENTS, $G_c p_i$	$v_i = 0.25$

SNOW LOAD:

GROUND SNOW LOAD, F_g	50 PSF
SNOW EXPOSURE FACTOR, C_e	0.8
SNOW LOAD IMPORTANCE FACTOR, I_s	1.1
THERMAL FACTOR, C_t	1.0

SEISMIC LOAD:

SEISMIC HAZARD EXPOSURE GROUP	II
PEAK VELOCITY-RELATED ACCELERATION A_v	0.1
PEAK ACCELERATION A_p	0.1
SIEE CLASS	54
SEISMIC PERFORMANCE CATEGORY	C

CONCENTRICALLY BRACED FRAMES	
RESPONSE MODIFICATION FACTOR (R)	4
DEFLECTION AMPLIFICATION FACTOR (Cd)	3.5
ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE PROCEDURE

FOUNDATION

THE RECEIVING STATION IS MOSTLY SUPPORTED BY CONCRETE SHALLOW FOOTINGS. COLUMNS ALONG THE SOUTH-EAST SIDE OF THE BUILDING ARE SUPPORTED BY STEEL PILES.

THE SHALLOW FOUNDATION DESIGN IS BASED ON THE NOVEMBER 17, 2003 MEMORANDUM FROM JAMES WEAVER, PE OF HALEY & ALDRICH. SHALLOW FOOTINGS ARE TO SIT ON WELL COMPACTED STRUCTURAL FILL WITH MAXIMUM BEARING PRESSURE 2000 PSF. PRIOR TO INSTALLATION OF FOOTINGS, THE CONTRACTOR SHALL OBTAIN STATEMENT OF APPROVAL FROM THE GEOTECHNICAL ENGINEER THAT CERTIFIES THE EXCAVATION AND SOIL IMPROVEMENT ARE IN COMPLIANCE WITH THE GEOTECHNICAL SPECIFICATION AND THE IN-PLACE CAPACITY HAS REACHED 2000 PSF.

THE STEEL PILE FOUNDATION DESIGN IS IN ACCORDANCE WITH THE DECEMBER 8, 2005 MEMORANDUM FROM JAMES WEAVER, PE OF HALEY & ALDRICH. THE 16" DIAMETER STEEL PILE SHALL HAVE A MINIMUM OF 35 KIPS OF ALLOWABLE COMPRESSIVE LOAD, 15 KIPS OF ALLOWABLE TENSION FORCE. THE TOTAL PILE LENGTH IS ESTIMATED 70 FT. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE GEOTECHNICAL ENGINEER TO CERTIFY THAT THE PILE HAS REACHED THE DESIRED STRATUM AND THE DESIGNED CAPACITY.

CONCRETE SLAB ON GRADE

1. ISOLATION JOINTS MUST BE USED AT JUNCTIONS WITH WALLS AND COLUMNS, USE 1" THICK PREMOLDED JOINTS FULL DEPTH OF SLAB.

2. PLACE CONTROL JOINTS AT CENTERLINE OF COLUMNS. PROVIDE INTERMEDIATE JOINTS IF COLUMN SPACING IS GREATER THAN 20 FT. IN ANY CASE JOINT SPACING SHALL NOT BE GREATER THAN 15 FT. IN SIDE WALKS TOOLED JOINTS SHALL BE SPACED AS THE WIDTH OF THE SLAB.

3. CONTROL JOINT DEPTH SHALL BE 1" TOOLED FOR SLAB THICKNESS 4" TO 5". JOINTS SHALL BE SAUED WITHIN 24 HOURS AFTER CONCRETING.

4. CONSTRUCTION JOINT MUST BE PLACED IN THE SLAB WHERE BUILDING EXPANSION JOINTS ARE SHOWN.

5. WHEN CONCRETING AND OPERATING ARE CONCLUDED FOR THE DAY, CONSTRUCTION JOINTS SHALL BE FORMED WITH BURKE KEYED KOLD METAL JOINT FORM OR APPROVED EQUAL.

6. WATERPROOF MEMBRANES, OVERLAPPED 6" AT JOINTS, WITH A PERMEANCE OF LESS THAN 0.3% PER 15' IN ACCORDANCE WITH A.S.T.M. E-98 SHALL BE PROVIDED UNDER INTERIOR SLAB. WHERE NO VAPOR BARRIER IS USED, THE SUBGRADE MUST BE DAMPENED WITH WATER IN ADVANCE OF CONCRETING TO FREE WATER STANDING ON THE SUBGRADE NOR ANY MUDDY OR SOFT SPOT IS PERMITTED.

7. ANY STRUCTURAL MEMBER PENETRATING SLAB ON FILL IS TO BE 1" PRE-MOLDED JOINT FILLER COMPLYING WITH ASTM D-1152, TYPE 1.

8. PREMATURE FINISHING IS NOT ALLOWED. IMMEDIATE FOLLOWING FLOATING, TROWELING WITH STEEL TROUELS SHOULD BE COMMENCED IF REQUIRED. BROOMING SHALL BE AFTER THE STEEL TROWELING OPERATION. SLAB FINISH TYPE: INSIDE BUILDING - STEEL TROUELED; OUTSIDE SLAB - BROOMED, UNLESS OTHERWISE NOTED.

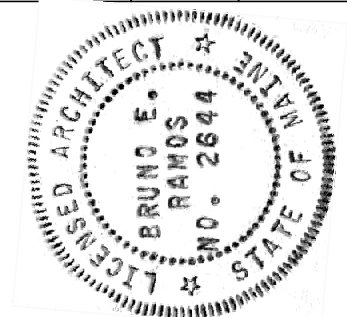
IN ASSOCIATION WITH:
GORRILL-PALMER CONSULTING ENGINEERS
PERATROUCH, NOTTINGHAM & DRAGE
HALEY & ALDRICH ARCHITECTS
HALEY & ALDRICH



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NUMBER 009215.00

PIN
009215.00



SIGNATURE
P. LICENCE NUMBER
DATE 12/23/05

PROJ. MANAGER	PAUL POTELLE	DATE	
DESIGN-DETAILED			
CHECKED-REVIEWED			
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1	VAAP 22 DESIGN CHANGE	10/15/05	
REVISIONS 2	VAAP-VE-CODE CHANGES	12/23/05	
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

CITY OF PORTLAND
OCEAN GATEWAY PHASE 1

RECEIVING STATION
GENERAL NOTES

S001-R